South Australian Historical Earthquakes in the Pre-Instrumental Period 1837-1963: A Comprehensive Chronicle and Analysis of Available Intensity Data

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A Thesis submitted for the degree of
Master of Philosophy
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Statement of Originality

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint-award of this degree.

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Signed:…….. Date:30 September 2013

Acknowledgements

I would like to express my deepest thanks and gratitude to my supervisor, Emeritus Professor Stewart Greenhalgh, for his initial guidance at the start of this journey, some 20 years ago, and for his renewed support in allowing me to see this endeavour through to completion. This thesis honours my respect to him for keeping safe my original work for these past two decades.

My sincere thanks go to David Love of the Department of Primary Industries and Resources South Australia, for his encouragement and, most importantly, to Adjunct Professor Kevin McCue of the Central Queensland University, for valuing my work over the last 20 years and creating the opportunity for it to finally be recognised and shared.

Abstract

Macroseismic data in the form of felt reports of earthquake shaking is vital to seismic hazard assessment, especially in view of the relatively short period of instrumental recording in many countries. During the early 1990s, a very detailed examination of historical earthquake records held in the State Government archives and the Public Library of South Australia was carried out by myself. This original work resulted in the compilation of a list of just over 460 earthquakes in the period prior to seismic network recording, which commenced in 1963, The majority of these events had escaped mention in any previous publication on South Australian seismicity and seismic risk. This historical earthquake research, including the production of a large number of isoseismal maps to enable earthquake quantification in terms of magnitude and location, appears to have been the only study of its kind in South Australia performed so comprehensively, and resulted in the most extensive list available. After 20 years, it still stands as the definitive list of historical earthquake events in the state. The incorporation of these additional historical events into the South Australian Earthquake Catalogue maintained by the SA Department of Primary Industries and Resources had the potential to raise the previous listing of just 49 pre-instrumental events to 511 earthquakes, and to extend it back another 46 years to 1837. Some of the major events have been formally included in the South Australian Earthquake Catalogue. However, for many events, there was insufficient information and/or time to finalise the source parameters due to the onerous task of manually trawling through historical records and newspapers for felt reports.

With the advent of the information age, researching historical newspapers and records is now a feasible undertaking. As an example, I recovered reports of an additional 110 previously unrecognised events during the first 50 years of colonisation from digitised South Australian newspapers, recently made available on the National Library of Australia's website called TROVE. This was done in a relatively short period of time and now the South Australian Historical Earthquake List incorporating these events comprises some 679 entries.

This thesis builds upon and consolidates the work that was commenced 20 years ago. By doing so, it proposes the establishment of flexible and convenient computerized processes to maintain well into the future an increasingly accurate record of historical earthquakes in South Australia. This work may also provide a model for the ongoing development of historical earthquake records in other states and territories of Australia.

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Chapter 1
Introduction: The Importance of Historical Earthquake Research

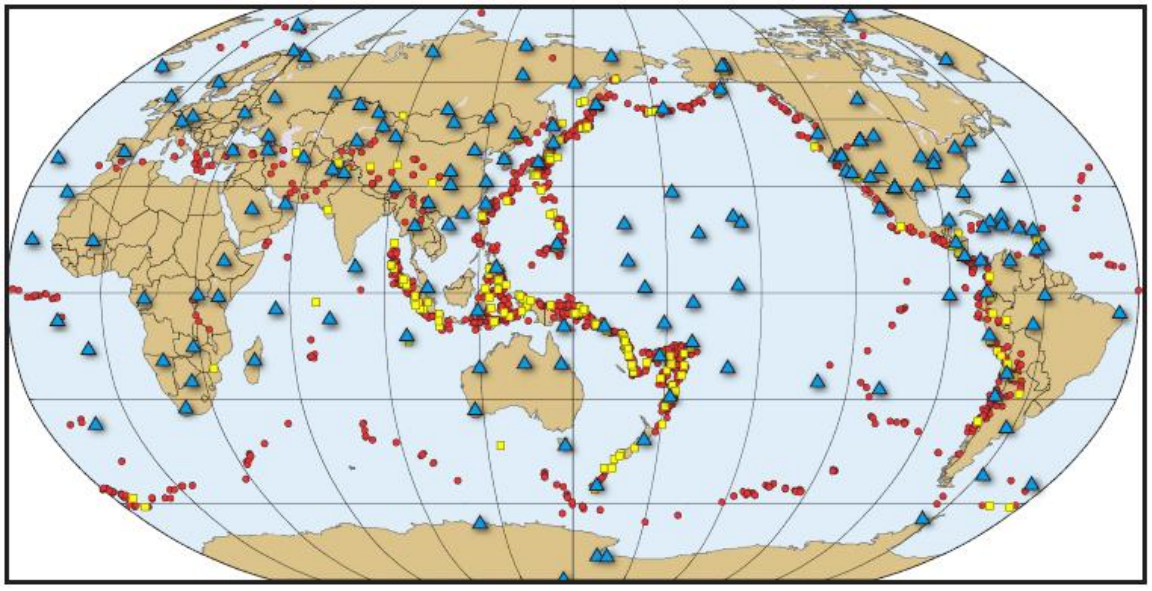
Historical earthquake seismology has been defined as the "study of earthquakes of the past, directed towards a scientific utilisation that is concentrated on the estimation of seismic danger, as well as on the identification of active faults" (Gisler, 2003, p.215). With the world's population increasing by approximately 80 million per year (United Nations estimate), the analysis of seismic hazard continues to be increasingly important, even for regions with low seismic activity. Compounding the 'seismic danger' is the increasing prevalence of complex structures such as nuclear and water power plants and multi-storey buildings in densely populated regions. A recent example of increased seismic hazard occurred in 2011 when Japan suffered its most powerful known earthquake, which unleashed a tsunami of up to 30 metres high and resulted in the worst nuclear disaster since Chernobyl. More than 18,000 people died and damage estimates were $235 billion (Kim, 2011). The magnitude 9.0 event makes it the fourth largest earthquake on record and joins most of the largest known earthquakes located around the Pacific Rim. Table 1.1 lists the top 10 earthquakes in each category of the largest, the most costly, and the most deadly events (Kanamori, 1977; Park, et al., 2005; PDE, 2013; Wikipedia, 2013). The table serves to illustrate that the largest events are often not the most costly or deadliest.

1.1 International perspective

The importance of monitoring seismic activity has long been recognised internationally with the establishment of scientific organisations such as the Seismological Society of Japan in 1880, the Seismology Committee of the British Association for the Advancement of Science in 1896, the Australian Survey Office in 1910, the Seismological Society of America in 1911, and the European Seismological Commission in 1952, to name but a few (Dewey & Byerly, 1969; Eisinger et al., 1992; Richter, 1958). The establishment of the Global Seismographic Network in 1986, heralded a new era of international seismic monitoring. The GSN, shown in Figure 1.1, now reports on more than 30,000 earthquakes per year worldwide using a permanent digital network of over 150 modern seismic stations in more than 80 countries.

Table 1.1. The top 10 largest, most damaging and deadliest earthquakes on record, ranked by date

Earthquake Year and Name	Magnitude	Largest	Damage in $billions	Deadliest
526 Antioch earthquake, Turkey	7.0 (est.)			240,000
856 Damghan earthquake, Iran	7.9 (est.)			200,000 (est.)
893 Ardabil earthquake, Iran	Unknown			150,000 (est.)
921 Jiji earthquake, Taiwan	7.6		10	
1138 Aleppo earthquake, Syria	Unknown			230,000
1556 Shaanxi earthquake, China	8.0 (est.)			820,000–830,000 (est.)
1615 Arica earthquake, Chile (then Peru)	8.8 (est.)	6		
1700 Cascadia earthquake, Pacific Ocean	8.7–9.2 (est.)	10		
1833 Sumatra earthquake, Indonesia	8.8–9.2 (est.)	7		
1906 Ecuador-Colombia earthquake	8.8	8		
1906 San Francisco earthquake, United States	7.7–7.9 (est.)		9.5	
1920 Ningxia–Gansu earthquake, China	7.8			273,400
1923 Kantō region earthquake, Japan	7.9			142,800
1952 Kamchatka earthquakes, Russia	9.0	5		
1960 Valdivia earthquake, Chile	9.5	1		
1964 Prince William Sound earthquake, Alaska	9.2	2		
1976 Tangshan earthquake, Hebei, China	7.8			242,769
1989 Loma Prieta earthquake, United States	6.9–7.1 (est.)		11	
1994 Northridge earthquake, United States	6.7		20	
1995 Great Hanshin earthquake, Japan	6.9		100	
2004 Sumatra earthquake, Indonesia	9.1–9.3	3		230,210+
2008 Sichuan earthquake, China	8		75	
2010 Chile earthquake, Chile	8.8	9	15–30	
2010 Haiti region earthquake, Haiti	7			316,000 (Haitian est.)
2011 Christchurch earthquake, New Zealand	6.3		12	
2011 Tōhoku earthquake, Japan	9	4	235	
2012 Emilia earthquakes, Italy	5.9 (est.)		13.2	



(Source: Gee & Leith, 2011)

Figure 1.1. Global Seismographic Network stations (triangles) are shown against a backdrop of large earthquakes from 2000-2010 (circles=magnitude 6-6.9, squares=magnitude 7and above)

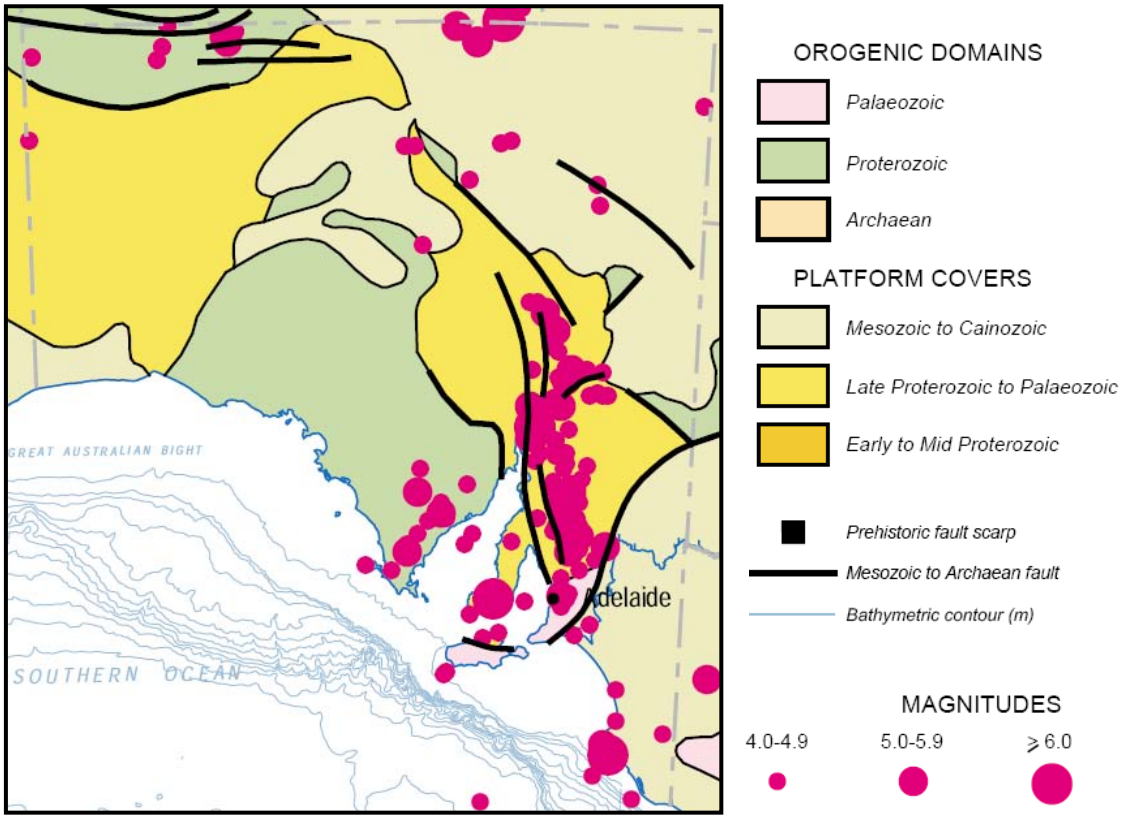
While much focus today is given to instrumental monitoring of earthquakes using seismographs, reliable instrumental data have been available for only a few decades. It is widely accepted that empirical seismological knowledge alone is not sufficiently precise to assess the increasing seismic risk corresponding to population growth. Given that the risk of an earthquake is a function of its probability of occurrence, increased precision can be achieved by extending the observation period to include earthquakes reported in historical documentation. Only when enough events of specified size in a region have been observed over a given span of time, can probabilities of occurrence be estimated. On this basis, we are still unable to predict precisely the occurrence time, location and magnitude of great earthquakes, further driving the importance of undertaking historical earthquake research. Accordingly, historical earthquake data represent a potential wealth of information on long-term seismic activity in a region.

The study of historical earthquakes, internationally, seeks to catalogue a reliable reconstruction of the past events in a region, particularly infrequent large events, in order to augment instrumental records and more accurately determine the seismic risk of a region. This involves researching and interpreting historical documents using established approaches. The research attempts to extract key characteristics from felt reports, pictures and other records of an earthquake event, to establish the origin time, location or hypocenter, and size or magnitude of the event by interpreting the intensity and its attenuation of vibration with distance. This thesis contributes to the field.

1.2 South Australian perspective

Although South Australia, and indeed Australia, is relatively stable in comparison with the active areas of the Pacific plate boundary (see Figure 1.1 above), there is still sufficient activity and density of population and development to justify the concern of seismic hazard and the need for historical research (Love, 1996; McCue, 2004). Since proclamation of South Australia in 1837, the state has experienced at least 15 earthquakes of Richter Magnitude 5 or greater (e.g., Greenhalgh et al., 1986; Clark & McPherson, 2011; Sutton & White, 1966), designating Adelaide as the city of highest earthquake risk of any capital city in Australia (Staveley, 1986). The distribution of seismic activity in South Australia, indicated by both seismograph network data and historical reports, is presented in Figure 1.2. It shows three main areas as being the Adelaide Geosyncline, Eyre Peninsula, and the South East (Greenhalgh et al., 1994; Brown & Gibson 2004; Gaull et al. 1990; Stewart et al., 1973; Stewart, 1984; Leonard, 2008; Burbidge, 2012).

A recent earthquake hazard assessment for Adelaide using a combined Modified Mercalli intensity dataset, yielded a 67% probability of an approximate 1000 year return period for a destructive earthquake, similar to that of the 2012 Christchurch earthquake in New Zealand (McCue, 2012). However, the accuracy of seismic risk assessment is related to the time span of the database; in this case, the South Australian Earthquake Catalogue. The longer the time period over which the seismicity of an area is observed, the better the ability to predict future activity. So with the South Australian Seismic Network coming into only its fiftieth year, and the colonisation of the State stretching back almost four times longer than this interval, the worth of accurate historical earthquake records cannot be underestimated.



(source: McCue, 2002)

Figure 1.2. Earthquake epicentres in South Australia 1841-2000 and recent fault scarps

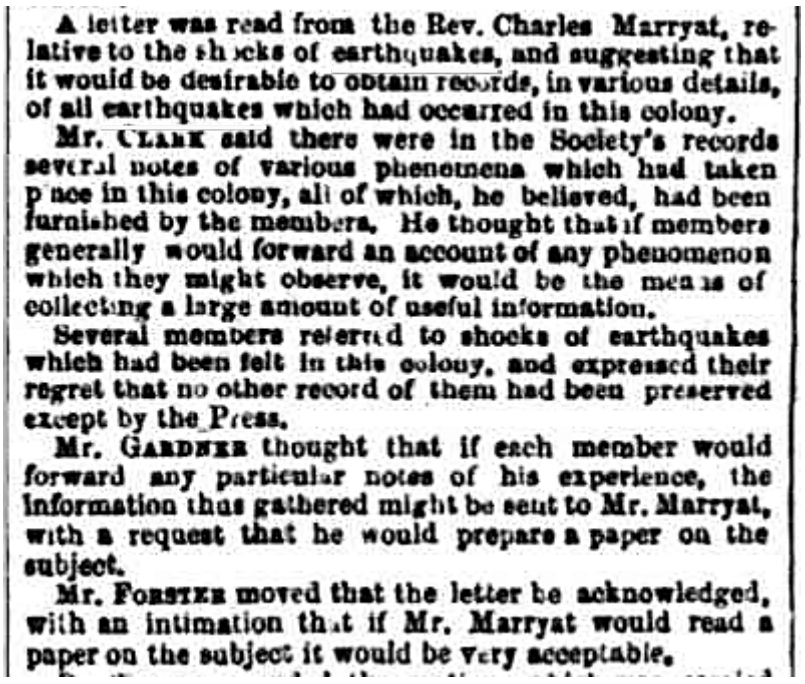
Although a number of studies on earthquake risk in South Australia have been performed (McCue, 1975; McEwin et al., 1976, Denham, 1979; Rossiter, 1982; Stewart, 1984; Gaull & Michael-Leiba, 1986; Greenhalgh & McDougall, 1990; Malpas, 1991b; Bierbaum, 1994; Burbidge, 2012), all have used a grossly incomplete database. The extent of incompleteness of this database – the South Australian earthquake catalogue – is still being realised, and reflects the challenges associated with maintaining an accurate earthquake database. It is these issues that underpin the objective of this thesis.

1.3 Early attempts to establish an earthquake record

The call to maintain an accurate record of earthquakes in South Australia is not new. In August of 1860, at the seventh annual meeting of the *Adelaide Philosophical Society* held in the 'new' building of the South Australian Institute, the following minutes of the meeting were recorded:

> "Letters from Mr H. Marshall, of the School of Mines, and from the Rev. C. Marryat, suggesting that **information should be collected respecting the various shocks of earthquakes** which had been felt in the colony, were postponed for consideration at a future time" (*South Australian Register*, Thursday 30 August 1860, p.3).

At the next meeting of the *Adelaide Philosophical Society*, in October of the same year, the *South Australian Register* (1860, Wednesday 10 October 1860, p.3) reported that the Rev. Marryat read the letter suggesting that "it would be desirable to obtain records, in various details, of **all earthquakes** which had occurred in this colony". The full newspaper clipping is presented in Figure 1.3. It goes on to request that if Mr Marryat would "prepare a paper on the subject … it would be very acceptable." Unfortunately, no further discussion about Rev. Marryat's "paper" or the gathering of earthquake information by members of the Adelaide Philosophical Society has been uncovered.



A letter was read from the Rev. Charles Marryat, relative to the shocks of earthquakes, and suggesting that it would be desirable to obtain records, in various details, of all earthquakes which had occurred in this colony.

Mr. CLARK said there were in the Society's records several notes of various phenomena which had taken place in this colony, all of which, he believed, had been furnished by the members. He thought that if members generally would forward an account of any phenomenon which they might observe, it would be the means of collecting a large amount of useful information.

Several members referred to shocks of earthquakes which had been felt in this colony, and expressed their regret that no other record of them had been preserved except by the Press.

Mr. GARDNER thought that if each member would forward any particular notes of his experience, the information thus gathered might be sent to Mr. Marryat, with a request that he would prepare a paper on the subject.

Mr. FORSTER moved that the letter be acknowledged, with an intimation that if Mr. Marryat would read a paper on the subject it would be very acceptable.

Figure 1.3. Minutes from the October 1860 meeting of the Adelaide Philosophical Society

1.4 Thesis objectives and overview

The current investigation into historical earthquakes in South Australia presented in this contribution rises to Marryat's 1860 challenge in order to address the "regret that no other record of them [earthquakes] had been preserved except by the Press" (see Figure 1.3). By doing so, this thesis not only aims to greatly expand and quantify the historical earthquake database but also to establish processes that will enable the maintenance into the future of an increasingly accurate record of seismic activity in South Australia.

The task of compiling an 'accurate' and 'complete' record of earthquakes for the state is a considerable one, as will be evident in the following chapters, and is not the primary focus of this thesis. It is simply a far too daunting task for one person. The investigations conducted in this research project are predominantly of an historical nature, by reviewing earthquake monitoring in South Australia during the pre-instrumental period of 1836 to 1963, but also scientific in that they seek to determine the key parameters (epicenter, magnitude, origin time, felt effects) from the available observations

The main discussion focuses on how early events were reported and documented in the historical earthquake records and reviews the more recent endeavours to expand the historical earthquake catalogue during the pre-internet era and into the digital age. In this effort, a consolidation and further expansion of the historical earthquake catalogue has been undertaken, the work of which is presented in subsequent chapters of this thesis.

Accordingly, this thesis consolidates and extends the work of many others into a concise discussion and analysis of historical earthquake reporting and recording in South Australia, detailed in Chapter 2. Complementing this chapter is Appendix A, which lists all pre-1964 South Australian Newspapers. In Chapter 3, I examine the spatial variations of Mercalli intensity (specifically ground motion versus distance, or seismic attenuation) for those earthquakes sufficiently well observed to determine their magnitudes. The primary measures of earthquake size are peak intensity and radius of perceptibility.

Chapters 2 and 3 inform Appendix B, which represents the most comprehensive list yet produced, of 679 historical earthquakes in South Australia. The list includes date, time and event location, and where sufficient information is available, provides peak intensity and derived magnitude estimates.

Chapter 4 profiles and 'brings to life' through isoseismal maps, selected events from Appendix B using the historical information. It finalizes the work begun by the author 20 years ago.

Chapter 5 draws the discussion together and looks to the future. It proposes the task ahead to establish processes for maintaining an increasingly accurate record of earthquakes in South Australia by historical earthquake enthusiasts. This work may also provide a model for the ongoing development of historical earthquake records in other states and territories in Australia.

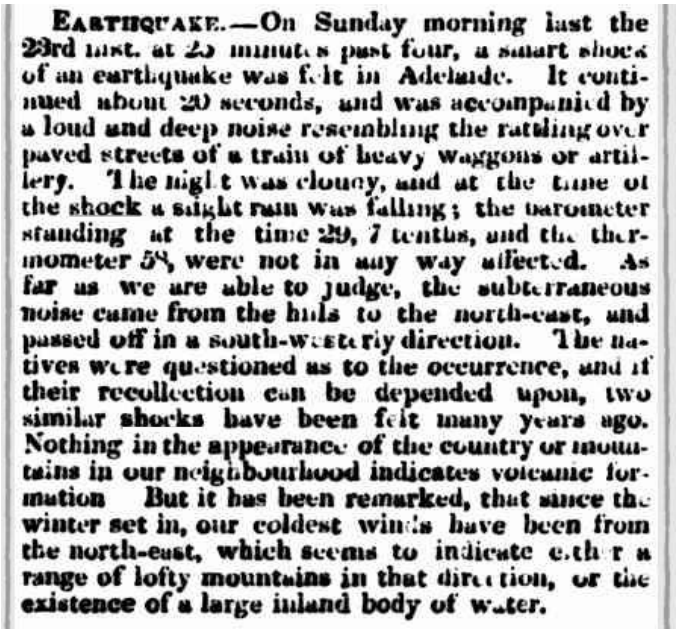
Chapter 2
Undertaking Historical Earthquake Research: Expanding the List

It's fair to say that researching and recording historical earthquakes has changed dramatically over the decades, particularly with the advent of computers, the internet, Google Earth and the so-called 'digital age'. The original work undertaken by the author was conducted in the early 1990s on an Amstrad computer and with no internet available, so this opening statement comes from direct experience.

In this chapter, I introduce and discuss the different forms of historical earthquake records that were investigated and used to develop the earthquake catalogue presented in Appendix B. I also consider the important issues of coverage of documentation and completeness of observation.

2.1 Historical earthquake records

Reports on earthquake activity came in many forms. The earliest documented seismic event was described in the colony's first newspaper, The *South Australian Gazette and Colonial Register* (Saturday 29 July 1837, p.3). The clipping is presented in Figure 2.1.



EARTHQUAKE.—On Sunday morning last the 23rd inst. at 25 minutes past four, a smart shock of an earthquake was felt in Adelaide. It continued about 20 seconds, and was accompanied by a loud and deep noise resembling the rattling over paved streets of a train of heavy waggons or artillery. The night was cloudy, and at the time of the shock a slight rain was falling; the barometer standing at the time 29, 7 tenths, and the thermometer 58, were not in any way affected. As far as we are able to judge, the subterraneous noise came from the hills to the north-east, and passed off in a south-westerly direction. The natives were questioned as to the occurrence, and if their recollection can be depended upon, two similar shocks have been felt many years ago. Nothing in the appearance of the country or mountains in our neighbourhood indicates volcanic formation But it has been remarked, that since the winter set in, our coldest winds have been from the north-east, which seems to indicate either a range of lofty mountains in that direction, or the existence of a large inland body of water.

Figure 2.1. The first report of an earthquake in a South Australian newspaper, 1837

The earthquake occurred in Adelaide on the 23 July 1837, only six months after proclamation of the new colony. An account was later given in a book written by the Rev. John Blacket in 1907, describing the early history of South Australia. In a *Narrative of Expedition into Central Australia* Charles Sturt (1847, p.24), wrote "When Mr Browne and I were on our recent journey to the north, after having crossed the Stony Desert, being then between it and Eyre's Creek, about nine o'clock in the morning, we distinctly heard a report as of a great gun discharged, to the westward, at the distance of half a mile". The Rev. Julian Edmund Woods (1862) reported a further severe shock in Adelaide in June 1856 and one at Lake Bonney in the southeast during December 1861 (Howchin, 1909; Kerr-Grant, 1956).

Before undertaking a detailed discussion of South Australian newspapers and earthquake reports in the press, it is important to first consider in the next section the availability of non-press and archival records maintained by institutes and individuals. This investigation provided the foundations of the South Australian Historical Earthquake Catalogue at a time when accessing and trawling through historical newspapers was limited and difficult.

2.2 Archival lists and records

During the early 1990s, whilst a research student at Flinders University, the author carried out a very detailed examination of historical earthquake records held in the South Australian Government archives. A number of documents were recovered, including notes by local lighthouse keepers, rainfall records (and other meteorological data, including seismological) kept by observers for the Bureau of Meteorology, and records from the Adelaide Astronomical Observatory. These and other sources of information will now be detailed here.

Two unpublished documents from the Public Records Office, of unknown origin, listed earthquakes from 1837 to 1948 and 1840 to 1921, inclusive. They gave only the date and places reporting the event. It is suspected that the documents were produced by officers working at the old Adelaide Astronomical Observatory, but the method of archiving information at the Public Records Office of South Australia did not allow any certainty in establishing this. Authenticity of each event on the list was verified by corroboration with other documents, including extensive manual searches at the stated earthquake times of local newspapers held in Adelaide's Mortlock Library.

Prior to 1882, it appears that no official earthquake records were maintained, apart from reports given in newspapers. The first published listings of earthquakes beginning in 1882 and using information extracted from local newspapers were compiled by the Government

Astronomer, Sir Charles Todd of the Adelaide Astronomical Observatory. They appeared in the *Proceedings of the Australasian Association for the Advancement of Science*. While filling in many gaps during the years 1882 to 1914, they were expected to be incomplete. A summary paper written by Todd's successor, Mr G. F. Dodwell, was published in the 1910 Proceedings of the Association. It covered earthquakes between 1904 and 1908. Howchin from the University of Adelaide listed earthquakes during 1894 to 1903 inclusive, in his 1909 publication *'The Geography of South Australia'*. Hunt (1918) confirmed the earlier events of 1840 to 1917 in his published list, which was partly based on reports of eight tremors felt in Adelaide tabulated in a Bureau of Meteorology publication, *Rainfall Records for South Australia and the Northern Territory*.

The most comprehensive historical documentation of early earthquakes in South Australia comprised three scrapbooks which I recovered from the Public Records Office. They contained original earthquake report forms, telegrams and newspaper clippings for earthquakes occurring in the period 1887 to 1913. It is assumed that they constitute the original unpublished data on which Todd and Dodwell based their publications, but for reasons unknown, not all of· the scrapbook entries appear in the published accounts.

Following the extensive search through archival material, it appears that the Adelaide Astronomical Observatory briefly continued to collect intensity information and felt reports of earthquakes after "a Milne horizontal pendulum seismograph was erected at this Observatory in 1908" (Knibbs, 1911, p.83), but the practice was discontinued sometime in the 1920s. In fact, for the ten years from 1922 to 1932, there existed only one listing of earthquakes, the unpublished list of 1837 to 1948. This appeared to be compiled largely from reports in the major newspapers of the day, namely the *Advertiser* and the *Chronicle*. The ending of this list coincided with the closing down of the Adelaide Astronomical Observatory in 1948.

Interest in South Australian seismology waned over the next decade. Together with the neglect of records during the First and Second World Wars and the inevitable loss of information with time, the number of events reported in lists was very sparse during the period 1920 to 1950.

Public interest in earthquakes was reawakened after Adelaide's largest and most destructive earthquake in 1954 ($M_L \approx 5¼$), as reflected in the cartoon published in the *Advertiser* and shown in Figure 2.2. Amongst the archival records was an earthquake list published by *The News*, involving events from 1939 to 1954. The origin of the list is unknown although it is likely that it was compiled from the newspaper's own reports over the 15 year period.

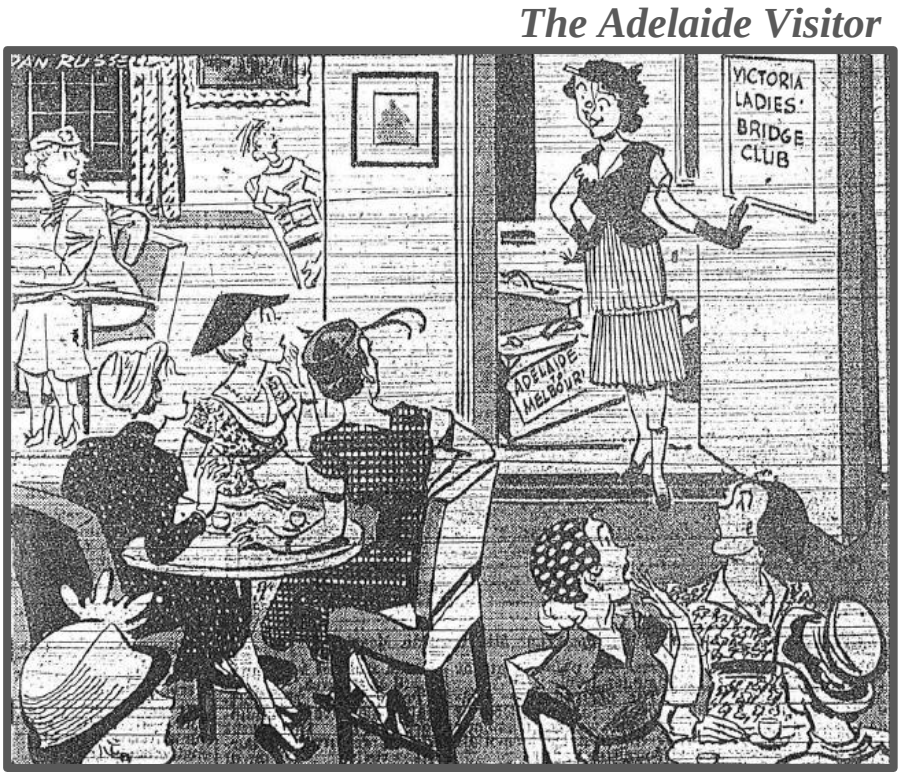


Figure 2.2. Cartoon published in the *Advertiser*, 6 March 1954, after the Adelaide earthquake

Interest in instrumental earthquake seismology was further rekindled in 1956 when Dr David Sutton of Adelaide University, installed a three-component Benioff seismograph at Mount Bonython. During his time as director of the Observatory, Dr Sutton compiled another invaluable scrapbook, similar to the earlier efforts. It began in 1932 and was maintained for over 30 years until 1964, at which point the South Australian Seismic Network comprising just three stations (Adelaide, Cleve, Hallet) was put in place and the number of instrumentally recorded events largely outnumbered the human observed ones. The number of stations in the network gradually expanded over the following years (Greenhalgh et al., 1994; Love, 2007; Parham et al., 1988) and currently numbers 17. Real-time output from the network is available from the DMITRE website at www.mappage.net.au/earthquakes.

Along with the pre-instrumental documentation in the form of scrapbooks, published and unpublished earthquake lists obtained from the Public Records Office, some of the original seismograph records were also recovered. These were summarised in *Seismological Bulletins* issued by the Adelaide Astronomical Observatory and spasmodically covered the period 1910 to 1925. Burke-Gaffney (1952) made reference to *Seismological Bulletins* from 1921 to 1941. With the closure of the Observatory in 1948, it is assumed that other Bulletins were issued annually but appear to have been misplaced.

Adding to the record-keeping challenge was the fact that the Observatory's Milne N-S horizontal pendulum (installed 1908) and Milne-Shaw E-W horizontal seismograph (installed 1924) were long period instruments set up to record world-wide earthquakes and were not well suited to the study of local seismicity (Greenhalgh et al., 1986). Thus, many of these instrumentally recorded events occurred outside state boundaries and as such, were of no interest to this study. A logbook from the Mount Bonython Observatory was also recovered, and whilst it documented these instrumentally-recorded interstate events during the period 1858 to 1969, it also reported locally felt earthquakes.

A summary of the efforts in South Australia to report and record earthquakes is presented in Figure 2.3, and serves to illustrate the coverage of information from the beginning of the colony, in 1836, to the end of the pre-network period, in 1963. It broadly aligns with McCue's (2012) discussion about the conduct of historical earthquake research in two periods: pre-1910 and post-1958. While newspapers, discussed in the next section, were the only constant over the entire 128 year period, just a limited amount of information was captured in other sources during the 1920s.

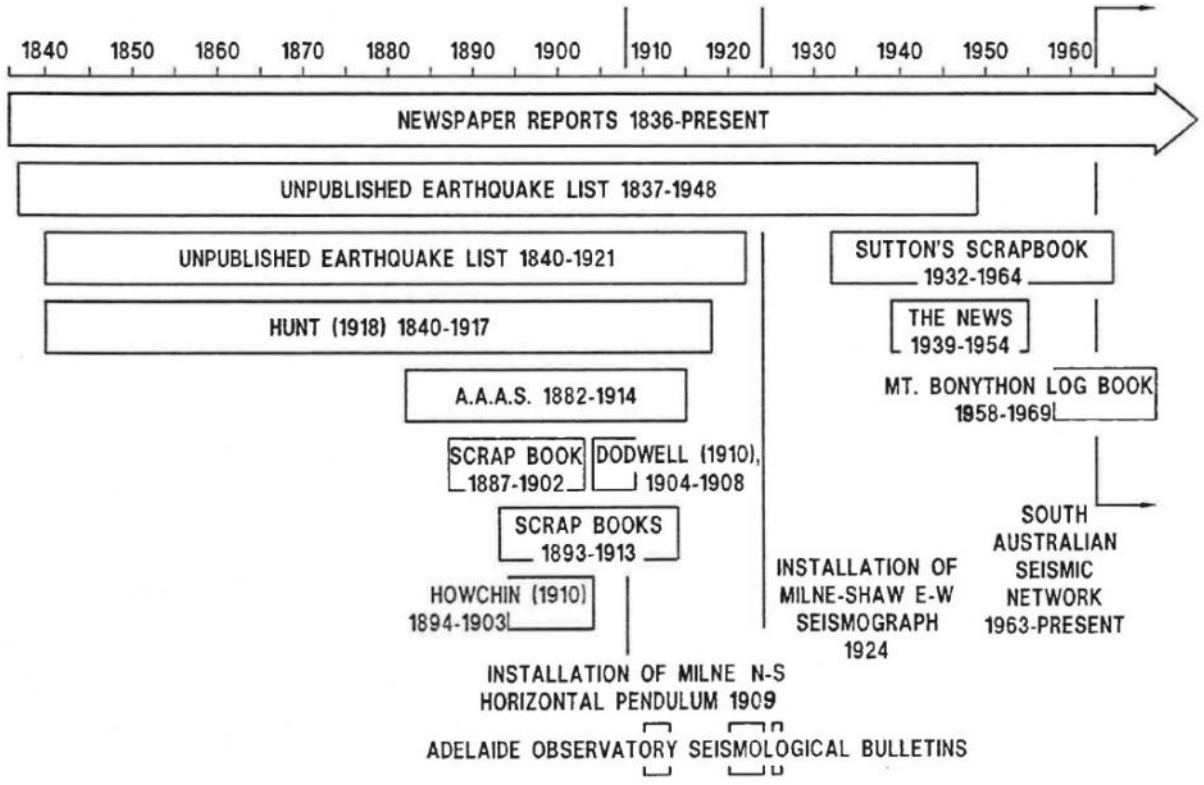


Figure 2.3. Coverage of earthquake reporting from the 1830s to the 1960s in South Australia

As an outcome of the investigations into archival records, the existing South Australian catalogue of historical earthquakes was expanded from 15 earthquakes in 1989, to 42 events in 1991 (Malpas, 1991b), and provided the foundation for the subsequent search in newspapers.

2.3 South Australia's newspaper heritage

South Australia was settled as a British colony in December 1836. However, the first newspaper, the *South Australian Gazette and Colonial Register*, was printed six months earlier in London, shortly before its publishers sailed for South Australia, taking with them the equipment needed to set up a newspaper in the 'wilderness' (Robinson, 2008). Figure 2.4 presents a section of the first page of this first publication serving the new colony of only 546 settlers (ABS, 2006). Publication of the colony's first paper ended three years later in June 1839.

South Australian Gazette and Colonial Register.

VOL. I.—No. 1. SATURDAY, JUNE 18, 1836. Price { 6d. Unstamped. 9d. Stamped.

The South Australian Gazette.

CONTRACTS FOR PROVISIONS.

HIS MAJESTY'S COLONIZATION COMMISSIONERS for SOUTH AUSTRALIA hereby give notice, that they require immediately a considerable Supply of BEEF, PORK, BREAD, FLOUR, OATMEAL, and PEASE, for the use of the Colony.—Particulars and Forms of Tender may be had at the Office of the Commission, No. 4, Adelphi Terrace, on TUESDAY next the 21st instant.

By order of the Board,
ROWLAND HILL, Secretary.

June 18th, 1836.

NOTICE TO EMIGRANTS.

THE LABOURING EMIGRANTS for SOUTH

NO. I. of the SOUTH AUSTRALIAN GAZETTE and COLONIAL REGISTER, a Newspaper for the New Colony of South Australia, which is to be continued Weekly in the Colony, will be PUBLISHED on SATURDAY the 18th inst., at No. 13, Catherine-street, Strand, (with Stamped Numbers for Country Circulation, post free,) containing every species of intelligence that can be interesting to the Colony, now on the point of departing, to their friends at home, and to others who may wish to be acquainted with the principles, objects, and local circumstances of the Colony, and the actual doings thus far of the Colonists. No. II. of the SOUTH AUSTRALIAN GAZETTE will be published (being printed in the same Form and with the same Type as No. 1) immediately after the arrival of His Excellency the Governor in South Australia, who will sail from Portsmouth on the 20th inst., in command of His Majesty's Ship Buffalo, with the Officers and their Families. Price 6d. unstamped, and 9d. stamped. Orders received by all Newsvenders in town and country, and by Mr. Capper, at the South Australian Office, Adelphi-Terrace, Strand. Annual Subscription, paid in advance, £5 5s. Early applications are requested.

COLONIZATION OF SOUTH AUSTRALIA.

This day is published, in one vol. price 12s.,

COLONIZATION OF SOUTH

BY R. TORRENS,

LIST OF SHIPS THAT HAVE SAILED AND ARE ABOUT TO SAIL TO SOUTH AUSTRALIA.

Sailed.	Emigrants.
John Pirie	25
Duke of York	35
Cygnet	84
Lady Mary Pelham	34
Emma	26
Rapid	24
	234

About to Sail.	Probable Number.
His Majesty's ship Buffalo	200
Africaine	60
Tam O'Shanter	30
A Vessel by the South Australian Company	350
	640

Actual Emigrants this Season . 874

The Colonial Register.

To print the first number of the SOUTH AUSTRALIAN GAZETTE and

Figure 2.4. The first South Australian newspaper printed in London in 1836

By 1846, just ten years after the first Europeans had arrived in South Australia, 15 different newspapers had been established to serve the growing colony of almost 26,000 people. They were in production from periods varying from as short as several months, to as long as seven years. They included the first to be published outside of the Adelaide settlement, in Port Lincoln on the Eyre Peninsula. Forty years later, during the mid-1880s, almost 50 newspapers were being published, not just in Adelaide but also in the Barossa Valley, the Flinders Ranges and the South East, as shown in Figure 2.5. The peak of publishing came in the 1920s when there were almost 100 papers at various times and in many locations across the state serving the expanding population of over half a million residents. Figure 2.5 also presents the snap-shot of newspaper locations in South Australia during the 1920s.

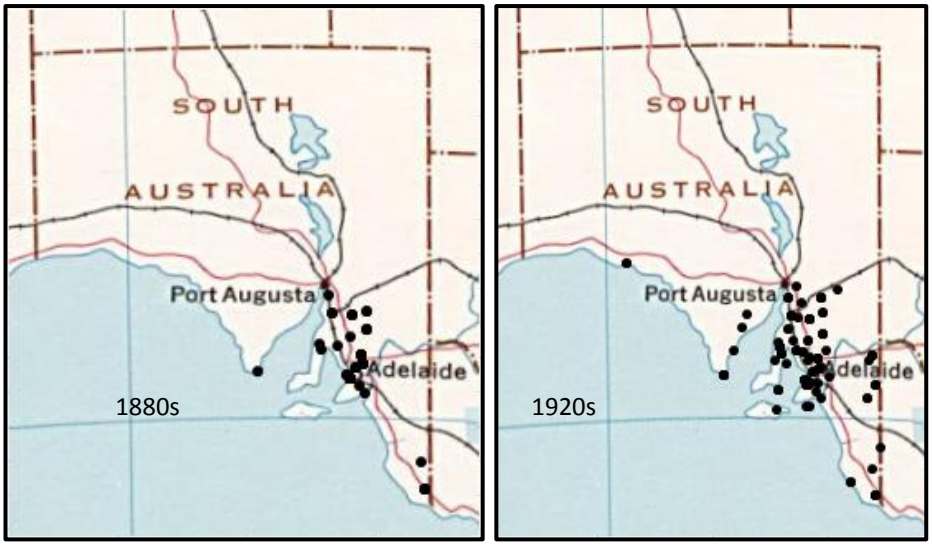


Figure 2.5. Locations of newspaper publication in South Australia in the 1880s and 1920s

The South Australian State Library's *SA Memory* website (http://www.samemory.sa.gov.au) provided sufficient information to create a comprehensive list of 317 newspapers published during the pre-instrumental period of 1836 to 1963. The readership localities of and the duration of publishing are also provided on the website. This additional information afforded the opportunity to investigate the relationships between publication commencement, duration and location, in order to appreciate the extent of newspaper coverage across regions with time.

The 104 listed locations were roughly categorised into 10 regions to simplify the analysis. These regions were identified as Adelaide, Barossa, Clare, Riverland, Murray Flats, Flinders Ranges (includes mid and far north), Fleurieu Peninsula (includes Kangaroo Island), Yorke Peninsula, Eyre Peninsula, and the South East.

As an approximation for coverage of newspapers in a region, the centroid for each publication period was first calculated for each newspaper. These centroids were then graphed in box-plot format to represent the distribution density of coverage across time in each region. As the box-plot in Figure 2.6 shows, the Adelaide region had complete coverage from colonisation in 1836, with the greatest density of publishing during the 1880s to the 1940s. As expected, publishing in other regions was established at later dates as the colony expanded to the Barossa in the north and to the South East. The outlier shown for the Eyre Peninsula region in 1840 (see Figure 2.6) represents that first non-Adelaide newspaper mentioned earlier, published for only two years in Port Lincoln.

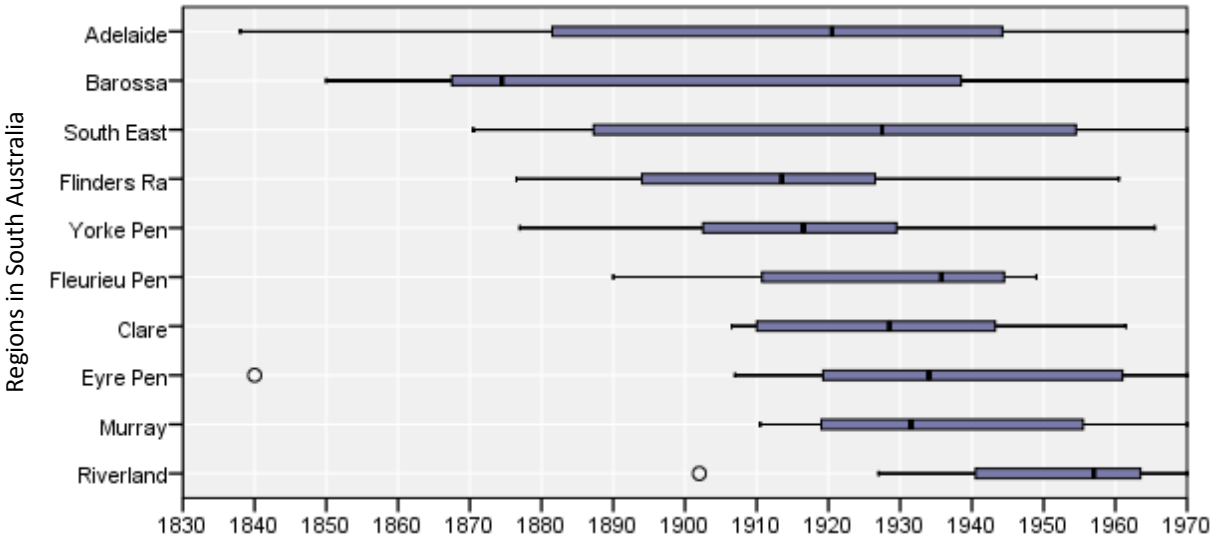


Figure 2.6. An estimation of newspaper coverage by region in South Australia

Appendix A provides the consolidated list of all 317 South Australian newspapers and also indicates the approximate number of years of publication as a basis for the investigation into newspaper coverage during the pre-instrumental period in South Australia. The purpose of the present discussion is to begin to build an understanding of the scope and limitations of the task of searching out and recovering the reports of felt earthquakes published in the 317 newspapers that served the growing community at one time or another from the time of settlement until 1963. To add further perspective to the task, the cumulative years of publication across the 317 papers equates to over 4000 years, with an average publication span of approximately 15 years.

2.4 Newspaper research before the digital age

As suggested by Figure 2.3 and confirmed in Figure 2.6, the publication coverage of newspapers in South Australia has been continuous since 1836. In the absence of any other measure, newspapers appear to have been diligent in reporting earthquakes felt in the colony.

Before the digital revolution, mining the potential wealth of information about local earthquake events obtainable from South Australian newspapers was hampered by the magnitude of the task of manually searching through every day of a newspaper for possible reports. The approach, generally considered to be more efficient, was to identify the existence of an earthquake by other means, such as the search of archival records, and then to undertake a detailed search of both local and country papers around the time of the identified event. If the reported descriptions detailing the felt observations were sufficiently numerous

through this targeted approach, they could then be used to construct an isoseismal map of intensity variations for determining, date, time, size and location of the earthquake.

The most focused effort to expand the South Australian historical earthquake catalogue was undertaken by myself during the early 1990s. As part of my Honours thesis work and then subsequently my Masters project (which was interrupted by personal circumstances), I commenced the substantial task of reviewing some of South Australia's most significant earthquake events and to expand the catalogue. This was achieved by identifying as many new events as possible, through archival and newspaper search. I spent many months trawling though the State Mortlock Library's historical newspaper collection held in hard copy, on spools and microfilm. Without the luxury of a digital search engine, it was a matter of spotting words like, 'earthquake', 'tremor', 'shock' and 'event'. Even when targeting specific times and locations of known events identified in archival records, this was still a time consuming task because it was often necessary to look through papers many weeks after the event.

With initial expectations placed at about 100 previously unrecognised events, the extent of 'missing' data was not realised until some 475 earthquakes were uncovered, with many more still expected missing. While other listings have been found, this study is the only one of its kind performed so extensively.

A total of 11 volumes were produced that comprised the comprehensive compilation of letters, personal accounts, public records and newspaper clippings pertaining to known and unknown events. Where sufficient information was available, macroseismic data was reviewed and new isoseismal maps were constructed. Ten of the 11 volumes, listed below, are now publically available online in original form.

1. *Mount Barker 1883 Earthquake* (Malpas, 1993f) – review of the macroseismic data and redraw of the isoseismal maps
2. *Beachport 1897 Earthquake, South Australia* (Malpas, 1991e) – review of the macroseismic data and redraw of the isoseismal maps (missing)
3. *Warooka 1902 Earthquake* (Malpas, 1991d) – review of the macroseismic data and redraw of the isoseismal maps
4. *Adelaide 1954 Earthquake* (Malpas, 1991a) – review of the macroseismic data, and redraw of the isoseismal maps
5. *Seismic Risk in South Australia* (Malpas, 1991b) – Honours thesis

6. *South Australian Earthquakes* (Malpas, 1991c) – A detailed study of 13 previously unrecognised events between 1893 to 1921

7. *Historical earthquakes in South Australia, Volumes 1, 1837-1884* (Malpas, 1993a) – A compilation of 58 previously unrecognised events

8. *Historical earthquakes in South Australia, Volumes 2, 1885-1894* (Malpas, 1993b) – A compilation of 87 previously unrecognised events

9. *Historical earthquakes in South Australia, Volumes 3, 1895-1904* (Malpas, 1993c) – A compilation of 112 previously unrecognised events

10. *Historical earthquakes in South Australia, Volumes 4, 1905-1914* (Malpas, 1993d) – A compilation of 85 previously unrecognised events

11. *Historical earthquakes in South Australia, Volumes 5, 1955-1964* (Malpas, 1993e) – A compilation of 120 previously unrecognised events

On the basis of the historical earthquake search, and where sufficient information was available for determining location and magnitude, the South Australian Earthquake Catalogue was expanded in 1994 to include 107 new earthquake events. The remaining 368 newly found earthquakes had insufficient information and required further investigation. Some of this investigation work was undertaken by Bierbaum (1994) who focussed on earthquakes in the South-East of the state. However, since the production of the Malpas volumes, now some 20 years on, little else has been done in South Australia to expand or improve the historical earthquake catalogue. Notable exceptions include the 1996 reprinting of Dyster's (1979) portrait of the four greatest earthquakes in South Australia, and the ongoing work of McCue (2002, in preparation) with the *Atlas of Isoseismal Maps of Australian Earthquakes*. In 2012, the South Australian Earthquake Catalogue, maintained by *Primary Industries and Resources South Australia,* contained 151 earthquake events in the pre-seismic network period.

2.5 TROVE: Newspaper research in the digital era

As of January 2013, there were almost 8.2 million pages of Australian newspapers since 1803 available to search on TROVE, a digital 'treasure-trove' managed by the National Library of Australia. This advancement in information access has now made it a viable undertaking to efficiently research historical earthquakes in Australia. The *Australian Earthquake Engineering Society* (www.aees.org.au) has recently commenced a series of state-by-state studies of Australian earthquakes using TROVE, resulting in reports such as McCue (2012), which is of particular relevance to South Australia.

Of the 317 newspaper titles published for the South Australian market during the pre-network period (1836 to 1963), as summarised in Appendix A, only 22 titles (shown in bold) have been made digitally available for searching in TROVE. The following website lists the searchable titles: trove.nla.gov.au/ndp/del/titles?state=South%20Australia. This represents approximately 14 per cent in terms of the number of years digitised, compared to the number of years yet to be digitised and made available for searching. It should also be noted that at the time of writing nine of these titles were only digitised up to 1954.

In order to assess the usefulness of TROVE and test the extent of completeness of the Malpas earthquake lists, a brief search of the available South Australian newspapers was undertaken at the start of 2013 by simply using the words 'earthquake' and 'shock'. Searchable papers in the first 50 years of colonisation, up to 1886, were investigated. It was of little surprise when an additional 110 'new' earthquakes (or suspected earthquakes) were identified. This positive result, conducted in less than a week, was a strong demonstration of the potential of TROVE and the wealth of information about historical earthquakes still to be discovered in newspapers. It also spoke strongly to the diligence of newspapers and their local and country correspondents to telegraph felt reports of earthquakes so prolifically. This latest work takes the current list of pre-network earthquakes to 679 events and has the potential to quadruple the current pre-network South Australian Earthquake Catalogue of 151 events.

2.6 Newspapers, earthquakes and population: The issue of 'completeness'

In the ongoing endeavour to improve the earthquake catalogue, this chapter has raised the challenges of undertaking historical earthquake research by assessing the availability and accessibility of information held in public records, government archives and in the press. Many of those challenges are now far less daunting with the advent of digital technology and the development of public search facilities like TROVE. Nevertheless, the issue of completeness remains an ongoing issue in that people had to be around to feel and report the event. In other words, the completeness of the catalogue is dependent on the population size and its distribution.

To assess the relationship between the number of earthquakes reported and the size of the population, data on the three variables (earthquakes, newspapers, population) was brought together as a function of time in decadal blocks. Newspaper data were derived from the list presented in Appendix A, based on the State Library website and population data were retrieved from the ABS (2006) website. Accordingly, Figure 2.7 shows that in the 1830s, with a

population of just over 10,000 inhabitants and seven newspapers active at various periods, one earthquake felt in Adelaide was reported. The increase in reported earthquakes in the subsequent decades shown in Figure 8, with the corresponding proportional increase and spread of population, is rather striking. It suggests that with the latest investigation across the first 50 years, there may indeed not be too many more events to find. That said, the digitised papers only constitute about 18 per cent of the papers in that period. However, in support of the argument of near completeness at least in the Adelaide area, papers frequently 'shared' the same reports so more press does not necessarily mean new information. More importantly, Figure 2.7 indicates that there are many more events to be found from the 1900s onwards, particularly in the 1920s to 1940s, assuming that this was not a a period of significantly reduced seismic activity.

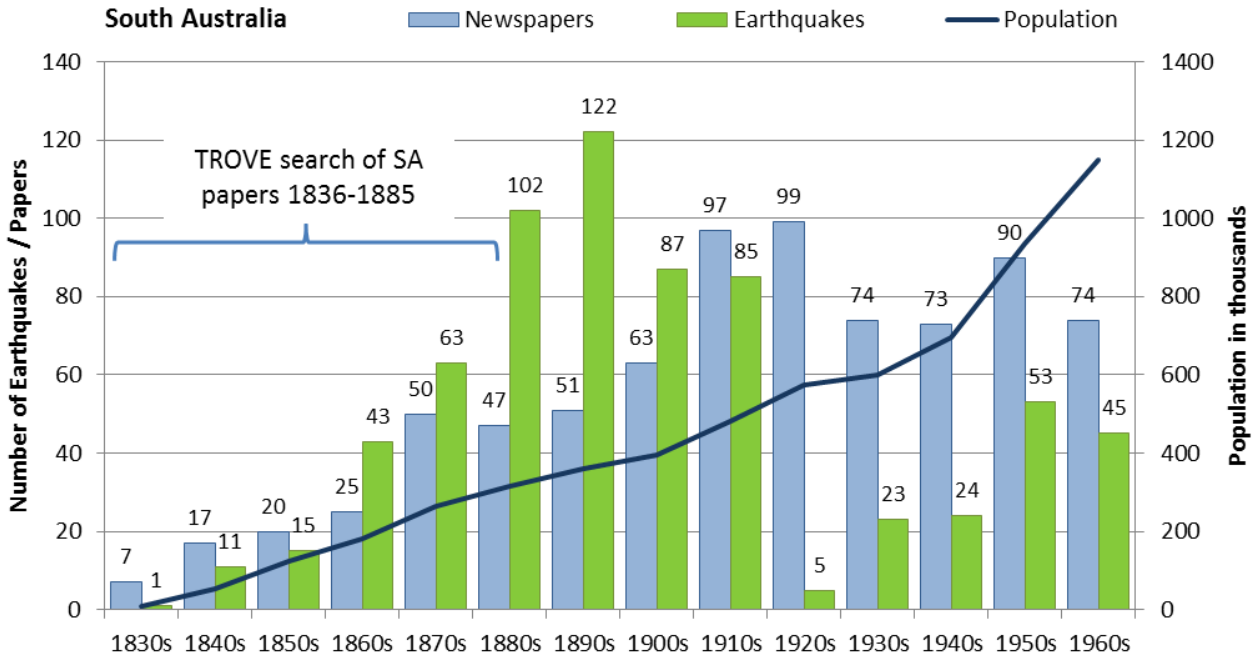


Figure 2.7. Relationship between population, newspapers and earthquakes over time

A complete tabulation of the 679 events comprising the South Australian historical earthquake list is provided in Appendix B. Where sufficient information is available in the form of an isoseismal map and trustworthy reports, epicentral location (latitude and longitude), event time (Universal Time), and estimated magnitude are provided.

This list clearly continues to be a work in progress. The task ahead not only involves expanding the list with 'missing' events by systematically searching TROVE and compiling found information, it also requires that this information is processed to determine the time, location and magnitude of the event, and construct an isoseismal map if enough information is

available. Only then can the new event be formally added to the South Australian Earthquake Catalogue and used in the analyses of seismic risk assessment.

In this chapter, I have examined the task of expanding the historical earthquake record and unearthed a further 110 events, taking the list to 679 historical earthquakes. The next chapter focuses on the task of processing the information of felt reports in order to determine the key parameters of an earthquake.

Chapter 3
Defining Historical Earthquakes: Estimating Size and Location

Moving beyond the basic tabulation of events discussed in Chapter 2, a more in-depth investigation to determine the source parameters of an event is given in this chapter, based on the construction of isoseismal maps.

3.1 Local to Universal Time

According to Wikipedia, the standardisation of time in Australia began in 1892. Prior to that date meridian time was used when Adelaide, at longitude 138.6°E, was 9 hours and 14 minutes ahead of Greenwich. The Dominions enacted time zone legislation, adopting Greenwich as the standard Meridian, effective from February 1895. The clocks were set ahead of GMT by 9 hours in South Australia and the Northern Territory, which it governed. This time zone in Australia became known as Central Standard Time.

In May 1899, South Australia advanced Central Standard Time by 30 minutes. When the Northern Territory was separated from South Australia and placed under the jurisdiction of the Federal Government, that Territory kept Central Standard Time. However, for smaller country settlements isolated from the State capital , it is possible that a time base was adopted on the basis of displacement in longitude from Greenwich, but this is uncertain. While it would be reasonable to use the old conversion prior to 1895 for towns located near the city, it cannot be assumed that the same time was used for the outer-lying settlements. Because of these uncertainties, a constant 09:30 hours has been used for all conversions of local time before and after 1895, thus eliminating any confusion. For each event listed in Appendix B, where sufficient information is available, event time is given in 24-hour Universal Time.

3.2 Isoseismal maps

During the pre-instrumental period, some of the largest earthquakes to be experienced in South Australia occurred. Construction of isoseismal maps of the largest of the state's earthquakes, were initially drawn by Dodwell in 1910 and then during the 1950s, possibly as a result of interest in the Adelaide earthquake of 1954. Studies of a number of important events and the construction of isoseismal maps have been undertaken by researchers over the years

(for example, Barlow et al., 1986; Bullen & Bolt, 1956; Doyle, Everingham & Sutton, 1968; Dyster, 1979; Everingham et al., 1982; Greenhalgh & Denham, 1986; Greenhalgh et al., 1994; Greenhalgh, Parham & Singh, 1986; Love, 1996; Love, 2000; McCue, 1975; McCue, 2012; Rynn et al., 1987). A large number of isoseismal maps were researched and constructed by Malpas in the early 1990s and are contained in 11 volumes (Malpas, 1991a; 1991b; 1991c; 1991d; 1991e; 1993a; 1993b; 1993c; 1993d; 1993e; 1993f). Bierbaum (1994) reviewed several events in the South East of the state. The *Atlas of Isoseismal Maps of Australian Earthquakes* (McCue, 2002) represents a significant body of work that is still ongoing.

For historical earthquakes, for which instrumental magnitudes are not available, the construction of an isoseismal map is an important step in seismological research and in extending the earthquake catalogue. The isoseismal map is useful for:

1. assessing the attenuation of ground motion with distance, and predicting what effects to expect;
2. locating epicentres;
3. enabling magnitude to be estimated from intensity characteristics;
4. determining if tremors are misinterpreted as a foreshock or aftershock; and,
5. revealing meizoseismal regions – areas more susceptible to earthquake disturbance purely because of geology or topography (eg. thick sediments causing amplification).

It is a time consuming task to locate the places, assess felt reports, and assign MM intensities (see Table 3.1). The intensity measures the degree of local ground shaking and its effects on buildings and people. Finally the isoseismal map has to be drawn and interpreted. To construct an isoseismal map, the townships reporting the earthquake, to which a Modified Mercalli intensity is assigned, must be accurately located. The task is made more challenging with early historical records because townships have come and gone, or have been renamed, making it difficult and sometimes impossible to determine their true location. Even with the recent availability of place name websites, such as Bonzle (www.bonzle.com), Geodata (www.geodata.us/australia_names_maps) and Whereis (www.whereis.com), in addition to Google Maps (maps.google.com.au), it often requires further research on the internet and consulting and cartographical material of the period. Thankfully, TROVE also provides a large selection of historical South Australian maps.

Table 3.1. The Modified Mercalli Intensity scale

I. Instrumental	Generally not felt by people unless in favourable conditions.
II. Weak	Felt only by a few people at rest, especially on the upper floors of buildings. Delicately suspended objects (including chandeliers) may swing slightly.
III. Slight	Felt quite noticeably by people indoors, especially on the upper floors of buildings. Many do not recognize it as an earthquake. Standing automobiles may rock slightly. Vibration similar to the passing of a truck. Duration can be estimated. Indoor objects (including chandeliers) may shake.
IV. Moderate	Felt indoors by many to all people, and outdoors by few people. Some awakened. Dishes, windows, and doors disturbed, and walls make cracking sounds. Chandeliers and indoor objects shake noticeably. The sensation is more like a heavy truck striking building. Standing automobiles rock noticeably. Dishes and windows rattle alarmingly. Damage none.
V. Rather Strong	Felt inside by most or all, and outside. Dishes and windows may break and bells will ring. Vibrations are more like a large train passing close to a house. Possible slight damage to buildings. Liquids may spill out of glasses or open containers. None to a few people are frightened and run outdoors.
VI. Strong	Felt by everyone, outside or inside; many frightened and run outdoors, walk unsteadily. Windows, dishes, glassware broken; books fall off shelves; some heavy furniture moved or overturned; a few instances of fallen plaster. Damage slight to moderate to poorly designed buildings, all others receive none to slight damage.
VII. Very Strong	Difficult to stand. Furniture broken. Damage light in building of good design and construction; slight to moderate in ordinarily built structures; considerable damage in poorly built or badly designed structures; some chimneys broken or heavily damaged. Noticed by people driving automobiles.
VIII. Destructive	Damage slight in structures of good design, considerable in normal buildings with a possible partial collapse. Damage great in poorly built structures. Brick buildings easily receive moderate to extremely heavy damage. Possible fall of chimneys, factory stacks, columns, monuments, walls, etc. Heavy furniture moved.
IX. Violent	General panic. Damage slight to moderate (possibly heavy) in well-designed structures. Well-designed structures thrown out of plumb. Damage moderate to great in substantial buildings, with a possible partial collapse. Some buildings may be shifted off foundations. Walls can fall down or collapse.
X. Intense	Many well-built structures destroyed, collapsed, or moderately to severely damaged. Most other structures destroyed, possibly shifted off foundation. Large landslides.
XI. Extreme	Few, if any structures remain standing. Numerous landslides, cracks and deformation of the ground.
XII. Catastrophic	Total destruction – everything is destroyed. Lines of sight and level distorted. Objects thrown into the air. The ground moves in waves or ripples. Large amounts of rock move position. Landscape altered, or levelled by several meters. Even the routes of rivers can be changed.

Accordingly, the work conducted over the last 20 years is consolidated in the next chapter. It presents a chronology of selected earthquakes from the list of 679 events (see Appendix B), and where sufficient information is available, includes the constructed isoseismal maps for 114 events. These maps have been sourced from previous work or are newly constructed. Some maps provide limited information and only support the estimation of epicentral location. Other maps come from the hand-drawn work contained in the Malpas volumes or are professionally drafted. Clearly, the determination of size and location of events in the list in Appendix B will have to be an ongoing task. However, for each event listed in Appendix B, where sufficient information is available, the latitude and longitude in decimal format is provided.

3.3 Estimating earthquake magnitude

For many historical earthquakes, contemporary newspaper reports and original documentation provide sufficient macroseismic information to draw an isoseismal map and to deduce a magnitude based on felt radius. These pre-instrumental events can then augment existing data for earthquake risk studies.

Relationships between magnitude and intensity have been derived for North America (Barosh, 1969; Gutenberg & Richter, 1942, 1956; Housner, 1970; Nuttli et al., 1979). Work in Australia has been less prolific but includes McCue's (1980) study, which was based on 15 earthquakes. Greenhalgh et al. (1988) undertook a systematic study of available intensity information for 133 Australian earthquakes, using the average relationship between local magnitude, observed Modified Mercalli intensity and radius of perceptibility. They derived the simple relationship, presented in Table 3.2, between magnitude ML and various isoseismal radii, R_i. Here ML is an estimate of the Richter magnitude, and R_i is the radius of the equivalent circular area equal to that enclosed by the 'i' isoseismal line on the Modified Mercalli scale. In particular R_{III} is equivalent to the radius of perceptibility R_p.

Table 3.2. Magnitude-intensity relationships

	$ML = a.(\log R_i)^2 + b$ where i = III, IV, V, VI			
Isoseismal	No. of Observations	a	b	Correlation Coefficient
$R_{III} = R_p$	100	0.54 ± 0.03	2.23 ± 0.11	0.90
R_{IV}	90	0.52 ± 0.03	2.70 ± 0.12	0.85
R_V	54	0.53 ± 0.06	3.48 ± 0.16	0.76
R_{VI}	17	0.50 ± 0.13	4.39 ± 0.29	0.71

(from Greenhalgh et al., 1988)

Their initial assessment was reappraised using some additional Australian earthquakes (Greenhalgh et al., 1989) and the following magnitude-intensity relationships were derived, based on the radius of perceptibility R_p:

$$ML = 0.35(\pm0.12) (\log R_p)^2 + 0.63(\pm0.41) (\log R_p) + 1.87(\pm0.36)$$

and on maximum intensity I_o:

$$ML = 1.35(\pm0.34) + 0.57(\pm0.06) I_o$$

These magnitude-intensity formulas are still in current use and are applied to isoseismal maps to enable the best approximation of the magnitude ML of an event to be made. It should be noted that magnitude derived from maximum intensity is less accurate and tends to overestimate the magnitude in comparison to isoseismal radii. Furthermore, deciding on the isoseismal radius is more of an art than a science. For irregular or elongated isoseismal contours, one can approximate them by an ellipse and take as the "radius" the geometric mean of the semi-major and semi-minor axis lengths. Nevertheless, in order to take a consistent approach to the analysis in this thesis, the following formulas are adopted in the calculation of event magnitude ML.

Maximum intensity I_o: $ML = 1.35(\pm0.34) + 0.57(\pm0.06).I_o$

Radius of perceptibility R_p: $ML = 0.35(\pm0.12).\log R_p^2 + 0.63(\pm0.41).\log R_p + 1.87(\pm0.36)$

Radius of isoseismal intensity IV R_{IV}: $ML = 0.52(\pm0.03).\log R_{IV}^2 + 2.70(\pm0.12)$

Where multiple formulas are used, the arithmetic mean of the individual ML scores is calculated to provide the assigned magnitude. Accordingly, each event listed in Appendix B (where sufficient information is available) has the individual magnitudes and resulting estimated magnitude of the event provided, along with the values of maximum intensity and isoseismal radii used in the calculations.

This chapter has considered the task of defining the parameters of historical earthquakes and highlights the limitations in accurately defining event time, location and magnitude based on felt reports found in newspapers and archival records. However, even though these results are not precise by today's standards using instrumentally-recorded data, the fact still remains that these events occurred and should be recognised in the earthquake catalogue.

Chapter 4
Historical Earthquakes in South Australia

In this chapter I provide a profile of the list of 679 historical earthquakes given in Appendix B. It brings to life, through a brief introduction, felt reports and, where available, isoseismal maps, the nature of the event, supported by the details of epicentral location, event time, and magnitude calculation. It is the culmination of the work started 20 years ago of research into historical earthquakes in South Australia.

Events are presented in chronological order from 1837 to 1963 and numbered according to the full historical earthquake list in Appendix B. In many cases the existing information on an event has been further researched and updated from pre-existing sources, so that the estimates of time, location and magnitude are improved. Where new felt reports have been collected, this information is presented as raw data (typos and all), and where pre-existing information has been used, the references are given. This is the first time such a comprehensive database of all known pre-1964 South Australian earthquake events has been compiled in one place.

4.1 Quantity over quality

It is beyond the scope of this thesis to undertake the detailed scrutiny required of every event in order to provide sound estimates of location and magnitude. This will take much more time. Rather, this chapter, and indeed this thesis, seeks to consolidate what is currently known about all historical earthquakes in South Australia, in order to provide a platform from which the detailed work can continue.

Accordingly, it is important to stress that the latitude and longitude of most events are approximations and, in many cases where there is just one locality reported, it is the latitude and longitude of that location. Similarly, the calculation of magnitude is an estimation, sometimes just based on one or two reports or on descriptors such as ‘slight’ or ‘severe’, in the absence of further information. Some events have no location or magnitude listed, while other ‘events’ are place holders and may represent multiple aftershocks, for example. The quick investigation of the first 50 years of the available South Australian newspapers in TROVE, provide newspaper reports for these ‘new’ events but little attempt has been made to analyse the reports or produce isoseismal maps. In short, all events not already included in the South

Australian Earthquake Catalogue require further work to estimate better their size and location before inclusion in the Catalogue.

4.2 Key to the sources of information

For brevity, references to the sources of information provided for each event have not been presented in full and use the following notation.

24/SA/08 format	Event is present in the draft *Atlas of Isoseismal Maps of Australian Earthquakes* (McCue, 2002) and references in this format (ie. xx/xx/xx) correspond to the Atlas index number in 2012
Bierbaum 1994	Event is detailed in Bierbaum (1994) *Earthquake Hazard and Microtremor Analysis, South Australia*. Unpublished Honours Thesis, Flinders University: Adelaide.
Dyster	Event is detailed in Dyster (1996). *Strong Shock of Earthquake: The Story of the Four Greatest Earthquakes in the History of South Australia*. Report Book 95/47. Department Of Mines And Energy South Australia.
Hons	Event is detailed in Malpas (1991b). *Seismic Risk in South Australia*. Unpublished Honours Thesis, Flinders University: Adelaide.
Letter	Event listed in email letter from Steve Hutcheon to David Love
Malpas 1902	Malpas (1991d). *Warooka 1902 Earthquake, South Australia*
Malpas 1883	Malpas (1993f). *Mount Barker 1883 Earthquake, South Australia*
Malpas 1897	Malpas (1991e). *Beachport 1897 Earthquake, South Australia* – volume missing
Malpas 1954	Malpas (1991a). *Adelaide 1954 Earthquake, South Australia*
Malpas 1991	Malpas (1991c). *South Australian Earthquakes.*
Map 1839	The district of Adelaide, South Australia: as divided into country sections from the trigonometrical surveys of Colonel Light 1839.
Map 1841	Map of South Australia, 1841. http://www.nla.gov.au/apps/cdview/?pi=nla.map-t113-e
Map 1851	Tallis Map of South Australia, 1851
Map 1874	E.S. Wigg & Son's map of South Australia 1874. http://nla.gov.au/nla.map-rm3037
Map 1876	E. S. Wigg & Son. Atlas of South Australia and Northern Territory, 1876. http://nla.gov.au/nla.map-raa20
Map 1892	Australland, 1892. http://www.swaen.com/item.php?id=16585
McCue 2012	Event is detailed in McCue (2012). *Historical earthquakes in South Australia*. AEES Report
Newspapers	Newspaper reports As reported – retrieved from TROVE.
SAEQCat	Event is present in the South Australian Earthquake Catalogue in 2012
VOLS-#*m	Event listed in Malpas (1993a-e) *Historical earthquakes in South Australia, Volumes 1-5*. Without number: indicates in list only, with no additional detail. With number: indicates the page number of the volume in which it's detailed. *: needs further investigation of newspapers. m: isoseismal map provided.

The remainder of this chapter presents a snapshot of each of the 679 events indexed and summarised in Appendix B. Events are number according to the index number.

1 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 22 July 1837

Date 22 July 1837

Time 1855 UTC

Location 34.9°S, 138.6°E

Magnitude 3.9 ML

▲ Epicentre (or estimate)

Calculating magnitude

Maximum Intensity I_0: 4.5 gives ML 3.9 ± 0.6

References

VOLS-1; letter; Map 1841

On Sunday morning the 23 July 1837, only six months after settlement, the pioneer town of Adelaide experienced a smart shock of an earthquake. It occurred at 4.25am local time and lasted about 20 seconds. The loud rumbling noise accompanying the shock resembled that of a passing train and appeared to be travelling in a SW direction. Apparently no damage was sustained. The natives were questioned about the occurrence and fortunately they could only remember two similar shocks many years before.

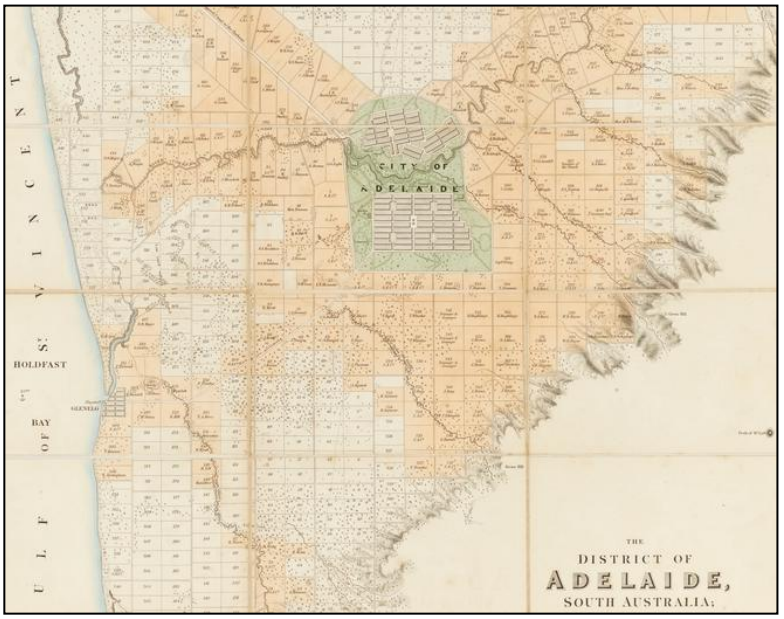
2 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 31 March 1840

Date 31 March 1840

Time 0630 UTC

Location 34.9°S, 138.6°E

Magnitude 3.6 ML



Calculating magnitude

Maximum Intensity
I_0: 4.5 gives ML 3.9 ± 0.6
Radius of Perceptibility
R_p: 20km gives ML 3.3 ± 1.1

References

VOLS-3; SAEQCat; letter; McCue 2012; Map 1839

At 4pm local time on Tuesday 31 March 1840, the shock of an earthquake was felt in Adelaide and for several miles around. The event must have been no more than a vibration as no damage was reportedly sustained and very little information about the tremor appears to exist. However, on further investigation, McCue (2012) found reports of "the shaking of a few articles of furniture" and the falling of "an old rickety wall… and some glasses", suggesting the event was larger than initially estimated.

3 | ENCOUNTER BAY EARTHQUAKE, SOUTH AUSTRALIA, 13 August 1842

Date 13 August 1842

Time 1130 UTC

Location 35.53°S, 138.53°E

Magnitude 3.1 ML

▲ Epicentre (or estimate)

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

We have been informed by Mr Wilson, of Encounter Bay, that, ten days ago, a slight shock of an earthquake was felt at that place. It occurred, about ten o'clock at night, and was preceded by a hollow, rumbling, sound, like that made by a heavy wagon passing over a hard road. Southern Australian (Adelaide, SA : 1838 - 1844) Tuesday 23 August 1842 p 3.

A slight shock of an earthquake was felt at Encounter Bay on 13 August 1842. It occurred, about 10pm local time, and was "preceded by a hollow, rumbling, sound, like that made by a heavy wagon passing over a hard road".

4 | KOORINGA EARTHQUAKE, SOUTH AUSTRALIA, 20 August 1844

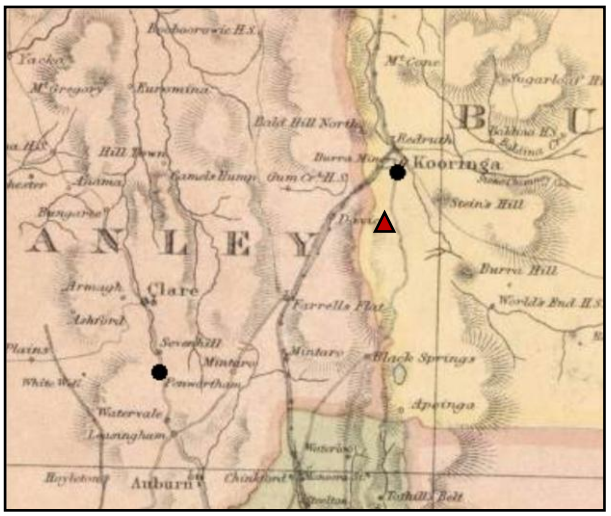
Date 20 August 1844

Time 0930 UTC

Location 33.71°S, 138.89°E

Magnitude 3.9 ML

▲ Epicentre (or estimate)



Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 65km gives ML 4.2 ± 1.5

References

letter; *A VERY severe shock of an earthquake was experienced on last Wednesday week, at the station to Messrs. Horrock's [at Penwortham] and also at Mr Hughes's station [near Kooringa], about forty miles farther to the north. Southern Australian (Adelaide, SA : 1838 - 1844) Friday 30 August 1844 p 3;* Map 1853

5 | STONY DESERT EARTHQUAKE, SOUTH AUSTRALIA, ~30 August 1845

Date ~30 August 1845

Time 2330 UTC

Location 26.5°S, 138.8°E

Magnitude 2.8 ML

▲ Epicentre (or estimate)

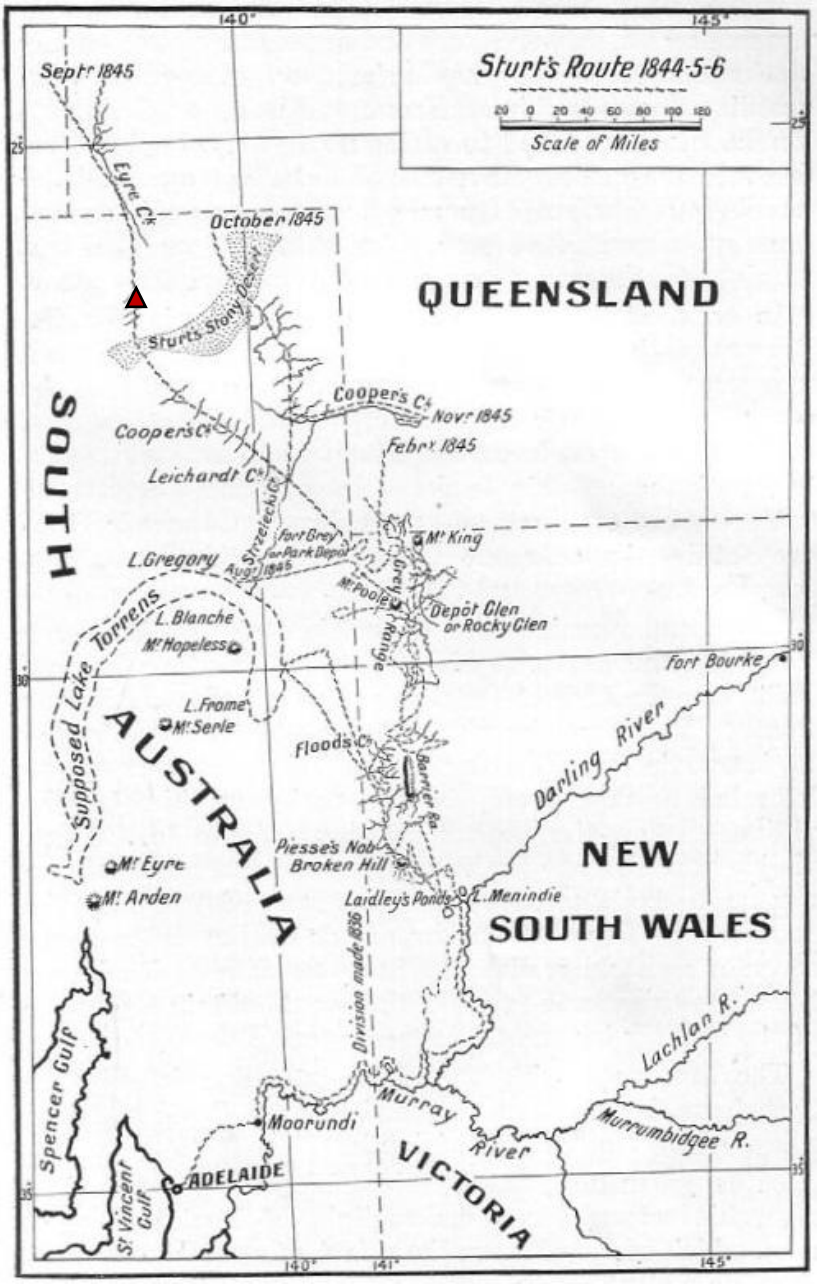
Calculating magnitude

Maximum Intensity
I_0: 2.5 gives ML 2.8 ± 0.5

References

letter;

Map: Route of Sturt's Central Australian Expedition (1844 to 1846)



In a Narrative of Expedition into Central Australia (1849, p.24), Charles Sturt wrote "When Mr. Browne and I were on our recent journey to the north, after having crossed the Stony Desert [Aug 27], being then between it and Eyre's Creek [Sep 4], about nine o'clock in the morning, we distinctly heard a report as of a great gun discharged, to the westward, at the distance of half a mile."

6 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 25 October 1845

Date 25 October 1845

Time 1730 UTC

Location 34.9°S, 138.6°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

On 26 October 1845, "A number of sleepers were roused, and watchers alarmed, by a smart shock of an earthquake at three o'clock on Sunday morning, which lasted about half a minute. This is the third shock which has been felt in Adelaide since the colony was settled, one having occurred in 1837, and one in 1840."

References

letter

7 | BAROSSA RANGE EARTHQUAKE, SOUTH AUSTRALIA, 3 February 1848

Date 3 February 1848

Time 0130 UTC

Location 34.4°S, 139.2°E

Magnitude 3.8 ML

Calculating magnitude

Maximum Intensity

I_0: 4 gives ML 3.6 ± 0.6

Radius of Perceptibility

R_p: 50km gives ML 4 ± 1.4

References

letter; *South Australian Register, Saturday 12 February 1848 p 2;*

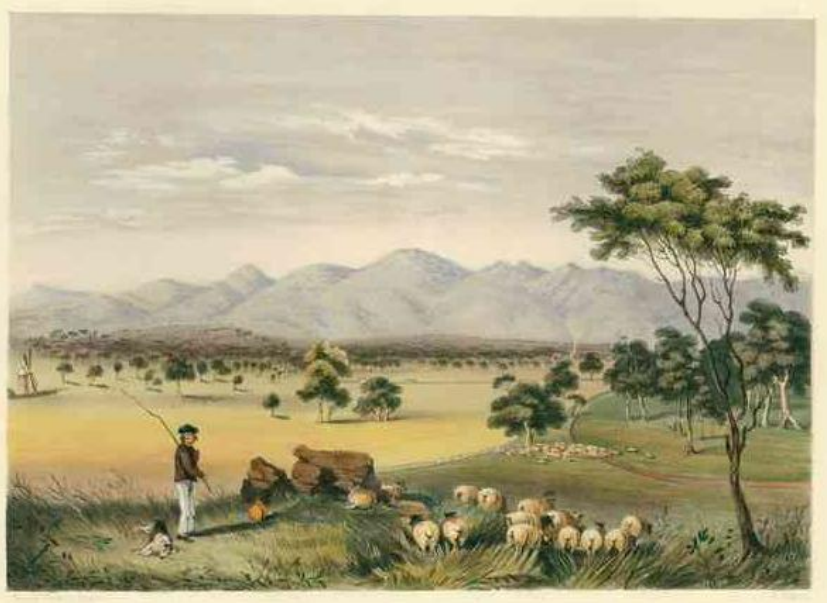


Image: Lynedoch Valley, looking towards the Barossa Valley, 1856

On 3 February 1848, "The shock of an earthquake was felt on Thursday week the 3rd instant, at about eleven o'clock in the forenoon, at the Barossa Range, and for several miles beyond, and distinctly heard by several persons near Adelaide, a distance of fifty miles".

8 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 12 September 1848

Date 12 September 1848

Time 1830 UTC

Location 34.9°S, 138.6°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity

I_0: 3 gives ML 3.1 ± 0.5

At about 4am local time on Thursday 13 September 1848, the township of Adelaide experienced a small shock of an earthquake. “The vibrations were so sensibly felt that several inhabitants declared their beds shook under them” and that buildings were shaken. It appears that only a small number of people felt or recognised the shock with insufficient reports to construct an isoseismal map.

References

VOLS-4; SAEQCat;

9 | BURRA EARTHQUAKE, SOUTH AUSTRALIA, 14 September 1848

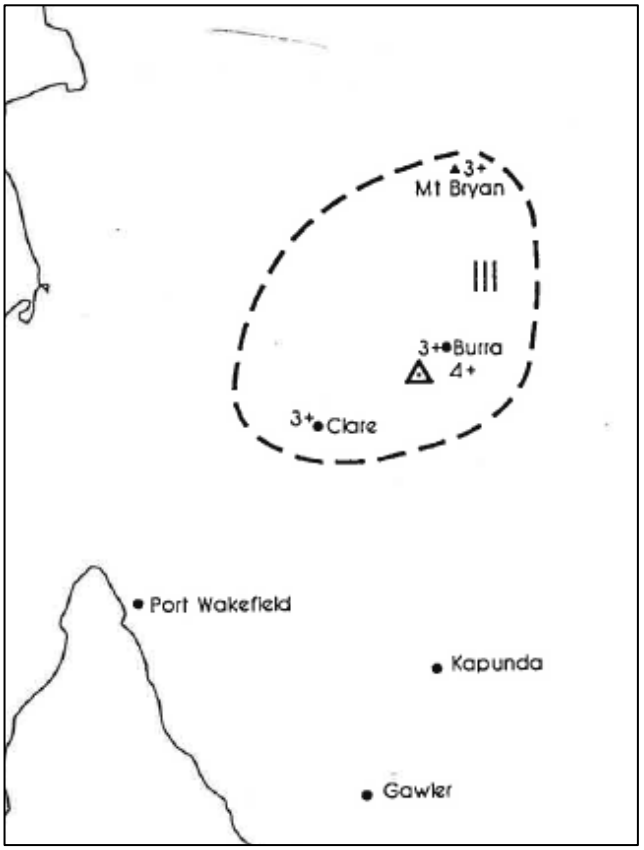
Date 14 September 1848

Time 1830 UTC

Location 33.7°S, 138.9°E

Magnitude 3.6 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity I_0: 4.5 gives ML 3.9 ± 0.6
Radius of Perceptibility R_p: 20km gives ML 3.3 ± 1.1

References

VOLS-7m; SAEQCat; letter

On Friday 15 September at about 4am local time, a shock of an earthquake was felt at Burra Burra, Kooringa, Clare, and as far north as the neighbourhood of Mt Bryan.

Bottles and glasses rattled and in some cases furniture was seen to move. The event was accompanied by a distinct rolling noise and was followed by a “mimic flash of lightening, so brilliant as to illuminate the country far and near”. Although a limited amount of information about the event was obtained, an isoseismal map was constructed to estimate the radius of perceptibility.

10 | PORT LINCOLN EARTHQUAKE, SOUTH AUSTRALIA, ~5 December 1848

Date ~5 December 1848

Time

Location 34.7°S, 135.8°E

Magnitude 2.8 ML

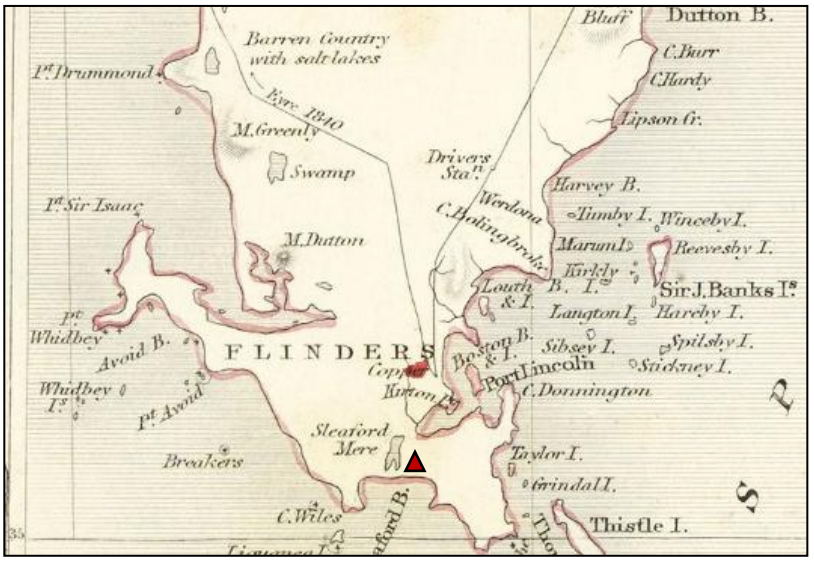
▲ Epicentre (or estimate)

Calculating magnitude

Maximum Intensity
I_0: 2.5 gives ML 2.8 ± 0.5

References

letter; Map 1851



In a report in the South Australian Register of 20 December 1848, "A passenger by the Juno informs us that the shock of an earthquake had been felt at Port Lincoln in the early part of this month".

11 | BURRA EARTHQUAKE, SOUTH AUSTRALIA, ~10 December 1848

Date ~10 December 1848

Time

Location 33.7°S, 138.9°E

Magnitude 3.1 ML

▲ Epicentre (or estimate)

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

letter; Map 1851

In a further report in the South Australian Register of 20 December 1848, "It is also said that there has since been a shock at the Burra, the effects of which are still visible".

12 | GAWLER EARTHQUAKE, SOUTH AUSTRALIA, 10 February 1849

Date 10 February 1849

Time 1100 UTC

Location 34.5°S, 138.8°E

Magnitude 3.1 ML

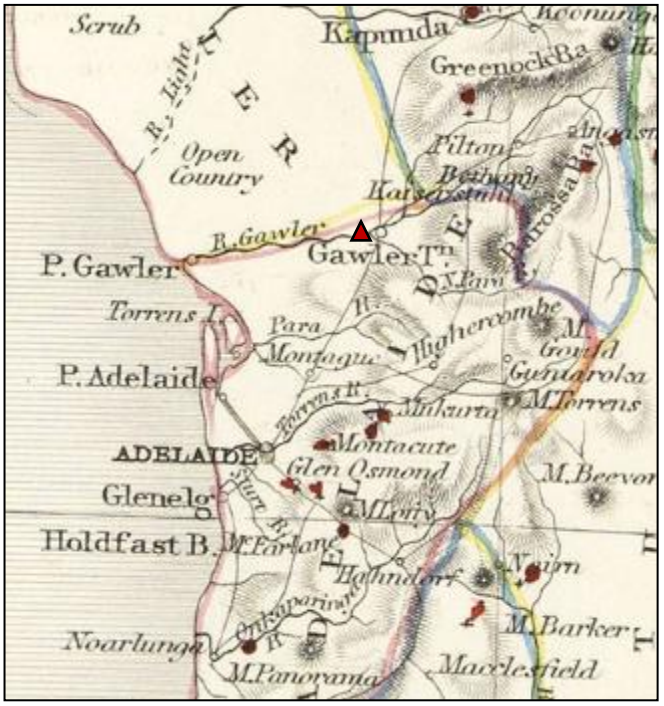
▲ Epicentre (or estimate)

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

letter; McCue 2012; Map 1851



On a Sunday evening in February 1849 "On the 10th instant a smart shock of an earthquake was felt at Gawler Town and throughout the surrounding neighbourhood" at about 8pm local time. "The shock of an earthquake was felt very distinctly in the neighbourhood of Gawler Town, and for some miles round. It lasted for about eight seconds, and was sufficiently strong to throw the human frame into an involuntary shudder, and to set the crockery and pannicans dancing".

13 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 14 October 1850

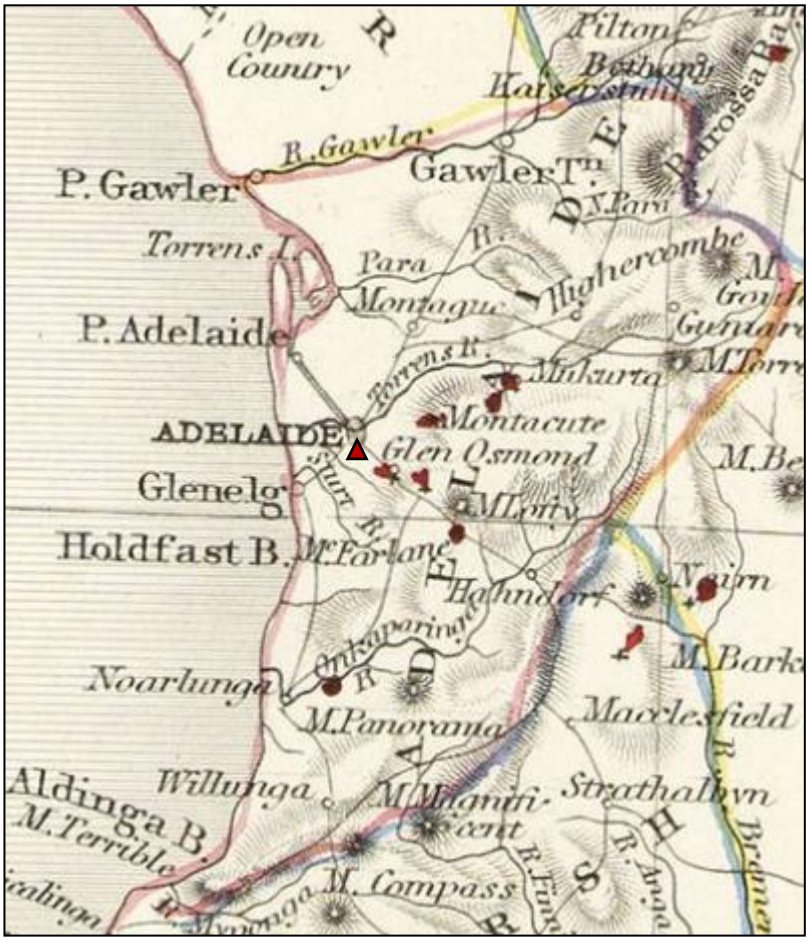
Date 14 October 1850

Time 1330 UTC

Location 34.9°S, 138.6°E

Magnitude 3.1 ML

▲ Epicentre (or estimate)



Calculating magnitude

Maximum Intensity
I_0: 3 gives ML 3.1 ± 0.5

References

letter; Map 1851

On the 14 October 1850, "shortly before 11 [p.m. local time] there was a wave-like moving of the earth from S.S.W. to N.N.E., setting tables, etc. in motion", as reported in Dobson's (1853) paper 'On the Connexion between Volcanic Eruptions and Hurricanes' for the Royal Society of Van Diemen's Land.

14 | PORT LINCOLN EARTHQUAKE, SOUTH AUSTRALIA, 16 March 1851

Date 16 March 1851

Time 1930 UTC

Location 34.7°S, 135.8°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

"A slight shock of an earthquake was felt at Port Lincoln on Monday morning, the 17th of March 1851, at a quarter to 5 o'clock. It is said this is the third Shock which can be remembered as having occurred there."

References

letter;

15 | MORPHETT VALE EARTHQUAKE, SOUTH AUSTRALIA, 19 May 1852

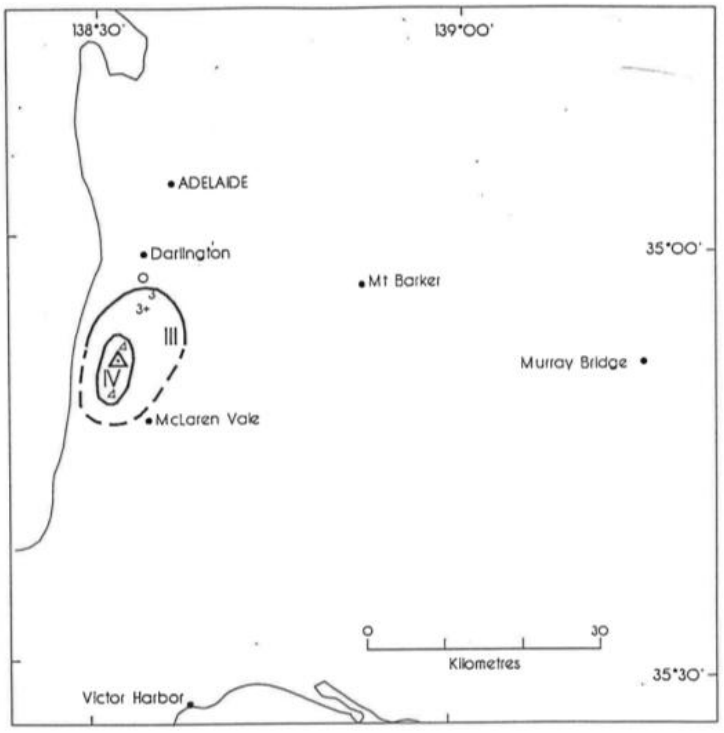
Date 19 May 1852

Time 1030 UTC

Location 35.15°S, 138.52°E

Magnitude 3 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity
I_0: 3.5 gives ML 3.3 ± 0.6
Radius of Perceptibility
R_p: 8km gives ML 2.7 ± 0.9

References

VOLS-10m; SAEQCat; letter

A slight shock of an earthquake was felt in Noarlunga and the southern district on Wednesday 19 may 1852. The momentary tremble occurred at about 8pm local time and caused crockery to rattle and beds to totter perceptibly. Using the limited information obtained, an isoseismal map was constructed to estimate a radius of perceptibility of 8km along with a maximum intensity of III+.

16 | MT REMARKABLE EARTHQUAKE, SOUTH AUSTRALIA, 15 September 1853

Date 15 September 1853

Time 1630 UTC

Location 32.85°S, 138.11°E

Magnitude 5.1 ML

▲ Epicentre (or estimate)
III Zone intensity designation

Calculating magnitude

Maximum Intensity I_0: 6 gives ML 4.8 ± 0.7
Radius of Perceptibility R_p: 230km gives ML 5.3 ± 2

References

VOLS-13; SAEQCat; letter; Map 1892

A severe shock of an earthquake occurred in the vicinity of Mt Remarkable and several places beyond it on the 16 September 1853 at about 2am local time. The effects were perceptible for about 2 minutes and must have awakened many people.

17 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 18 February 1855

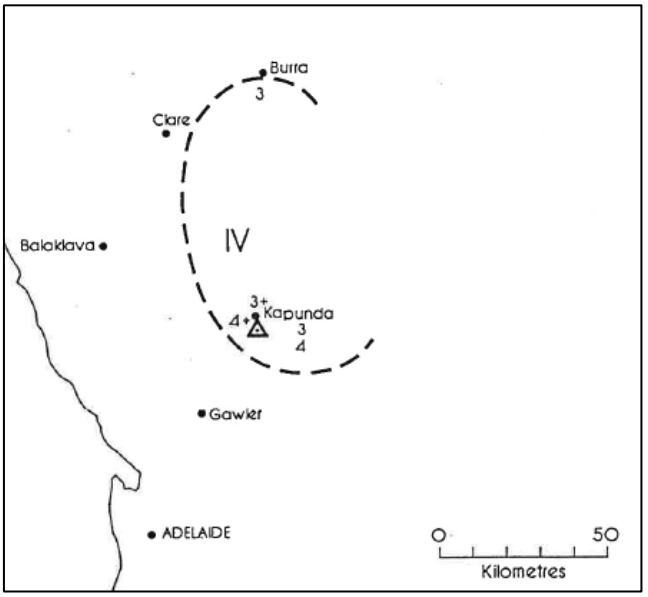
Date 18 February 1855

Time 2200 UTC

Location 34.35°S, 138.95°E

Magnitude 3.9 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)



Calculating magnitude

Maximum Intensity I_0: 4.5 gives ML 3.9 ± 0.6
Radius of Perceptibility R_p: 42km gives ML 3.8 ± 1.4

References

VOLS-16m; SAEQCat

On Monday 19 February 1855 at 7.30am local time, the distinct shock of an earthquake was felt in Kapunda and surrounding districts. It rattled crockery on the shelves and induced in people a staggering sensation as they stood.

18 | KAPUNDA AFTERSHOCK, SOUTH AUSTRALIA, 23 February 1855

Date 23 February 1855

Time 1900 UTC

Location 34.35°S, 138.95°E

Magnitude 3.2 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 19km gives ML 3.2 ± 1.1

Five days after the main shock, Kapunda experienced a smaller aftershock on 24 February at 4.30am local time. "It did not move furniture and household utensils. The noise resembled that caused by a wagon or omnibus".

References

VOLS-16; SAEQCat;

Image: Kapunda township, 1860

19 | GAWLER EARTHQUAKE, SOUTH AUSTRALIA, 24 June 1856

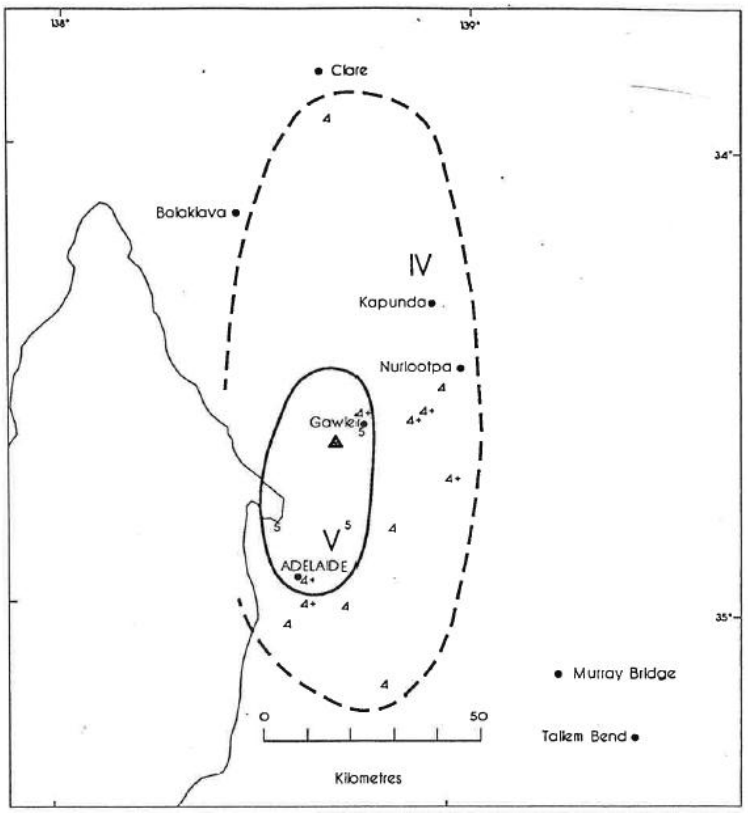
Date 24 June 1856

Time 1650 UTC

Location 34.6°S, 138.7°E

Magnitude 4.3 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity
I_0: 5 gives ML 4.2 ± 0.6
Radius of Intensity
IV: 64km gives ML 4.4 ± 0.2

References

VOLS-20m; SAEQCat;

Throughout Adelaide and the Hill districts, the distinct shock of an earthquake was felt. It occurred during the early hours of 25 June 1856, at 2.20am local time and woke many people.

20 | CAPE WILLOUGHBY EARTHQUAKE, SOUTH AUSTRALIA, 27 April 1857

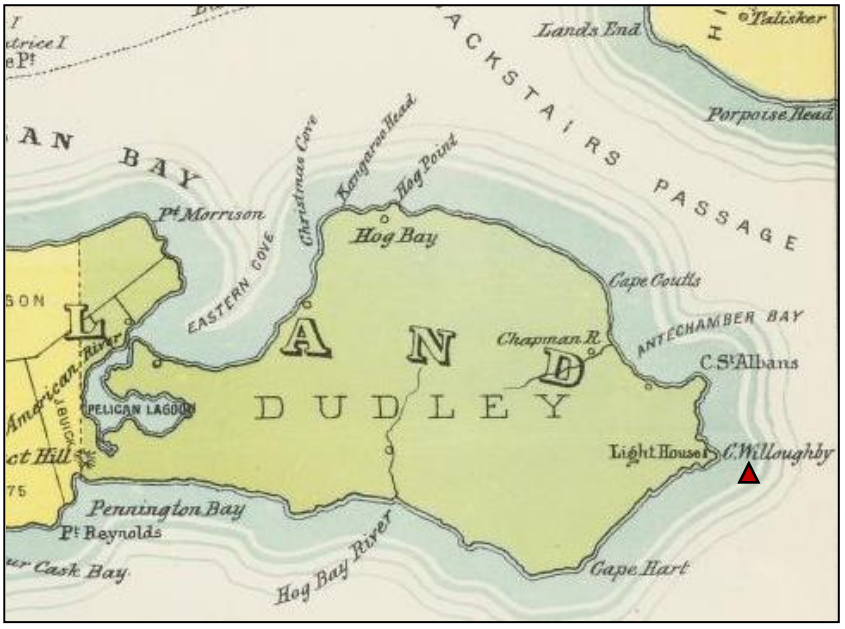
Date 27 April 1857

Time 1420 UTC

Location 35.8°S, 138.2°E

Magnitude 3.5 ML

▲ Epicentre (or estimate)



Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 20km gives ML 3.3 ± 1.1

References

VOLS-26; SAEQCat; Map 1876

A smart shock of an earthquake visited Cape Willoughby and the Sturt Lighthouse, Kangaroo Island, near midnight on the 27th May 1857 local time. No damage was sustained but some bricks were loosened from the old tank. The noise and motion woke nearby sleepers, while others already awake, situated higher and on the next ridge, only heard the roar but felt nothing.

21 | TANUNDA EARTHQUAKE, SOUTH AUSTRALIA, 21 August 1858

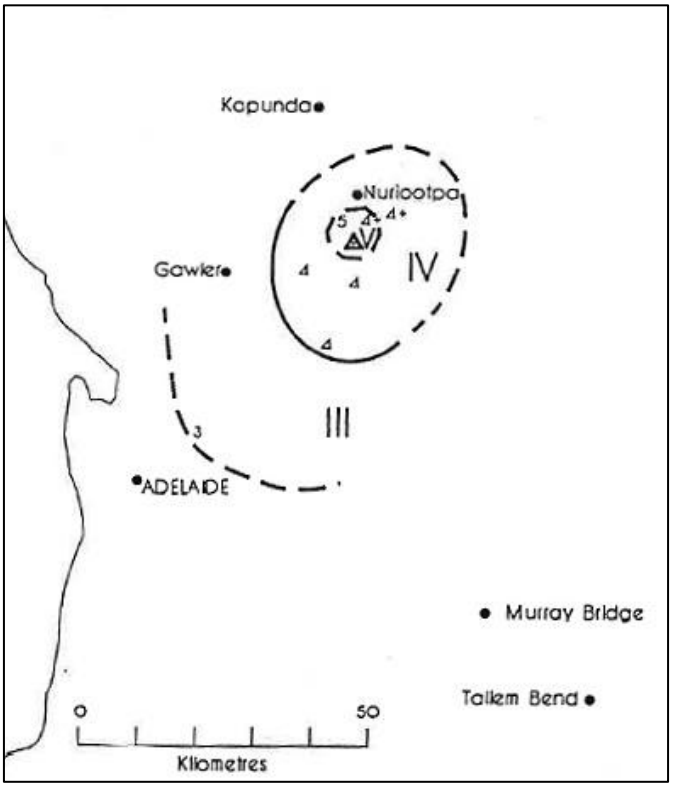
Date 21 August 1858

Time 1245 UTC

Location 34.57°S, 139°E

Magnitude 3.9 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility R_p: 44km gives ML 3.9 ± 1.3
Radius of Intensity IV: 20km gives ML 3.6 ± 0.2

References

VOLS-29m; SAEQCat;

During August 1858, the Barossa Valley experienced a succession of four earthquakes all within a few days. The first and main shock at 10.10pm local time on Saturday 21 August 1858.

22 | TANUNDA FIRST AFTERSHOCK, SOUTH AUSTRALIA, 21 August 1858

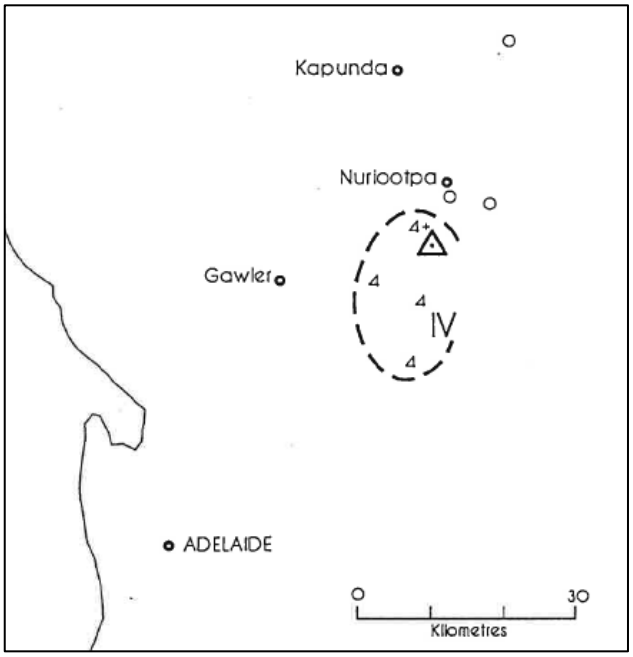
Date 21 August 1858

Time 1745 UTC

Location 34.57°S, 139°E

Magnitude 3.5 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 25km gives ML 3.4 ± 1.2
Radius of Intensity IV: 18km gives ML 3.5 ± 0.2

References

VOLS-29m; SAEQCat;

The first aftershock, felt at 3.15am local time on Sunday 22 August 1858, was described as "less severe" than the main event by those living in Tanunda, Lyndoch, Pewsey Vale and Mt Crawford.

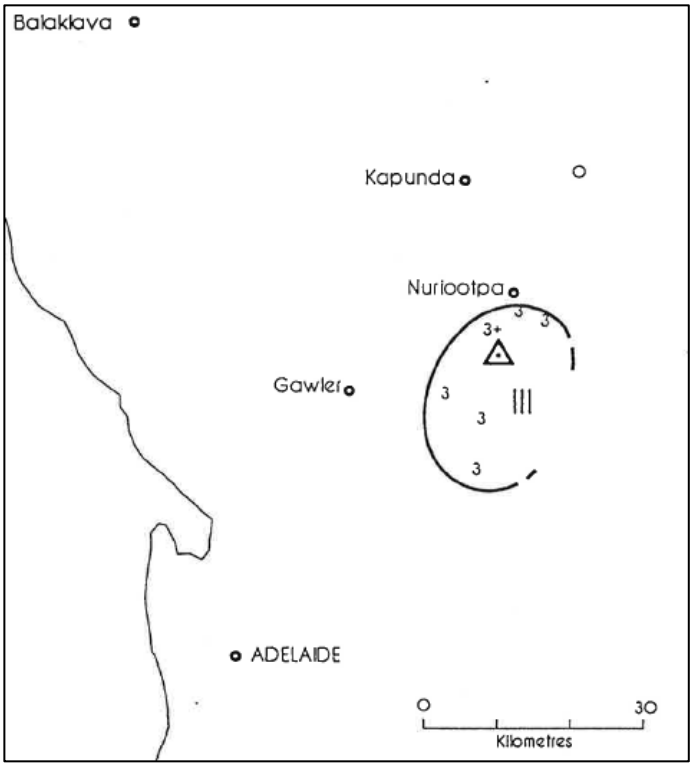
23 | TANUNDA SECOND AFTERSHOCK, SOUTH AUSTRALIA, 22 August 1858

Date 22 August 1858

Time 0930 UTC

Location 34.57°S, 139°E

Magnitude 3.3 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 3.5 gives ML 3.3 ± 0.6
Radius of Perceptibility
R_p: 20km gives ML 3.3 ± 1.1

References

VOLS-29m; SAEQCat;

The second aftershock was reported to occure at 7.00pm Sunday 22 August 1858 local time, and was felt by fewer people and considered to be a shock that was " still weaker" again than the first two event.

24 | TANUNDA THIRD AFTERSHOCK, SOUTH AUSTRALIA, 23 August 1858

Date 23 August 1858

Time 1430 UTC

Location 34.57°S, 139°E

Magnitude 2.9 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 7.6km gives ML 2.7 ± 0.8

The third aftershock, experienced on the night of Monday 23 August 1858, but was only felt by a very few in Tanunda.

References

VOLS-29; SAEQCat

25 | MOUNT GAMBIER EARTHQUAKE, SOUTH AUSTRALIA, 12 June 1859

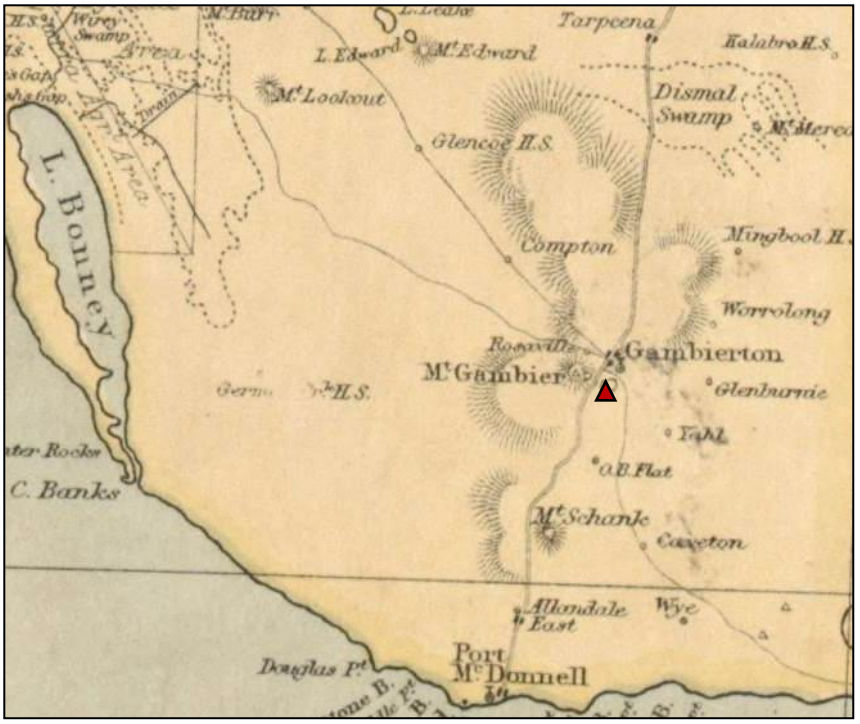
Date 12 June 1859

Time 0830 UTC

Location 37.8°S, 140.8°E

Magnitude 3.9 ML

▲ Epicentre (or estimate)



Calculating magnitude

Maximum Intensity
I_0: 4.5 gives ML 3.9 ± 0.6

References

VOLS-35; SAEQCat; Image: Mount Gambier, with one of its volcanic lakes, at sunset, 1846

At sunset, about 6pm local time, on Sunday 12 June 1859, the neighbourhood of Mount Gambier was visited by three distinct tremors. Houses were perceptibly shaken but no damage was sustained.

26 | LYNDOCH VALLEY EARTHQUAKE, SOUTH AUSTRALIA, 30 June 1859

Date 30 June 1859

Time 2100 UTC

Location 34.6°S, 138.8°E

Magnitude 3 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 10km gives ML 2.9 ± 0.8

On Friday 1 June, a slight earthquake was felt at 6am local time in Gawler and also in Lyndoch Valley, Tanunda and other parts of the colony. It was not reported felt in Adelaide. It appears to have occurred in the Gawler-Tanunda region and may be associated with the Tanunda earthquake and aftershocks of the year before.

References

McCue 2012

27 | TANUNDA EARTHQUAKE, SOUTH AUSTRALIA, 13 December 1859

Date 13 December 1859

Time 0130 UTC

Location 34.54°S, 138.98°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

A shock of an earthquake is said to have taken place at Tanunda about the middle of the day on Tuesday 13 December 1859.

References

A shock of an earthquake is said to have taken place about the middle of the day on last Tuesday. South Australian Register, Thursday 22 December 1859 p 3.

28 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 12 April 1860

Date 12 April 1860

Time 1000 UTC

Location 34.32°S, 138.84°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 27km gives ML 3.5 ± 1.2

References

A smart shock of an earthquake was felt in Kapunda and the neighbourhood on Thursday night at about a quarter to 8. Some houses were so far shaken as to upset wine glasses and make cradles and other things on tables shake violently. South Australian Register, Sat. 14 April 1860 p 3;

EARTHQUAKE AT RIVERTON.-On Thursday night, the 12th instant, the settlers on the Gilbert were alarmed by the indications of an earthquake. From half-past 7 till 12 o'clock a loud rumbling noise re- sembling the rolling of a heavy carriage was heard, accompanied with a slight tremor of the earth, which was felt by several individuals under their feet. The South Australian Advertiser, Thurs 19 April 1860 p 3

29 | PORT ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 1 June 1860

Date 1 June 1860

Time 1320 UTC

Location 34.85°S, 138.46°E

Magnitude 3.2 ML

▲ Epicentre (or estimate)
III Zone intensity designation

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6
Radius of Perceptibility R_p: 15km gives ML 3.1 ± 1

References

McCue 2012; Map 1876;

The Shock of Earthquake on Friday. — We learn that the shock of earthquake on Friday night, the 1st instant, was distinctly felt both at Glenelg and Fullarton. The Shock op Earthquake. — A gentleman raiding in Grote-itieet, Adelaide, informs us that he distinctly heard the shock of earthquake on the lit inst., at about eight minutes after 10 pjn. He describes the poand is being a kind of buzz or whirr, resembling the rapid rpUtion of aa engine fly-wheel. South Australian Register, Wednesday 6 June 1860 p 3; South Australian Register, Thurs 7 June 1860 p 3

30 | WARCOWIE EARTHQUAKE, SOUTH AUSTRALIA, 16 November 1861

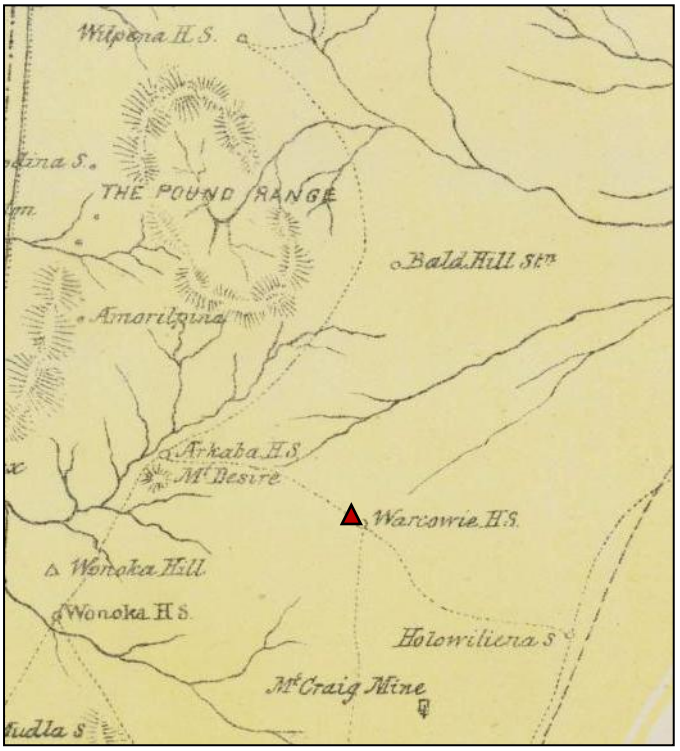
Date 16 November 1861

Time 1130 UTC

Location 31.78°S, 138.62°E

Magnitude 3.6 ML

▲ Epicentre (or estimate)



Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

"A rather severe shock of an earthquake was felt at Warcowie, Far North, about 9 o'clock of the evening of the 16th inst. It lasted several seconds, and-was so strong as to shake the houses. No accident resulted from its effects." Border Watch, Friday 6 December 1861 p 3; Map 1876

31 | STONE HUT RANGE SE EARTHQUAKE, SOUTH AUST, ~15 December 1861

Date ~15 December 1861

Time

Location 37.68°S, 140.36°E

Magnitude 2.5 ML

▲ Epicentre (or estimate)

Calculating magnitude

Maximum Intensity I_0: 2 gives ML 2.5 ± 0.5

References

VOLS-37; Map 1874

A distinct shock of an earthquake was felt at Stone Hut Range during December 1861. Rev. Julian Edmund Woods mentioned a "distinct shock" felt, in what was referred to as the Stone Hut Range, which forms a continuation on from the Coorong, in the vicinity of Robe.

32 | LACEPEDE BAY EARTHQUAKE, SOUTH AUSTRALIA, 4 January 1862

Date 4 January 1862

Time 1415 UTC

Location 36.9°S, 139.67°E

Magnitude 4.2 ML

▲ Epicentre (or estimate)
III Zone intensity designation

Calculating magnitude

Maximum Intensity I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility R_p: 70km gives ML 4.2 ± 1.5

References

McCue 2012 ; Map 1874

On Saturday night on 4 January 1862 in Lacepede Bay, "the inhabitants of this township and neighbourhood were much alarmed at the shock of an earthquake. This occurrence took place shortly after 11 o'clock at night... The shaking of their houses, and ringing of their crockery, alarming them considerably". It was also felt very severely at Guichen Bay and Robe, and as far south as Mt Gambier.

33 | MOUNT REMARKABLE EARTHQUAKE, SOUTH AUSTRALIA, 9 February 1862

Date 9 February 1862

Time

Location 32.8°S, 138.1°E

Magnitude 3 ML

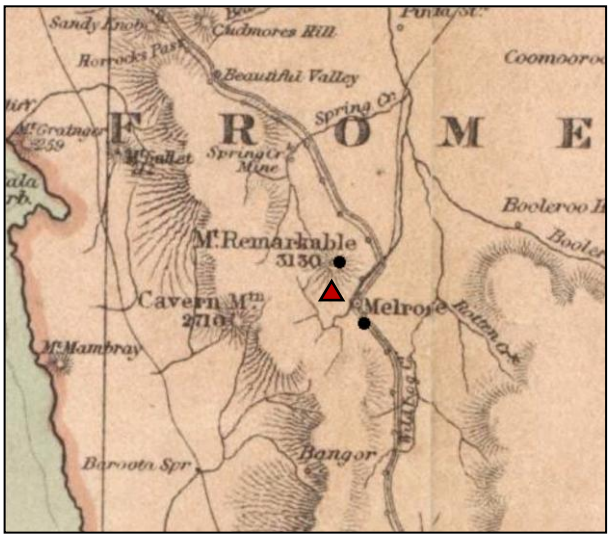
▲ Epicentre (or estimate)

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 10km gives ML 2.9 ± 0.8

References

Melrose, Mt Remarkable, Feb 10. I have heard several people speak of their having last night experienced two rather severe shocks of an earthquake. South Australian Register, Thursday 13 February 1862 p 3. South Australian Register, Mon 24 February 1862 p 6.; Map 1874



On the evening of 9 February 1862, residents of Melrose and Mount Remarkable "experienced two rather severe shocks of an earthquake".

34 | ADELAIDE SOUTH EARTHQUAKE, SOUTH AUSTRALIA, 19 March 1862

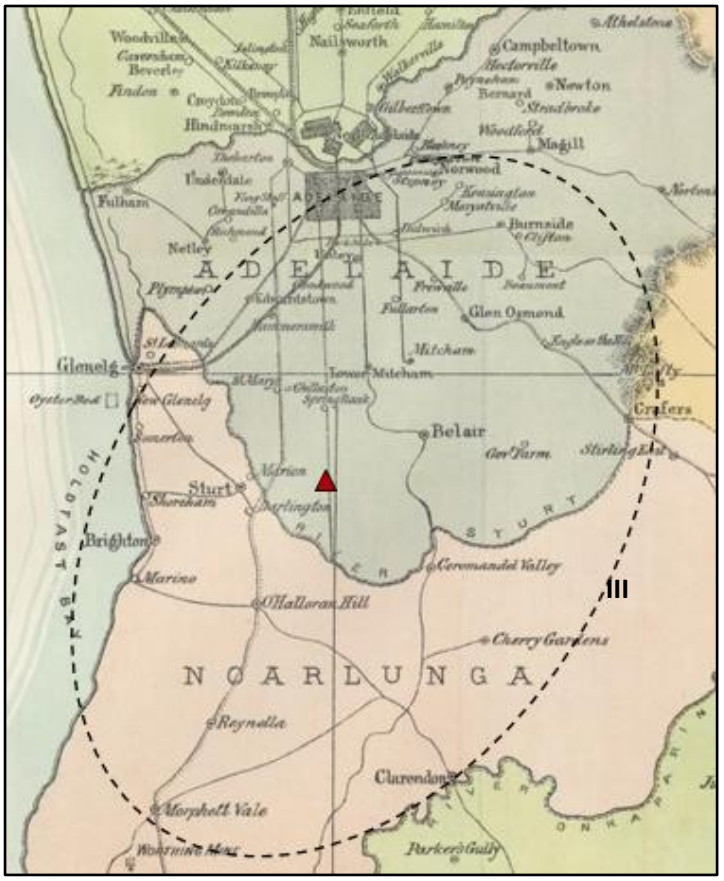
Date 19 March 1862

Time 0530 UTC

Location 35°S, 138.5°E

Magnitude 3.1 ML

▲ Epicentre (or estimate)
III Zone intensity designation



Calculating magnitude

Radius of Perceptibility
R_p: 14km gives ML 3.1 ± 0.9

References

McCue 2012; Map 1876

A shock of an earthquake was distinctly felt in Adelaide about 2pm local time on Wednesday, 19 March 1862. The shock was also felt by other persons in town and it was quite perceptible at Mount Lofty, Mount Pleasant, Norwood and Morphett Vale, and resembled very much the noise produced by a dray sliding sideways down a rocky declivity.

35 | MOUNT GAMBIER EARTHQUAKE, SOUTH AUSTRALIA, 19 September 1862

Date 19 September 1862

Time

Location 37.83°S, 140.78°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity
I_0: 2.5 gives ML 2.8 ± 0.5

References

Several of our friends have assured us that they distinctly felt the shock of an earthquake either preceding or accompanying the great thunder-storm on the evening of last Friday week. Certainly, the knocking-down of looking-glasses, cups, and other articles, in one or two houses, would warrant the conclusion that the cause of vibration proceeded, not from above but; from below. We have, however, no posifitive assurance of the fact; the thunder itself was loud enough to create a sensa tion even arnougst domestic utensils. Border Watch, Friday 26 September 1862 p 2

36 | AUBURN EARTHQUAKE, SOUTH AUSTRALIA, 14 December 1862

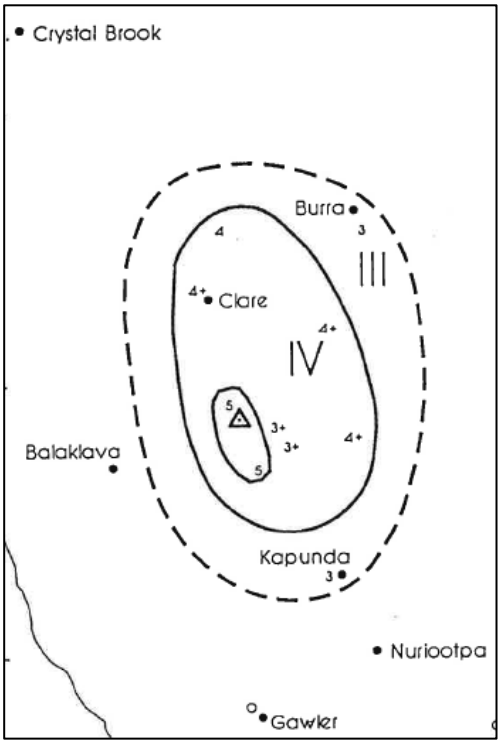
Date 14 December 1862

Time 2130 UTC

Location 34.07°S, 138.68°E

Magnitude 4 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility R_p: 50km gives ML 4 ± 1.4
Radius of Intensity IV: 35km gives ML 3.9 ± 0.2

References

VOLS-38m; SAEQCat;

A number of northern towns experienced a shock of a medium earthquake on the morning of 15 December 1862. It occurred at approximately 6.25am local time and woke many people from their sleep. The small town of Auburn appears to be near the centre of the disturbance and describes the effect as being more severely felt there than anywhere else.

37 | MORPHETT VALE EARTHQUAKE, SOUTH AUSTRALIA, 15 April 1863

Date 15 April 1863

Time 1230 UTC

Location 35.12°S, 138.52°E

Magnitude 3.6 ML

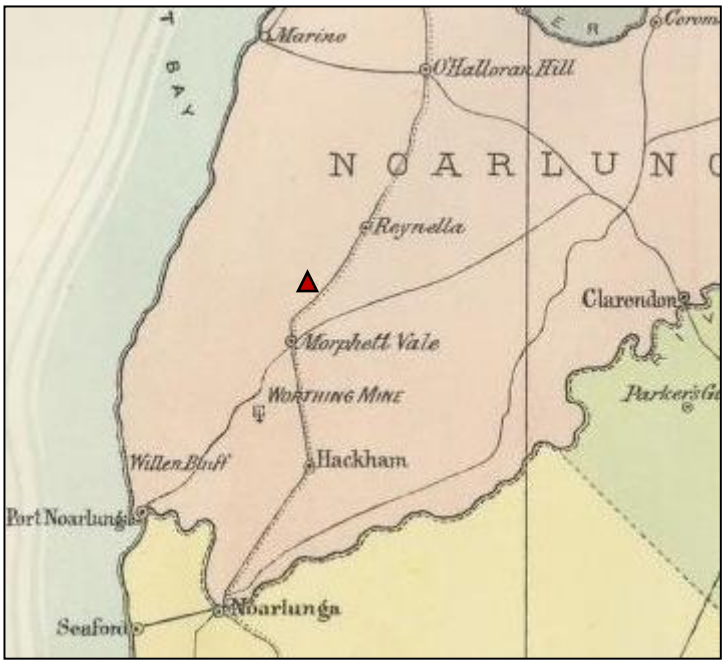
▲ Epicentre (or estimate)

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

McCue 2012, Map 1876



On 15 Wednesday 1863 “the weather was exceedingly warm and in the evening the shock of an earthquake was distinctly heard and felt here about half-past 9 o'clock. The sound resembled that of thunder, and the windows and dishes were made to rattle.”

38 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 30 May 1863

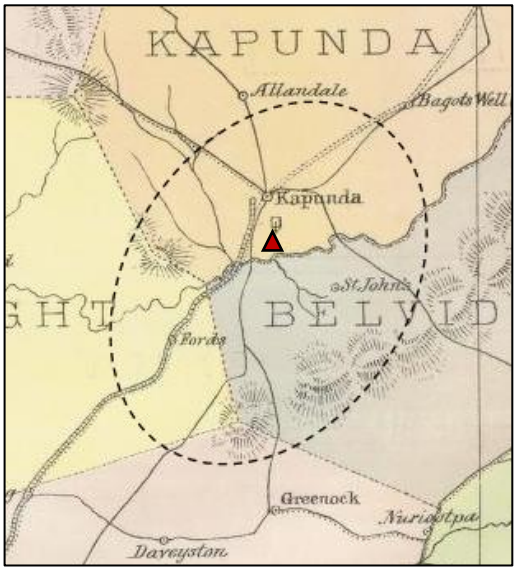
Date 30 May 1863

Time 1700 UTC

Location 34.35°S, 138.91°E

Magnitude 3.1 ML

▲ Epicentre (or estimate)
III Zone intensity designation



Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6
Radius of Perceptibility R_p: 9km gives ML 2.8 ± 0.9

References

McCue 2012; Map 1876

On 31 May 1863, "a noise like the rumbling of a very heavily-laden wagon was heard here on Monday night about 2 a.m., and I presume it was the earthquake."

39 | PORT AUGUSTA WEST EARTHQUAKE, SOUTH AUSTRALIA, 21 July 1863

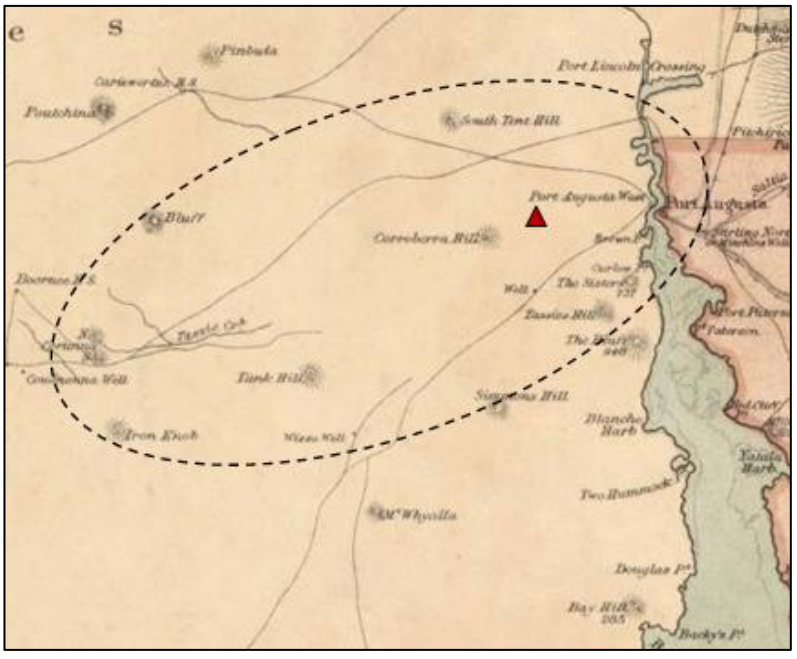
Date 21 July 1863

Time 0900 UTC

Location 32.5°S, 137.6°E

Magnitude 3.8 ML

▲ Epicentre (or estimate)
III Zone intensity designation



Calculating magnitude

Maximum Intensity I_0: 4.5 gives ML 3.9 ± 0.6
Radius of Perceptibility R_p: 35km gives ML 3.7 ± 1.3

References

McCue 2012 ; Map 1874

"On Tuesday evening, July 21, at 6 p.m., Port Augusta time, we were visited with the heaviest shock of an earthquake I ever experienced … It shook the wooden tenement sufficiently to stop the clock on the mantle piece, as well as alarming the in-mates. The same shock was distinctly felt on Section 869, adjoining Stirling, but not in Stirling township." It was also felt distinctly at Corrunna, the Gawler Ranges, NW country.

View of Port Augusta looking west, 1876

40 | EYRE PENINSULA EARTHQUAKE, SOUTH AUSTRALIA, 12 August 1863

Date 12 August 1863

Time 1030 UTC

Location 33.3°S, 136.2°E

Magnitude 4.9 ML

▲ Epicentre (or estimate)

Calculating magnitude

Radius of Perceptibility R_p: 150km gives ML 4.9 ± 1.8

References

Pt Lincoln Aug 15, A slight shock of earth quake was felt here Last Wednesday evening about 9 o'clock. I believe it was felt at Port Augusta also. Saturday 15 August 1863 Supplement: Supplement to the South Australian Weekly Chronicle. p 1

41 | FINNISS VALE EARTHQUAKE, SOUTH AUSTRALIA, 29 November 1863

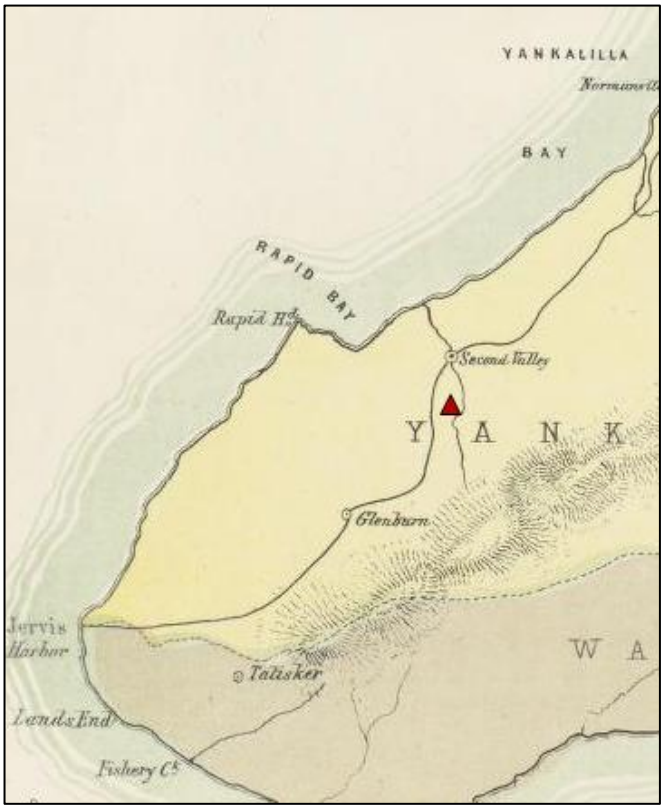
Date 29 November 1863

Time 0500 UTC

Location 35.53°S, 138.22°E

Magnitude 3.1 ML

▲ Epicentre (or estimate)



Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

McCue 2012; Map 1876

On Saturday 29 November 1863, "about 2 o'clock in the afternoon, the shock of an earthquake was very sensibly felt in this neighbourhood; its direction appeared to be from south to north, and was accompanied by a loud rumbling noise like thunder, which was distinctly heard several miles distant."

42 | NUCCALEENA EARTHQUAKE, SOUTH AUSTRALIA, 20 December 1863

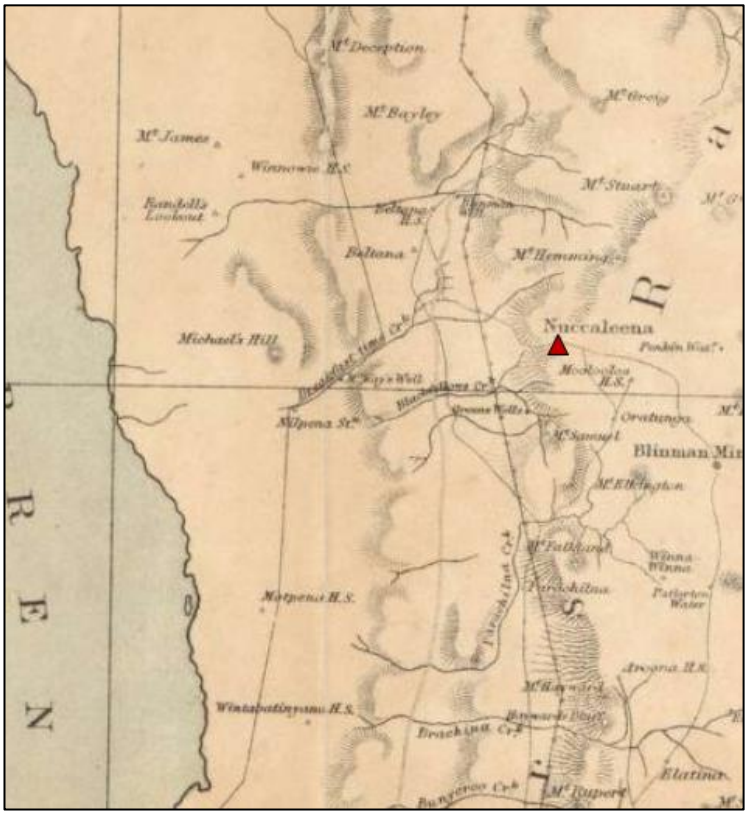
Date 20 December 1863

Time 1130 UTC

Location 30.8°S, 138.4°E

Magnitude 3.6 ML

▲ Epicentre (or estimate)



Calculating magnitude

Maximum Intensity

I_0: 4 gives ML 3.6 ± 0.6

References

Earthquake in the Far North.— A gentleman, writing from a station near Nuccaleena, says:— '.On Sunday, December 20 about 10 o'clock, we experienced a violent shock of an earthquake, which lasted for several seconds.' South Australian Register, Thursday 24 December 1863 p 2; Map 1876

43 | MOUNT GAMBIER EARTHQUAKE, SOUTH AUSTRALIA, 4 January 1864

Date 4 January 1864

Time

Location 37.8°S, 140.8°E

Magnitude

▲ Epicentre (or estimate)

References

Four earthquakes were also felt in various parts of the colony, one of them at Mount Gambier on January 4, taking an east to west direction, with a low rumbling sound. Border Watch, Friday 26 February 1864 p 2.

44 | LINWOOD EARTHQUAKE, SOUTH AUSTRALIA, 20 May 1864

Date 20 May 1864

Time

Location 34.36°S, 138.77°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

LINWOOD. [Correspondent.] June 30. On Monday evening last, the 20th, a rambling noise was heard like that of a waggon, going from north-east to south-west. It was thought that it was like the shock of an earthquake, as one of the houses of the settlers was found cracked from top to bottom in several places ; some of the stones were cracked through, and not with the mortar, as would be the case were the house damp. The South Australian Advertiser, Friday 1 July 1864 p 3

45 | MOUNT GAMBIER EARTHQUAKE, SOUTH AUSTRALIA, 2 August 1864

Date 2 August 1864

Time 0120 UTC

Location 37.8°S, 140.8°E

Magnitude

References

AN EARTHQUAKE.-We are informed by Mr Babbage that on Tuesday last, about noon, while he, along with the Rev J. E. Woods was riding on the Penola road, about six miles from Mount Gambier, they heard a low rumbling noise, as if of a cart passing over rocky ground. They could see nothing around to account for the noise. On riding on about four miles further, they came to Mr McCalman's hut, near tne Dismal Swamp, and on making enquiries there, they learnt that a similar noise had been heard there at the same instant. It is supposed to have been a slight shock of an earthquake. It was not observed at Mount Gambier. Border Watch, Friday 5 August 1864 p 2;

Mount Gambler, 11th August, 1864. (To the Editor of iho Border Wutch.) Sir,--At ten minutes to 12 on Tuesday I was in Long's Billiard room having a game. The cue was in my hand. I had a beautiful cannon stroke to make. It was a favourite stroke and I was confident of it. But strange to say, the ball when about half way up the tablo made a most -eccentric movement, deviated from its course, and passedt to-the end of the table without touching either of the balls fired at. I could not account for this singular phenomenon until 1 picked up last week's " Border Watch," find observed that we had an earthquake at that time and hour. This accounts for it, and I send you this in corroboration. Border Watch, Friday 12 August 1864 p 3;

Dear Sir,-I observe in your last number that a scientific gentleman lmd communicated to you that an earthquake had occurred six miles from the Mount, and corroborated on enquiry at a hut five miles further on, I believe on the day of the supposed earthquake there was a good deal of thunder heard, both here and at the Dismal Swamp, and on en quiry I nm informed that no change had resulted about the Dismal from the. effects of the earthquake. You say, Mr Editor, that the shock was not felt or observed at Mount Gambier. Now this is strange, when I am informed and that too in-the presence of witnesses that tho ceiling,of a certain store has been all cracked, the crockery knocked out of its place, and tumbled topsy turvy! and that another partv on going to his house found the.fire-irons pitched under the tablo, and several other signs even of more impor tance, all the result of nature's latest ebuhtion of fury. Feeling a littlo nervous in the matter I do not wish to say much, I believe others feel as nervous nB I do, and as a1 cor roboration of this I appeal to the multitude of ladies and gentlemen kept standing on i the cold ground for a considerable time the other evening at the schoolhouse door. Now M r Editor do riot frighten us any more about earthquakes, for when wo hear distant thun der, the trampling of a mob of kan«ai.oos, or, after a stormy wet night, tho falling of a large decayed tree, the thoughts of tho earth quake might ainncrvo us. I am sorry to trouble you, but hope you will cxcuso >ne. under tho excitement. Border Watch, Friday 12 August 1864 p 3.

46 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 9 October 1864

Date 9 October 1864

Time

Location 30.8°S, 138.4°E

Magnitude

References

MOUNT DECEPTION. Beltana. Octolter 14. Last Sunday Oct 9, we had two distinct shocks of earthquake. The natives appear to think that it is a sign of rain. They say country big one growl, by and by rain tumble down. South Australian Register, Friday 21 October 1864 p 3.

47 | PORT ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 4 November 1864

Date 4 November 1864

Time

Location 34.84°S, 138.5°E

Magnitude 3.3 ML

References

A shock of an earthquake was felt by several persons at Port Adelaide on Friday night, 4 November. Mr. Newman's bonded store had one of its uprights sunk several inches into the ground, throwing several cases of spirits on the floor. The South Australian Advertiser, Monday 7 November 1864 p 2

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

48 | ANGASTON EARTHQUAKE, SOUTH AUSTRALIA, 25 February 1865

Date 25 February 1865

Time 0400 UTC

Location 34.57°S, 139°E

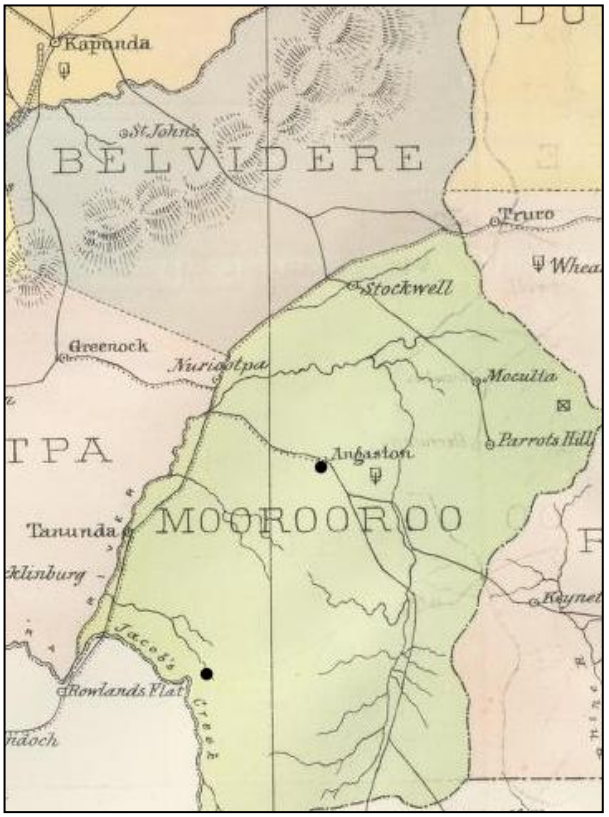
Magnitude 2.7 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5
Radius of Perceptibility R_p: 6km gives ML 2.6 ± 0.7

References

Shock of an Earthquake.— A correspondent informs us that the shock of an earthquake was felt at Angaston for several minutes between 2 and 3 o'clock on Saturday last. The shock was still more distinctly noticed at Kaiserstuhl. Our correspondent remarks that the several shocks recorded for years past have travelled apparently in the same line towards Kapunda. South Australian Register, Wednesday 1 March 1865 p 2



49 | UMBERATANA EARTHQUAKE, SOUTH AUSTRALIA, 24 June 1865

Date 24 June 1865

Time 0825 UTC

Location 30.25°S, 139.13°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity

I_0: 3 gives ML 3.1 ± 0.5

References

A correspondent at Umberatana, Far North, writing on the 27th June, informs us that the shock of an earthquake was distinctly heard and felt there on Saturday evening, June 24, at 5p.m. South Australian Register, Saturday 8 July 1865 p 2; We are informed that on the 24th ult., at five minutes to 7 p.m., a smart shock of earthquake was experienced in the vicinity of Umberatana. The first indication was a rumbling noise, like the rolling down of large quantities of stones, immediately after which the ground shook and trembled very perceptibly. The South Australian Advertiser, Friday 7 July 1865 p 2;

50 | PEKINA EARTHQUAKE, SOUTH AUSTRALIA, 26 July 1865

Date 26 July 1865

Time 1730 UTC

Location 32.84°S, 138.55°E

Magnitude 3.5 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

Radius of Perceptibility R_p: 25km gives ML 3.4 ± 1.2

References

Our Melrose correspondent refers to slight shocks of an earthquake which were experienced on the Pekina and Coonatto runs on the 27th Ultimo. South Australian Register, Friday 11 August 1865 p 2; I have been informed by a gentleman who was camping on the Pekina run on the night of Wednesday, 26th ultimo, that at 4 o'clock on the following morning a severe shock of an earthquake was felt nearly all over the run, and that plates, dishes, &cc., were thrown from the shelves in tho shepherds' huts, and in many cases the shingles of the roofs were shaken and loosened ; two more shocks of less force were experienced during the day.

The same state of things occurred at Coouatto, but I am not aware that any thing of the kind was felt in the immediate neighbourhood of Melrose. South Australian Register, Friday 11 August 1865 p 3;

51 | POLDA EARTHQUAKE, SOUTH AUSTRALIA, 9 November 1865

Date 9 November 1865

Time

Location 33.62°S, 134.99°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

Port Lincoln. December 1. On Thursday, the 9th, a shock of an earthquake was experienced at Polda, Mr. Hawson's station, about 150 miles from here due west. It shook the glasses in the room, rung the bell on the table, and shook the house completely. It was also felt near this. Mr. W. J. Lawrence says he felt his house shake about the same time. South Australian Register, Tuesday 5 December 1865 p 2

52 | HOUGHTON EARTHQUAKE, SOUTH AUSTRALIA, 10 December 1865

Date 10 December 1865

Time 2345 UTC

Location 34.82°S, 138.76°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

December 20. A slight shock of an earthquake was distinctly felt by a number of persons in the Township of Houghton and its vicinity on Monday, the 11th inst, about a quarter past 10 a.m. Mr. 0. McEwin, j.r., who was walking in his grounds at the time, heard a rumbling noise like thunder, but upon observing there were no clouds visible in the sky was at a loss to account for the unnatural sound. Later in the day the statements of other persons residing in the neighbourhood tended to confirm the opinion of that gentleman that it was really the shock of an earthquake. South Australian Register, Friday 22 December 1865 p 3

53 | PORT GAWLER EARTHQUAKE, SOUTH AUSTRALIA, 21 April 1866

Date 21 April 1866

Time 1030 UTC

Location 34.28°S, 138.34°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

PORT GAWLER, EAST. Tuesday, April 17. I have heard from some parties in this neighborhood that the shock of an earthquake was felt this day week ; it seemed to pass from north-west to south east, and occurred about 9 o'clock p.m. The South Australian Advertiser, Saturday 21 April 1866 p 3

54 | PENOLA EARTHQUAKE, SOUTH AUSTRALIA, 18 May 1866

Date 18 May 1866

Time 1300 UTC

Location 37.83°S, 140.78°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

Last night, Friday the 18th May, shortly after retiring to bed at 11.30 p.m., I felt a very distinct shock of an earthquake. It was of an undulating wavy character, and passed from S.W. to N.E.

It appeared, or rather my sensation was as if three undula tions or waves passed in regular succession, with an interval of partial quiescence, the whole movement apparently lasting about three seconds. My bed I could distinctly feel to vibrate- probably this was caused by its being of iron-the undulations were accom panied by a sound as if a strong breeze were passing-but it was perfectly calm at the time. The position of my residence is about 30 miles -N. by E. of Mount Gambier. It would be a singular corroboration had any others accidentally noticed this phenomenon, which plainly indicates-with other instances of the kind well authenticated-that volcanic action has not yet ceased on this portion of the con tinent. Who can say that Mouut Gambier and Mount Schank will not again burst out some day! Border Watch, Saturday 26 May 1866 p 2;

55 | NURIOOTPA EARTHQUAKE, SOUTH AUSTRALIA, ~14 June 1866

Date ~14 June 1866

Time

Location 34.47°S, 138.88°E

Magnitude

References

Two shocks of an earthquake were felt at Nuriootpa last week. Border Watch, Saturday 16 June 1866 p 2

56 | GUMERACHA EARTHQUAKE, SOUTH AUSTRALIA, 24 August 1866

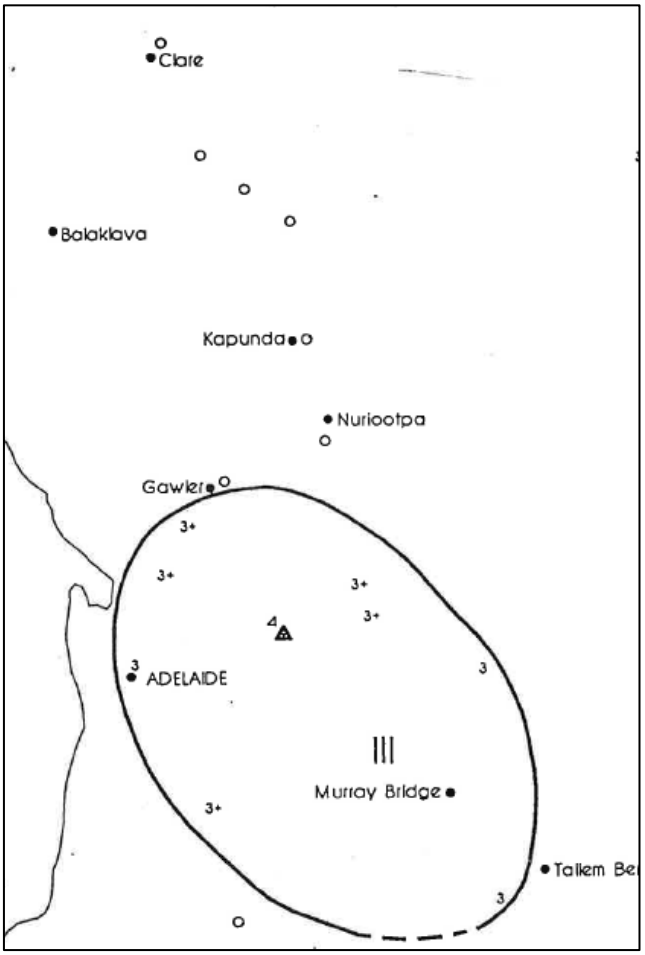
Date 24 August 1866

Time 1245 UTC

Location 34.88°S, 138.87°E

Magnitude 4 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 83km gives ML 4.4 ± 1.6

References

VOLS-43m; SAEQCat;

On the evening of 24 August 1866 at 10.15pm local time, associated with the wide-spread sighting of a large bright meteor, was a loud report like thunder distinctly heard reverberating through the hills, though the time between the meteor and the report was too long to be related.

57 | ILLAWATANA EARTHQUAKE, SOUTH AUSTRALIA, 2 September 1866

Date 2 September 1866

Time

Location 31.1°S, 138.7°E

Magnitude

▲ Epicentre (or estimate)

References

From Illawatana, Far North (near Moolooloo & Blinman), September 3, it is reported that... a shock of an earthquake was felt on the evening of the 2nd. South Australian Register, Saturday 15 September 1866 p 2

58 | KETCHOWLA EARTHQUAKE, SOUTH AUSTRALIA, 2 December 1866

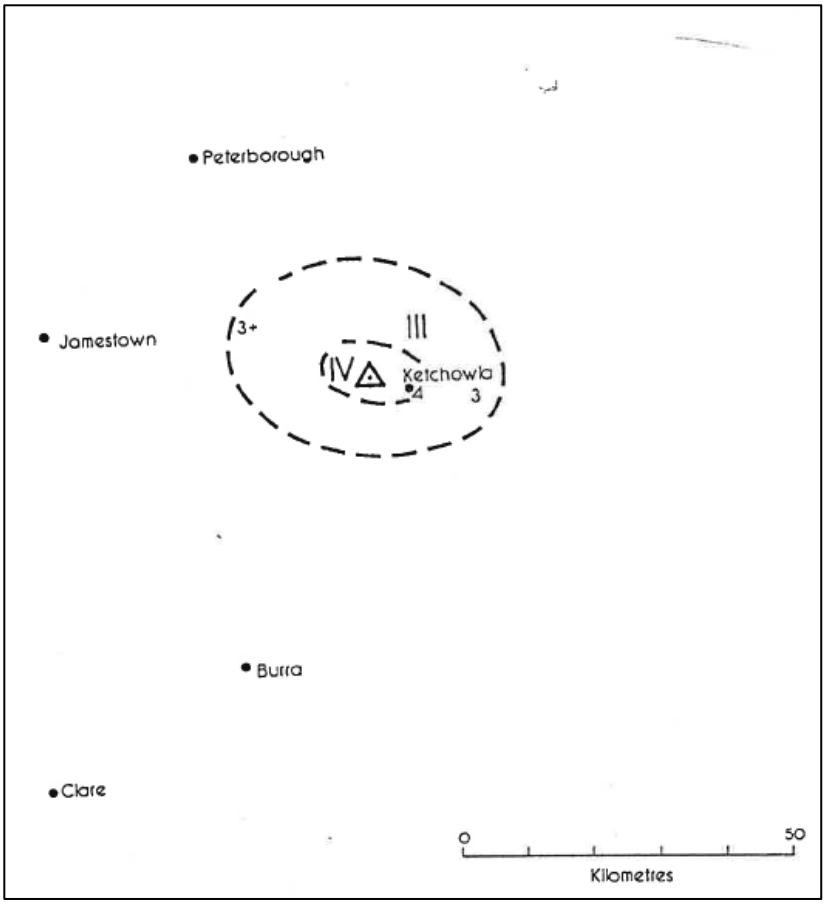
Date 2 December 1866

Time 2020 UTC

Location 33.37°S, 139.13°E

Magnitude 3.5 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 19.5km gives ML 3.3 ± 1.1

References

VOLS-48m; SAEQCat;

On 3 Monday December 1866 at 5.50am local time, a small earthquake was experienced in the far north. At most, crockery was heard to rattle at Ketchowla and Munjubble stations, possibly more severely at the latter.

59 | BLACK SPRINGS EARTHQUAKE, SOUTH AUSTRALIA, 30 December 1866

Date 30 December 1866

Time

Location 33.84°S, 149.71°E

Magnitude

References

EARTHQUAKE AT BLACK SPRINGS. — 'On Sunday last (30th), between half-past 6 o'clock and 8 in the evening, this neighbourhood was visited by 13 distinct shocks of earthquake. Some followed each other rapidly at intervals of a few seconds, and others at from 15 to 20 minutes. The vibration passed from east to west, and the sound resembled a heavy wagon being driven rapidly over a bridge. On the Wednesday before there were two shocks about 4 o'clock in the afternoon. I was down a well at the time, which seemed to rock for half a minute. The man at the top only heard a rumble, with very slight vibration'. South Australian Register, Friday 4 January 1867 p 2

60 | KOORINGA EARTHQUAKE, SOUTH AUSTRALIA, 6 January 1868

Date 6 January 1868

Time 0430 UTC

Location 33.71°S, 138.89°E

Magnitude 3.5 ML

▲ Epicentre (or estimate)

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 23km gives ML 3.4 ± 1.1

References

Kooringa, Jan 7. A shock of an earthquake was distinctly felt about 3 p.m. yesterday by many persons here; it was also noticed at the World's End Station and at Mount Bryan, where pictures shook, plates rattled, and people went outside the door to see what was the matter. South Australian Register, Wednesday 8 January 1868 p 3; Kooringa - On Sunday afternoon the' shock of an earthquake was felt by many persons. At Mount Bryan, Black Springs, and the World' End Station, a greater elementary disturbance is reported to have taken place. The South Australian Advertiser, Friday 10 January 1868 p 3.*

61 | ANGASTON EARTHQUAKE, SOUTH AUSTRALIA, 18 February 1868

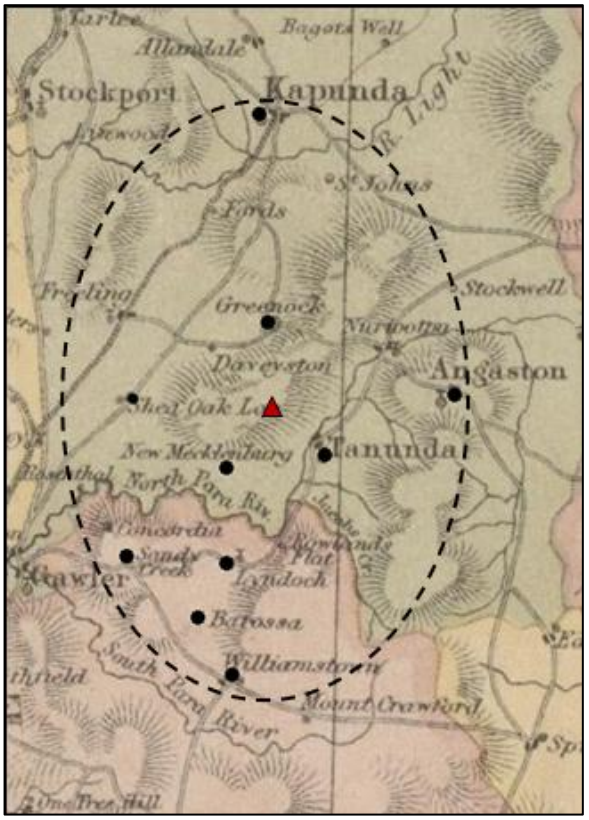
Date 18 February 1868

Time 0923 UTC

Location 34.5°S, 139.05°E

Magnitude 3.5 ML

▲ Epicentre (or estimate)
III Zone intensity designation



Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 22km gives ML 3.3 ± 1.2

References

ANGASTON, February 18. _ A pretty smart shock of an earthquake was felt in the township this evening at seven minutes to 8. Part of the ceiling of one house was shaken down. Several persons mistook the noise accompanying the shock for thunder, whilst others thought that a heavy wagon was passing along the street. I am happy to say that no material damage has been done. South Australian Register, Thursday 20 February 1868 p 3; Lyndoch,

February 19. There was a strong shock of an earthquake felt here last night at about 8 o'clock. It was preceded by a rumbling noise like thunder or a wagon passing, then was felt a sensible shock, which caused the doors and windows to rattle conside- rably. The shock lasted about two or three minutes, and seemed to take a north-eastern direction. The shock was slightly felt at Sandy Creek, and also in the Barossa Hills. GREENOCK, February 19. A correspondent favours us with the following :— last evening (Tuesday, February I8), at about five minutes to 8 o'clock, the shock of an earthquake was distinctly felt by myself and several others residing in and near Greenock. It lasted about six seconds, and seemed to travel from south west to north-east. South Australian Register, Friday 21 February 1868 p ; KAPUNDA. February 21. On Tuesday evening shortly before 8 o'clock, a slight shock of earthquake was felt in Kapunda by a number of persons, whilst many others knew nothing of it until the circumstance was mentioned, when they remembered hearing a rumbling noise at the time specified. We ourselves were oat of doors at the time, and heard the noise, but did not take any par ticular notice of it; bat we have been credibly informed by several persons that the windows of their houses were audibly shaken, frighten ing the inmates; in one instance the children who had just been put to bed jumped up frightened. The South Australian Advertiser, Saturday 22 February 1868 p 3;

WILLIAMSTOWN. February 22. On Tuesday evening, February 18, we experienced i slight shock of an earthquake. 1 at first thought t was thunder, for a sound like a very heavy distrait -eal was heard; but the strong vibration that ac :oinpanied the sound, and the rattling of glass and :rockery, led me to conclude it was some internal souvulBion of nature. I particularly noted the time— 10 minutes to 8 o'clock p.m. There were heavy clouds about, and the night was close and oppressive. The sound appeared to come from the north. South Australian Register) Tuesday 25 February 1868 p 2; TANUNDA, February 22. On Tuesday evening, February 18. about 8 o'clock, the people of Tanunda and neighbor hood were startled by a very severe shock of earthquake, which lasted several seconds, shaking the windows, and in several instances making teacups and glasses tremble on the tables.The South Australian Advertiser Thursday 27 February 1868 p 3. NEW MECKLENBURG. March 3 - An earthquake was recently felt here, lasting about six to eight secotds. The direction of it seemed to be S.S.W. to N.N.E.. the direction of the main range. It made crockery and tinware rattle. South Australian Register, Thursday 5 March 1868 p 3; SHEAOAK LOG. February 25. Last Tuesday, about 8 o'clock p.m., we felt a severe shock of an earthquake, which lasted about six seconds. South Australian Register Wednesday 4 March 1868 p 2

62 | CLARE VALLEY EARTHQUAKE, SOUTH AUSTRALIA, 28 October 1868

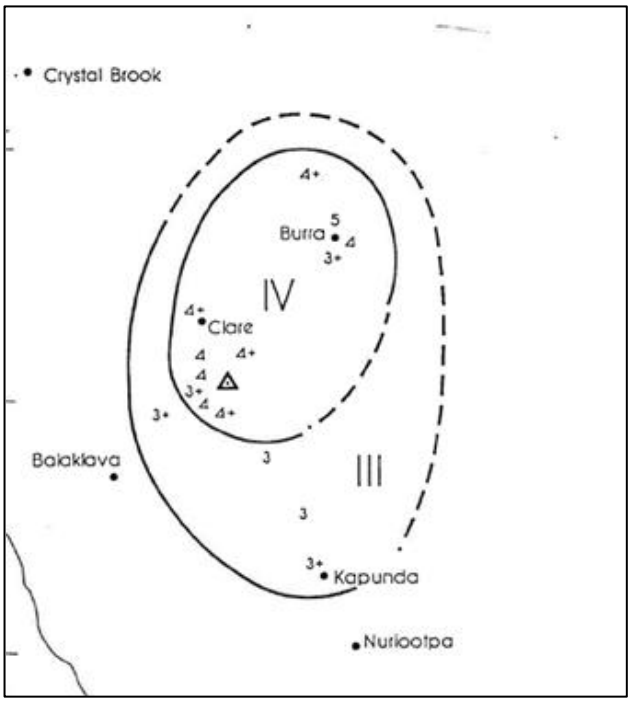
Date 28 October 1868

Time 0345 UTC

Location 33.58°S, 138.7°E

Magnitude 4.3 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility R_p: 87km gives ML 4.4 ± 1.6
Radius of Intensity IV: 55km gives ML 4.3 ± 0.2

References

VOLS-51m; SAEQCat;

At 1.15pm local time on Wednesday afternoon 28 October 1868, a distinct earthquake occurred that was felt in many of the townships lying between Kapunda, to the south, and Mt Bryan, some 65km to the north. Even though the Burra area felt it strongly, the epicentre was located in the Clare Valley.

63 | CLARE VALLEY FIRST AFTERSHOCK, SOUTH AUSTRALIA, 28 October 1868

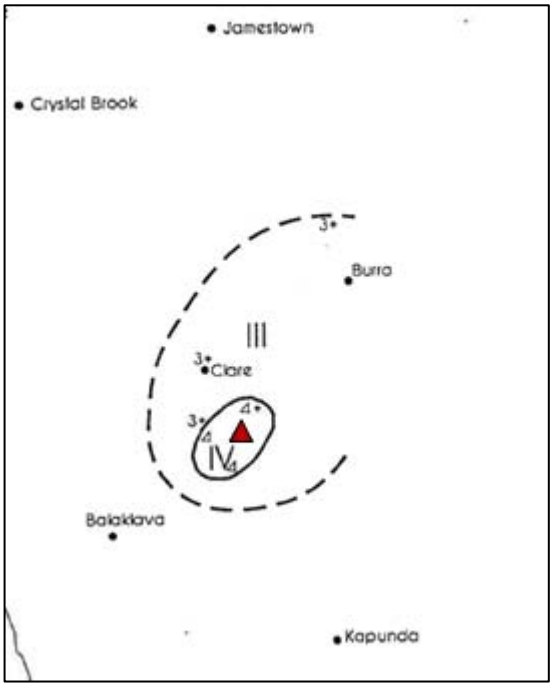
Date 28 October 1868

Time 1944 UTC

Location 33.58°S, 138.7°E

Magnitude 3.5 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 34km gives ML 3.7 ± 1.2
Radius of Intensity IV: 9km gives ML 3.2 ± 0.1

References

VOLS-51m; SAEQCat;

The following morning at 5.14am local time, a second shock occurred. It was smaller than the previous day's event, being most strongly felt at Mintaro, Auburn and Skillogalee Creek.

64 | CLARE VALLEY SECOND AFTERSHOCK, SOUTH AUSTRALIA, 1 November 1868

Date 1 November 1868

Time 0740 UTC

Location 33.58°S, 138.7°E

Magnitude 2.9 ML

▲ Epicentre (or estimate)
III Zone intensity designation

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 6km gives ML 2.6 ± 0.7

References

VOLS-51; SAEQCat; ; Map 1874

A third and much smaller shock occurred three days later, on 1 November 1868 at 5.10pm local time. It was only reported from Skillogalee Creek in the Clare Valley.

65 | GUM CREEK EARTHQUAKE, SOUTH AUSTRALIA, December 1868

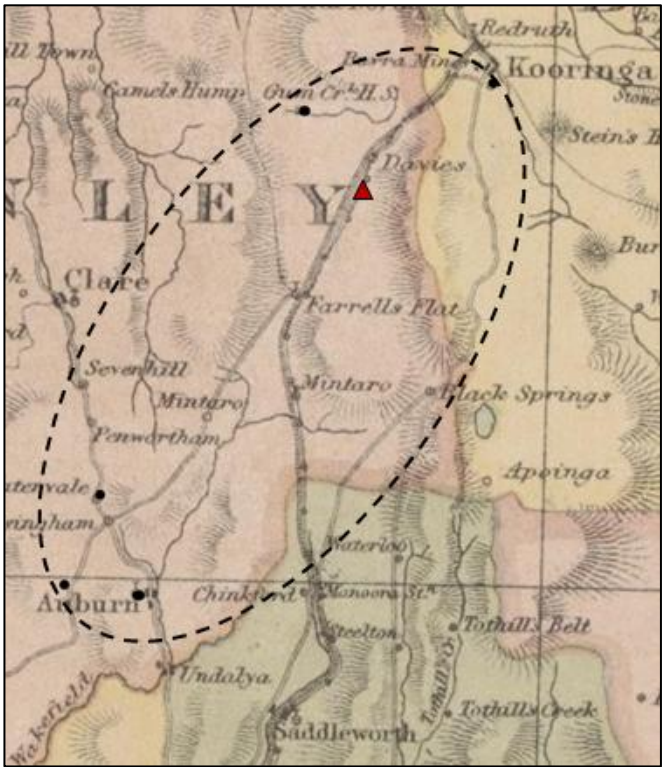
Date December 1868

Time

Location 33.65°S, 139.05°E

Magnitude

▲ Epicentre (or estimate)
III Zone intensity designation



References

By a private letter from the manager of tho Gum Creek Run to Mr. P. Wells it appears that the shock of an earthquake had been felt there on Saturday morning. South Australian Register, Tuesday 15 December 1868 p 2;

66 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 12 April 1869

Date 12 April 1869

Time 0500 UTC

Location 34.3°S, 138.92°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

A SLIGHT EARTHQUAKE. - The town of Kapunda has had a slight shock of its own, though many residents and the local Press did not know of the visitation. The latter says:— ' On Monday afternoon, at half-past 3, a shock of earthquake was distinctly felt by a number of persons in Kapunda. Some of the ladies of the Baptist congregation were working in the lower schoolroom and felt the shock distinctly, and in some of the houses near the railway its effects were said to be audible in the shape of crockery, windows, &c, shaking. And we learn that some of the miners who were employed at the time fifty fathoms below the surface also experienced the sensation of a very peculiar shock.' South Australian Register Saturday 17 April 1869 p 2

67 | GAWLER EARTHQUAKE, SOUTH AUSTRALIA, 30 June 1869

Date 30 June 1869

Time 1630 UTC

Location 34.64°S, 138.77°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

We were surprised to hear this afternoon, for the first time, that a smart shock of an earthquake was felt in Gawler shortly after 3 a.m. on Wednesday, 1st inst The information was given us on good authority, and we understand the shock was felt by several persons in different parts of the town. It was accompanied by a loud subterranean rumbling noise, and the usual vibratory wavelike motion, proceeding, as on two former occasions, from a north-easterly to a south-westerly direction. We cannot explain how it is that those who felt the shock should not have made it known before.' South Australian Register, Saturday 10 July 1869 p 2

68 | GUM CREEK EARTHQUAKE, SOUTH AUSTRALIA, 1 October 1869

Date 1 October 1869

Time 0830 UTC

Location 33.65°S, 139.05°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6
Radius of Perceptibility
R_p: 20km gives ML 3.3 ± 1.1

References

We are informed by Mr. Percy Wells that at five minutes past 7 o'clock on the evening of Friday, the Ist instant, a rather sharp shock of earthquake was felt at Gum Creek, near Kooringa. It was experienced at the same time at Wildotto, about ten miles north-east of Gum Creek. The South Australian Advertiser, Tuesday 5 October 1869 p 2; A sharp shock of earthquake was ex perienced at Kooringa on October 1. The South Australian Advertiser, Wednesday 13 October 1869 p 2; SKILLOGOLEE CREEK, October 5. On Friday evening, October 1. about 7 p.m., a shock of earthquake was felt, also in Auburn, Watervale, and other places. South Australian Register, Mon 18 October 1869 p 3

69 | BOOBOROWIE EARTHQUAKE, SOUTH AUSTRALIA, 3 May 1870

Date 3 May 1870

Time 1230 UTC

Location 33.65°S, 139.05°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

Earthquake.— At Booborowie on Tuesday, about 11 p.m., a slight earthshock was felt. South Australian Register, Friday 6 May 1870 p 5

70 | BUNDALEER EARTHQUAKE, SOUTH AUSTRALIA, 21 May 1870

Date 21 May 1870

Time 1850 UTC

Location 33.28°S, 138.58°E

Magnitude 3.5 ML

▲ Epicentre (or estimate)

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 25km gives ML 3.4 ± 1.2

References

SHOCK OF EARTHQUAKE. Clare, May 23. A very strong shock of earthquake was felt yesterday morning at Bundaleer, the course being from north to south. It was felt at Clare about 5 o'clock. ' South Australian Register, Tuesday 24 May 1870 p 5; Shock of an ; EARTHQUAKE— Mr E. Smith, of Clare, informs us that on Sunday morning, May 22, the smart, shock of an earthquake, mentioned in a Register telegram commenced' 'about 5.20 a.m., and lasted several seconds with such intensity as to shake the houses and wake the inmates. The shock was also felt by residents at Bundaleer. South Australian Register Thursday 26 May 1870 p 4

71 | BURRA EARTHQUAKE, SOUTH AUSTRALIA, 2 June 1870

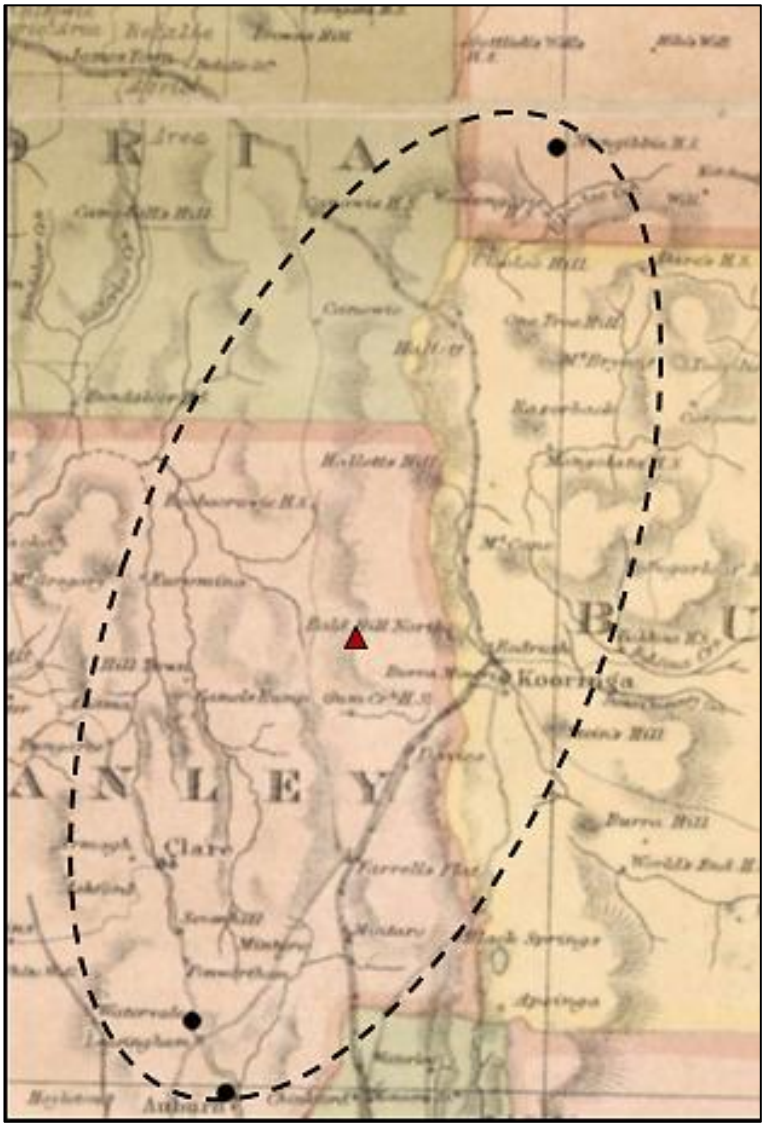
Date 2 June 1870

Time 1100 UTC

Location 33.7°S, 138.8°E

Magnitude 3.6 ML

▲ Epicentre (or estimate)
III Zone intensity designation



Calculating magnitude

Maximum Intensity
I_0: 3.5 gives ML 3.3 ± 0.6
Radius of Perceptibility
R_p: 40km gives ML 3.8 ± 1.3

References

Shock. — Earthquake motions on a small scale are becoming frequent, but the latest felt on the 2nd instant, about 10 o'clock p.m., at Munjibbie was a shock somewhat severe, and made the house and everything in it shake. The duration was fully two minutes, and the direc tion seemed to be from west to east. South Australian Register Thursday 9 June 1870 p 5;

Clare, June 11 - The shock of an earthquake on June 2 was distinctly felt here by myself and others. SKILLY, June 8. An earthquake of apparently two minutes duration occurred here on Thursday, the 2nd instant, at 9.30 p.m. The impression it con veyed was that of a team of horses bolting with a waggon or heavy vehicle. This, however, was instantly removed by the tremulous motion which succeeded. A similar phenomenon was observed at the same period both at Auburn and Watervale. The South Australian Advertiser Tuesday 14 June 1870 p 3

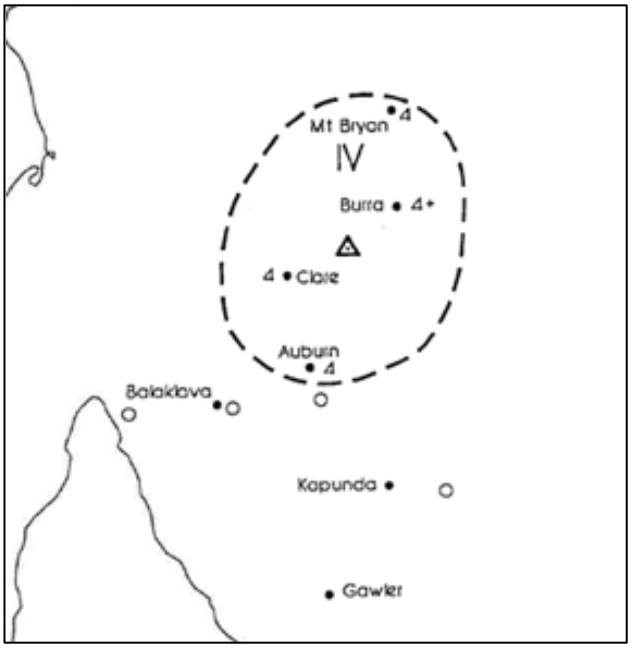
72 | BURRA EARTHQUAKE, SOUTH AUSTRALIA, 11 January 1871

Date 11 January 1871

Time 0745 UTC

Location 33.78°S, 138.83°E

Magnitude 3.9 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity I_0: 4.5 gives ML 3.9 ± 0.6
Radius of Intensity IV: 32km gives ML 3.9 ± 0.2

References

VOLS-61m; SAEQCat; A slight shock of an earthquake was distinctly felt in Clare on Wednesday afternoon, at about a quarter past 5 o'clock. The trembling motion lasted several seconds. We am told that the ciockery in the stores was heard to rattle, and articles were thrown from the shelves. The shock seemed to proceed in the direction of north and south. Northern Argus , Friday 13 January 1871 p 2; Auburn - An earthquake shock was felt here yesterday a little after 5 p.m., which was particularly so served in the store, where it shook the crockery, tinware, &e. It was heard in the dwellings as a rumbling noise, similar to that caused by a reaping-machine. Northern Argus , Friday 13 January 1871 p 3; This evening, between 5 and 6, a shock of earthquake was felt by many persons. Doors and windows were in a state of oscilla- ' tion, and a loud rumbling noise was head. At ' Mount Bryan the shock was felt to be even ' more severe than here.—The bridge at Redruth is in a most dangerous state, having a hole < nearly 3 feet square in the centre of it. To prevent accident immediate attention towards repairing it is necessary, or else serious consequences will assuredly follow. The South Australian Advertiser, Saturday 14 January 1871 p 3

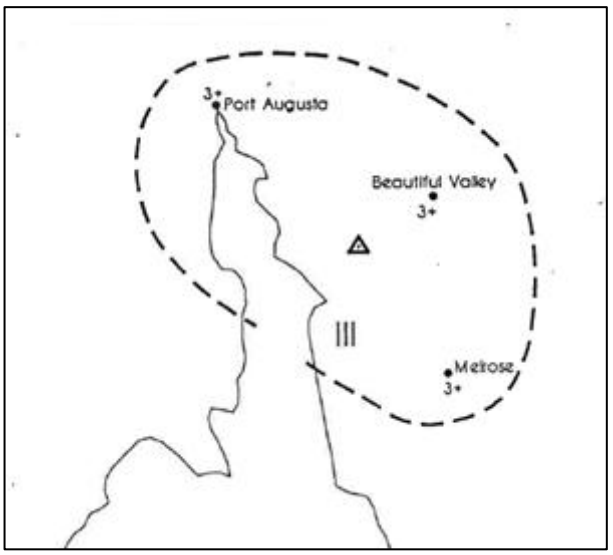
73 | BEAUTIFUL VALLEY EARTHQUAKE, SOUTH AUSTRALIA, 12 January 1871

Date 12 January 1871

Time 1155 UTC

Location 32.67°S, 139°E

Magnitude 3.5 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6
Radius of Perceptibility R_p: 30km gives ML 3.6 ± 1.2

References

VOLS-65m; SAEQCat;

74 | CLARE EARTHQUAKE, SOUTH AUSTRALIA, 7 March 1871

Date 7 March 1871

Time 1730 UTC

Location 33.68°S, 144.75°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

About ten minutes to 4 o'clock on Wednesday morning, March 8, a slight shook of earthquake was experienced at Clare. It was felt by several residents; but it was very slight, and passed off rapidly. The South Australian Advertiser, Friday 10 March 1871 p 2; CLARE - Another shock of en earthquake was distinctly felt in Clare a few minutes before 4 o'clock on Wednesday morning. Several resi dents were awakened by the shaking of doors and the rattling of windows, &c-, and the tre mor is said to have lasted half 4 minute. The shock was also felt at Bungaree j and seems to have proceeded in the same direction as the one recorded a few weeks back. Northern Argus, Fri10 March 1871 p 2

75 | PORT AUGUSTA EARTHQUAKE, SOUTH AUSTRALIA, 8 March 1871

Date 8 March 1871

Time

Location 32.73°S, 137.92°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 2.5 gives ML 2.8 ± 0.5

References

At Port Augusta early on Thursday morning, March 9, a slight shock of earthquake was noticed by one or two residents, and cracks have appeared in some of the stone buildings in the town as an effect of the tremor. South Australian Register, Thursday 16 March 1871 p 5

76 | WIRRIALPA EARTHQUAKE, SOUTH AUSTRALIA, 17 August 1871

Date 17 August 1871

Time 0300 UTC

Location 30.94°S, 138.75°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

Earthquake in the Far North [near Blinman].— A letter from Wirrialpa says : — ' On Wednesday, August 17, between 1 and 2 p.m., there was a shock of an earthquake felt here, which lasted for 15 or 18 seconds. The blacks were greatly alarmed, and told us that the noise proceeded from the mouth of a monstrous snake entombed in the bowels of the earth, and that the shaking of the ground was occasioned by the struggles of its vast body.' South Australian Register, Thursday 24 August 1871 p 5

77 | RIVERTON EARTHQUAKE, SOUTH AUSTRALIA, 30 January 1872

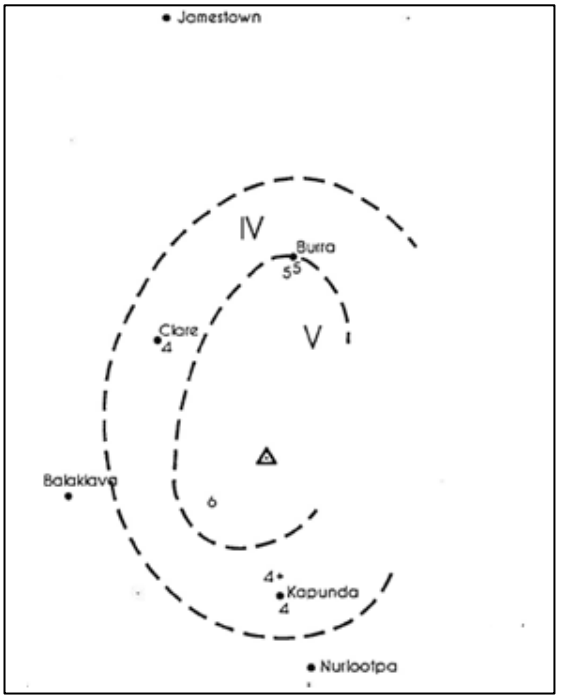
Date 30 January 1872

Time 1340 UTC

Location 34.07°S, 138.88°E

Magnitude 4.8 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity I_0: 6 gives ML 4.8 ± 0.7
Radius of Intensity IV: 87km gives ML 4.7 ± 0.2

References

VOLS-68m; SAEQCat;

On Tuesday 30 January 1872, a "smart shock" was felt at Burra by many people at about 11.10pm local time. It was sufficiently decided to shake crockery from shelves and cause loose ceiling to fall. Reports also surfaced from Riverton, Clare and Kapunda.

78 | MOUNT LOFTY RANGE EARTHQUAKE, SOUTH AUSTRALIA, 8 June 1872

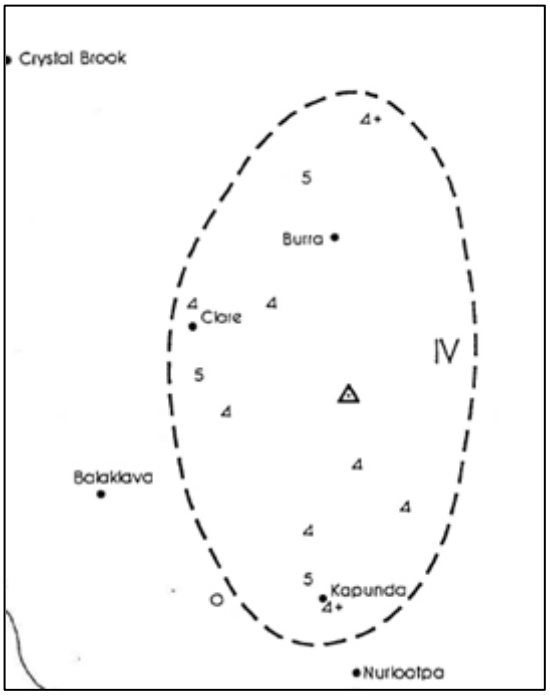
Date 8 June 1872

Time 0940 UTC

Location 33.95°S, 138.95°E

Magnitude 4.1 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility R_p: 53km gives ML 4 ± 1.4
Radius of Intensity IV: 42km gives ML 4.1 ± 0.2

References

VOLS-72m; SAEQCat; *The South Australian Advertiser Tuesday 11 June 1872 p 2*

At 7.10pm local time on 8 June 1872, a distinct shock of an earthquake echoed through the hills and valleys of the North Mount Lofty Range. At Mt Bryan, a clock was shaken from the shelf, while at Penwortham, Clare, Aurburn and Allendale, people were greatly alarmed by doors shaking.

79 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 18 January 1873

Date 18 January 1873

Time 1150 UTC

Location 30.81°S, 138.4°E

Magnitude 3.1 ML

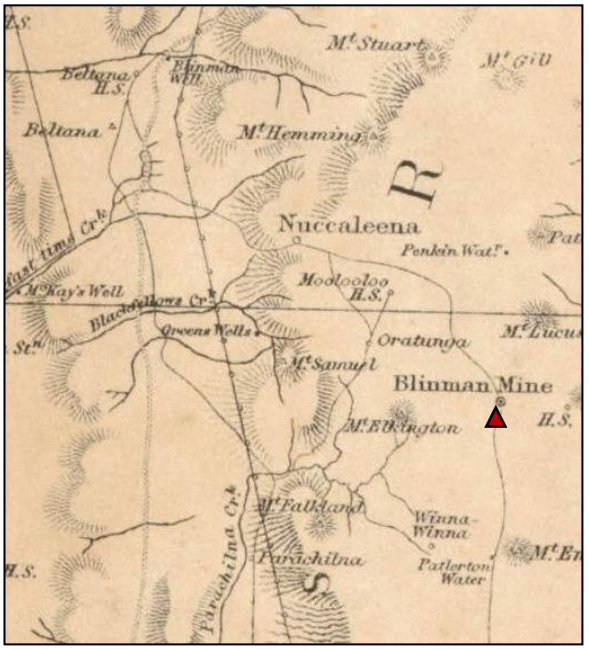
▲ Epicentre (or estimate)

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-77;shock felt Northern Argus, Friday 24 January 1873 p 3 Article;* Map 1874



In the evening of 18 January 1873, Blinman experienced "two earthquake shocks... The first, a pretty smart one, occurred at about 20 minutes past 10 p.m., and the second, a very slight one, about 10 minutes afterwards. They seemed to be pairing from north to south".

80 | PEAKE EARTHQUAKE, SOUTH AUSTRALIA, 19 July 1873

Date 19 July 1873

Time 1015 UTC

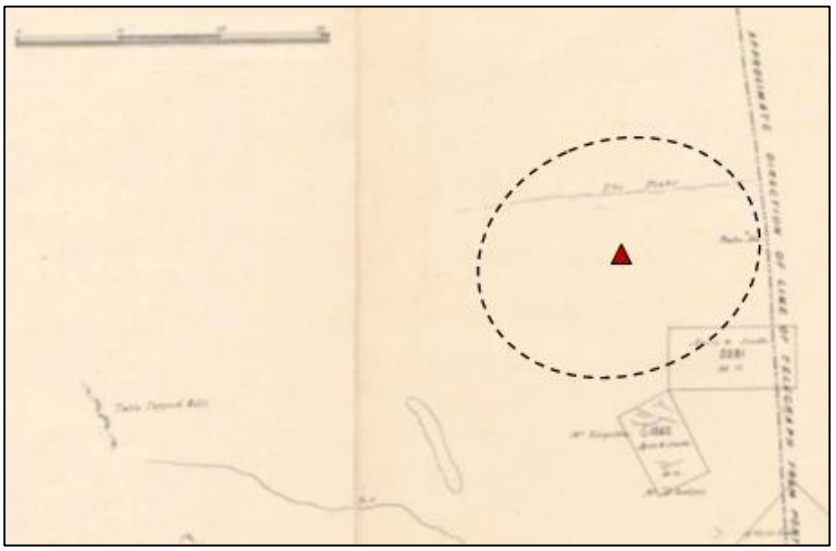
Location 28.1°S, 135.52°E

Magnitude 3.7 ML

▲ Epicentre (or estimate)
III Zone intensity designation

Calculating magnitude

Maximum Intensity
I_0: 4.5 gives ML 3.9 ± 0.6
Radius of Perceptibility
R_p: 24km gives ML 3.4 ± 1.2



References

VOLS-78*;strong shock felt; *South Australian Chronicle and Weekly Mail Saturday 26 July 1873 p 6*

Peake, experienced a strong earthquake at 7.45pm local time on Saturday 19 July 1873. It was also experienced more strongly 15 miles westward at camp, where the "shock overturned their quarter pot pannikins… The most violent shock I ever experienced".

81 | PORT ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 13 October 1873

Date 13 October 1873

Time 1900 UTC

Location 34.84°S, 138.4°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

Port Adelaide, October 14. Sir—Doubtless before this reaches you in numerable correspondents will have furnished you with thrilling accounts of the earthquake which everybody must have observed more or less this morning. Nevertheless, perhaps yon will be good enough to find room some day for ' the following brief aeooant of what I noticed myself. Passing over the Port Bridge to-day at 5.30 a.m. I observed a tremulous motion, which rapidly increased in violence. It may be in teresting to scientific men to know that the vibrations were vertical as well as horizontal, and oblique as well as both. lam certain of this, because I was on the narrow footpath at the time. The South Australian Advertiser Friday 17 October 1873 p 3

82 | WATERLOO EARTHQUAKE, SOUTH AUSTRALIA, 26 October 1873

Date 26 October 1873

Time 1945 UTC

Location 33.9°S, 151.06°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

Waterloo, October 28, says:—" Yesterday morning at a quarter past 6 o'clock we had a pretty severe shack of earthquake. The ground was for a second or two in a vibrating motion, and the subterraneous noise resembled very much rolling thunder at a distance." The South Australian Advertiser, Monday 3 November 1873 p 2

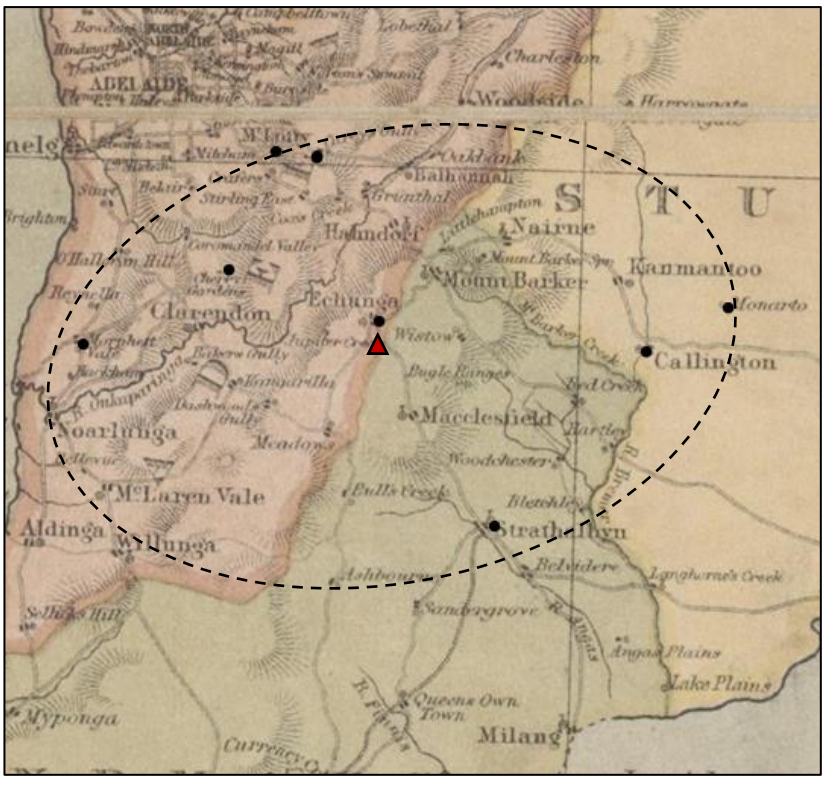
83 | ECHUNGA EARTHQUAKE, SOUTH AUSTRALIA, 6 February 1874

Date 6 February 1874

Time 0900 UTC

Location 35.12°S, 138.72°E

Magnitude 3.6 ML



▲ Epicentre (or estimate)
III Zone intensity designation

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 30km gives ML 3.6 ± 1.2

References

Shocks of earthquakes at 7h. 30m. p.m. and at 7h. 45m. p.m. at Morphett Vale, Strathalbyn, Cherry

Gardens, Monarto &c;The shock of an earthquake that was felt in and about Mount Lofty on Friday the 6 February was also experienced at Echunga, the hotels and other houses being considerably shaken by its influence. In the New Tiers and Carey's Gully shingles and roofing of iron appeared to crack and shiver, glasses jingled together, and in some instances the sensation to persons in the localities most affected was similar to the vibration caused by a heavily loaded waggon passing along a pavement. The South Australian Advertiser, Tuesday 10 February 1874 p 2;

Earthquake at Strathalbyn— On Friday, February 6, at about 7.30 p.m., a shock of earth quake was distinctly felt by several persons at Strathalbyn. In a house ai the southern corner of the town some children jumped out oi bed frightened at tbe shock, and ran to their parents in another part of the house. Glass and earthen ware were in diff ereat places rattled, and the harness of a horse standing quietly in Dr. Ferguson's yard was shaken as if by a hand. After an interval of 10 or 15 minutes a second occurred, but no damage resulted. South Australian Register, Tuesday 10 February 1874 p 5; About 6 p.m. on Friday, February C, a slight shock, apparently of an earthquake, was felt for some seconds upon Mo ant i«ofty and its vicinity. Those residing on rising ground appear to have felt the tremnlous motion more than others. We learn from oar Nairne correspondent that the chock was also felt there, and that it luted for a few seconds, and was severe enough to ehake goods in the stores and houses. The South Australian Advertiser, Monday 9 February 1874 p 2; Native Valley - Last Friday we experienced rather a severe shook of an earthquake, aauring craps, saucers, pans, ho., to be knocked together, and even the iron roof of buildings to rattle their sheets together. I believe it was felt both far and near; but m yet I hear of no damage being done. It was felt about half-past 7 p.m. The South Australian Advertiser, Friday 13 February 1874 p 3; Eaethshake.— A shock of earthquake was felt on Friday, February 6, in Morphett Vaje at about 7.30 p.m. On Friday night a long rumbling peal of what was supposed to be thunder was heard at Callington, and some residents there say that they felt at the time, a slight shock of earthquake. South Australian Register, Friday 13 February 1874 p 5; ; Map 1874

84 | CLARE EARTHQUAKE, SOUTH AUSTRALIA, 15 April 1874

Date 15 April 1874

Time 1935 UTC

Location 33.83°S, 138.61°E

Magnitude 2.5 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 2 gives ML 2.5 ± 0.5

References

Light shock of an earthquake at Clare a few minutes after 6 a.m.

85 | ULOOLOO CREEK EARTHQUAKE, SOUTH AUSTRALIA, 28 May 1874

Date 28 May 1874

Time

Location 33.29°S, 138.98°E

Magnitude

References

Shock of an earthquake at Ulooloo Creek and surrounding country at 7h. 40m. Lasted from 30 to 40 seconds

86 | ANGASTON EARTHQUAKE, SOUTH AUSTRALIA, 31 August 1874

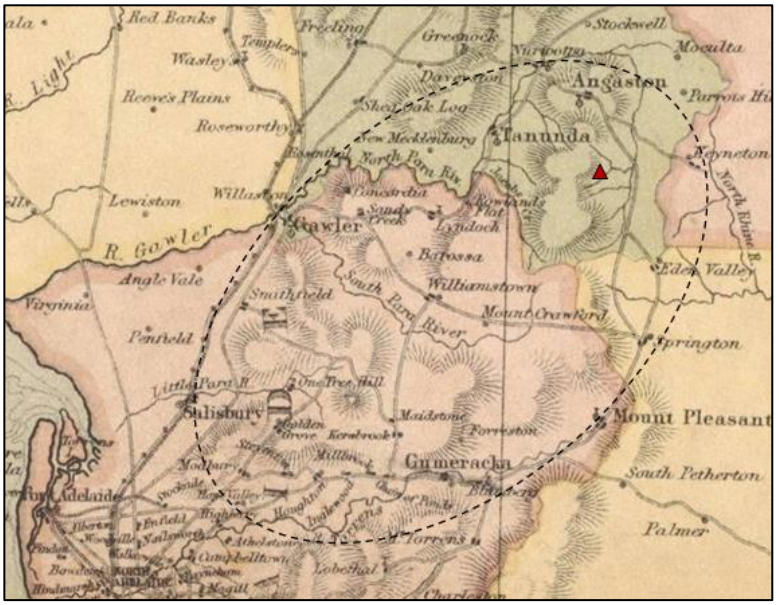
Date 31 August 1874

Time 1150 UTC

Location 34.5°S, 139.05°E

Magnitude 3.7 ML

▲ Epicentre (or estimate)
III Zone intensity designation



A "tremendous shock of earthquake was felt" in Angaston on Monday evening of 31 August 1874 and was later reported as being felt in Houghton. "The shock made several buildings shake, and seemed to come from a westerly direction." The shock was also reported at Eden Valley and Williamstown, occurring at 7.15pm local time, lasting about 2 minutes. "The ground trembled and seemed to roll for a few seconds."

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 40km gives ML 3.8 ± 1.3

References

The South Australian Advertiser, Tuesday 1 September 1874 p 2 Article; The South Australian Advertiser, Wednesday 2 September 1874 p 2 Article; South Australian Register, Thursday 3 September 1874 p 4 Article; South Australian Chronicle and Weekly Mail, Saturday 5 September 1874 Supplement: SUPPTO THE SOUTH AUSTRALIAN CHRONICLE p 3 Article; Map 1874

87 | HAMILTON EARTHQUAKE, SOUTH AUSTRALIA, 13 September 1874

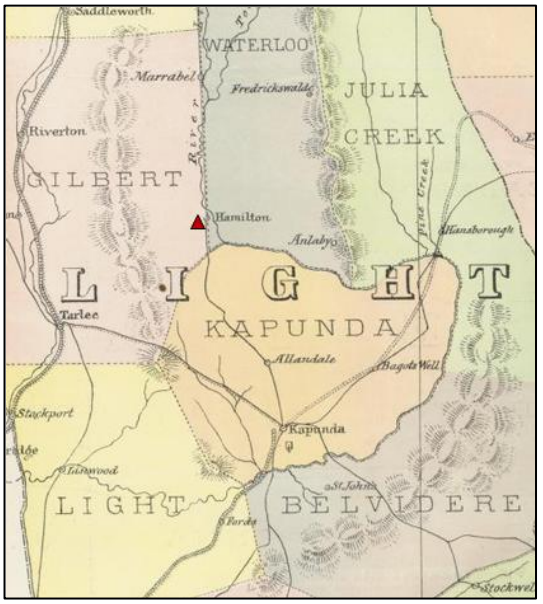
Date 13 September 1874

Time 1700 UTC

Location 34.3°S, 138.9°E

Magnitude 2.9 ML

▲ Epicentre (or estimate)



Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 8km gives ML 2.7 ± 0.9

References

VOLS-79*;2 shocks between 1630-1730; Map 1876

Hamilton was visited by two earth shocks between 2 and 3am local time, spaced by 3-5 minutes, on 14 September 1874. The First shock like oscillatory motion, upheaval was distinctly felt with furniture being violently agitated for nearly a minute.

88 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 13 November 1874

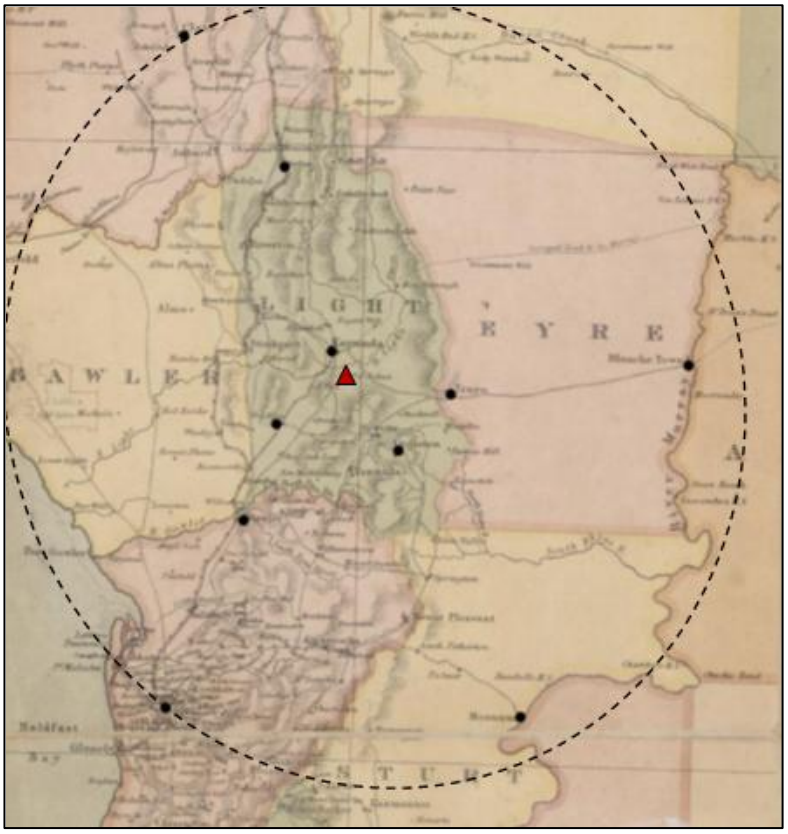
Date 13 November 1874

Time 0900 UTC

Location 34.39°S, 138.93°E

Magnitude 4.2 ML

▲ Epicentre (or estimate)
III Zone intensity designation



Calculating magnitude

Maximum Intensity
I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility
R_p: 65km gives ML 4.2 ± 1.5

References

VOLS-80*;*The South Australian Advertiser, Saturday 14 November 1874 p 2; South Australian Register, Tuesday 17 November 1874 p 7; South Australian Register, Monday 16 November 1874 p 5; South Australian Register, Tuesday 17 November 1874 p 5; Northern Argus , Tuesday 17 November 1874 p 2; South Australian Register, Monday 16 November 1874 p 5; The South Australian Advertiser, Wednesday 18 November 1874 p 2; South Australian Chronicle and Weekly Mail, Saturday 21 November 1874 p 7; South Australian Register, Wednesday 25 November 1874 p 7; ;*
Map 1874

Kapunda, Gawler, Mannum, Blanchetown, and Steelton as well as Angaston, Nuriootpa, Feeling, Wasley and Truro were shaken by a “severe” earthquake on Friday 14 November 1874 at about 7.30pm local time. It was also reported as being felt by a few in Clare. The report from Blanchetown stated that “The shock appeared to travel from east to west, and was felt at the station, six miles from here, where it was described as similar to a number of drays travelling over a rough country, causing great vibration.” And by another observer, “The shock was also noticed by several residents in Adelaide but appears to have been most severe in Kapunda and its neighbourhood" with the loosening of plaster dust and shaking of crockery and iron roofing.

89 | CLARE EARTHQUAKE, SOUTH AUSTRALIA, 13 January 1875

Date 13 January 1875

Time 1630 UTC

Location 33.83°S, 138.61°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity
I_0: 3 gives ML 3.1 ± 0.5

References

The Northern Argus has been informed by persons who reside in the vicinity of Clare, "that they felt a alight shook of an earthquake at 3 o'clock on Thursday morning. One person says that he felt three distinct shocks. The first so startled Mm that he got up and went outside, thinking it-possible to have seen a peal of thunder ; but the sky was dear and without a cloud. He had scarcely got into the house, when he again heard a low rumbling noise, which gradually died away, bat was followed by a third in a few seconds, the noise of which was not so loud as the others. We Have sot been able to ascertain in what direction the sound was first heard, and therefore cannot indicate the course taken." The South Australian Advertiser, Saturday 16 January 1875 p 2

90 | BLACK ROCK EARTHQUAKE, SOUTH AUSTRALIA, 19 January 1875

Date 19 January 1875

Time 2130 UTC

Location 32.8°S, 138.69°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

Earthquake Shock.—-Our Black Rock correspondent says that "at about eight o'clock on Wednesday morning, January 20, there was a slight shock of earthquake felt here. The sound seemed to come from the north-east, and appeared like distant thunder, although there was not a cloud to be seen at the time but it was very sultry". Northern Argus , Friday 22 January 1875 p 3.

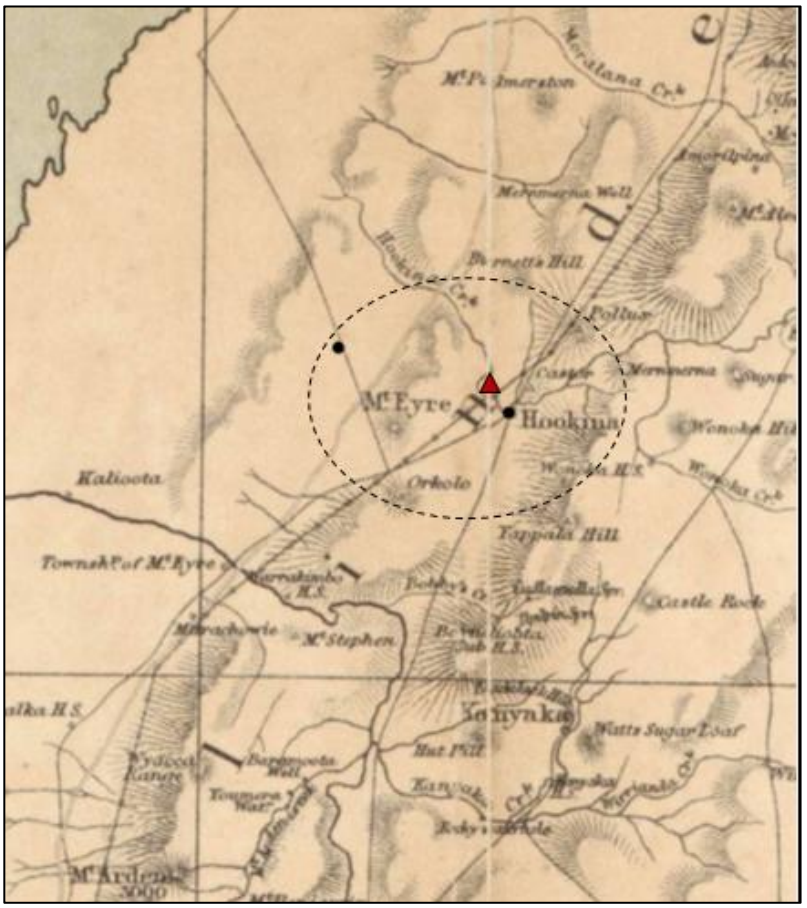
91 | HOOKINA EARTHQUAKE, SOUTH AUSTRALIA, 24 January 1875

Date 24 January 1875

Time 1400 UTC

Location 31.72°S, 138.23°E

Magnitude 3.7 ML



▲ Epicentre (or estimate)
III Zone intensity designation

Calculating magnitude

Maximum Intensity
I_0: 4.5 gives ML 3.9 ± 0.6
Radius of Perceptibility
R_p: 25km gives ML 3.4 ± 1.2

References

VOLS-81*; *South Australian Register, Wednesday 10 February 1875 p 4; ;* Map 1874

"A sharp shock of earthquake was felt at Hookina between 11 and 12 p.m. on the night of Sunday", 24 January 1875. "It violently shook all the tenements in the township, especially those in the south end. The crockery arranged on shelves resolved itself into castanets and triangle bands, much to the discomfort of the owners, whose teeth seemed inclined to add an accompaniment. The movement seemed to be from north to south, and the vibrations lasted nearly a minute. However, it did no damage except shaking in one side of the publican's well. The shock was felt, though far less violent, at Wallelberdina, 15 miles-distant."

92 | BLACK ROCK EARTHQUAKE, SOUTH AUSTRALIA, 22 June 1875

Date 22 June 1875

Time 1510 UTC

Location 32.8°S, 138.69°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

BLACK ROCK PLAIN. On the night of the 22nd of last month we had a very smart shock of an earthquake which lasted several minutes, rocking some dwellings about similar to a cradle. A workman of Mr. Forrest had his head knocked against the wall, and Mr. Locton's clock was stopped thereby, indicating the time as 1.40 a.m; The sound seemed to come from the north-west. Northern Argus , Tuesday 13 July 1875 p 2

93 | CLARENDON EARTHQUAKE, SOUTH AUSTRALIA, 1 July 1875

Date 1 July 1875

Time 2115 UTC

Location 33.64°S, 150.79°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity
$I_{0:}$ 3 gives ML 3.1 ± 0.5
Radius of Perceptibility
R_p: 4km gives ML 2.4 ± 0.6

References

Shock of ah Earthquake.— A slight shock of an earthquake was felt at Clarendon on Thursday morning July 1, at about 8 o'clock. A rumbling: sound, resemDli-jg distant thunder, was heard, and several houses wen shaken. The shock appeared to have a north-easterly bearing. A resident in Happy Valley speaks of tht sensation there as having been sharp and distinct. Be states that it caused windows to rattle, and was accompanied by a heavy rumbling sound which lasted fully 10 seconds, and appeared to be proceeding from west to east. This writer fixed the time at 7.45 a.m. South Australian Register, Saturday 3 July 1875 p 5; The Reynella correspondent to the Southern Argus writes on July 1:—Some of us woe rather surprised this morning with, the shock of an earthquake, which the inmates of different houses (some of ?them .several miles apart) all noticed to 1 take place .about 8 o'clock. One young person who was writing had her writing spoiled by thesudden shake of hand, pen, and paper, | while the doors and windows of the house shook; another noticed her dishes to move (accompanied with noises) and the flags on the floor to heave; another pieceived the whole house shake, and children iwere frightened by the beds shaking and the doors rattling. I suppose it was worse up among the hills, but I have not heard particulars. Northern Argus , Tuesday 13 July 1875 p 3

94 | MURRAY FLATS EARTHQUAKE, SOUTH AUSTRALIA, 29 September 1875

Date 29 September 1875

Time 0015 UTC

Location 34.84°S, 139.23°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

On Wednesday 29 September last, a shock of earthquake was felt on the Murray Flats [near Palmer] at about 10.45 am. Mr. Duell informs us fliat the shock, which passed from iouth-w«'st to north-east, visibly -shook -the concrete floor of his house, which is a substantial stone build ing. The sameshoek was felt by other persons' iniihe same locality. Northern Argus , Friday 15 October 1875 p 3; Border Watch, Saturday 16 October 1875 p 3

95 | SALTIA EARTHQUAKE, SOUTH AUSTRALIA, 31 September 1875

Date 31 September 1875

Time 0430 UTC

Location 32.45°S, 138.2°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

SALTIA, October 6. On Thursday, about 3 p.m., we experienced a slight shock of earthquake, accompanied by a heavy rumbling sound like thunder. South Australian Register, Thursday 14 October 1875 p 7.

96 | WIRRABARA EARTHQUAKE, SOUTH AUSTRALIA, 20 December 1875

Date 20 December 1875

Time

Location 32.95°S, 138.16°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

WIRRaBARA, December 27. A rumbling noise, like that of an earthquake, was heard here on the evening of December 20. South Australian Chronicle and Weekly Mail, Saturday 1 January 1876 p 17

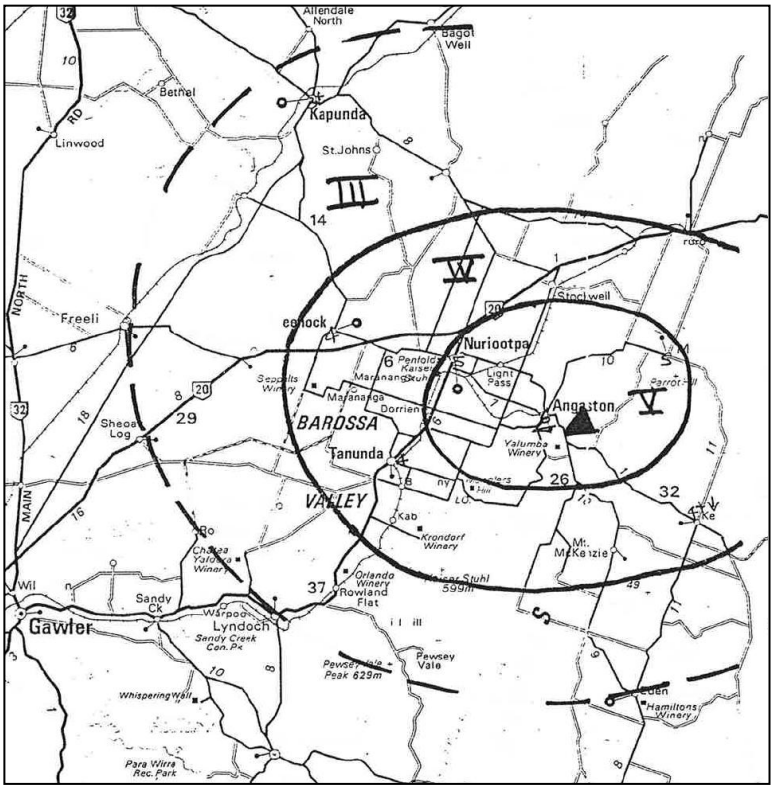
97 | ANGASTON EARTHQUAKE, SOUTH AUSTRALIA, 19 March 1876

Date 19 March 1876

Time 1530 UTC

Location 34.52°S, 139.08°E

Magnitude 3.8 ML



▲ Epicentre (or estimate)
III Zone intensity designation

Calculating magnitude

Maximum Intensity
I_0: 6 gives ML 4.8 ± 0.7
Radius of Perceptibility
R_p: 23km gives ML 3.4 ± 1.1
Radius of Intensity
IV: 13km gives ML 3.3 ± 0.2

References

VOLS-82m; SAEQCat;

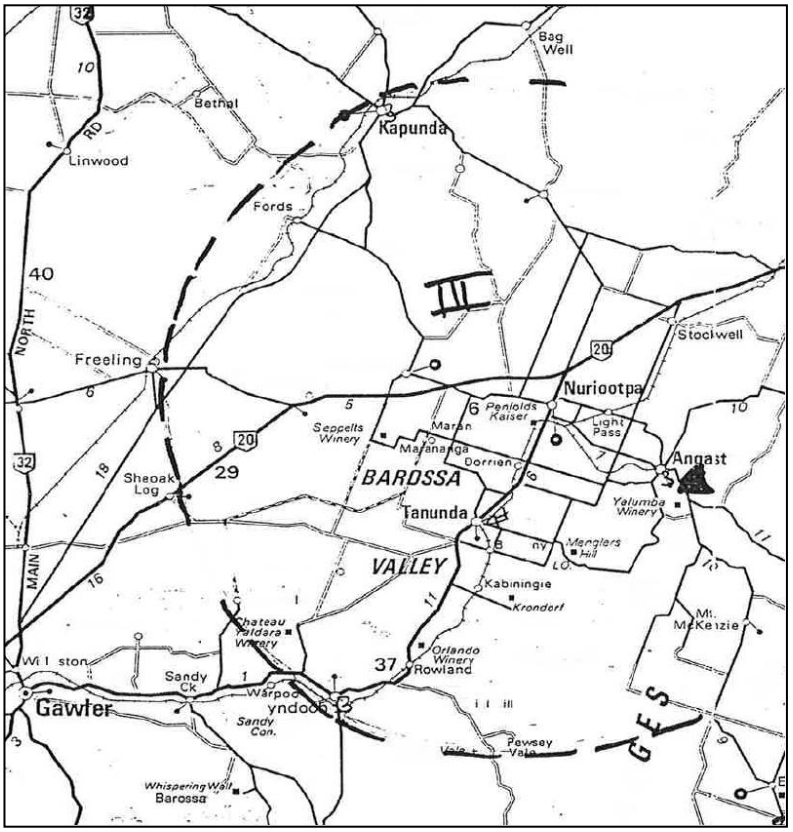
98 | ANGASTON FIRST AFTERSHOCK, SOUTH AUSTRALIA, 22 March 1876

Date 22 March 1876

Time 0930 UTC

Location 34.52°S, 139.08°E

Magnitude 3.4 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 18km gives ML 3.2 ± 1.1

References

VOLS-82m; SAEQCat;

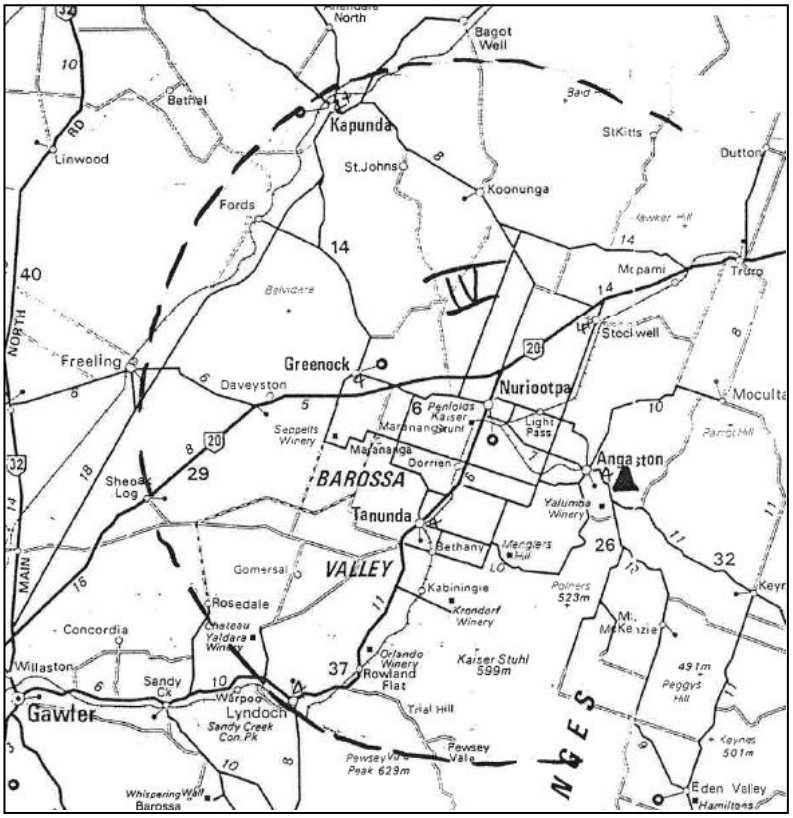
99 | ANGASTON SECOND AFTERSHOCK, SOUTH AUSTRALIA, 22 March 1876

Date 22 March 1876

Time 1315 UTC

Location 34.52°S, 139.08°E

Magnitude 3.7 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4.5 gives ML 3.9 ± 0.6
Radius of Intensity
IV: 18km gives ML 3.5 ± 0.2

References

VOLS-82m; SAEQCat;

100 | ALDINGA EARTHQUAKE, SOUTH AUSTRALIA, 13 May 1876

Date 13 May 1876

Time

Location 35.27°S, 138.48°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity

I_0: 3 gives ML 3.1 ± 0.5

References

A shock of earthquake was felt at Maclaren Vale on Saturday, May 13 and lasted a few seconds. The South Australian Advertiser, Saturday 20 May 1876 p 4 ; On Saturday, night, May 13, at 10 miuutes to 10 o'clock,' a distinct shock of an earthquake was felt at Aldinga, accompanied by considerable noise. The direction of the motion, was from the WSW. The sound resembled that made by a heavily-laden waggon, and the shock felt as if ti heavy bode has come in contact with the buildings. Border Watch, Saturday 20 May 1876 p 3;

101 | WIRRABARA EARTHQUAKE, SOUTH AUSTRALIA, 14 August 1876

Date 14 August 1876

Time

Location 32.95°S, 138.16°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

Radius of Perceptibility R_p: 15km gives ML 3.1 ± 1

References

WIBRABABA, Aug 15. -We had a smart shock of an earthquake here on Monday, August 14. It shook the houses, and caused crockery to- rattle-on the shelves. It was felt for many miles around. The South Australian Advertiser, Monday 21 August 1876 p 7; TARC0WIE, August 31. A slight shock of an earthquake was felt here on Monday, August 14. South Australian Register, Thursday 24 August 1876 p 3

102 | CANOWIE EARTHQUAKE, SOUTH AUSTRALIA, 23 September 1876

Date 23 September 1876

Time 1000 UTC

Location 33.39°S, 138.76°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

*Earthquake.— The shock of an earthquake was-felt in the neighbourhood of Canowie on Saturday evening, 23rd instant, at about half past 8 c'olock. lha sound was lik«j that of distant thunder, and it lasted about a minute. The direction in which it travelled ssem*i to be from south-west to north-east. There was no perceptible vibration. South Australian Register, Thursday 28 September 1876 p 5*

103 | PEKINA EARTHQUAKE, SOUTH AUSTRALIA, 12? November 1876

Date 12? November 1876

Time

Location 32.6°S, 138.33°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

Earthquake.—A few days ago a shock of earthquake, accompanied by a loud rumbling noise like distant thunder,occurred at Pekina Extension. The ground fairly trembled from the effects of the shock. Northern Argus , Friday 17 November 1876 p 2

104 | BELALIE EAST EARTHQUAKE, SOUTH AUSTRALIA, 13 March 1877

Date 13 March 1877

Time 1300 UTC

Location 33.27°S, 138.65°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

March 24. On the 13th inst. there was a shock of an earthquake about 11.30 o'clock p.m. It was very loud and rumbling, causing the doors and windows to shake. The next day, about 12.30 o'clock, there was another shock, very distinct but not near so loud. Northern Argus , Friday 30 March 1877 p 2

105 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 20 May 1877

Date 20 May 1877

Time 1330 UTC

Location 34.3°S, 138.92°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

Two or three o£ the townsmen of Kapunda have informed the local j aper that they felt a rather severe shoflk of an earthquake at about midnight on Sunday May 20. South Australian Register, Wednesday 23 May 1877

106 | BLACK ROCK EARTHQUAKE, SOUTH AUSTRALIA, 21 May 1877

Date 21 May 1877

Time 1400 UTC

Location 32.8°S, 138.69°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

Black Rock Plain = A pretty smart shock of earthquake was felt here between 12 and 1 o'clock on Monday night, the 21st inst. Northern Argus , Tuesday 5 June 1877 p 3

107 | CLARE EARTHQUAKE, SOUTH AUSTRALIA, 17 June 1877

Date 17 June 1877

Time 0100 UTC

Location 33.68°S, 144.75°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

On Sunday forenoon (June 17) a shock of an earthquake was felt by a resident in Clare. It made the houses shake, and, there was a dull rambling noise not unlike thunder. The sound travelled apparently from west to east. Border Watch, Saturday 23 June 1877 p 3

108 | CLARE EARTHQUAKE, SOUTH AUSTRALIA, 20 June 1877

Date 20 June 1877

Time 0110 UTC

Location 33.68°S, 144.75°E

Magnitude 2.8 ML

References

Earthquake Shock.—A shock of an earthquake was felt in Clare at about 11.40 p.m. on Wednesday last. The rumbling noise was heard by a number of persons. Northern Argus , Friday 22 June 1877 p 2

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

109 | YARCOWIE EARTHQUAKE, SOUTH AUSTRALIA, 1 July 1877

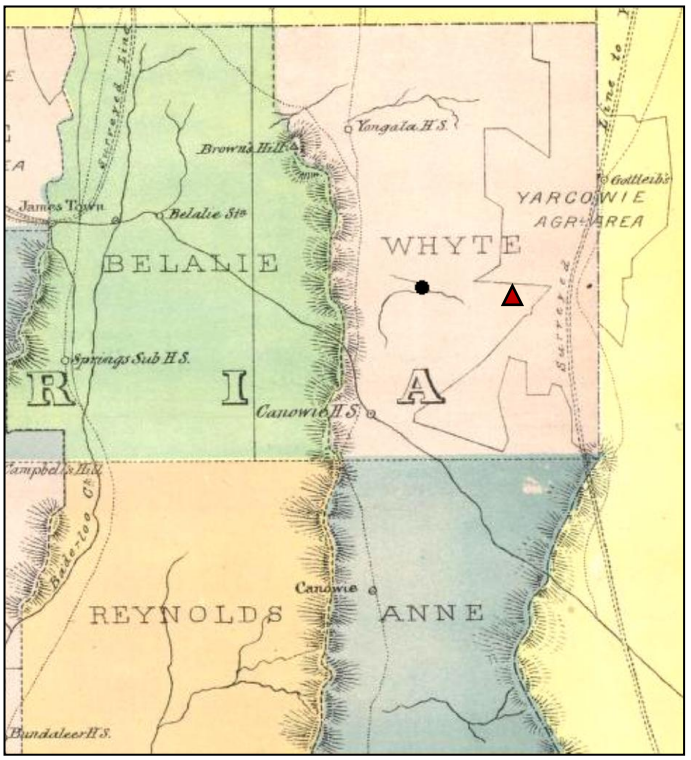
Date 1 July 1877

Time 2000 UTC

Location 33.23°S, 138.88°E

Magnitude 3.6 ML

▲ Epicentre (or estimate)



Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-90*; *South Australian Chronicle and Weekly Mail, Saturday 7 July 1877 p 8;*
Map 1876

A distinct and sharp shock of earthquake was felt at Yarcowie (assumed Whyte-Yarcowie) about 6.30am local time on Monday 2 July 1877 and lasted several seconds going in the direction from SW to NE.
The Yarcowie correspondent said: — 'I have conversed with many persons who felt the shock, and who were awoke by the shaking of their beds. They all speak of it as being violent, and in some instances I bear that articles were thrown down from shelves by it."

110 | BOOLEROO EARTHQUAKE, SOUTH AUSTRALIA, 8 July 1877

Date 8 July 1877

Time

Location 32.88°S, 138.35°E

Magnitude 2.8 ML

References

Booleroo, July 9. We had a slight shock of an earthquake last night, which seemed to travel from east to west. It was not unlike distant thunder. Northern Argus , Tuesday 17 July 1877 p 3

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

111 | GLADSTONE EARTHQUAKE, SOUTH AUSTRALIA, 14 August 1877

Date 14 August 1877

Time

Location 33.28°S, 138.35°E

Magnitude 2.5 ML

Calculating magnitude

Maximum Intensity I_0: 2 gives ML 2.5 ± 0.5

References

VOLS-91; nothing else found.

112 | BRIDGEWATER EARTHQUAKE, SOUTH AUSTRALIA, 21 August 1877

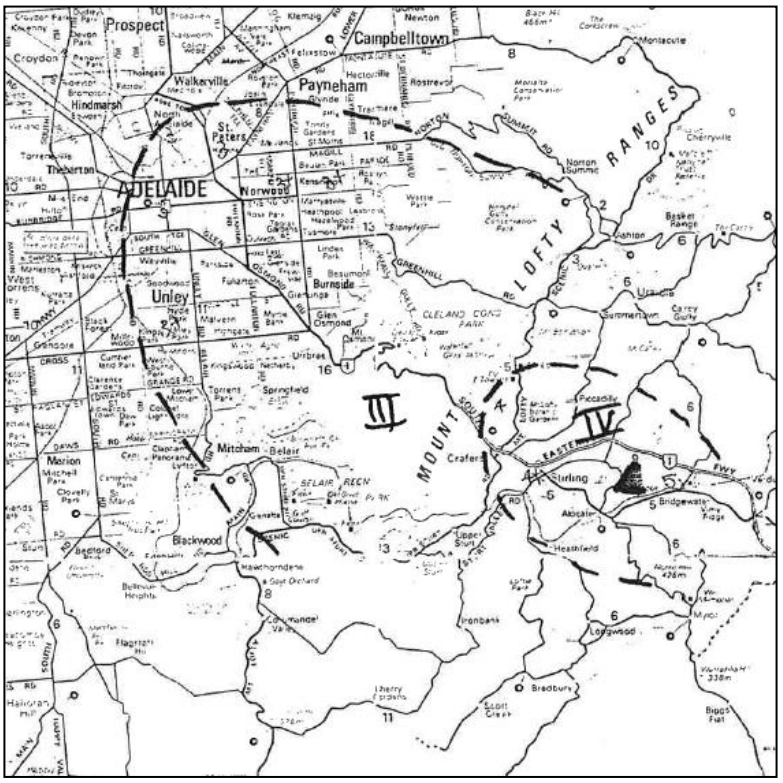
Date 21 August 1877

Time 1630 UTC

Location 35.02°S, 138.77°E

Magnitude 3.1 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity
I_0: 4.5 gives ML 3.9 ± 0.6
Radius of Perceptibility
R_p: 7.4km gives ML 2.7 ± 0.8
Radius of Intensity
IV: 2.3km gives ML 2.8 ± 0.1

References

VOLS-91m; SAEQCat;

113 | STREAKY BAY EARTHQUAKE, SOUTH AUSTRALIA, 10 November 1877

Date 10 November 1877

Time 0230 UTC

Location 32.4°S, 134.2°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-95;Severe earth tremor; Streakv Bav. November 12. There was a severe shock of an earthquake here at noon on Saturday. South Australian Register, Tuesday 13 November 1877 p 5; The station-master,at Streaky. Bay. has informed the Superintendent of Telegraphs that' about 1 .p.m.. on Saturday, what appeared to be a meteor passed from north-, eafet to fcouth-west, leaving a straight"trail' like smoke. Immediately afterwards a noise like thunder was heard. There and in the district for 80 miles round it was thought to be an earthquake. Tho weather was clear and .warm., A correspondent of the Adver tiser at' Yarcowie states that while on his road to Jamestown on Saturday he noticed about 1 oclock in the day with the suushining brightly, what he supposed to be ft brilliant meteor, travelling from north to south. Alter becoming invisible, it again appeared w'i'tli renewed brilliancy; again it disap peared from viow, and again it shone out brighter than ever, until it finally seomod to go into the earth. The Register correspon dent at Streaky Bay reports a severo shock of earthquake at tiio same time. Border Watch, Saturday 17 Nov 1877 p 4*

114 | MAITLAND EARTHQUAKE, SOUTH AUSTRALIA, 31 November 1877

Date 31 November 1877

Time 1500 UTC

Location 32.7°S, 151.5°E

Magnitude 3.3 ML

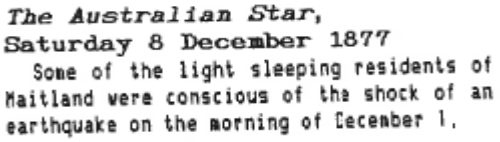
Calculating magnitude

Maximum Intensity

I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-96*;*moderate, woke sleepers; Mainland, December 1. A shock of an earthquake was felt this morning at half-past 1. It was sufficiently severe to awaken many persons. South Australian Register, Monday 3 December 1877 p 5; An earthquake, marked by two distinct shocks, is reported as having occurred at Mait- land between 1 and 3 o'clock on Saturday morning, December 1. Several gentlemen who were staying that night at Driscoll's Hotel describe the shocks as being very distinct, and without hesitation agree as to the cause of the motion. The South Australian Advertiser, Wednesday 5 December 1877 p 4*



The Australian Star,
Saturday 8 December 1877
Some of the light sleeping residents of Maitland were conscious of the shock of an earthquake on the morning of December 1.

115 | TANUNDA EARTHQUAKE, SOUTH AUSTRALIA, 10 December 1877

Date 10 December 1877

Time 0200 UTC

Location 34.5°S, 138.9°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

Tanunda, Monday December 10. Two rather severe shocks of earthquake were felt here at half-past 12 o'clock to-day. The direction of the shocks were from west to east. South Australian Register, Tuesday 11 December 1877 p 5

116 | LAURA EARTHQUAKE, SOUTH AUSTRALIA, 3 March 1878

Date 3 March 1878

Time 1630 UTC

Location 17.6°S, 143.2°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

Laura, March 4. A sharp shock of an earthquake was felt here at 3 o'clock this morning. South Australian Register, Tuesday 5 March 1878 p 5

117 | FINNISS EARTHQUAKE, SOUTH AUSTRALIA, 26 April 1878

Date 26 April 1878

Time

Location 35.3°S, 138.9°E

Magnitude

References

Six slight earthquake shocks were felt at the Finniss on Friday last, and led some of the residents to ask whether the Russians were storming the colony. South Australian Register, Monday 29 April 1878 p 4; Sir — A paragraph in the Register this morning refers to shocks of earthquakes noticed at the Finnias on Friday, but it does not state the hout at which they occurred. In Adelaide early on Saturday morning, prooably between 1 and 3, I was awakened by a sudden shock to the window-sashes in my house, as if a squall had suddenly struck them. A very short time after, perhaps a few minutes, the same thing was repeated, the impression on my mind this time being that heavy guns were being fired at a distance, as when the Prince arrived among us and the nine guns were fired on the Park Lands. I have a faint impression of a third shock of the same kind and wondering that the sashes shook without other evidences of wind outside. It might be interesting to obtain notices of tha same phenomenon from various parts of tho country, noting as carefully as possible tho hour. I am, Sir, kc, F. W. C. Wakefield-street east, April 29, 1878. [Our correspondent at the Finniss states that the shocks were noticed between 8-50 and 9-54 a.m.— Ed.] South Australian Register, Tuesday 30 April 1878 p 6

118 | CLARE EARTHQUAKE, SOUTH AUSTRALIA, 11 June 1878

Date 11 June 1878

Time 0038 UTC

Location 33.8°S, 138.6°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

The Australian Star,
Saturday 15 June 1878

At eight minutes past 10 o'clock on Tuesday morning the shock of an earthquake was distinctly heard and felt by a number of persons in Clare. The sound was like the rumbling of a waggon in motion, and the shock was so powerful as to cause everything movable to shake and sway to and fro.

STRATHALBYN, June 13,About the middle of the day there was a slight shock of earth quake, followed immediately by a loud clap of thunder. South Australian Chronicle and Weekly Mail, Saturday 15 June 1878 p 4

References

VOLS-97;strong shock felt; Clare, June 11. A severe shock of earthquake was felt here this morning at 10 o'clock. The South Australian Advertiser, Wednesday 12 June 1878 p 5 ; A slight shock of earthquake was felt at Strathalbyn about midday on Wednesday. June 12. The South Australian Advertiser, Friday 14 June 1878 p 4 ; HOYLETON, June 11. A very distinct shock of an earthquake was felt about two miles north-west of this township yesterday morning at a few minutes past 10 o'clock. The sound resembled a wagon in motion, and the rails in a fence and stable were noticed to shake. The vibration lasted a few seconds, and the shock appeared to be very severe. South Australian Register, Saturday 15 June 1878 Supplement: SUPPLEMENT TO THE SOUTH AUSTRALIAN REGISTER. p 1 ; Blyth June 12A rather severe shock of an earthquake, lasting several seconds, was felt here yesterday morning shortly before 10 o'clock, the sound accompany- ing it resembling artillery on the march, and travelling in an easterly direction. South Australian Register, Saturday 15 June 1878 Supplement: SUPPLEMENT TO THE SOUTH AUSTRALIAN REGISTER. p 1; A violent sliock of earthquake was felt at Clare on Tuesday morning, shaking buildings and causing furniture, &c., to rattle in the rooms. Border Watch, Saturday 15 June 1878 p 2; CLARE, June 12. On Tuesday morning, at 10 o'clock, a severe shock of earthquake was felt, the earth trembling with a noise like distant thunder. Some of the inhabitants ran out of doors thinking an accident might occur. South Australian Chronicle and Weekly Mail, Saturday 15 June 1878 p 4;*

119 | WAUKARINGA EARTHQUAKE, SOUTH AUSTRALIA, 4 July 1878

Date 4 July 1878

Time 0830 UTC

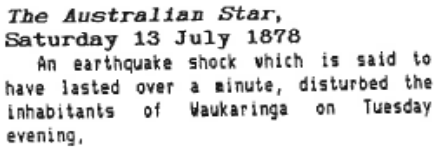
Location 32.1°S, 140.9°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity

I_0: 2.5 gives ML 2.8 ± 0.5



The Australian Star,
Saturday 13 July 1878
An earthquake shock which is said to have lasted over a minute, disturbed the inhabitants of Waukaringa on Tuesday evening.

References

VOLS-98;slight tremor in the evening; A correspondent, writing from Waukaringa under date July ti, says : — ' On Tuesday, the 4th instant, at about 7 o'clock in the evening we had a smart shock of an earthquake. It lasted about one minute and a quarter, and it seemed to be to the south of us or along the Murray. It made a great noise, something like distant artillery. People and horses were startled, and the galvanized iron bouses rattled as though shaken by a violent storm.' South Australian Register, Thursday 11 July 1878 p 5; A correspondent writing from Mattawarrungala on July 15, says :— "On Friday week last, July 5, I was sitting with a friend in a room at Barratta Head Station, quietly talking, when we both heard a loud rumbling noiee as though a heavily laden trap was being rapidly driven up to the station. I remarked 'There's a buggy arrived.' We then walked down to the men's hut under die full impression that visitors had arrived. There we found that die mysterious sound had brought out all die men from die kitchen to learn itn cause, which I at once attributed to an earthquake. Sub sequent enquiries in die district have quite established that idea. The sound apparently travelled northwards from die south, com mencing with a low rumble and again with a loud abrupt noise just as though a tzap had been suddenly stopped. It was heard distinctly at Minburra, and at Couch's station, near Mount Victor, also at Mattawarrangala. At the latter place it was taken to be the arrival a. vehicle of some kind or other. Carnamona Station. The South Australian Advertiser, Thursday 18 July 1878 p 4*

120 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 23 July 1878

Date 23 July 1878

Time 2115 UTC

Location 30.8°S, 138.4°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

The shock of an earthquake has been felt at the Blinman. July ' 23-— "A sharp shock of earthquake was felt this morning at 8.45 am., lasting about one minute, and travelling from north to south. It made the house shake and the windows and verandah rattle. It was like the reverberations of thunder very close." The South Australian Advertiser, Wednesday 24 July 1878 p 4; MOUNT BRYAN EAST, AUGUST 5. The shock of an earthquake was felt here on Monday last about half-past one. The sound was like distant thunder. Burra Record (SA : 1878 - 1954) Friday 9 August 1878 p 3 ;

121 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 7 August 1878

Date 7 August 1878

Time 2115 UTC

Location 30.8°S, 138.4°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

The shock of an earthquake was felt at Blinman August 7 at 8h. 45m. a.m. for about a minute, extending from north to south. South Australian Register, Thurs 8 August 1878 p 6

122 | BURRA EARTHQUAKE, SOUTH AUSTRALIA, 22 August 1878

Date 22 August 1878

Time 0250 UTC

Location 35.58°S, 149.23°E

Magnitude 2.7 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5
Radius of Perceptibility R_p: 6km gives ML 2.6 ± 0.7

References

Burra. August 22, Two shocks of earthquake, were felt today at places wide apart on the Koonoona Run. South Australian Register, Friday 23 August 1878 p 6 ; Earthquake.— The shock of an earthquake was felt by the residents of Farrell's Flat on Thursday morning, August 22, at 20 minutes past 7, its direction being from north to south. South Australian Register, Friday 23 August 1878 p 4

123 | YARROWIE EARTHQUAKE, SOUTH AUSTRALIA, September 1878

Date September 1878

Time

Location 33.18°S, 138.5°E

Magnitude 2.5 ML

Calculating magnitude

Maximum Intensity I_0: 2 gives ML 2.5 ± 0.5

References

A slight shock of earthquake was felt at Yarrowie, in the North, recently (about a week ago). Border Watch, Wednesday 2 October 1878 p 3

124 | ANLABY EARTHQUAKE, SOUTH AUSTRALIA, 12 January 1879

Date 12 January 1879

Time 0645 UTC

Location 34.1°S, 138.9°E

Magnitude 3.1 ML

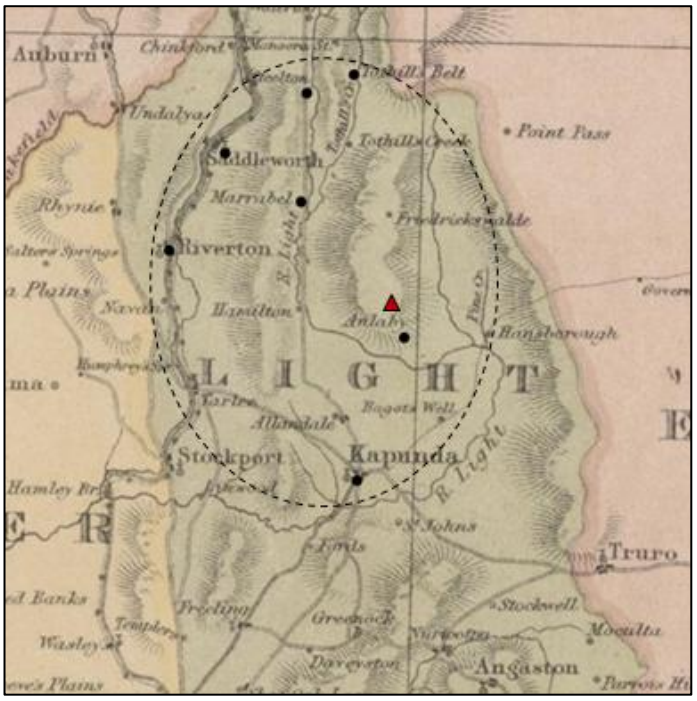
▲ Epicentre (or estimate)
III Zone intensity designation

Calculating magnitude

Maximum Intensity
I_0: 3 gives ML 3.1 ± 0.5
Radius of Perceptibility
R_p: 15km gives ML 3.1 ± 1

References

Kapunda, January 13. On Sunday evening at 5.15 oclock there was the shock of an earthquake at Anlaby. It wis not violent, but the vibrations were rapid, »pd shook the houses. It lasted six seconds, and the waves travelled from north-east to south west : the rambling was like low thunder. South Australian Register, Tuesday 14 January 1879 p 5;



Riverton, Jan 14. On Sunday afternoon, about twenty minutes past 5, a slight shock of an earthquake was felt near here. It was sufficiently violent to cause a commotion among the crockery and lasted for several seconds. South Australian Register, Thursday 23 January 1879 Supplement: SUPPLEMENT TO THE SOUTH AUSTRALIAN REGISTER p 1

Marrabel we learn that on Sunday, the 12th instant, two shocks of an earthquake were distinctly felt there. The first and most palpa ble occurred about ten minutes past 5 p.m. It set med to pasa from north to south, and made the floors and doors tremble as well as the iron roofs of some outbuildings. The second sheck was Eiuch slighter, and happened at a few ir mates past 9 p.m. The sky at the time was perfectly clear, and a south-east brrazo was blowing. South Australian Register, Tuesday 14 January 1879 p 4; Hamilton, jan 13. — On Sunday, January 12, & severe shock of an earth quake ni felt here at about a quarter past 5 pm. It lasted from three to five seconds, and seemed to travel north-east. It was felt for several miles around.The South Australian Advertiser, Friday 17 January 1879 p 7;

SADDLEWORTH, January 15. I have met with several persons who ex- perienced shocks of an earthquake on Sunday last at the following places:- Tothill's Creek, Tothill's Belt, Pancharpoo, Steelton, Coghill's Creek, and on railway near Saddleworth. The direction was from south-east to north-west, and the shocks were accompanied with rumbling noise like thunder and sensible vibration of the earth, which caused crockery in houses to rattle and furniture to shake. The South Australian Advertiser, Friday 17 January 1879 p ; Slight shocks of earthquake were felt at Kapunda and Marrabel on the evening of the 13th inst. South Australian Register, Friday 17 January 1879 Supplement: SUPPLEMENT TO THE SOUTH AUSTRALIAN REGISTER. p 1;

125 | SAINT'S STATION EARTHQUAKE, SOUTH AUSTRALIA, 5 March 1879

Date 5 March 1879

Time 0150 UTC

Location 34.16°S, 138.33°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

A correspondent writing from Saint's Station [near Balaklava] on March 5 says :— ' A slight shock of an earthquake was felt here to-day at about twenty minutes past 12 o'clock. The noise accompanying it resembled distant thunder. The day was hot and close, with a few clouds; wind west. The shock lasted about five minutes.' South Australian Chronicle and Weekly Mail, Saturday 8 March 1879 p 4

126 | WIRREANDA EARTHQUAKE, SOUTH AUSTRALIA, 4 April 1879

Date 4 April 1879

Time 0300 UTC

Location 32.03°S, 138.49°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

WIRREANDA. April 7. On Friday last two distinct shocks of earthquake were felt in different parts of the hundred, the first at about 10.30 a.m. It was also felt at about the same time at Yednalue. The second shock occurred about twenty minutes later, and was more severe than the first. The houses shook so decidedly that several persons cleared out, expecting something very much mote severe to follow. South Australian Register, Wednesday 16 April 1879 Supplement: SUPPLEMENT TO THE SOUTH AUSTRALIAN REGISTER p 2

127 | YADLAMALKA EARTHQUAKE, SOUTH AUSTRALIA, 18 April 1879

Date 18 April 1879

Time 0430 UTC

Location 32.03°S, 137.89°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

A correspondent of the Port Augusta Dispatch writing from Yadlamalka says that a shock of an earthquake was felt there on Saturday, April 19, at 3 pm. The shock, if any, could only have been a slight one, as it was not felt at Mount Eyre, which is but 20 miles away, but singularly enough the people at the latter place heard what appeared to be the rumbling of thunder at the same time, although there was not the sign of a cloud in the sky. The South Australian Advertiser, Tuesday 6 May 1879 p 4

128 | GUMBOWIE EARTHQUAKE, SOUTH AUSTRALIA, May 1879

Date May 1879

Time 0800 UTC

Location 33.06°S, 138.86°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

"A severe shock of an earthquake was,' writes our Gumbowie correspondent on May 8, " felt here last evening about half-past 6 p.m. The sound, which was very loud, lasted about 30 seconds, and seemed to be travelling from east to west. The South Australian Advertiser, Friday 9 May 1879 p 4

129 | BALDINA EARTHQUAKE, SOUTH AUSTRALIA, 22 June 1879

Date 22 June 1879

Time

Location 33.69°S, 139.04°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 2.5 gives ML 2.8 ± 0.5

References

We are informed that on Sunday, June 22, a shock of an earthquake was felt at Baldin, the tremor appearing to run from North to South. Burra Record (SA : 1878 - 1954) Friday 4 July 1879 p 2

130 | TWO WELLS EARTHQUAKE, SOUTH AUSTRALIA, 25 August 1879

Date 25 August 1879

Time 1530 UTC

Location 34.28°S, 138.34°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 2.5 gives ML 2.8 ± 0.5

References

Two Wells, August 30. On Wednesday morning last at about 2 a.m . I am informed, a shock of earthquake was distinctly felt. This is about the only thing thing that has occurred for some time to disturb the monotony of the township. South Australian Register, Monday 1 September 1879 p 7

131 | CLARE EARTHQUAKE, SOUTH AUSTRALIA, 30 November 1879

Date 30 November 1879

Time 0030 UTC

Location 33.82°S, 138.55°E

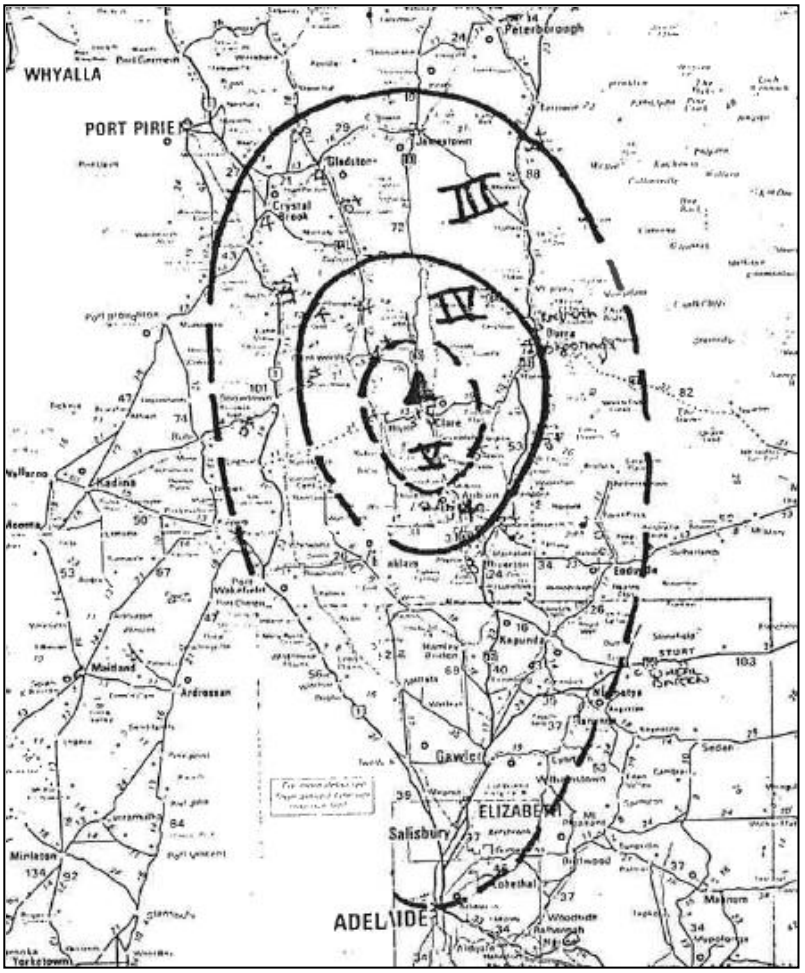
Magnitude 4.2 ML

Calculating magnitude

Maximum Intensity
I_0: 5.5 gives ML 4.5 ± 0.7
Radius of Perceptibility
R_p: 78km gives ML 4.3 ± 1.6
Radius of Intensity
IV: 34km gives ML 3.9 ± 0.2

References

VOLS-99m; SAEQCat;



132 | GAWLER EARTHQUAKE, SOUTH AUSTRALIA, 21 December 1879

Date 21 December 1879

Time

Location 34.64°S, 138.77°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

VOLS-105*;slight shock felt;

Shock of an Earthquake.— During the storm which passed over Gawler on Sunday a shock of an earthquake was distinctly felt at a quarter past 11 o'clock a.m. It lasted for a second or two, and travelled in an easterly direction, completely shaking the doors and windows of the houses, and the crockery on the shelves. South Australian Register, Tuesday 23 December 1879 p 4

The Australian Star,
Saturday 27 December 1879
EARTHQUAKE - On Sunday last Gawler was visited by an earthquake, which lasted about 2 seconds,

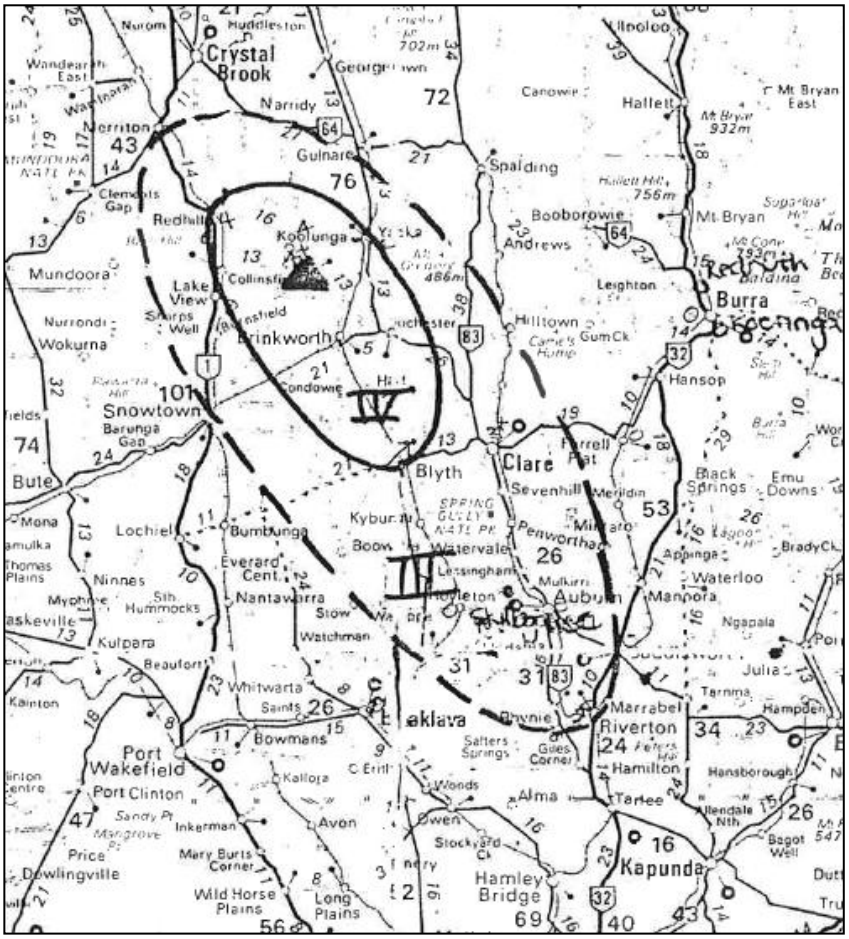
133 | KOOLUNGA EARTHQUAKE, SOUTH AUSTRALIA, 25 January 1880

Date 25 January 1880

Time 1130 UTC

Location 33.62°S, 138.37°E

Magnitude 3.5 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 20km gives ML 3.3 ± 1.1
Radius of Intensity
IV: 16km gives ML 3.5 ± 0.1

References

VOLS-106m; SAEQCat;

134 | PORT AUGUSTA EARTHQUAKE, SOUTH AUSTRALIA, 17 February 1880

Date 17 February 1880

Time 1310 UTC

Location 32.73°S, 137.92°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

A smart shock of an earthquake was felt at Port Augusta on Tuesday night, February 17 at about 11.40pm. The local paper says " "the shock felt as if there were two dirtinct vibrations following closely upon each other, and the 'wave of motion appeared to be nearly in the direction, of east and wast. - This is the fourth shock of the kind which has been experienced during the last 24 years." South Australian Register, Tuesday 24 February 1880 p 4

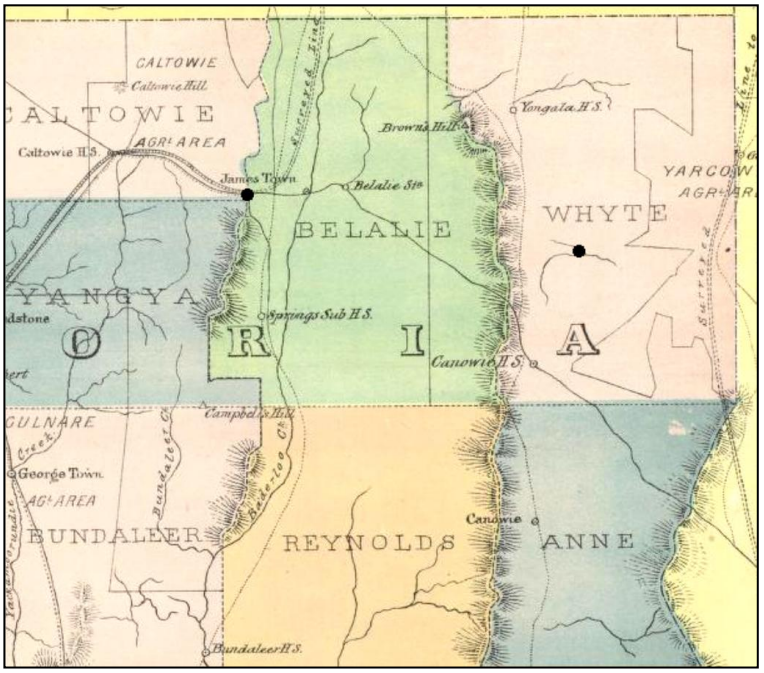
135 | JAMESTOWN EARTHQUAKE, SOUTH AUSTRALIA, 2 March 1880

Date 2 March 1880

Time 1830 UTC

Location 33.27°S, 138.65°E

Magnitude 3.1 ML



Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-109*;shock felt;

Yarrowie. March 3. Two distinct shocks of earthquake following close upon ore another were felt this morning about 5 o'clock. They appear to have travelled from south-east to north-west. Articles of furniture and windows were shaken so much as to awaken people.
Jamestown, March 3. A smart shock of earthquake was felt at 4 o'clock this morning at Mannanarie, by which the houses were violently shaken. The move ment seemed to be from west to east. South Australian Register, Thursday 4 March 1880 p 5; Map 1876

136 | WONOKA EARTHQUAKE, SOUTH AUSTRALIA, March 1880

Date March 1880

Time 1130 UTC

Location 31.75°S, 138.33°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

WONOKA, March 29. A slight shock of earthquake was felt here on Thursday, about 10 o'clock p.m.. It was accompanied by a low rumbling noise resembling the sound of distant thunder. South Australian Chronicle and Weekly Mail, Saturday 3 April 1880 p 26

137 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 16 April 1880

Date 16 April 1880

Time

Location 34.3°S, 138.92°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

VOLS-110*;shock felt in the morning;

EUDUNDA, April 19.On Saturday last two slight shocks of an earthquake were felt here. South Australian Register, Wednesday 21 April 1880 p 7; The Kapunda Herald states that on the forenoon of Sunday, April 18, two shocks of earthquake were felt in that neighborhood, travelling from north to south. The first shock was at about 10 o'clock, and an interval of three minutes occurred between that and the second shock, which was the heavier of the two. South Australian Chronicle and Weekly Mail, Saturday 24 April 1880 p 6

138 | LAKE ALEXANDRINA EARTHQUAKE, SOUTH AUSTRALIA, 28 April 1880

Date 28 April 1880

Time 0930 UTC

Location 35.33°S, 139.25°E

Magnitude 4.2 ML

Calculating magnitude

Maximum Intensity I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility R_p: 68.5km gives ML 4.2 ± 1.5

References

VOLS-111m; SAEQCat;

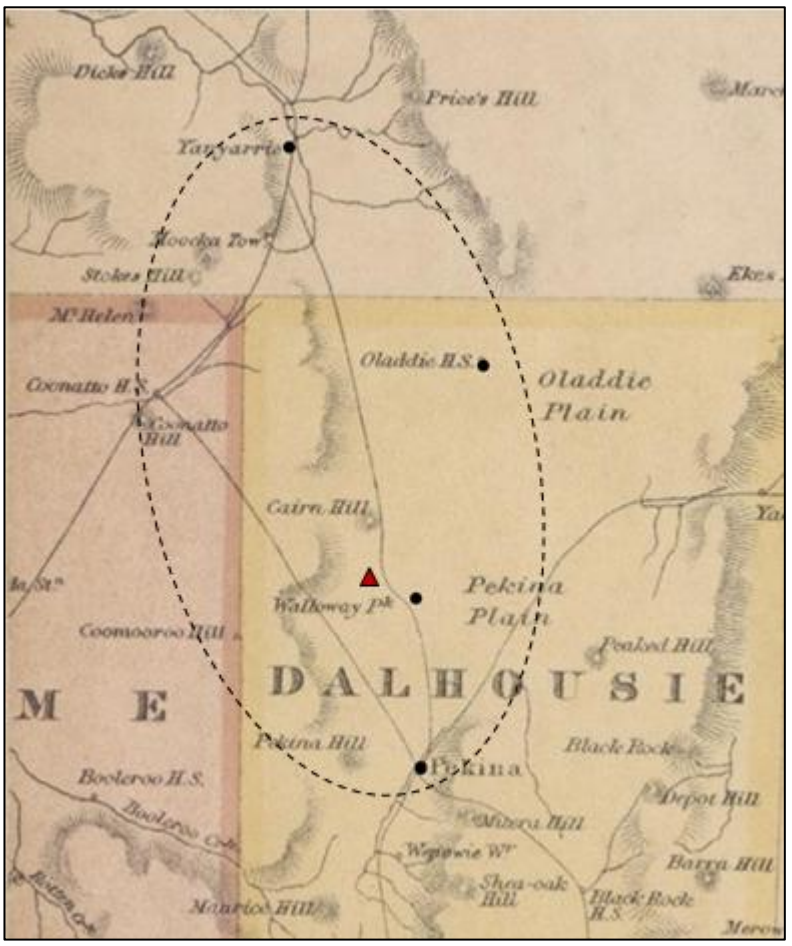
139 | ORRoROO EARTHQUAKE, SOUTH AUSTRALIA, 4 August 1880

Date 4 August 1880

Time 1130 UTC

Location 32.58°S, 138.64°E

Magnitude 3.9 ML



▲ Epicentre (or estimate)

III Zone intensity designation

Calculating magnitude

Maximum Intensity
I_0: 4.5 gives ML 3.9 ± 0.6
Radius of Perceptibility
R_p: 40km gives ML 3.8 ± 1.3

References

ORRoROO (via Hallett), August 6. A severe shock of earthquake was felt here on Wednesday evening, at 10 o'clock, causing uo little excitement and wonder. It lasted fully a second and then died away iu an easterly direc tion. Doors and crockery were shaken con tiderably by the shock. The South Australian Advertiser, Saturday 7 August 1880 p 5;

A correspondent writes with respect to a shock ef earthquake felt in the North, and mentioned iu our telegraphic columns:—On the evening of Augurt 4 the inhabitants of Orroroo and neighborhood were very much startled by feeling a most distinct shock of earthquake, which seemed to proceed from the direction of south-east and travel towards the north-west. I myself saw whilst visiting at a house a short distance out of the township a sewing-machine heave and shake as if some in visible hand was at work on it. Mr. Moddy, J P., who lives at the Pekina Old Head Station, also informs me that he felt it, and that he at first thought the house was going to fall. This is not the nrat shock we have had by a great many. The South Australian Advertiser, Saturday 7 August 1880 p 4; OLADDIE, Aug 8. A smart shook of earthquake was felt here on Wednesday night which lasted for several seconds. The South Australian Advertiser, Saturday 14 August 1880 p 11; YANYARRIE, August 10. We had a very severe shock of earth quake on the night of the 4th. South Australian Chronicle and Weekly Mail, Saturday 14 August 1880 p 4

140 | YARROWIE EARTHQUAKE, SOUTH AUSTRALIA, 5 August 1880

Date 5 August 1880

Time

Location 33.18°S, 138.5°E

Magnitude

References

YARROWIE, August 9. On Thursday night, at 10 o'clock, a shock of an earthquake was felt and noticed by the navvies working on the road near Morris's Look-out. On Friday morning at about 11 o'clock similar and strong symptoms were observed and seemed to come out of the hills, causing vibration and a low rumbling sound. The South Australian Advertiser, Tuesday 10 August 1880 p 5

141 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 19 August 1880

Date 19 August 1880

Time 0530 UTC

Location 30.81°S, 138.4°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity

I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-115;severe shock; We were somewhat startled at about 4.30 this afternoon by two shocks of earthquake following one another vary quickly. The rambling ran from north to south. The South Australian Advertiser, Friday 20 August 1880 p 5; Blinman, August 20. At 3 o clock yesterday a severe shock of earthquake, accompanied with a noise like that produced by a heavy railway goods-train, was felt. The movement apparently travelled from west to'east, causing no small commotion in the blacks' camp, and also among crockery in the houses. South Australian Register, Saturday 21 August 1880 p 5*

142 | BLACK SPRINGS EARTHQUAKE, SOUTH AUSTRALIA, 24 October 1880

Date 24 October 1880

Time 1330 UTC

Location 33.93°S, 138.94°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

Black Springs, Oct 25. I am informed that several persons in the neighborhood felt the shock of an earthquake last night about 12 o'clock. South Australian Chronicle and Weekly Mail, Saturday 30 October 1880 p 23

143 | PORT VICTOR EARTHQUAKE, SOUTH AUSTRALIA, 13 November 1880

Date 13 November 1880

Time 0500 UTC

Location 35.55°S, 138.62°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

PORT VICTOR, November I5. A slight shock of earthquake was felt here on Saturday afternoon, at about half-past 3 o'clock. It lasted a, few seconds, and travelled in a south easterly direction. The South Australian Advertiser, Tuesday 16 November 1880 p 5; PORT VICTOR, November 18. A severe earthquake wave travelling from east to west was experienced here on Saturday last ; some persons were so much alarmed as to run out of their houses to see what caused the shaking and noise, supposing it to be something connected with the breakwater works. South Australian Register, Saturday 20 November 1880 Supplement: SUPPLEMENT TO THE SOUTH AUSTRALIAN REGISTER. p 1

144 | GLADSTONE EARTHQUAKE, SOUTH AUSTRALIA, 25 December 1880

Date 25 December 1880

Time 1307 UTC

Location 31.06°S, 152.77°E

Magnitude 2.5 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 2 gives ML 2.5 ± 0.5

References

Gladstone, Dec 26. A slight shock of earthquake was felt at 11.37 last night. There were no clouds in the sky at the time, and everything was still. The wind was from the north. The shock was felt for two minutes and a few seconds very distinctly, and travelled in an easterly and westerly direction. The South Australian Advertiser, Monday 27 December 1880 p 5

145 | WILLIAMSTOWN EARTHQUAKE, SOUTH AUSTRALIA, 13 March 1881

Date 13 March 1881

Time 0040 UTC

Location 34.6°S, 138.91°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

WILLIAMSTOWN, March 14. A severe shock of earthquake was felt here Sunday about ten minutes to eleven o'clock in the morning. Several houses were violently shaken. The South Australian Advertiser, Tuesday 15 March 1881 p 5

146 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 30 May 1881

Date 30 May 1881

Time 0145 UTC

Location 34.3°S, 138.92°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 2.5 gives ML 2.8 ± 0.5

References

KUPUNDA, May 30. A slight shock of earthquake was felt here at about a quarter-past 12 noon to-day. The rumbling lasted a quarter of a minute, a faint tremor also being felt. The South Australian Advertiser, Tuesday 31 May 1881 p 5; A somewhat severe shook of earthquake was felt at the northern end of Kapanda at a quarter past I2 this morning, accompanied by a load rambling noise, which lasted nearly a minute, travelling from south-west to north-east. South Australian Register, Tuesday 31 May 1881 p 6

147 | MERRITON EARTHQUAKE, SOUTH AUSTRALIA, 5 August 1881

Date 5 August 1881

Time 1500 UTC

Location 33.43°S, 138.15°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

MERRITON, August 9. A shock of earthquake was felt here on Saturday morning between 1 aud 2 o'clock. The windows of the houses were violently shaken, causing some consternation as to the cause. South Australian Weekly Chronicle, Saturday 13 August 1881 p 21

148 | PETERSBURGH EARTHQUAKE, SOUTH AUSTRALIA, 29 August 1881

Date 29 August 1881

Time 1345 UTC

Location 33.21°S, 138.96°E

Magnitude 3.9 ML

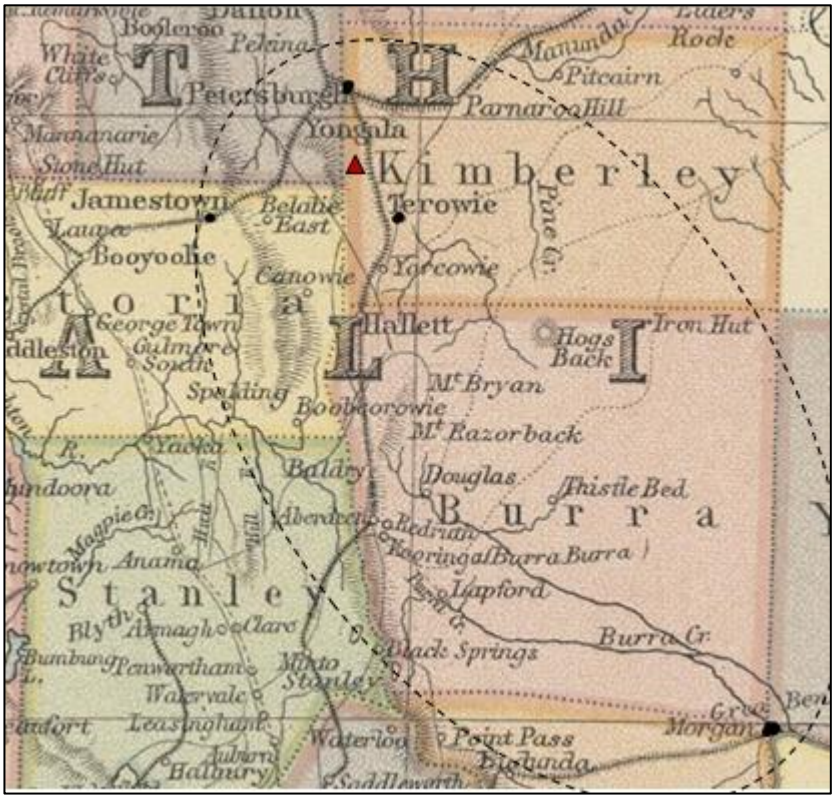
▲ Epicentre (or estimate)
III Zone intensity designation

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 70km gives ML 4.2 ± 1.5

References

TEROWIE, August 30. Slight shocks of earthquake were felt here about midnight yesterday. The vibration apparently travelled from south-east to north-west. The South Australian Advertiser, Wednesday 31 August 1881 p 5;



Map 1893

JAMESTOWN, August 30. A shock of earthquake was felt here last night. The South Australian Advertiser, Wednesday 31 August 1881 p 5; PETERSBURG, August 30. At a quarter past 12 this morning a distinct shock of earthquake was felt in this township. The first intimation was very sudden, and some describe it as being like an explosion, the rumbling gradually dying away in the distance. Nearly all were roused from their sleep by the sudden noise and rattling of windows. No damage was done. PETERSBURGH Augcrt 30. A. very severe shock of earthquake was felt here about 12 o'clock last night. It was travel ling from east to west, and its effect was to shake the windows and anything movable. TEROWIE. Auzust 30. A rather severe shock of earthquake was ex perienced here at about midnight, the direction being apparently from south to north. The shock wm to severe u to ctute the crockery od several shelves to rattle. The South Australian Advertiser, Wednesday 31 August 1881 p 5; MORGAN, Augnst 31. There was a severe shock of earthquake felt here on the night of the 29th, it' seems to have been travelling north and south, it lasted several seconds. Burra Record (SA : 1878 - 1954) Friday 2 September 1881 p 2; PETERSBURG, SEPTEMBER 1. We had a smart shock of earthquake about midnight on Monday. From reports I have heard I think it was felt most severely in this township, but no damage was done.;

149 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 6 November 1881

Date 6 November 1881

Time 0045 UTC

Location 30.81°S, 138.4°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

BLINMAN. Nov 18. On Sunday, November 6, a slight shock of earthquake was felt here at about 11 15 p.m., the rumbling of wbieh lasted fully two minutes, but the vibration was not violent. This is tha third or fourth sbock that has been felt here within tbe last two years. The South Australian Advertiser, Monday 28 November 1881 p 7

150 | HAWKER EARTHQUAKE, SOUTH AUSTRALIA, 10 November 1881

Date 10 November 1881

Time

Location 35.26°S, 149.08°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

HAWKER, November 15. Last Thursday week a smart shock of earthquake m felt here, and over a large area of country. If reliable data could be obtained u to the direction at various stations, it would be interesting to find out the approximate centre of disturbance. More than three shocks have been felt this year, and it would almost seems as if the occurrence were becomlng more frequent. South Australian Register, Friday 18 November 1881 p 7

151 | AMYTON EARTHQUAKE, SOUTH AUSTRALIA, 11 January 1882

Date 11 January 1882

Time 1520 UTC

Location 32.6°S, 138.33°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

Amyton January 12, says : — ' A severe shock, of an earthquake was ex perienced here this morning about 1.5 a.m. It was felt at the Amyton Post-Office; it literally shook the house. It is somewhat strange that last week an earthquake was felt at Morchard, a day or so after at Willowie, and now here. I say it is strange, because it seems on the move direct north west.' South Australian Register, Tuesday 17 January 1882 p 4

152 | BENDLEBY EARTHQUAKE, SOUTH AUSTRALIA, 10 April 1882

Date 10 April 1882

Time 0730 UTC

Location 32.35°S, 138.72°E

Magnitude 4.3 ML

Calculating magnitude

Radius of Perceptibility R_p: 80km gives ML 4.3 ± 1.6

References

BENDLEBY, April 14. The shock of an earthquake was felt here on Monday evening last about 6 o'clock. South Australian Weekly Chronicle, Saturday 22 April 1882 p 4; CLARE, April 26. A slight shock of an earthquake was experienced here on Monday last. Burra Record (SA : 1878 - 1954) Friday 28 April 1882 p 3

153 | STRATHALBYN EARTHQUAKE, SOUTH AUSTRALIA, 18 March 1882

Date 18 March 1882

Time 1630 UTC

Location 35.27°S, 138.9°E

Magnitude 3.2 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 8km gives ML 2.7 ± 0.9

References

VOLS-116*; SAEQCat;

A slight shock of earthquake edperienced at Strathalbyn and for several mites round at about 2 o'clock on Sunday morning last. At the Terminus Hotel some of the occupants felt a very palpable oscillation, one of them stating that his bed seemed to rise and fall under him. A movement was also perceptible at and near Payneham, though it was not severe enough to cause much comment. The South Australian Advertiser, Tuesday 21 March 1882 p 4

154 | HARDWICKE BAY EARTHQUAKE, SOUTH AUSTRALIA, 12 May 1882

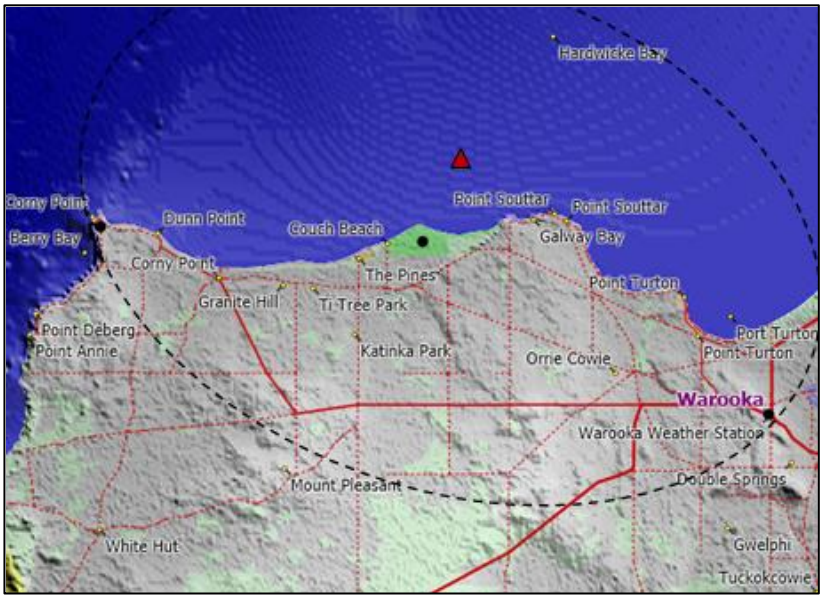
Date 12 May 1882

Time 0515 or 0545 UTC

Location 34.9°S, 137.19°E

Magnitude 3.3 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity
I_0: 3.5 gives ML 3.3 ± 0.6
Radius of Perceptibility
R_p: 20km gives ML 3.3 ± 1.1

References

VOLS-119*;severe shock; McCue 2012;

WAR00KA.May 13. A severe shock or an earthquake was felt in Warooka and neighbourhood at a quarter to 3 p.m. yesterday Friday. It travelled in a south easterly direction. South Australian Register, Monday 15 May 1882 p 7; The keeper of Corny Point lighthouse reported that an earthquake was felt there on May 12. It lasted four seconds, the lighthouse and cottages being severely shaken. The South Australian Advertiser, Friday 19 May 1882 p 6; Correspondents at Corney Point and Levers report a shock of earthquake on Friday May 12. A gentleman writing from the first mentioned place, says: — 'On Fri day, about 3 pm., this locality was visited by a slight shock of an earthquake, lasting for a few seconds. The light-tower shook per- ceptibly, and' the furniture m the keepers' house was for a time unsettled. The wind was blowing very strong from the west, and I at first thought it was thunder, as heavy weather was coming from the west, but the perceptible shaking of the ground dispelled: that notion.' Our correspondent at Levens Says :— 'The shock was felt at 2.30 in the afternoon, apparently trawelling from west to east. It lasted about two minutes, was ac- companied by a dull rumbling sound, and shook crockery and houses slightly in its course.' South Australian Weekly Chronicle, Saturday 20 May 1882 p 11

155 | KADINA EARTHQUAKE, SOUTH AUSTRALIA, 16 June 1882

Date 16 June 1882

Time 1330 UTC

Location 34.02°S, 137.66°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

Several gentlemen have informed the Wallaroo Times that on Friday night, June 16, or early on Saturday morning, June 17, they distinctly felt a shock of earthquake at Kadina. The rambling sound seemed to be travelling from south-east to northwest. The South Australian Advertiser, Monday 26 June 1882 p 4

156 | HAWKER EARTHQUAKE, SOUTH AUSTRALIA, 25 July 1882

Date 25 July 1882

Time 1910 UTC

Location 35.26°S, 149.07°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 2.5 gives ML 2.8 ± 0.5

References

HAWKER. July 25. A sharp shock of an earthquake was felt here this morning about 5.40, accompanied by a rumbling sound. South Australian Register, Wednesday 26 July 1882 p 6

157 | MAGILL EARTHQUAKE, SOUTH AUSTRALIA, 18 September 1882

Date 18 September 1882

Time 0730 UTC

Location 34.52°S, 138.63°E

Magnitude 3.5 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4.5 gives ML 3.9 ± 0.6
Radius of Perceptibility R_p: 16.3km gives ML 3.1 ± 1.1

References

VOLS-119m; SAEQCat;

158 | KINGSTON EARTHQUAKE, SOUTH AUSTRALIA, 24 October 1882

Date 24 October 1882

Time 0000 UTC

Location 36.83°S, 139.85°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-125*; SAEQCat; slight shock; in Bierbaum 1994;

A slight shock of earthquake was both heard and felt by many of the residents of Kingston late on Tuesday night, Oct. 24. It was a rumbling noise, such as a vehicle might produce in the streets, accompanied with a vibration of walls, &c, only that it was a little louder. South Australian Weekly Chronicle, Saturday 4 November 1882 p 10

159 | APPILA EARTHQUAKE, SOUTH AUSTRALIA, 16 February 1883

Date 16 February 1883

Time 2000 UTC

Location 33.37°S, 138.46°E

Magnitude 3.8 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 50km gives ML 4 ± 1.4

References

VOLS-126*;slight shock;

APPILA. Febrnarv 17. Several persons resident about three miles from Yarrowie experienced a slight shock of earthquake this morning at about half-past 5. It even awoke sleepers aud made a general rattle, lasting for quite half a minute. At was supposed to have been travelling from south to north. South Australian Register, Monday 19 February 1883 p 7; BLYTH, February 21. A, slight shock of earthquake was felt at 5.45 this evening. It appeared to pass from west to east. The South Australian Advertiser, Thursday 22 February 1883 p 5;

160 | CLARE EARTHQUAKE, SOUTH AUSTRALIA, 21 February 1883

Date 21 February 1883

Time 0813 UTC

Location 33.84°S, 138.58°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 12km gives ML 3 ± 0.9

References

VOLS-127*;severe shock;

CLARE. February 21. A severe shock of earthquake was felt here this evening, about seventeen minutes to 6, .vibrating from south-east to north-west,' and lasting fully thirty seconds. ? Houses were shaken, and crockery and furniture were seen to tremble. South Australian Register, Thursday 22 February 1883 p 5; CLARE, February 22. A slight shock of earthquake was felt yesterday evening, and a number of people noticed it. It appeared to come from the westward. The South Australian Advertiser, Friday 23 February 1883 p 5; CLARE, February 21. A severe shock of earthquake was felt here at 4.45 this afternoon. It passed from south east to north-west, and lasted about 20 seconds. The walls of many of die buildings were shaken with considerable force, and in one business place a small lump of plaster was shaken from die wall. Burra Record (SA : 1878 - 1954) Friday 23 February 1883 p 3 ; SPALDING, February 26. On Wednesday evening, February 21, a severe shock of earthquake was felt in this township. It shook all the crockery on the shelves in the local atore. The rumbling eecmed to be eoine from north-west to south east. South Australian Weekly Chronicle, Saturday 10 March 1883 p 12

161 | LAURA EARTHQUAKE, SOUTH AUSTRALIA, 1 July 1883

Date 1 July 1883

Time

Location 17.61°S, 143.18°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5
Radius of Perceptibility R_p: 9km gives ML 2.8 ± 0.9

References

LAURA, July 2. A smart shock of earthquake was felt early this morning. The vibration was from left to right. The South Australian Advertiser, Tuesday 3 July 1883 p 5; GEORGETOWN. July 4. On Sunday morning some insist that there was an earthquake... the unusual tremor. The South Australian Advertiser, Saturday 7 July 1883 p 7

162 | MOUNT BARKER EARTHQUAKE, SOUTH AUSTRALIA, 7 July 1883

Date 7 July 1883

Time 1338 UTC

Location 35.1°S, 138.7°E

Magnitude 4.2 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility
R_p: 70km gives ML 4.2 ± 1.5

References

SAEQCat; 24/SA/01; Dyster; Malpas 1883; McCue 1975

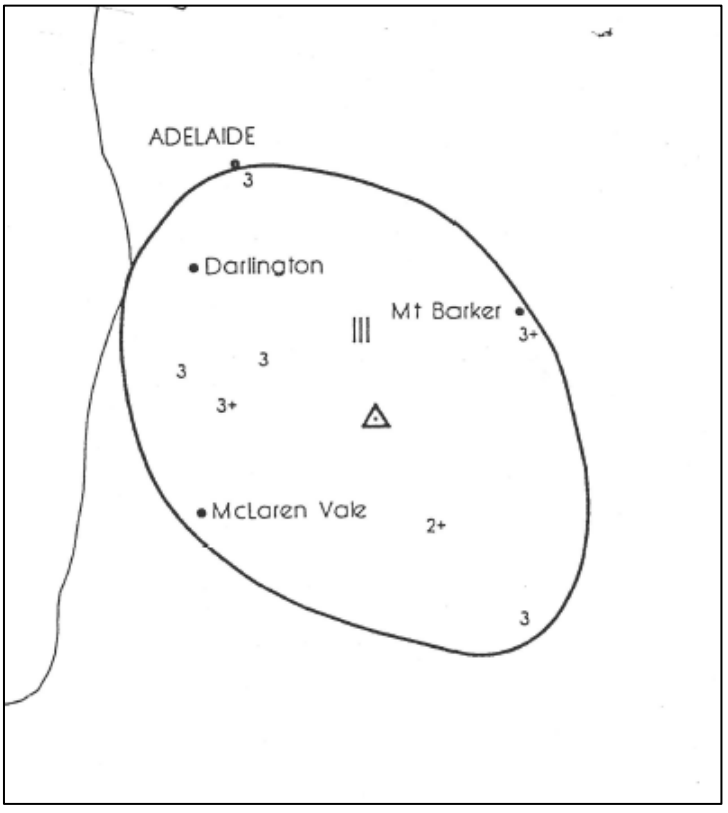
163 | MOUNT BARKER AFTERSHOCK, SOUTH AUSTRALIA, 7 July 1883

Date 7 July 1883

Time 1343 UTC

Location 35.1°S, 138.7°E

Magnitude 3.1 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

SAEQCat; Malpas 1883

164 | PORT AUGUSTA EARTHQUAKE, SOUTH AUSTRALIA, 22 July 1883

Date 22 July 1883

Time

Location 32.47°S, 137.92°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 2.5 gives ML 2.8 ± 0.5

References

PORT AUGUSTA, July 22. A slight shock of eartftquake is reported from sixty miles west by a carter named Simeon McNamara. South Australian Register, Monday 23 July 1883 p 5;

165 | POINT MALCOLM EARTHQUAKE, SOUTH AUSTRALIA, 26 July 1883

Date 26 July 1883

Time

Location 35.51°S, 139.19°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 2.5 gives ML 2.8 ± 0.5

References

Thursday July 26 -Point Malcolm lighthouse, where the shock of earthquake had been recently experienced. There was nothing to lead the engineer to suppose that either the light house or the cottages were at all damaged. South Australian Register, Saturday 28 July 1883 p 7

166 | QUORN EARTHQUAKE, SOUTH AUSTRALIA, 31 July 1883

Date 31 July 1883

Time 0530 UTC

Location 32.34°S, 138.2°E

Magnitude 2.9 ML

Calculating magnitude

Maximum Intensity
$I_{0:}$ 3 gives ML 3.1 ± 0.5
Radius of Perceptibility
R_p: 8km gives ML 2.7 ± 0.9

References

QUORN, August 1. About 7.40 last night a large meteor of unusual brilliancy appeared in the northern heavens, shooting downward in an easterly direction, leaving a bright stream of light in its wake. It was followed in about three minutes by a slight shock of earthquake, with a sound like an explosion, causing bottles and other light articles to rattle, and a slight vibration was felt. South Australian Register, Thursday 2 August 1883 p 7; STEPHENSTON, August 3. A slight shock of earthquake was felt here on Tuesday night, accompanied by a rumbling noise like thunder. The South Australian Advertiser, Saturday 4 August 1883 p 5

167 | MALLALA EARTHQUAKE, SOUTH AUSTRALIA, 4 September 1883

Date 4 September 1883

Time 2030 UTC

Location 34.49°S, 138.63°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

MALLALA September 5. At about 7 o'clock in the morning there was a peculiar noise beard here. Some say it was thunder, and others declare it to have been a shock of earthquake, and that it shook the things in their houses. South Australian Weekly Chronicle, Saturday 8 September 1883 p 22

168 | BENDLEBY EARTHQUAKE, SOUTH AUSTRALIA, 1 November 1883

Date 1 November 1883

Time 0930 UTC

Location 32.35°S, 138.72°E

References

Bendleby, nov 2. —A slight shock of an earthquake was felt here about 8 o'clock on Tuesday evening last. South Australian Weekly Chronicle, Saturday 10 November 1883 p 12

169 | PORT ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 1 February 1884

Date 1 February 1884

Time 1730 UTC

Location 34.84°S, 138.5°E

Magnitude 2.8 ML

References

The shock of an earthquake was felt in the neighborhood of Port Adelaide shortly before four o'clock on the morning of Saturday last. It appeared to be travelling in a north easterly direction. The South Australian Advertiser, Tuesday 5 February 1884 p 4

Calculating magnitude

Maximum Intensity $I_{0:}$ 2.5 gives ML 2.8 ± 0.5

170 | TEROWIE FORESHOCK, SOUTH AUSTRALIA, 29 March 1884

Date 29 March 1884

Time 0330 UTC

Location 33.15°S, 138.87°E

Magnitude 2.8 ML

References

TEROWIE. April 2. Two distinct shocks of earthquake were felt here on Saturday afternoon last, the first at 2 p.m. and the second at 5p.m. They were of very short duration and followed by a rumbling sound. Burra Record (SA : 1878 - 1954) Friday 4 April 1884 p 3;

Calculating magnitude

Maximum Intensity $I_{0:}$ 2.5 gives ML 2.8 ± 0.5

A correspondent at Whyte-Yaroowie sends us the following particulars of the shocks of earthquake experienced at that place on Saturday last :— 'The weather was very close at the time (twenty minutes to 2 o'clock), and so very decided was the circumstance that we all looked at each other, when seated at dinner, to see if any one felt alarmed at a rolling as of heavy stones under our house. The shaking cf the table and things upon it sent a most unpleasant eensation through us, and we immediately thought of Sunda and Ischia. Then there was another and more decided shock, which shook our house more perceptibly, and the neighbours ran out of their houses to see what stones had been thrown, or what heavy cavalcade was passing. South Australian Register, Thurs 3 April 1884 p ; Wonna, April 1 — On Saturday two distinct shocks of earthquake were felt here; the first between 1 and 2 p.m . the second about ten minutes to 5. Both of them shook the houses. The first lastedfor fully one minute, and seemed to travel from north to south. The second lasted about 30 seconds, and appeared to be travelling from a north-westerly direction towards th« southeast. South Australian Weekly Chronicle, Sat 5 April 1884 p 14

171 | TEROWIE EARTHQUAKE, SOUTH AUSTRALIA, March 1884

Date March 1884

Time 0530 UTC

Location 33.15°S, 138.87°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

See Event #170 above describing foreshock and main shock

172 | WALLAROO EARTHQUAKE, SOUTH AUSTRALIA, 14 April 1884

Date 14 April 1884

Time 1930 UTC

Location 35.52°S, 149.08°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 2.5 gives ML 2.8 ± 0.5

References

WALLAROO, April 17. It is reported from the Cocoanut that a distinct shock of earthquake was felt there at 6 o'clock on Tuesday morning. It appeared to be going north-easterly. South Australian Register, Friday 18 April 1884 p 5

173 | WIRRABARA EARTHQUAKE, SOUTH AUSTRALIA, 7 June 1884

Date 7 June 1884

Time 2030 UTC

Location 32.95°S, 138.16°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

WIRRABARA, June 8. The shock of an earthquake was felt at about a quarter to 7 o'clock this morning. The Vibration being very severe was quite perceptible and was accompanied by a loud rumbling noise, which we heard for several second, apparently travelling in a NE direction. The South Australian Advertiser, Monday 9 June 1884 p 5; South Australian Register, Monday 9 June 1884 p 6

174 | LAURA EARTHQUAKE, SOUTH AUSTRALIA, 16 June 1884

Date 16 June 1884

Time 1830 UTC

Location 17.61°S, 143.18°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

LAURA, June 17. The shock of an earthquake was felt here at 5 o'clock this morning. The vibrations were from east to west, and rather more pronounced than a similar shock on Sunday last. The South Australian Advertiser, Wednesday 18 June 1884 p 6; AMYTON. June 16. The shock of earthquake referred to by other correspondents was also distinctly felt here. The rumbling seemed to make the houses creak. South Australian Register, Thursday 19 June 1884 p 3

175 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 18 June 1884

Date 18 June 1884

Time 0628 UTC

Location 30.81°S, 138.4°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity
$I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-128*;strong shock;
Blinman, June 18. — Strong shock earthquake here at two minutes to 4 p.m., travelling N.W. to S.E. Lasted about three seconds.' South Australian Weekly Chronicle, Saturday 21 June 1884 p 11; BLINMAN, JUNE 21. On the afternoon of Wednesday last some excite ment was occasioned here by a severe earthquake which lasted for some seconds. The sensation pro- duced was very much like that felt on board ship when a bad wind blows. The vibration accom- panying tbe noise shook the roofs of the honses and the sound resembled a heavy waggon passing over a weighbridge. These frequent shocks - experienced here, which are invariably in and around the mine, indicate that some mighty force is at work forming perhaps richer ruinerals and grander mines than those yet discovered. South Australian Weekly Chronicle, Saturday 5 July 1884 p 22

176 | PORT PIRIE FORESHOCK, SOUTH AUSTRALIA, 24 June 1884

Date 24 June 1884

Time 1400 UTC

Location 33.09°S, 138.18°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-129*;moderate shock

177 | PORT PIRIE EARTHQUAKE, SOUTH AUSTRALIA, 24 June 1884

Date 24 June 1884

Time 1800 UTC

Location 33.09°S, 138.18°E

Magnitude 4 ML

▲ Epicentre (or estimate)
III Zone intensity designation

Calculating magnitude

Maximum Intensity
$I_{0:}$ 5 gives ML 4.2 ± 0.6
Radius of Perceptibility
R_p: 40km gives ML 3.8 ± 1.3

References

VOLS-129*;severe shock; McCue 2012;

Additional extracts from papers below

GLADSTONE. June 25.This morning, about 3, heavy shocks of earthquake, lasting some fifteen seconds, travelling south-easterly, were distinctly felt in Gladstone and district. South Australian Register, Thursday 26 June 1884 p 6; Wirrabara reports the occurance of a severe shock of earthquake at 5.45 a.m on Wednesday. Telegrams from our own correspondents in other places in the north confirm the statement that a severe shook was experienced. APPILA. June 25. A severe shock of earthquake was felt here shortly before 3 o'clock this morning. It ap- peared to be going westward. The houses were shaken, some people getting out of bed to see what was the matter. It lasted about half a minute.The South Australian Advertiser, Thursday 26 June 1884 p 4; PORT PIRIE. June 25. Two rather severe shocks of earthquake have been felt here, namely, at 11.30 last night and at 3 this morning. They travelled in a northerly direction. The rumbling was like thunder, while the quivering of the buildings and clatter of crockery and windows were considerable. In some places small articles on mantelpieces were moved by the vibration. CALTOWIE. June 25. A severe shock of earthquake was felt here about 3 o'clock this morning. It appeared to travel in a south-easterly direction. PORT GERMEIN. June 25. Early this morning, between 3 and 4, a slight shock of an earthquake was felt here. Several of the windows had a good shaking, but no damage was done. ORRoROO, June 25. A severe shock ot earthquake occurred here this morning about 3 o'clock. It was severe enough to displace several articles in one of the stores, and to wake up the occupants of one of the hotels. The shock travelled from south-west to north-east. Wirrabara :— ' Severe shock of earthquake at 5.45 a.m. to-day.' From several correspondents in Northern townships we have received accounts of an unusually severe shock. Houses are said to have been shaken and articles of furniture were moved, while in one locality the lodgers in an hotel were aroused from their slumbers.The South Australian Register, Thursday 26 June 1884 p 6; Georgetown, June 26. A slight shock of an earthquake was felt here yesterday morning at 3 o'clock.

178 | GLADSTONE EARTHQUAKE, SOUTH AUSTRALIA, 16 October 1884

Date 16 October 1884

Time 1200 UTC

Location 31.05°S, 152.77°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

GEORGETOWN. October 17. A shock of earthquake was felt here on Wednesday night at about half-past 10 o'clock. South Australian Register, Saturday 18 October 1884 p 5; Maitland, oct 20. About half -past 8 a rumbling noise ' was heard, lasting for abotit thirty seconds, causing windows to shake. It is supposed by some to have been a shock of earthquake. South Australian Register, Tuesday 21 October 1884 p 5; Gladstone oct 18. Reports state that the shock of an earth- quake was felt more or less severely at the farm houses skirting the Flinders' ranges on Wednesday night. The South Australian Advertiser, Monday 20 October 1884 p 5

References

LAURA. October 16. Some of the townspeople were aroused last night by an earthquake shock, which shook their beds under them, while pictures, &C, on the walls rattled. The shock lasted about half a minute and was not repeated. The direction oi tha current was south-east to north-west. South Australian Register, Friday 17 October 1884 p 5; GLADSTONE. October 16. A heavy shock of an earthquake was felt last night about 10.30, lasting half a minute, and travelling from north to south. The occupants of several dwellings were consi derably alarmed for the safety of their pre mises. South Australian Register, Friday 17 October 1884 p 5; Laura, October 16. A severe shock of earthquake was felt here last night about half-past 10. The vibration lasted about thirty seconds. The earth-wave appeared to come from the south-east and to travel to the north-west. Many persons were considerably startled. I have heard of no damage being done. Gladstone, October 16. At twenty-five minutes past 10 last night we had a severe shock of earthquake, shaking many buildings and causing the inmates some anxiety. The rumbling lasted about thirty five seconds, and travelled from north to south. Wirrabara, October 16. The shock of an earthquake was expe- rienced last night, about twenty minutes to 11. Tbe vibration was strong enough to awaken slumberers. The current appeared to travel from north-east to aouth west. The weather has been warm during the past two days. The South Australian Advertiser, Friday 17 October 1884 p 5;

179 | PETERBOROUGH EARTHQUAKE, SOUTH AUSTRALIA, 15 September 1884

Date 15 September 1884

Time 1341 UTC

Location 32.98°S, 138.83°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

Radius of Perceptibility R_p: 10km gives ML 2.9 ± 0.8

References

VOLS-131*; SAEQCat;

180 | WILSON EARTHQUAKE, SOUTH AUSTRALIA, 7 June 1885

Date 7 June 1885

Time 0300 UTC

Location 35.26°S, 149.07°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

WILSON (via Quorn), June 8. A severe shock of earthquake was felt here at 11 o'clock yesterday. It lasted for about a minute. Crockeryware in one or two instances was shaken from shelves, and the walls of some houses seemed to sway to and fro. South Australian Register, Tuesday 9 June 1885 p 5; HAWKER, June 7. A shock of earthquake was felt here to-day while the people were in church. The whole of the building vibrated with the shock. The South Australian Advertiser, Tuesday 9 June 1885 p 5;

181 | WIRRABARRA EARTHQUAKE, SOUTH AUSTRALIA, 17 June 1885

Date 17 June 1885

Time 0130 UTC

Location 32.95°S, 138.32°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity

I_0: 3.5 gives ML 3.3 ± 0.6

References

WIRRABARRA, June 17. A shock of an earthquake was felt at noon to-day. The vibration lasted several second. The South Australian Advertiser, Thursday 18 June 1885 p 5; Booleroo Centre, June 17. We experienced a distinct of earthquake at five minutes to 12 o'clock to day. The bottles on the hotel shelves rocked to and fro. The d isturbance appeared to be travelling from west to east. The South Australian Advertiser, Friday 19 June 1885 p 5 ; BOOLEROO CENTRE (via Melrose), June 18. A shock of aa earthquake was felt here to-day about midday, shaking the crockery in houses. South Australian Register, Friday 19 June 1885 p 5

182 | KOORINGA EARTHQUAKE, SOUTH AUSTRALIA, 25 July 1885

Date 25 July 1885

Time 1400 UTC

Location 33.85°S, 138.85°E

Magnitude 3.5 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

Radius of Perceptibility R_p: 20km gives ML 3.3 ± 1.1

References

VOLS-2.132*;

FARRELL'S FLAT. July 27. A sharp shock of earthquake accompanied by a low rumbling noise was felt here at about eleven thirty p.m. on Saturday night, and lasted about fifteen seconds. It appeared to ran from north to south. Burra Record (SA : 1878 - 1954) Tuesday 28 July 1885 p 2

*Jamestown, July 27. A series of heavy rumbling noises, suggestive of an earthquake, and lasting from sixteen to twenty seconds, were distinctly heard by a number of residents here at ten minutes to 12 o'clock on Saturday night last. The sound appeared to be travelling from south-west to north-east, and a distinct series of vibrations were clearly ercperienced, lasting the time stated. The shocks were as distinctly felt at Yongala. Auburn, July 27. A shock of earthquake was experienced by several inhabitants on Saturday at nidnight. Whyte-Varcowie, July 27. A decided shock of earthquake was felt last Saturday night at 11.50, travelling in the direc tion of south-east to north-west. The South Australian Advertiser, Tuesday 28 July 1885 p 5; Clare.July 26. At about a quarter past 12 o clock this morning a rather severe shock of earthquake was felt here. Many people were startled by it. The rumbling noise lasted for some seconds, and, judging from the vibrations, it was going from north to south. At Hill River the shock was equally severe. Hallett, July 26. * - A severe shock of earthquake was expe ?rienced here at 12 o'clock last night. It was travelling from west to east. Beds and furniture in the houses were shaken, and people were awakened by its force. Gladstone, July 26. A low rumbling noise very like that which would proceed from an earthquake was felt here soon after 12 o'clock on Saturday night. The wind was calm at the tims of the shock, ^ but it began to bio w strongly from the south 'immediately afterwards. - South Australian Register, Monday 27 July 1885 p 6 ; Caltowie, July 27. A severe gale passed over here on Satur day night at about 8.30 o'clock^ It blew with great violence for about 15 minutes, and at about 12 o'clock on Sunday morning a dis tinct shock of an earthquake was felt passing in. a south-easterly direction. South Australian Register, Tuesday 28 July 1885 p 6; Watervale. Julv 27. A scarp shock oi earthquake was ex perienced here at about midnight on Satur day. It wbb felt by several persons, Borne of whom state that it lasted about two minutes. There was a most distinct earth tremor, and the rumble was like that of a roar of low thunder. Mr. Squire, the Deputy Postmaster General, haB received the following telegram from the Telegraph Master at Kooringi :— 'Saturday night, at about 11.30, severe earthquake shock felt hero, travelling from west to east, rocking furniture,etc. I hear especially severe at Baldina, eastward of Burra.' South Australian Register, Tuesday 28 July 1885 p ; A shock of earthquake was felt in the North about midnight on Saturday, July 25. South Australian Register, Thursday 30 July 1885 p 3; FARRELL'S FLAT, July 27. A aught shock of earthquake, lasting about six second?, was felt here on Saturday night between 11 and 12 o'clock. There was a rumbling noise like distant thunder. It appeared to travel in a southerly direction. South Australian Register, Thursday 30 July 1885 p 3 ; BURRA. July 27. A severe shock of earthquake was felt here about 12 o'clock on Saturday night last. Very many persons were alarmed at the rattling of doors and windows. At Baldina it caused*

much alarm. The shock was also very heavy at Firewood Creek, with peculiar rumbling sound . South Australian Register, Thursday 30 July 1885 p 3; HALLETT, July 29, A severe shock of earthquake accompanied by a noise like tiiat of a fierce rushing wind, was felt here on Saturday night at about 12 o'clock. It awoke every one out of sleep, and the windows, doors, and everything in the houses shook and rattled violendy. It left cracks in the walls of die Government cottages near the Railway line,; the roof of one house is said to have been removed 3 inches out of its place, and several yards of die strong, dry, stone wall around die cemetery was tiirown down.. Burra Record (SA : 1878 - 1954) Friday 31 July 1885 p 2; Jamestown, Julv 27. A series of heavy rumbling noises, sugges tive of an earthquake, and lasting from sixteen to twenty seconds, were distinctly heard by a number of residents here at ten minutes to 12 o'clock on Saturday night last. The sound appeared to be travelling from south-west to north-east, and a distinct series of vibrations was clearly experienced, lasting the tune stated. The shocks were as distinctly felt at Yongala. Auburn, July 27. | A shock of earthquake was experienced by ! several inhabitants on Saturday at midnight. Whyte-Yarcowie, July 27. | A decided shock of earthquake was felt Ia9t j Saturday night at 11.50, travelling in thedirec- j tion of southeast to north-west. Burra, July 27. On Saturday night about a quarter to 12 a distinct shock of earthquake was felt travelling] in a north-west to south-east direction, which shook several houses considerably. The following is a copy of a telegram received by the Deputy Postmaster-General (Mr. E. Squire) from the telegraph-master at Koo ringa :— ' On Saturday night at about 1L30 a severe earthquake shock was felt here, travel ling from west to east, rocking furniture, &c. I hear it was especially severe at Baldina, east ward of the Burra.' The followingis acopy of a telegram received from the telegraph-master at Hawker by the acting - PoBtmaster- General on Thursday:— ' Very severe shock earthquake felt here at 1 p.m. to-day, passing north-west to south-east, lasted one minute, causing office to tremble and shake pieces plaster from the doorframes. The following message was forwarded from Quorn in the afternoon :— ' Shock of earth quake here about 1.45 p.m. to-day. Windows vibrated. South Australian Weekly Chronicle, Saturday 1 August 1885 p 21; GLADSTONE, July 26. At Beetaloo at five minutes past 13 o'clock on Saturday night a distinct shock of an earthquake was felt, travelling from north to south. It lasted three seconds, after which there was a strong gale from the south. South Australian Weekly Chronicle, Saturday 1 August 1885 p 10

183 | HAWKER EARTHQUAKE, SOUTH AUSTRALIA, 30 July 1885

Date 30 July 1885

Time 0330 UTC

Location 31.79°S, 138.35°E

Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity

I_0: 4.5 gives ML 3.9 ± 0.6

References

VOLS-133*;severe shock;

Another Shock of Eabthqttake. — Mr. Squire, the Deputy Postmaster-General, re ceived the following telegram from the Tele graph Stationmaster at Hawker on Thursday : — ' Very severe shock of earthquake felt here at 1 p.m. to-day, passing N.W. to S.fi. Lasted one minute, causing office to tremble,' and shake pieces of plaster from door frames.' From Quorn Mr. Squire leceived the follow ing message: — 'Shock of earthquake here about 1.45 p.m. to-day; windows vibrated. South Australian Register, Friday 31 July 1885 p 4; Hawker by the acting-Postmaster-General on Thursday:— "Very severe shock earthquake felt here at 1 |i.m. to-day, passing north-west to south-east, lasted one minute, causing office to tremble [and shake pieces plaster from the doorframes." The following message was forwarded from Quorn in the afternoon:—" Shock of earth quake here about 1.45 p.m. to-day. Windows 1 vibrated. The South Australian Advertiser, Friday 31 July 1885 p 4

184 | WILSON EARTHQUAKE, SOUTH AUSTRALIA, 31 July 1885

Date 31 July 1885

Time 0425 UTC

Location 32.01°S, 138.35°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-134*;severe shock; *Wilson (via Hawker). July 31. A severe shock of an earthquake was felt here at five minutes to 2 o'clock. The bottles in the Gillick Arms jingled together merrily, the ground -visibly shook, and trembled violently. South Australian Register, Saturday 1 August 1885 p 6*

185 | CALTOWIE EARTHQUAKE, SOUTH AUSTRALIA, 28 August 1885

Date 28 August 1885

Time 0900 UTC

Location 33.18°S, 138.48°E

Magnitude 2.9 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5
Radius of Perceptibility R_p: 13km gives ML 3 ± 1

References

CALTOWIE, August 28. A distinct shock of earthquake was felt here at half-past 7 this evening, travelling in a south-westerly direction. South Australian Register, Saturday 29 August 1885 p 5

186 | CLARE EARTHQUAKE, SOUTH AUSTRALIA, 19 September 1885

Date 19 September 1885

Time 0735 UTC

Location 33.83°S, 138.57°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity
I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-135;several shocks 0730-0800 UT; Watervale. Sentemher 19. A severe shock of earth quaKe was' felt here to-day at about 4 o'clock. Several rifle men who were practising at the butts sus pended firing, thinking that a heavily laden vehicle was passing by. The weather waa very sultry at the time. Clare, September 20. The shock of an earthquake was distinctly felt here on Saturday afternoon at two minutes past 5. It lasted for several seconds. A subsequent shock was felt at about half past 8 the same evening. Windows, doors, and other movables were rattled by both earthquakes. SA Register, Monday 21 September 1885 p 7 ;*

Balaklava, September 21. A shock of earthquake is reported from Mount Templeton as having occurred about 5 o'clock on Saturday evening. One of the walls of the new Wesleyan chapel cracked, and several houses were severely shaken, the plaster in one instance falling from the walls. Nothing was felt of the shock in this township. The South Australian Advertiser, Tuesday 22 September 1885 p 5; Earthquakes. — Two shocks of-earthquake were heard distinctly on Saturday evening, the first about 5.3 and the second about 8.30, both lasting, for several seconds, -and shaking crockery,' ornaments, doors, windows; and articles of a like shiltable nature. Burra Record (SA : 1878 - 1954) Friday 25 September 1885 p 2; WILTUNGA, September 19. A shock of earthquake was felt on Saturday afternoon, accompanied by a loud rumbling noise, which seemed to be travelling from north-west to south-east. South Australian Weekly Chronicle, Saturday 26 September 1885 p 13

187 | ORROROO EARTHQUAKE, SOUTH AUSTRALIA, 1 October 1885

Date 1 October 1885

Time 1430 UTC

Location 32.6°S, 138.32°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

ORROROO, October 2. A very perceptible shock of earthquake was felt here at an early, hour this morning. South Australian Register, Saturday 3 October 1885 p 5; Our Orroroo correspondent informs us that a distinct shock of earthquake was felt there at 1 o'clock on Friday morning. The bottles rattled on the hotel shelves. The South Australian Advertiser, Saturday 3 October 1885 p 4

188 | GLADSTONE EARTHQUAKE, SOUTH AUSTRALIA, 20 November 1885

Date 20 November 1885

Time 1330 UTC

Location 33.23°S, 138.43°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity

I_0: 2.5 gives ML 2.8 ± 0.5

References

Gladstone, November 21. A distinct shock of earthquake was felt here at 12 o'clock last night. It appeared as though we only got the tail end of it, but the shock was sufficient to shake the windows of dwelling-houses. It travelled from tbs north west m a southely direction. The South Australian Advertiser, Monday 23 November 1885 p 5 ; Gladstone, November 22. A slight shock of earthquake was dis tinctly felt here at three minutes past 12 midnight on Friday, travelling from west to south. A low rumbling was heard for a few seconds, and the windows shook in several dwellings. South Australian Register, Monday 23 November 1885 p 6

189 | CALTOWIE EARTHQUAKE, SOUTH AUSTRALIA, 12 December 1885

Date 12 December 1885

Time 0200 UTC

Location 33.18°S, 138.48°E

Magnitude 3.2 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

Radius of Perceptibility R_p: 13km gives ML 3 ± 1

References

VOLS-136*;

Jamestown, December 13. A very severe shock of earthquake was felt here last night at half-past 11 o'clock. The windows rattled and the buildings shook considerably. It could not be distinguished in which direction the earthquake travelled. The South Australian Advertiser, Monday 14 December 1885 p 5; JAMESTOWN. December 14. A severe shock of earthquake occurred on Saturday evening at 11.30, shaking the buildings severely. South Australian Register, Tuesday 15 December 1885 p 5; CALTOWIE. December 14. A severe Bhock of earthquake was ex perienced here at half-past 11 on Saturday night. At different places in town large articles were moved from their positions, aad in one house parts of the ceiling were brought down. The shock travelled ia a north easterly direction. South Australian Register, Tuesday 15 December 1885 p 5;

The earthquake felt in Jamestown and the district on Saturday evening last is thus de scribed by the Jamestown Agriculturist : — The earthquake appeared to be travelling in an easterly direction. The shock, or explosion, which wa? an unusually loud one, was pre ceded and followed by a series of vibrations which shook many of the buildings from their foundation to the roof, and from what we learn of its effects this was notably the case at the local post-office and tile new National Bank premises. At Caltowie, we are told, the shock appeared to be more severe than at Jamestown, several of the residents rushing out of their houses in a horror-stricken con dition to ascertain the cause of the unexpected wimbling noise, which seemed to render the buildings momentarily unsafe for habitation. That the chock was the most severe one ex perienced here for many years there is little reason to doubt, and we are certain that no one is desirous of experiencing such another. The South Australian Advertiser, Thur. 17 Dec. 1885 p 4

190 | O'HALLORAN HILL EARTHQUAKE, SOUTH AUSTRALIA, 3 February 1886

Date 3 February 1886

Time 0530 UTC

Location 35.08°S, 138.52°E

Magnitude 3.5 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

Radius of Perceptibility R_p: 24km gives ML 3.4 ± 1.2

References

O'HALLORAN HILL, FEBRUARY 3. Severe vibrations of an earthquake were felt here this afternoon at about 4 o'clock. It appeared to be travelling from west to east, and The majority of the people in the neighbor hood agree that it was the most severe shock they had ever felt. South Australian Weekly Chronicle, Saturday 6 February 1886 p 21; ALDINGA, FEBRUARY 9. On Wednesday last several persons in this neighborhood felt a light shock of earthquake, accompanied by a loud rumbling noise like that of distant thunder. The South Australian Advertiser, Tuesday 16 February 1886 p 3

191 | GLADSTONE EARTHQUAKE, SOUTH AUSTRALIA, 26 March 1886

Date 26 March 1886

Time 1205 UTC

Location 33.23°S, 138.43°E

Magnitude 3.7 ML

Calculating magnitude

Maximum Intensity I_0: 4.5 gives ML 3.9 ± 0.6
Radius of Perceptibility R_p: 25km gives ML 3.4 ± 1.2

References

VOLS-137*;

192 | ECHUNGA EARTHQUAKE, SOUTH AUSTRALIA, 1 June 1886

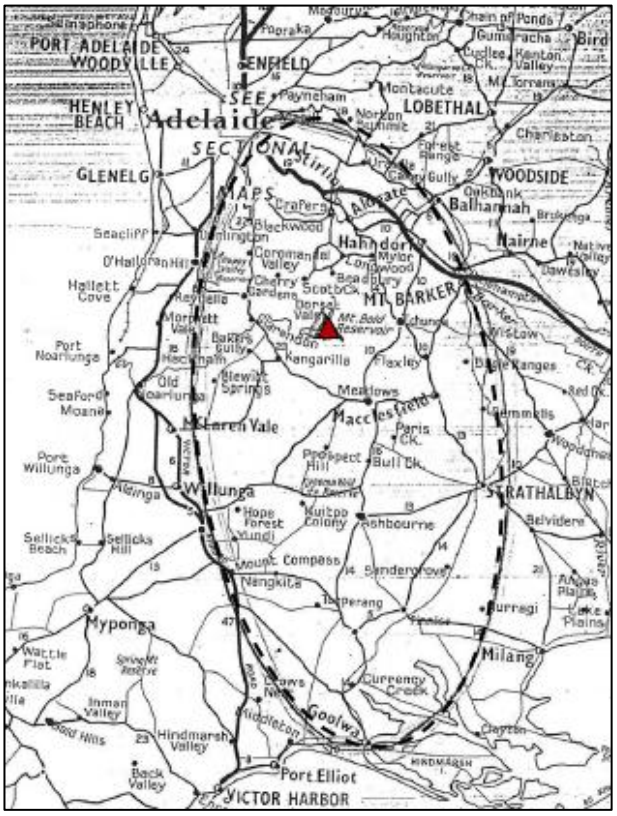
Date 1 June 1886

Time 0545 UTC

Location 35.12°S, 138.72°E

Magnitude 3.5 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 25km gives ML 3.4 ± 1.2

References

VOLS-138m; SAEQCat;

193 | GLADSTONE EARTHQUAKE, SOUTH AUSTRALIA, 7 July 1886

Date 7 July 1886

Time 0600 UTC

Location 33.23°S, 138.43°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 13km gives ML 3 ± 1

References

VOLS-141*;

194 | GLADSTONE EARTHQUAKE, SOUTH AUSTRALIA, 10 July 1886

Date 10 July 1886

Time 0647 UTC

Location 33.28°S, 138.35°E

Magnitude 3.5 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6
Radius of Perceptibility R_p: 35km gives ML 3.7 ± 1.3

References

VOLS-142*;

195 | GLADSTONE EARTHQUAKE, SOUTH AUSTRALIA, 11 July 1886

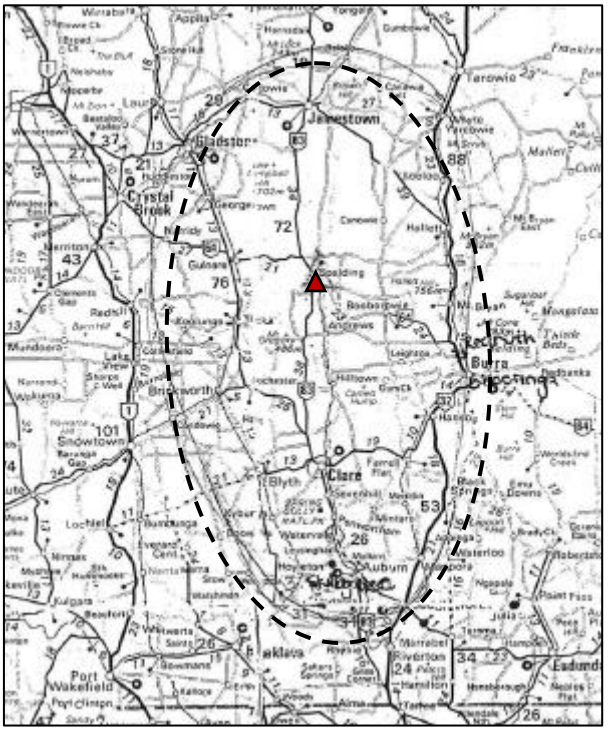
Date 11 July 1886

Time 0645 UTC

Location 33.5°S, 138.62°E

Magnitude 3.7 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 42km gives ML 3.8 ± 1.4

References

VOLS-143m; SAEQCat;

196 | TANUNDA EARTHQUAKE, SOUTH AUSTRALIA, 3 September 1886

Date 3 September 1886

Time 2020 UTC

Location 34.54°S, 138.98°E

Magnitude 2.9 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 6km gives ML 2.6 ± 0.7

References

VOLS-146*;

197 | GLADSTONE EARTHQUAKE, SOUTH AUSTRALIA, 12 September 1886

Date 12 September 1886

Time 2015 UTC

Location 33.28°S, 138.35°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

VOLS-147*;slight shock

198 | GLADSTONE EARTHQUAKE, SOUTH AUSTRALIA, 13 September 1886

Date 13 September 1886

Time 0115 UTC

Location 33.28°S, 138.35°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

VOLS-147*;slight shock

199 | MORCHARD EARTHQUAKE, SOUTH AUSTRALIA, 24 September 1886

Date 24 September 1886

Time 0615 UTC

Location 32.6°S, 138.33°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-148*;severe shock

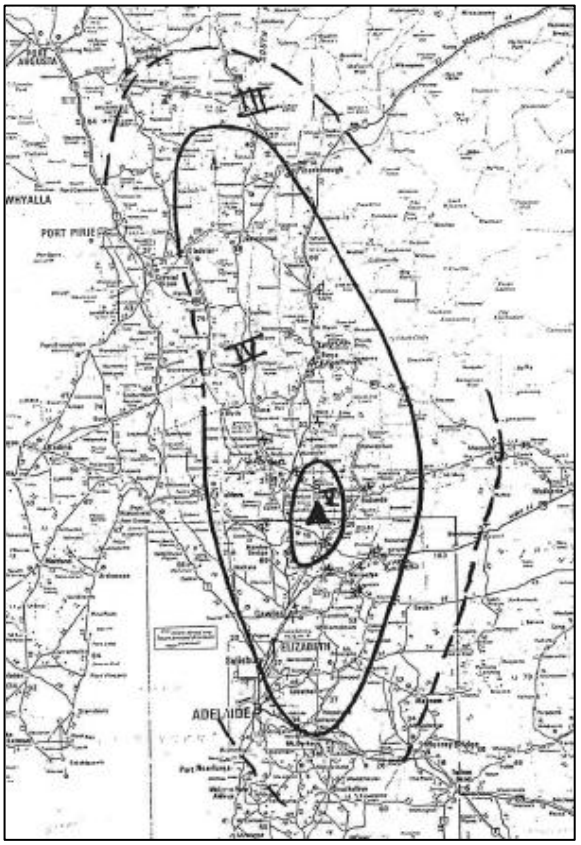
200 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 28 September 1886

Date 28 September 1886

Time 1845 UTC

Location 34.25°S, 138.92°E

Magnitude 4.4 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
$I_{0:}$ 5 gives ML 4.2 ± 0.6
Radius of Perceptibility
R_p: 110km gives ML 4.6 ± 1.7

References

VOLS-149m; SAEQCat; 24/SA/68

201 | PORT ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 4 October 1886

Date 4 October 1886

Time 1530 UTC

Location 34.83°S, 138.5°E

Magnitude 2.7 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 3km gives ML 2.3 ± 0.5

References

VOLS-156*; SAEQCat;

202 | GLADSTONE EARTHQUAKE, SOUTH AUSTRALIA, 5 December 1886

Date 5 December 1886

Time 1730 UTC

Location 33.28°S, 138.35°E

Magnitude 3.2 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3.5 gives ML 3.3 ± 0.6
Radius of Perceptibility R_p: 15km gives ML 3.1 ± 1

References

VOLS-158*;

203 | PORT PIRIE EARTHQUAKE, SOUTH AUSTRALIA, 8 January 1887

Date 8 January 1887

Time 0600 UTC

Location 33.19°S, 138.07°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-167*;distinct shock felt early am

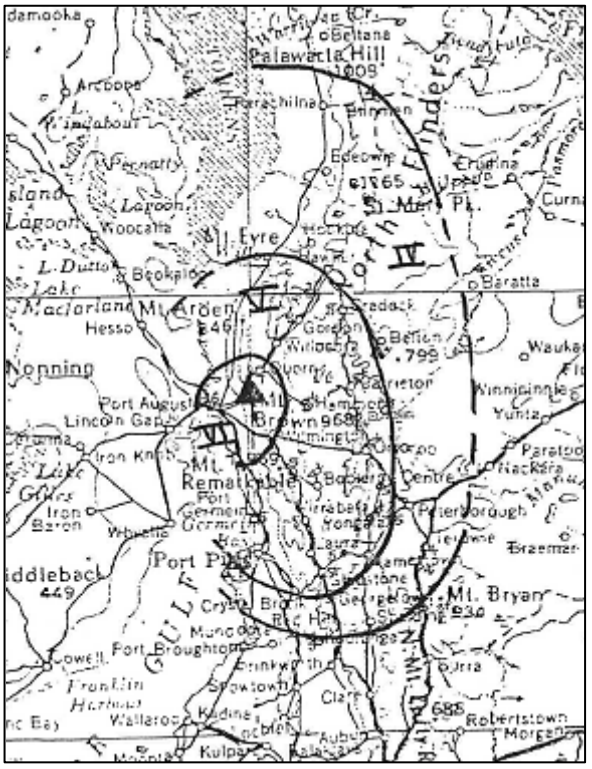
204 | QUORN EARTHQUAKE, SOUTH AUSTRALIA, 8 January 1887

Date 8 January 1887

Time 1030 UTC

Location 32.45°S, 138°E

Magnitude 5.2 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity I_0: 7 gives ML 5.3 ± 0.8
Radius of Perceptibility R_p: 165km gives ML 5 ± 1.8

References

VOLS-159m; SAEQCat;

205 | QUORN AFTERSHOCK EARTHQUAKE, SOUTH AUSTRALIA, 10 January 1887

Date 10 January 1887

Time

Location 32.45°S, 138.2°E

Magnitude 4.6 ML

Calculating magnitude

Maximum Intensity I_0: 6 gives ML 4.8 ± 0.7
Radius of Perceptibility R_p: 87km gives ML 4.4 ± 1.6

References

VOLS-168*;

206 | ORROROO EARTHQUAKE, SOUTH AUSTRALIA, 3 April 1887

Date 3 April 1887

Time 1310 UTC

Location 32.6°S, 138.33°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-169*;distinct

207 | ORROROO FIRST AFTERSHOCK, SOUTH AUSTRALIA, 3 April 1887

Date 3 April 1887

Time 1320 UTC

Location 32.6°S, 138.33°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-169*;distinct

208 | ORROROO SECOND AFTERSHOCK, SOUTH AUSTRALIA, 3 April 1887

Date 3 April 1887

Time 1325 UTC

Location 32.6°S, 138.33°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-169*;distinct

209 | PORT WAKEFIELD EARTHQUAKE, SOUTH AUSTRALIA, 13 April 1887

Date 13 April 1887

Time 2205 UTC

Location 34.07°S, 138.23°E

Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity I_0: 4.5 gives ML 3.9 ± 0.6

References

VOLS-170*;violent shock

210 | HALLETT EARTHQUAKE, SOUTH AUSTRALIA, 14 April 1887

Date 14 April 1887

Time 1300 UTC

Location 33.38°S, 138.76°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-171*;slight shock

211 | EYRE PENINSULA EARTHQUAKE, SOUTH AUSTRALIA, 16 April 1887

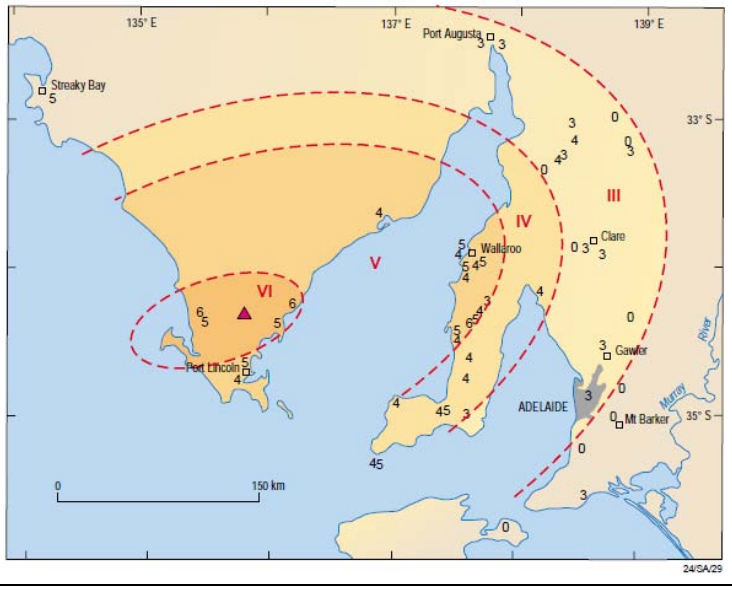
Date 16 April 1887

Time 2210 UTC

Location 34.3°S, 135.8°E

Magnitude 5.7 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)



Calculating magnitude

Maximum Intensity I_0: 6.5 gives ML 5.1 ± 0.7

References

SAEQCat; 24/SA/29; McCue 1996

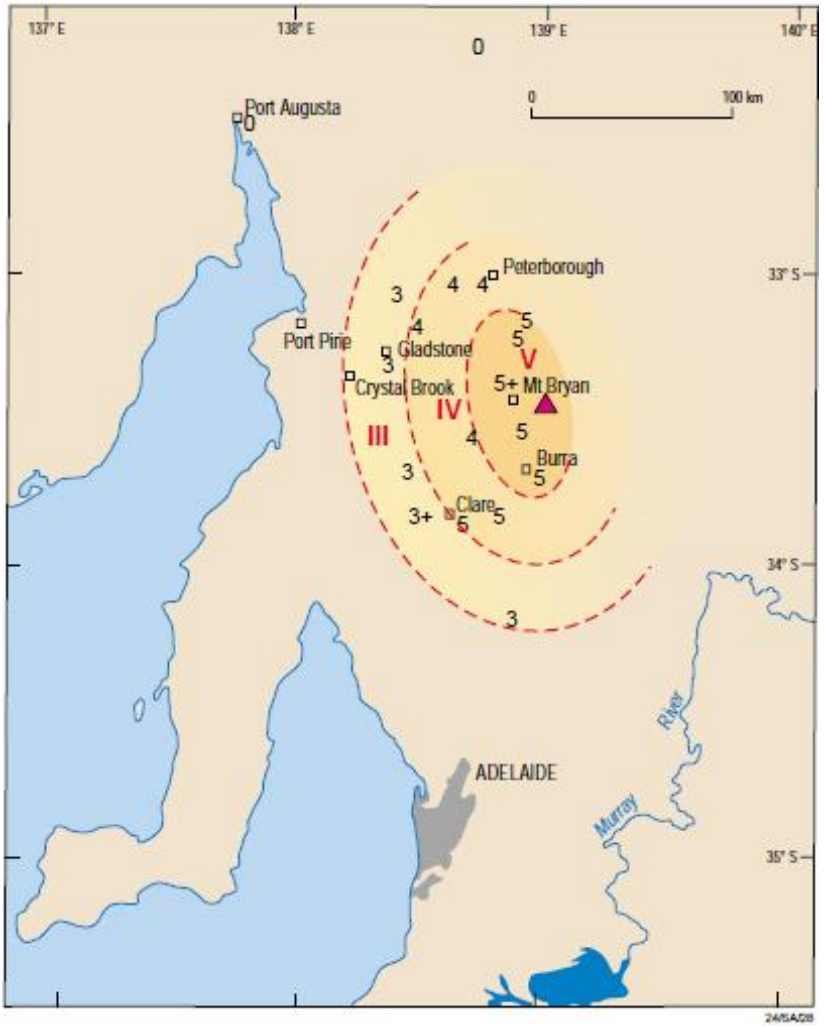
212 | MOUNT BRYAN EARTHQUAKE, SOUTH AUSTRALIA, 16 April 1887

Date 16 April 1887

Time 1310 UTC

Location 33.5°S, 139°E

Magnitude 4.5 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 5.5 gives ML 4.5 ± 0.7

References

SAEQCat; 24/SA/28; McCue 1996

213 | MOUNT BOLD EARTHQUAKE, SOUTH AUSTRALIA, 21 June 1887

Date 21 June 1887

Time 1730 UTC

Location 35.12°S, 138.72°E

Magnitude 2.9 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6
Radius of Perceptibility R_p: 4km gives ML 2.4 ± 0.6

References

VOLS-172*; SAEQCat;

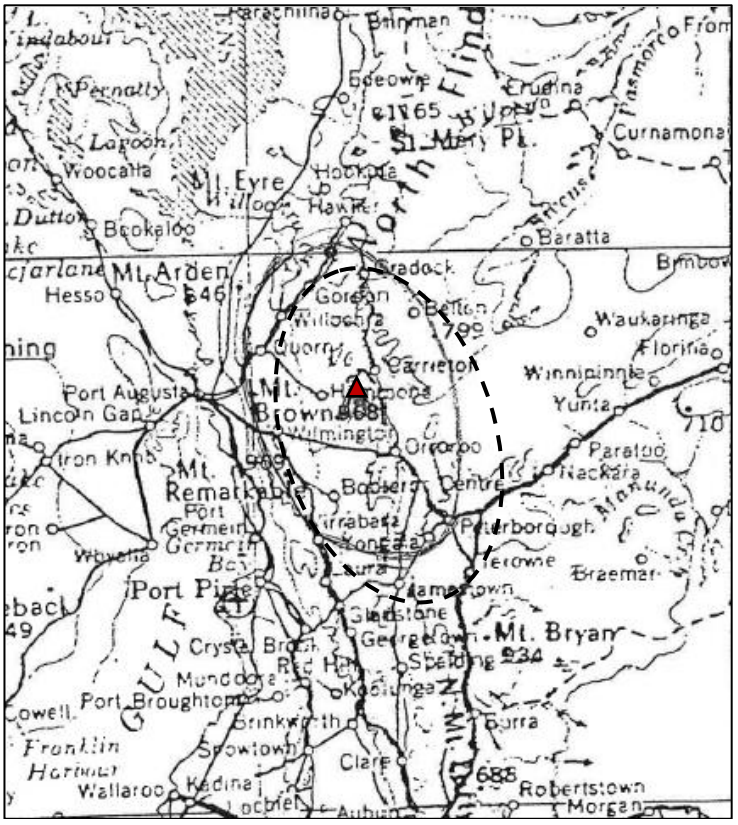
214 | HAMMOND EARTHQUAKE, SOUTH AUSTRALIA, 7 August 1887

Date 7 August 1887

Time 0410 UTC

Location 32.53°S, 138.45°E

Magnitude 3.8 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 52km gives ML 4 ± 1.4

References

VOLS-174m; SAEQCat;

215 | CALTOWIE EARTHQUAKE, SOUTH AUSTRALIA, 16 August 1887

Date 16 August 1887

Time 1815 UTC

Location 33.18°S, 138.48°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-176*;

216 | APPILA EARTHQUAKE, SOUTH AUSTRALIA, 21 April 1888

Date 21 April 1888

Time

Location 33.05°S, 138.42°E

References

VOLS-177*;7 shocks between 1030-1930 UT

217 | NAIRNE EARTHQUAKE, SOUTH AUSTRALIA, 8 May 1888

Date 8 May 1888

Time 1050 UTC

Location 35°S, 138.94°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 5km gives ML 2.5 ± 0.7

References

VOLS-178*;sharp shock

218 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 17 June 1888

Date 17 June 1888

Time 1900 UTC

Location 30.81°S, 138.4°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-180*;sharp shock

219 | FARRELL'S FLAT EARTHQUAKE, SOUTH AUSTRALIA, 2 August 1888

Date 2 August 1888

Time 0700 UTC

Location 33.83°S, 138.79°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-181*;2 sharp shocks

220 | SNOWTOWN EARTHQUAKE, SOUTH AUSTRALIA, 27 August 1888

Date 27 August 1888

Time 1800 UTC

Location 33.82°S, 138.12°E

Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4.5 gives ML 3.9 ± 0.6

References

VOLS-182*;woke people

221 | EMU FLAT EARTHQUAKE, SOUTH AUSTRALIA, 29 December 1888

Date 29 December 1888

Time 1930 UTC

Location 33.84°S, 138.58°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-183*;

222 | ROBERTSTOWN EARTHQUAKE, SOUTH AUSTRALIA, 12 February 1889

Date 12 February 1889

Time 0645 UTC

Location 34°S, 139°E

Magnitude 4.9 ML

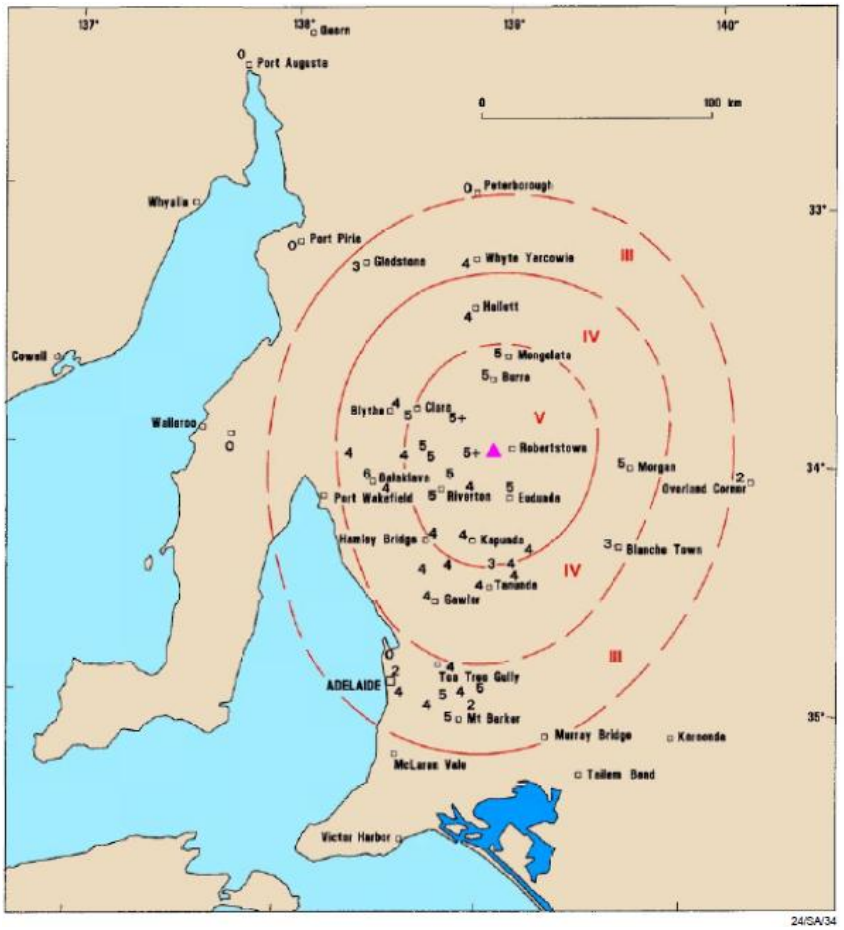
▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 6 gives ML 4.8 ± 0.7
Radius of Perceptibility
R_p: km gives ML ±

References

SAEQCat; 24/SA/34; McCue 1996



223 | PASKEVILLE EARTHQUAKE, SOUTH AUSTRALIA, 11 March 1889

Date 11 March 1889

Time 1250 UTC

Location 34.1°S, 137.75°E

Magnitude 4.1 ML

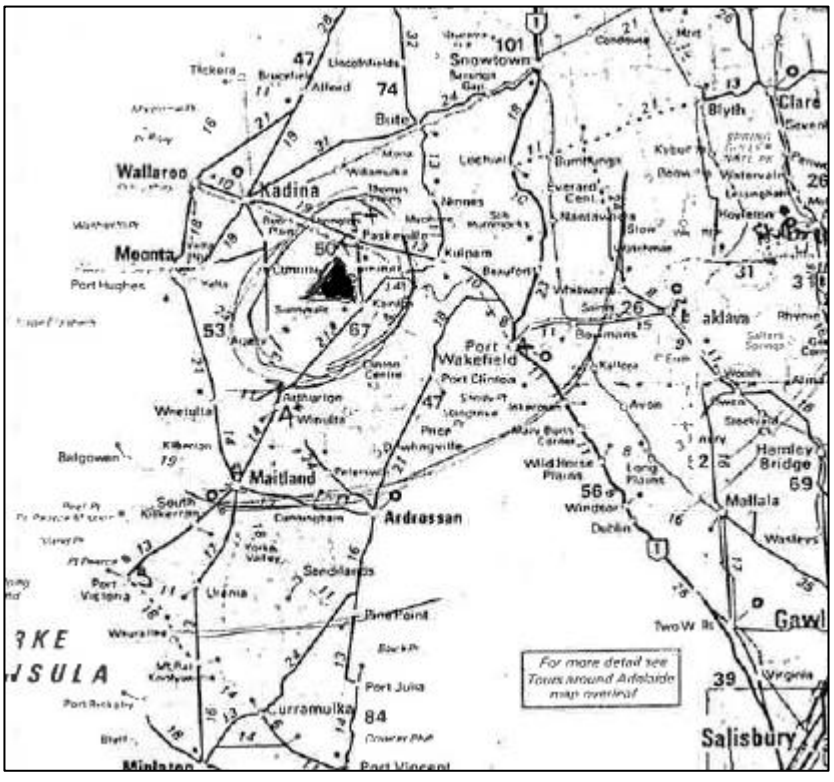
▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility
R_p: 63km gives ML 4.1 ± 1.5
Radius of Intensity
IV: 40km gives ML 4 ± 0.2

References

VOLS-184m; SAEQCat;



224 | FARRELL'S FLAT EARTHQUAKE, SOUTH AUSTRALIA, 25 March 1889

Date 25 March 1889
Time 2025 UTC
Location 33.83°S, 138.79°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-186*;severe shock

225 | WILSON EARTHQUAKE, SOUTH AUSTRALIA, 2 April 1889

Date 2 April 1889
Time 1920 UTC
Location 32.01°S, 138.36°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-187*;smart shock, woke people

226 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 6 June 1889

Date 6 June 1889
Time 1048 UTC
Location 34.9°S, 138.6°E
Magnitude 2.4 ML

Calculating magnitude

Maximum Intensity I_0: 2 gives ML 2.5 ± 0.5
Radius of Perceptibility R_p: 2.5km gives ML 2.2 ± 0.5

References

VOLS-188*; SAEQCat; slight

227 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 6 June 1889

Date 6 June 1889
Time 1056 UTC
Location 34.9°S, 138.6°E
Magnitude 2.5 ML

Calculating magnitude

Maximum Intensity I_0: 2 gives ML 2.5 ± 0.5

References

VOLS-188*; SAEQCat; slight

228 | YUNTA EARTHQUAKE, SOUTH AUSTRALIA, 17 June 1889

Date 17 June 1889
Time 0700 UTC
Location 32.08°S, 141°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6
Radius of Perceptibility R_p: 20km gives ML 3.3 ± 1.1

References

VOLS-190*;crockery broken

229 | JAMESTOWN EARTHQUAKE, SOUTH AUSTRALIA, 16 July 1889

Date 16 July 1889
Time 1330 UTC
Location 33.27°S, 138.65°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-191*;2 shocks between 1330-1430 UT

230 | EURELIA EARTHQUAKE, SOUTH AUSTRALIA, 24 July 1889

Date 24 July 1889

Time 0425 UTC

Location 32.6°S, 138.33°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-192*;slight shock

231 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 9 August 1889

Date 9 August 1889

Time 0145 UTC

Location 30.81°S, 138.4°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-193*;moderate

232 | CLARE EARTHQUAKE, SOUTH AUSTRALIA, 26 September 1889

Date 26 September 1889

Time 1530 UTC

Location 33.84°S, 138.58°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3.5 gives ML 3.3 ± 0.6

References

VOLS-194*;smart shock

233 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 7 November 1889

Date 7 November 1889

Time 0015 UTC

Location 30.81°S, 138.4°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3.5 gives ML 3.3 ± 0.6

References

VOLS-195*;strong shock

234 | EURELIA EARTHQUAKE, SOUTH AUSTRALIA, 29 November 1889

Date 29 November 1889

Time 1045 UTC

Location 32.6°S, 138.33°E

Magnitude 3.7 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 34km gives ML 3.7 ± 1.2

References

VOLS-196*;moderate shock

235 | HEAD CAMP TRANS CONTINENTAL EARTHQUAKE, SA, 20 December 1889

Date 20 December 1889

Time 0945 UTC

Location 32.73°S, 137.92°E

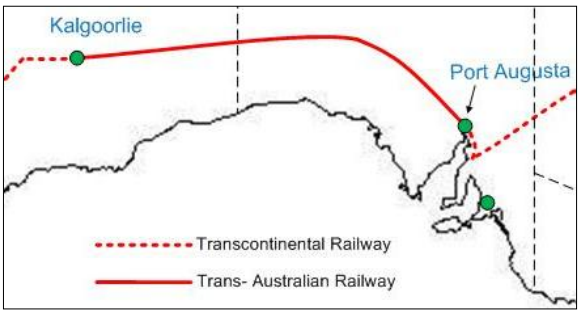
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-197*;smart shock



The first sod of the line was turned at Port Augusta on 14 September 1912 and at the opposite end of the line in Kalgoorlie on 12 February 1913.

236 | HAWKER EARTHQUAKE, SOUTH AUSTRALIA, 23 February 1890

Date 23 February 1890

Time 1240 UTC

Location 31.8°S, 138.36°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-198*;objects fell

237 | TUNGKILLO EARTHQUAKE, SOUTH AUSTRALIA, 25 February 1890

Date 25 February 1890

Time 0300 UTC

Location 34.87°S, 139.06°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-199*;moderate shock

238 | MOUNT LOFTY EARTHQUAKE, SOUTH AUSTRALIA, 10 March 1890

Date 10 March 1890

Time 2050 UTC

Location 34.98°S, 138.71°E

Magnitude 2.6 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 2.2km gives ML 2.1 ± 0.5

References

VOLS-200*;slight shock

239 | EDEN VALLEY EARTHQUAKE, SOUTH AUSTRALIA, 13 June 1890

Date 13 June 1890

Time 0948 UTC

Location 34.79°S, 138.97°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

VOLS-202*;slight shock

240 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 3 July 1890

Date 3 July 1890

Time 1800 UTC

Location 30.81°S, 138.4°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-203*;severe shock

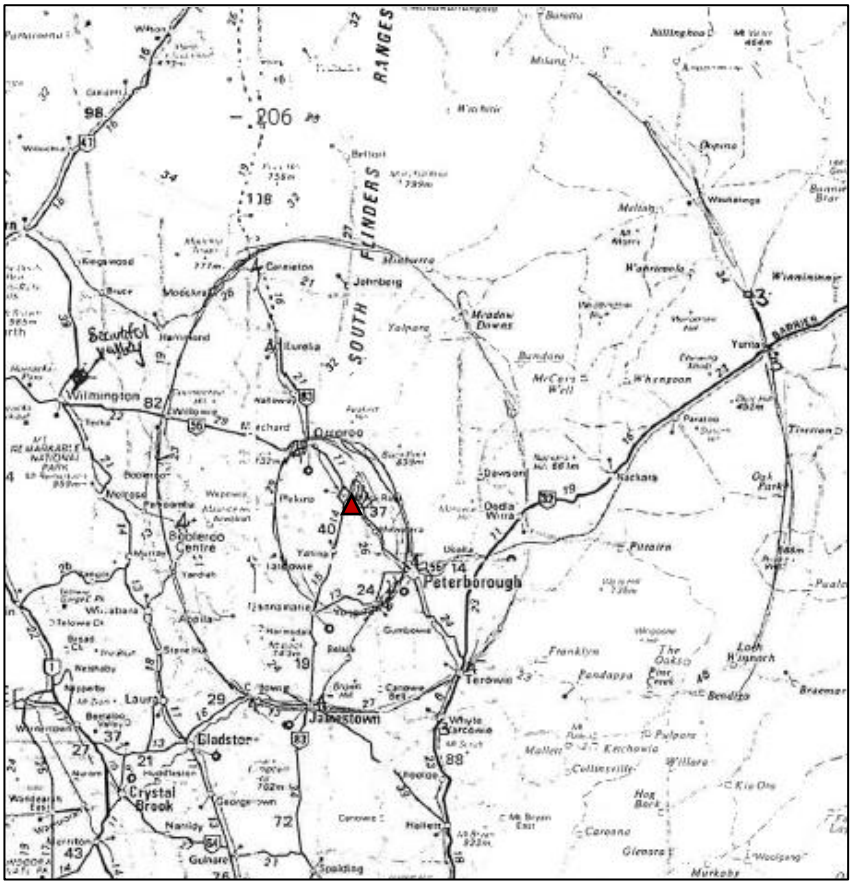
241 | BLACK ROCK EARTHQUAKE, SOUTH AUSTRALIA, 23 July 1890

Date 23 July 1890

Time 2130 UTC

Location 32.85°S, 138.7°E

Magnitude 4.2 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility
R_p: 70km gives ML 4.2 ± 1.5

References

VOLS-204m*; SAEQCat;

242 | EUCLA EARTHQUAKE, SOUTH AUSTRALIA, 29 February 1891

Date 29 February 1891

Time 1830 UTC

Location 31.68°S, 128.89°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-207*;strong shock

243 | ORROROO EARTHQUAKE, SOUTH AUSTRALIA, 20 May 1891

Date 20 May 1891

Time 2230 UTC

Location 32.6°S, 138.33°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-208*;sharp shock

244 | STOCKPORT EARTHQUAKE, SOUTH AUSTRALIA, 7 June 1891

Date 7 June 1891

Time 0915 UTC

Location 34.36°S, 138.77°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-209*;slight shock

245 | WATERVALE EARTHQUAKE, SOUTH AUSTRALIA, 10 July 1891

Date 10 July 1891

Time 1030 UTC

Location 33.98°S, 138.65°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-210*;strong, meteor sighted

246 | ORROROO EARTHQUAKE, SOUTH AUSTRALIA, 13 July 1891

Date 13 July 1891

Time 1815 UTC

Location 32.6°S, 138.33°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3.5 gives ML 3.3 ± 0.6

References

VOLS-211*;severe shock

247 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 10 August 1891

Date 10 August 1891

Time 1430 UTC

Location 30.81°S, 138.4°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3.5 gives ML 3.3 ± 0.6

References

VOLS-212*;moderate tremor

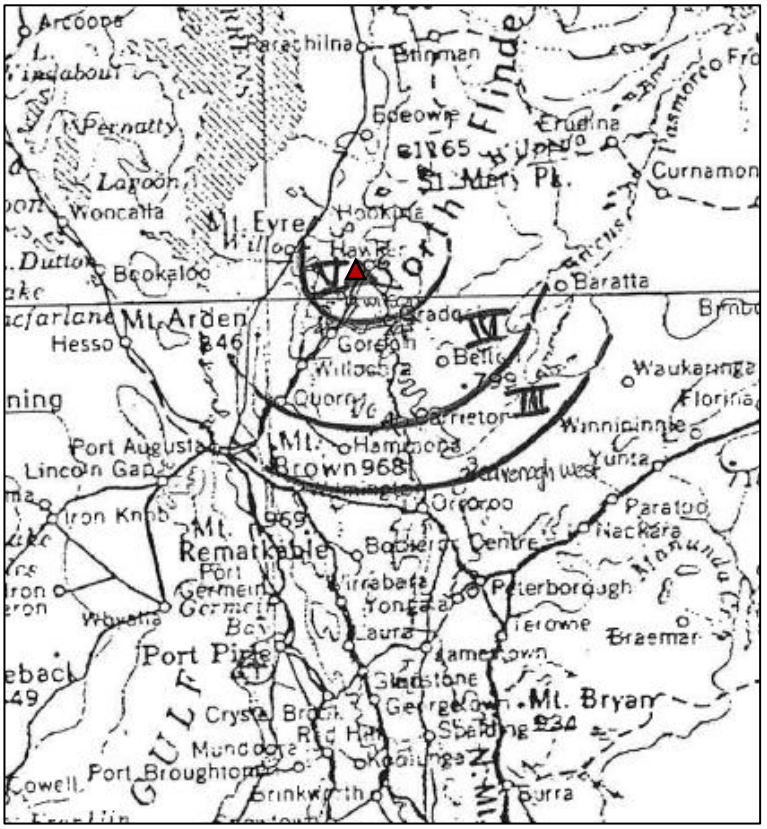
248 | HAWKER EARTHQUAKE, SOUTH AUSTRALIA, 29 August 1891

Date 29 August 1891

Time 0916 UTC

Location 31.92°S, 138.37°E

Magnitude 4.4 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility
R_p: 92km gives ML 4.5 ± 1.6
Radius of Intensity
IV: 63km gives ML 4.4 ± 0.2

References

VOLS-213m*; SAEQCat;

249 | LAURA EARTHQUAKE, SOUTH AUSTRALIA, 15 September 1891

Date 15 September 1891

Time 0650 UTC

Location 33.05°S, 138.43°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-216*;slight shock

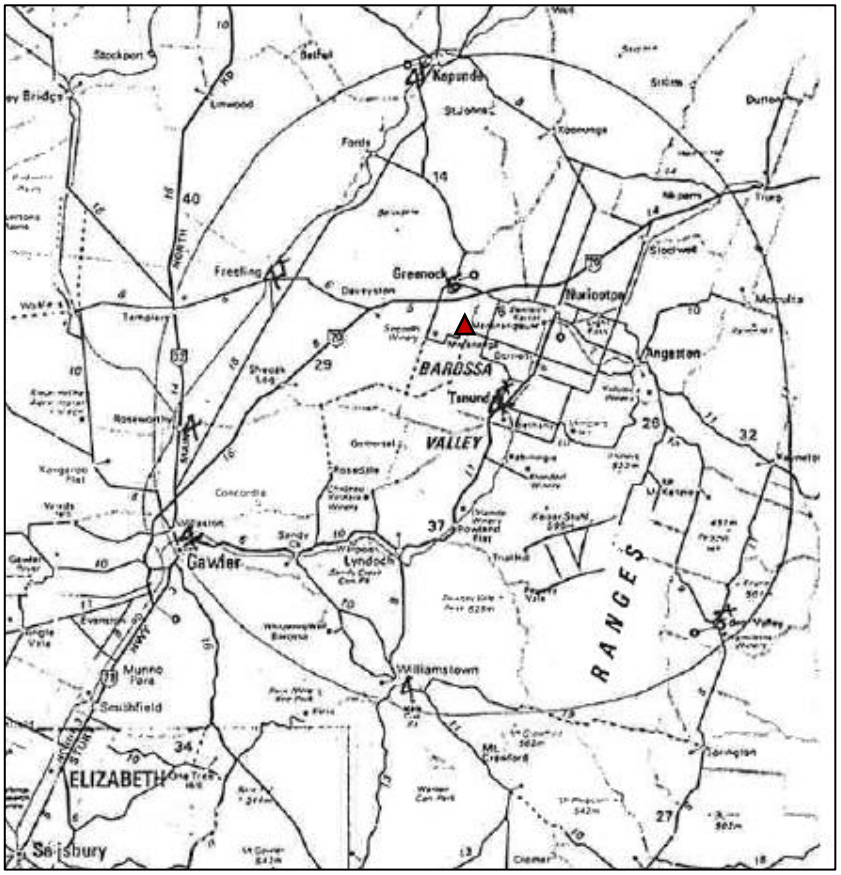
250 | BAROSSA VALLEY EARTHQUAKE, SOUTH AUSTRALIA, 18 September 1891

Date 18 September 1891

Time 0840 UTC

Location 34.53°S, 138.95°E

Magnitude 3.5 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 20km gives ML 3.3 ± 1.1

References

VOLS-217m*;moderate

251 | HAMMOND EARTHQUAKE, SOUTH AUSTRALIA, 1 October 1891

Date 1 October 1891

Time 1450 UTC

Location 32.6°S, 138.33°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-220*;sharp shock

252 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 10 October 1891

Date 10 October 1891

Time 0930 UTC

Location 30.81°S, 138.4°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

VOLS-221*;slight shock

253 | REDHILL EARTHQUAKE, SOUTH AUSTRALIA, 1 December 1891

Date 1 December 1891

Time 0225 UTC

Location 33.54°S, 138.22°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-222*;violent shock

254 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 16 May 1892

Date 16 May 1892

Time 2100 UTC

Location 30.81°S, 138.4°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-223*;shock felt

255 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 25 May 1892

Date 25 May 1892

Time 0745 UTC

Location 30.81°S, 138.4°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-224*;shock felt

256 | HALLETT EARTHQUAKE, SOUTH AUSTRALIA, 2 June 1892

Date 2 June 1892

Time 1425 UTC

Location 33.39°S, 138.76°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-225*;severe shock

257 | BURRA EARTHQUAKE, SOUTH AUSTRALIA, 16 January 1893

Date 16 January 1893

Time 1909 UTC

Location 33.65°S, 139.06°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3.5 gives ML 3.3 ± 0.6

References

VOLS-226*;slight shock

258 | BURRA EARTHQUAKE, SOUTH AUSTRALIA, 16 January 1893

Date 16 January 1893

Time 1915 UTC

Location 33.65°S, 139.06°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-226*;distinct shock

259 | EURELIA EARTHQUAKE, SOUTH AUSTRALIA, 4 April 1893

Date 4 April 1893

Time 1845 UTC

Location 32.6°S, 138.33°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-228*;sharp shock

260 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 16 April 1893

Date 16 April 1893

Time 2005 UTC

Location 30.81°S, 138.4°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-229*;2 distinct shocks

261 | WARRINA EARTHQUAKE, SOUTH AUSTRALIA, 28 June 1893

Date 28 June 1893

Time 1214 UTC

Location 28.19°S, 135.83°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-230*;slight shock

262 | EUCLA EARTHQUAKE, SOUTH AUSTRALIA, 2 July 1893

Date 2 July 1893

Time 0445 UTC

Location 31.68°S, 128.89°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

VOLS-232*;slight shock

263 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 3 July 1893

Date 3 July 1893

Time 1450 UTC

Location 34.3°S, 138.92°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-234*;slight

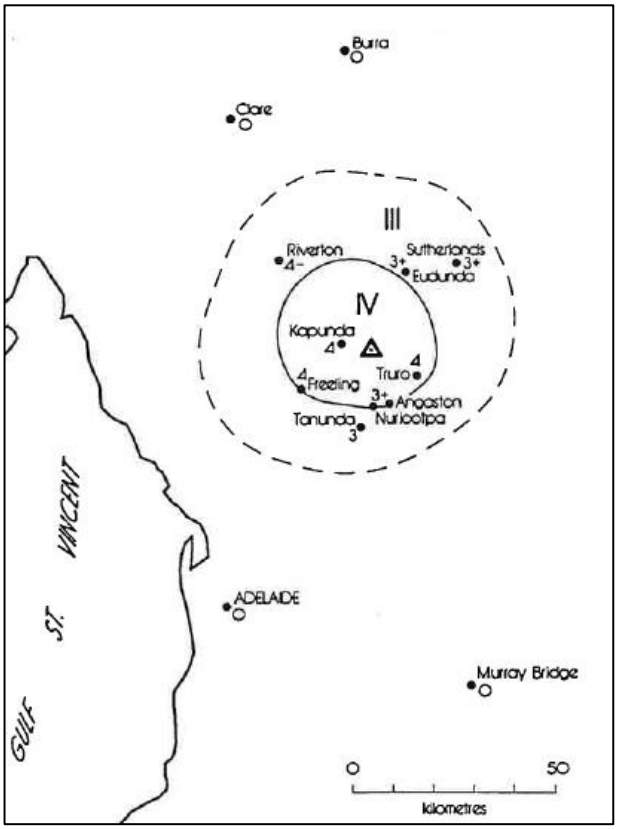
264 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 13 August 1893

Date 13 August 1893

Time 0210 UTC

Location 34.33°S, 139°E

Magnitude 3.6 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 45km gives ML 3.9 ± 1.3
Radius of Intensity IV: 21km gives ML 3.6 ± 0.2

References

Malpas 1991; Hons; SAEQCat; 24/SA/38;

265 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 24 October 1893

Date 24 October 1893

Time 0336 UTC

Location 30.81°S, 138.4°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-235*;slight

266 | REDRUTH EARTHQUAKE, SOUTH AUSTRALIA, 3 November 1893

Date 3 November 1893

Time 0852 UTC

Location 33.68°S, 138.94°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

Malpas 1991; VOLS-236;insufficient doc

267 | URANIA EARTHQUAKE, SOUTH AUSTRALIA, 9 November 1893

Date 9 November 1893

Time

Location 34.32°S, 137.49°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

Malpas 1991; VOLS-238*;slight shock in evening

268 | ALGEBUCKINA EARTHQUAKE, SOUTH AUSTRALIA, 9 December 1893

Date 9 December 1893

Time 0152 UTC

Location 28.19°S, 134.72°E

Magnitude 4.7 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 6 gives ML 4.8 ± 0.7
Radius of Perceptibility R_p: 100km gives ML 4.5 ± 1.7

References

VOLS-239*;slight shock at Warrina, severe at Algebuckina - damaged bridge

269 | CAPE BORDA EARTHQUAKE, SOUTH AUSTRALIA, 17 March 1894

Date 17 March 1894

Time 0345 UTC

Location 35.61°S, 137.57°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-240*;sharp double shock

270 | PORT AUGUSTA EARTHQUAKE, SOUTH AUSTRALIA, 21 March 1894

Date 21 March 1894

Time 1313 UTC

Location 32.73°S, 137.92°E

Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4.5 gives ML 3.9 ± 0.6

References

VOLS-241*;strong earthquake

271 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 13 June 1894

Date 13 June 1894

Time 0220 UTC

Location 34.3°S, 138.92°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-243*;distinct shock

272 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 7 August 1894

Date 7 August 1894 0.25 cm

Time 1258 UTC

Location 34.17°S, 138.92°E

Magnitude 3.3 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 3.5 gives ML 3.3 ± 0.6
Radius of Perceptibility
R_p: 22km gives ML 3.3 ± 1.2

References

VOLS-244m; SAEQCat;

273 | MORCHARD EARTHQUAKE, SOUTH AUSTRALIA, 4 September 1894

Date 4 September 1894

Time 1533 UTC

Location 32.6°S, 138.33°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-247*;moderate shock

274 | WILSON EARTHQUAKE, SOUTH AUSTRALIA, 22 September 1894

Date 22 September 1894

Time

Location 32.01°S, 138.36°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-248*;sharp shock early am

275 | TANUNDA EARTHQUAKE, SOUTH AUSTRALIA, 11 October 1894

Date 11 October 1894
Time 1030 UTC
Location 34.54°S, 138.98°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-249*;slight

276 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 9 December 1894

Date 9 December 1894
Time 0335 UTC
Location 30.81°S, 138.4°E
Magnitude 4.2 ML

Calculating magnitude

Maximum Intensity I_0: 5 gives ML 4.2 ± 0.6

References

VOLS-250*;medium shock

277 | GEORGETOWN EARTHQUAKE, SOUTH AUSTRALIA, 1 January 1895

Date 1 January 1895
Time 0702 UTC
Location 33.37°S, 138.43°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-3.252*;moderate shock

278 | WATERVALE EARTHQUAKE, SOUTH AUSTRALIA, 10 January 1895

Date 10 January 1895
Time 0545 UTC
Location 33.98°S, 138.65°E
Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity I_0: 4.5 gives ML 3.9 ± 0.6

References

VOLS-253*;severe shock

279 | EURELIA EARTHQUAKE, SOUTH AUSTRALIA, 23 March 1895

Date 23 March 1895
Time 1030 UTC
Location 32.6°S, 138.33°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-254*;sharp shock

280 | FARRELL FLAT EARTHQUAKE, SOUTH AUSTRALIA, 18 July 1895

Date 18 July 1895
Time 0135 UTC
Location 33.83°S, 138.79°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-255*;sharp shock

281 | TARCOWIE EARTHQUAKE, SOUTH AUSTRALIA, 18 July 1895

Date 18 July 1895

Time 1245 UTC

Location 32.6°S, 138.33°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-256*;slight

282 | MELROSE EARTHQUAKE, SOUTH AUSTRALIA, 19 July 1895

Date 19 July 1895

Time 1255 UTC

Location 32.83°S, 138.19°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-257*;sharp

283 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 23 July 1895

Date 23 July 1895

Time 0120 UTC

Location 34.3°S, 138.92°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-258*;slight

284 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 23 July 1895

Date 23 July 1895

Time 1157 UTC

Location 34.3°S, 138.92°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-258*;slight

285 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 24 July 1895

Date 24 July 1895

Time 1340 UTC

Location 34.3°S, 138.92°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-258*;slight

286 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 24 July 1895

Date 24 July 1895

Time 1425 UTC

Location 34.3°S, 138.92°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-258*;very slight

287 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 2 August 1895

Date 2 August 1895
Time 0329 UTC
Location 34.3°S, 138.92°E
Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity I_0: 4.5 gives ML 3.9 ± 0.6

References

VOLS-260*;strong

288 | EUDUNDA EARTHQUAKE, SOUTH AUSTRALIA, 7 August 1895

Date 7 August 1895
Time 0730 UTC
Location 34.09°S, 139.17°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-261*;slight

289 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 18 August 1895

Date 18 August 1895
Time 0645 UTC
Location 34.3°S, 138.92°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-262*;slight

290 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 18 August 1895

Date 18 August 1895
Time 0957 UTC
Location 34.3°S, 138.92°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-262*;slight

291 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 21 August 1895

Date 21 August 1895
Time 1400 UTC
Location 34.3°S, 138.92°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-263*;slight

292 | MARGARET CREEK EARTHQUAKE, SOUTH AUSTRALIA, 26 December 1895

Date 26 December 1895
Time 0245 UTC
Location 29.50°S, 136.44°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-264*;sharp shock

293 | REDHILL EARTHQUAKE, SOUTH AUSTRALIA, 1 January 1896

Date 1 January 1896

Time 0820 UTC

Location 33.54°S, 138.22°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-265*;slight

294 | HALLETT EARTHQUAKE, SOUTH AUSTRALIA, 3 January 1896

Date 3 January 1896

Time 0650 UTC

Location 33.39°S, 138.76°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-266*;slight

295 | HAWKER EARTHQUAKE, SOUTH AUSTRALIA, 12 March 1896

Date 12 March 1896

Time 1000 UTC

Location 31.8°S, 138.36°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-267*;slight

296 | WILSON EARTHQUAKE, SOUTH AUSTRALIA, 14 March 1896

Date 14 March 1896

Time 0930 UTC

Location 32.01°S, 138.36°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-268*;slight

297 | KINGSTON SOUTH-EAST EARTHQUAKE, SOUTH AUSTRALIA, 4 May 1896

Date 4 May 1896

Time 0555 UTC

Location 36.83°S, 139.85°E

Magnitude 4.2 ML

Calculating magnitude

Maximum Intensity I_0: 5 gives ML 4.2 ± 0.6

References

SAEQCat; Bierbaum 1994; McCue 2012

298 | KINGSTON EARTHQUAKE, SOUTH AUSTRALIA, 8 May 1896

Date 8 May 1896

Time 0555 UTC

Location 35.32°S, 149.15°E

Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity I_0: 4.5 gives ML 3.9 ± 0.6

References

VOLS-269*;sharp shock

299 | COWELL EARTHQUAKE, SOUTH AUSTRALIA, 20 May 1896

Date 20 May 1896
Time 1310 UTC
Location 33.68°S, 136.93°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-270*;sharp

300 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 2 July 1896

Date 2 July 1896
Time 2205 UTC
Location 30.81°S, 138.4°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-271*;slight

301 | GLENELG EARTHQUAKE, SOUTH AUSTRALIA, 8 July 1896

Date 8 July 1896
Time 1815 UTC
Location 34.98°S, 138.52°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-272*;insufficient doc

302 | BOOLEROO CENTRE EARTHQUAKE, SOUTH AUSTRALIA, 14 July 1896

Date 14 July 1896
Time 1230 UTC
Location 32.88°S, 138.35°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-276*;several shocks felt

303 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 15 July 1896

Date 15 July 1896
Time 0630 UTC
Location 30.81°S, 138.4°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-274*;slight

304 | BOOLEROO CENTRE EARTHQUAKE, SOUTH AUSTRALIA, 16 July 1896

Date 16 July 1896
Time 1225 UTC
Location 32.88°S, 138.35°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-276*;slight shock felt

305 | BOOLEROO CENTRE EARTHQUAKE, SOUTH AUSTRALIA, 16 July 1896

Date 16 July 1896

Time 1830 UTC

Location 32.88°S, 138.35°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-276*;2 shocks close succession

306 | BURRA SWARM SHOCK 1, SOUTH AUSTRALIA, 22 August 1896

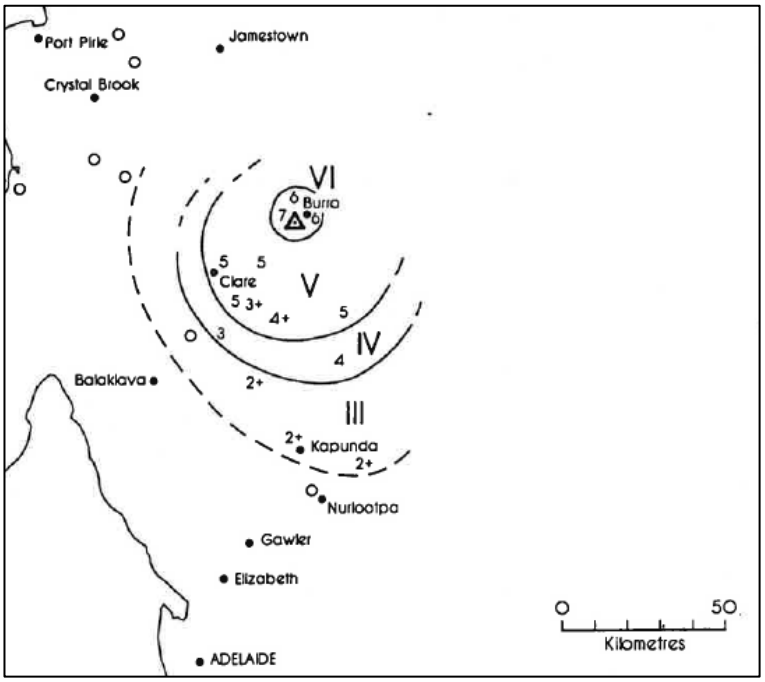
Date 22 August 1896

Time 0256 UTC

Location 33.75°S, 138.92°E

Magnitude 4.3 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity I_0: 7 gives ML 5.3 ± 0.8
Radius of Perceptibility
R_p: 51km gives ML 4 ± 1.4

References

Malpas 1991; Hons; SAEQCat; 24/SA/39; McCue 2012

307 | BURRA SWARM SHOCK 2, SOUTH AUSTRALIA, 22 August 1896

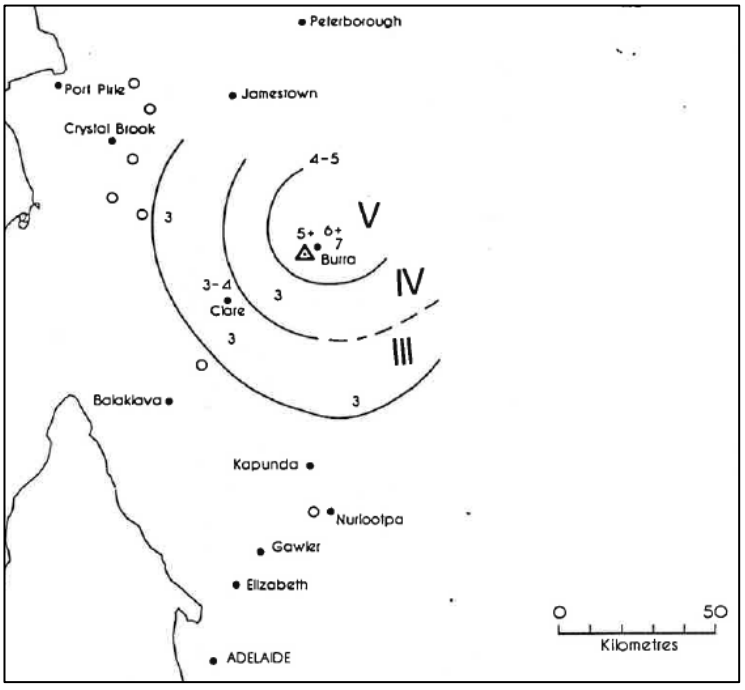
Date 22 August 1896

Time 0630 UTC

Location 33.75°S, 138.92°E

Magnitude 4 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity
I_0: 7 gives ML 5.3 ± 0.8
Radius of Perceptibility
R_p: 63km gives ML 4.1 ± 1.5

References

Malpas 1991; Hons; SAEQCat; 24/SA/40

308 | BURRA SWARM SHOCK 3, SOUTH AUSTRALIA, 22 August 1896

Date 22 August 1896

Time 1730 UTC

Location 33.75°S, 138.92°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

Malpas 1991; Hons; slight

309 | BURRA SWARM SHOCK 4, SOUTH AUSTRALIA, 23 August 1896

Date 23 August 1896

Time 1130 UTC

Location 33.75°S, 138.92°E

Magnitude 4.2 ML

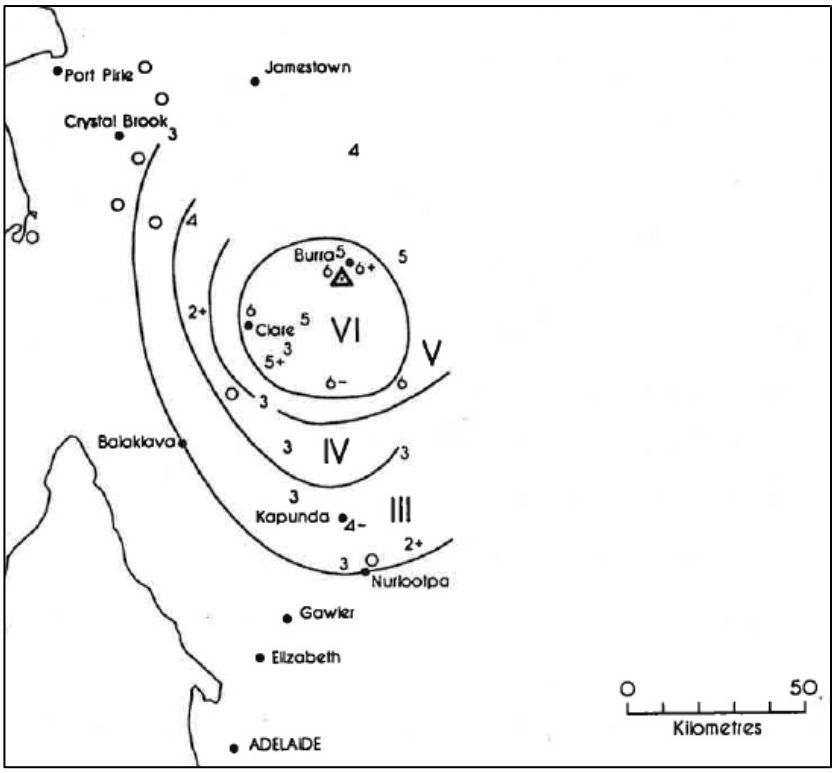
▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 6.5 gives ML 5.1 ± 0.7
Radius of Perceptibility
R_p: 72km gives ML 4.2 ± 1.6
Radius of Intensity
IV: 52km gives ML 4.2 ± 0.2

References

Malpas 1991; Hons; SAEQCat; 24/SA/41; McCue 1996



310 | BURRA SWARM SHOCK 5, SOUTH AUSTRALIA, 23 August 1896

Date 23 August 1896

Time 1710 UTC

Location 33.75°S, 138.92°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

Malpas 1991; Hons; slight

311 | BURRA SWARM SHOCKS 6-9, SOUTH AUSTRALIA, 25 August 1896

Date 25 August 1896

Time 0730, 1124, 1900, 2030 UTC

Location 33.75°S, 138.92°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

Malpas 1991; Hons; slight

312 | BURRA SWARM SHOCK 10, SOUTH AUSTRALIA, 26 August 1896

Date 26 August 1896
Time 0230 UTC
Location 33.75°S, 138.92°E
Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

Malpas 1991; Hons; slight

313 | RIVERTON EARTHQUAKE, SOUTH AUSTRALIA, 25 September 1896

Date 25 September 1896
Time 1124 UTC
Location 34.22°S, 138.74°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-277*;moderate shock

314 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 28 January 1897

Date 28 January 1897
Time 2345 UTC
Location 30.81°S, 138.4°E
Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

VOLS-278*;slight

315 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 29 January 1897

Date 29 January 1897
Time 1300 UTC
Location 30.81°S, 138.4°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-278*;slight

316 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 9 February 1897

Date 9 February 1897
Time 1410 UTC
Location 30.81°S, 138.4°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-280*;slight

317 | CAPE NORTHUMBERLAND EARTHQUAKE, SOUTH AUSTRALIA, 9 April 1897

Date 9 April 1897
Time 2400 UTC
Location 38.07°S, 140.67°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-281*; SAEQCat; sharp shock; in Bierbaum 1994

318 | CAPE BANKS EARTHQUAKE, SOUTH AUSTRALIA, 11 April 1897

Date 11 April 1897

Time 1435 UTC

Location 37.9°S, 140.37°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

SAEQCat; Bierbaum 1994

319 | EURELIA EARTHQUAKE, SOUTH AUSTRALIA, 23 April 1897

Date 23 April 1897

Time 2050 UTC

Location 32.6°S, 138.33°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-282*;sharp shock

320 | WIRRABARA EARTHQUAKE, SOUTH AUSTRALIA, 27 April 1897

Date 27 April 1897

Time 1030 UTC

Location 32.9°S, 138.2°E

Magnitude 3.6 ML

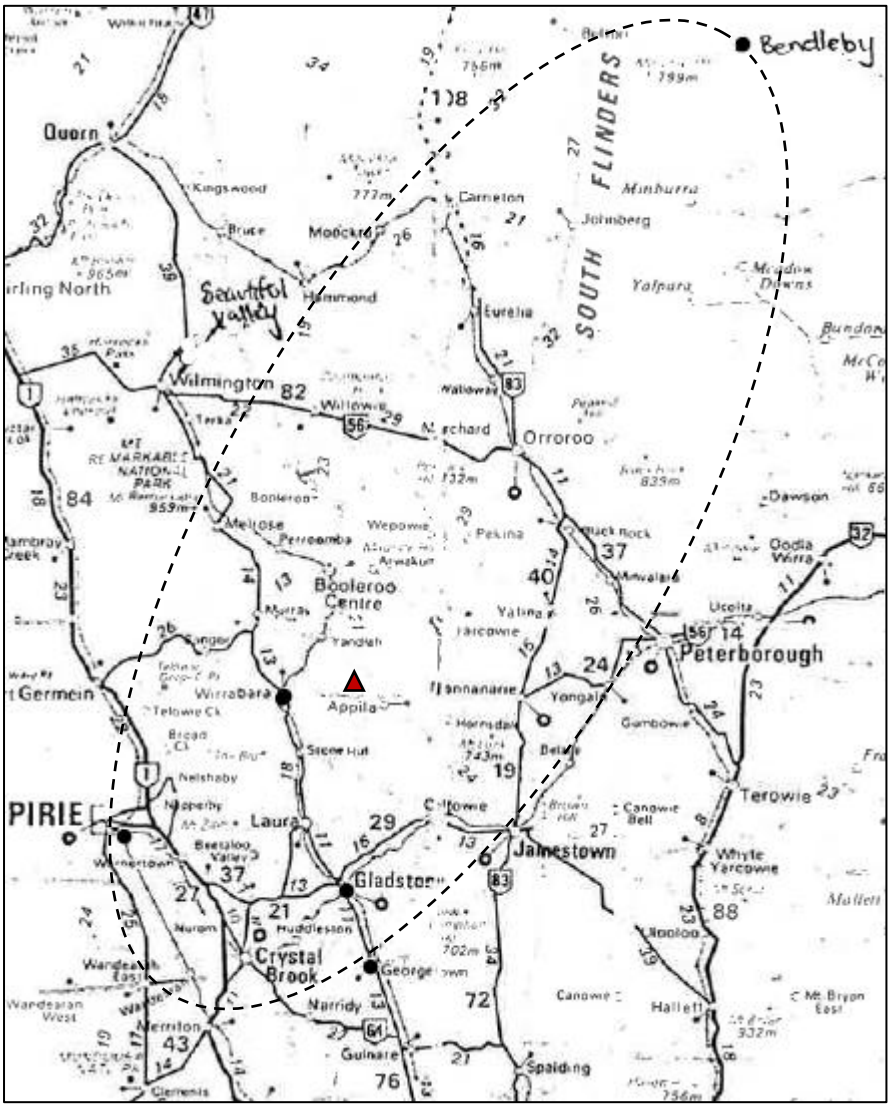
▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-283m*;moderate



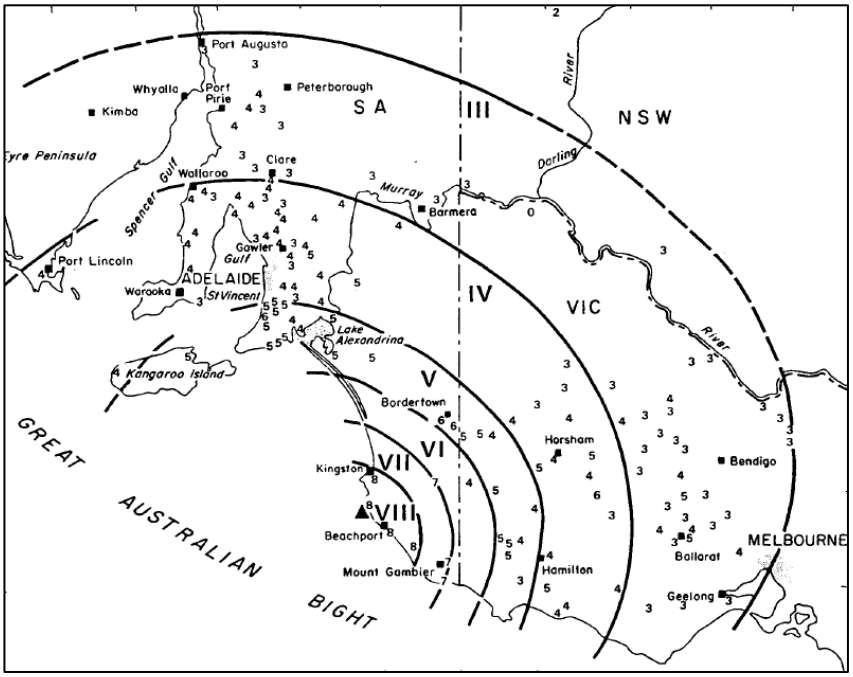
321 | KINGSTON SE EARTHQUAKE, SOUTH AUSTRALIA, 10 May 1897

Date 10 May 1897

Time 0526 UTC

Location 37.3°S, 139.75°E

Magnitude 6.5 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 9 gives ML 6.5 ± 0.9
Radius of Perceptibility
R_p: 700km gives ML 6.5 ± 2.5
Radius of Intensity
IV: 550km gives ML 6.6 ± 0.4

References

Hons; SAEQCat; 24/A/23; 24/SA/02; Bierbaum 1994; Dyster; McCue 1975; McCue 2012; Malpas 1897

322 | ROBE/BEACHPORT EARTHQUAKE, SOUTH AUSTRALIA, 1 June 1897

Date 1 June 1897

Time 1000 UTC

Location 37.5°S, 140°E

Magnitude 4.5 ML

Calculating magnitude

Maximum Intensity I_0: 5 gives ML 4.2 ± 0.6

References

McCue 2012

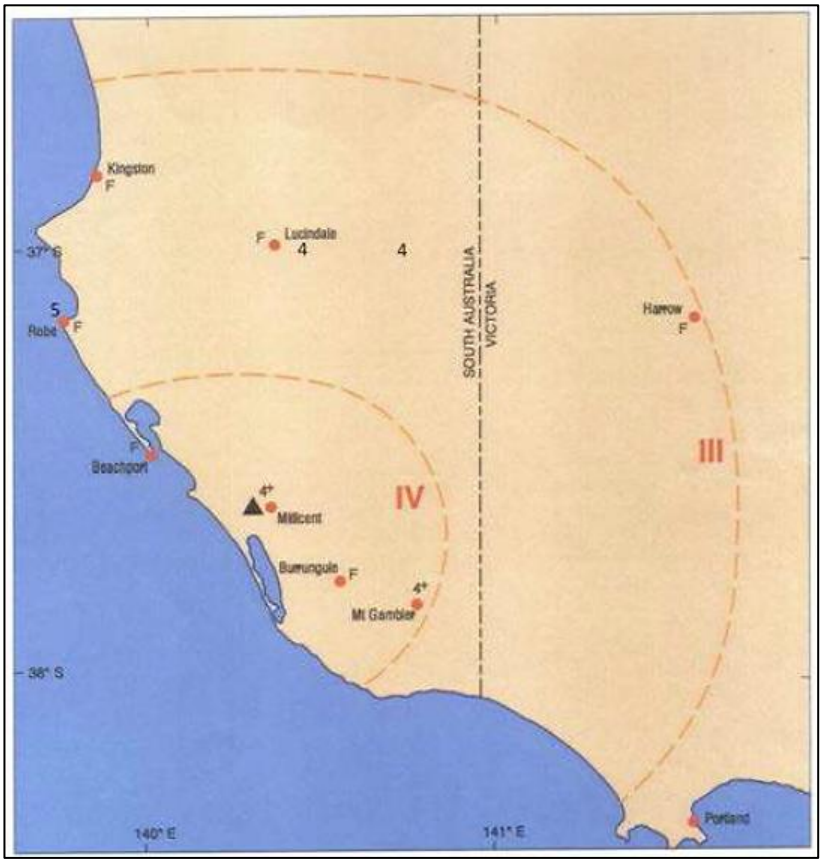
323 | ROBE/BEACHPORT EARTHQUAKE, SOUTH AUSTRALIA, 3 June 1897

Date 3 June 1897

Time 1300 UTC

Location 37.5°S, 140°E

Magnitude 5 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 6 gives ML 4.8 ± 0.7

References

McCue 2012m

324 | ROBE/BEACHPORT EARTHQUAKE, SOUTH AUSTRALIA, 18 June 1897

Date 18 June 1897

Time 1435 UTC

Location 37.5°S, 140°E

Magnitude 4.5 ML

Calculating magnitude

Maximum Intensity I_0: 5 gives ML 4.2 ± 0.6

References

McCue 2012

325 | ROBE EARTHQUAKE, SOUTH AUSTRALIA, 25 June 1897

Date 25 June 1897

Time 1025 UTC

Location 37.17°S, 139.75°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

SAEQCat

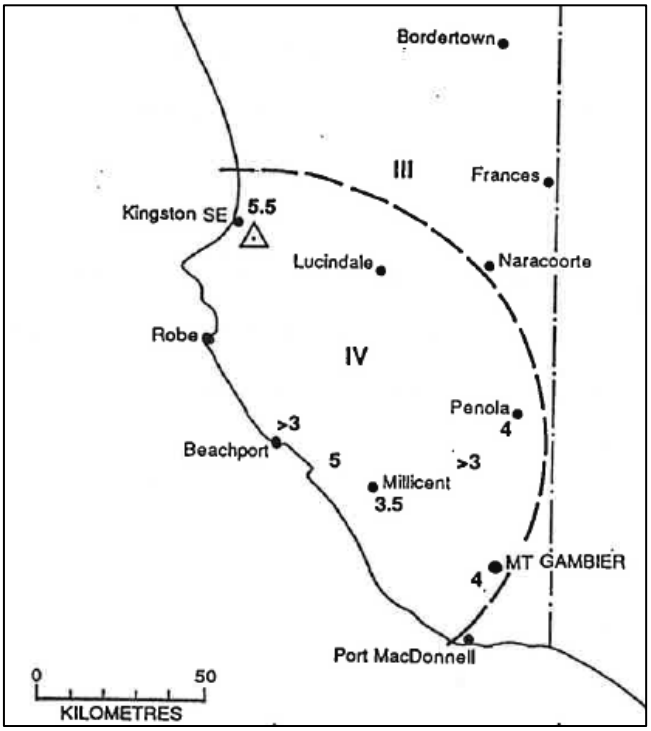
326 | KINGSTON SE EARTHQUAKE, SOUTH AUSTRALIA, 29 June 1897

Date 29 June 1897

Time 1830 UTC

Location 36.83°S, 139.85°E

Magnitude 4.4 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity I_0: 5 gives ML 4.2 ± 0.6

References

VOLS-286*; SAEQCat; sharp shock; in Bierbaum 1994m

327 | ROBE EARTHQUAKE, SOUTH AUSTRALIA, 25 July 1897

Date 25 July 1897

Time 1025 UTC

Location 37.27°S, 139.95°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

Bierbaum 1994

328 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 10 September 1897

Date 10 September 1897

Time 1841 UTC

Location 30.81°S, 138.4°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-287*;strong shock

329 | WIRRABARA EARTHQUAKE, SOUTH AUSTRALIA, 18 September 1897

Date 18 September 1897

Time 2223 UTC

Location 32.95°S, 138.16°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-289*;sharp shock

330 | LEIGH CREEK EARTHQUAKE, SOUTH AUSTRALIA, 12 October 1897

Date 12 October 1897

Time

Location 27.8°S, 140.62°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-290*;slight shock in am

331 | WOODSIDE EARTHQUAKE, SOUTH AUSTRALIA, 2 November 1897

Date 2 November 1897

Time 1035 UTC

Location 34.92°S, 138.9°E

Magnitude 2.9 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 6km gives ML 2.6 ± 0.7

References

VOLS-291*;slight shock

332 | EUDUNDA EARTHQUAKE, SOUTH AUSTRALIA, 8 November 1897

Date 8 November 1897

Time 1430 UTC

Location 34.09°S, 139.17°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 2.5 gives ML 2.8 ± 0.5

References

VOLS-293*;slight shock

333 | MURRAY BRIDGE EARTHQUAKE, SOUTH AUSTRALIA, 28 November 1897

Date 28 November 1897

Time 2030 UTC

Location 35.09°S, 139.31°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-294*;slight shock

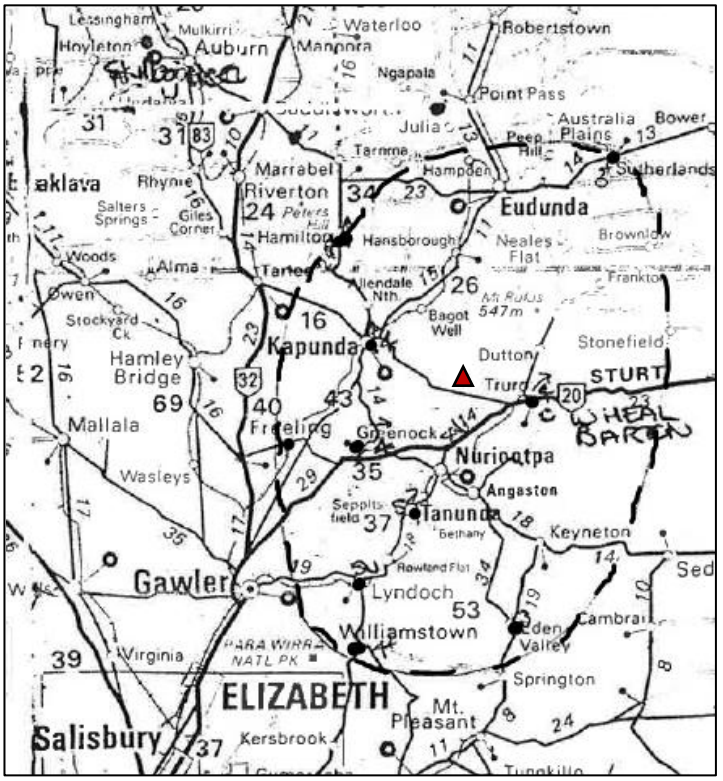
334 | BAROSSA VALLEY EARTHQUAKE, SOUTH AUSTRALIA, 28 January 1898

Date 28 January 1898

Time 0820 UTC

Location 34.42°S, 139.03°E

Magnitude 3.6 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4.5 gives ML 3.9 ± 0.6
Radius of Perceptibility
R_p: 20km gives ML 3.3 ± 1.1

References

VOLS-295m; SAEQCat; moderate shock

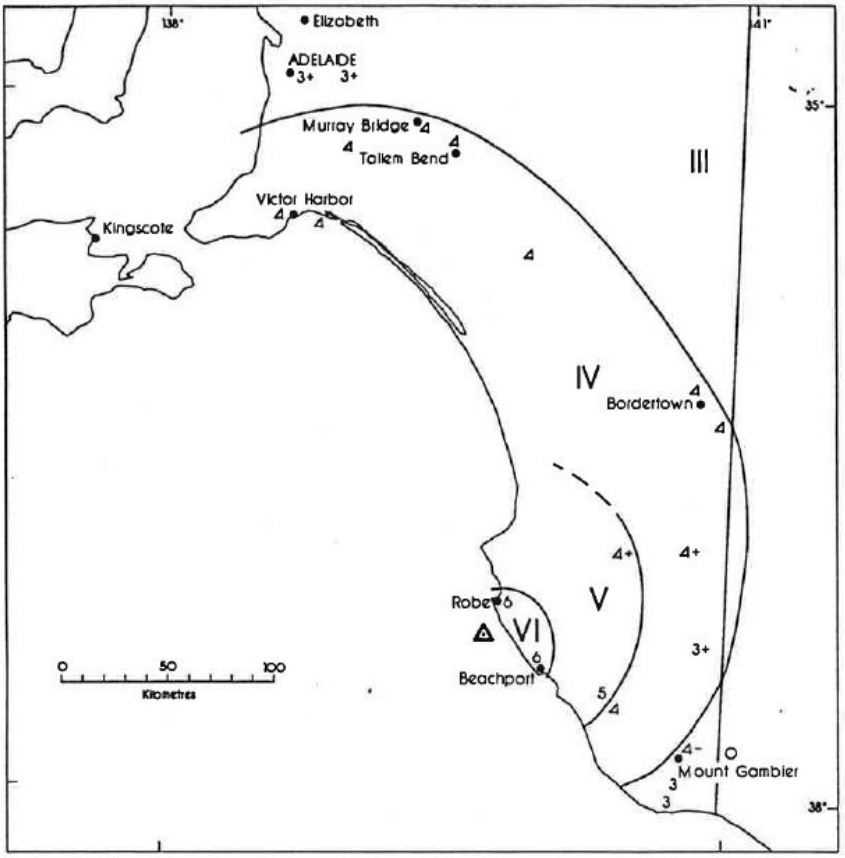
335 | ROBE EARTHQUAKE, SOUTH AUSTRALIA, 10 April 1898

Date 10 April 1898

Time 2110 UTC

Location 37.3°S, 139.75°E

Magnitude 4.9 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 6 gives ML 4.8 ± 0.7
Radius of Perceptibility
R_p: 150km gives ML 4.9 ± 1.8

References

Malpas 1991; Hons; SAEQCat; 24/SA/42; Bierbaum 1994

336 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 18 July 1898

Date 18 July 1898

Time 0700 UTC

Location 30.81°S, 138.4°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-298*;slight

337 | WILLOWIE EARTHQUAKE, SOUTH AUSTRALIA, 4 August 1898

Date 4 August 1898

Time 1900 UTC

Location 32.6°S, 138.33°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-299*;slight

339 | KINGSTON SE EARTHQUAKE, SOUTH AUSTRALIA, 18 November 1898

Date 18 November 1898

Time 2120 UTC

Location 36.83°S, 139.85°E

Magnitude 3.8 ML

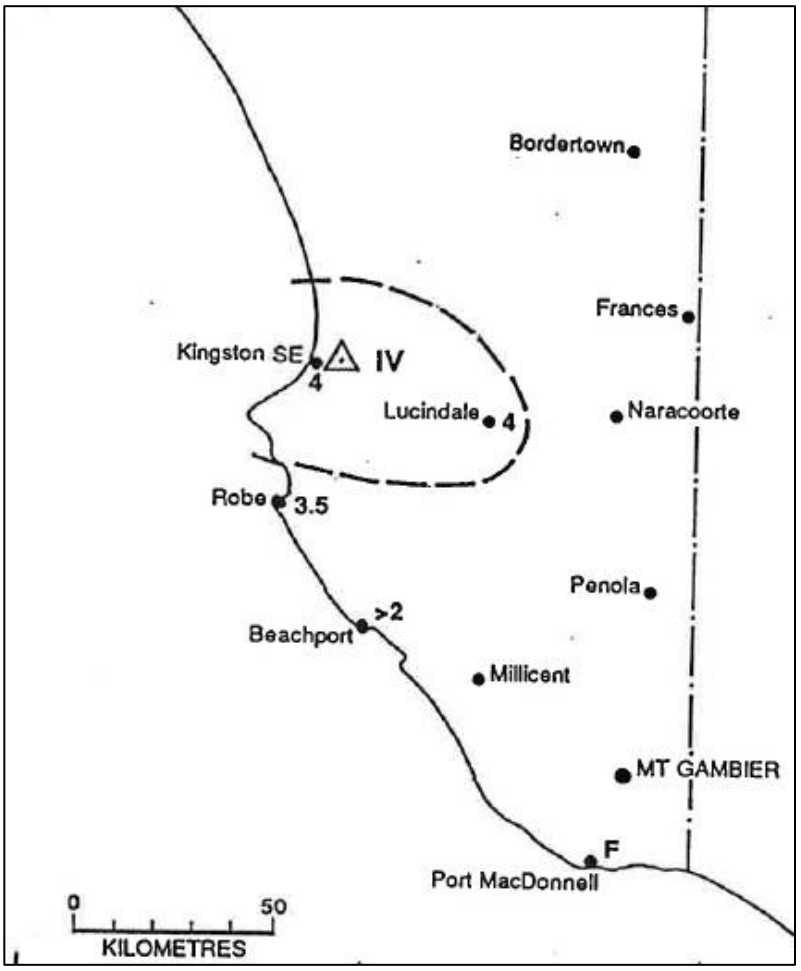
▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
$I_{0:}$ 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 50km gives ML 4 ± 1.4

References

VOLS-301*; SAEQCat; slight; Bierbaum 1994m



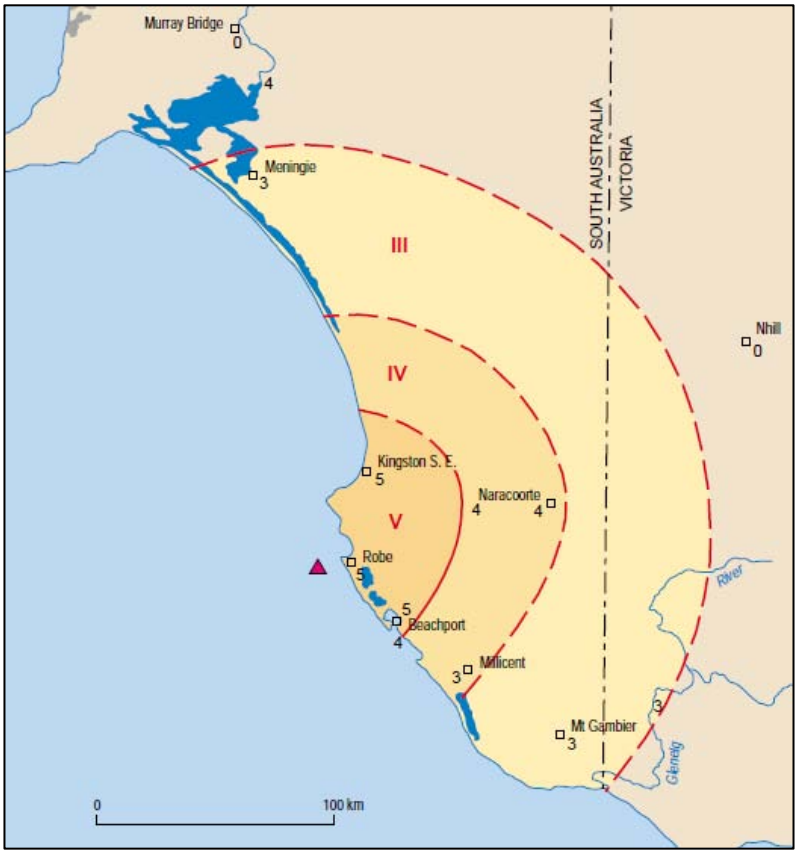
340 | CORNEY POINT EARTHQUAKE, SOUTH AUSTRALIA, 16 April 1899

Date 16 April 1899

Time 2358 UTC

Location 34.86°S, 137.07°E

Magnitude 3.6 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-302*; McCue 1996; slight

341 | ROBE EARTHQUAKE, SOUTH AUSTRALIA, 2 May 1899

Date 2 May 1899

Time 0330 UTC

Location 37.3°S, 139.75°E

Magnitude 5.3 ML

Calculating magnitude

Maximum Intensity I_0: 7 gives ML 5.3 ± 0.8
Radius of Perceptibility R_p: 210km gives ML 5.2 ± 2

References

SAEQCat; 24/SA/30; Bierbaum 1994

342 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 2 July 1899

Date 2 July 1899

Time 1357 UTC

Location 30.81°S, 138.4°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-303*;double shock

343 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 28 July 1899

Date 28 July 1899

Time 0445 UTC

Location 30.81°S, 138.4°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-304*;sharp shock

344 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 28 July 1899

Date 28 July 1899
Time 0757 UTC
Location 30.81°S, 138.4°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-304*;sharp shock

345 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 28 July 1899

Date 28 July 1899
Time 0924 UTC
Location 30.81°S, 138.4°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-304*;sharp shock

346 | KINGSTON SE EARTHQUAKE, SOUTH AUSTRALIA, 10 August 1899

Date 10 August 1899
Time 2130 UTC
Location 36.83°S, 139.85°E
Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

SAEQCat; Bierbaum 1994

347 | KINGSTON SE EARTHQUAKE, SOUTH AUSTRALIA, 13 August 1899

Date 13 August 1899
Time 1142 UTC
Location 36.83°S, 139.85°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-305*; sharp shock ; SAEQCat; Bierbaum 1994

348 | REDHILL EARTHQUAKE, SOUTH AUSTRALIA, 3 September 1899

Date 3 September 1899
Time 2339 UTC
Location 33.54°S, 138.22°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-306*;moderate

349 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 12 September 1899

Date 12 September 1899
Time 1144 UTC
Location 30.81°S, 138.4°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-307*;slight

350 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 12 September 1899

Date 12 September 1899
Time 1315 UTC
Location 30.81°S, 138.4°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-307*;slight

351 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 12 September 1899

Date 12 September 1899
Time 1630 UTC
Location 30.81°S, 138.4°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-307*;slight

352 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 12 September 1899

Date 12 September 1899
Time 2145 UTC
Location 30.81°S, 138.4°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-307*;slight

353 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 18 September 1899

Date 18 September 1899
Time 2305 UTC
Location 30.81°S, 138.4°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-308*;sharp

354 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 19 September 1899

Date 19 September 1899
Time 0238 UTC
Location 30.81°S, 138.4°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-308*;sharp

355 | YONGALA EARTHQUAKE, SOUTH AUSTRALIA, 10 October 1899

Date 10 October 1899
Time 0141 UTC
Location 33.03°S, 138.75°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-309*;very sharp

356 | ORRoROO EARTHQUAKE, SOUTH AUSTRALIA, 2 November 1899

Date 2 November 1899
Time 2008 UTC
Location 32.6°S, 138.33°E
Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity I_0: 4.5 gives ML 3.9 ± 0.6

References

VOLS-310*;moderate tremor

357 | WILSON EARTHQUAKE, SOUTH AUSTRALIA, 12 November 1899

Date 12 November 1899
Time 0901 UTC
Location 32.01°S, 138.36°E
Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

VOLS-311*;slight

358 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 15 January 1900

Date 15 January 1900
Time 1744 UTC
Location 30.81°S, 138.4°E
Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity I_0: 4.5 gives ML 3.9 ± 0.6

References

VOLS-312*;plaster falls

359 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 2 February 1900

Date 2 February 1900
Time 1615 UTC
Location 30.81°S, 138.4°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-314*;sharp shock

360 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 14 February 1900

Date 14 February 1900
Time 1547 UTC
Location 30.81°S, 138.4°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-315*;sharp shock

361 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 6 March 1900

Date 6 March 1900
Time 0359 UTC
Location 30.81°S, 138.4°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-316*;Many slight tremors

362 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 18 March 1900

Date 18 March 1900

Time 1744 UTC

Location 30.81°S, 138.4°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-317*;slight shock

363 | WIRRABARA EARTHQUAKE, SOUTH AUSTRALIA, 21 March 1900

Date 21 March 1900

Time 1910 UTC

Location 32.95°S, 138.16°E

Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4.5 gives ML 3.9 ± 0.6

References

VOLS-318*;moderate

364 | BALAKLAVA EARTHQUAKE, SOUTH AUSTRALIA, 19 May 1900

Date 19 May 1900

Time 2221 UTC

Location 34.15°S, 138.42°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-319*;crockery rattle

365 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 29 May 1900

Date 29 May 1900

Time 0548 UTC

Location 30.81°S, 138.4°E

Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4.5 gives ML 3.9 ± 0.6

References

VOLS-320*;sharp

366 | HAMMOND EARTHQUAKE, SOUTH AUSTRALIA, 26 June 1900

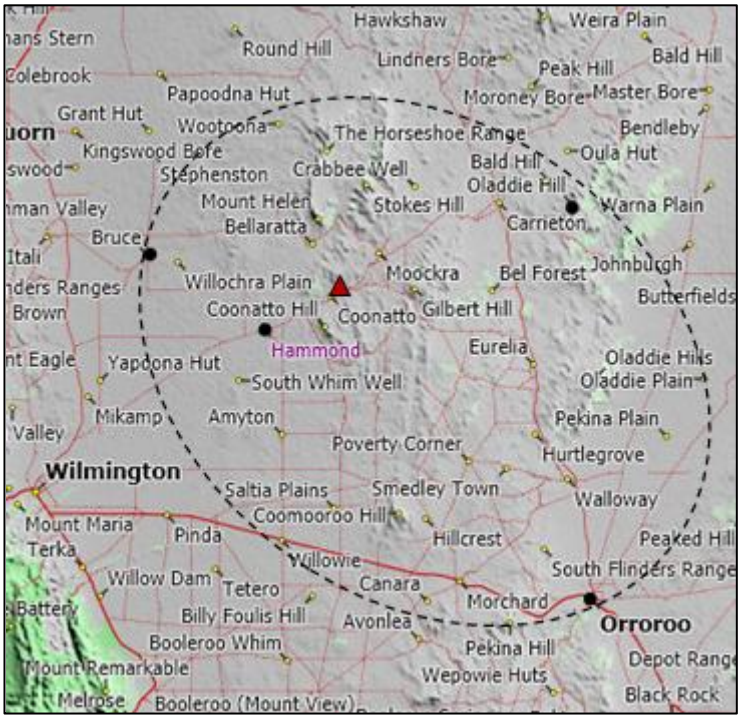
Date 26 June 1900

Time 2010 UTC

Location 32.52°S, 138.37°E

Magnitude 3.7 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity
I_0: 4.5 gives ML 3.9 ± 0.6
Radius of Perceptibility
R_p: 23km gives ML 3.4 ± 1.1

References

VOLS-322*;distinct

367 | ORROROO EARTHQUAKE, SOUTH AUSTRALIA, 28 June 1900

Date 28 June 1900

Time 2015 UTC

Location 32.6°S, 138.33°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-324*;sharp

368 | BOOLEROO CENTRE EARTHQUAKE, SOUTH AUSTRALIA, 22 August 1900

Date 22 August 1900

Time 0228 UTC

Location 32.88°S, 138.35°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-325*;slight

369 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 31 October 1900

Date 31 October 1900

Time 2255 UTC

Location 30.81°S, 138.4°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-327*;slight

370 | WAUKARINGA EARTHQUAKE, SOUTH AUSTRALIA, 26 April 1901

Date 26 April 1901
Time
Location 32.08°S, 141°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-329*;sharp, in the am

371 | APPILA YARROWIE EARTHQUAKE, SOUTH AUSTRALIA, 1 July 1901

Date 1 July 1901
Time 2120 UTC
Location 33.05°S, 138.43°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-330*;severe shock

372 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 9 July 1901

Date 9 July 1901
Time 1010 UTC
Location 30.81°S, 138.4°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-331*;slight

373 | BLACK ROCK EARTHQUAKE, SOUTH AUSTRALIA, 23 August 1901

Date 23 August 1901
Time 2200 UTC
Location 32.6°S, 138.33°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-332*;slight

374 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 28 September 1901

Date 28 September 1901
Time 0756 UTC
Location 30.81°S, 138.4°E
Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity I_0: 4.5 gives ML 3.9 ± 0.6

References

VOLS-333*;severe, objects moved

375 | LAURA EARTHQUAKE, SOUTH AUSTRALIA, 30 December 1901

Date 30 December 1901
Time 0855 UTC
Location 33.05°S, 138.43°E
Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity I_0: 4.5 gives ML 3.9 ± 0.6

References

VOLS-334*;slight

376 | CALTOWIE EARTHQUAKE, SOUTH AUSTRALIA, 13 February 1902

Date 13 February 1902

Time 1631 UTC

Location 33.18°S, 138.48°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 30km gives ML 3.6 ± 1.2

References

VOLS-335*;moderate shock; McCue 2012

377 | BRUCE EARTHQUAKE, SOUTH AUSTRALIA, 7 May 1902

Date 7 May 1902

Time 2156 UTC

Location 32.45°S, 138.2°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

Malpas 1991; VOLS-338*;slight

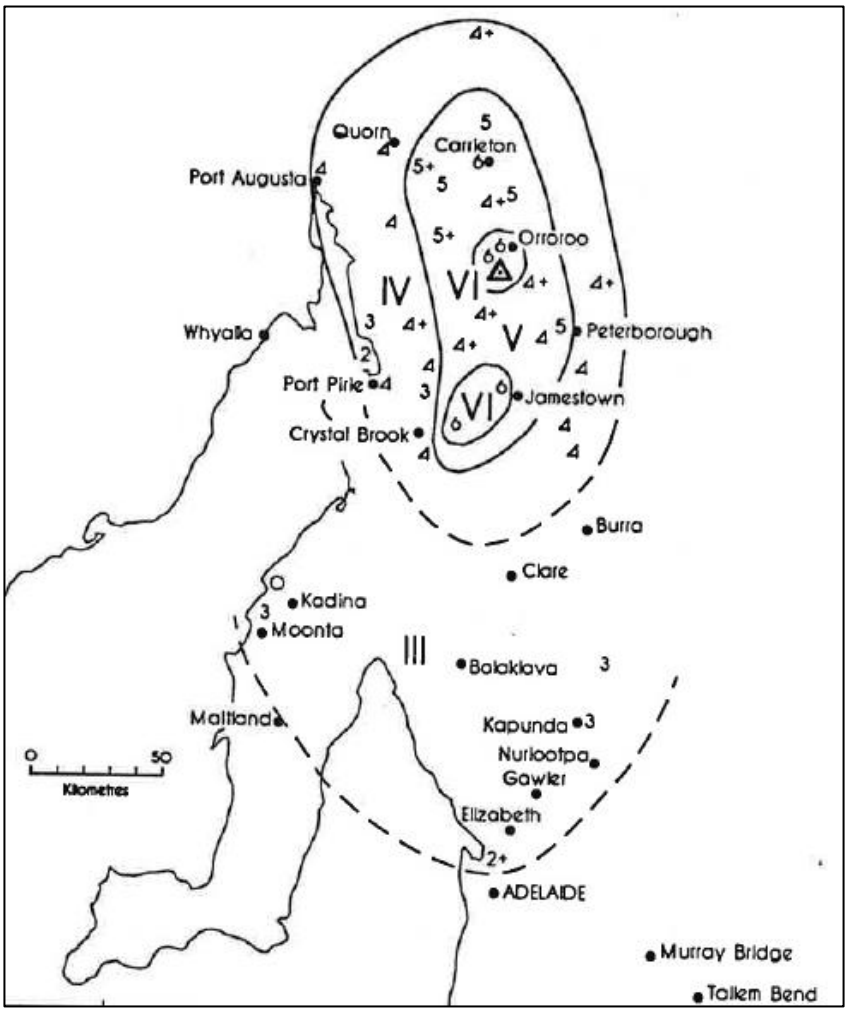
378 | MID-NORTH EARTHQUAKE, SOUTH AUSTRALIA, 7 May 1902

Date 7 May 1902

Time 0510 UTC

Location 32.75°S, 138.5°E

Magnitude 4.8 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 6 gives ML 4.8 ± 0.7
Radius of Perceptibility
R_p: 172km gives ML 5 ± 1.9
Radius of Intensity
IV: 95km gives ML 4.7 ± 0.3

References

Malpas 1991; VOLS-337*; SAEQCat; slight; 24/SA/43; McCue 2012

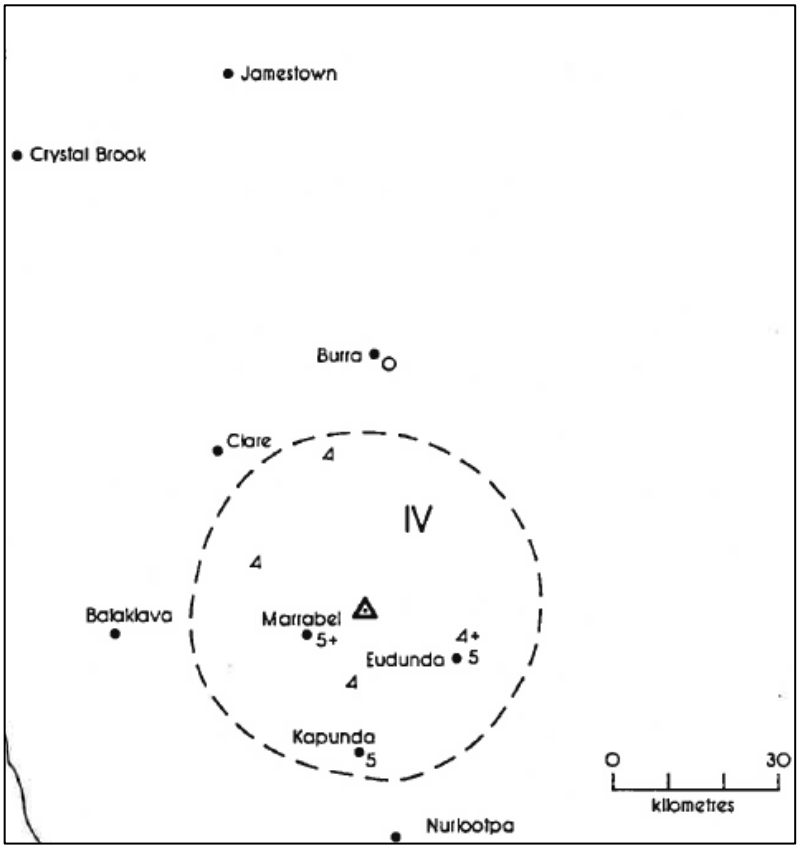
379 | MARRABEL EARTHQUAKE, SOUTH AUSTRALIA, 13 May 1902

Date 13 May 1902

Time 1850 UTC

Location 34.15°S, 138.88°E

Magnitude 3.5 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 30km gives ML 3.6 ± 1.2

References

Malpas 1991; Hons; SAEQCat; 24/SA/44

380 | PETHERTON EARTHQUAKE, SOUTH AUSTRALIA, 18 May 1902

Date 18 May 1902

Time 1615 UTC

Location 33.49°S, 138.82°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

VOLS-339*;slight

381 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 3 June 1902

Date 3 June 1902

Time 1347 UTC

Location 30.81°S, 138.4°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-340*;slight

382 | BAROSSA VALLEY EARTHQUAKE, SOUTH AUSTRALIA, 4 June 1902

Date 4 June 1902

Time 0700 UTC

Location 34.67°S, 138.84°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-341*;slight

383 | CALTOWIE EARTHQUAKE, SOUTH AUSTRALIA, 5 June 1902

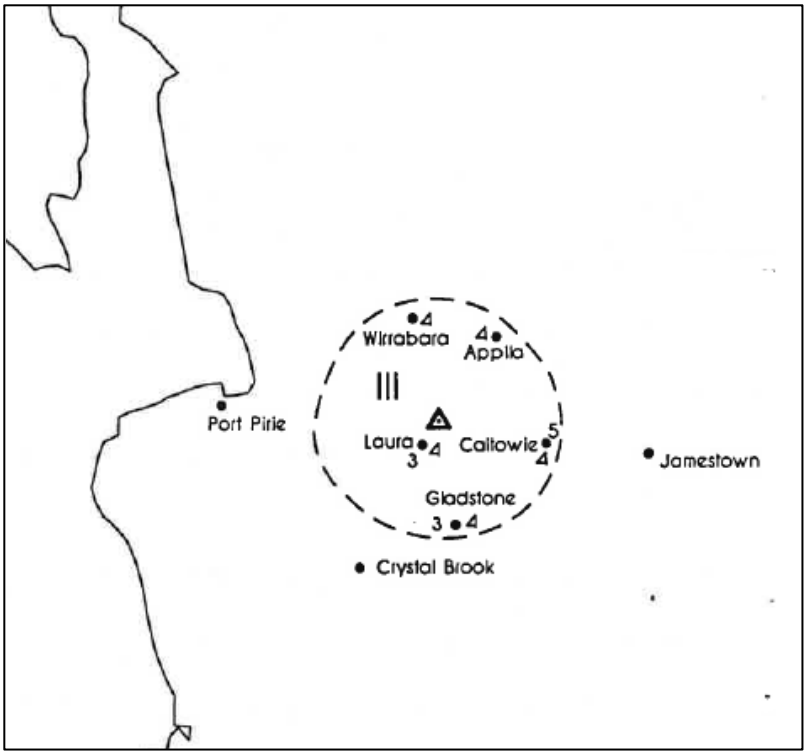
Date 5 June 1902

Time 2235 UTC

Location 33.17°S, 138.35°E

Magnitude 3.1 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity
I_0: 3 gives ML 3.1 ± 0.5
Radius of Perceptibility
R_p: 16km gives ML 3.1 ± 1.1

References

Malpas 1991; Hons; SAEQCat; 24/SA/45, McCue 2012

384 | HAWKER EARTHQUAKE, SOUTH AUSTRALIA, 15 June 1902

Date 15 June 1902

Time 1648 UTC

Location 31.8°S, 138.36°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-342*;sharp

385 | HAWKER EARTHQUAKE, SOUTH AUSTRALIA, 15 June 1902

Date 15 June 1902

Time 1822 UTC

Location 31.8°S, 138.36°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-342*;slight

386 | HAWKER EARTHQUAKE, SOUTH AUSTRALIA, 18 June 1902

Date 18 June 1902

Time 1121 UTC

Location 31.8°S, 138.36°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-343*;sharp

387 | SPALDING EARTHQUAKE, SOUTH AUSTRALIA, 18 September 1902

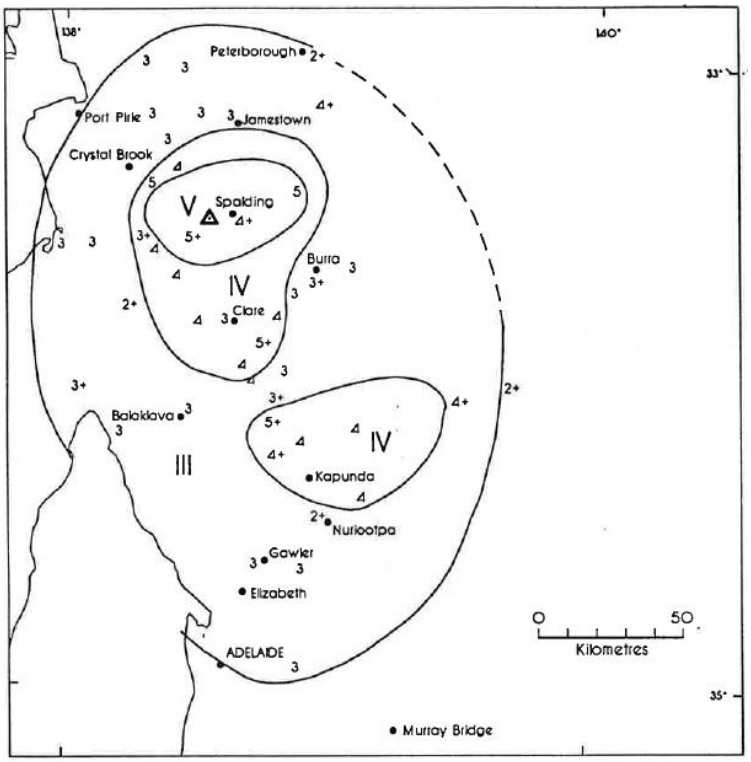
Date 18 September 1902

Time 2100 UTC

Location 32.5°S, 138.5°E

Magnitude 4.4 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity
I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility
R_p: 98km gives ML 4.5 ± 1.7

References

SAEQCat; 24/SA/48; Malpas 1902; Hons

388 | WAROOKA EARTHQUAKE, SOUTH AUSTRALIA, 19 September 1902

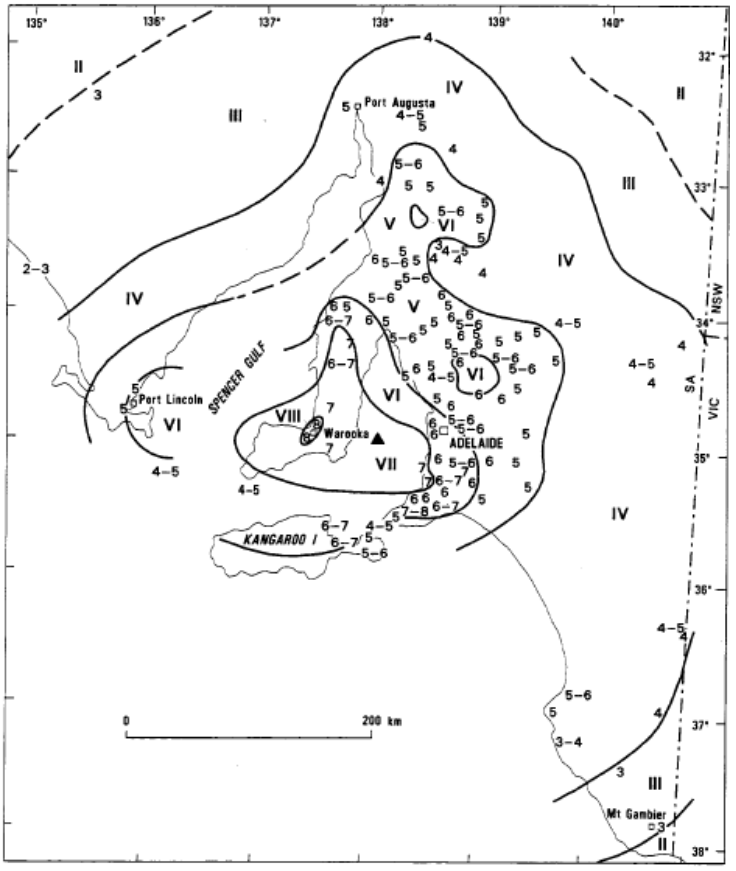
Date 19 September 1902

Time 1035 UTC

Location 35°S, 138°E

Magnitude 6 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity
I_0: 8 gives ML 5.9 ± 0.8
Radius of Perceptibility
R_p: 400km gives ML 5.9 ± 2.2
Radius of Intensity
IV: 320km gives ML 6 ± 0.3

References

SAEQCat; 24/SA/03; Dyster; McCue 2012; Malpas 1902; Hons

389 | SPALDING AFTERSHOCK, SOUTH AUSTRALIA, 20 September 1902

Date 20 September 1902

Time 0925 UTC

Location 35°S, 138°E

Magnitude 4.4 ML

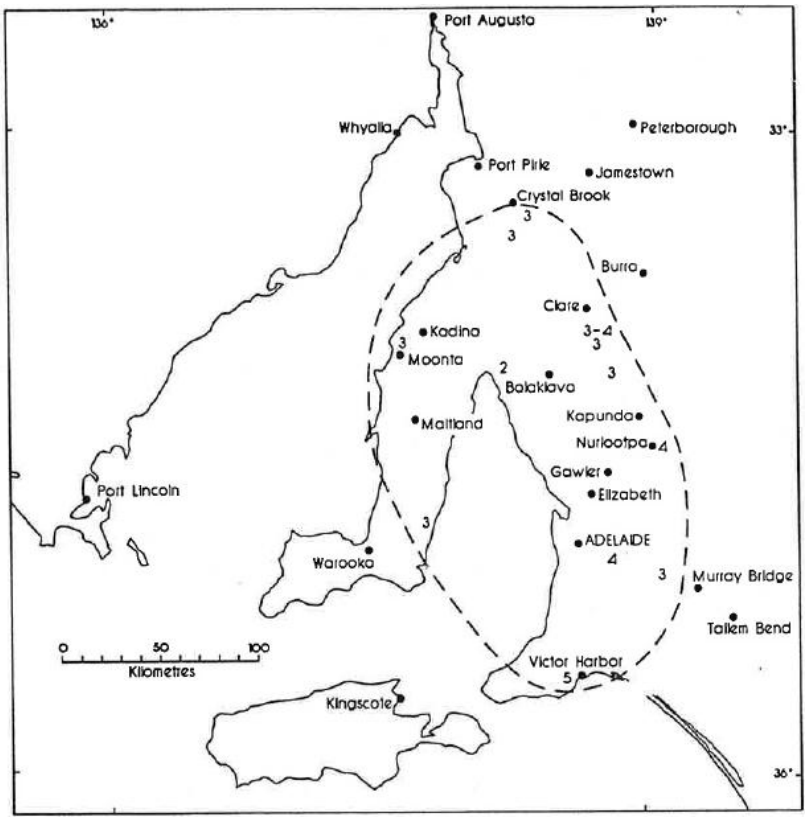
▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility
R_p: 100km gives ML 4.5 ± 1.7

References

SAEQCat; 24/SA/03; Dyster; McCue 2012; Malpas 1902; Hons



390 | WAROOKA AFTERSHOCK, SOUTH AUSTRALIA, 20 September 1902

Date 20 September 1902

Time 0935 UTC

Location 35°S, 138°E

Magnitude 4.8 ML

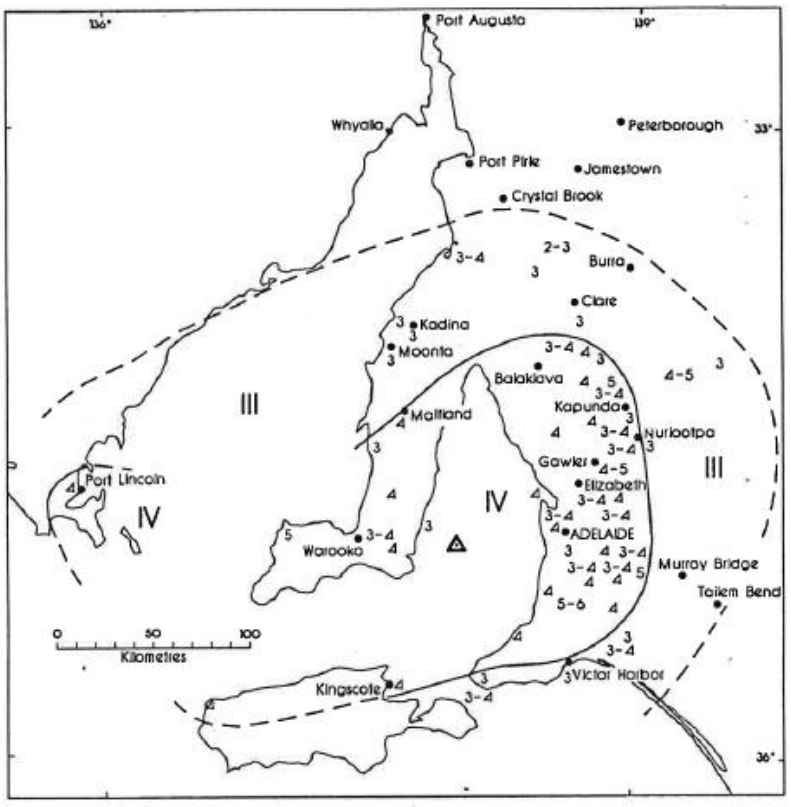
▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 5.5 gives ML 4.5 ± 0.7
Radius of Perceptibility
R_p: 180km gives ML 5.1 ± 1.9
Radius of Intensity
IV: 110km gives ML 4.9 ± 0.2

References

SAEQCat; 24/SA/37, 24/SA/46; Malpas 1902; Hons



391 | SPALDING AFTERSHOCK, SOUTH AUSTRALIA, 21 September 1902

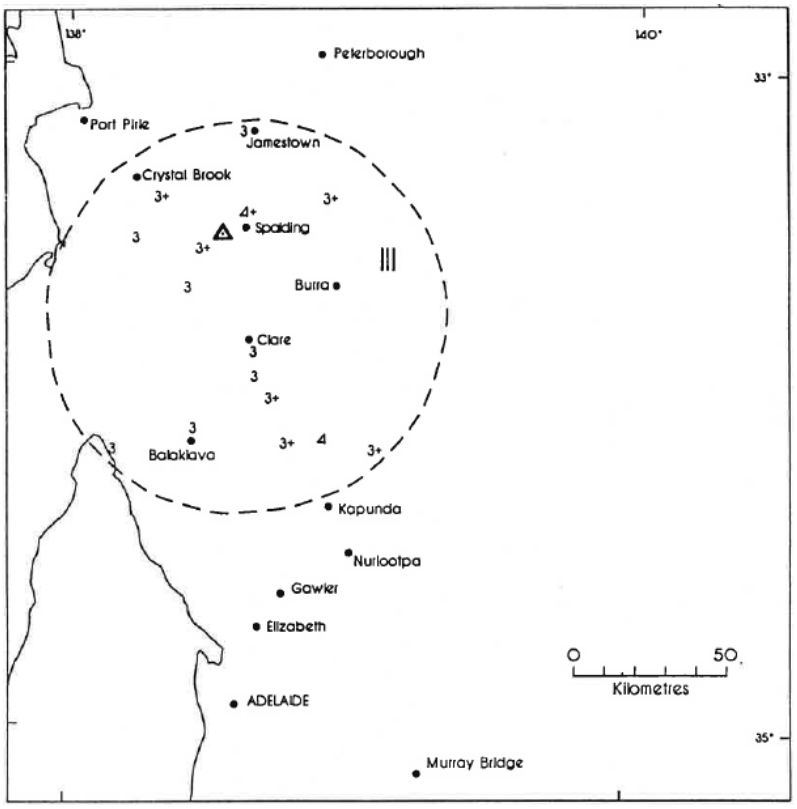
Date 21 September 1902

Time 0410 UTC

Location 33.5°S, 138.5°E

Magnitude 3.9 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 65km gives ML 4.2 ± 1.5

References

SAEQCat; 24/SA/47; Malpas 1902; Hons

392 | PORT WAKEFIELD EARTHQUAKE, SOUTH AUSTRALIA, 24 September 1902

Date 24 September 1902

Time

Location 34.07°S, 138.23°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-344*;sharp shock

393 | ECHUNGA EARTHQUAKE, SOUTH AUSTRALIA, 17 October 1902

Date 17 October 1902

Time 0920 UTC

Location 35.07°S, 138.78°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-345*;slight

394 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 29 October 1902

Date 29 October 1902

Time 2213 UTC

Location 30.81°S, 138.4°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-346*;sharp

395 | HALLETT EARTHQUAKE, SOUTH AUSTRALIA, 8 December 1902

Date 8 December 1902
Time 0906 UTC
Location 33.39°S, 138.76°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-347*;sharp

396 | LAURA EARTHQUAKE, SOUTH AUSTRALIA, 21 December 1902

Date 21 December 1902
Time 0650 UTC
Location 33.05°S, 138.43°E
Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity I_0: 4.5 gives ML 3.9 ± 0.6

References

VOLS-348*;moderate

397 | PORT GERMEIN EARTHQUAKE, SOUTH AUSTRALIA, 23 December 1902

Date 23 December 1902
Time 0700 UTC
Location 32.92°S, 137.98°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-249*;slight

398 | PORT WAKEFIELD EARTHQUAKE, SOUTH AUSTRALIA, 31 January 1903

Date 31 January 1903
Time 0555 UTC
Location 34.07°S, 138.23°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-350*;sharp

399 | BRUCE EARTHQUAKE, SOUTH AUSTRALIA, 6 February 1903

Date 6 February 1903
Time 1040 UTC
Location 32.45°S, 138.2°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-351*;sharp

400 | BRUCE AFTERSHOCK EARTHQUAKE, SOUTH AUSTRALIA, 6 February 1903

Date 6 February 1903
Time 1653 UTC
Location 32.45°S, 138.2°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-351*;slight

401 | NAIRNE EARTHQUAKE, SOUTH AUSTRALIA, 28 February 1903

Date 28 February 1903

Time 1422 UTC

Location 35°S, 138.94°E

Magnitude 2.5 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 5km gives ML 2.5 ± 0.7

References

VOLS-352*;slight

402 | KINGSTON SE EARTHQUAKE, SOUTH AUSTRALIA, 9 March 1903

Date 9 March 1903

Time 2330 UTC

Location 36.83°S, 139.85°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-354*; SAEQCat; slight; Bierbaum 1994

403 | CAPE BANKS EARTHQUAKE, SOUTH AUSTRALIA, 10 March 1903

Date 10 March 1903

Time 0435 UTC

Location 37.9°S, 140.37°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-354*; SAEQCat; very slight; Bierbaum 1994

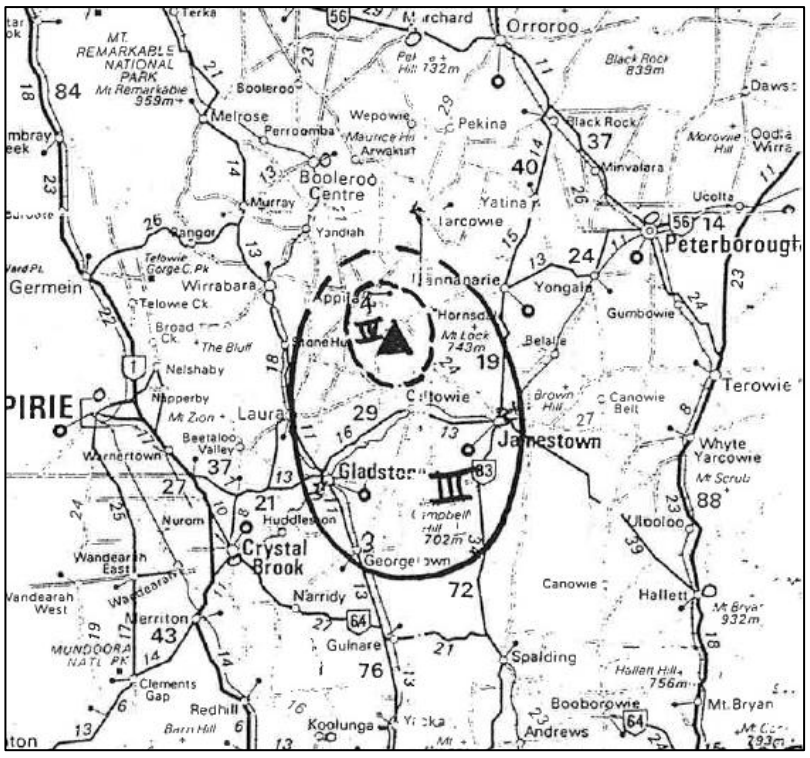
404 | APPILA YARROWIE EARTHQUAKE, SOUTH AUSTRALIA, 7 April 1903

Date 7 April 1903

Time 0101 UTC

Location 33.1°S, 138.45°E

Magnitude 3.9 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 67km gives ML 4.2 ± 1.5
Radius of Intensity
IV: 23km gives ML 3.7 ± 0.1

References

VOLS-355m*; SAEQCat; slight shock

405 | WAUKARINGA EARTHQUAKE, SOUTH AUSTRALIA, 15 May 1903

Date 15 May 1903

Time 1850 UTC

Location 32.08°S, 141°E

Magnitude 2.9 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 10km gives ML 2.9 ± 0.8

References

VOLS-359*;distinct shock

406 | CLARENDON EARTHQUAKE, SOUTH AUSTRALIA, 17 May 1903

Date 17 May 1903

Time 1307 UTC

Location 35.28°S, 138.77°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 9km gives ML 2.8 ± 0.9

References

VOLS-361*;distinct shock

407 | ECHUNGA EARTHQUAKE, SOUTH AUSTRALIA, 1 June 1903

Date 1 June 1903

Time 1615 UTC

Location 35.05°S, 138.71°E

Magnitude 3.4 ML

▲ Epicentre (or estimate)

III Zone intensity designation

3 Earthquake felt (MM)

0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 18km gives ML 3.2 ± 1.1

References

VOLS-363*;slight

408 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 1 June 1903

Date 1 June 1903

Time 1915 UTC

Location 35.05°S, 138.71°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-363*;slight; McCue 2012

409 | MOONTA EARTHQUAKE, SOUTH AUSTRALIA, 25 June 1903

Date 25 June 1903

Time 0930 UTC

Location 34.16°S, 137.74°E

Magnitude 4.5 ML

Calculating magnitude

Maximum Intensity I_0: 5.6 gives ML 4.5 ± 0.7

References

VOLS-367*;severe shock

410 | CLARE EARTHQUAKE, SOUTH AUSTRALIA, 14 August 1903

Date 14 August 1903

Time 2110 UTC

Location 33.92°S, 138.5°E

Magnitude 4.1 ML

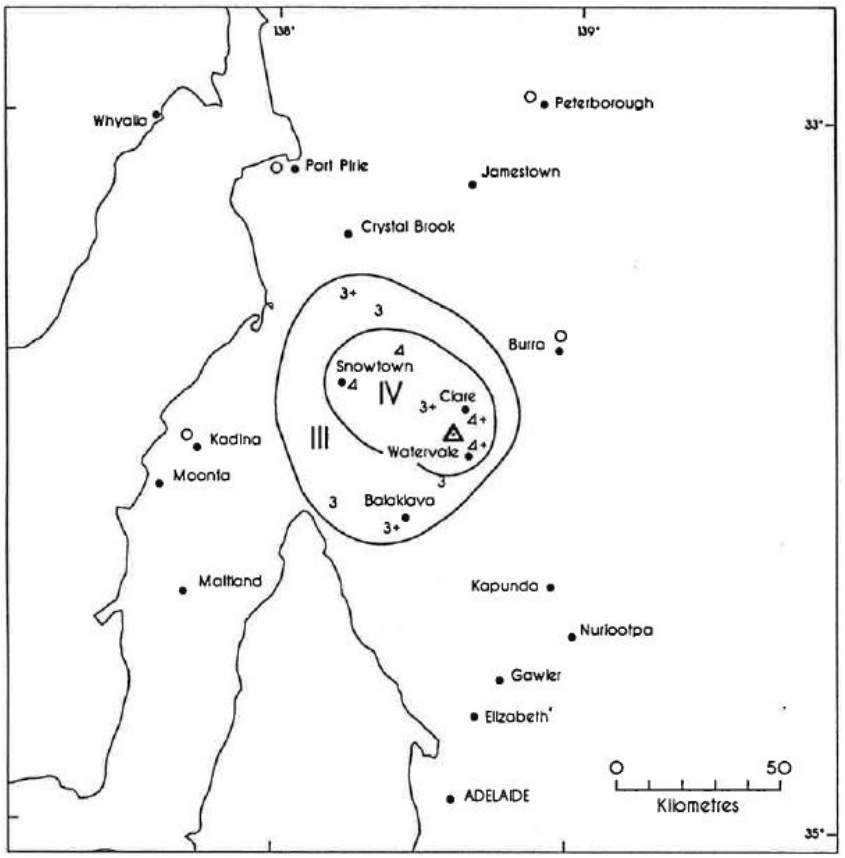
▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4.5 gives ML 3.9 ± 0.6
Radius of Perceptibility
R_p: 70km gives ML 4.2 ± 1.5

References

Malpas 1991; Hons; SAEQCat; 24/SA/49



411 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 16 November 1903

Date 16 November 1903

Time 0202 UTC

Location 34.3°S, 138.92°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-368*;moderate tremor

412 | KINGSTON AFTERSHOCK, SOUTH AUSTRALIA, 1 February 1904

Date 1 February 1904

Time 2130 UTC

Location 37.5°S, 140°E

Magnitude 3.5 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

McCue 2012

413 | WILLUNGA EARTHQUAKE, SOUTH AUSTRALIA, 6 April 1904

Date 6 April 1904

Time 1150 UTC

Location 35.27°S, 138.63°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 5 gives ML 4.2 ± 0.6
Radius of Perceptibility R_p: 12km gives ML 3 ± 0.9

References

VOLS-369*;slight

414 | REDHILL EARTHQUAKE, SOUTH AUSTRALIA, 6 May 1904

Date 6 May 1904

Time 0852 UTC

Location 33.54°S, 138.22°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-371*;slight

415 | HAWKER EARTHQUAKE, SOUTH AUSTRALIA, 21 September 1904

Date 21 September 1904

Time 1345 UTC

Location 31.75°S, 138.5°E

Magnitude 4.5 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 5.5 gives ML 4.5 ± 0.7
Radius of Perceptibility R_p: 100km gives ML 4.5 ± 1.7

References

VOLS-372*;very strong; McCue 2012

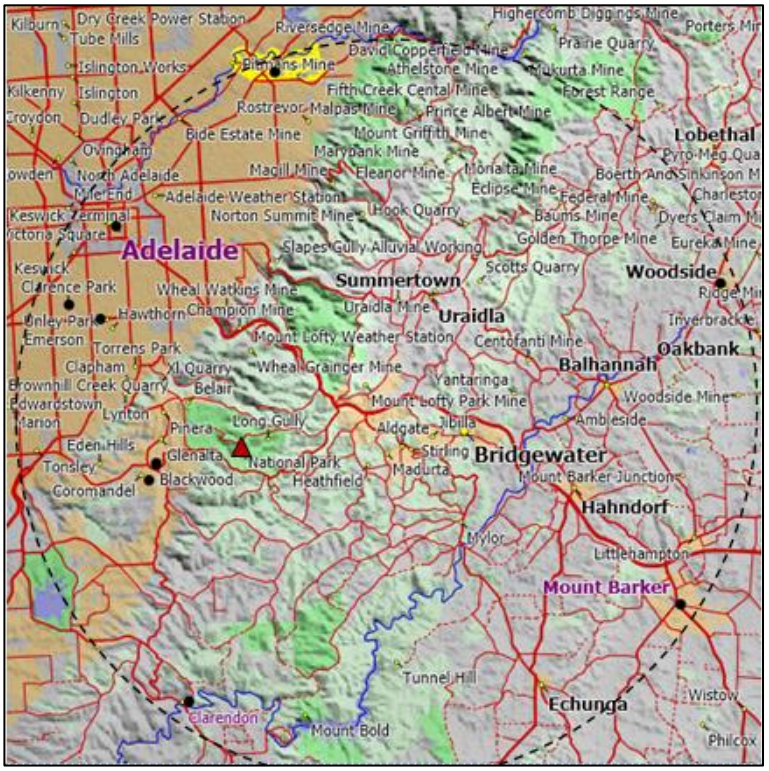
416 | BLACKWOOD EARTHQUAKE, SOUTH AUSTRALIA, 14 November 1904

Date 14 November 1904

Time 1236 UTC

Location 35°S, 138.6°E

Magnitude 3.4 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 15km gives ML 3.1 ± 1

References

McCue 2012

417 | BENDLEBY EARTHQUAKE, SOUTH AUSTRALIA, 23 February 1905

Date 23 February 1905

Time 1700 UTC

Location 32.35°S, 138.72°E

Magnitude 4.2 ML

Calculating magnitude

Maximum Intensity I_0: 5 gives ML 4.2 ± 0.6

References

VOLS-374*;severe tremor

418 | HERGOTT SPRINGS (MAREE) EARTHQUAKE?, SA, 25 April 1905

Date 25 April 1905

Time 0824 UTC

Location 29.64°S, 138.07°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5
The Advertiser (Adelaide, SA) 1909 Jan 21 page 9b. Mingary SA 32º 08'S, 140º 45'E; Boolcoomata SA 31º 58'S, 140º 33'E (Az 314º from Mingary) Murnpeowie Meteorite 29º 35'S, 139º 54'E [L. L. Smith. 1910] (Az 344º 294km from Mingary). The crater is very small and according to the Earth Impact Effects Program "The Richter Scale Magnitude for this impact is less than zero".

References

VOLS-376*;sharp shock; *Hergott Springs, April 25 A sharp shock of earthquake was felt here this evening at 5.54 o'clock. It lasted about 35 seconds, and travelled from north-west to south-east.*

The Advertiser Wednesday 26 April 1905 page 5c. *1909 Jan 16. "A BRILLIANT STAR. MINGARY, January 16.-At about 9.30 to-night a meteor of extraordinary brilliancy was observed falling in the north-west, beyond Boolcoomatta, at a point about two miles from the woolshed. The track of the star increased in luminosity. Although the stars shone brightly, the meteor resembled an immense electric light, and when it disappeared the difference was as marked as that between daylight and moonlight. Persons walking along the road had a splendid view. At first they were astonished at the great brilliance. The star was seen for several seconds.*

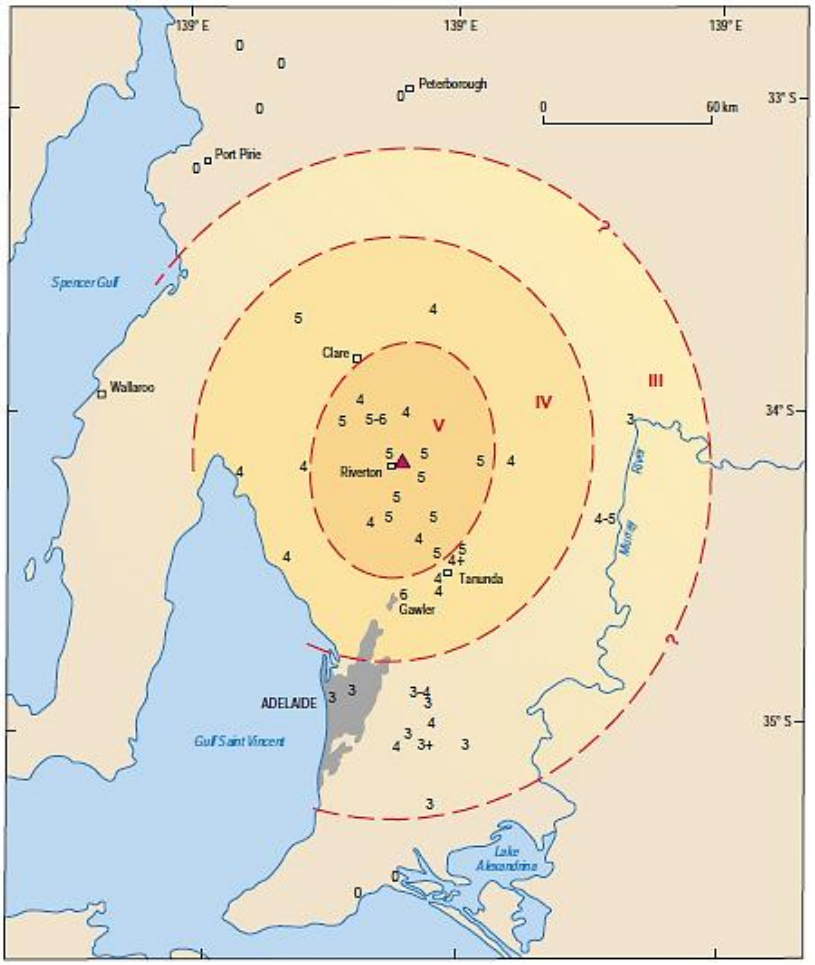
419 | RIVERTON EARTHQUAKE, SOUTH AUSTRALIA, 21 August 1905

Date 21 August 1905

Time 1835 UTC

Location 34.2°S, 138.8°E

Magnitude 4.6 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity

I_0: 5.5 gives ML 4.5 ± 0.7

Radius of Perceptibility

R_p: 120km gives ML 4.7 ± 1.7

Radius of Intensity

IV: 70km gives ML 4.5 ± 0.2

References

SAEQCat; 24/SA/27; McCue 1996

420 | COONALPYN EARTHQUAKE, SOUTH AUSTRALIA, 21 October 1905

Date 21 October 1905

Time 1445 UTC

Location 35.7°S, 139.86°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-377*;small tremor

421 | COONALPYN EARTHQUAKE, SOUTH AUSTRALIA, 21 October 1905

Date 21 October 1905

Time 1455 UTC

Location 35.7°S, 139.86°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-377*;small tremor

422 | COONALPYN EARTHQUAKE, SOUTH AUSTRALIA, 21 October 1905

Date 21 October 1905
Time 1505 UTC
Location 35.7°S, 139.86°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-377*;small tremor

423 | COONALPYN EARTHQUAKE, SOUTH AUSTRALIA, 21 October 1905

Date 21 October 1905
Time 1521 UTC
Location 35.7°S, 139.86°E
Magnitude

References

VOLS-377*;3 shocks between 1505-1521

BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 8 February 1906

Date 8 February 1906
Time 0634 UTC
Location 30.81°S, 138.4°E
Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

VOLS-378*;slight

425 | AUBURN EARTHQUAKE, SOUTH AUSTRALIA, 17 March 1906

Date 17 March 1906
Time 0410 UTC
Location 34.03°S, 138.68°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-379*;strong

426 | HAMMOND EARTHQUAKE, SOUTH AUSTRALIA, 10 May 1906

Date 10 May 1906
Time 0300 UTC
Location 32.6°S, 138.33°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-381*;slight

427 | BENDLEBY EARTHQUAKE, SOUTH AUSTRALIA, 17 June 1906

Date 17 June 1906
Time 1930 UTC
Location 32.35°S, 138.72°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-382*;2 shocks between 1930-2030

428 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 22 August 1906

Date 22 August 1906
Time 1114 UTC
Location 30.81°S, 138.4°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-383*;sharp

429 | LAURA EARTHQUAKE, SOUTH AUSTRALIA, 1 November 1906

Date 1 November 1906
Time 1215 UTC
Location 33.05°S, 138.43°E
Magnitude 2.5 ML

Calculating magnitude

Maximum Intensity I_0: 2 gives ML 2.5 ± 0.5

References

VOLS-384*;very slight

430 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 16 December 1906

Date 16 December 1906
Time 1645 UTC
Location 30.81°S, 138.4°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-385*;slight

431 | BELTANA EARTHQUAKE, SOUTH AUSTRALIA, 16 December 1906

Date 16 December 1906
Time 1822 UTC
Location 30.81°S, 138.4°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-385*;heavy

432 | CARRIETON EARTHQUAKE, SOUTH AUSTRALIA, 21 December 1906

Date 21 December 1906
Time 1409 UTC
Location 32.23°S, 138.71°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-386*;sharp, bells rang

433 | MOUNT COMPASS EARTHQUAKE, SOUTH AUSTRALIA, 17 May 1907

Date 17 May 1907
Time 0925 UTC
Location 35.35°S, 138.65°E
Magnitude 2.7 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 3km gives ML 2.3 ± 0.5

References

McCue 2012

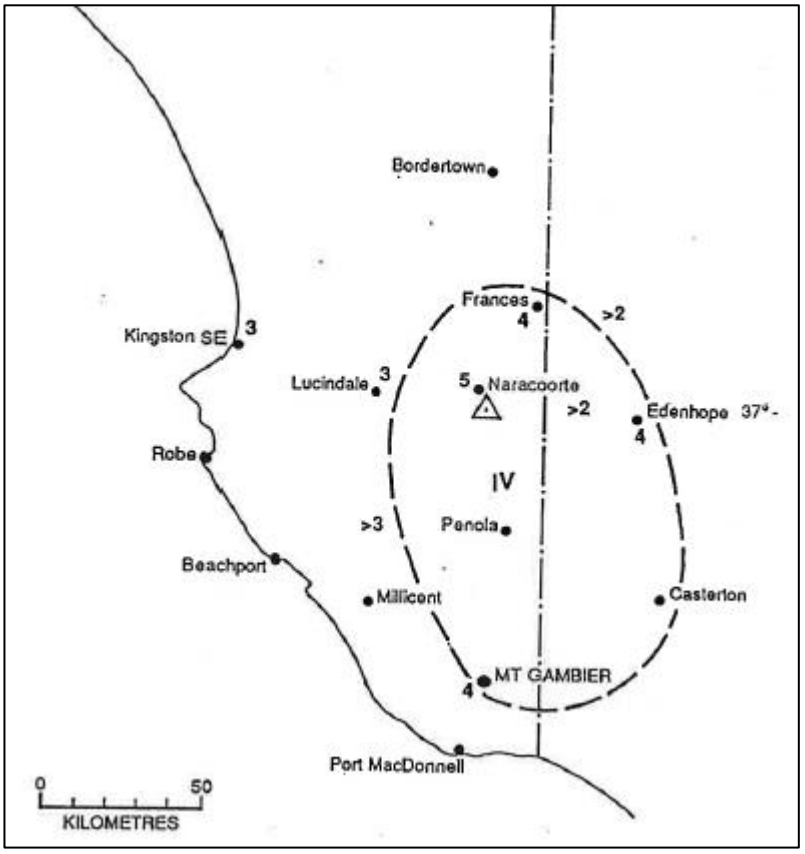
434 | NARACOORTE EARTHQUAKE, SOUTH AUSTRALIA, 29 May 1907

Date 29 May 1907

Time 2258 UTC

Location 37.2°S, 140.75°E

Magnitude 4.2 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 5 gives ML 4.2 ± 0.6
Radius of Intensity
IV: 50km gives ML 4.2 ± 0.2

References

VOLS-387*; SAEQCat; strong;
Bierbaum 1994m; McCue 2012

435 | JAMESTOWN EARTHQUAKE, SOUTH AUSTRALIA, 28 July 1907

Date 28 July 1907

Time 1445 UTC

Location 33.27°S, 138.65°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-388*;severe, people woken

436 | CARRIETON EARTHQUAKE, SOUTH AUSTRALIA, 14 December 1907

Date 14 December 1907

Time 0950 UTC

Location 32.45°S, 138.55°E

Magnitude 4.1 ML

Calculating magnitude

Maximum Intensity I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility R_p: 55km gives ML 4 ± 1.5

References

VOLS-389*;sharp; McCue 2012

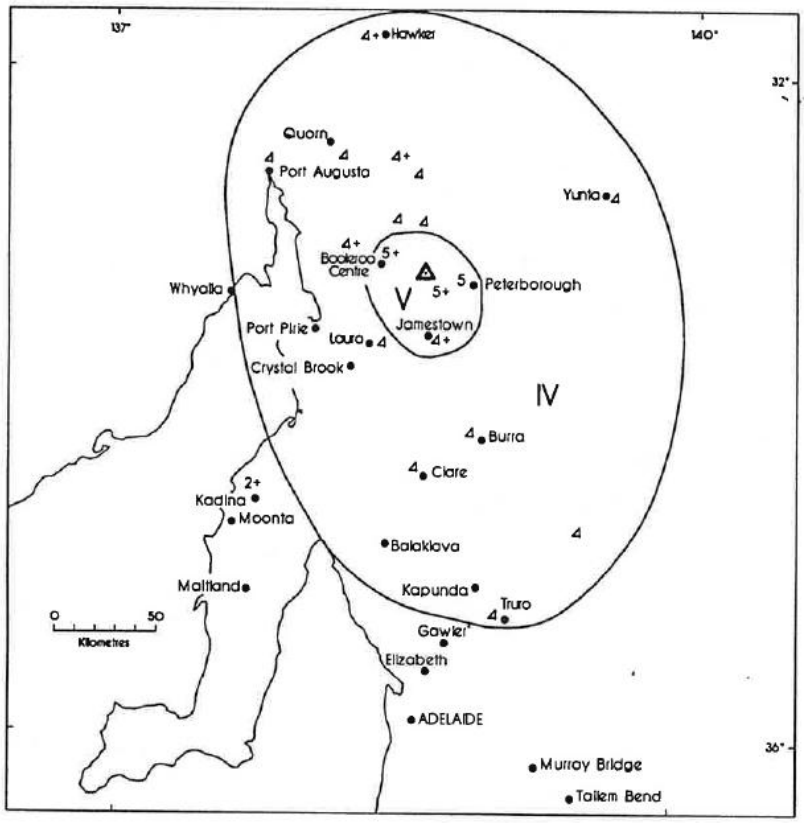
437 | PETERBOROUGH EARTHQUAKE, SOUTH AUSTRALIA, 9 April 1908

Date 9 April 1908

Time 1625 UTC

Location 33.92°S, 138.62°E

Magnitude 4.7 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 5.5 gives ML 4.5 ± 0.7
Radius of Perceptibility
R_p: 140km gives ML 4.8 ± 1.8

References

Malpas 1991; Hons; SAEQCat; 24/SA/50

438 | SUTHERLANDS EARTHQUAKE, SOUTH AUSTRALIA, 4 October 1908

Date 4 October 1908

Time 0740 UTC

Location 34.09°S, 139.17°E

Magnitude 3.5 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 20km gives ML 3.3 ± 1.1

References

VOLS-390*;strong

439 | SECOND VALLEY EARTHQUAKE, SOUTH AUSTRALIA, 28 October 1908

Date 28 October 1908

Time 2040 UTC

Location 35.6°S, 138.11°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-391*;slight

440 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 14 January 1909

Date 14 January 1909

Time 1715 UTC

Location 34.3°S, 138.92°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-392*;slight

441 | TOTHILL BELT EARTHQUAKE, SOUTH AUSTRALIA, 24 January 1909

Date 24 January 1909
Time 0645 UTC
Location 33.93°S, 138.94°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-393*;slight

442 | WARRINA EARTHQUAKE, SOUTH AUSTRALIA, 6 February 1909

Date 6 February 1909
Time
Location 28.18°S, 135.85°E
Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

VOLS-394*;tremor felt

443 | HALLETT EARTHQUAKE, SOUTH AUSTRALIA, 11 February 1909

Date 11 February 1909
Time 2025 UTC
Location 33.39°S, 138.76°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-395*;slight

444 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 17 June 1909

Date 17 June 1909
Time 0927 UTC
Location 30.81°S, 138.4°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-396*;slight

445 | SPENCER GULF EARTHQUAKE, SOUTH AUSTRALIA, 30 July 1909

Date 30 July 1909
Time 0415 UTC
Location 33.84°S, 137.27°E
Magnitude 3.7 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 35km gives ML 3.7 ± 1.3

References

VOLS-397*;sharp shock

446 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 7 February 1910

Date 7 February 1910
Time 0630 UTC
Location 34.93°S, 138.6°E
Magnitude 2.5 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5
Radius of Perceptibility R_p: 2km gives ML 2.1 ± 0.5

References

VOLS-399*;slight

447 | HOUGHTON EARTHQUAKE, SOUTH AUSTRALIA, 16 February 1910

Date 16 February 1910
Time
Location 34.83°S, 138.76°E
Magnitude 2.5 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 2 gives ML 2.5 ± 0.5

References

VOLS-401*;tremor felt

448 | HORNSDALE EARTHQUAKE, SOUTH AUSTRALIA, 2 April 1910

Date 2 April 1910
Time 1430 UTC
Location 33.27°S, 138.65°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3.5 gives ML 3.3 ± 0.6

References

VOLS-402*;moderate

449 | MARRABEL EARTHQUAKE, SOUTH AUSTRALIA, 23 April 1910

Date 23 April 1910
Time 0500 UTC
Location 34.14°S, 138.94°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 12km gives ML 3 ± 0.9

References

VOLS-403*;distinctive shock

450 | LEIGH CREEK EARTHQUAKE, SOUTH AUSTRALIA, 24 April 1910

Date 24 April 1910
Time 1030 UTC
Location 27.8°S, 140.62°E
Magnitude 4.8 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 6 gives ML 4.8 ± 0.7

References

VOLS-405*;severe shock

451 | LEIGH CREEK AFTERSHOCK, SOUTH AUSTRALIA, 26 April 1910

Date 26 April 1910
Time 0345 UTC
Location 27.8°S, 140.62°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-405*;slight

452 | CORNEY POINT EARTHQUAKE, SOUTH AUSTRALIA, 28 April 1910

Date 28 April 1910
Time
Location 34.86°S, 137.07°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-407*;tremor felt

453 | BOOLEROO CENTRE EARTHQUAKE, SOUTH AUSTRALIA, 30 June 1910

Date 30 June 1910
Time 0920 UTC
Location 32.88°S, 138.35°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-408*;small tremor

454 | HORNSDALE EARTHQUAKE, SOUTH AUSTRALIA, 15 September 1910

Date 15 September 1910
Time 1630 UTC
Location 33.27°S, 138.65°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-409*;sharp

455 | LEIGH CREEK EARTHQUAKE, SOUTH AUSTRALIA, 22 October 1910

Date 22 October 1910
Time 1005 UTC
Location 27.8°S, 140.62°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-410*;strong tremor

456 | WILLOCHRA EARTHQUAKE, SOUTH AUSTRALIA, 24 October 1910

Date 24 October 1910
Time 2040 UTC
Location 32.45°S, 138.2°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-412*;mild shock

457 | SUTHERLANDS EARTHQUAKE, SOUTH AUSTRALIA, 11 December 1910

Date 11 December 1910
Time 1730 UTC
Location 34.09°S, 139.17°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-413*;slight

458 | CARRIETON EARTHQUAKE, SOUTH AUSTRALIA, 15 January 1911

Date 15 January 1911
Time 2124 UTC
Location 32.23°S, 138.71°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-414*;slight

459 | AUBURN EARTHQUAKE, SOUTH AUSTRALIA, 27 January 1911

Date 27 January 1911

Time 1230 UTC

Location 34.03°S, 138.68°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-416*;sharp shock

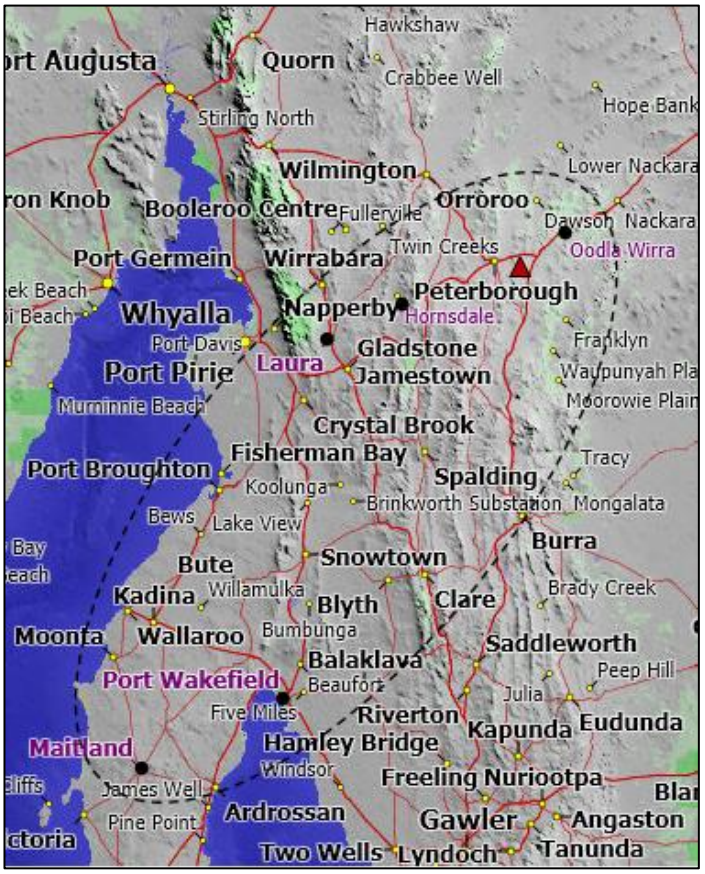
460 | OODLA WIRRA EARTHQUAKE, SOUTH AUSTRALIA, 19 February 1911

Date 19 February 1911

Time 1340 UTC

Location 32.88°S, 139.08°E

Magnitude 4.8 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 6 gives ML 4.8 ± 0.7
Radius of Perceptibility
R_p: 131km gives ML 4.8 ± 1.7

References

VOLS-417m; SAEQCat; severe

461 | EUDUNDA EARTHQUAKE, SOUTH AUSTRALIA, 28 March 1911

Date 28 March 1911

Time 0758 UTC

Location 34.09°S, 139.17°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-420*;slight

462 | APPILA EARTHQUAKE, SOUTH AUSTRALIA, 20 June 1911

Date 20 June 1911

Time 0120 UTC

Location 33.05°S, 138.43°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-421*;sharp tremor

463 | MOUNT TEMPLETON EARTHQUAKE, SOUTH AUSTRALIA, 14 August 1911

Date 14 August 1911

Time

Location 34.15°S, 138.42°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

VOLS-422*;shock felt

464 | PENNESHAW EARTHQUAKE, SOUTH AUSTRALIA, 6 September 1911

Date 6 September 1911

Time 0440 UTC

Location 35.78°S, 137.88°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-423*;slight

465 | APPILA EARTHQUAKE, SOUTH AUSTRALIA, 18 September 1911

Date 18 September 1911

Time 1134 UTC

Location 33.05°S, 138.43°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 26km gives ML 3.5 ± 1.1

References

VOLS-424*;sharp

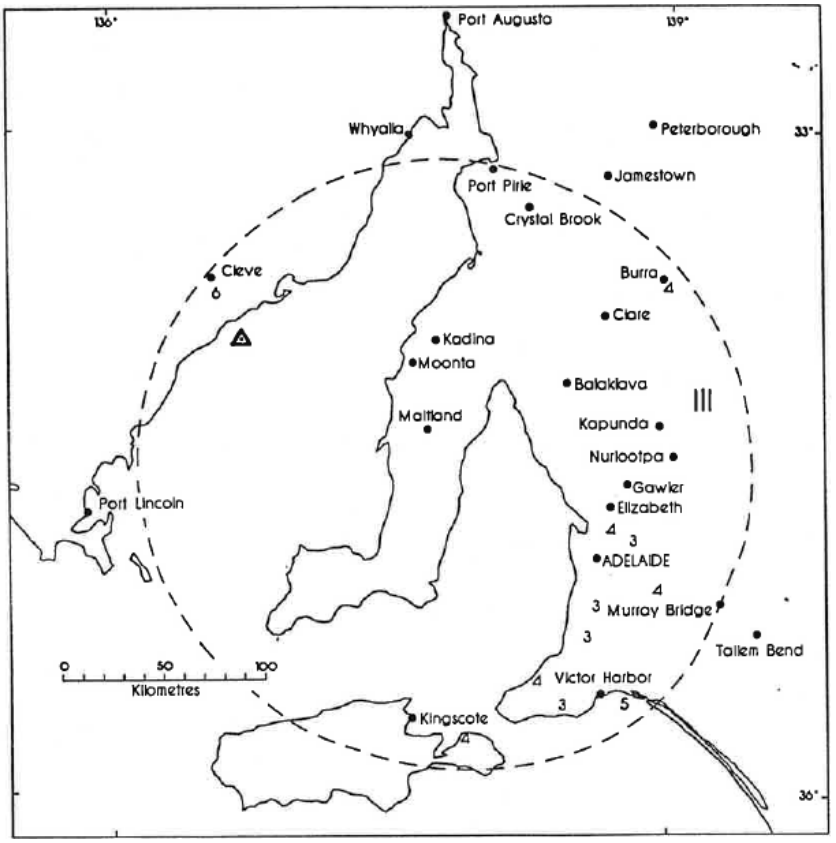
466 | CLEVE EARTHQUAKE, SOUTH AUSTRALIA, 24 October 1911

Date 24 October 1911

Time 1210 UTC

Location 33.92°S, 136.73°E

Magnitude 4.8 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 6 gives ML 4.8 ± 0.7
Radius of Perceptibility
R_p: 150km gives ML 4.9 ± 1.8

References

Malpas 1991; Hons; SAEQCat; 24/SA/51; McCue 2012

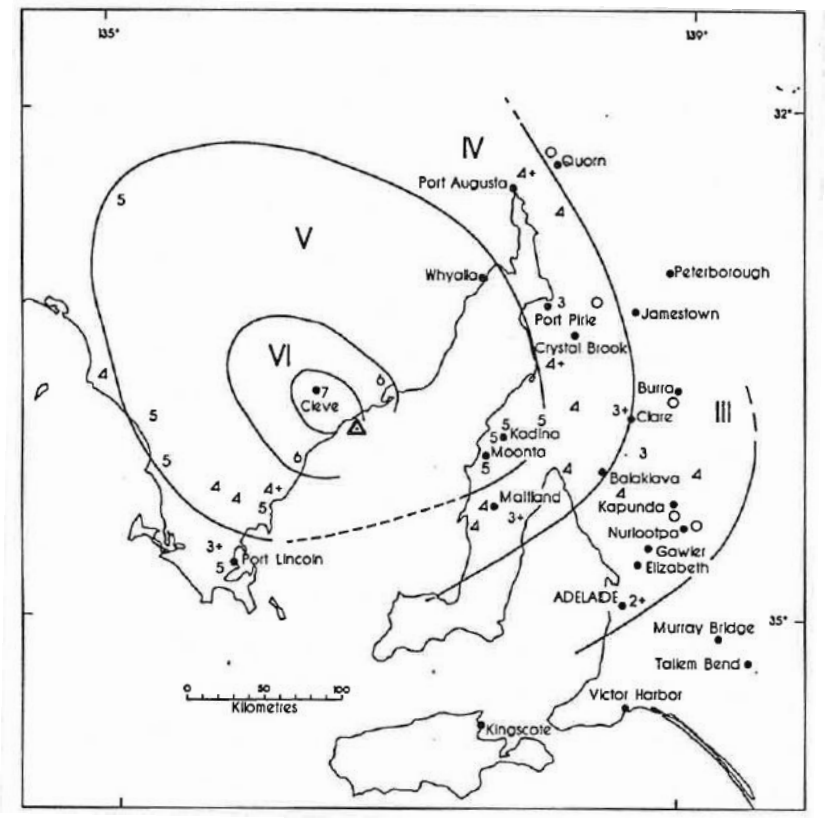
467 | CLEVE EARTHQUAKE, SOUTH AUSTRALIA, 26 October 1911

Date 26 October 1911

Time 0940 UTC

Location 34°S, 136.6°E

Magnitude 5.5 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 7 gives ML 5.3 ± 0.8
Radius of Perceptibility
R_p: 295km gives ML 5.6 ± 2.1
Radius of Intensity
IV: 200km gives ML 5.5 ± 0.2

References

Malpas 1991; Hons; SAEQCat; 24/SA/52; McCue 2012

468 | FARINA EARTHQUAKE, SOUTH AUSTRALIA, 3 December 1911

Date 3 December 1911

Time 2142 UTC

Location 30.07°S, 138.28°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-425*;slight

469 | APPILA YARROWIE EARTHQUAKE, SOUTH AUSTRALIA, 24 March 1912

Date 24 March 1912

Time

Location 33.07°S, 138.43°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-426*;slight

470 | MORCHARD EARTHQUAKE, SOUTH AUSTRALIA, 1 May 1912

Date 1 May 1912

Time 0430 UTC

Location 32.6°S, 138.33°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-427*;slight

471 | MORCHARD EARTHQUAKE, SOUTH AUSTRALIA, 4 May 1912

Date 4 May 1912
Time 0430 UTC
Location 32.6°S, 138.33°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-427*;only felt in house

472 | MORCHARD EARTHQUAKE, SOUTH AUSTRALIA, 7 May 1912

Date 7 May 1912
Time 1640 UTC
Location 32.6°S, 138.33°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-427*;distinctive shock

473 | WHYTE YARCOWIE EARTHQUAKE, SOUTH AUSTRALIA, 11 May 1912

Date 11 May 1912
Time 2030 UTC
Location 33.18°S, 138.76°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-428*;much stronger

474 | WHYTE YARCOWIE FORESHOCK, SOUTH AUSTRALIA, 11 May 1912

Date 11 May 1912
Time 1610 UTC
Location 33.18°S, 138.76°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-428*;slight

475 | WILSON EARTHQUAKE, SOUTH AUSTRALIA, 21 May 1912

Date 21 May 1912
Time 2124 UTC
Location 32.01°S, 115.96°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 13km gives ML 3 ± 1

References

VOLS-430*;small tremor

476 | BENDLEBY EARTHQUAKE, SOUTH AUSTRALIA, 5 June 1912

Date 5 June 1912
Time 1300 UTC
Location 32.35°S, 138.72°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-432*;slight

477 | HAUGHTON EARTHQUAKE, SOUTH AUSTRALIA, 28 June 1912

Date 28 June 1912

Time 0602 UTC

Location 34.83°S, 138.76°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-434*;slight

478 | BOOYOOLIE EARTHQUAKE, SOUTH AUSTRALIA, 6 August 1912

Date 6 August 1912

Time

Location 33.21°S, 138.30°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

VOLS-435*;slight

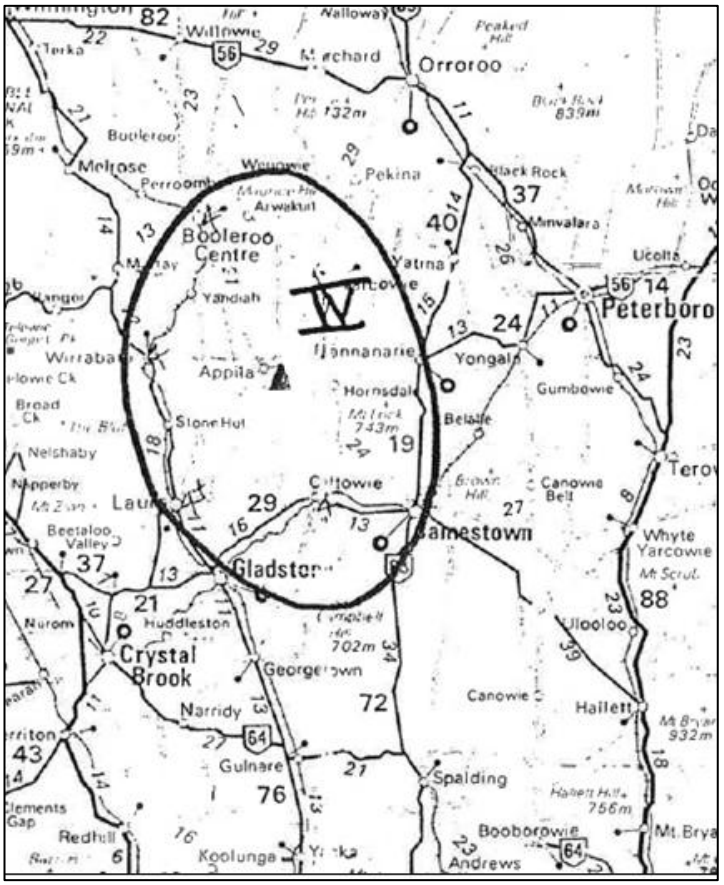
479 | APPILA EARTHQUAKE, SOUTH AUSTRALIA, 16 August 1912

Date 16 August 1912

Time 0405 UTC

Location 33.07°S, 138.43°E

Magnitude 3.6 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 26km gives ML 3.5 ± 1.1

References

Malpas 1991; VOLS-436m*; SAEQCat;

480 | MILLSWOOD EARTHQUAKE, SOUTH AUSTRALIA, 24 September 1912

Date 24 September 1912

Time 1010 UTC

Location 34.96°S, 138.59°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-441*;slight

481 | MILLSWOOD EARTHQUAKE, SOUTH AUSTRALIA, 24 September 1912

Date 24 September 1912
Time 1011 UTC
Location 34.96°S, 138.59°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-441*;slight

482 | TUMBY BAY EARTHQUAKE, SOUTH AUSTRALIA, 25 September 1912

Date 25 September 1912
Time 2025 UTC
Location 34.11°S, 136.17°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-442*;slight

483 | MEADOWS EARTHQUAKE, SOUTH AUSTRALIA, 6 October 1912

Date 6 October 1912
Time 1715 UTC
Location 35.25°S, 138.71°E
Magnitude 2.9 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 6km gives ML 2.6 ± 0.7

References

VOLS-444*;slight

484 | TUMBY BAY EARTHQUAKE, SOUTH AUSTRALIA, 7 October 1912

Date 7 October 1912
Time 2250 UTC
Location 34.11°S, 136.17°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-446*;severe

485 | TUMBY BAY EARTHQUAKE, SOUTH AUSTRALIA, 10 October 1912

Date 10 October 1912
Time 0704 UTC
Location 34.11°S, 136.17°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-447*;severe

486 | PENNESHAW EARTHQUAKE, SOUTH AUSTRALIA, 12 October 1912

Date 12 October 1912
Time 0428 UTC
Location 35.78°S, 137.88°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-448*;sharp tremor

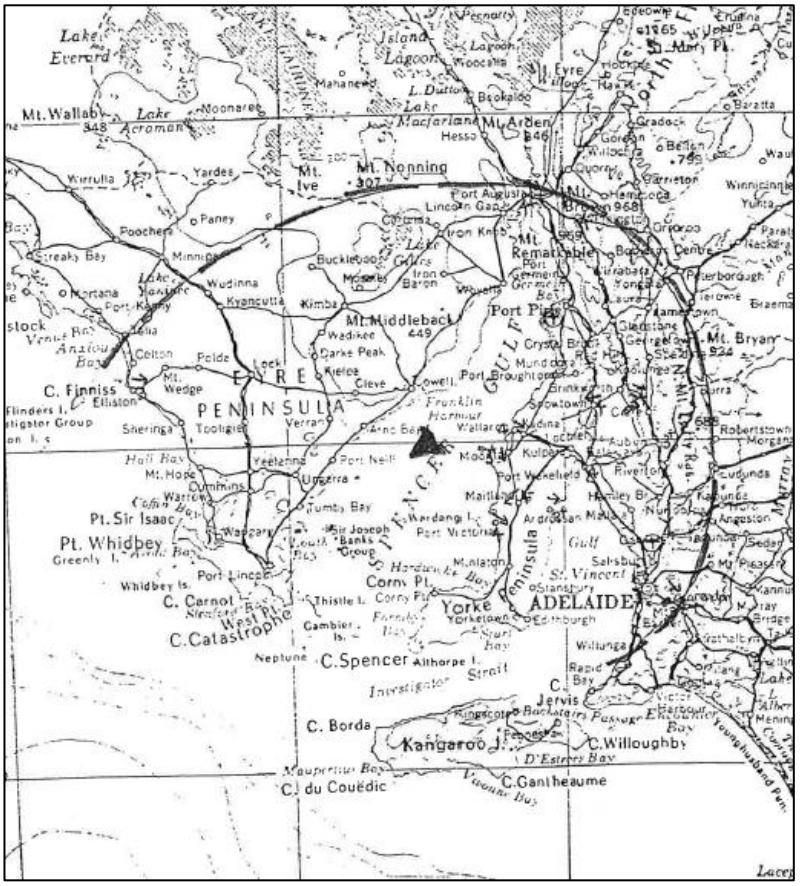
487 | SPENCER GULF EARTHQUAKE, SOUTH AUSTRALIA, 26 October 1912

Date 26 October 1912

Time 0942 UTC

Location 34°S, 137°E

Magnitude 5.2 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Radius of Perceptibility
R_p: 200km gives ML 5.2 ± 1.9

References

VOLS-450m; SAEQCat; 5.2

488 | HERGOTT SPRINGS (MAREE) EARTHQUAKE, SA, 22 November 1912

Date 22 November 1912

Time 1138 UTC

Location 29.64°S, 138.07°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-453*;slight

489 | HERGOTT SPRINGS (MAREE) EARTHQUAKE, SA, 3 December 1912

Date 3 December 1912

Time 2142 UTC

Location 29.64°S, 138.07°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-454*;severe

90 | TUMBY BAY EARTHQUAKE, SOUTH AUSTRALIA, 12 December 1912

Date 12 December 1912

Time

Location 34.11°S, 136.17°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-455*;severe

491 | NARACOORTE EARTHQUAKE, SOUTH AUSTRALIA, 8 March 1913

Date 8 March 1913
Time 2045 UTC
Location 36.97°S, 140.75°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3.5 gives ML 3.3 ± 0.6

References

VOLS-456*; SAEQCat; slight; Bierbaum 1994

492 | LOCAL EARTHQUAKE, SOUTH AUSTRALIA, 14 March 1913

Date 14 March 1913
Time
Location
Magnitude ML

Calculating magnitude

Maximum Intensity $I_{0:}$ gives ML ±

References

VOLS-457*;shock felt

493 | FREDRICHSWALDE EARTHQUAKE, SOUTH AUSTRALIA, 16 April 1913

Date 16 April 1913
Time 1200 UTC
Location 34.14°S, 138.95°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-458*;slight

494 | LAMEROO EARTHQUAKE, SOUTH AUSTRALIA, 17 May 1913

Date 17 May 1913
Time 0000 UTC
Location 35.33°S, 140.52°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-459*;light shock

495 | TUMBY BAY EARTHQUAKE, SOUTH AUSTRALIA, 19 June 1913

Date 19 June 1913
Time 1500 UTC
Location 34.11°S, 136.17°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-460*;severe shock

496 | CARRIETON EARTHQUAKE, SOUTH AUSTRALIA, 18 July 1913

Date 18 July 1913
Time 1241 UTC
Location 32.23°S, 138.71°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-464*;sharp

497 | TOTHILL BELT EARTHQUAKE, SOUTH AUSTRALIA, 4 November 1913

Date 4 November 1913
Time 1106 UTC
Location 33.93°S, 138.94°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-462*;sharp

498 | TOTHILL BELT AFTERSHOCK, SOUTH AUSTRALIA, 4 November 1913

Date 4 November 1913
Time 2113 UTC
Location 33.93°S, 138.94°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-462*;slight

499 | KINGSTON SE EARTHQUAKE, SOUTH AUSTRALIA, 1 December 1913

Date 1 December 1913
Time 1815 UTC
Location 36.83°S, 139.85°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-463*; SAEQCat; sharp; Bierbaum 1994

500 | KINGSTON SE EARTHQUAKE, SOUTH AUSTRALIA, 1 December 1913

Date 1 December 1913
Time 1615 UTC
Location 36.83°S, 139.85°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

SAEQCat; Bierbaum 1994; McCue 2012

501 | TEROWIE EARTHQUAKE, SOUTH AUSTRALIA, 6 December 1913

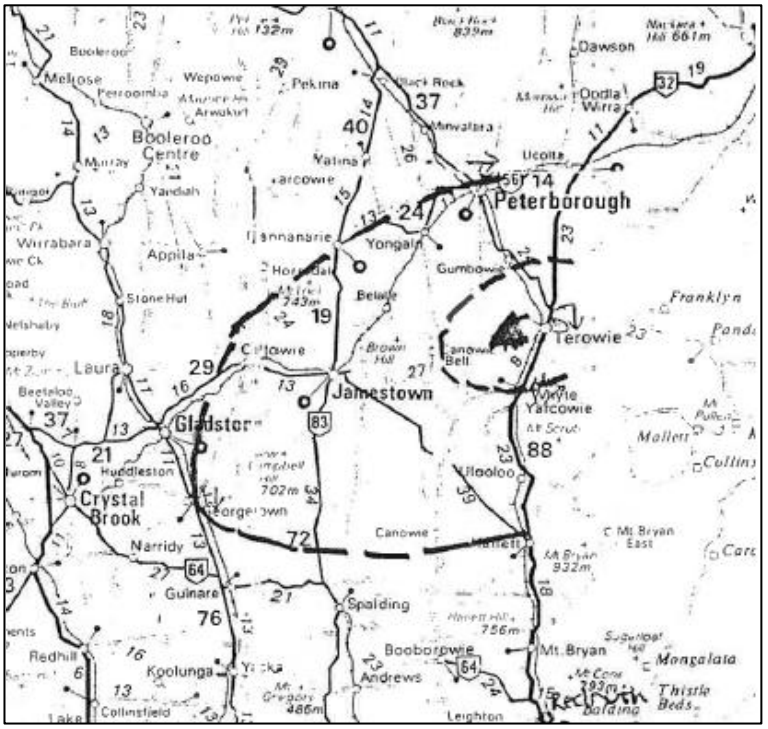
Date 6 December 1913

Time 2205 UTC

Location 33.15°S, 138.87°E

Magnitude 3.9 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity
I_0: 4.5 gives ML 3.9 ± 0.6

Radius of Intensity
IV: 33.7km gives ML 3.9 ± 0.2

References

Malpas 1991; VOLS-464m;
SAEQCat;

502 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 28 May 1914

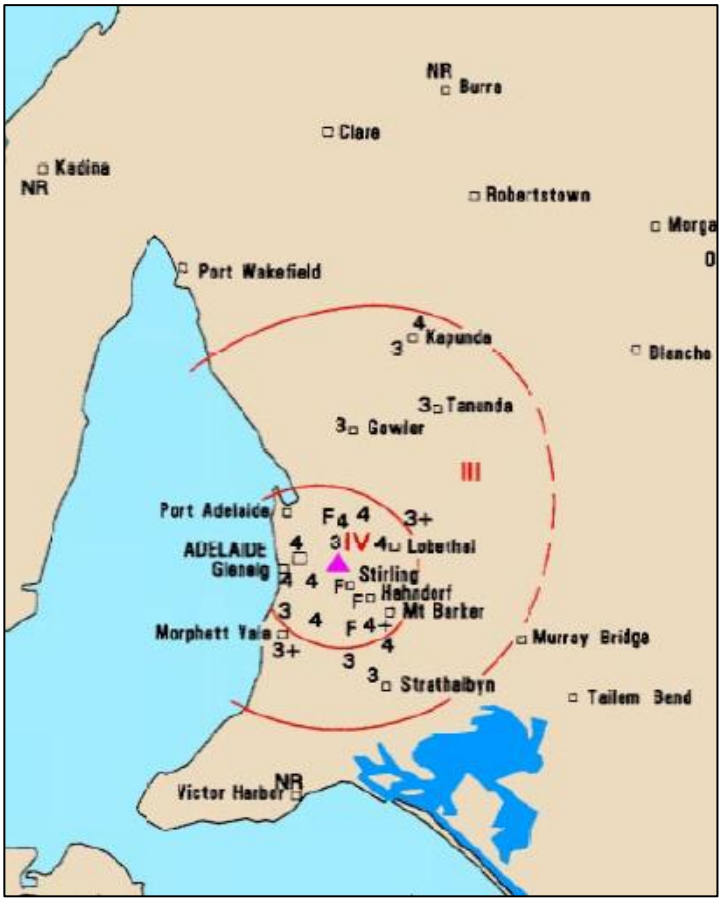
Date 28 May 1914

Time 1321 UTC

Location 34.9°S, 138.7°E

Magnitude 3.9 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity
I_0: 4.5 gives ML 3.9 ± 0.6

References

SAEQCat; 24/SA/35; McCue 1996

503 | PENNESHAW EARTHQUAKE, SOUTH AUSTRALIA, 14 July 1914

Date 14 July 1914

Time 1455 UTC

Location 35.78°S, 137.88°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-469*;shock felt

504 | PENNESHAW EARTHQUAKE, SOUTH AUSTRALIA, 27 July 1914

Date 27 July 1914

Time 1850 UTC

Location 35.78°S, 137.88°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-470*;distant shock

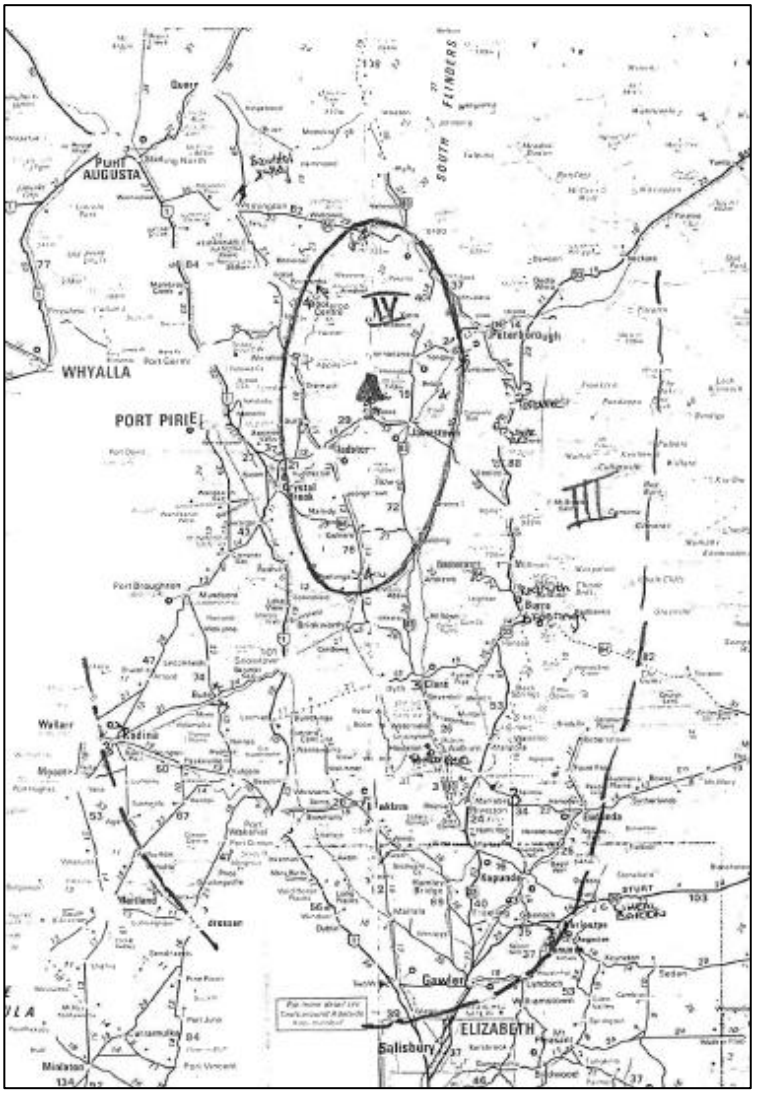
505 | CALTOWIE EARTHQUAKE, SOUTH AUSTRALIA, 6 August 1914

Date 6 August 1914

Time 0718 UTC

Location 33.13°S, 138.47°E

Magnitude 4.2 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4.5 gives ML 3.9 ± 0.6
Radius of Perceptibility
R_p: 87km gives ML 4.4 ± 1.6
Radius of Intensity
IV: 39km gives ML 4 ± 0.2

References

VOLS-471m; SAEQCat;

506 | BANGOR EARTHQUAKE, SOUTH AUSTRALIA, 7 August 1914

Date 7 August 1914

Time

Location 32.95°S, 138.16°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-473*;slight

507 | WARRINA EARTHQUAKE, SOUTH AUSTRALIA, 21 September 1914

Date 21 September 1914

Time

Location 28.18°S, 135.85°E

Magnitude

References

VOLS-474*;2 shocks felt

508 | KARATTA EARTHQUAKE, SOUTH AUSTRALIA, 25 October 1914

Date 25 October 1914

Time 1010 UTC

Location 35.61°S, 137.57°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-475*;shock felt

509 | WARRINA EARTHQUAKE, SOUTH AUSTRALIA, 21 March 1915

Date 21 March 1915

Time 1900 UTC

Location 28.18°S, 135.85°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-476*;shock felt

510 | NORTH MOUNT LOFTY RANGE EARTHQUAKE, SA, 30 March 1915

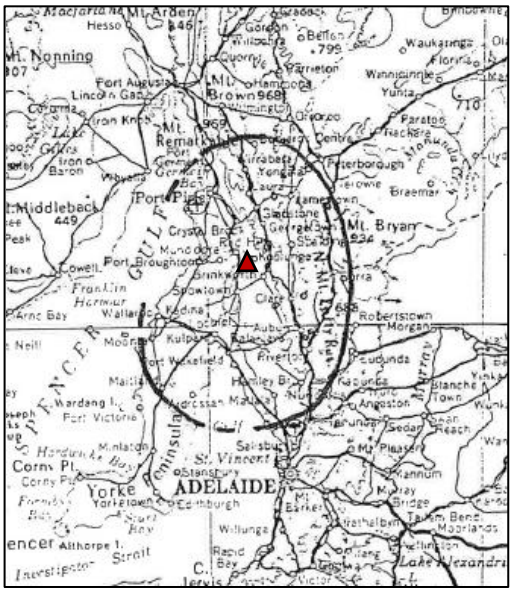
Date 30 March 1915

Time 2255 UTC

Location 33.7°S, 138.2°E

Magnitude 4.4 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)



Calculating magnitude

Maximum Intensity : I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility : R_p: 88km gives ML 4.4 ± 1.6

References

VOLS-477m; SAEQCat; moderate

511 | WARRATA VALE (TUMBY BAY) EARTHQUAKE, SA, 16 August 1915

Date 16 August 1915
Time 1245 UTC
Location 34.26°S, 136.19°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-479*;tremor felt

512 | WARRINA EARTHQUAKE, SOUTH AUSTRALIA, 26 August 1915

Date 26 August 1915
Time
Location 28.18°S, 135.85°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-480*;shock felt

513 | GLADSTONE EARTHQUAKE, SOUTH AUSTRALIA, 8 September 1915

Date 8 September 1915
Time
Location 33.28°S, 138.35°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-481*;shock felt

514 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 30 October 1915

Date 30 October 1915
Time 0300 UTC
Location 34.3°S, 138.92°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-482*;shock felt

515 | KAPUNDA EARTHQUAKE, SOUTH AUSTRALIA, 13 November 1915

Date 13 November 1915
Time 1310 UTC
Location 34.3°S, 138.92°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-483*;shock felt

516 | PENNESHAW EARTHQUAKE, SOUTH AUSTRALIA, 31 December 1915

Date 31 December 1915
Time 0500 UTC
Location 35.78°S, 137.88°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-484*;shock felt

517 | JAMESTOWN EARTHQUAKE, SOUTH AUSTRALIA, 21 January 1916

Date 21 January 1916

Time 1825 UTC

Location 33.27°S, 138.65°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-485*;tremor felt

518 | WHYTE YARCOWIE EARTHQUAKE, SOUTH AUSTRALIA, 5 April 1916

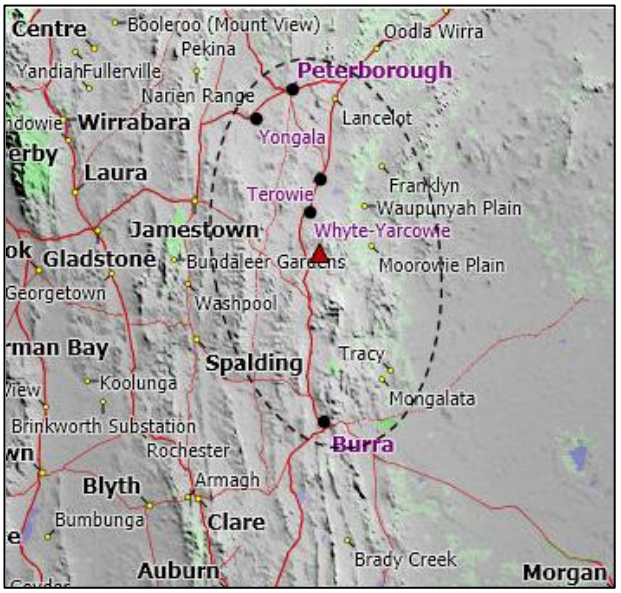
Date 5 April 1916

Time 1045 UTC

Location 33.18°S, 138.76°E

Magnitude 3.6 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-486*;moderate shock

519 | KINGSTON EARTHQUAKE, SOUTH AUSTRALIA, 19 August 1916

Date 19 August 1916

Time 0000 UTC

Location 36.83°S, 139.85°E

Magnitude 2.5 ML

Calculating magnitude

Maximum Intensity I_0: 2 gives ML 2.5 ± 0.5

References

VOLS-487*; SAEQCat; shock felt; Bierbaum 1994

520 | LAURA EARTHQUAKE, SOUTH AUSTRALIA, 11 September 1916

Date 11 September 1916

Time 2050 UTC

Location 33.05°S, 138.43°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-488*;moderate shock

521 | KANGAROO ISLAND EARTHQUAKE, SOUTH AUSTRALIA, 23 October 1916

Date 23 October 1916

Time 1430 UTC

Location 35.58°S, 137.25°E

Magnitude 4.3 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility
R_p: 88km gives ML 4.4 ± 1.6

References

VOLS-489m; SAEQCat; moderate tremor

522 | CRYSTAL BROOK EARTHQUAKE, SOUTH AUSTRALIA, 29 April 1917

Date 29 April 1917

Time 2126 UTC

Location 33.26°S, 138.25°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-491*;small tremor

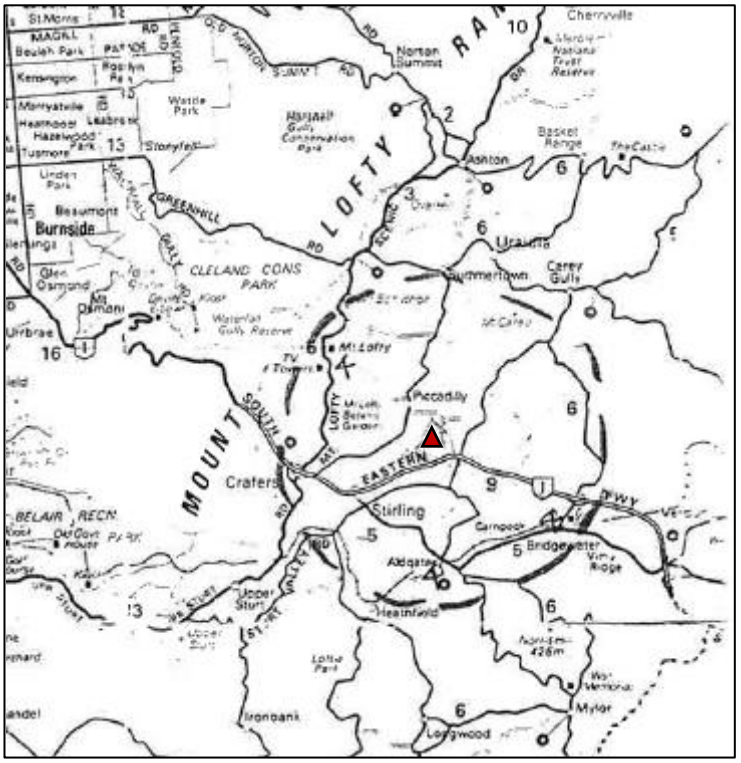
523 | MOUNT LOFTY EARTHQUAKE, SOUTH AUSTRALIA, 21 June 1917

Date 21 June 1917

Time 2330 UTC

Location 35°S, 138.72°E

Magnitude 2.2 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 2.5 gives ML 2.8 ± 0.5
Radius of Perceptibility
R_p: 2.2km gives ML 2.1 ± 0.5

References

VOLS-492m; SAEQCat; distinctive shock

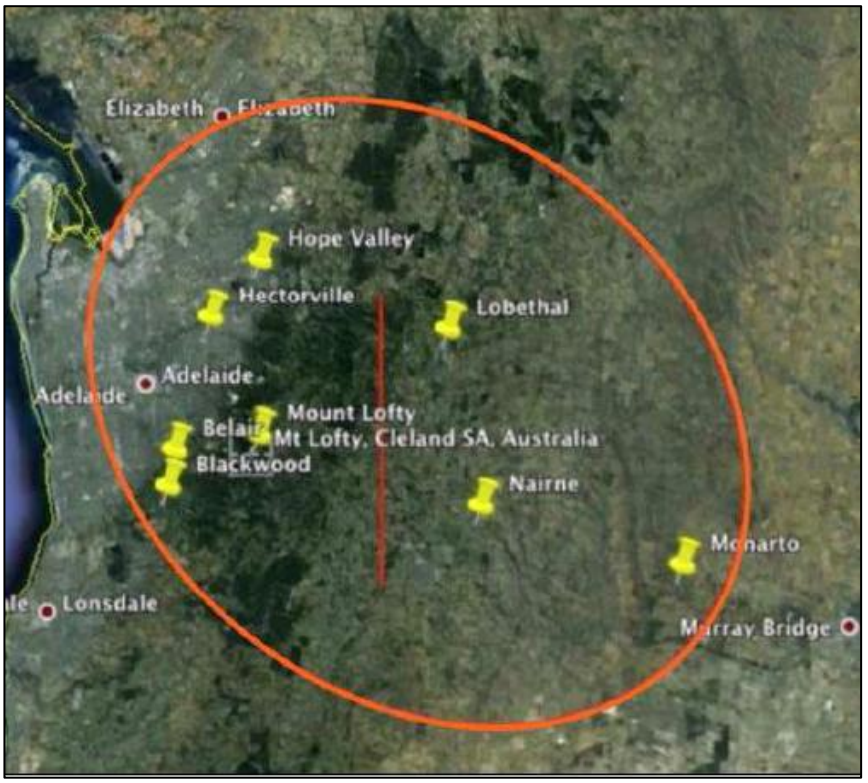
524 | LOBETHAL EARTHQUAKE, SOUTH AUSTRALIA, 28 June 1917

Date 28 June 1917

Time 1309 UTC

Location 34.9°S, 138.9°E

Magnitude 3.5 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 3.5 gives ML 3.3 ± 0.6
Radius of Perceptibility
R_p: 30km gives ML 3.6 ± 1.2

References

VOLS-494*;2 distinct shocks;
McCue 2012

525 | PROSPECT EARTHQUAKE, SOUTH AUSTRALIA, 3 November 1917

Date 3 November 1917

Time

Location 34.9°S, 138.59°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-495*;tremor felt

526 | BUTE EARTHQUAKE, SOUTH AUSTRALIA, 16 November 1917

Date 16 November 1917

Time

Location 33.86°S, 138.01°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-496*;shock felt

527 | TRURO EARTHQUAKE, SOUTH AUSTRALIA, 26 November 1917

Date 26 November 1917

Time 1215 UTC

Location 34.39°S, 139.39°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-497*;severe shock

528 | EURELIA EARTHQUAKE, SOUTH AUSTRALIA, 8 May 1918

Date 8 May 1918

Time 1006 UTC

Location 32.7°S, 139.6°E

Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity I_0: 4.5 gives ML 3.9 ± 0.6

References

McCue 2012

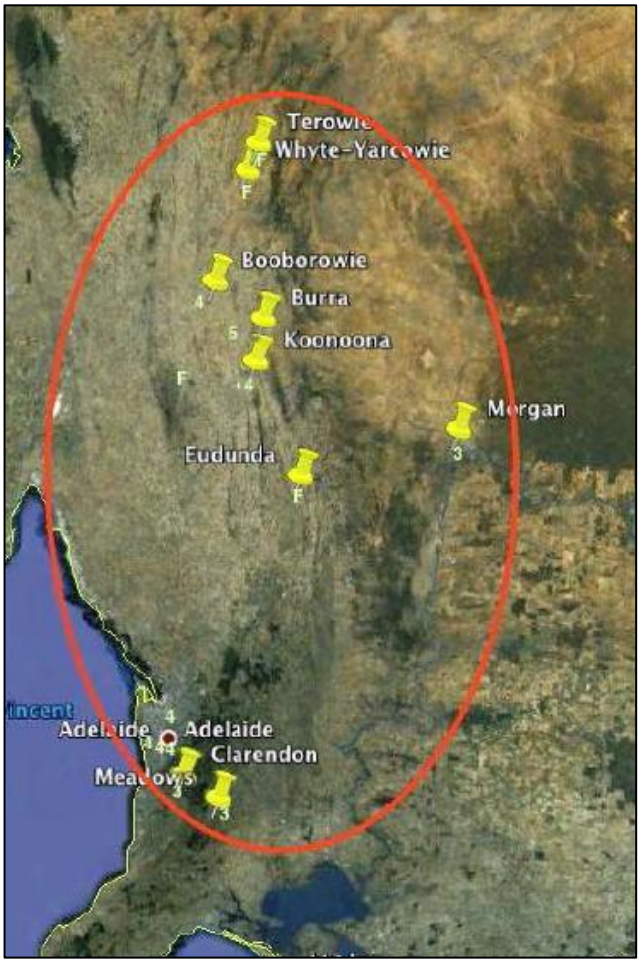
529 | EUDUNDA EARTHQUAKE, SOUTH AUSTRALIA, 5 November 1918

Date 5 November 1918

Time 0045 UTC

Location 33.6°S, 139°E

Magnitude 4.8 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity I_0: 6 gives ML 4.8 ± 0.7
Radius of Perceptibility R_p: 140km gives ML 4.8 ± 1.8

References

McCue 2012

530 | MOOLOLOO EARTHQUAKE, SOUTH AUSTRALIA, 7 October 1920

Date 7 October 1920

Time 1100 UTC

Location 30.96°S, 138.56°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-498*;slight

531 | KENSINGTON EARTHQUAKE, SOUTH AUSTRALIA, 11 November 1920

Date 11 November 1920

Time 1225 UTC

Location 34.93°S, 138.65°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-499*;slight

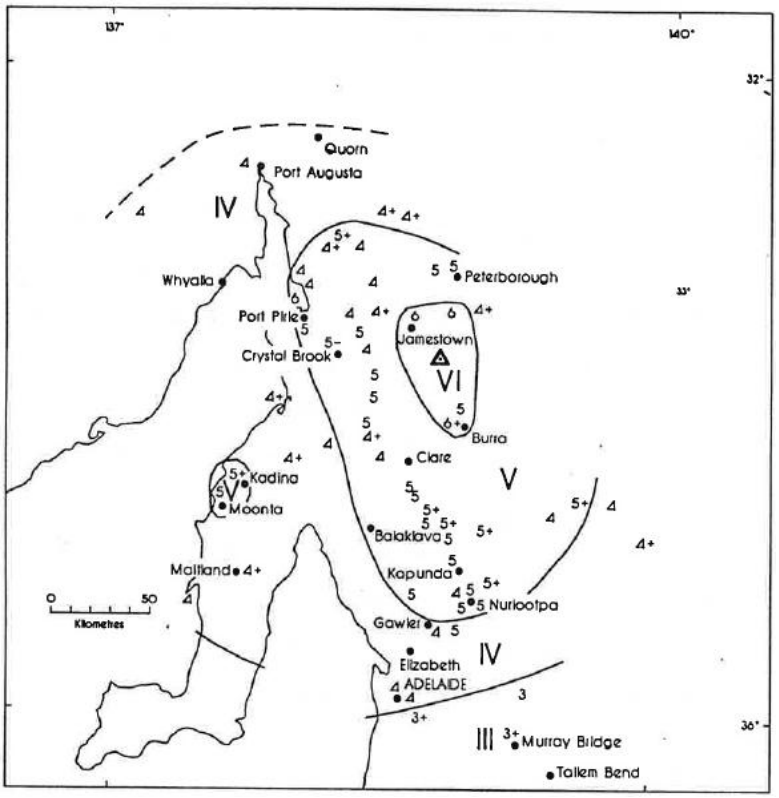
532 | JAMESTOWN EARTHQUAKE, SOUTH AUSTRALIA, 23 April 1921

Date 23 April 1921

Time 1900 UTC

Location 33.27°S, 138.83°E

Magnitude 5.1 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 6 gives ML 4.8 ± 0.7
Radius of Perceptibility
R_p: 200km gives ML 5.2 ± 1.9
Radius of Intensity
IV: 176km gives ML 5.3 ± 0.3

References

Malpas 1991; Hons; SAEQCat; 24/SA/53

533 | EUDUNDA EARTHQUAKE, SOUTH AUSTRALIA, 1 September 1921

Date 1 September 1921

Time 1248 UTC

Location 34.09°S, 139.17°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-501*;slight

534 | STRATHALBYN EARTHQUAKE, SOUTH AUSTRALIA, 10 October 1922

Date 10 October 1922

Time 1658 UTC

Location 35.2°S, 139°E

Magnitude 4 ML

Calculating magnitude

Maximum Intensity I_0: gives ML ±
Radius of Perceptibility R_p: 50km gives ML 4 ± 1.4

References

McCue 2012

535 | KOONIBBA EARTHQUAKE, SOUTH AUSTRALIA, 4 February 1930

Date 4 February 1930

Time 1305 UTC

Location 31.2°S, 132.5°E

Magnitude 4.8 ML

Calculating magnitude

Maximum Intensity I_0: gives ML ±
Radius of Perceptibility R_p: 130km gives ML 4.8 ± 1.7

References

McCue 2012

536 | TWO WELLS EARTHQUAKE, SOUTH AUSTRALIA, 24 July 1931

Date 24 July 1931

Time 0058 UTC

Location 34.6°S, 138.6°E

Magnitude 4.5 ML

Calculating magnitude

Maximum Intensity I_0: 5.5 gives ML 4.5 ± 0.7

References

McCue 2012

537 | GUMERACHA EARTHQUAKE, SOUTH AUSTRALIA, 6 April 1932

Date 6 April 1932

Time 0855 UTC

Location 34.8°S, 138.9°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

McCue 2012

538 | BALDINA EARTHQUAKE, SOUTH AUSTRALIA, 20 May 1932

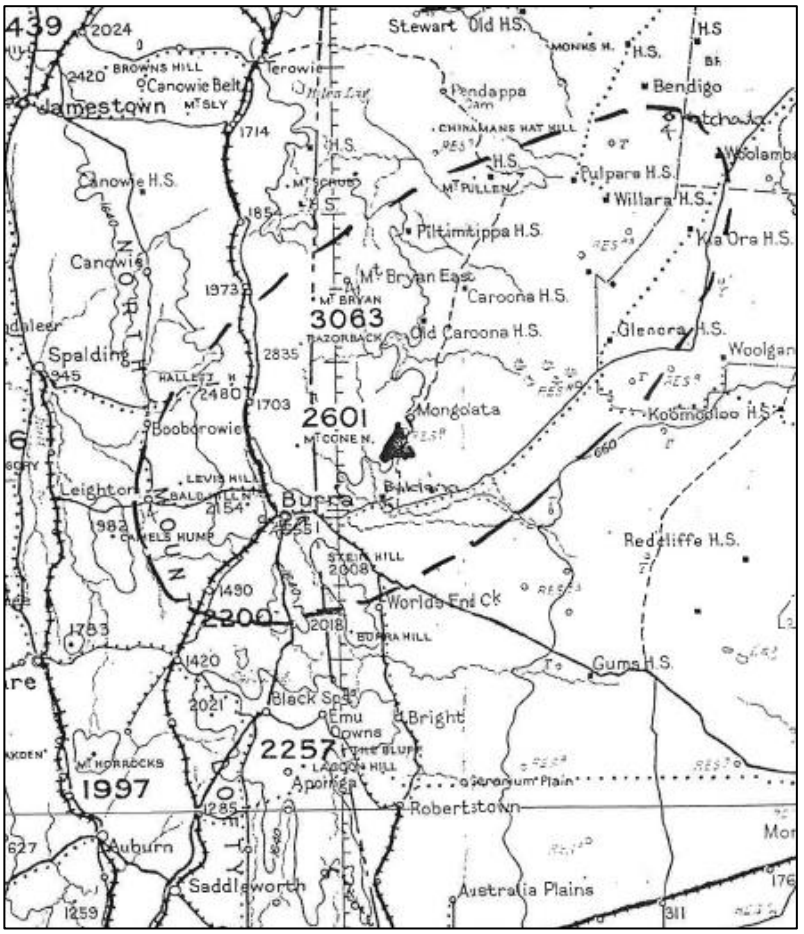
Date 20 May 1932

Time 1118 UTC

Location 33.6°S, 139.08°E

Magnitude 3.9 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity
I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility
R_p: 32km gives ML 3.6 ± 1.3

References

VOLS-502m; SAEQCat;

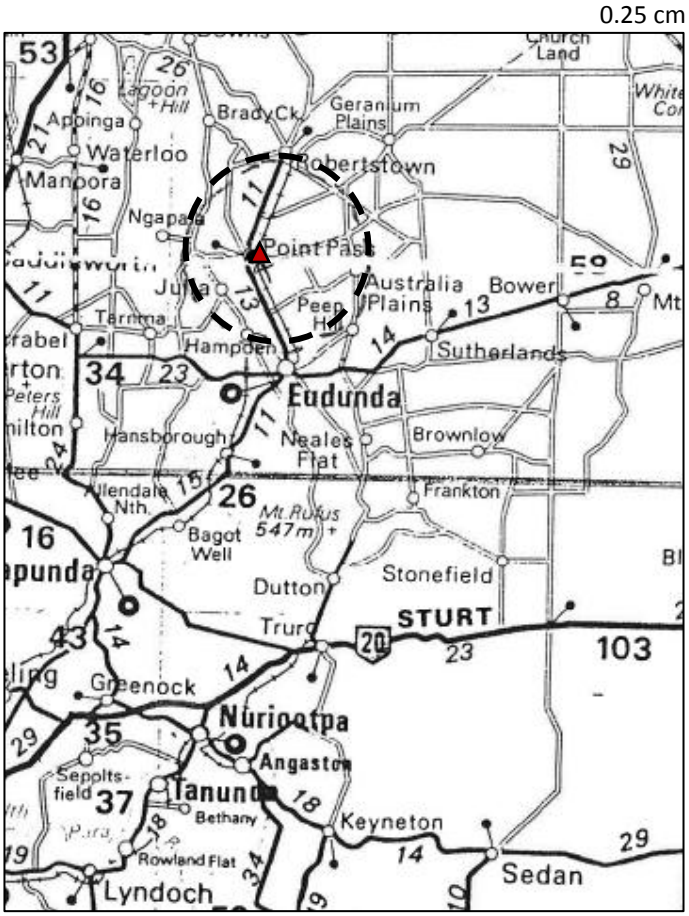
539 | POINT PASS EARTHQUAKE, SOUTH AUSTRALIA, 16 June 1932

Date 16 June 1932

Time 1530 UTC

Location 33.65°S, 139.05°E

Magnitude 3.2 ML



Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 9km gives ML 2.8 ± 0.9

References

VOLS-505m; SAEQCat;

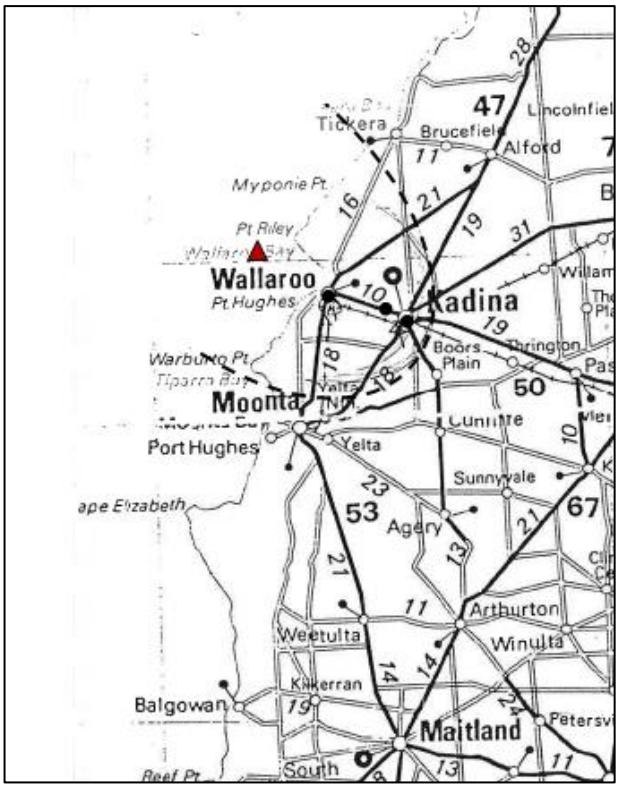
540 | WALLAROO EARTHQUAKE, SOUTH AUSTRALIA, 4 August 1934

Date 4 August 1934

Time 1145 UTC

Location 33.93°S, 137.63°E

Magnitude 3.8 ML



Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility R_p: 20km gives ML 3.3 ± 1.1

References

VOLS-507m; SAEQCat;

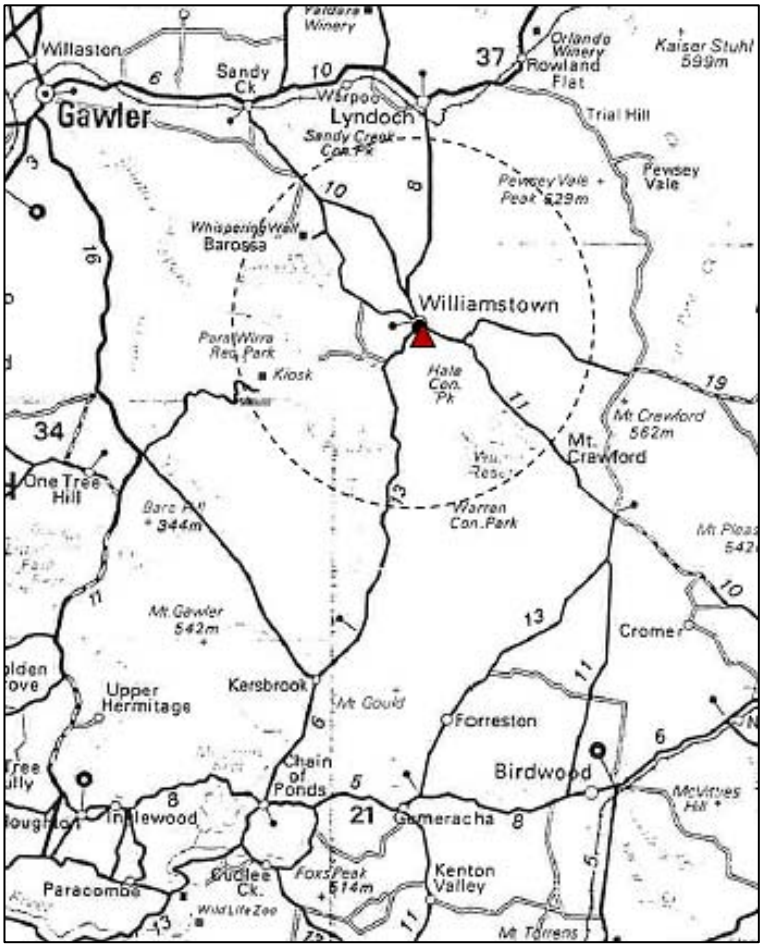
541 | WILLIAMSTOWN EARTHQUAKE, SOUTH AUSTRALIA, 21 May 1935

Date 21 May 1935

Time 0425 UTC

Location 34.67°S, 138.88°E

Magnitude 3.2 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 8km gives ML 2.7 ± 0.9

References

VOLS-510m; SAEQCat;

542 | SPALDING EARTHQUAKE, SOUTH AUSTRALIA, 23 December 1935

Date 23 December 1935

Time 0017 UTC

Location 33.58°S, 138.57°E

Magnitude 2.9 ML

Calculating magnitude

Radius of Perceptibility R_p: 10km gives ML 2.9 ± 0.8

References

VOLS-512*;shock felt

543 | ADELAIDE HILLS EARTHQUAKE, SOUTH AUSTRALIA, 19 April 1936

Date 19 April 1936

Time

Location

Magnitude

References

VOLS-513*; shock felt

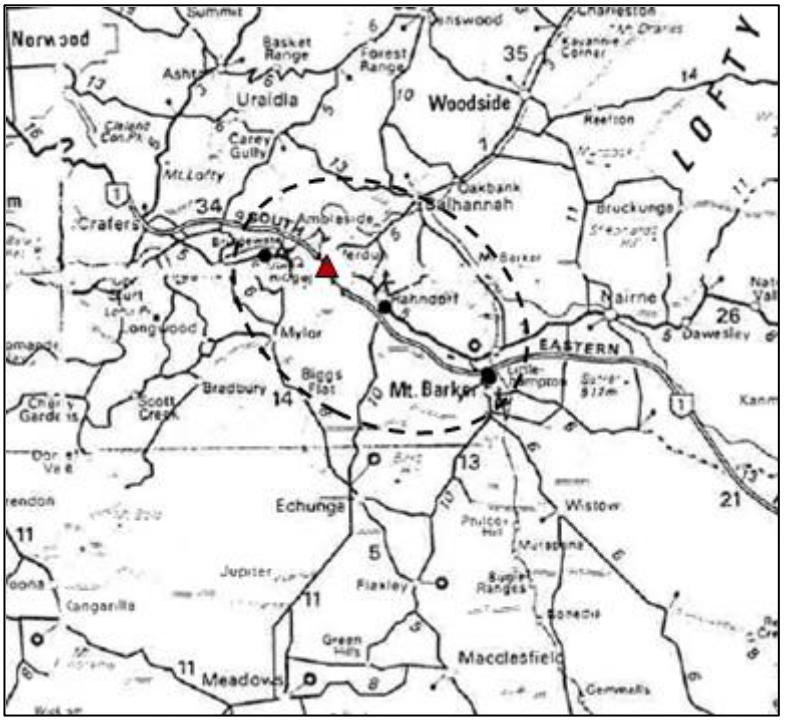
544 | MOUNT BARKER EARTHQUAKE, SOUTH AUSTRALIA, 17 May 1936

Date 17 May 1936

Time 1310 UTC

Location 35.02°S, 138.77°E

Magnitude 3.6 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-514m; SAEQCat;

545 | SUTHERLANDS EARTHQUAKE, SOUTH AUSTRALIA, 17 September 1936

Date 17 September 1936

Time

Location 34.09°S, 139.17°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-517*;shock felt before 18th

546 | SIMPSON DESERT EARTHQUAKE, SOUTH AUSTRALIA, 28 October 1937

Date 28 October 1937

Time 0934 UTC

Location 26.1°S, 136.5°E

Magnitude 5.5 ML

Calculating magnitude

Maximum Intensity I_0: gives ML ±

References

SAEQCat

547 | SIMPSON DESERT EARTHQUAKE, SOUTH AUSTRALIA, 20 December 1937

Date 20 December 1937

Time 2235 UTC

Location 25.5°S, 136.5°E

Magnitude 5.2 ML

References

SAEQCat

548 | SIMPSON DESERT EARTHQUAKE, SOUTH AUSTRALIA, 17 April 1938

Date 17 April 1938

Time 0856 UTC

Location 25.5°S, 137.2°E

Magnitude 5.6 ML

References

SAEQCat

549 | RIVERTON EARTHQUAKE, SOUTH AUSTRALIA, 10 February 1939

Date 10 February 1939

Time

Location 34.22°S, 138.74°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-518*;shock felt

550 | NILPENA EARTHQUAKE, SOUTH AUSTRALIA, 26 March 1939

Date 26 March 1939

Time 0356 UTC

Location 31.1°S, 138.3°E

Magnitude 5.7 ML

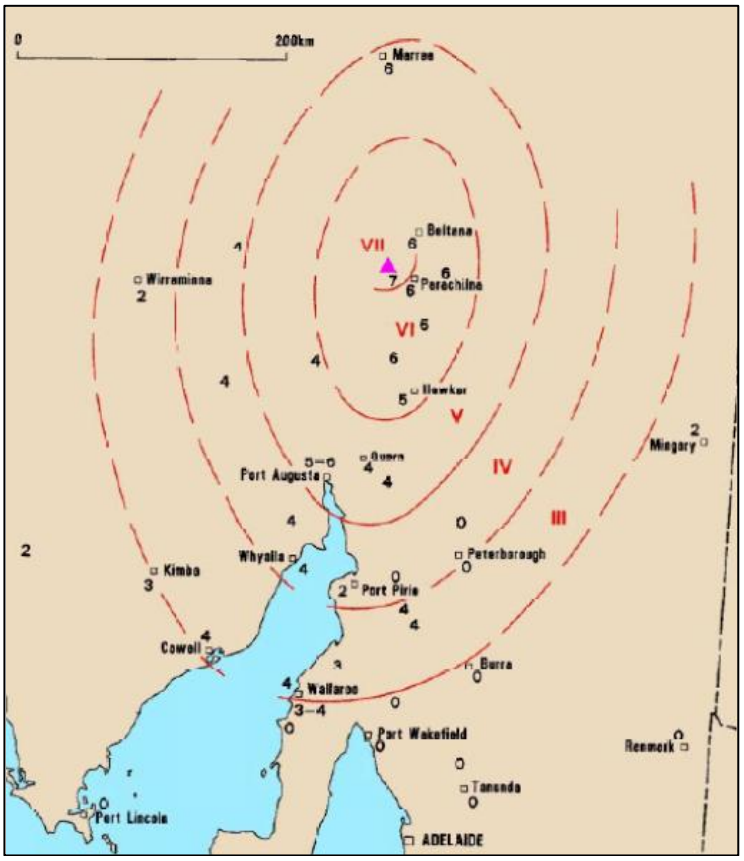
▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 7 gives ML 5.3 ± 0.8

References

SAEQCat; 24/SA/33



551 | NILPENA AFTERSHOCKS, SOUTH AUSTRALIA, 26-27 March 1939

Date 26-27 March 1939

Time

Location 31.1°S, 138.3°E

Magnitude

References

VOLS-519* listed as Motpena;14 tremors felt between 1000 26/3 - 1830 27/3

552 | ST VINCENT GULF EARTHQUAKE, SOUTH AUSTRALIA, 29 March 1939

Date 29 March 1939
Time 0300 UTC
Location 35.0°S, 138.4°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-521*;slight

553 | NILPENA AFTERSHOCK EARTHQUAKE, SOUTH AUSTRALIA, 30 March 1939

Date 30 March 1939
Time 1150 UTC
Location 31.1°S, 138.3°E
Magnitude 4.2 ML

Calculating magnitude

Maximum Intensity I_0: 5 gives ML 4.2 ± 0.6

References

VOLS-519*;

554 | PORT AUGUSTA EARTHQUAKE, SOUTH AUSTRALIA, 17 April 1939

Date 17 April 1939
Time 1930 UTC
Location 32.73°S, 137.92°E
Magnitude 4.5 ML

Calculating magnitude

Maximum Intensity I_0: 5.5 gives ML 4.5 ± 0.7

References

VOLS-523*;moderate

555 | LAKE TORRENS EARTHQUAKE, SOUTH AUSTRALIA, 1 May 1939

Date 1 May 1939
Time 1907 UTC
Location 31.4°S, 138°E
Magnitude 3.9 ML

References

SAEQCat

556 | MORALANA EARTHQUAKE, SOUTH AUSTRALIA, 5 June 1939

Date 5 June 1939
Time 1220 UTC
Location 31.5°S, 138.5°E
Magnitude 3.9 ML

References

SAEQCat

557 | NILPENA EARTHQUAKE, SOUTH AUSTRALIA, 12 June 1939

Date 12 June 1939
Time 1630 UTC
Location 31.1°S, 138.3°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-524* listed as Motpena; strong shock

558 | EUDUNDA EARTHQUAKE, SOUTH AUSTRALIA, 30 March 1941

Date 30 March 1941
Time 0650 UTC
Location 34.1°S, 139°E
Magnitude 3.3 ML

Calculating magnitude

Radius of Perceptibility R_p: 20km gives ML 3.3 ± 1.1

References

VOLS-525*;severe; McCue 2012

559 | SIMPSON DESERT EARTHQUAKE, SOUTH AUSTRALIA, 4 May 1941

Date 4 May 1941
Time 2207 UTC
Location 26.3°S, 136.9°E
Magnitude 5.1 ML

References

SAEQCat

560 | CLEVE EARTHQUAKE, SOUTH AUSTRALIA, 17 May 1941

Date 17 May 1941
Time
Location 33.5°S, 136.45°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-526*;shock felt

561 | MOUNT BOLD EARTHQUAKE, SOUTH AUSTRALIA, 20 June 1941

Date 20 June 1941
Time 2030 UTC
Location 35.1°S, 138.72°E
Magnitude 3.4 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 24km gives ML 3.4 ± 1.2

References

VOLS-527*; SAEQCat; moderate tremor

562 | SIMPSON DESERT EARTHQUAKE, SOUTH AUSTRALIA, 27 June 1941

Date 27 June 1941
Time 0755 UTC
Location 25.7°S, 137.8°E
Magnitude 6 ML

References

SAEQCat

563 | SIMPSON DESERT EARTHQUAKE, SOUTH AUSTRALIA, 27 June 1941

Date 27 June 1941
Time 0840 UTC
Location 25.7°S, 137.8°E
Magnitude 0.0 ML

References

SAEQCat

564 | SIMPSON DESERT EARTHQUAKE, SOUTH AUSTRALIA, 27 June 1941

Date 27 June 1941
Time 1240 UTC
Location 25.7°S, 137.8°E
Magnitude 0.0 ML

References

SAEQCat

565 | SIMPSON DESERT EARTHQUAKE, SOUTH AUSTRALIA, 27 June 1941

Date 27 June 1941
Time 1440 UTC
Location 25.7°S, 137.8°E
Magnitude 0.0 ML

References

SAEQCat

566 | MARGARET CREEK EARTHQUAKE, SOUTH AUSTRALIA, 14 February 1942

Date 14 February 1942
Time 2250 UTC
Location 29.5°S, 136°E
Magnitude 4.3 ML

References

SAEQCat

567 | STIRLING EARTHQUAKE, SOUTH AUSTRALIA, 6 July 1943

Date 6 July 1943
Time
Location 34.97°S, 138.7°E
Magnitude

References

VOLS-528*;shock felt

568 | MOUNT GAMBIER EARTHQUAKE, SOUTH AUSTRALIA, 30 December 1945

Date 30 December 1945
Time 1530 UTC
Location 38°S, 141.4°E
Magnitude 4.2 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 5 gives ML 4.2 ± 0.6
Radius of Perceptibility R_p: 60km gives ML 4.1 ± 1.5

References

McCue 2012

569 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 3 April 1946

Date 3 April 1946
Time
Location 34.93°S, 138.6°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-529*;shock recorded in Adelaide

570 | QUORN EARTHQUAKE, SOUTH AUSTRALIA, 20 June 1947

Date 20 June 1947
Time 1200 UTC
Location 32.45°S, 138.2°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-530*;slight

571 | JAMESTOWN EARTHQUAKE, SOUTH AUSTRALIA, 23 June 1947

Date 23 June 1947
Time 1133 UTC
Location 33.27°S, 138.65°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-531*;distinct shock

572 | JAMESTOWN EARTHQUAKE, SOUTH AUSTRALIA, 23 June 1947

Date 23 June 1947
Time 1200 UTC
Location 33.27°S, 138.65°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-531*;distinct shock

573 | LAURA EARTHQUAKE, SOUTH AUSTRALIA, 24 June 1947

Date 24 June 1947
Time 1158 UTC
Location 33.05°S, 138.43°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-532*;severe shock

574 | JAMESTOWN EARTHQUAKE, SOUTH AUSTRALIA, 30 September 1947

Date 30 September 1947
Time 0405 UTC
Location 33.27°S, 138.65°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-533*;severe shock

575 | BRIGHTON EARTHQUAKE, SOUTH AUSTRALIA, 18 February 1948

Date 18 February 1948
Time
Location 35.0°S, 138.4°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-534*;shock felt

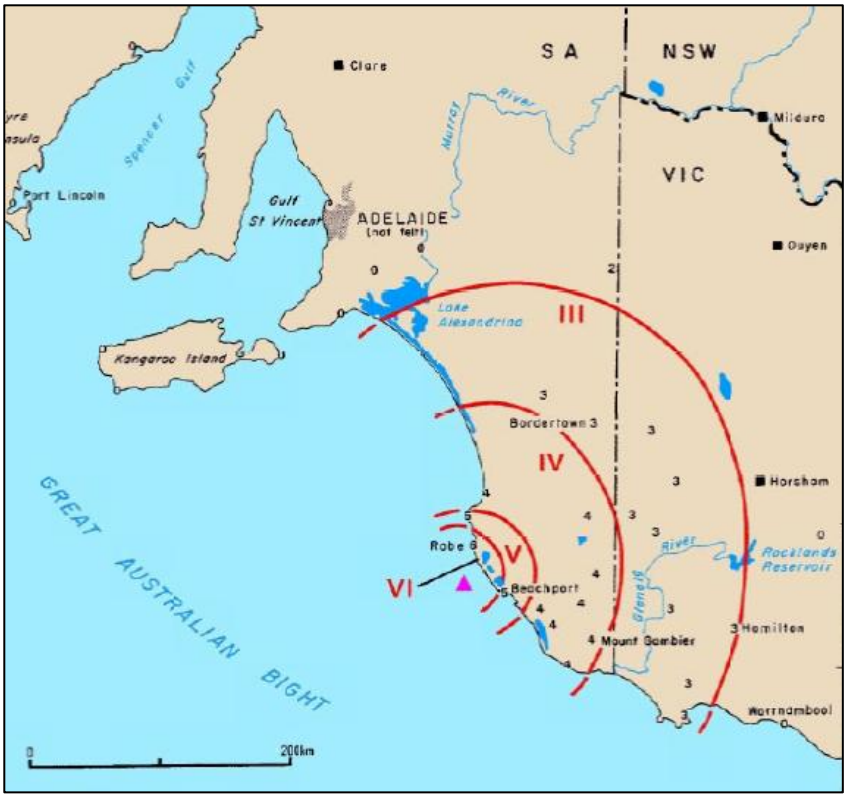
576 | ROBE EARTHQUAKE, SOUTH AUSTRALIA, 6 August 1948

Date 6 August 1948

Time 0329 UTC

Location 37.36°S, 139.68°E

Magnitude 5.6 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Radius of Perceptibility
R_p: 300km gives ML 5.6 ± 2.1

References

SAEQCat; 24/A/24; Bierbaum 1994; McCue 2012

577 | GLADSTONE EARTHQUAKE, SOUTH AUSTRALIA, 29 September 1948

Date 29 September 1948

Time 1830 UTC

Location 33.28°S, 138.35°E

Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity I_0: 4.5 gives ML 3.9 ± 0.6

References

VOLS-535*;severe

578 | OODNADATTA EARTHQUAKE, SOUTH AUSTRALIA, 1 December 1948

Date 1 December 1948

Time 1819 UTC

Location 27.55°S, 135.45°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-536*;slight

579 | CRYSTAL BROOK EARTHQUAKE, SOUTH AUSTRALIA, 9 May 1949

Date 9 May 1949

Time 1630 UTC

Location 33.26°S, 138.25°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-537*;moderate

580 | CRYSTAL BROOK AFTERSHOCK, SOUTH AUSTRALIA, 13 May 1949

Date 13 May 1949
Time 0830 UTC
Location 33.26°S, 138.25°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-537*;slight

581 | STIRLING EARTHQUAKE, SOUTH AUSTRALIA, 17 July 1949

Date 17 July 1949
Time 0200 UTC
Location 34.97°S, 138.7°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-538*;slight shock in the early am

582 | BOOLEROO CENTRE EARTHQUAKE, SOUTH AUSTRALIA, 14 March 1950

Date 14 March 1950
Time 2145 UTC
Location 32.88°S, 138.35°E
Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity I_0: 4.5 gives ML 3.9 ± 0.6

References

VOLS-539*;strong shock

583 | MOUNT LOFTY EARTHQUAKE, SOUTH AUSTRALIA, 2 May 1950

Date 2 May 1950
Time 1425 UTC
Location 27.62°S, 151.77°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-540*;shock felt

584 | JAMESTOWN EARTHQUAKE, SOUTH AUSTRALIA, 2 September 1951

Date 2 September 1951
Time 0955 UTC
Location 33.27°S, 138.65°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-542*;severe shock

585 | MOONTA EARTHQUAKE, SOUTH AUSTRALIA, 18 June 1952

Date 18 June 1952
Time 0100 UTC
Location 34.16°S, 137.74°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5

References

VOLS-543*;shock between 0030-0130 UT

586 | MOONTA EARTHQUAKE, SOUTH AUSTRALIA, 18 June 1952

Date 18 June 1952

Time 1850 UTC

Location 34.16°S, 137.74°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-543*;slight shock

587 | NAIRNE EARTHQUAKE, SOUTH AUSTRALIA, 31 July 1952

Date 31 July 1952

Time 0930 UTC

Location 35°S, 138.94°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6
Radius of Perceptibility R_p: 5km gives ML 2.5 ± 0.7

References

VOLS-544*;slight

588 | QUORN EARTHQUAKE, SOUTH AUSTRALIA, 6 August 1952

Date 6 August 1952

Time 1730 UTC

Location 32.45°S, 138.2°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-545*;slight, woke people

589 | PETERBOROUGH EARTHQUAKE, SOUTH AUSTRALIA, 30 September 1952

Date 30 September 1952

Time 1930 UTC

Location 32.73°S, 139°E

Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4.5 gives ML 3.9 ± 0.6

References

VOLS-546*;moderate

590 | JAMESTOWN EARTHQUAKE, SOUTH AUSTRALIA, 23 November 1952

Date 23 November 1952

Time 1210 UTC

Location 33.27°S, 138.65°E

Magnitude 3.9 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4.5 gives ML 3.9 ± 0.6

References

VOLS-547*;severe

591 | EYRE PENINSULA EARTHQUAKE, SOUTH AUSTRALIA, 23 September 1953

Date 23 September 1953

Time 0630 UTC

Location 34°S, 137°E

Magnitude 4.8 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 6 gives ML 4.8 ± 0.7
Radius of Perceptibility R_p: 140km gives ML 4.8 ± 1.8

References

VOLS-548*; SAEQCat; McCue 2012

592 | PASKEVILLE EARTHQUAKE, SOUTH AUSTRALIA, 13 December 1953

Date 13 December 1953

Time 0616 UTC

Location 34.15°S, 137.94°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-553*;

593 | JAMESTOWN EARTHQUAKE, SOUTH AUSTRALIA, 6 February 1954

Date 6 February 1954

Time

Location 33.27°S, 138.65°E

Magnitude

References

VOLS-*;shock felt

594 | ADELAIDE FORESHOCKS, SOUTH AUSTRALIA, February 1954

Date February 1954

Time

Location

Magnitude

References

Malpas 1954 report-1

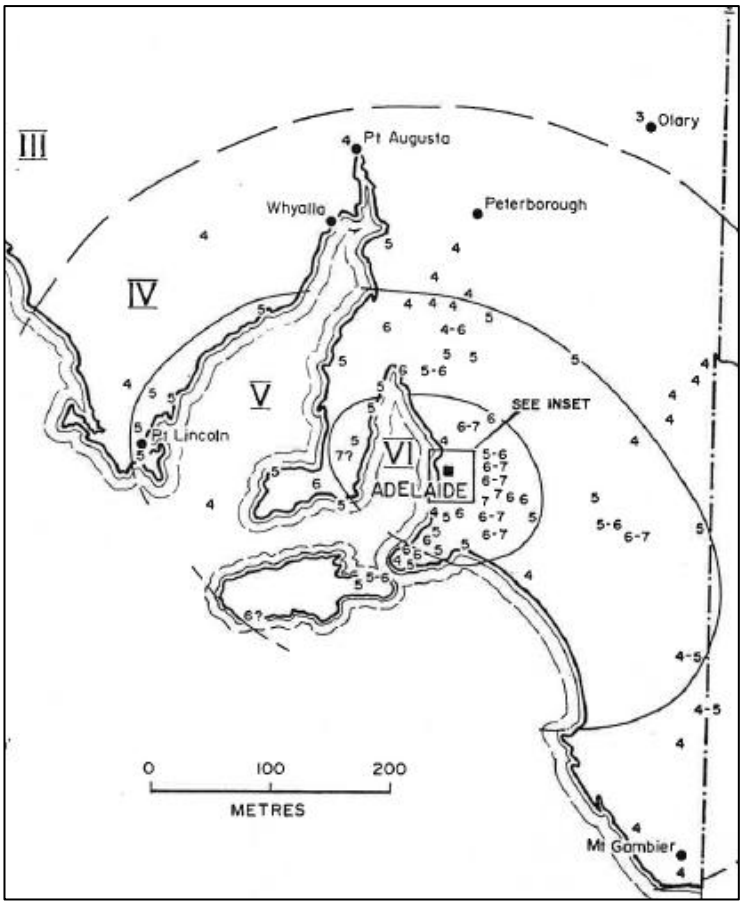
595 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 28 February 1954

Date 28 February 1954

Time 1809 UTC

Location 34.93°S, 138.69°E

Magnitude 5.5 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 8 gives ML 5.9 ± 0.8
Radius of Intensity
IV: 340km gives ML 6 ± 0.3

References

Hons; SAEQCat; 24/SA/05, 24/I54/01, 24/SA/71; Dyster; McCue 2012; Malpas 1954

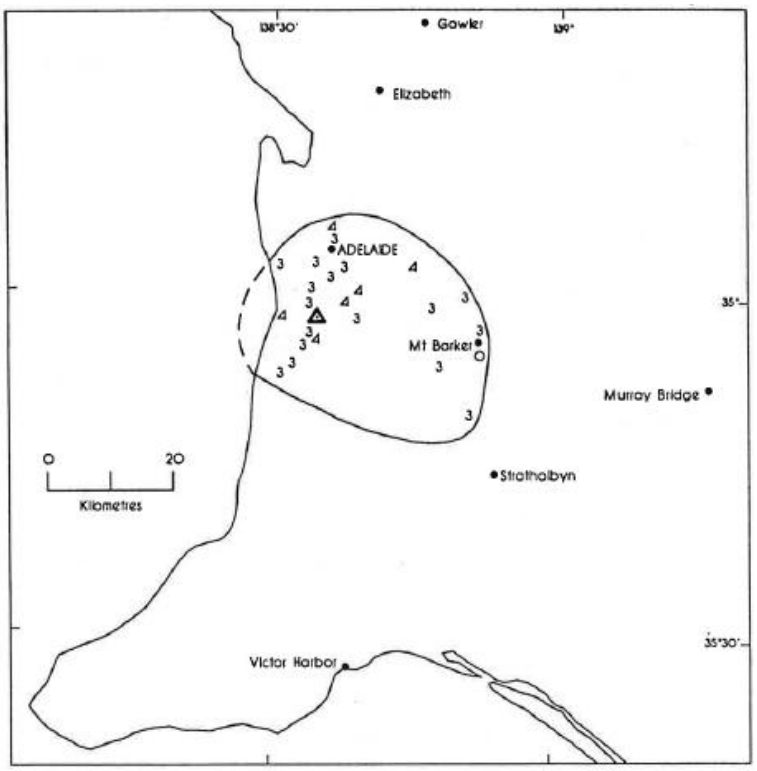
596 | ADELAIDE AFTERSHOCK EARTHQUAKE, SOUTH AUSTRALIA, 2 March 1954

Date 2 March 1954

Time 2015 UTC

Location 34.93°S, 138.69°E

Magnitude 3.2 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity

I_0: 3.5 gives ML 3.3 ± 0.6

Radius of Perceptibility

R_p: 19.5km gives ML 3.3 ± 1.1

References

Hons; SAEQCat; 24/SA/54; McCue 2012; Malpas 1954

597 | ADELAIDE AFTERSHOCKS EARTHQUAKE, SOUTH AUSTRALIA, March 1954

Date March 1954

Time

Location

Magnitude

References

Malpas 1954 report – multiple events requiring further examination

598 | KANGAROO ISLAND EARTHQUAKE, SOUTH AUSTRALIA, 12 March 1954

Date 12 March 1954

Time 1550 UTC

Location

Magnitude

References

VOLS-*;Sunday Advertiser p, 13/2/54

599 | LOCKLEYS EARTHQUAKE, SOUTH AUSTRALIA, 15 May 1954

Date 15 May 1954

Time 1510 UTC

Location 34.93°S, 138.54°E

Magnitude

References

VOLS-*;Advertiser p.1 17/5/54

600 | MOUNT LOFTY EARTHQUAKE, SOUTH AUSTRALIA, 1 September 1954

Date 1 September 1954

Time 1904 UTC

Location 27.62°S, 151.77°E

Magnitude

References

VOLS-*;Advertiser p.3 3/9/54

601 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 2 September 1954

Date 2 September 1954

Time 1904 UTC

Location 35°S, 138.7°E

Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

McCue 2012; VOLS-*;Advertiser p.3 3/9/54; Malpas 1954 report-2

602 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 9 September 1954

Date 9 September 1954

Time

Location 34.93°S, 138.6°E

Magnitude

References

VOLS-*;Advertiser p.1 9/9/54

603 | CALDELL EARTHQUAKE, SOUTH AUSTRALIA, 16 September 1954

Date 16 September 1954

Time 2050 UTC

Location 34.03°S, 139.76°E

Magnitude

References

VOLS-*;Advertiser p.3 18/9/54

604 | SPALDING EARTHQUAKE, SOUTH AUSTRALIA, 16 December 1954

Date 16 December 1954

Time 0432 UTC

Location 33.6°S, 138.63°E

Magnitude 4.5 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 5.5 gives ML 4.5 ± 0.7

References

VOLS-554*; Malpas 1954 report-2; slight damage

605 | BLACK SPRINGS EARTHQUAKE, SOUTH AUSTRALIA, 11 January 1955

Date 11 January 1955

Time 2350 UTC

Location 33.93°S, 138.94°E

Magnitude 4.2 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 5 gives ML 4.2 ± 0.6

References

VOLS-556*;minor tremor

606 | HILLTOWN EARTHQUAKE, SOUTH AUSTRALIA, 13 January 1955

Date 13 January 1955
Time
Location 33.71°S, 138.65°E
Magnitude 3.4 ML

Calculating magnitude

Radius of Perceptibility R_p: 23km gives ML 3.4 ± 1.1

References

VOLS-577*;slight tremor in the am

607 | HILLTOWN EARTHQUAKE, SOUTH AUSTRALIA, 15 January 1955

Date 15 January 1955
Time
Location 33.71°S, 138.65°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-577*;slight shock

608 | EUDUNDA EARTHQUAKE, SOUTH AUSTRALIA, 16 January 1955

Date 16 January 1955
Time
Location 34.09°S, 139.17°E
Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-*;shock felt

609 | JAMESTOWN EARTHQUAKE, SOUTH AUSTRALIA, 18 January 1955

Date 18 January 1955
Time 2000 UTC
Location 33.27°S, 138.65°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-558*;moderate tremor

610 | PORT VICTORIA EARTHQUAKE, SOUTH AUSTRALIA, 6 April 1955

Date 6 April 1955
Time 1900 UTC
Location 34.32°S, 137.49°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3.5 gives ML 3.3 ± 0.6

References

VOLS-559*;minor tremor

611 | MOUNT MISERY EARTHQUAKE, SOUTH AUSTRALIA, 23 September 1955

Date 23 September 1955
Time 0945 UTC
Location 32.38°S, 139.18°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-560*;violent shock

612 | NETHERTON EARTHQUAKE, SOUTH AUSTRALIA, 5 November 1955

Date 5 November 1955
Time 1130 UTC
Location 35.58°S, 140.04°E
Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 2.5 gives ML 2.8 ± 0.5

References

VOLS-561*;slight shock

613 | HANSON EARTHQUAKE, SOUTH AUSTRALIA, 7 December 1955

Date 7 December 1955
Time 2120 UTC
Location 33.65°S, 139.06°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-562*;

614 | HACKHAM EARTHQUAKE, SOUTH AUSTRALIA, 27 December 1955

Date 27 December 1955
Time 0328 UTC
Location 35.14°S, 138.53°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-563*;

615 | CRYSTAL BROOK EARTHQUAKE, SOUTH AUSTRALIA, 16 July 1956

Date 16 July 1956
Time 1200 UTC
Location 33.26°S, 138.25°E
Magnitude

References

VOLS-*;Georgetown, Redhill Advertiser p.7 17/7/56

616 | EDEN HILLS EARTHQUAKE, SOUTH AUSTRALIA, 8 February 1957

Date 8 February 1957
Time 2235 UTC
Location 35.03°S, 138.59°E
Magnitude

References

VOLS-*;Adelaide, Eden Hills, 50 mile radius, lasted a few seconds

617 | PORT AUGUSTA EARTHQUAKE, SOUTH AUSTRALIA, 11 February 1957

Date 11 February 1957
Time
Location 32.73°S, 137.92°E
Magnitude

References

VOLS-*;Advertiser p.1 11/2/57

618 | PORT AUGUSTA EARTHQUAKE, SOUTH AUSTRALIA, 24 April 1957

Date 24 April 1957
Time
Location 32.73°S, 137.92°E
Magnitude

References

VOLS-*;Advertiser p.6 26/4/57 late pm

619 | SNOWTOWN EARTHQUAKE, SOUTH AUSTRALIA, 3 June 1957

Date 3 June 1957
Time 2045 UTC
Location 33.83°S, 138.12°E
Magnitude

References

VOLS-*;Advertiser p.6 5/6/57

620 | PENNESHAW EARTHQUAKE, SOUTH AUSTRALIA, 7 July 1957

Date 7 July 1957
Time
Location 35.78°S, 137.88°E
Magnitude

References

VOLS-*;Advertiser p.3 7/7/57

621 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 28 July 1958

Date 28 July 1958
Time 1000 UTC
Location 34.93°S, 138.6°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3.5 gives ML 3.3 ± 0.6

References

VOLS-564*;slight

622 | MACCLESFIELD EARTHQUAKE, SOUTH AUSTRALIA, 22 December 1958

Date 22 December 1958
Time 1217 UTC
Location 35.07°S, 138.78°E
Magnitude 3 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 12km gives ML 3 ± 0.9

References

VOLS-565*;small tremor

623 | TANUNDA EARTHQUAKE, SOUTH AUSTRALIA, 17 February 1959

Date 17 February 1959
Time
Location 34.54°S, 138.98°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-566*;shock felt

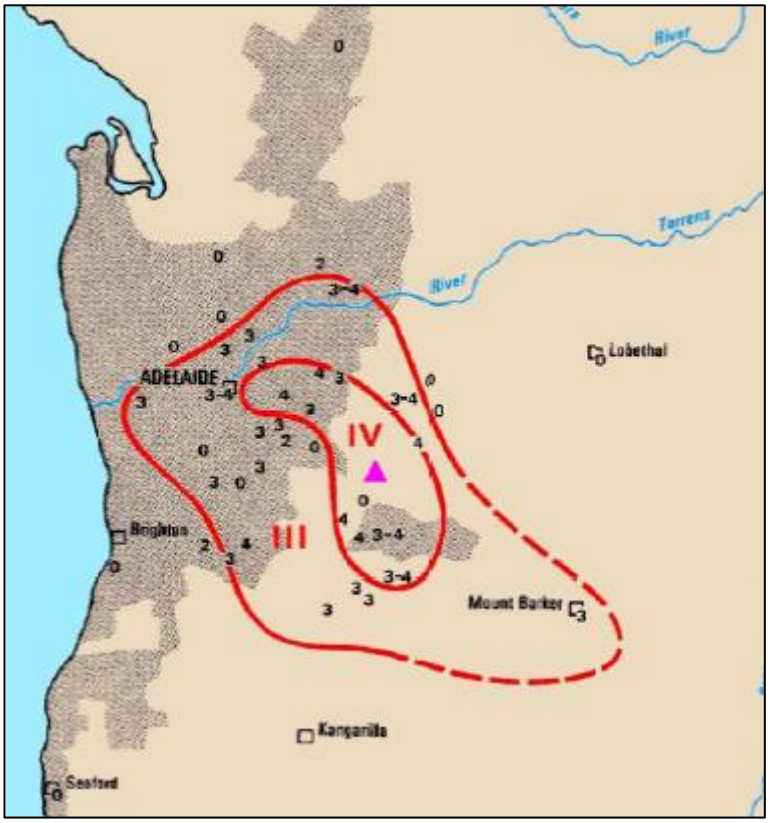
624 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 2 March 1959

Date 2 March 1959

Time 1222 UTC

Location 34.98°S, 138.73°E

Magnitude 2.6 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 6km gives ML 2.6 ± 0.7

References

VOLS-*; SAEQCat; shock felt; 24/I54/05

625 | MEADOWS EARTHQUAKE, SOUTH AUSTRALIA, 29 March 1959

Date 29 March 1959

Time 1756 UTC

Location 35.25°S, 138.71°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5
Radius of Perceptibility R_p: 9km gives ML 2.8 ± 0.9

References

VOLS-568*;small tremor

626 | MOUNT MANTELL EARTHQUAKE, SOUTH AUSTRALIA, 21 May 1959

Date 21 May 1959

Time 1128 UTC

Location 31.4°S, 139°E

Magnitude 4.4 ML

References

SAEQCat

627 | CUMMINS EARTHQUAKE, SOUTH AUSTRALIA, 20 August 1959

Date 20 August 1959
Time 0245 UTC
Location 34.21°S, 135.84°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity I_0: 4 gives ML 3.6 ± 0.6

References

VOLS-569*;distinct shock

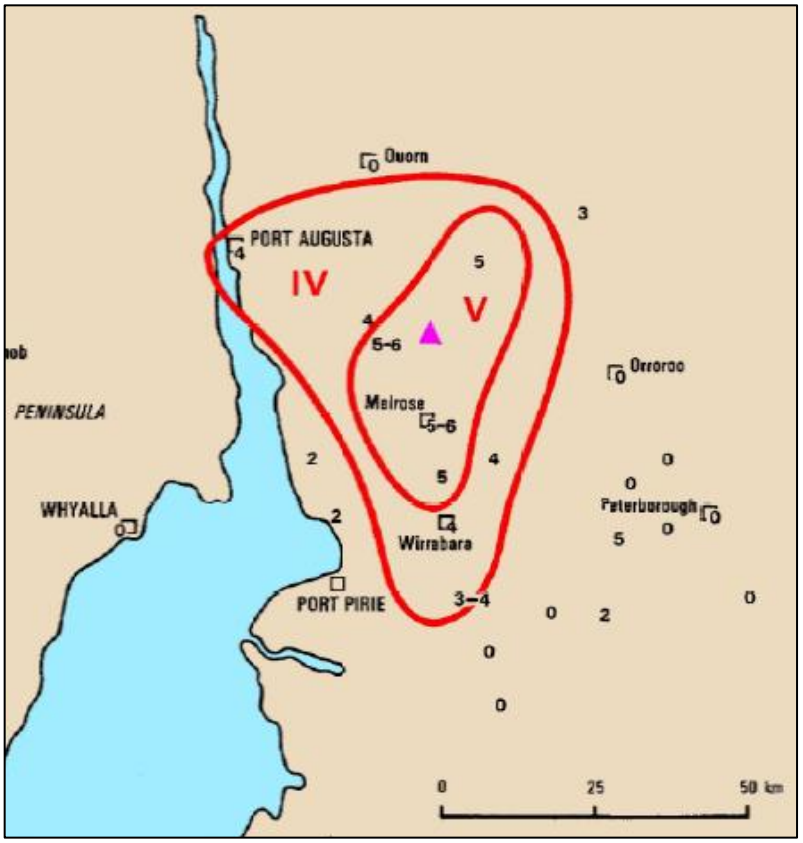
628 | MELROSE EARTHQUAKE, SOUTH AUSTRALIA, 9 September 1959

Date 9 September 1959

Time 0417 UTC

Location 32.7°S, 138.2°E

Magnitude 4.3 ML



▲ Epicentre (or estimate)

III Zone intensity designation

3 Earthquake felt (MM)

0 Earthquake not felt

Calculating magnitude

Maximum Intensity

I_0: 6 gives ML 4.8 ± 0.7

Radius of Perceptibility

R_p: 40km gives ML 3.8 ± 1.3

References

SAEQCat; 24/I54/06

629 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 10 September 1959

Date 10 September 1959

Time 1230 UTC

Location 34.93°S, 138.6°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-570*;slight

630 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 10 September 1959

Date 10 September 1959

Time 1830 UTC

Location 34.93°S, 138.6°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3.5 gives ML 3.3 ± 0.6

References

VOLS-570*;slight

631 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 11 September 1959

Date 11 September 1959

Time 1315 UTC

Location 34.93°S, 138.6°E

Magnitude

References

VOLS-*;shock felt suburbs and country towns

632 | MAMBLIN EARTHQUAKE, SOUTH AUSTRALIA, 2 November 1959

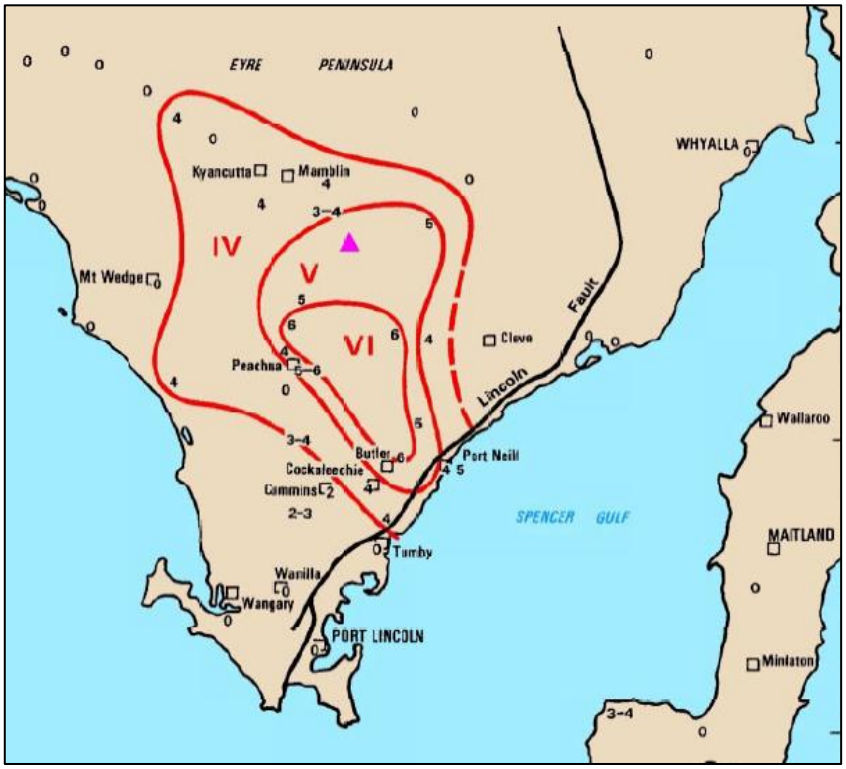
Date 2 November 1959

Time 0117 UTC

Location 33.36°S, 135.98°E

Magnitude 4.9 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt



Calculating magnitude

Maximum Intensity
I_0: 6 gives ML 4.8 ± 0.7
Radius of Perceptibility
R_p: 150km gives ML 4.9 ± 1.8

References

SAEQCat; 24/I53/02

633 | LOCAL EARTHQUAKE, SOUTH AUSTRALIA, 17 November 1959

Date 17 November 1959

Time

Location

Magnitude

References

VOLS-571*;shock felt, local

634 | LOCAL EARTHQUAKE, SOUTH AUSTRALIA, 28 November 1959

Date 28 November 1959

Time

Location

Magnitude

References

VOLS-571*;shock felt, local

635 | LOWER NORTH EARTHQUAKE, SOUTH AUSTRALIA, 1 March 1960

Date 1 March 1960

Time

Location

Magnitude

References

VOLS-572*;

636 | LOCAL EARTHQUAKE, SOUTH AUSTRALIA, 5 March 1960

Date 5 March 1960

Time 0340 UTC

Location

Magnitude

References

VOLS-573*;90km from Adelaide

637 | JAMESTOWN EARTHQUAKE, SOUTH AUSTRALIA, 31 May 1960

Date 31 May 1960

Time 2000 UTC

Location 33.27°S, 138.65°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 2.5 gives ML 2.8 ± 0.5

References

VOLS-574*;

638 | PETERBOROUGH EARTHQUAKE, SOUTH AUSTRALIA, 14 July 1960

Date 14 July 1960

Time 0317 UTC

Location 32.73°S, 139°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 2.5 gives ML 2.8 ± 0.5

References

VOLS-575*;

639 | PETERBOROUGH EARTHQUAKE, SOUTH AUSTRALIA, 15 July 1960

Date 15 July 1960

Time 1830 UTC

Location 32.73°S, 139°E

Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 2.5 gives ML 2.8 ± 0.5

References

VOLS-576*;

640 | UNGARRA EARTHQUAKE, SOUTH AUSTRALIA, 18 August 1960

Date 18 August 1960

Time 1504 UTC

Location 33.8°S, 136.15°E

Magnitude 4.3 ML

References

SAEQCat

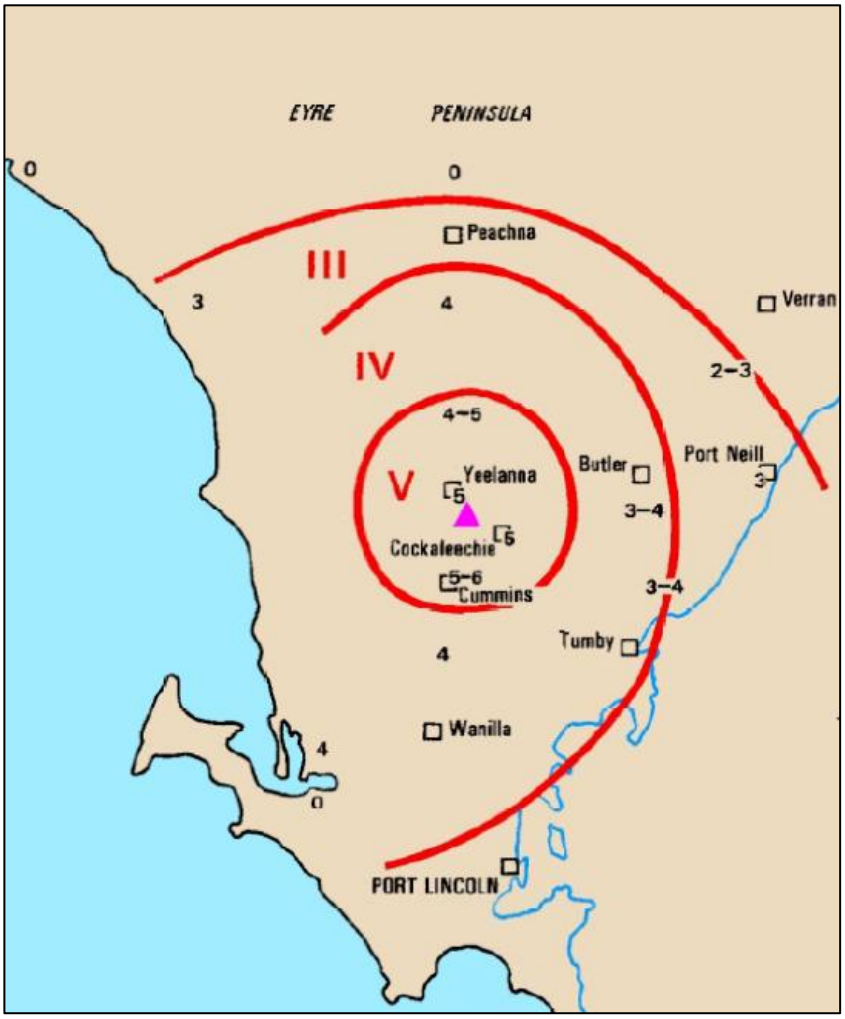
641 | CUMMINS EARTHQUAKE, SOUTH AUSTRALIA, 30 August 1960

Date 30 August 1960

Time 2123 UTC

Location 34.2°S, 135.75°E

Magnitude 4.3 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility
R_p: 80km gives ML 4.3 ± 1.6

References

SAEQCat; 24/I53/03

642 | UNGARRA EARTHQUAKE, SOUTH AUSTRALIA, 31 August 1960

Date 31 August 1960

Time 0214 UTC

Location 33.5°S, 136.4°E

Magnitude 4.4 ML

References

SAEQCat

643 | CUMMINS EARTHQUAKE, SOUTH AUSTRALIA, 12 November 1960

Date 12 November 1960

Time 2303 UTC

Location 34.6°S, 135.5°E

Magnitude 4.4 ML

References

SAEQCat

644 | ARNO BAY EARTHQUAKE, SOUTH AUSTRALIA, 24 February 1961

Date 24 February 1961
Time 1623 UTC
Location 33.91°S, 136.57°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-577*;tremor felt

645 | SADDLEWORTH EARTHQUAKE, SOUTH AUSTRALIA, 16 March 1961

Date 16 March 1961
Time 0125 UTC
Location 33.93°S, 138.94°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-578*;moderate shock

646 | SPALDING EARTHQUAKE, SOUTH AUSTRALIA, 19 April 1961

Date 19 April 1961
Time 0228 UTC
Location 33.6°S, 138.63°E
Magnitude 3 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 11km gives ML 2.9 ± 0.9

References

VOLS-579*;slight

647 | COFFIN BAY EARTHQUAKE, SOUTH AUSTRALIA, 10 June 1961

Date 10 June 1961
Time 1558 UTC
Location 34.5°S, 135°E
Magnitude 4.2 ML

References

SAEQCat

648 | VICTOR HARBOR EARTHQUAKE, SOUTH AUSTRALIA, 3 January 1962

Date 3 January 1962
Time 1645 UTC
Location 35.53°S, 138.53°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3.5 gives ML 3.3 ± 0.6

References

VOLS-580*;slight

649 | KEITH EARTHQUAKE, SOUTH AUSTRALIA, 10 January 1962

Date 10 January 1962
Time 1936 UTC
Location 36.35°S, 139.8°E
Magnitude 4.1 ML

References

SAEQCat

650 | EYRE PENINSULA EARTHQUAKE, SOUTH AUSTRALIA, 3 March 1962

Date 3 March 1962

Time 2204 UTC

Location 33°S, 136°E

Magnitude 4.2 ML

References

SAEQCat

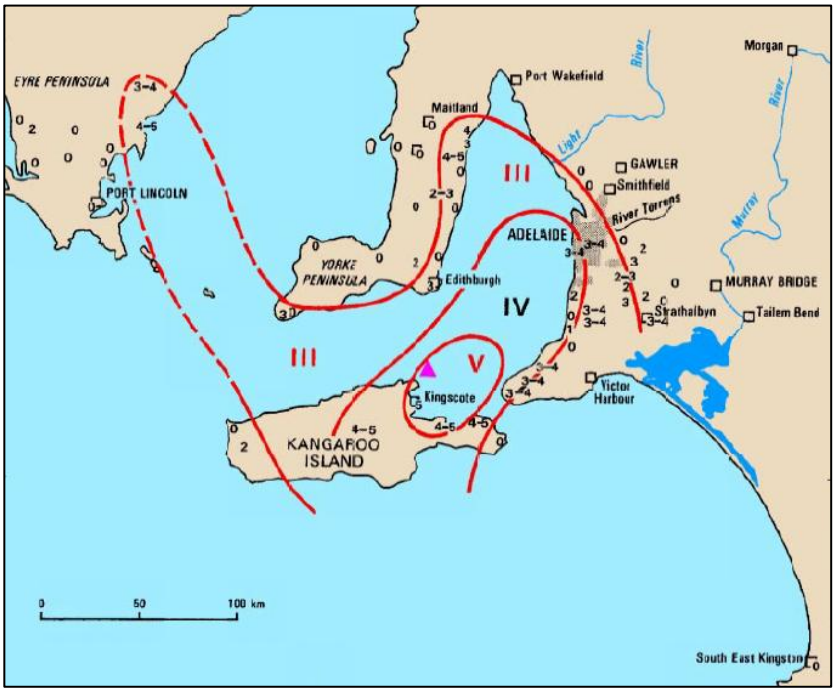
651 | KINGCOTE EARTHQUAKE, SOUTH AUSTRALIA, 16 May 1962

Date 16 May 1962

Time 2141 UTC

Location 35.51°S, 137.66°E

Magnitude 4.4 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity

I_0: 5 gives ML 4.2 ± 0.6

Radius of Perceptibility

R_p: 100km gives ML 4.5 ± 1.7

References

SAEQCat; 24/SA/08

652 | OODLA WIRRA EARTHQUAKE, SOUTH AUSTRALIA, 2 July 1962

Date 2 July 1962

Time 1230 UTC

Location 32.7°S, 139°E

Magnitude 2.4 ML

References

SAEQCat

653 | BLINMAN EARTHQUAKE, SOUTH AUSTRALIA, 7 July 1962

Date 7 July 1962

Time 0430 UTC

Location 31.3°S, 138.6°E

Magnitude 3.4 ML

References

SAEQCat

654 | BUTE EARTHQUAKE, SOUTH AUSTRALIA, 18 July 1962

Date 18 July 1962

Time 1348 UTC

Location 33.7°S, 138.15°E

Magnitude 2.9 ML

References

SAEQCat

655 | YUNTA EARTHQUAKE, SOUTH AUSTRALIA, 23 July 1962

Date 23 July 1962

Time UTC

Location 32.08°S, 141°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-581*;slight

656 | BAROSSA VALLEY EARTHQUAKE, SOUTH AUSTRALIA, 6 September 1962

Date 6 September 1962

Time 1448 UTC

Location 34.5°S, 139°E

Magnitude 3.3 ML

References

SAEQCat

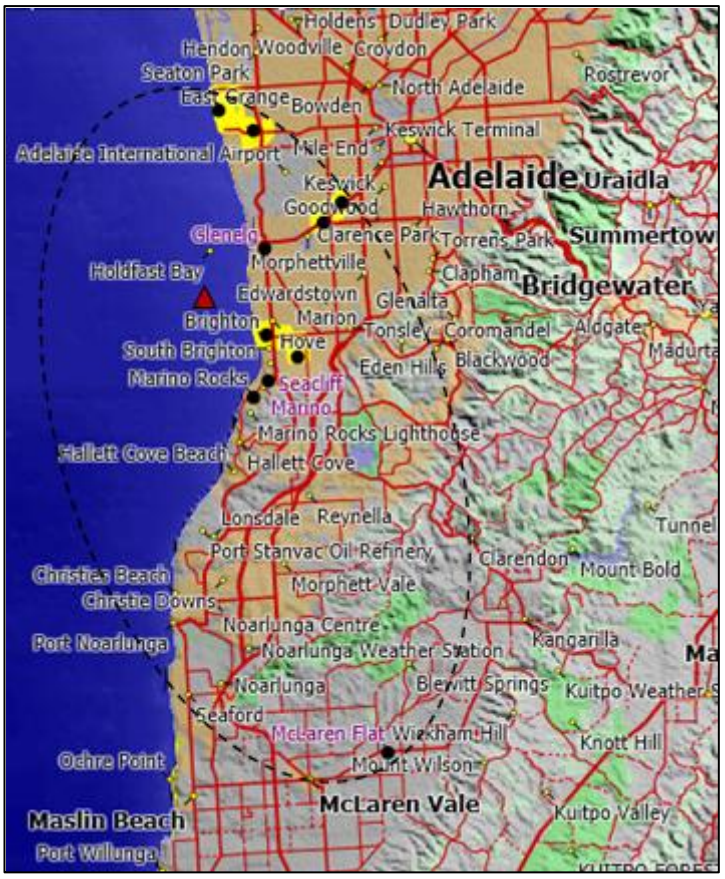
657 | ST VINCENT GULF EARTHQUAKE, SOUTH AUSTRALIA, 26 September 1962

Date 26 September 1962

Time 0550 UTC

Location 35°S, 138.33°E

Magnitude 3.5 ML



▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
$I_{0:}$ 4 gives ML 3.6 ± 0.6
Radius of Perceptibility
R_p: 27km gives ML 3.5 ± 1.2

References

VOLS-582m; SAEQCat; slight

658 | HENLEY BEACH EARTHQUAKE, SOUTH AUSTRALIA, 8 November 1962

Date 8 November 1962
Time 0735 UTC
Location 34.9°S, 138.49°E
Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 2.5 gives ML 2.8 ± 0.5

References

VOLS-585*;

659 | GLENELG EARTHQUAKE, SOUTH AUSTRALIA, 17 December 1962

Date 17 December 1962
Time 1500 UTC
Location 34.97°S, 138.44°E
Magnitude

References

VOLS-*;Glenelg house, Nth Glenelg, Osborne, Woodville Sth, Advertiser p.1 18/12/62, p.13 19/12/62

660 | KARKOO EARTHQUAKE, SOUTH AUSTRALIA, 17 February 1963

Date 17 February 1963
Time 0016 UTC
Location 34.15°S, 135.5°E
Magnitude 3.6 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 4 gives ML 3.6 ± 0.6

References

VOLS-586*;moderate

661 | KARKOO EARTHQUAKE, SOUTH AUSTRALIA, 17 February 1963

Date 17 February 1963
Time 0435 UTC
Location 34.15°S, 135.5°E
Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3.5 gives ML 3.3 ± 0.6

References

VOLS-586*;slight

662 | EDEOWIE EARTHQUAKE, SOUTH AUSTRALIA, 29 March 1963

Date 29 March 1963
Time 2156 UTC
Location 31.1°S, 138.5°E
Magnitude 4.1 ML

References

SAEQCat

663 | INNAMINCKA EARTHQUAKE, SOUTH AUSTRALIA, 30 March 1963

Date 30 March 1963
Time 1240 UTC
Location 27.2°S, 140.9°E
Magnitude 3.1 ML

References

SAEQCat

664 | INNAMINCKA EARTHQUAKE, SOUTH AUSTRALIA, 31 March 1963

Date 31 March 1963

Time 0025 UTC

Location 27.2°S, 140.9°E

Magnitude 3.1 ML

References

SAEQCat

665 | QUORN EARTHQUAKE, SOUTH AUSTRALIA, 8 April 1963

Date 8 April 1963

Time 0903 UTC

Location 32.4°S, 138.1°E

Magnitude 2.5 ML

References

SAEQCat

666 | CLARE VALLEY EARTHQUAKE, SOUTH AUSTRALIA, 3 May 1963

Date 3 May 1963

Time 1652 UTC

Location 33.85°S, 138.68°E

Magnitude 3.1 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 3 gives ML 3.1 ± 0.5

References

VOLS-587*;shock felt

667 | PORT AUGUSTA EARTHQUAKE, SOUTH AUSTRALIA, 30 May 1963

Date 30 May 1963

Time 0030 UTC

Location 32.73°S, 137.92°E

Magnitude 4.5 ML

Calculating magnitude

Maximum Intensity $I_{0:}$ 5 gives ML 4.2 ± 0.6
Radius of Perceptibility R_p: 120km gives ML 4.7 ± 1.7

References

VOLS-588*;moderate

668 | PORT AUGUSTA EARTHQUAKE, SOUTH AUSTRALIA, 30 May 1963

Date 30 May 1963

Time 0045 UTC

Location 32.73°S, 137.92°E

Magnitude 4.5 ML

▲ Epicentre (or estimate)
III Zone intensity designation
3 Earthquake felt (MM)
0 Earthquake not felt

Calculating magnitude

Maximum Intensity
I_0: 5 gives ML 4.2 ± 0.6
Radius of Perceptibility
R_p: 120km gives ML 4.7 ± 1.7

References

VOLS-588*;shock felt

669 | EURLIA EARTHQUAKE, SOUTH AUSTRALIA, 18 June 1963

Date 18 June 1963

Time 0240 UTC

Location 32.6°S, 138.6°E

Magnitude 2.9 ML

References

SAEQCat

670 | COCKALEECHIE EARTHQUAKE, SOUTH AUSTRALIA, 29 July 1963

Date 29 July 1963

Time 2016 UTC

Location 34.3°S, 135.85°E

Magnitude 2.1 ML

References

SAEQCat

671 | SPALDING EARTHQUAKE, SOUTH AUSTRALIA, 28 August 1963

Date 28 August 1963

Time 1120 UTC

Location 33.6°S, 138.63°E

Magnitude 3.3 ML

Calculating magnitude

Maximum Intensity I_0: 3 gives ML 3.1 ± 0.5
Radius of Perceptibility R_p: 25km gives ML 3.4 ± 1.2

References

VOLS-590*;slight

672 | SPALDING EARTHQUAKE, SOUTH AUSTRALIA, 30 August 1963

Date 30 August 1963
Time UTC
Location 33.6°S, 138.63°E
Magnitude 2.8 ML

Calculating magnitude

Maximum Intensity I_0: 2.5 gives ML 2.8 ± 0.5

References

VOLS-590*;slight, in the am

673 | QUORN EARTHQUAKE, SOUTH AUSTRALIA, 2 September 1963

Date 2 September 1963
Time 944 UTC
Location 32.35°S, 137.9°E
Magnitude 2.8 ML

References

SAEQCat

674 | BEAUMONT EARTHQUAKE, SOUTH AUSTRALIA, 4 September 1963

Date 4 September 1963
Time 1200 UTC
Location 34.95°S, 138.66°E
Magnitude

References

VOLS-591*;shock felt

675 | ADELAIDE EARTHQUAKE, SOUTH AUSTRALIA, 23 September 1963

Date 23 September 1963
Time 1632 UTC
Location 34.95°S, 138.9°E
Magnitude 1.6 ML

References

SAEQCat

676 | ULOOLOO EARTHQUAKE, SOUTH AUSTRALIA, 11 November 1963

Date 11 November 1963
Time 0935 UTC
Location 33.3°S, 139°E
Magnitude 1.2 ML

References

SAEQCat

677 | HAWKER EARTHQUAKE, SOUTH AUSTRALIA, 3 December 1963

Date 3 December 1963
Time 0459 UTC
Location 31.88°S, 138.42°E
Magnitude 3.3 ML

References

SAEQCat

678 | EUDUNDA EARTHQUAKE, SOUTH AUSTRALIA, 8 December 1963

Date 8 December 1963

Time 1023 UTC

Location 34.16°S, 139.13°E

Magnitude 1.9 ML

References

SAEQCat

679 | WILLOCHRA EARTHQUAKE, SOUTH AUSTRALIA, 12 December 1963

Date 12 December 1963

Time 1952 UTC

Location 32.22°S, 138.1°E

Magnitude 2.2 ML

References

SAEQCat

Chapter 5
Conclusions and Future Directions

It is well recognised internationally that the accuracy of assessing the seismic risk of a region is dependent on the time span and completeness of the earthquake database. “The longer the seismicity of an area is observed, the better the ability to predict future activity” (Sinadinovski, Greenhalgh & Love, 2006, p.151). For South Australia, it is understood that the duration of instrumentally recorded events (from 1964) is insufficient to assess the seismic risk. This is even true for the Adelaide Geosyncline which shows the highest level of activity. The largest recorded events in the State’s history have occurred during the pre-instrumental period (Malpas, 1991b). Accordingly, the value of historical earthquake research is of great importance for the assessment of ground motion models used in seismic risk assessment (Bierbaum, 1994; Denham, 1979; Greenhalgh & McDougall, 1990; Malpas, 1991b; McCue, 2004; Sinadinovski et al., 2006). There is also the intrinsic value of retaining historical information that stretches back to the colonisation of our state. This thesis contributes to the field of historical earthquake research, with a particular focus on South Australia, which contains some of the most seismically active regions in Australia.

5.1 An index of historical earthquakes

As detailed Chapter 2, a very comprehensive examination of historical earthquake records held in the State Government archives and the Public Library of South Australia was carried out during the early 1990s. This original work resulted in the compilation of a list of just over 460 pre-network earthquakes, the majority of which had escaped mention in any previous publication on South Australian seismic risk. The historical earthquake research appears to have been the only study of its kind performed so comprehensively, and resulted in the most comprehensive list available. After 20 years, it still stands as the definitive list of historical earthquake events in South Australia. The incorporation of those additional historical events into the South Australian Earthquake Catalogue had the potential to raise the previous listing of 49 pre-instrumental events (prior to 1963), to 511 earthquakes, and to extend it back another 46 years to 1837. Some of the major events have been formally included into the South Australian Earthquake Catalogue. However, for many events, there was insufficient

information to finalise the source parameters of an event due to the time consuming task of manually trawling through historical records and newspapers for felt reports.

With the advent of the information age, researching historical newspapers and records is now a feasible undertaking. As an example, the reports of an additional 110 previously unrecognised events during the first 50 years of colonisation were recovered from digitised South Australian newspapers, recently made available on the National Library of Australia's website called TROVE. This was done in a week and the South Australian Historical Earthquake Index now comprises some 679 event with the construction of isoseismal maps for 114 of those events.

More importantly, this quick investigation conducted in only 14 per cent of all South Australian newspapers, indicates the high likelihood of uncovering many more South Australian earthquakes, possibly in the hundreds. The search can be further expanded if interstate records are considered. The period between the 1920s to the 1940s has a surprisingly low number of events indexed currently and should be a priority for further research.

5.2 The issue of completeness

Chapter 3 was concerned with the procedures used to determine from the constructed isoseismal maps the source parameters of time, location and size of historical earthquakes. Where data were available, even minimally, an estimate of magnitude was assigned, resulting in all but 39 events with an assigned value. This historical data were brought together with the instrumental data available in the South Australian Earthquake Catalogue (1964-2012 inclusive) for comparison. Any such comparison draws on the possibly tenuous assumption that the return periods of events have remained constant in South Australia. Magnitude scores were categorised into the ranges of 'below 3', '3-3.9', '4-4.9', '5-5.9' and '6-6.9', in order to consider the frequency of events. However, since the return periods of events are dependent on the size of events, and the intervals of historical observation (127 years) and instrumental observation (49 years) differ, the historical data were proportionally reduced by 39 per cent in order to make comparison over the same interval of 49 years.

Figure 5.1 presents the number of earthquakes in South Australia recorded during the instrumental period (1964-2012 inclusive) compared to the relative proportion of events recorded during the historical period (1837-1963 inclusive). It suggests that the approximate number of events missing from the historical earthquake record is 9200 events below

magnitude 3, almost 300 magnitude 3-3.9 events, almost 30 events of magnitude 4-4.9, three events of magnitude 5-5.9 and no missing events of magnitude 6 or above.

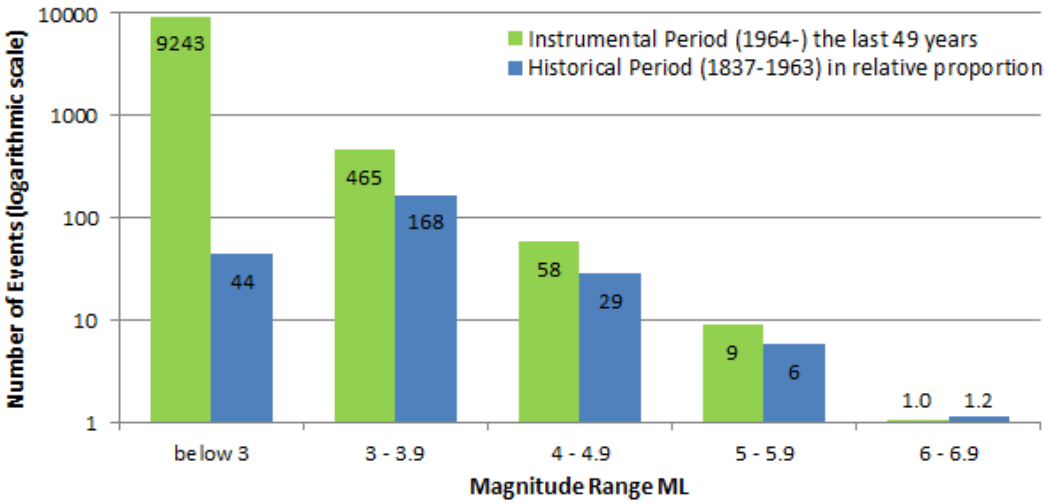


Figure 5.1. Number of earthquakes in South Australia recorded during the instrumental period compared to the relative proportion of events recorded in the historical period

To take this analysis a step further, the ML magnitude values can be used directly in a hazard assessment. The return period, T, was calculated for events of magnitude 3 and above, separately for earthquakes in the historical and instrumental periods. A plot of magnitude ML against the probability of exceedance, P, where P is the inverse of the return period, T, and lnT = -lnP, is presented in Figure 5.2.

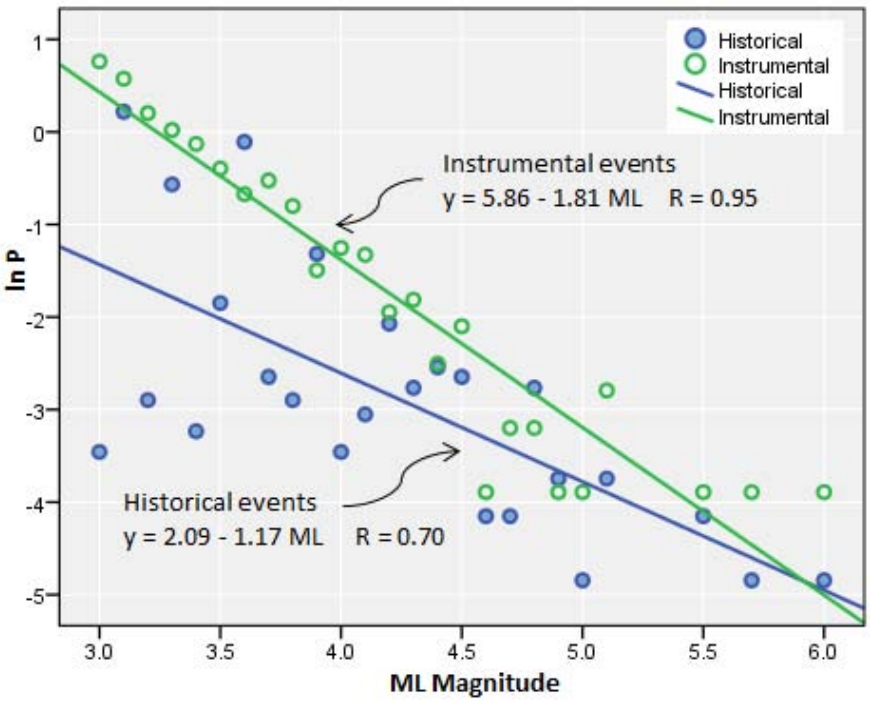


Figure 5.2. Magnitude against its probability of exceedance P

The extent of missing historical data in the low magnitude range, shown in Figure 5.2, is reflected by the distance of points from the historical line of best fit and the effect of pulling the line away from the instrumental line of best fit. The point of intersection can be interpreted as the point of 'completeness' and corresponds to magnitude 5.9.

The equations for the lines of best fit, reordered, predict the magnitude for any return period (T), as presented in Table 5.1. The current historical and instrumental records agree in their prediction of an earthquake of magnitude ML 6 causing minor damage every 100 years or so. These findings are similar to those of McCue (2012) and add further evidence to the importance of historical earthquakes and their inclusion in seismic risk analysis and hazard assessment in South Australia.

Table 5.1. Predictions of magnitude ML in South Australia for representative return periods

Return period (T)	Historical Period Magnitude ML = 1.78 + 0.85 lnT	Instrumental Period Magnitude ML = 3.24 + 0.55 lnT
10 years	3.7	4.5
100 years	5.7	5.8
500 years	7.1	6.7
1000 years	7.7	7.1

5.3 Historical earthquake research going forward

This thesis builds upon and consolidates the work that was commenced 20 years ago, which resulted in the production of 11 volumes, one of which appears now to be lost. In that time, little appears to have been done as regards the curation of these historical assets. It was of some surprise that none of these volumes had been digitally scanned or made publicly available beyond several photocopied reproductions. These sets are held in the *National Library of Australia*, *Geoscience Australia* and *Primary Industries and Resources South Australia*. Moreover, the original list of just over 460 historical events was only just recently converted into an active database by the author for use in this thesis. As part of this work, the list was expanded by including existing events from the South Australian Earthquake Catalogue and by investigating the first 50 years of South Australian newspapers in TROVE. The historical earthquake list currently sits at 679 events, with associated documentation.

While it has been mainly the work of one person to get it to this point, it is now the work of many to continue the substantial task of finding the missing events and assessing the felt reports to determine event parameters. In order to preserve the work that has been done and

to make it available to many, all documentation and an active database of the South Australian Historical Earthquake Index has been placed in 'the cloud' using the services of Google Docs.

The following documents are shared, via the links, on Google Docs.

South Australian Historical Earthquake Index
https://docs.google.com/spreadsheet/ccc?key=0Ao3jvFCOr6SddFVtY0xGTWpXWWtrc2c1cFNQN0JURVE
anyone with this link can view; registered researchers can edit
Please contact drkdix@gmail.com for editing privileges

South Australian Historical Earthquakes in the Pre-Instrumental Period 1837-1963: A Comprehensive Chronicle and Analysis of Available Intensity Data
Dix, K.L. (2013) Masters Thesis, University of Adelaide, South Australia
https://docs.google.com/file/d/0B43jvFCOr6SdbHRjZFFNR3FjVk0/edit?usp=sharing
public, anyone can find it or with this link can view (10.7MB)

South Australian Historical Earthquakes: Compiled Documentation
https://docs.google.com/file/d/0B43jvFCOr6SdN3BCWGwzcm5mNlE/edit
Documentation from multiple sources has been chronologically collated as a one-stop resource of historical earthquakes in South Australia
anyone with this link can view (110MB)

Malpas Volumes (1991 – 1993):
A folder containing 11 documents by Malpas
https://docs.google.com/folder/d/0B43jvFCOr6SddkVWZVdhcTBDRUU/edit
anyone with this link can view

Other References:
A collection of related research, journal articles and documents
https://docs.google.com/folder/d/0B43jvFCOr6SdMks3blpKTGlYNWc/edit
anyone with this link can view

By establishing this online resource, this thesis presents an opportunity to establish processes that curate and maintain into the future an increasingly accurate record of historical earthquakes in South Australia. Moreover, this work may also provide a model for the ongoing development of historical earthquake records in other states and territories in Australia.

In some respects, little has changed since 1860 when Marryat first suggested "that information should be collected respecting the various shocks of earthquakes". Hopefully this vision is now closer to being achieved.

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Appendix A
List of Pre-Seismic Network Newspapers in South Australia

Source: SA Memory website http://www.samemory.sa.gov.au/site/page.cfm?u=921
Source: TROVE website http://trove.nla.gov.au/ndp/del/titles?state=South%20Australia

Location	Newspaper	Publication Period	Years	TROVE
Adelaide	**SOUTH AUSTRALIAN GAZETTE & COLONIAL REGISTER**	June 1836 - June 1839	4	done
Adelaide	SOUTH AUSTRALIAN RECORD	Feb 1838 - Apr 1841	4	
Adelaide	**SOUTHERN AUSTRALIAN**	June 1838 - Nov 1844	7	done
Adelaide	ADELAIDE CHRONICLE & SA ADVERTISER	Dec 1839 - May 1842	4	
Adelaide	ADELAIDE GUARDIAN	Sept - Oct 1839	1	
Port Lincoln	PORT LINCOLN HERALD AND SA COMMERCIAL ADVERTISER	Apr 1839 - May 1840	2	
Adelaide	**SOUTH AUSTRALIAN REGISTER**	July 1839 - Dec 1900	62	done
Adelaide	ADELAIDE GENERAL ADVERTISER & PT. LINCOLN HERALD	Aug - Oct 1840	1	
Adelaide	SOUTH AUSTRALIAN COLONIST	Mar Sept 1840	1	
Adelaide	ADELAIDE EXAMINER	Dec 1841 - June 1843	3	
Adelaide	SOUTH AUSTRALIAN NEWS LETTER	Dec 1841 - Dec 1843	3	
Adelaide	SOUTH AUSTRALIAN REFORMER	July 1842	1	
Adelaide	SOUTHERN STAR	Oct 1842 - Feb 1843	2	
Adelaide	OBSERVER / ADELAIDE OBSERVER	Jan 1843 - Feb 1931	89	
Adelaide	**SOUTH AUSTRALIAN**	Nov 1844 - Aug 1851; Nov 1868 - Dec 1869	10	to 1951
Adelaide	SOUTH AUSTRALIAN GAZETTE & MINING JOURNAL	Oct 1847 - Mar 1852	6	
Adelaide	ADELAIDE TIMES	Oct 1848 - May 1858	11	
Tanunda	DEUTSCHE ZEITUNG FUR SUD AUSTRALIEN	June 1848 - Mar 1851	4	
Adelaide	MERCURY & SOUTH AUSTRALIAN SPORTING CHRONICLE	July 1849 - 1851	3	
Adelaide	ADELAIDE COMMERCIAL ADVERTISER	Mar 1850 - Aug 1851	2	
Tanunda	**SUD AUSTRALISCHE ZEITUNG**	May 1850 - Apr 1851	2	done
Tanunda	**ADELAIDER DEUTSCHE ZEITUNG**	July 1860 - Dec 1862	12	done
Adelaide	AUSTRAL EXAMINER	Mar - Dec 1851	1	
Adelaide	**ADELAIDE MORNING CHRONICLE**	June 1852 - Nov 1853	2	done
Adelaide	**SOUTH AUSTRALIAN CHRONICLE**	Apr 1852 - Dec 1853; Jan 1868 - Apr 1881; Mar 1889 - Sept 1895	23	done
Adelaide	ADELAIDE GAZETTE EXTRAORDINARY	24 May 1853	1	
Adelaide	EXAMINER	Apr - July 1853	1	
Adelaide	SOUTH AUSTRALIAN FREE PRESS	Oct 1853 - Apr 1854	2	
Adelaide	SOUTH AUSTRALIAN WEEKLY DISPATCH	Jan 1853 - Dec 1855	3	
Adelaide	FIRST OF APRIL CRACKER OR SA WASP	1 Apr 1854	1	
Adelaide	**SOUTH AUSTRALIAN ADVERTISER**	July 1858 - Mar 1889	32	done
Adelaide	**SOUTH AUSTRALIAN WEEKLY CHRONICLE**	July 1858 - Dec 1867; Apr 1881 - Mar 1889	19	done
Tanunda	ADELAIDER BLATTER FUR ERNST AND SCHERZ	July 1860; Jan 1862 - Dec 1874	15	
Kapunda	NORTHERN STAR	May 1860 - Dec 1863	4	
Adelaide	BELLS LIFE IN ADELAIDE	Apr 1861 - Mar 1862	2	
Mount Gambier	**BORDER WATCH**	Apr 1861-	153	to 1954
Adelaide	ADELAIDE EXPRESS	Dec 1863 - 1865	3	

Location	Newspaper	Publication Period	Years	TROVE
Adelaide	AUSTRALISCHE DEUTSCHE ZEITUNG	Mar 1863 - Mar 1874	12	
Gawler	**BUNYIP**	Sept 1863 -	151	to 1954
Kapunda	KAPUNDA HERALD	Oct 1864 - May 1951	88	
Adelaide	DAILY TELEGRAPH	July 1865 - Dec1866	2	
Kadina	WALLAROO TIMES	Feb 1865 - July 1888	24	
Mount Gambier	MOUNT GAMBIER STANDARD	May 1866 - May 1874	9	
Strathalbyn	**SOUTHERN ARGUS**	Mar 1866 -	148	to 1954
Adelaide	EXPRESS & TELEGRAPH	Jan 1867 - Nov 1922	56	
Adelaide	ILLUSTRATED ADELAIDE POST	Mar 1867 - Dec 1874	8	
Adelaide	SOUTH AUSTRALIAN SATIRIST	July 1867 - Apr 1868	2	
Adelaide	OUR TIMES	June 1868	1	
Adelaide	EVENING JOURNAL	Jan 1869 - Sept 1912	44	
Gawler	GAWLER TIMES & GOLDFIELDS REPORTER	Mar 1869 - June 1873	5	
Clare	**NORTHERN ARGUS**	Feb 1869 -	145	to 1954
Kapunda	GUMERACHA GUARDIAN & NORTH EASTERN ADVERTISER	Mar 1870 - Mar 1871	2	
Kapunda	GUARDIAN: AND NORTH EASTERN ADVERTISER	May 1871 - Mar 1874	4	
Adelaide	REVIEW	26 Sept 1871	1	
Moonta	YORKES PENINSULA ADVERTISER	Oct 1872 - July 1922	51	
Adelaide	AUSTRALASIAN SKETCHER	Apr 1873 - Dec 1889	17	
Adelaide	HARP AND SOUTHERN CROSS	Dec 1873 - Dec 1875	3	
Adelaide	FARMERS WEEKLY MESSENGER	Apr 1874 - Sept 1878	5	
Kapunda	NORTHERN GUARDIAN	Apr - May 1874	1	
Adelaide	HAUSFREUND	Oct 1875 - Mar 1876	2	
Adelaide	ILLUSTRATED ADELAIDE NEWS	Jan 1875 - Sept 1880	6	
Naracoorte	NARACOORTE HERALD	Dec 1875	1	
Adelaide	NEUE DEUTSCHE ZEITUNG FÜR AUSTRALIEN	Oct 1875 - Sept 1876	2	
Mount Gambier	SOUTH EASTERN ENSIGN	July 1875 - June 1876	2	
Adelaide	TRIBUNE	Oct 1875-Jan 1876	2	
Burra	NORTHERN MAIL	June - Dec 1876	1	
Port Adelaide	PORT ADELAIDE POST	July 1876	1	
Port Pirie	PORT PIRIE GAZETTE AND AREAS NEWS	Feb 1876 - Dec 1884	9	
Port Wakefield	PORT WAKEFIELD TIMES	Aug 1876 -	138	
Adelaide	SOUTH AUSTRALIAN LICENSED VICTUALLERS GAZETTE & SPORTING CHRONICLE	Oct 1876 - Sept 1886	11	
Adelaide	ADELAIDE ECHO	Sept - Oct 1877	1	
Jamestown	AREAS EXPRESS & FARMERS JOURNAL	May 1877 - Dec 1928	52	
Adelaide	AUSTRALIAN STAR	June 1877 - Mar 1881	5	
Burra	BURRA NEWS AND NORTHERN MAIL	Jan 1877 - June 1878	2	
Adelaide	LABOUR ADVOCATE	Nov 1877 - May 1878	2	
Port Augusta	PORT AUGUSTA DISPATCH AND FLINDERS ADVERTISER	Aug 1877 - Apr 1916	40	
Mount Gambier	SOUTH EASTERN STAR	Oct 1877 - Oct 1930	54	
Burra	**BURRA RECORD**	Oct 1878 - Mar 1977	100	to 1954
Adelaide	CHRISTIAN COLONIST	Oct 1878 - July 1894	17	
Adelaide	FREARSONS WEEKLY	Feb 1878 - Apr 1884	7	
Gawler	GAWLER STANDARD	Jan 1878 - Feb 1885	8	
Jamestown	JAMESTOWN REVIEW	Mar 1878 - June 1881	4	
Port Adelaide	PORT ADELAIDE NEWS AND LE FEVRE'S PENINSULA ADVERTISER	Mar 1878 - Jan 1897	20	
Adelaide	TRADERS COURIER & FREELANCE	Feb - Oct 1878; Oct 1879	2	
Adelaide	FREARSONS MONTHLY ILLUS. ADELAIDE NEWS	Oct 1880 - Dec 1884	5	
Mount Barker	MOUNT BARKER COURIER	Oct 1880 - Feb 1983	104	
Jamestown	AGRICULTURIST & REVIEW	July 1881 - Dec 1948	68	
Adelaide	CITY & COUNTRY	Sept 1881 - Mar 1883	3	
Adelaide	SOUTH AUSTRALIAN TIMES	Mar 1883 - Dec 1885	3	

Location	Newspaper	Publication Period	Years	TROVE
Adelaide	WAR CRY & OFFICIAL GAZETTE OF THE SALVATION ARMY	Apr 1883 - May 1898	16	
Terowie	BRITISH AUSTRALIAN FEDERAL STANDARD	Apr - June 1884	1	
Terowie	TEROWIE ENTERPRISE	Aug 1884 - Dec 1891	8	
Adelaide	PICTORIAL AUSTRALIAN	Jan 1885 - Dec 1895	11	
Port Pirie	PORT PIRIE ADVOCATE AND AREAS NEWS	Mar 1885 - July 1898	14	
Adelaide	OUR COMMONWEALTH	May 1886-Oct 1887 ; Mar 1888	3	
Adelaide	SOUTH AUSTRALIAN SENTINEL	Oct 1886 - Oct 1889	4	
Port Broughton	BROUGHTON ECHO	Nov 1887 - July 1888	2	
Peterborough	PETERSBURGH TIMES	Aug 1887 - May 1919	33	
Teetulpa	TEETULPA NEWS AND GOLDEN AGE	Feb 1887	1	
Kadina	KADINA AND WALLAROO TIMES	Aug 1888 - Mar 1966	79	
Adelaide	**ADVERTISER**	Mar 1889 -	125	to 1954
Jamestown	LAURA STANDARD & CRYSTAL BROOK COURIER	Apr 1889 - Dec 1948	60	
Port Pirie	PORT PIRIE STANDARD AND BARRIER ADVERTISER	Jan 1889 - July 1898	10	
Port Elliot	SOUTHERN FREEMAN	Apr 1889 - Mar 1890	2	
Adelaide	AUSTRALIAN CHRISTIAN WORLD	Apr 1890 - Dec 1951	62	
Moonta	PEOPLE'S WEEKLY	May 1890 - Mar 1966	77	
Adelaide	PIONEER : Land & Labor Library of Australia	Nov 1890 - Dec 1892	3	
Millicent	MILLICENT TIMES	July 1891 - Dec 1905	15	
Peterborough	ORROROO ENTERPRISE	Jan 1892 - Mar 1970	79	
Renmark	RENMARK PIONEER	Apr - Dec 1892; May 1895 - July 1913	20	
Burnside	BURNSIDE & KNIGHTSBRIDGE HERALD	Nov 1893 only	1	
Adelaide	COUNTRY	Sept 1893 - Dec 1896	4	
Norwood	EAGLE	22 Sept 1894	1	
Adelaide	STANDARD	May 1894; Apr 1896	3	
Adelaide	WEEKLY HERALD	Oct 1894 - Dec 1898	5	
Adelaide	**CHRONICLE**	Oct 1895 - Sept 1975	81	to 1954
Norwood	FREEPRESS	Jan - Aug 1895	1	
Quorn	QUORN MERCURY	May 1895 - Oct 1956	62	
Kadina	YORKES' PENINSULA PLAIN DEALER	Feb 1895 - Feb 1897	3	
Adelaide	CRITIC	Sept 1897 - May 1924	28	
Kadina	PLAIN DEALER	Mar 1897 - Jan 1926	30	
Yorketown	PIONEER	Mar 1898 - Dec 1960	63	
Port Pirie	PORT PIRIE ADVERTISER	Apr 1898 - June 1924	27	
Port Pirie	**PORT PIRIE RECORDER**	July 1898 - Jan 1919	22	done
Yorketown	SOUTHERN YORKES' PENINSULA PIONEER	Jan - Mar 1898	1	
Adelaide	HERALD	Jan 1899 - Mar 1910	12	
Adelaide	**REGISTER**	Jan 1901 - Dec 1931	31	done
Yorketown	CLARION	June 1902 - May 1	1	
Balaklava	CENTRAL ADVOCATE	Sept 1903 - Sept 1909	7	
Jamestown	JAMESTOWN STAR & FARMERS JOURNAL	July 1903 - June 1946	44	
Adelaide	WEEKLY NEWS	Jan 1903 - Oct 1918	16	
Adelaide	MINING STANDARD	Sept 1904 - Oct 1909	6	
Port Lincoln	PORT LINCOLN, TUMBY BAY AND WEST COAST RECORDER	July 1904 - Oct 1909	6	
Adelaide	SUNDAY TIMES	Dec 1904	1	
Port Lincoln	WESTERN WEEKLY NEWS	Mar 1904 -	110	
Port Adelaide	PORT ADELAIDE NEWS	Jan - Oct 1904; Aug 1913 - Aug 1933	22	
Woodside	SOUTHERNER	July 1905 - Apr 1906	2	
Adelaide	ADELAIDE STOCK & STATION JOURNAL	Aug 1906 - Jan 1967	62	
Kadina	COPPER AGE	Aug 1906 - Dec 1908	3	
Adelaide	GADFLY	Feb 1906 - Feb 1909	4	

Location	Newspaper	Publication Period	Years	TROVE
Millicent	SOUTH EASTERN TIMES	Jan 1906 -	108	
Unley	UNLEY CITIZEN	June 1906 - Dec 1912	7	
Kingscote	KANGAROO ISLAND COURIER	Nov 1907 - June 1951; July 1957 - Mar 1968	57	
Tanunda	BAROSSA NEWS	Oct 1908 - May 1951	44	
Hamley Bridge	HAMLEY BRIDGE EXPRESS	Oct 1908	1	
Norwood	NORWOOD STANDARD	June - Aug 1908	1	
Owen	OWENS WEEKLY AND DALKEY DISTRICT COURIER	Oct - Nov 1908	1	
Pinnaroo	PINNAROO COUNTRY NEWS	June 1908 - Mar 1922	15	
Bordertown	TATIARA & LAWLOTT NEWS	June 1908 - June 1912	5	
Adelaide	DAILY COMMERCIAL NEWS & SHIPPING LIST	June 1909 - June 1911; Jan 1921 - Mar 1973	56	
Port Broughton	BROUGHTON STAR	Mar 1909 - July 1912	4	
Adelaide	EVENING POST	Feb 1909 - June 1913	5	
Port Lincoln	WEST COAST RECORDER	Oct 1909 - Dec 1942	34	
Balaklava	WOOROORA PRODUCER	Sept 1909 - June 1940	32	
Snowtown	STANLEY HERALD	Mar 1909 - June 1941; Dec 1947 - Dec 1948	35	
Crystal Brook	CRYSTAL BROOK TIMES	Jan 1910 - May 1917	8	
Adelaide	DAILY HERALD	Mar 1910 - June 1924	15	
Cleve	EYRE PENINSULA TRIBUNE & KIMBA DISPATCH	Dec 1910 -	104	
Port Wakefield	WAKEFIELD SUN	July 1910 - May 1912	3	
Adelaide	ADELAIDE JOURNAL OF COMMERCE	Apr 1911 - Apr 1917	7	
Ardrossan	ARDROSSAN NEWS	Feb - July 1911	1	
Clare	BLYTH AGRICULTURIST	June 1911 - June 1969	59	
Maitland	MAITLAND WATCH	Dec 1911 - June 1969	59	
Pinnaroo	PINNAROO BORDER TIMES	Mar 1911 - Dec 1986	76	
Wallaroo	WALLAROO WHEATSHEAF	Dec 1911 - June 1921	11	
Booleroo Centre	BOOLEROO TIMES / MAGNET	Feb 1912 - July 1913	4	
Mount Gambier	EXCHANGE	Sept 1912 - Oct 1942	31	
Mannum	MANNUM MERCURY AND FARMERS JOURNAL	Mar 1912 - Mar 1917	6	
Port Augusta	NORTH WESTERN STAR AND FROME JOURNAL	Aug 1912 - July 1917	6	
Peterborough	PETERSBURG ENTERPRISE	Jan - Aug 1912	1	
Adelaide	SATURDAY MAIL	May 1912 - Mar 1917	6	
Adelaide	THE JOURNAL	Sept 1912 - July 1923	12	
Adelaide	**THE MAIL**	May 1912 - Jan 1954	43	done
Ceduna	WEST COAST SENTINEL	June 1912 -	102	
Tumby Bay	WESTERN PEOPLE AND TUMBY BAY TIMES	June - July 1912	1	
Victor Harbor	VICTOR HARBOUR TIMES	Aug 1912 - May 1930; Apr 1932 - Dec 1986	74	
Peterborough	FRITH'S BULLETIN	15 Apr 1913	1	
Renmark	MURRAY PIONEER	July 1913 -	101	
Port Pirie	SATURDAY TIMES	Dec 1913 - Aug 1914	2	
Peterborough	SPORTING TELEGRAPH	May - July 1913	1	
Hindmarsh	WEST TORRENS GAZETTE	Nov 1913 - Nov 1914	2	
Glenelg	GLENELG GUARDIAN	Oct 1914 - Feb 1964	51	
Adelaide	SATURDAY EXPRESS	Aug 1914 - Apr 1929	16	
Adelaide	SATURDAY JOURNAL	Jan 1917 - Apr 1929	16	
Port Augusta	TRANSCONTINENTAL	Nov 1914 - Aug 1971	58	
Port Wakefield	PORT WAKEFIELD MONITOR	Jan 1915 - June 1941	27	
Adelaide	EXPRESS & TELEGRAPH: special war edition	Feb 1916 - June 1917	2	
Adelaide	THE JOURNAL: Special Cable edition	Feb 1916 - June 1917	2	
Adelaide	DAILY SHIPPING INDEX OF AUSTRALASIA	May 1917 - Dec 1920	4	
Pinnaroo	MURRAYVILLE PIONEER	Nov 1917 - May 1927	11	
Angaston	LEADER	July 1918 -	96	

Location	Newspaper	Publication Period	Years	TROVE
Port Adelaide	LIBERAL LEADER	Dec 1918 - Aug 1925	8	
Adelaide	NATIONALIST	Oct 1918 - May 1920	3	
Unley	UNLEY NEWS	Sept 1918 - May 1923	6	
Adelaide	DAYLIGHT	Feb 1919 - Dec 1928	10	
Norwood	EAST SUBURBAN ADVOCATE	Aug 1919 - Dec 1919	1	
Adelaide	NEW ADELAIDE NEWS	Mar 1919 - Apr 1921	3	
Norwood	NORWOOD ADVOCATE	June 1919 - Aug 1919	1	
Port Pirie	**RECORDER**	Jan 1919 - July 1971 -	53	to 1954
Peterborough	TIMES AND NORTHERN ADVERTISER	May 1919 - Mar 1970	52	
Unley	UNLEY REVIEW	Dec 1919 - Jan 1920	2	
Hindmarsh	WEST TORRENS NEWS	Sept 1919 - Apr 1921	3	
Adelaide	ADELAIDE NEWS	Aug 1920 - Apr 1921	2	
Adelaide	INDUSTRIAL SOLIDARITY	Feb - Dec 1920	1	
Kilkenny	DISTRICT REFLECTOR	Oct 1921 - Feb 1922	2	
Adelaide	PEOPLES ADVOCATE	Oct 1921 - Feb 1950	30	
Unley	UNLEY WELFARE	Aug 1921 - Oct 1924	4	
Adelaide	WEST ADELAIDE NEWS	Apr - Dec 1921	1	
Adelaide	EXPRESS	Nov 1922 - July 1923; May 1945 - Mar 1951	9	
Adelaide	COUNTRY NEWS	Dec 1922 - Dec 1935	14	
Eudunda	EUDUNDA COURIER	Feb 1922 - Apr 1981	60	
Lameroo	LAMEROO WEEKLY NEWS	June 1922	1	
Glenelg	GLENELG NEWS	Jan 1923 - July 1924	2	
Adelaide	McMAHON'S NEWS	Jan 1923	1	
Adelaide	NEWS	July 1923 - Mar 1992	70	
Adelaide	SMITHS WEEKLY: SA EDITION	July 1923 - June 1938	16	
Adelaide	WEST SUBURBAN ECHO	May 1923 - May 1924	2	
Moonta	YORKE PENINSULA FARMER	June 1923 - Jan 1933	11	
Adelaide	NORTHERN SPORTSMAN	Mar 1924 - Oct 1931	8	
Adelaide	SOUTH AUSTRALIAN WORKER	Aug 1924 - Apr 1959	36	
Adelaide	WELFARE TIMES	Oct 1924 - July 1925	2	
Adelaide	WESTERN TIMES	July - Oct 1924	1	
Adelaide	EASTERN TRADER	Feb - May 1925	1	
Loxton	LOXTON CLARION	July 1925 - Oct 1928	4	
Adelaide	NORTHERN DISTRICTS COURIER	Aug 1925 - Dec 1927	3	
Adelaide	SOUTH AUSTRALIAN (SA Liberal Federation)	Sept 1925 - Sept 1929	5	
Kimba	KIMBA DISPATCH	Sept 1927 - May 1941	15	
Lameroo	LAMEROO MAIL	Feb 1927	1	
Norwood	NORWOOD NEWS	Oct 1927 - Aug 1928	2	
Port Lincoln	**PORT LINCOLN TIMES**	Aug 1927 -	87	to 1954
Adelaide	DIRECT ACTION	May 1928 - Apr 1929	2	
Unley	SOUTHERN SUBURBAN RECORDER	Oct - Dec 1928	1	
Ceduna	WESTERN MAIL	July 1928 - Dec 1930	3	
Adelaide	EXPRESS & JOURNAL	Apr 1929 - May 1945	17	
Port Adelaide	PORT ADELAIDE GAZETTE	Jan - May 1930	1	
Victor Harbor	THE TIMES	May 1930 - Apr 1932	3	
Adelaide	ADELAIDE HILLS PRODUCER & GAZETTE	Sept 1931 - Feb 1932	2	
Port Lincoln	CHALLENGER	May 1932 - Oct 1934	3	
Adelaide	NEW ADELAIDE GAZETTE	Sept 1933 - Dec 1933	1	
Moonta	THE FARMER	Jan 1933 - Dec 1947	15	
Unley	UNLEY TIMES	Aug - Dec 1933	1	
Murray Bridge	MURRAY VALLEY STANDARD	Nov 1934 -	80	
Adelaide	DELTION PHAROY	Dec 1935 - Jan 1936	2	

Location	Newspaper	Publication Period	Years	TROVE
Adelaide	PHAROS	Feb - May 1936	1	
St Peters	EASTERN STAR	July - Aug 1937	1	
Adelaide	TURF REVIEW	Aug - Sept 1937	1	
Port Adelaide	CITIZEN	Nov 1938 - May 1940	3	
Glenelg	GLENELG LEADER	Dec 1938 - Mar 1940	3	
Riverton	MID-NORTH COURIER	Jan 1938 - June 1942	5	
Unley	UNLEY CITY STAR	Nov 1938 - Feb 1940	3	
Adelaide	COMMERCIAL AUSTRALIA	Jan 1940 - Oct 1967	28	
Hamley Bridge	JUNCTION NEWS & OWEN POST	Feb 1940 - July 1967	28	
Whyalla	WHYALLA NEWS	Apr 1940 -	74	
Balaklava	PRODUCER	July 1940 - June 1944; July 1946 - June 1983	43	
Adelaide	TRUTH	1941 - May 1964	24	
Daw Park, Glenunga, Goodwood, Kensington, Norwood, Pasadena, Wattle Park, Croydon Park	COMMUNITY NEWS	Dec 1944 - May 1954	11	
Blackwood	THE COROMANDEL	Aug 1945 - Aug 1970	26	
Port Adelaide	GATEWAY	Aug - Nov 1946	1	
Kingston SE	KINGSTON WEEKLY	May 1946 - Mar 1951	6	
Penola	PENNANT	July 1946 -	68	
Salisbury	SALISBURY NEWS AND ELIZABETH TIMES	Nov 1955 - Dec 1957	12	
Allenby Gardens	THE LOCAL	Sept 1946 - March 1954	9	
Burnside	NEWS REVIEW: Burnside & Norwood	Aug 1948 - May 1984	37	
Moonta	SOUTH AUSTRALIAN FARMER	Jan 1948 - Aug 1968	21	
Adelaide	YOUTH WORLD	Nov 1948 - Feb 1950	3	
Largs Bay, North Haven, Port Adelaide, Royal Park	PROGRESSIVE TIMES	May 1949 - Feb 1951	3	
Adelaide	CONCORD: UKRANIAN INDEPENDENT WEEKLY IN AUSTRALIA	Oct 1949 - May 1955	7	
Riverton	COUNTRY LIGHT TIMES	Mar 1949 - Feb 1951	3	
Jamestown	NORTHERN REVIEW	Jan 1949 - Mar 1970	22	
Adelaide	AUSTRALIJOS LIETUVIS	Jan 1950 - May 1956	7	
Tanunda	BAROSSA AND LIGHT HERALD	May 1951 -	63	
Berri	BERRI COMMUNITY NEWS	Oct 1951 - April 1962	12	
Pinnaroo	BORDER GUARDIAN	Oct 1952 - Apr 1953	2	
Adelaide	FLAG OF FREEDOM AND TRUTH	Feb 1952 - June 1953	2	
Adelaide	NASZA DROGA	Dec 1952 - Dec 1981	30	
Prospect	NORTHERN SUBURBS WEEKLY	Oct 1952 - Dec 1961	10	
Unley	PORT ADELAIDE AND DISTRICT PICTORIAL	Mar 1952 - Jan 1954	3	
Norwood	NORWOOD MIRROR	Oct 1953 - Feb 1954	2	
Adelaide	SUNDAY ADVERTISER	Oct 1953 - Dec 1955	3	
Port Adelaide	SEAPORT NEWS REVIEW	Jan - Apr 1954	1	
Brighton	SOUTHERN NEWS REVIEW	Feb 1954 - Apr 1960	7	
Adelaide	SUNDAY MAIL	Feb 1954 -	60	
Allenby Gardens	WESTERN DISTRICTS LOCAL	Apr 1954 - Feb 1959	6	
Daw Park, Glenunga, Goodwood, Grange, Kensington, Norwood, Pasadena, Underdale, Wattle Park	SOUTHERN SUBURBROADSHEET COMMUNITY NEWS	June 1954 - Dec 1964	11	
Adelaide, Plympton, Underdale	WEST TORRENS NEWS REVIEW / THE WEST SIDE NEWS REVIEW	Dec 1954 - July 1957	31	
Flinders Park, Woodville	WOODVILLE TIMES	May 1954 - Feb 1959	6	
Adelaide	ADELAIDE CENTRAL TIMES	June 1955 - June 1956	2	
Adelaide	CITY OF ADELAIDE NEWS	Apr 1955 - May 1955	1	
Mannum	MANNUM AND DISTRICT RECORDER	June1955 - Dec 1960	6	
Northfield	NORTHFIELD OBSERVER	July - Dec 1955	1	
Nuriootpa	NURIOOPTA AND DISTRICT COMMUNITY DIARY	Nov 1955 - Nov 1956	2	
Hackham, Hallett Cove, Lonsdale, Moana, Morphett Vale, Port	SEASIDER /Southern Times	Aug 1956 - Sept 1963	8	

Location	Newspaper	Publication Period	Years	TROVE
Noarlunga, Reynella				
Norwood	NORWOOD NEWS REVIEW	Nov 1956 - Jan 1960	5	
Waikerie	RIVER NEWS	July 1956 -	58	
Magill, Paradise, St Peters	NEWS REVIEW: PAYNEHAM, ST. PETERS AND CAMPBELLTOWN	July 1957 - May 1984	28	
Adelaide	CHRONICLE: South East edition	Jan 1957 - Dec 1962	6	
Adelaide	ROMA	May 1957 - Dec 1959	3	
Salisbury	TIMES, SALISBURY, ELIZABETH	Jan 1958 - Aug 1965	8	
Gepps Cross, Greenacres, Prospect	THE STANDARD	Aug 1959 - May 1984	26	
Cleve	AREAS EXPRESS	Sept 1959 - Sept 1960	2	
Woomera	GIBBER GABBER	Jan 1959 -	55	
Warradale	PIONEER NEWS	Nov 1959 - May 1960	2	
Flinders Park, Grange, Underdale, Woodville	WEEKLY TIMES	Mar 1959 - May 1984	26	
Adelaide	ADELAIDER POST	Jan 1960 - Dec 1962	3	
Adelaide	EAST SIDER	Mar 1960 - Mar 1961	2	
Loxton	LOXTON NEWS	Apr 1960 -	54	
Norwood	NEWS REVIEW	Feb 1960 - Apr 1961	2	
Clearview	NORTHERN SUN	July 1960 - Mar 1961	2	
Glenelg	RETAILER & SOUTHERN REVIEW	May 1960 - Feb 1964	5	
Whyalla	WHYALLA TIMES	Jan - Oct 1960	1	
Norwood	EAST SIDE NEWS REVIEW	May 1961 - Oct 1961	1	
Mannum	MURRAY PLAINS RECORDER	Jan 1961 - Sept 1963	3	
Yorketown	S.Y.P. PIONEER	Jan 1961 - June 1969	9	
Elizabeth, Para Hills, Parafield, Salisbury	NEWS REVIEW: ELIZABETH, SALISBURY & GAWLER EDITION	Feb 1962 - Dec 1964	3	
Berri	BERRI NEWS	May 1962 - Jan 1963	2	
Glen Osmond	BURNSIDE NEWS PICTORIAL	Mar 1962 - Nov 1963	2	
Kingston SE	SOUTH EAST KINGSTON LEADER	Sept 1962 - Nov 2001	40	

Appendix B
Index of Historical Earthquakes in South Australia

Index	Year	Month	Day	UTC	PLACE	Magnitude ML	Maximum Intensity	In Malpas Volumes	In SA EQ Catalogue	In Atlas
1	1837	7	22	1855	ADELAIDE	3.9	4.5	✓		
2	1840	3	31	0630	ADELAIDE	3.6	4.5	✓	✓	
3	1842	8	13	1130	ENCOUNTER BAY	3.1	3			
4	1844	8	20	0930	KOORINGA	3.9	4			
5	1845	8	~30	2330	STONY DESERT	2.8	2.5			
6	1845	10	25	1730	ADELAIDE	3.6	4			
7	1848	2	3	0130	BAROSSA RANGE	3.8	4			
8	1848	9	12	1830	ADELAIDE	3.1	3	✓	✓	
9	1848	9	14	1830	BURRA	3.6	4.5	✓	✓	
10	1848	12	~5		PORT LINCOLN	2.8	2.5			
11	1848	12	~10		BURRA	3.1	3			
12	1849	2	10	1100	GAWLER	3.1	3			
13	1850	10	14	1330	ADELAIDE	3.1	3			
14	1851	3	16	1930	PORT LINCOLN	2.8	2.5			
15	1852	5	19	1030	MORPHETT VALE	3	3.5	✓	✓	
16	1853	9	15	1630	MOUNT REMARKABLE	5.1	6	✓	✓	
17	1855	2	18	2200	KAPUNDA	3.9	4.5	✓	✓	
18	1855	2	23	1900	KAPUNDA AFTERSHOCK	3.2	3	✓	✓	
19	1856	6	24	1650	GAWLER	4.3	5	✓	✓	
20	1857	4	27	1420	CAPE WILLOUGHBY	3.5	4	✓	✓	
21	1858	8	21	1245	TANUNDA	3.9	5	✓	✓	
22	1858	8	21	1745	TANUNDA FIRST AFTERSHOCK	3.5	4	✓	✓	
23	1858	8	22	0930	TANUNDA SECOND AFTERSHOCK	3.3	3.5	✓	✓	
24	1858	8	23	1430	TANUNDA THIRD AFTERSHOCK	2.9	3	✓	✓	
25	1859	6	12	0830	MOUNT GAMBIER	3.9	4.5	✓	✓	
26	1859	6	30	2100	LYNDOCH VALLEY	3	3			
27	1859	12	13	0130	TANUNDA	3.1	3			
28	1860	4	12	1000	KAPUNDA	3.6	4			
29	1860	6	1	1320	PORT ADELAIDE	3.2	3.5			
30	1861	11	16	1130	WARCOWIE	3.6	4			
31	1861	12	~15		STONE HUT RANGE SE	2.5	2	✓		
32	1862	1	4	1415	LACEPEDE BAY	4.2	5			
33	1862	2	9		MOUNT REMARKABLE	3	3			
34	1862	3	19	0530	ADELAIDE SOUTH	3.1				
35	1862	9	19		MOUNT GAMBIER	2.8	2.5			
36	1862	12	14	2130	AUBURN	4	5	✓	✓	
37	1863	4	15	1230	MORPHETT VALE	3.6	4			
38	1863	5	30	1700	KAPUNDA	3.1	3.5			
39	1863	7	21	0900	PORT AUGUSTA WEST	3.8	4.5			
40	1863	8	12	1030	EYRE PENINSULA	4.9				
41	1863	11	29	0500	FINNISS VALE	3.1	3			
42	1863	12	20	1130	NUCCALEENA	3.6	4			
43	1864	1	4		MOUNT GAMBIER					
44	1864	5	20		LINWOOD	3.6	4			
45	1864	7	2	0120	MOUNT GAMBIER					
46	1864	8	9		BELTANA					
47	1864	11	4		PORT ADELAIDE	3.3	3.5			

Index	Year	Month	Day	UTC	PLACE	Magnitude ML	Maximum Intensity	In Malpas Volumes	In SA EQ Catalogue	In Atlas
48	1865	2	25	0400	ANGASTON	2.7	2.5			
49	1865	6	24	0825	UMBERATANA	3.1	3			
50	1865	7	26	1730	PEKINA	3.5	4			
51	1865	11	9		POLDA	3.6	4			
52	1865	12	10	2345	HOUGHTON	2.8	2.5			
53	1866	4	21	1030	PORT GAWLER	2.8	2.5			
54	1866	5	18	1300	PENOLA	3.1	3			
55	1866	6	~14		NURIOOTPA					
56	1866	8	24	1245	GUMERACHA	4	4	✓	✓	
57	1866	9	2		ILLAWATANA					
58	1866	12	2	2020	KETCHOWLA	3.5	4	✓	✓	
59	1866	12	30		BLACK SPRINGS					
60	1868	1	6	0430	KOORINGA	3.5	4			
61	1868	2	18	0923	ANGASTON	3.5	4			
62	1868	10	28	0345	CLARE VALLEY	4.3	5	✓	✓	
63	1868	10	28	1944	CLARE VALLEY FIRST AFTERSHOCK	3.5	4	✓	✓	
64	1868	11	1	0740	CLARE VALLEY SECOND AFTERSHOCK	2.9	3	✓	✓	
65	1868	12			GUM CREEK					
66	1869	4	12	0500	KAPUNDA	3.1	3			
67	1869	6	30	1630	GAWLER	3.1	3			
68	1869	10	1	0830	GUM CREEK	3.3	3.5			
69	1870	5	3	1230	BOOBOROWIE	2.8	2.5			
70	1870	5	21	1850	BUNDALEER	3.5	4			
71	1870	6	2	1100	BURRA	3.6	3.5			
72	1871	1	11	0745	BURRA	3.9	4.5	✓	✓	
73	1871	1	12	1155	BEAUTIFUL VALLEY	3.5	3.5	✓	✓	
74	1871	3	7	1730	CLARE	3.1	3			
75	1871	3	8		PORT AUGUSTA	2.8	2.5			
76	1871	8	17	0300	WIRRIALPA	3.1	3			
77	1872	1	30	1340	RIVERTON	4.8	6	✓	✓	
78	1872	6	8	0940	MOUNT LOFTY RANGE	4.1	5	✓	✓	
79	1873	1	18	1150	BLINMAN	3.1	3	✓		
80	1873	7	19	1015	PEAKE	3.7	4.5	✓		
81	1873	10	13	1900	PORT ADELAIDE	3.3	3.5			
82	1873	10	26	1945	WATERLOO	2.8	2.5			
83	1874	2	6	0900	ECHUNGA	3.6	4			
84	1874	4	15	1935	CLARE	2.5	2			
85	1874	5	28		ULOOLOO CREEK					
86	1874	8	31	1150	ANGASTON	3.7	4			
87	1874	9	13	1700	HAMILTON	2.9	3	✓		
88	1874	11	13	0900	KAPUNDA	4.2	5	✓		
89	1875	1	13	1630	CLARE	3.1	3			
90	1875	1	19	2130	BLACK ROCK	2.8	2.5			
91	1875	1	24	1400	HOOKINA	3.7	4.5	✓		
92	1875	6	22	1510	BLACK ROCK	3.1	3			
93	1875	7	1	2115	CLARENDON	2.8	3			
94	1875	9	29	0015	MURRAY FLATS	3.1	3			
95	1875	9	31	0430	SALTIA	2.8	2.5			
96	1875	12	20		WIRRABARA	2.8	2.5			
97	1876	3	19	1530	ANGASTON	3.8	6	✓	✓	
98	1876	3	22	0930	ANGASTON FIRST AFTERSHOCK	3.4	4	✓	✓	
99	1876	3	22	1315	ANGASTON SECOND AFTERSHOCK	3.7	4.5	✓	✓	
100	1876	5	13		ALDINGA	3.1	3			
101	1876	8	14		WIRRABARA	3.1	3			
102	1876	9	23	1000	CANOWIE	3.1	3			

Index	Year	Month	Day	UTC	PLACE	Magnitude ML	Maximum Intensity	In Malpas Volumes	In SA EQ Catalogue	In Atlas
103	1876	11	12?		PEKINA	2.8	2.5			
104	1877	3	13	1300	BELALIE EAST	3.1	3			
105	1877	5	20	1330	KAPUNDA	2.8	2.5			
106	1877	5	21	1400	BLACK ROCK	2.8	2.5			
107	1877	6	17	0100	CLARE	2.8	2.5			
108	1877	6	20	0110	CLARE	2.8	2.5			
109	1877	7	1	2000	YARCOWIE	3.6	4	✓		
110	1877	7	8		BOOLEROO	2.8	2.5			
111	1877	8	14		GLADSTONE	2.5	2	✓		
112	1877	8	21	1630	BRIDGEWATER	3.1	4.5	✓	✓	
113	1877	11	10	0230	STREAKY BAY	3.6	4	✓		
114	1877	11	31	1500	MAITLAND	3.3	3.5	✓		
115	1877	12	10	0200	TANUNDA	3.1	3			
116	1878	3	3	1630	LAURA	3.1	3			
117	1878	4	26		FINNISS					
118	1878	6	11	0038	CLARE	3.1	3	✓		
119	1878	7	4	0830	WAUKARINGA	2.8	2.5	✓		
120	1878	7	23	2115	BLINMAN	3.1	3			
121	1878	8	7	2115	BLINMAN	2.8	2.5			
122	1878	8	22	0250	BURRA	2.7	2.5			
123	1878	9			YARROWIE	2.5	2			
124	1879	1	12	0645	ANLABY	3.1	3			
125	1879	3	5	0150	SAINT'S STATION	2.8	2.5			
126	1879	4	4	0300	WIRREANDA	3.1	3			
127	1879	4	18	0430	YADLAMALKA	2.8	2.5			
128	1879	5		0800	GUMBOWIE	3.1	3			
129	1879	6	22		BALDINA	2.8	2.5			
130	1879	8	25	1530	TWO WELLS	2.8	2.5			
131	1879	11	30	0030	CLARE	4.2	5.5	✓	✓	
132	1879	12	21		GAWLER	2.8	2.5	✓		
133	1880	1	25	1130	KOOLUNGA	3.5	4	✓	✓	
134	1880	2	17	1310	PORT AUGUSTA	3.1	3			
135	1880	3	2	1830	JAMESTOWN	3.1	3	✓		
136	1880	3		1130	WONOKA	2.8	2.5			
137	1880	4	16		KAPUNDA	2.8	2.5	✓		
138	1880	4	28	0930	LAKE ALEXANDRINA	4.2	5	✓	✓	
139	1880	8	4	1130	ORROROO	3.9	4.5			
140	1880	8	5		YARROWIE					
141	1880	8	19	0530	BLINMAN	3.3	3.5	✓		
142	1880	10	24	1330	BLACK SPRINGS	3.1	3			
143	1880	11	13	0500	PORT VICTOR	3.6	4			
144	1880	12	25	1307	GLADSTONE	2.5	2			
145	1881	3	13	0040	WILLIAMSTOWN	3.1	3			
146	1881	5	30	0145	KAPUNDA	2.8	2.5			
147	1881	8	5	1500	MERRITON	3.1	3			
148	1881	8	29	1345	PETERSBURGH	3.9	4			
149	1881	11	6	0045	BLINMAN	2.8	2.5			
150	1881	11	10		HAWKER	3.1	3			
151	1882	1	11	1520	AMYTON	3.1	3			
152	1882	3	10	0730	BENDLEBY	4.3				
153	1882	3	18	1630	STRATHALBYN	3.2	4	✓	✓	
154	1882	5	12	0515	HARDWICKE BAY	3.3	3.5	✓		
155	1882	6	16	1330	KADINA	2.8	2.5			
156	1882	7	25	1910	HAWKER	2.8	2.5			
157	1882	9	18	0730	MAGILL	3.5	4.5	✓	✓	

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158	1882	10	24		KINGSTON	3.1	3	✓	✓	
159	1883	2	16	2000	APPILA	3.8	4	✓		
160	1883	2	21	0813	CLARE	3.3	4	✓		
161	1883	7	1		LAURA	2.8	2.5			
162	1883	7	7	1338	MOUNT BARKER	4.2	5		✓	✓
163	1883	7	7	1343	MOUNT BARKER AFTERSHOCK	3.1	3		✓	
164	1883	7	22		PORT AUGUSTA	2.8	2.5			
165	1883	7	26		POINT MALCOLM LIGHTHOUSE	2.8	2.5			
166	1883	7	31	0530	QUORN	2.9	3			
167	1883	9	4	2030	MALLALA	3.1	3			
168	1883	11	1	0930	BENDLEBY					
169	1884	2	1	1730	PORT ADELAIDE	2.8	2.5			
170	1884	3	29	0330	TEROWIE FORESHOCK	2.8	2.5			
171	1884	3		0530	TEROWIE	3.1	3			
172	1884	4	14	1930	WALLAROO	2.8	2.5			
173	1884	6	7	2030	WIRRABARA	3.1	3			
174	1884	6	16	1830	LAURA	3.1	3			
175	1884	6	18	0628	BLINMAN	3.6	4	✓		
176	1884	6	24	1400	PORT PIRIE FORESHOCK	3.6	4	✓		
177	1884	6	24	1800	PORT PIRIE	4	5	✓		
178	1884	8	16	1200	GLADSTONE	3.3	3.5			
179	1884	9	15	1341	PETERBOROUGH	3.3	4	✓	✓	
180	1885	6	7	0300	WILSON	3.3	3.5			
181	1885	6	17	0130	WIRRABARRA	3.3	3.5			
182	1885	7	25	1400	KOORINGA	3.5	4	✓		
183	1885	7	30	0330	HAWKER	3.9	4.5	✓		
184	1885	7	31	0425	WILSON	3.3	3.5	✓		
185	1885	8	28	0900	CALTOWIE	2.9	2.5			
186	1885	9	19	0735	CLARE	3.1	3	✓		
187	1885	10	1	1430	ORROROO	2.8	2.5			
188	1885	11	20	1330	GLADSTONE	2.8	2.5			
189	1885	12	12	0200	CALTOWIE	3.2	3.5	✓		
190	1886	2	3	0530	O'HALLORAN HILL	3.5	4			
191	1886	3	26	1205	GLADSTONE	3.7	4.5	✓		
192	1886	6	1	0545	ECHUNGA	3.5	4	✓	✓	
193	1886	7	7	0600	GLADSTONE	3.1	3	✓		
194	1886	7	10	0647	GLADSTONE	3.5	3.5	✓		
195	1886	7	11	0645	GLADSTONE	3.7	4	✓	✓	
196	1886	9	3	2020	TANUNDA	2.9	3	✓		
197	1886	9	12	2015	GLADSTONE	2.8	2.5	✓		
198	1886	9	13	0115	GLADSTONE	2.8	2.5	✓		
199	1886	9	24	0615	MORCHARD	3.6	4	✓		
200	1886	9	28	1845	KAPUNDA	4.4	5	✓	✓	✓
201	1886	10	4	1530	PORT ADELAIDE	2.7	3	✓	✓	
202	1886	12	5	1730	GLADSTONE	3.2	3.5	✓		
203	1887	1	8	0600	PORT PIRIE	3.1	3	✓		
204	1887	1	8	1030	QUORN	5.2	7	✓	✓	
205	1887	1	10		QUORN AFTERSHOCK	4.6	6	✓		
206	1887	4	3	1310	ORROROO	3.6	4	✓		
207	1887	4	3	1320	ORROROO FIRST AFTERSHOCK	3.6	4	✓		
208	1887	4	3	1325	ORROROO SECOND AFTERSHOCK	3.6	4	✓		
209	1887	4	13	2205	PORT WAKEFIELD	3.9	4.5	✓		
210	1887	4	14	1300	HALLETT	3.3	3.5	✓		
211	1887	4	16	2210	EYRE PENINSULA	5.7	6.5		✓	✓
212	1887	4	16	1310	MOUNT BRYAN	4.5	5.5		✓	✓

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213	1887	6	21	1730	MOUNT BOLD	2.9	3.5	✓	✓	
214	1887	8	7	0410	HAMMOND	3.8	4	✓	✓	
215	1887	8	16	1815	CALTOWIE	3.6	4	✓		
216	1888	4	21		APPILA			✓		
217	1888	5	8	1050	NAIRNE	3.1	4	✓		
218	1888	6	17	1900	BLINMAN	3.1	3	✓		
219	1888	8	2	0700	FARRELL'S FLAT	3.6	4	✓		
220	1888	8	27	1800	SNOWTOWN	3.9	4.5	✓		
221	1888	12	29	1930	EMU FLAT	3.6	4	✓		
222	1889	2	12	0645	ROBERTSTOWN	4.9	6		✓	✓
223	1889	3	11	1250	PASKEVILLE	4.1	5	✓	✓	
224	1889	3	25	2025	FARRELL'S FLAT	3.1	3	✓		
225	1889	4	2	1920	WILSON	3.3	3.5	✓		
226	1889	6	6	1048	ADELAIDE	2.4	2	✓	✓	
227	1889	6	6	1056	ADELAIDE	2.5	2	✓	✓	
228	1889	6	17	0700	YUNTA	3.3	3.5	✓		
229	1889	7	16	1330	JAMESTOWN	3.1	3	✓		
230	1889	7	24	0425	EURELIA	3.1	3	✓		
231	1889	8	9	0145	BELTANA	3.6	4	✓		
232	1889	9	26	1530	CLARE	3.3	3.5	✓		
233	1889	11	7	0015	BELTANA	3.3	3.5	✓		
234	1889	11	29	1045	EURELIA	3.7	4	✓		
235	1889	12	20	0945	HEAD CAMP TRANS CONTINENTAL	3.3	3.5	✓		
236	1890	2	23	1240	HAWKER	3.6	4	✓		
237	1890	2	25	0300	TUNGKILLO	3.1	3	✓		
238	1890	3	10	2050	MOUNT LOFTY	2.6	3	✓		
239	1890	6	13	0948	EDEN VALLEY	2.8	2.5	✓		
240	1890	7	3	1800	BLINMAN	3.6	4	✓		
241	1890	7	23	2130	BLACK ROCK	4.2	5	✓	✓	
242	1891	2	29	1830	EUCLA	3.1	3	✓		
243	1891	5	20	2230	ORROROO	3.1	3	✓		
244	1891	6	7	0915	STOCKPORT	3.1	3	✓		
245	1891	7	10	1030	WATERVALE	3.1	3	✓		
246	1891	7	13	1815	ORROROO	3.3	3.5	✓		
247	1891	8	10	1430	BLINMAN	3.3	3.5	✓		
248	1891	8	29	0916	HAWKER	4.4	5	✓	✓	
249	1891	9	15	0650	LAURA	3.1	3	✓		
250	1891	9	18	0840	BAROSSA VALLEY	3.5	4	✓		
251	1891	10	1	1450	HAMMOND	3.1	3	✓		
252	1891	10	10	0930	BLINMAN	2.8	2.5	✓		
253	1891	12	1	0225	REDHILL	3.6	4	✓		
254	1892	5	16	2100	BELTANA	3.1	3	✓		
255	1892	5	25	0745	BELTANA	3.1	3	✓		
256	1892	6	2	1425	HALLETT	3.6	4	✓		
257	1893	1	16	1909	BURRA	3.3	3.5	✓		
258	1893	1	16	1915	BURRA	3.6	4	✓		
259	1893	4	4	1845	EURELIA	3.6	4	✓		
260	1893	4	16	2005	BLINMAN	3.1	3	✓		
261	1893	6	28	1214	WARRINA	3.3	3.5	✓		
262	1893	7	2	0445	EUCLA	2.8	2.5	✓		
263	1893	7	3	1450	KAPUNDA	3.1	3	✓		
264	1893	8	13	0210	KAPUNDA	3.6	4		✓	✓
265	1893	10	24	0336	BELTANA	3.3	3.5	✓		
266	1893	11	3	0852	REDRUTH	3.1	3	✓		
267	1893	11	9		URANIA	2.8	2.5	✓		

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268	1893	12	9	0152	ALGEBUCKINA	4.7	6	✓		
269	1894	3	17	0345	CAPE BORDA	3.6	4	✓		
270	1894	3	21	1313	PORT AUGUSTA	3.9	4.5	✓		
271	1894	6	13	0220	KAPUNDA	3.1	3	✓		
272	1894	8	7	1258	KAPUNDA	3.3	3.5	✓	✓	
273	1894	9	4	1533	MORCHARD	3.6	4	✓		
274	1894	9	22		WILSON	3.1	3	✓		
275	1894	10	11	1030	TANUNDA	3.1	3	✓		
276	1894	12	9	0335	BELTANA	4.2	5	✓		
277	1895	1	1	0702	GEORGETOWN	3.6	4	✓		
278	1895	1	10	0545	WATERVALE	3.9	4.5	✓		
279	1895	3	23	1030	EURELIA	3.6	4	✓		
280	1895	7	18	0135	FARRELL FLAT	3.3	3.5	✓		
281	1895	7	18	1245	TARCOWIE	3.1	3	✓		
282	1895	7	19	1255	MELROSE	3.6	4	✓		
283	1895	7	23	0120	KAPUNDA	3.6	4	✓		
284	1895	7	23	1157	KAPUNDA	3.6	4	✓		
285	1895	7	24	1340	KAPUNDA	3.6	4	✓		
286	1895	7	24	1425	KAPUNDA	3.1	3	✓		
287	1895	8	2	0329	KAPUNDA	3.9	4.5	✓		
288	1895	8	7	0730	EUDUNDA	3.6	4	✓		
289	1895	8	18	0645	KAPUNDA	3.1	3	✓		
290	1895	8	18	0957	KAPUNDA	3.1	3	✓		
291	1895	8	21	1400	KAPUNDA	3.1	3	✓		
292	1895	12	26	0245	MARGARET CREEK	3.3	3.5	✓		
293	1896	1	1	0820	REDHILL	3.6	4	✓		
294	1896	1	3	0650	HALLETT	3.6	4	✓		
295	1896	3	12	1000	HAWKER	3.1	3	✓		
296	1896	3	14	0930	WILSON	3.6	4	✓		
297	1896	5	4	0555	KINGSTON SOUTH-EAST	4.2	5		✓	
298	1896	5	8	0555	KINGSTON	3.9	4.5	✓		
299	1896	5	20	1310	COWELL	3.6	4	✓		
300	1896	7	2	2205	BLINMAN	3.3	3.5	✓		
301	1896	7	8	1815	GLENELG	3.3	3.5	✓		
302	1896	7	14	1230	BOOLEROO CENTRE	3.3	3.5	✓		
303	1896	7	15	0630	BLINMAN	3.1	3	✓		
304	1896	7	16	1225	BOOLEROO CENTRE	3.1	3	✓		
305	1896	7	16	1830	BOOLEROO CENTRE	3.1	3	✓		
306	1896	8	22	0256	BURRA SWARM SHOCK 1	4.3	7		✓	✓
307	1896	8	22	0630	BURRA SWARM SHOCK 2	4	7		✓	✓
308	1896	8	22	1730	BURRA SWARM SHOCK 3	2.8	2.5			
309	1896	8	23	1130	BURRA SWARM SHOCK 4	4.2	6.5		✓	✓
310	1896	8	23	1710	BURRA SWARM SHOCK 5	2.8	2.5			
311	1896	8	25	0730-	BURRA SWARM SHOCKS 6-9	2.8	2.5			
312	1896	8	26	0230	BURRA SWARM SHOCK 10	2.8	2.5			
313	1896	9	25	1124	RIVERTON	3.6	4	✓		
314	1897	1	28	2345	BLINMAN	2.8	2.5	✓		
315	1897	1	29	1300	BLINMAN	3.1	3	✓		
316	1897	2	9	1410	BLINMAN	3.1	3	✓		
317	1897	4	9	2400	CAPE NORTHUMBERLAND	3.6	4	✓	✓	
318	1897	4	11	1435	CAPE BANKS	3.6	4		✓	
319	1897	4	23	2050	EURELIA	3.6	4	✓		
320	1897	4	27	1030	WIRRABARA	3.6	4	✓		
321	1897	5	10	0526	KINGSTON SE	6.5	9		✓	✓
322	1897	6	1	1000	ROBE/BEACHPORT	4.5	5			

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323	1897	6	3	1300	ROBE/BEACHPORT	5	6			
324	1897	6	18	1435	ROBE/BEACHPORT	4.5	5			
325	1897	6	25	1025	ROBE	2.8	2.5		✓	
326	1897	6	29	1830	KINGSTON SE	4.4	5	✓	✓	
327	1897	7	25	1025	ROBE	2.8	2.5			
328	1897	9	10	1841	BLINMAN	3.3	3.5	✓		
329	1897	9	18	2223	WIRRABARA	3.3	3.5	✓		
330	1897	10	12		LEIGH CREEK	3.1	3	✓		
331	1897	11	2	1035	WOODSIDE	2.9	3	✓		
332	1897	11	8	1430	EUDUNDA	2.8	2.5	✓		
333	1897	11	28	2030	MURRAY BRIDGE	3.1	3	✓		
334	1898	1	28	0820	BAROSSA VALLEY	3.6	4.5	✓	✓	
335	1898	4	10	2110	ROBE	4.9	6		✓	✓
336	1898	7	18	0700	BLINMAN	3.1	3	✓		
337	1898	8	4	1900	WILLOWIE	3.1	3	✓		
338	1898	10	13	0520	EUDUNDA	2.8	2.5	✓		
339	1898	11	18	2120	KINGSTON SE	3.8	4	✓	✓	
340	1899	4	16	2358	CORNEY POINT	3.6	4	✓		
341	1899	5	2	0330	ROBE	5.3	7		✓	✓
342	1899	7	2	1357	BELTANA	3.6	4	✓		
343	1899	7	28	0445	BELTANA	3.6	4	✓		
344	1899	7	28	0757	BELTANA	3.6	4	✓		
345	1899	7	28	0924	BELTANA	3.6	4	✓		
346	1899	8	10	2130	KINGSTON SE	2.8	2.5		✓	
347	1899	8	13	1142	KINGSTON SE	3.3	3.5	✓	✓	
348	1899	9	3	2339	REDHILL	3.6	4	✓		
349	1899	9	12	1144	BELTANA	3.3	3.5	✓		
350	1899	9	12	1315	BELTANA	3.3	3.5	✓		
351	1899	9	12	1630	BELTANA	3.3	3.5	✓		
352	1899	9	12	2145	BELTANA	3.3	3.5	✓		
353	1899	9	18	2305	BELTANA	3.3	3.5	✓		
354	1899	9	19	0238	BELTANA	3.3	3.5	✓		
355	1899	10	10	0141	YONGALA	3.6	4	✓		
356	1899	11	2	2008	ORROROO	3.9	4.5	✓		
357	1899	11	12	0901	WILSON	2.8	2.5	✓		
358	1900	1	15	1744	BELTANA	3.9	4.5	✓		
359	1900	2	2	1615	BELTANA	3.3	3.5	✓		
360	1900	2	14	1547	BELTANA	3.1	3	✓		
361	1900	3	6	0359	BELTANA	3.3	3.5	✓		
362	1900	3	18	1744	BLINMAN	3.1	3	✓		
363	1900	3	21	1910	WIRRABARA	3.9	4.5	✓		
364	1900	5	19	2221	BALAKLAVA	3.6	4	✓		
365	1900	5	29	0548	BLINMAN	3.9	4.5	✓		
366	1900	6	26	2010	HAMMOND	3.7	4.5	✓		
367	1900	6	28	2015	ORROROO	3.3	3.5	✓		
368	1900	8	22	0228	BOOLEROO CENTRE	3.6	4	✓		
369	1900	10	31	2255	BLINMAN	3.1	3	✓		
370	1901	4	26		WAUKARINGA	3.3	3.5	✓		
371	1901	7	1	2120	APPILA YARROWIE	3.6	4	✓		
372	1901	7	9	1010	BLINMAN	3.1	3	✓		
373	1901	8	23	2200	BLACK ROCK	3.1	3	✓		
374	1901	9	28	0756	BLINMAN	3.9	4.5	✓		
375	1901	12	30	0855	LAURA	3.9	4.5	✓		
376	1902	2	13	1631	CALTOWIE	3.6	4	✓		
377	1902	5	7	2156	BRUCE	3.1	3	✓		

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378	1902	5	7	0510	MID-NORTH	4.8	6	✓	✓	✓
379	1902	5	13	1850	MARRABEL	3.5	4		✓	✓
380	1902	5	18	1615	PETHERTON	2.8	2.5	✓		
381	1902	6	3	1347	BELTANA	3.1	3	✓		
382	1902	6	4	0700	BAROSSA VALLEY	3.6	4	✓		
383	1902	6	5	2235	CALTOWIE	3.1	3		✓	✓
384	1902	6	15	1648	HAWKER	3.6	4	✓		
385	1902	6	15	1822	HAWKER	3.1	3	✓		
386	1902	6	18	1121	HAWKER	3.6	4	✓		
387	1902	9	18	2100	SPALDING	4.4	5		✓	✓
388	1902	9	19	1035	WAROOKA	6	8		✓	✓
389	1902	9	20	0925	SPALDING AFTERSHOCK	4.4	5			✓
390	1902	9	20	0935	WAROOKA AFTERSHOCK	4.8	5.5		✓	✓
391	1902	9	21	0410	SPALDING AFTERSHOCK	3.9	4		✓	✓
392	1902	9	24		PORT WAKEFIELD	3.1	3	✓		
393	1902	10	17	0920	ECHUNGA	3.1	3	✓		
394	1902	10	29	2213	BELTANA	3.3	3.5	✓		
395	1902	12	8	0906	HALLETT	3.6	4	✓		
396	1902	12	21	0650	LAURA	3.9	4.5	✓		
397	1902	12	23	0700	PORT GERMEIN	3.1	3	✓		
398	1903	1	31	0555	PORT WAKEFIELD	3.3	3.5	✓		
399	1903	2	6	1040	BRUCE	3.6	4	✓		
400	1903	2	6	1653	BRUCE AFTERSHOCK	3.1	3	✓		
401	1903	2	28	1422	NAIRNE	2.5	3	✓		
402	1903	3	9	2330	KINGSTON SE	3.3	3.5	✓	✓	
403	1903	3	10	0435	CAPE BANKS	3.1	3	✓	✓	
404	1903	4	7	0101	APPILA YARROWIE	3.9	4	✓	✓	
405	1903	5	15	1850	WAUKARINGA	2.9	3	✓		
406	1903	5	17	1307	CLARENDON	2.8	3	✓		
407	1903	6	1	1615	ECHUNGA	3.4	4	✓		
408	1903	6	1	1915	ADELAIDE	3.1	3	✓		
409	1903	6	25	0930	MOONTA	4.5	5.6	✓		
410	1903	8	14	2110	CLARE	4.1	4.5		✓	✓
411	1903	11	16	0202	KAPUNDA	3.1	3	✓		
412	1904	2	1	2130	KINGSTON AFTERSHOCK	3.5	4			
413	1904	4	6	1150	WILLUNGA	3.6	5	✓		
414	1904	5	6	0852	REDHILL	3.1	3	✓		
415	1904	9	21	1345	HAWKER	4.5	5.5	✓		
416	1904	11	14	1236	BLACKWOOD	3.4	4			
417	1905	2	23	1700	BENDLEBY	4.2	5	✓		
418	1905	4	25	0824	HERGOTT SPRINGS (MAREE)	3.1	3	✓		✓
419	1905	8	21	1835	RIVERTON	4.6	5.5		✓	✓
420	1905	10	21	1445	COONALPYN	3.3	3.5	✓		
421	1905	10	21	1455	COONALPYN	3.3	3.5	✓		
422	1905	10	21	1505	COONALPYN	3.3	3.5	✓		
423	1905	10	21	1521	COONALPYN			✓		
424	1906	2	8	0634	BELTANA	2.8	2.5	✓		
425	1906	3	17	0410	AUBURN	3.6	4	✓		
426	1906	5	10	0300	HAMMOND	3.3	3.5	✓		
427	1906	6	17	1930	BENDLEBY	3.1	3	✓		
428	1906	8	22	1114	BELTANA	3.3	3.5	✓		
429	1906	11	1	1215	LAURA	2.5	2	✓		
430	1906	12	16	1645	BELTANA	3.1	3	✓		
431	1906	12	16	1822	BELTANA	3.6	4	✓		
432	1906	12	21	1409	CARRIETON	3.6	4	✓		

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433	1907	5	17	0925	MOUNT COMPASS	2.7	3			
434	1907	5	29	2258	NARACOORTE	4.2	5	✓	✓	
435	1907	7	28	1445	JAMESTOWN	3.6	4	✓		
436	1907	12	14	0950	CARRIETON	4.1	5	✓		
437	1908	4	9	1625	PETERBOROUGH	4.7	5.5		✓	✓
438	1908	10	4	0740	SUTHERLANDS	3.5	4	✓		
439	1908	10	28	2040	SECOND VALLEY	3.1	3	✓		
440	1909	1	14	1715	KAPUNDA	3.1	3	✓		
441	1909	1	24	0645	TOTHILL BELT	3.1	3	✓		
442	1909	2	6		WARRINA	2.8	2.5	✓		
443	1909	2	11	2025	HALLETT	3.1	3	✓		
444	1909	6	17	0927	BLINMAN	3.3	3.5	✓		
445	1909	7	30	0415	SPENCER GULF	3.7	4	✓		
446	1910	2	7	0630	ADELAIDE	2.5	2.5	✓		
447	1910	2	16		HOUGHTON	2.5	2	✓		
448	1910	4	2	1430	HORNSDALE	3.3	3.5	✓		
449	1910	4	23	0500	MARRABEL	3.3	4	✓		
450	1910	4	24	1030	LEIGH CREEK	4.8	6	✓		
451	1910	4	26	0345	LEIGH CREEK AFTERSHOCK	3.1	3	✓		
452	1910	4	28		CORNEY POINT	3.1	3	✓		
453	1910	6	30	0920	BOOLEROO CENTRE	3.3	3.5	✓		
454	1910	9	15	1630	HORNSDALE	3.1	3	✓		
455	1910	10	22	1005	LEIGH CREEK	3.6	4	✓		
456	1910	10	24	2040	WILLOCHRA	3.6	4	✓		
457	1910	12	11	1730	SUTHERLANDS	3.1	3	✓		
458	1911	1	15	2124	CARRIETON	3.1	3	✓		
459	1911	1	27	1230	AUBURN	3.6	4	✓		
460	1911	2	19	1340	OODLA WIRRA	4.8	6	✓	✓	
461	1911	3	28	0758	EUDUNDA	3.1	3	✓		
462	1911	6	20	0120	APPILA	3.6	4	✓		
463	1911	8	14		MOUNT TEMPLETON	2.8	2.5	✓		
464	1911	9	6	0440	PENNESHAW	3.3	3.5	✓		
465	1911	9	18	1134	APPILA	3.6	4	✓		
466	1911	10	24	1210	CLEVE	4.8	6		✓	✓
467	1911	10	26	0940	CLEVE	5.5	7		✓	✓
468	1911	12	3	2142	FARINA	3.1	3	✓		
469	1912	3	24		APPILA YARROWIE	3.1	3	✓		
470	1912	5	1	0430	MORCHARD	3.1	3	✓		
471	1912	5	4	0430	MORCHARD	3.6	4	✓		
472	1912	5	7	1640	MORCHARD	3.6	4	✓		
473	1912	5	11	2030	WHYTE YARCOWIE	3.6	4	✓		
474	1912	5	11	1610	WHYTE YARCOWIE FORESHOCK	3.1	3	✓		
475	1912	5	21	2124	WILSON	3.1	3	✓		
476	1912	6	5	1300	BENDLEBY	3.6	4	✓		
477	1912	6	28	0602	HAUGHTON	3.1	3	✓		
478	1912	8	6		BOOYOOLIE	2.8	2.5	✓		
479	1912	8	16	0405	APPILA	3.6	4	✓	✓	
480	1912	9	24	1010	MILLSWOOD	3.6	4	✓		
481	1912	9	24	1011	MILLSWOOD	3.6	4	✓		
482	1912	9	25	2025	TUMBY BAY	3.1	3	✓		
483	1912	10	6	1715	MEADOWS	2.9	3	✓		
484	1912	10	7	2250	TUMBY BAY	3.1	3	✓		
485	1912	10	10	0704	TUMBY BAY	3.1	3	✓		
486	1912	10	12	0428	PENNESHAW	3.6	4	✓		
487	1912	10	26	0942	SPENCER GULF	5.2		✓	✓	

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488	1912	11	22	1138	HERGOTT SPRINGS (MAREE)	3.1	3	✓		
489	1912	12	3	2142	HERGOTT SPRINGS (MAREE)	3.3	3.5	✓		
490	1912	12	12		TUMBY BAY	3.3	3.5	✓		
491	1913	3	8	2045	NARACOORTE	3.3	3.5	✓	✓	
492	1913	3	14		LOCAL			✓		
493	1913	4	16	1200	FREDRICHSWALDE	3.6	4	✓		
494	1913	5	17		LAMEROO	3.1	3	✓		
495	1913	6	19	1500	TUMBY BAY	3.1	3	✓		
496	1913	7	18	1241	CARRIETON	3.6	4	✓		
497	1913	11	4	1106	TOTHILL BELT	3.6	4	✓		
498	1913	11	4	2113	TOTHILL BELT AFTERSHOCK	3.1	3	✓		
499	1913	12	1	1815	KINGSTON SE	3.1	3	✓	✓	
500	1913	12	1	1615	KINGSTON SE	3.6	4		✓	
501	1913	12	6	2205	TEROWIE	3.9	4.5	✓	✓	
502	1914	5	28	1321	ADELAIDE	3.9	4.5		✓	✓
503	1914	7	14	1455	PENNESHAW	3.1	3	✓		
504	1914	7	27	1850	PENNESHAW	3.6	4	✓		
505	1914	8	6	0718	CALTOWIE	4.2	4.5	✓	✓	
506	1914	8	7		BANGOR	3.3	3.5	✓		
507	1914	9	21		WARRINA			✓		
508	1914	10	25	1010	KARATTA	3.1	3	✓		
509	1915	3	21	1900	WARRINA	3.1	3	✓		
510	1915	3	30	2255	NORTH MOUNT LOFTY RANGE	4.4	5	✓	✓	
511	1915	8	16	1245	WARRATA VALE (TUMBY BAY)	3.1	3	✓		
512	1915	8	26		WARRINA	3.1	3	✓		
513	1915	9	8		GLADSTONE	3.1	3	✓		
514	1915	10	30	0300	KAPUNDA	3.1	3	✓		
515	1915	11	13	1310	KAPUNDA	3.1	3	✓		
516	1915	12	31	0500	PENNESHAW	3.1	3	✓		
517	1916	1	21	1825	JAMESTOWN	3.6	4	✓		
518	1916	4	5	1045	WHYTE YARCOWIE	3.6	4	✓		
519	1916	8	19		KINGSTON	2.5	2	✓	✓	
520	1916	9	11	2050	LAURA	3.6	4	✓		
521	1916	10	23	1430	KANGAROO ISLAND	4.3	5	✓	✓	
522	1917	4	29	2126	CRYSTAL BROOK	3.3	3.5	✓		
523	1917	6	21	2330	MOUNT LOFTY	2.2	2.5	✓	✓	
524	1917	6	28	1309	LOBETHAL	3.5	3.5	✓		
525	1917	11	3		PROSPECT	3.1	3	✓		
526	1917	11	16		BUTE	3.1	3	✓		
527	1917	11	26	1215	TRURO	3.1	3	✓		
528	1918	5	8	1006	EURELIA	3.9	4.5			
529	1918	11	5	0045	EUDUNDA	4.8	6			
530	1920	10	7	1100	MOOLOLOO	3.6	4	✓		
531	1920	11	11	1225	KENSINGTON	3.1	3	✓		
532	1921	4	23	1900	JAMESTOWN	5.1	6		✓	✓
533	1921	9	1	1248	EUDUNDA	3.1	3	✓		
534	1922	10	10	1658	STRATHALBYN	4				
535	1930	2	4	1305	KOONIBBA	4.8				
536	1931	7	24	0058	TWO WELLS	4.5	5.5			
537	1932	4	6	0855	GUMERACHA	3.1	3			
538	1932	5	20	1118	BALDINA	3.9	5	✓	✓	
539	1932	6	16	1530	POINT PASS	3.2	4	✓	✓	
540	1934	8	4	1145	WALLAROO	3.8	5	✓	✓	
541	1935	5	21	0425	WILLIAMSTOWN	3.2	4	✓	✓	
542	1935	12	23	0017	SPALDING	2.9		✓		

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543	1936	4	19		ADELAIDE HILLS			✓		
544	1936	5	17	1310	MOUNT BARKER	3.6	4	✓	✓	
545	1936	9	17		SUTHERLANDS	3.3	3.5	✓		
546	1937	10	28	0934	SIMPSON DESERT	5.5			✓	
547	1937	12	20	2235	SIMPSON DESERT	5.2			✓	
548	1938	4	17	0856	SIMPSON DESERT	5.6			✓	
549	1939	2	10		RIVERTON	3.1	3	✓		
550	1939	3	26	0356	NILPENA	5.7	7		✓	✓
551	1939	3	26-27		NILPENA AFTERSHOCKS			1	✓	
552	1939	3	29	0300	ST VINCENT GULF	3.1	3	✓		
553	1939	3	30	1150	NILPENA AFTERSHOCK	4.2	5	✓		
554	1939	4	17	1930	PORT AUGUSTA	4.5	5.5	✓		
555	1939	5	1	1907	LAKE TORRENS	3.9			✓	
556	1939	6	5	1220	MORALANA	3.9			✓	
557	1939	6	12	1630	NILPENA	3.6	4	✓		
558	1941	3	30	0650	EUDUNDA	3.3		✓		
559	1941	5	4	2207	SIMPSON DESERT	5.1			✓	
560	1941	5	17		CLEVE	3.1	3	✓		
561	1941	6	20	2030	MOUNT BOLD	3.4	4	✓	✓	
562	1941	6	27	0755	SIMPSON DESERT	6			✓	
563	1941	6	27	0840	SIMPSON DESERT	0			✓	
564	1941	6	27	1240	SIMPSON DESERT	0			✓	
565	1941	6	27	1440	SIMPSON DESERT	0			✓	
566	1942	2	14	2250	MARGARET CREEK	4.3			✓	
567	1943	7	6		STIRLING			✓		
568	1945	12	30	1530	MOUNT GAMBIER	4.2	5			
569	1946	4	3		ADELAIDE	3.1	3	✓		
570	1947	6	20	1200	QUORN	3.6	4	✓		
571	1947	6	23	1133	JAMESTOWN	3.1	3	✓		
572	1947	6	23	1200	JAMESTOWN	3.1	3	✓		
573	1947	6	24	1158	LAURA	3.6	4	✓		
574	1947	9	30	0405	JAMESTOWN	3.6	4	✓		
575	1948	2	18		BRIGHTON	3.1	3	✓		
576	1948	8	6	0329	ROBE	5.6			✓	✓
577	1948	9	29	1830	GLADSTONE	3.9	4.5	✓		
578	1948	12	1	1819	OODNADATTA	3.6	4	✓		
579	1949	5	9	1630	CRYSTAL BROOK	3.6	4	✓		
580	1949	5	13	0830	CRYSTAL BROOK AFTERSHOCK	3.1	3	✓		
581	1949	7	17	0200	STIRLING	3.6	4	✓		
582	1950	3	14	2145	BOOLEROO CENTRE	3.9	4.5	✓		
583	1950	5	2	1425	MOUNT LOFTY	3.1	3	✓		
584	1951	9	2	0955	JAMESTOWN	3.6	4	✓		
585	1952	6	18	0100	MOONTA	3.1	3	✓		
586	1952	6	18	1850	MOONTA	3.6	4	✓		
587	1952	7	31	0930	NAIRNE	3.1	4	✓		
588	1952	8	6	1730	QUORN	3.6	4	✓		
589	1952	9	30	1930	PETERBOROUGH	3.9	4.5	✓		
590	1952	11	23	1210	JAMESTOWN	3.9	4.5	✓		
591	1953	9	23	0630	EYRE PENINSULA	4.8	6	✓	✓	
592	1953	12	13	0616	PASKEVILLE	3.6	4	✓		
593	1954	2	6		JAMESTOWN			✓		
594	1954	2			ADELAIDE FORESHOCKS					
595	1954	2	28	1809	ADELAIDE	5.5	8		✓	✓
596	1954	3	2	2015	ADELAIDE AFTERSHOCK	3.2	3.5		✓	✓

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597	1954	3			ADELAIDE AFTERSHOCKS					
598	1954	3	12	1550	KANGAROO ISLAND			✓		✓
599	1954	5	15	1510	LOCKLEYS			✓		✓
600	1954	9	1	1904	MOUNT LOFTY			✓		✓
601	1954	9	2	1904	ADELAIDE	3.6	4			✓
602	1954	9	9		ADELAIDE			✓		✓
603	1954	9	16	2050	CALDELL			✓		✓
604	1954	12	16	0432	SPALDING	4.5	5.5	✓		
605	1955	1	11	2350	BLACK SPRINGS	4.2	5	✓		
606	1955	1	13		HILLTOWN	3.4		✓		
607	1955	1	15		HILLTOWN	3.1	3	✓		
608	1955	1	16		EUDUNDA	3.1	3	✓		
609	1955	1	18	2000	JAMESTOWN	3.6	4	✓		
610	1955	4	6	1900	PORT VICTORIA	3.3	3.5	✓		
611	1955	9	23	0945	MOUNT MISERY	3.6	4	✓		
612	1955	11	5	1130	NETHERTON	2.8	2.5	✓		
613	1955	12	7	2120	HANSON	3.6	4	✓		
614	1955	12	27	0328	HACKHAM	3.6	4	✓		
615	1956	7	16	1200	CRYSTAL BROOK			✓		✓
616	1957	2	8	2235	EDEN HILLS			✓		
617	1957	2	11		PORT AUGUSTA			✓		✓
618	1957	4	24		PORT AUGUSTA			✓		✓
619	1957	6	3	2045	SNOWTOWN			✓		✓
620	1957	7	7		PENNESHAW			✓		✓
621	1958	7	28	1000	ADELAIDE	3.3	3.5	✓		
622	1958	12	22	1217	MACCLESFIELD	3	3	✓		
623	1959	2	17		TANUNDA	3.6	4	✓		
624	1959	3	2	1222	ADELAIDE	2.6	4	✓	✓	✓
625	1959	3	29	1756	MEADOWS	2.8	2.5	✓		
626	1959	5	21	1128	MOUNT MANTELL	4.4			✓	
627	1959	8	20	0245	CUMMINS	3.6	4	✓		
628	1959	9	9	0417	MELROSE	4.3	6		✓	✓
629	1959	9	10	1230	ADELAIDE	3.3	3.5	✓		
630	1959	9	10	1830	ADELAIDE	3.3	3.5	✓		
631	1959	9	11	1315	ADELAIDE			✓		
632	1959	11	2	0117	MAMBLIN	4.9	6		✓	✓
633	1959	11	17		LOCAL			✓		
634	1959	11	28		LOCAL			✓		
635	1960	3	1		LOWER NORTH			✓		
636	1960	3	5	0340	LOCAL			✓		
637	1960	5	31	2000	JAMESTOWN	2.8	2.5	✓		
638	1960	7	14	0317	PETERBOROUGH	2.8	2.5	✓		
639	1960	7	15	1830	PETERBOROUGH	2.8	2.5	✓		
640	1960	8	18	1504	UNGARRA	4.3			✓	
641	1960	8	30	2123	CUMMINS	4.3	5		✓	✓
642	1960	8	31	0214	UNGARRA	4.4			✓	
643	1960	11	12	2303	CUMMINS	4.4			✓	
644	1961	2	24	1623	ARNO BAY	3.6	4	✓		
645	1961	3	16	0125	SADDLEWORTH	3.6	4	✓		
646	1961	4	19	0228	SPALDING	3	3	✓		
647	1961	6	10	1558	COFFIN BAY	4.2			✓	
648	1962	1	3	1645	VICTOR HARBOR	3.3	3.5	✓		
649	1962	1	10	1936	KEITH	4.1			✓	
650	1962	3	3	2204	EYRE PENINSULA	4.2			✓	
651	1962	5	16	2141	KINGCOTE	4.4	5		✓	✓

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652	1962	7	2	1230	OODLA WIRRA	2.4			✓	
653	1962	7	7	0430	BLINMAN	3.4			✓	
654	1962	7	18	1348	BUTE	2.9			✓	
655	1962	7	23		YUNTA	3.1	3	✓		
656	1962	9	6	1448	BAROSSA VALLEY	3.3			✓	
657	1962	9	26	0550	ST VINCENT GULF	3.5	4	✓	✓	
658	1962	11	8	0735	HENLEY BEACH	2.8	2.5	✓		
659	1962	12	17	1500	GLENELG			✓		✓
660	1963	2	17	0016	KARKOO	3.6	4	✓		
661	1963	2	17	0435	KARKOO	3.3	3.5	✓		
662	1963	3	29	2156	EDEOWIE	4.1			✓	
663	1963	3	30	1240	INNAMINCKA	3.1			✓	
664	1963	3	31	0025	INNAMINCKA	3.1			✓	
665	1963	4	8	0903	QUORN	2.5			✓	
666	1963	5	3	1652	CLARE VALLEY	3.1	3	✓		
667	1963	5	30	0030	PORT AUGUSTA	4.5	5	✓		
668	1963	5	30	0045	PORT AUGUSTA	4.5	5	✓		
669	1963	6	18	0240	EURLIA	2.9			✓	
670	1963	7	29	2016	COCKALEECHIE	2.1			✓	
671	1963	8	28	1120	SPALDING	3.3	3	✓		
672	1963	8	30		SPALDING	2.8	2.5	✓		
673	1963	9	2	0944	QUORN	2.8			✓	
674	1963	9	4	1200	BEAUMONT			✓		
675	1963	9	23	1632	ADELAIDE	1.6			✓	
676	1963	11	11	0935	ULOOLOO	1.2			✓	
677	1963	12	3	0459	HAWKER	3.3			✓	
678	1963	12	8	1023	EUDUNDA	1.9			✓	
679	1963	12	12	1952	WILLOCHRA	2.2			✓	