



Monana

**THE OFFICIAL PUBLICATION OF THE AUSTRALIAN
METEOROLOGICAL ASSOCIATION INC**

February 2014

***Peter Magarey, Viticultural
consultant***



Originally two speakers were listed for the October 2013 AMETA meeting but Greg Baker, an entomologist from SARDI (South Australian Research and Development Institute), who was to talk about the impact of weather and seasonal conditions on pest outbreaks, was unable to attend. Warwick Grace then kindly stepped in to update us on the spray drift research he is doing but a technical glitches prevented this. Fortunately our other speaker, Peter Magarey, formerly a viticulture pathologist with SARDI, and now with his own consulting group, adapted well and treated us to an informative and entertaining evening.

Peter is well known for his lifelong interest in better understanding and management of downy and powdery mildew and other vineyard diseases which can severely affect grape production. Downy mildew in particular can, under suitable weather conditions, wipe out an entire season's crop. Around 20 years ago now, Peter developed the catch phrase '10:10:24' (10mm of rain in a 24 hour period with air temperature not dropping below 10 degrees C during the following night). These are the conditions for a primary outbreak of downy mildew to occur. This primary infection attacks the leaves of the vines - not the fruit - and detecting this provides a window of opportunity (days to weeks, depending on weather conditions) for growers to take preventative action to avoid the damaging secondary infection.

In the early 1990's Peter worked with the Bureau of Meteorology to develop a forecasting system to advise grape-growers of expected weather conditions conducive to a primary downy mildew allowing growers a longer lead time to organise spraying during the incubation period.

Better management of downy mildew has not only improved crop yields, it has reduced chemical use in vineyards, and the cost and time spent on preventative action.

*Beth Walton -
AMETA Comittee*



AMETA CHRISTMAS DINNER FOR 2013

The AMETA Christmas dinner for 2013 was held on Monday 25th November at the Tower Hotel, Magill. Both the venue and meal were highly appropriate for the occasion resulting in an enjoyable time.

The major formal event of the evening was the presentation of life memberships to Graham Furler, Terry Keen, Bill Slaytor and Warren Wright. All had made significant contributions to AMETA over a period of many years and were worthy recipients.

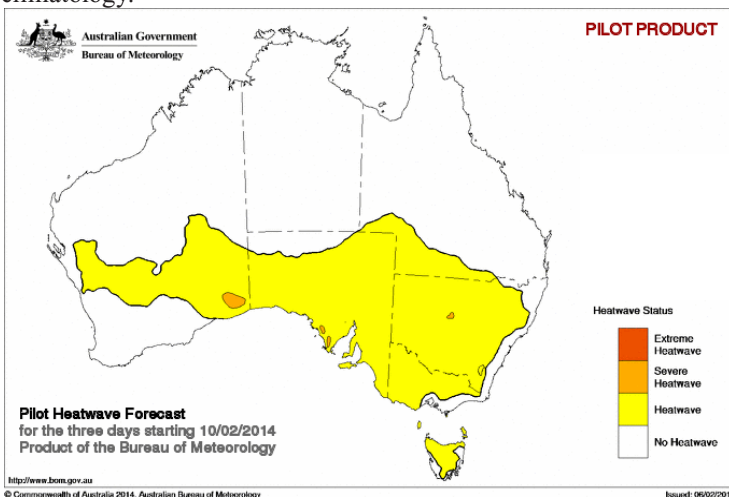
Bill and Terry had both been on the Committee and/or Editor of the Monana Journal and our Newsletter – now renamed Monana – since 1971 (the first Committee). Warren a printer by trade was responsible for the publication of many of the Monana journals, and until recently assisted with collation and distribution of the Newsletter. Graeme was also an inaugural member whilst working both in Adelaide and Melbourne. After the Association went into recess in 1983 Graeme had quite a bit to do with rejuvenating it in 1986, became a committee member in 1987 and was subsequently president for many years in the 90s and early 2000s.

Another item of interest was the availability of several copies of an issue of Monana printed by Warren many years previously. This contained several items of interest and showed how much the journal had changed over the years and the impact of computing on production of such items.

NEW BOM HEATWAVE WARNING SYSTEM GOES ONLINE

On January 6th the Bureau of Meteorology started up a new heatwave warning pilot project. This is available on the BoM website by clicking on the 'Australia' link on the BoM homepage www.bom.gov.au and look for the 'Forecast Heatwave' link.

This produces maps for Australia over the next week looking for areas that meet a new heatwave definition developed by John Nairn, acting Regional Director of the South Australian Regional Office. The new definition looks for 3 day periods of extreme daytime and night time temperatures comparing this to the long term climatology.



ADELAIDE METRO & HILLS

October 2013

SUMMARY

- Warmer than average October days and near average night-time temperatures
- Rainfall below average across the Adelaide plains; more so throughout the Adelaide Hills
- Windier than usual for the month, with some frequent strong and gusty winds

Rainfall

The October 2013 rainfall total at Adelaide (Kent Town) was 32.4 mm received on 11 rain days. This is below the long-term average of 43.1 mm typically received on about 10 rain days but close to the long-term median rainfall for October at Adelaide (Kent Town) of 37.0 mm. By comparison, during October 2012, just 20.0 mm was recorded at Adelaide (Kent Town).

The wettest days of October for the Adelaide and Hills regions occurred during the first week of the month, and then around the middle of the month. On October 1, a cold front passed over the Adelaide region bringing showers and thunderstorms for the region with falls of up to 7 mm across the Adelaide Plains. Later in the month, a trough of low pressure followed by another cold front resulted in shower activity from the 13th through to the 17th.

Monthly rainfall totals across the region typically ranged from 15 to 30mm on the Adelaide plains with higher totals in the 40 to 60 mm range throughout the Hills. The wettest location for the month was at Mount Lofty where 63.4 mm was observed. Mount Lofty also reported the wettest day throughout the month with 15.8 mm in the 24 hours to 9am on the 17th.

Temperature

Maximum temperatures were above average across the Adelaide region through October 2013 with the warmest period occurring between the 18th and 21st of the month due to a high pressure system over the Tasman Sea directing fresh northerly winds across South Australia, with the month finishing with a burst of cooler conditions.

Parafield Airport observed the warmest day for any location across the region with a maximum of 34.3 °C on the 20th. The warmest days on average were also at Parafield Airport with a monthly average of 23.3°C.

Despite the above temperatures, October started with cooler than normal days throughout the first week of the month; the coldest day of the month for any location in the Adelaide and Hills region was reported at Mount Lofty on the 1st when the maximum reached 9.7 °C; The coolest days on average for the month were at Mount Lofty with a October average maximum temperature of 16.1 °C.

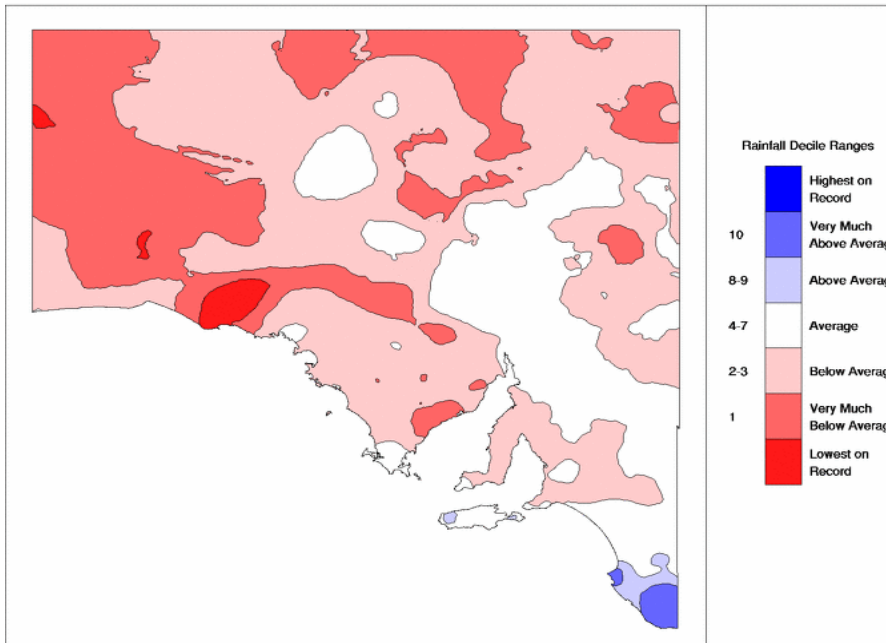
Mean minimum temperatures were generally near average across the Adelaide Plains and Hills this October, with the minimum temperature at Adelaide (Kent Town) being 11.3 °C, -0.2 °C below the long term October average. Mount Lofty reported the coolest nights on average, with 7.3 °C for the month.

The coldest night during October 2013 in the Adelaide and Hills area was 2.2 °C

observed at Mount Barker on the 25th. The warmest night was 20.8 °C at Noarlunga on the 20th. Noarlunga also recorded the warmest nights overall with a monthly average of 11.7 °C

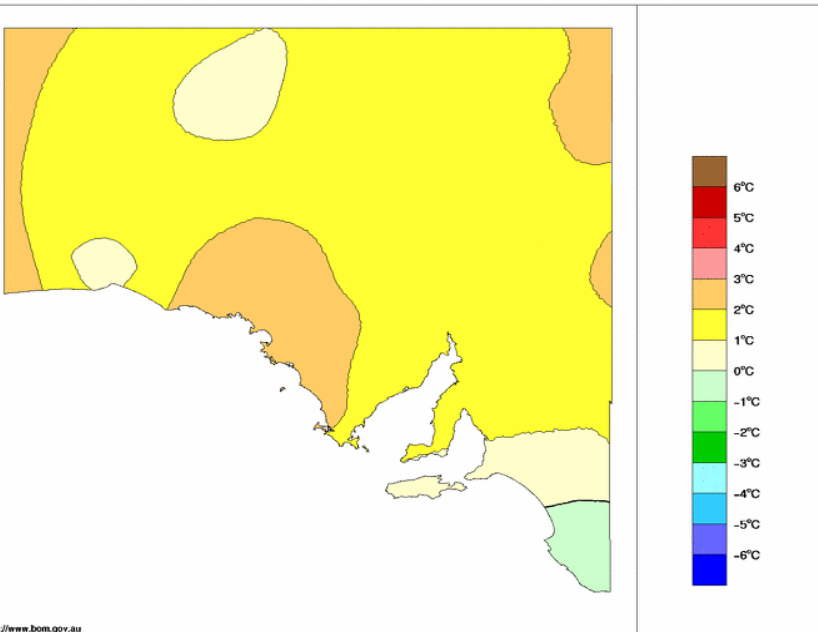
South Australian Rainfall Deciles October 2013

Distribution Based on Gridded Data
Product of the National Climate Centre



Maximum Temperature Anomaly (°C) October 2013

Product of the National Climate Centre

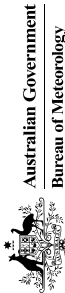


Daily Meteorological Observations for Adelaide (Kent Town) for October 2013

Site Number 023090 • Locality: Adelaide • Opened Jan 1977 • Still Open • Latitude 34°55'16" S • Longitude 139°37'18" E • Elevation 48m

Day	Minimum Temperature		Minimum (arestral) Temperature		3am		3pm		Maximum		Evaporation in 24 hrs to pan mm	Bright Sunshine hours	Day		
	°C	°C	°C	°C	Temperature °C	Relative Humidity %	Total Cloud oktas	Wind km/h	MSL pressure hPa	Wind Gust km/h				Rainfall in 24 hours mm	
Tue 1	16.3	9.7	12.0	79	10217.2	15.2	47	W 17	1014.2	W 57	5.8	2.4	6.3	1	
Wed 2	17.4	9.9	15.4	69	10119.9	15.7	65	NW 28	1013.0	W 67	0.4	2.6	3.2	2	
Thu 3	17.1	11.0	15.1	48	10255.4	16.0	51	SSW 17	1025.0	SSW 35	7.8	2.4	9.6	3	
Fri 4	24.6	6.1	16.9	45	10222.0	23.4	18	N 20	1016.6	WNNW 41	0.0	3.0	11.3	4	
Sat 5	25.5	15.5	20.6	21	10128.8	24.6	35	N 19	1012.8	WNNW 50	0.0	10.2	10.2	5	
Sun 6	19.4	13.7	14.9	64	10134.4	18.5	57	WSW 13	1013.4	WSW 19	0.0	0.0	9	6	
Mon 7	21.2	8.4	14.4	67	10160.0	20.6	45	NNE 9	1016.0	W 33	0.0	0.0	12.1	7	
Tue 8	27.5	8.3	15.3	61	10193.3	26.4	27	S 6	1019.3	W 35	0.0	0.0	12.8	8	
Wed 9	31.7	15.3	15.6	71	10110.1	30.4	13	NNE 20	1011.3	N 31	0.0	17.2	12.8	9	
Thu 10	17.0	10.8	15.6	18	10207.7	15.2	68	SW 20	1013.9	N 50	0.0	4.4	4.6	9	
Fri 11	20.4	10.8	14.8	64	10111.7	19.6	41	SW 17	1013.9	WSW 52	0.0	5.6	1	10	
Sat 12	27.0	8.8	17.8	44	10111.1	26.6	16	WNNW 22	1006.7	WNNW 31	2.0	1.4	10.7	11	
Sun 13	16.7	10.2	11.5	85	10111.1	16.3	41	NW 31	1015.9	WNNW 43	4.0	0.0	12	12	
Mon 14	17.4	9.3	11.8	74	10261.1	16.4	39	SSW 19	1026.1	WSW 63	2.0	13.8	9	13	
Tue 15	23.6	5.4	12.8	57	10245.5	22.5	23	NW 24	1018.9	W 37	0.2	3.4	11.6	14	
Wed 16	30.8	12.3	20.5	19	10089.9	28.4	11	NNE 7	1024.5	NNW 39	0.0	5.2	9	15	
Thu 17	17.3	9.3	13.0	48	10236.6	16.4	41	N 22	10089.9	NW 70	0.0	6.6	11.6	16	
Fri 18	26.2	7.0	15.2	38	10218.8	25.3	17	SW 28	10236.6	WSW 61	7.2	5.0	12.5	17	
Sat 19	31.1	13.2	22.8	10	10188.8	30.6	5	NNE 17	10236.6	NNW 39	0.0	5.0	12.2	18	
Sun 20	33.0	18.9	24.7	17	10118.8	31.6	12	N 20	10133.3	NNW 46	0.0	12.2	19	19	
Mon 21	25.3	20.0	22.3	51	10133.3	24.1	52	W 11	10083.3	N 33	0.0	9.2	20	20	
Tue 22	21.8	18.4	19.3	71	1007.5	16.8	76	SSW 2	10133.3	E 19	0.0	21.0	0.4	21	
Wed 23	18.0	10.5	12.3	79	10190.0	16.0	51	NNW 17	1007.5	ESE 59	0.0	0.0	0.4	22	
Thu 24	16.8	8.6	12.3	48	10264.4	16.4	41	SSW 19	10190.0	NNW 76	0.4	2.8	4	23	
Fri 25	18.3	7.2	12.1	59	10290.0	17.7	40	SSW 15	10264.4	WSW 48	2.2	3.8	6.8	24	
Sat 26	22.8	7.0	14.1	58	10277.7	22.5	19	E 2	10290.0	SSW 46	0.4	4.6	10.6	25	
Sun 27	25.2	14.1	19.5	34	10209.9	23.2	34	ENE 7	10277.7	SW 28	0.0	3.6	12	26	
Mon 28	20.6	12.8	16.3	72	10153.3	20.0	53	ENE 13	10209.9	W 19	0.0	0.0	3.8	27	
Tue 29	19.3	11.7	13.8	58	10236.6	18.3	43	SW 24	10153.3	ENE 46	0.0	13.6	7.4	28	
Wed 30	20.4	12.7	14.8	53	10256.6	20.1	43	SSW 17	10236.6	S 46	0.0	4.4	10.1	29	
Thu 31	23.0	8.0	15.1	52	10256.6	21.2	42	SSE 15	10256.6	SSW 35	0.0	4.6	7.5	30	
Mean Daily	22.3	11.3	16.2	52.7	10182.2	21.2	37.6	ENE 9	10256.6	WSW 17	0.0	5.4	12.8	31	
Lowest Daily	16.3	5.4	11.5	10	10075.5	15.2	5	ENE 9	10075.5	ENE 46	0.0	6.2	0.4	0.4	21
Highest Daily	33.0	20.0	26.0	85	10259.0	31.6	76	ENE 9	10259.0	ENE 46	7.8	21.0	12.8	28.0	20
Total								21.1	10182.2	76	32.4	136.8	260.3		

Prepared by South Australian Climate Section in the South Australian Office of the Bureau of Meteorology. Contact us by phone on (08) 8346 2664, or by email on d.ray@bom.gov.au
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SOUTH AUSTRALIA

October 2013

- Rainfall was below average for most of the state
- Daytime temperatures were above average, with cooler nights across eastern districts
- Windy, with increased frequent strong and gusty winds across the state

RAINFALL

Most locations in South Australia received below average rainfall throughout October, apart from the lower southeast where above average rainfall was recorded in a persistent westerly airstream. The wettest periods for much of the state occurred at the start of the month, on the 17th and again on the 22nd and 24th. In the latter period an intense low pressure system moved across southern parts of the State. As the low strengthened, strong to gale force and very gusty winds developed over southern districts along with showers and isolated thunderstorm activity.

Pastoral Districts

Rainfall totals over the pastoral districts were average to below average, tending to very much below average across the Northwest district and other northern parts of the pastoral areas. Rainfall totals were typically between 5 to 10mm in what is typically a low rainfall time of the year with several locations reporting no rainfall through the month. With this, some sites had their lowest total October rainfall on record.

The wettest period for the pastoral districts was on the 1st as a cloud band and trough of low pressure produced showers and isolated thunderstorms. The wettest location overall throughout the pastoral districts was at Gluepot Reserve in the northeast of the state with 15.2 mm in total for the month.

Agricultural Districts

Average to below average rainfall was observed across the agricultural districts with some parts in the western agricultural areas seeing very much below average rainfall for the month. The lower southeast was the only region to receive above average rainfall through October where some sites had their highest total October rainfall on record or had their highest total October rainfall for at least 20 years.

Totals ranged between 25 to 50 mm for most locations, with 60 to 80 mm widely recorded across the Mount Lofty Ranges and the lower southeast districts of the state. The wettest overall for the month in the agricultural districts was at Mount Gambier Aerodrome in the lower southeast with 114.8 mm, 35.6 mm of which was reported on the 23rd, which was also the wettest day for any location in the state. Some other sites also reported their highest October daily rainfall on record on the 23rd.

TEMPERATURE

The mean temperature (the average of the maximum and minimum temperatures) for South Australia as a whole in October 2013 was 0.9 °C above the long-term average. By contrast, October 2012 was 1.4 °C above average. Mean temperatures across the state ranged from 11.7°C at Mount Lofty to 23.4°C at Oodnadatta Airport in the Far North.

Mean maximum temperatures were above average across most of South Australia

through October, except for the southeast districts where daytime temperatures were cooler than average. The state wide area average was 1.7 °C above normal and ranks as the 12th warmest October days out of 104 years of observations. Several locations across western agricultural districts and parts of the pastoral districts in the far north observed temperatures in excess of 2.0°C above the long term October average. Elsewhere across the state, daytime temperatures were 1 to 2 °C above average.

Average daily maximum temperatures ranged from 16.2 °C at Mount Lofty to 32.0 °C at Moomba Airport in the Northeast pastoral district.

The warmest period occurred during the third week of October due to a high pressure system over the Tasman Sea directing warm northerly winds across South Australia. From the 18th through to the 21st, much of the state observed maximum temperatures well above average. The warmest day for any location was recorded was at Moomba Airport, reaching 43.5 °C on the 21st, a record warmest October day at this location, though records commenced at this site in 1995. On the 1st, Mount Lofty recorded the coldest day for any location when its maximum temperature reached just 9.7°C.

While most of the eastern half of South Australia experienced cooler than average nights, mean minimum temperatures were mostly near average as a whole, with October overnight minimum temperatures for the state only 0.1 °C warmer than average. Some locations across the western agricultural areas observed nights of 1 to 2 °C above normal, with cooler nights between 1 to 2 °C below average observed across parts of the Flinders ranges and in the Northeast pastoral. The warmest nights on average were recorded at Oodnadatta, with 14.7 °C, while the coolest nights on average were observed at Yongala with 5.0°C.

The warmest nights for many locations occurred between the 19th and 22nd in the warm north-westerly airstream ahead of an approaching low pressure trough. Moomba Airport reported the warmest night for any location on the 22nd with a minimum of 25.8°C. The coldest night for any location around the State was observed at Yongala where the temperature fell to -1.8 °C on the 18th.

ADELAIDE METRO & HILLS

NOVEMBER 2013

- Driest November in 17 years
- Driest month for any month since February 2009
- Cool nights and near-average daytime temperatures

Rainfall

November 2013 has been very dry across the Adelaide region, with a total rainfall at Adelaide (Kent Town) of only 5.2 mm received over three days, well below the long-term average of 30.9 mm typically received on eight rain days; the long-term median rainfall for November at Adelaide (Kent Town) is 29.6 mm. The lack of rainfall, associated with the dominance of high pressure systems across southern Australia throughout the month, resulted in November being the driest of any month since February 2009 and the driest November in 17 years (driest November since 1996). Most of the rainfall was recorded on the 8th and later, on the 29th, as low pressure troughs crossed South Australia.

Monthly rainfall totals were generally about 5 mm for locations across the Adelaide Plains, with higher totals of 15 to 25 mm throughout the Hills. The wettest location for the month was at Mount Barker, where 25.6 mm was observed. Mount Barker also reported the wettest day of the month with 9.8 mm in the 24 hours to 9 am on the 8th.

Temperature

Parafield Airport observed the warmest day for any location across the region with a maximum of 34.3 °C on the 20th. The warmest days on average were also at Parafield Airport, with a monthly average of 23.3 °C.

Daytime temperatures were cooler than normal, but generally near average across the Adelaide region throughout the month. Maximum temperatures ranged from 18.8 °C at Mount Lofty to 26.4 °C at Parafield Airport.

November started with warmer-than-normal days, but the second and third week of the month saw cooler days. The coldest day of the month for any location in the Adelaide and Hills region was reported at Mount Lofty on the 8th, when the maximum reached just 10.6 °C.

Mean minimum temperatures were generally below average across the Adelaide Plains and Hills this November, with the minimum temperature at Adelaide (Kent Town) being 13.1 °C, 1.0 °C below the long-term November average. Mount Lofty reported the coolest nights on average, with 8.1 °C for the month.

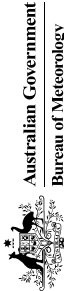
The coldest night during November 2013 in the Adelaide and Hills area was observed at Parafield Airport on the 14th, when the minimum temperature went down to 3.6 °C. The warmest night was 25.9 °C at Kent Town on the 27th, Adelaide's warmest November night in nine years.

Daily Meteorological Observations for Adelaide (Kent Town) for November 2013

Site Number 023090 • Locality: Adelaide • Opened Jan 1977 • Still Open • Latitude 34°55'16" S • Longitude 139°37'18" E • Elevation 48m

Day	Minimum Temperature		Maximum Temperature		3am			9am			3pm			Maximum			Evaporation in 24 hrs to pan mm	Rainfall in 24 hours mm	Bright Sunshine hours	Day
	°C	°C	°C	°C	Temperature °C	Relative Humidity %	Total Cloud oktas	Wind km/h	MSL pressure hPa	Temperature °C	Relative Humidity %	Total Cloud oktas	Wind km/h	MSL pressure hPa	Temperature °C	Relative Humidity %				
Fri 1	31.1	10.1	20.9	34	13	34	N 11	1020.9	30.4	13	16	WNW 19	1018.6	NNW 35	0.0	4.6	12.7	1		
Sat 2	32.5	13.6	22.9	35	16	35	ESE 9	1017.0	30.6	16	16	SW 15	1016.1	SW 35	0.0		10	2		
Sun 3	21.1	13.0	15.4	53	19.7	32	SSW 15	1025.8	19.7	32	20	SSW 20	1026.2	S 39	0.0		12.7	3		
Mon 4	24.3	10.0	14.3	43	23.2	20	ENE 11	1030.3	23.2	20	20	ESE 13	1026.6	ESE 37	0.0	61.0	12.8	4		
Tue 5	30.0	13.9	18.9	35	18.9	13	NE 17	1024.6	28.6	13	13	N 13	1019.3	NE 31	0.0	2.0	12.8	5		
Wed 6	34.8	18.9	26.8	13	34.0	8	NNE 15	1013.8	34.0	8	8	NW 19	1010.0	N 41	0.0	7.8	12	6		
Thu 7	24.0	19.9	21.0	56	20.0	59	SSW 9	1011.5	20.0	59	59	SSE 19	1011.7	SE 39	0.0	7.8	3.5	7		
Fri 8	17.7	13.4	14.3	75	16.6	57	SW 20	1013.6	16.6	57	57	S 13	1015.6	SW 39	2.6	4.2	5.6	8		
Sat 9	17.7	9.4	13.7	42	17.7	42	S 15	1021.9	15.9	50	50	SW 20	1021.2	W 43	0.0		6.9	9		
Sun 10	19.5	9.3	13.5	50	18.0	34	SE 13	1025.7	18.0	34	34	SSE 20	1023.0	SE 44	0.0		12.6	10		
Mon 11	20.9	10.4	14.2	53	20.1	42	S 19	1020.2	20.1	42	42	S 19	1020.2	SE 41	0.0	12.6	13	11		
Tue 12	21.8	10.6	16.3	55	21.8	52	S 20	1020.8	21.8	52	52	S 19	1018.6	SSE 43	0.0	4.6	11.4	12		
Wed 13	21.8	13.3	17.1	56	21.4	49	SSW 11	1020.9	21.4	49	49	WSW 24	1019.1	W 41	0.0	6.0	12.1	13		
Thu 14	21.9	8.4	15.3	53	20.7	56	NE 9	1021.1	20.7	56	56	SSW 19	1019.4	SE 35	0.0	7.8	8.1	14		
Fri 15	23.5	12.0	15.9	55	22.7	94	SE 9	1020.7	22.7	94	94	SE 9	1018.1	SE 39	0.0	4.8	10.9	15		
Sat 16	22.5	10.7	16.7	50	22.0	37	SE 11	1020.1	22.0	37	37	SSE 22	1017.6	S 43	0.0		13.2	16		
Sun 17	26.1	10.9	16.1	55	21.9	29	S 7	1019.1	25.0	29	29	E 7	1015.9	SW 35	0.0		13.3	17		
Mon 18	33.4	15.2	21.4	52	31.9	10	NW 7	1013.8	31.9	10	10	WNW 24	1008.7	W 39	0.0	17.4	13.3	18		
Tue 19	20.0	14.4	23.9	34	19.2	15	WSW 11	1007.9	31.1	15	15	NW 7	1005.3	SE 65	0.0	5.2	10.5	19		
Wed 20	20.0	14.4	14.9	63	19.2	47	S 19	1011.4	19.2	47	47	S 19	1012.3	S 46	0.0	8.2	5.6	20		
Thu 21	19.3	11.7	14.6	46	17.5	37	S 17	1015.8	17.5	37	37	SSE 20	1013.9	S 35	0.0	5.0	10.1	21		
Fri 22	19.6	9.8	13.3	67	17.7	48	SSW 15	1015.2	17.7	48	48	SW 19	1013.5	WSW 39	0.2	5.0	5.6	22		
Sat 23	20.3	10.1	15.6	65	22.5	33	SSE 17	1014.6	19.3	49	49	S 26	1013.6	SSE 44	0.0	6.4	6.4	23		
Sun 24	23.6	12.9	15.1	53	28.0	21	ESE 15	1016.2	22.5	33	33	SSE 11	1012.3	SSE 35	0.0	9.2	2.4	24		
Mon 25	29.7	11.9	20.8	38	28.0	21	NE 6	1012.1	28.0	21	21	SW 17	1009.3	E 28	0.0	16.8	13.3	25		
Tue 26	35.9	19.8	25.9	18	35.4	17	NNE 11	1011.9	33.6	13	13	S 9	1009.2	W 30	0.0	8.0	9.7	26		
Wed 27	37.0	25.9	30.9	11	18.2	69	N 13	1010.6	35.4	17	17	WSW 17	1008.1	NW 50	0.0	7.2	12.3	27		
Thu 28	19.4	17.3	18.6	63	21.2	37	SSW 20	1011.1	18.2	69	69	SW 9	1012.2	SW 39	0.0	9.0	0.2	28		
Fri 29	22.9	14.8	16.8	65	21.2	37	SSE 13	1018.7	21.2	37	37	SSE 11	1017.0	SSE 39	2.4	1.6	8.9	29		
Sat 30	29.8	11.2	16.6	44	27.9	11	ENE 13	1019.7	27.9	11	11	ENE 15	1016.2	NE 37	0.0		11.8	30		
Mean Daily	25.1	13.1	18.0	47.7	23.8	33.6	13.0	1017.7	23.8	33.6	33.6	16.4	1015.7	8	8.0	10.0	10.0			
Lowest Daily	17.7	8.4	13.3	11	15.9	8	8	1007.9	15.9	8	8	26	1026.6	26	1.6	0.3	0.3			
Highest Daily	37.0	25.9	30.9	75	35.4	69	21	1030.3	35.4	69	69			65	2.6	21.0	10.2			
Total															5.2	176.8	300.5			

Prepared by South Australian Climate Section in the South Australian Office of the Bureau of Meteorology. Contact us by phone on (08) 9346 2664, or by email on d.ray@bom.gov.au
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SOUTH AUSTRALIA

NOVEMBER 2013

- Rainfall tended below average across large parts of the state
- Day temperatures mostly near average
- Night time temperature cooler than average and coolest since 2001

Rainfall

November rainfall was generally below average across much of the state, apart from western and coastal areas where rainfall tended average to above average, including some sites which had their highest total November rainfall for at least 20 years. Most eastern districts saw very-much-below-average rainfall and some sites had their lowest total November rainfall on record

Pastoral Districts

Rainfall totals for November as a whole were generally well below average, with most locations struggling to record any more than 5 mm. Ernabella was the wettest location across the pastoral districts, with a total of 8.4 mm.

Agricultural Districts

Rainfall totals in the agricultural districts were widely below average at most locations, with totals generally between 20 and 30 mm, though higher totals in excess of 30 mm were observed at some locations in the southeast. The wettest location overall in the agricultural districts was Parawa, in the southern part of the Mount Lofty Ranges, with 51.6 mm.

Temperature

The mean temperature (the average of the maximum and minimum temperatures) for South Australia as a whole in November 2013 was 0.1 °C warmer than average, while large parts of eastern and southern coastal areas tended cooler than average and some sites had their lowest November mean temperature for at least 20 years.

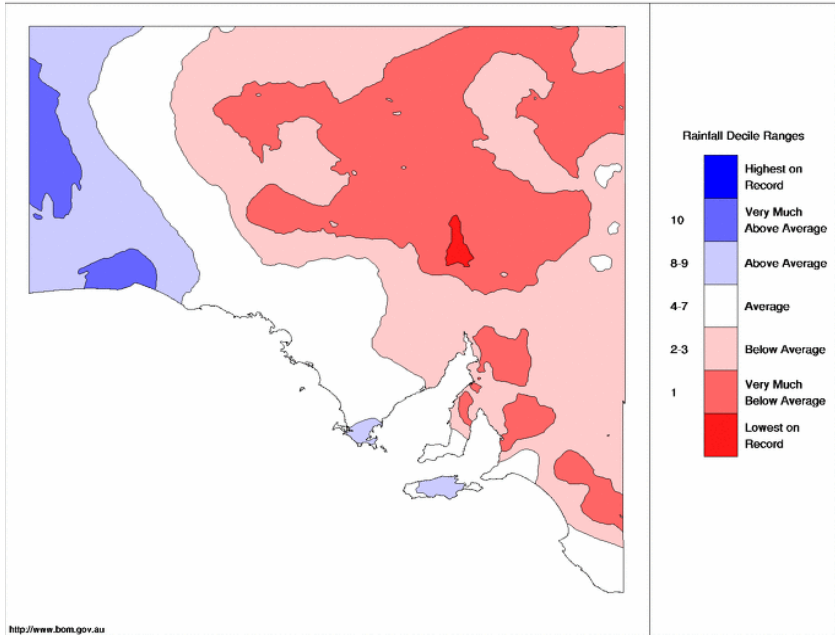
November maximum temperatures were mostly near average across South Australia, with coastal locations observing cooler than usual days. Average maximum temperatures ranged from 18.0°C at Parawa, in the southern part of the Mount Lofty Ranges, to 34.6°C at Marla Police Station, in the northwest of the state. The hottest November day was on the 28th, with 43.9 °C at Moomba Airport. The coldest day in was 10.6°C recorded at Mount Lofty on the 8th.

Minimum temperatures through November were the coolest since 2001, with a state-wide average 0.4 °C below normal. Some sites had their lowest November temperature on record while other sites had their lowest November mean daily minimum temperature for at least 20 years.

November average minimum temperatures ranged from 6 °C at Keith to 18.4°C at Marla Police Station. The lowest recorded minimum temperature through November was -2.4 °C at Keith, in the Upper South East, on the 10th; with the warmest night being 26.3 °C at Oodnadatta on 28 November.

South Australian Rainfall Deciles November 2013

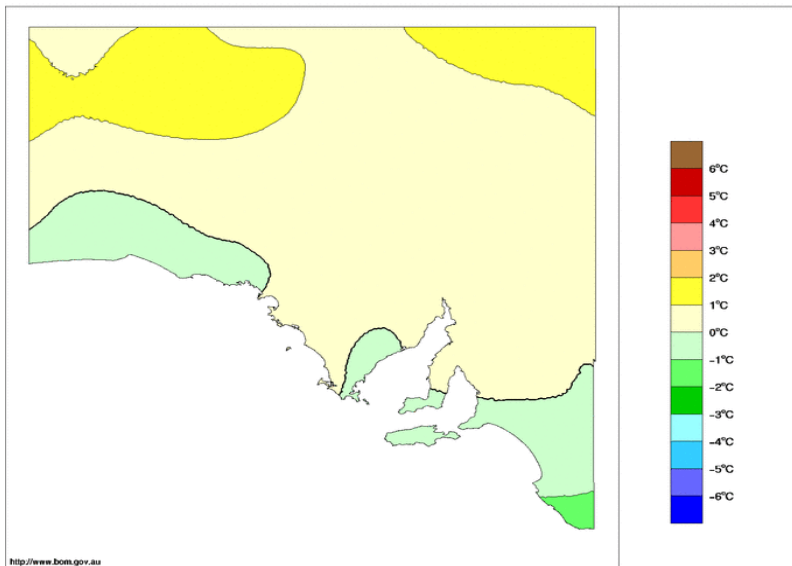
Distribution Based on Gridded Data
Product of the National Climate Centre



Issued: 21/12/2013

Maximum Temperature Anomaly (°C) November 2013

Product of the National Climate Centre



Issued: 21/12/2013

ADELAIDE METRO & HILLS

SPRING 2013

SUMMARY

- With dry conditions dominating much of spring, rainfall was generally only 60–70% of average, continuing a run of drier spring conditions for Adelaide since 2005
- A record warm start with a cool finish

Rainfall

The spring 2013 rainfall total at Adelaide (Kent Town) was 80.2 mm, 53 mm below the long-term spring rainfall average of 133.2 mm. Spring rainfall has not been above average for Adelaide since 2005.

The season started with near-average rainfall, but became progressively drier, finishing with well-below-average rainfall in November. On the Adelaide plains spring rainfall totals were typically in the 50–80 mm range, with totals typically ranging between 90 and 140 mm for the season in the Adelaide Hills. Most locations recorded about 60–70% of average spring rainfall this season. Uraidla recorded the highest spring rainfall total in the region with 213.8 mm. Mount Lofty recorded the wettest day of the season, with 26.4 mm on 13 September.

Temperature

Spring started with a run of well-above-average temperatures during the first week, with September as whole also the warmest September on record for Adelaide by a large margin. October was also slightly warmer than average, and while November saw cool nights, daytime temperatures were close to average. As a whole, this resulted in warmer-than-average spring temperatures but slightly cooler than spring 2012, which had near-average temperatures and a hot finish in November 2012.

Maximum temperatures were generally warmer than average across the Adelaide Metropolitan and Hills area this spring. The mean maximum temperature recorded at Adelaide (Kent Town) for spring 2013 was 23.3 °C, which is 1.3 °C above the average spring maximum temperature. In comparison, spring 2012 saw daytime temperatures 1.5 °C warmer than average.

The hottest maximum temperature recorded in the Adelaide Metropolitan and Hills area during spring 2013 was 38.5 °C at Edinburgh Aerodrome on 27 November. The coldest day was recorded at Mount Lofty with 9.0 °C on 10 September. Parafield Airport recorded the warmest days on average with 24.0 °C. The coolest days on average were recorded at Mount Lofty with 17.1 °C.

Minimum temperatures were also warmer than average across the Adelaide Metropolitan and Hills area. The mean minimum temperature for spring 2013 at Adelaide (Kent Town) was 12.4 °C, which is 0.7 °C above the spring average minimum. The warmest night during spring 2013 was recorded at Adelaide (Kent Town) with 25.9 °C on 27 November; this was also the warmest November night for Adelaide since 2004. The coldest night for any location across the Adelaide area during spring was observed at Mount Barker on 25 October with 2.2 °C. The coldest nights on average were observed at Mount Lofty with a seasonal average of 8.2 °C. The warmest nights on average were at both Kent Town and Noarlunga with 12.4 °C.

SOUTH AUSTRALIA

SPRING 2013

- An exceptionally warm start to the season results third warmest spring
- Day and night temperatures above average across most of the state
- Dry across most of the state, with locations in the north having their driest spring on record

Rainfall

Spring 2013 rainfall was generally well below average across much of the state, apart from southern coastal areas where rainfall tended average to above average. Dry conditions persisted throughout the season where some sites had their lowest total spring rainfall on record and other sites had their lowest total spring rainfall for at least 20 years.

Pastoral Districts

Rainfall totals for spring as a whole were generally well below average, though extremely variable at a time of year when rainfall can be low in northern South Australia. Rainfall totals were generally below 10 mm for most locations. Gluepot was the wettest location across the pastoral districts, with a total of 30.7 mm.

Agricultural Districts

Rainfall totals in the agricultural districts were widely below average at most locations, with totals generally between 40 and 80 mm, though higher totals of between 100 and 150 mm were observed for some elevated and coastal locations. The wettest location overall in the agricultural districts was Mount Schank, in the lower southeast of the state, with a spring total of 238.4 mm.

Temperature

The mean temperature (the average of the maximum and minimum temperatures) for South Australia as a whole in spring 2013 was 1.8 °C warmer than average, the third warmest spring in 104 years of observations. The warm spring resulted in some sites having their highest spring mean temperature on record.

Spring started with exceptionally warm daytime maximum temperatures, with record high temperatures at many locations across the state. Despite a relatively cool finish to the season, spring maximum temperatures were third-highest on record for the state as a whole and some sites had their highest spring mean daily maximum temperature on record.

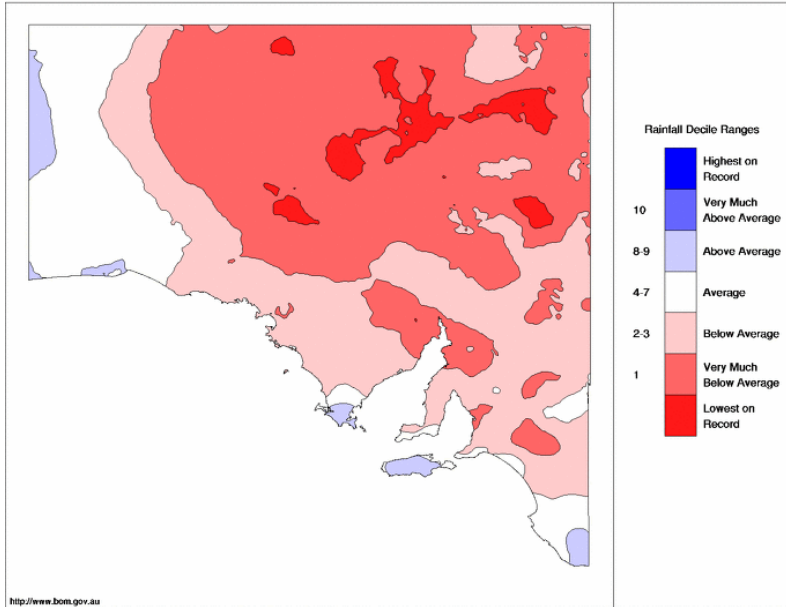
Average maximum temperatures ranged from 17.1 °C at Mount Lofty to 33.0 °C at Oodnadatta Airport in the Far North. The hottest spring day was on 28 November with 43.9 °C at Moomba Airport. The coldest day was 9.2 °C recorded at Mount Lofty on 20 September.

Minimum temperatures through the season were the warmest since 2011, and equal-tenth warmest in 104 years of record. Some sites had their highest spring mean daily minimum temperature on record. November was the only month in the season to observe cooler-than-average nights.

Spring average minimum temperatures ranged from 5.9 °C at Yongala to 16.1 °C at Oodnadatta Airport. The lowest recorded minimum temperature through winter was -2.4 °C at Keith in the Upper southeast on 10 November; with the warmest night being 26.3 °C at Oodnadatta on 28 November.

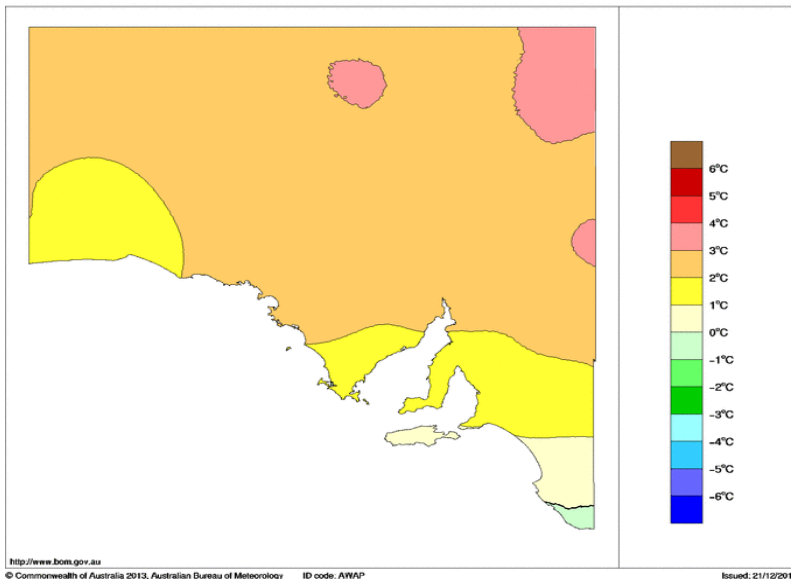
South Australian Rainfall Deciles 1 September to 30 November 2013

Distribution Based on Gridded Data
Product of the National Climate Centre



Maximum Temperature Anomaly (°C) 1 September to 30 November 2013

Product of the National Climate Centre





Australian Meteorological Association Inc (AMeta)

NEXT MEETING

5.30 PM MONDAY 17TH FEBRUARY 2014

Conference room, Bureau of Meteorology 25 College Road, Kent Town

Subject: *Thirty years of environmental monitoring.*

Speakers: *Andrew Skinner, Engineering Director MEA*

Andrew is the Engineering Director of MEA, an Adelaide based company who have been producing automatic weather stations and other environmental monitoring equipment since 1984. These instruments are widely used around Australia in a range of applications including agriculture and viticulture, and irrigation monitoring. In what will be an interesting talk Andrew will look back over the 30 year history of his experience in environmental monitoring with MEA.

We look forward to seeing you.

For further information contact

<i>Secretary:</i>	<i>Darren Ray</i>
<i>Phone:</i>	<i>8366 2664</i>
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Inquiries or suggestions, please contact the Secretary on the phone number listed above.