



# Monana

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The first meeting of 2015, on February 16, featured Warwick Grace from Grace Research (formerly with BoM) . Warwick discussed his work with Graeme Tepper in Western Australia on Inversions and Turbulence and their relevance to spraying of agricultural chemicals.

Nowadays there is an increasing amount of agricultural spraying conducted at night. Although there are practical advantages to spraying at night compared to spraying during the day, at night there is often an inversion present. The presence of an inversion can lead to some spray drifting off in unexpected directions. The adverse effects of the off-target spray drift then show up a few days later in other crops several kilometres away.

Over the wheat fields of WA, Graeme Tepper and Warwick have set up five 10m instrumented towers to measure inversions, turbulence and wind. The measurements are being analysed with the purpose of identifying rules for night time spraying. This work is sponsored by the Grains Research & Development Corp and the Dept of Agriculture & Food in WA.

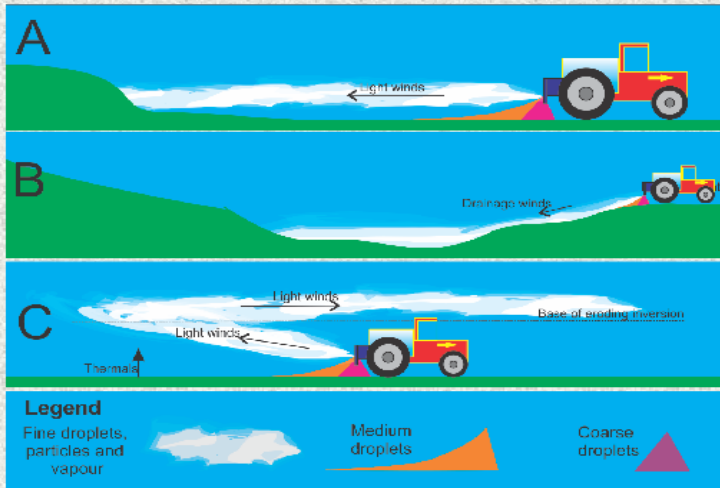
The practical need is to provide real-time observations that tell an operator that an inversion exists. Most agricultural automatic weather stations (AWS) are not 10m towers. They measure temperature at 1m (approx.) and wind at 2m. This work will be applicable to both agricultural AWS and to Bureau AWS.

With several schematics and photos Warwick showed scenarios where unwanted spray drift could occur with inversions. See Figures below.

A common measure of stability is the vertical temperature difference. A simple arm extension on agricultural AWS to 3m to measure the vertical temperature difference between 1 and 3m was found to work reliably. Instead of two thermometers, a pair of matched thermistors are used, and a thermistor was passed around the audience.

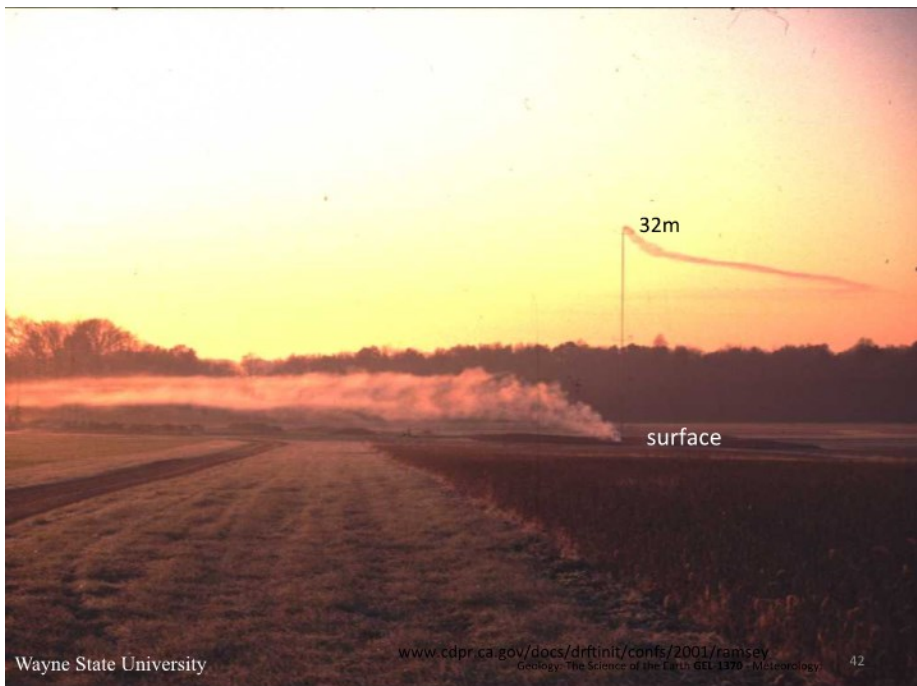
Atmospheric turbulence is measured by the wind fluctuations (the standard deviations of the horizontal wind speed, and the standard deviation of the vertical wind speed). Low turbulence is associated with strong inversions and

Inversion may cause  
**fin** droplets, **particulates** and **vapours**  
 to be airborne at hazardous concentrations for some hours



There is a need to understand, recognise and forecast these inversion situations

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strong stability.

Warwick showed how all these measurements relate to each other and to 10m tower reference measurements. It is likely that the AWS with thermistors at 1 and 3m will provide at least 2 reliable and budget-priced measurements of the intensity of an inversion. These are the vertical temperature difference between 1 and 3m; and the standard deviation of the horizontal wind speed at 2m. Conceivably the AWS could be portable and just fixed as needed to a fence post.

These two measurements, or similar related measurements, are expected to provide the basis to a “Stop-Caution-Go” advice from the AWS. At least a full year of data is required before the thresholds are decided.



## Adelaide in February 2015

Despite a generally cool start to the month, temperatures throughout much of February were above average for the Adelaide region. In particular daytime temperatures were 2 to 3 °C warmer than average. Adelaide experienced 10 days with a maximum temperature exceeding 35 °C; typically the city can expect around 5 days of 35 °C during February. The hot days resulted in Adelaide having its warmest February since 2007.

Night time temperatures tended to be cooler than average at the beginning of the month, becoming warmer during the second week and remaining near average throughout the rest of the month.

Strong and persistent high pressure systems across the Great Australian Bight, combined with little tropical activity, resulted in a very dry month in the Adelaide region. The Kent Town site registered no rain until the last day of the month, extending the dry spell that started on 21 January. This was the longest dry run since early 2007, but well short of the 69 days without rain at West Terrace in early 1893. Kent Town's 0.6 mm total was the driest February since 2007. Adelaide Airport reported zero rainfall and most other locations across the metropolitan and hills area struggled to record more than 2 mm for the month.

- With 0.6 mm of rainfall, it was the driest month for Adelaide since February 2007
- 10 days with maximum temperatures greater than 35 °C
- Overall temperatures were 2 to 3 °C above average

### Extremes in February 2015

<b>Hottest day</b>	41.6 °C at Adelaide (Kent Town) on the 14th
<b>Warmest days on average</b>	33.0 °C at Parafield Airport
<b>Coollest days on average</b>	26.9 °C at Mount Lofty
<b>Coldest day</b>	15.2 °C at Mount Lofty on the 1st
<b>Coldest night</b>	6.4 °C at Mount Lofty on the 5th
<b>Coollest nights on average</b>	13.6 °C at Mount Lofty
<b>Warmest nights on average</b>	18.1 °C at Adelaide (Kent Town)
<b>Warmest night</b>	30.7 °C at Parafield Airport on the 15th
<b>Warmest on average overall</b>	25.4 °C at Adelaide (Kent Town)
<b>Coollest on average overall</b>	20.3 °C at Mount Lofty
<b>Wettest overall</b>	4.0 mm at Eden Valley (Mt Adam)
<b>Wettest day</b>	2.0 mm at Williamstown (on the 7th
<b>Strongest wind gust</b>	67 km/h at Mount Crawford on the 4th and 24 <sup>th</sup> and at Adelaide Airport on the 23rd

### Record highest February daily minimum temperature

	New record	Old record	Years of record	Average for February
Parafield Airport	30.7 on the 15th	30.3 on the 12th in 2014	59	16.4

## Adelaide, South Australia

## February 2015 Daily Weather Observations

Observations are from Kent Town, about 2 km east of the city centre.


 Australian Government  
 Bureau of Meteorology

Date	Day	Temps		Rain	Evap	Sun	Max wind gust			8am					3pm				
		Min	Max				Dirn	Spd	Time	Temp	RH	Cld	Dirn	Spd	MSLP	Temp	RH	Cld	Dirn
		°C	°C	mm	mm	hours	local	°C	%	eghts	Dirn	km/h	hPa	°C	%	eghts	Dirn	km/h	hPa
1	Su	14.9	21.7	0			15:23	16.8	88		S	15	1018.1	20.4	51		S	20	1017.8
2	Mo	14.7	23.8	0	11.8		16:41	18.3	62		SSE	17	1022.3	22.6	41		S	24	1021.7
3	Tu	12.5	28.6	0	6.6		18:33	17.1	60		S	7	1023.6	28.0	31		S	15	1020.4
4	We	13.3	25.9	0	6.6		19:07	16.9	60		SSE	11	1022.1	24.1	36		SSW	13	1019.4
5	Th	12.5	28.6	0	5.0		01:27	17.5	51		SE	7	1021.7	26.2	34		WSW	19	1019.1
6	Fr	14.9	37.9	0	6.4		17:19	25.6	36		WSW	37	1019.8	36.6	16		WSW	17	1017.0
7	Sa	21.8	38.5	0			17:37	31.1	27		SW	13	1017.6	37.4	21		WSW	19	1015.4
8	Su	18.3	33.1	0			15:06	22.0	54		S	4	1021.6	32.5	27		S	17	1020.7
9	Mo	15.5	30.7	0	24.8		13:40	20.3	54		WSW	28	1023.9	28.3	34		WSW	17	1021.7
10	Tu	12.8	33.9	0	6.8		15:26	22.3	27		SW	6	1021.8	31.9	21		SW	13	1019.6
11	We	18.3	34.6	0	7.8		13:14	26.1	23		NW	6	1019.3	33.1	16		S	19	1018.4
12	Th	18.9	37.4	0	7.2		12:20	23.6	47		WSW	26	1020.8	33.7	33		WSW	9	1016.7
13	Fr	21.5	34.6	0	6.6		21:21	26.9	48		ESE	60	1017.9	33.1	31		SE	7	1016.0
14	Sa	26.5	41.6	0			05:58	30.8	30		NNE	9	1015.2	38.4	15		NNW	17	1013.4
15	Su	28.8	38.6	0			15:14	34.8	20		WSW	48	1011.8	36.3	24		WSW	19	1012.0
16	Mo	17.9	28.3	0	23.0		14:14	20.2	55		WSW	44	1019.3	25.5	48		SW	28	1017.1
17	Tu	13.8	29.6	0	6.2		16:01	19.2	61		SSE	37	1018.4	26.5	43		WSW	19	1016.2
18	We	14.4	30.8	0	5.8		14:25	19.7	61		SE	28	1018.9	29.5	31		E	13	1016.3
19	Th	18.0	36.9	0	6.4		15:13	24.8	47		WSW	30	1015.8	35.7	17		WSW	17	1012.9
20	Fr	23.9	38.8	0			03:57	26.2	46		NE	31	1013.8	38.0	21		WSW	19	1011.4
21	Sa	25.8	39.5	0	18.0		11:46	30.8	33		N	6	1011.2	38.6	20		W	20	1008.9
22	Su	23.4	40.0	0			04:30	27.3	52		W	35	1010.4	39.3	20		W	17	1008.5
23	Mo	20.6	26.5	0	16.2		19:48	22.2	61		SSE	48	1015.3	25.7	43		SSE	22	1016.5
24	Tu	13.6	25.0	0	7.6		00:44	16.9	45		S	39	1021.2	24.0	31		SSE	20	1019.3
25	We	13.8	28.2	0	6.2		00:53	18.5	46		SE	37	1017.4	27.2	28		WSW	13	1013.5
26	Th	15.2	30.8	0	5.8		14:13	21.5	42		SW	30	1013.3	29.5	20		W	17	1010.8
27	Fr	18.5	34.9	0	5.8		22:57	23.3	42		SSE	31	1010.1	34.6	26		NNW	13	1007.0
28	Sa	21.9	35.1	0.6	6.8		23:44	26.9	38		ENE	43	1004.2	28.4	46		WSW	20	1004.8
Statistics for February 2015																			
Mean		18.1	32.7		9.4			23.1	46			9	1017.4	31.0	29			17	1015.4
Lowest		12.5	21.7		5.0			16.3	20		Calm	1004.2	20.4	15		SE	7	1004.8	
Highest		28.8	41.6	0.6	24.8			34.8	68		S	20	1023.9	38.4	51		SW	26	1021.7
Total				0.6	197.0														

Observations were drawn from Adelaide (Kent Town) (station 023050)

Kent Town is a suburban site with good exposure. Climate averages are available for West Terrace as well as Kent Town.

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## South Australia in February 2015

The statewide average rainfall during February was 87% below the historical average, making it the driest February for South Australia since 2009. Rainfall was very much below average across agricultural districts as well as through central and northern parts of pastoral districts. The persistence of high pressure systems across the Great Australian Bight resulted in the lack of rainfall throughout the month across much of the southern half of the state.

Both maximum and minimum temperatures were above average during the month, by 3.1 °C 1.2 °C respectively. Daytime temperatures were warmest in the central and northern districts, resulting in the statewide average mean maximum temperature being second warmest on record, after February 2007. Minimum temperatures were warmest across the northern half of the state, tending closer to average across some central locations.

- Very dry across agricultural districts
- Second warmest February days on record for South Australia
- Nights near average across central districts

### Extremes in February 2015

Hottest day	46.8 °C at Ceduna AMO on the 14th
Warmest days on average	39.8 °C at Oodnadatta Airport
Coollest days on average	22.8 °C at Neptune Island
Coldest day	15.2 °C at Mount Lofty on the 1st
Coldest night	4.6 °C at Naracoorte Aerodrome on the 24th
Coollest nights on average	12.4 °C at Naracoorte Aerodrome
Warmest nights on average	24.7 °C at Oodnadatta Airport
Warmest night	31.2 °C at Oodnadatta Airport on the 23rd
Warmest on average overall	32.2 °C at Oodnadatta Airport
Coollest on average overall	19.6 °C at Cape Willoughby
Wettest overall	36.0 mm at Pinnaroo
Wettest day	13.6 mm at Kalamurina on the 7th
Strongest wind gust	83 km/h at Sellicks Hill on the 4th

### Record lowest February total rainfall

	New record	Old record	Years of record	February Average
North Shields	0.2	= 0.2 in 2002	21	14.3

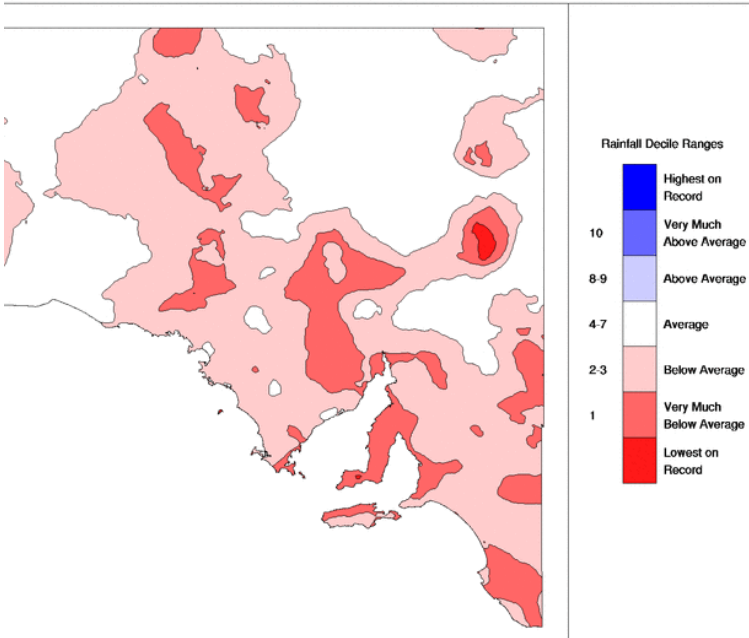
### Lowest February total rainfall for at least 20 years

	Observed	Most recent lower	Years since lower	February Average
Belair	.2	0.0 in 1991	24	23.7
Cowell	0.2	0.0 in 1991	24	22.8
Meningie	0.6	0.0 in 1991	24	17.0
Quorn	1.6	0.0 in 1991	24	20.2
Aldgate	2.2	0.4 in 1991*	23	26.8
Kingston SE 0	.2	0.0 in 1991*	22	17.8

\* note: there are gaps in the historical record at this site, so it is possible a lower value has gone unreported.

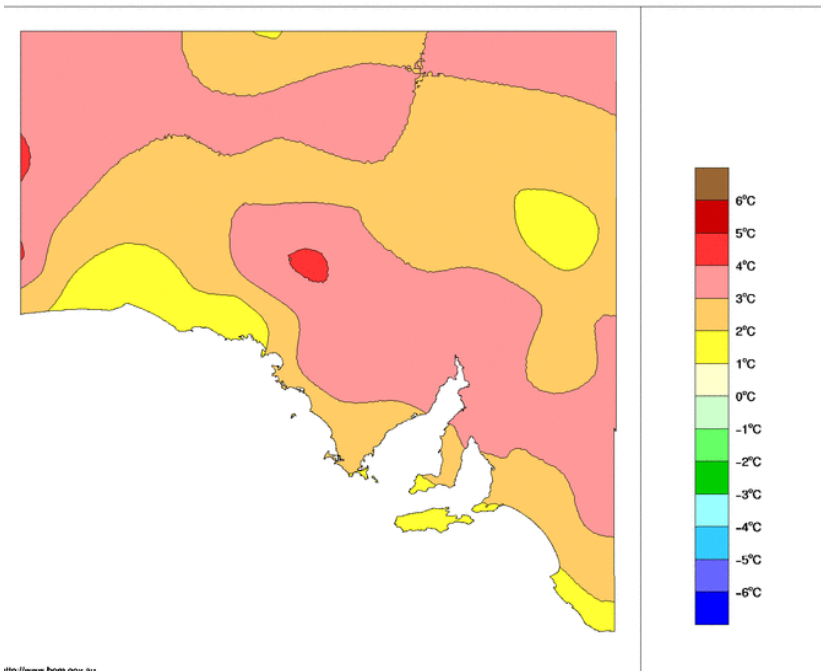
South Australian Rainfall Deciles February 2015

Distribution Based on Gridded Data  
Australian Bureau of Meteorology



Maximum Temperature Anomaly (°C) February 2015

Australian Bureau of Meteorology



## Adelaide in summer 2014-15

Rainfall was generally below average across the Adelaide region during summer, with a majority of the summer total occurring over a 5 day period in the second week of January as a burst of tropical activity brought moderate to heavy rainfall for most locations across the metropolitan area. December and February were both very dry. With 6.4 mm recorded for Adelaide during December, and just 0.4 mm rainfall for the city at the end of February, the summer total at the Kent Town location was 48.4 mm.

December tended to be hotter than average, with particularly hot days in the first week of January. The remainder of January and the first week of February saw mild temperatures for that time of year. The Kent Town location observed a mean minimum temperature was 0.3 °C above average while the mean maximum temperature was 0.8 °C warmer than average.

Adelaide recorded 16 days with maximum temperatures exceeded 35 °C, above the average of 15 days, and 4 days over 40 °C compared to the average of 3. While there were periods of above average temperatures, particularly in early January and mid-February, no periods of extended heatwave conditions occurred this summer.

- A slightly warmer than average summer, no extended periods of extreme heat
- Drier than average, with most of the summer rainfall falling in the second week of January

### Extremes in summer 2014-15

Hottest day	44.1 °C at Adelaide (Kent Town) on 2 Jan 2015
Warmest days on average	29.8 °C at Parafield Airport
Coollest days on average	23.7 °C at Mount Lofty
Coldest day	1 2.5 °C at Mount Lofty on 10 Jan 2015
Coldest night	6.3 °C at Mount Barker on 26 Dec 2014
Coollest nights on average	12.1 °C at Mount Lofty
Warmest nights on average	17.0 °C at Adelaide (Kent Town)
Warmest night	30.7 °C at Parafield Airport on 15 Feb 2015
Warmest on average overall	23.2 °C at Adelaide (Kent Town)
Coollest on average overall	17.8 °C at Mount Lofty
Wettest overall	112.0 mm at Ashton
Wettest day	42.8 mm at Ashton on 13 Jan 2015
Strongest wind gust	85 km/h at Mount Crawford on 16 Dec 2014



## South Australia in summer 2014-15

The South Australian statewide average rainfall during summer was 8.4% above the long-term average. Rainfall was highest in the northeast, predominantly owing to a widespread rainfall event between 8 and 11 January which resulted in the eighth wettest January on record for South Australia. Rainfall was near average across central and southeast districts while some western districts recorded very much below average summer rainfall. Rainfall was generally near average during December whereas very much below average rainfall was recorded across much of the state during February.

Both maximum (+1.08 °C) and minimum (+0.76 °C) temperatures were above average during summer. Daytime temperatures were near average during December across southern districts, and tended cooler than average during January across much of the state. February daytime temperatures were 3 to 4 °C above average across large parts of the state.

- Dry across western agricultural districts, wet in the northeast
- Warm days and nights across northern districts
- Near average days and nights across central districts and agricultural parts

### Extremes in summer 2014-15

Hottest day	46.8 °C at Ceduna AMO on 14 Feb 2015
Warmest days on average	38.1 °C at Oodnadatta Airport
Coollest days on average	21.8 °C at Cape Willoughby
Coldest day	12.5 °C at Mount Lofty on 10 Jan 2015
Coldest night	2.9 °C at Robe Airfield on 27 Dec 2014
Coollest nights on average	11.3 °C at Naracoorte Aerodrome
Warmest nights on average	24.0 °C at Moomba Airport
Warmest night	31.2 °C at Marree Aero on 3 Jan 2015 31.2 °C at Oodnadatta Airport on 23 Feb 2015
Warmest on average overall	30.9 °C at Moomba Airport
Coollest on average overall	17.8 °C at Mount Lofty
Wettest overall	198.9 mm at Arkaroola
Wettest day	119.4 mm at Tiewon on 9 Jan 2015
Strongest wind gust	106 km/h at Marree Aero on 10 Dec 2014

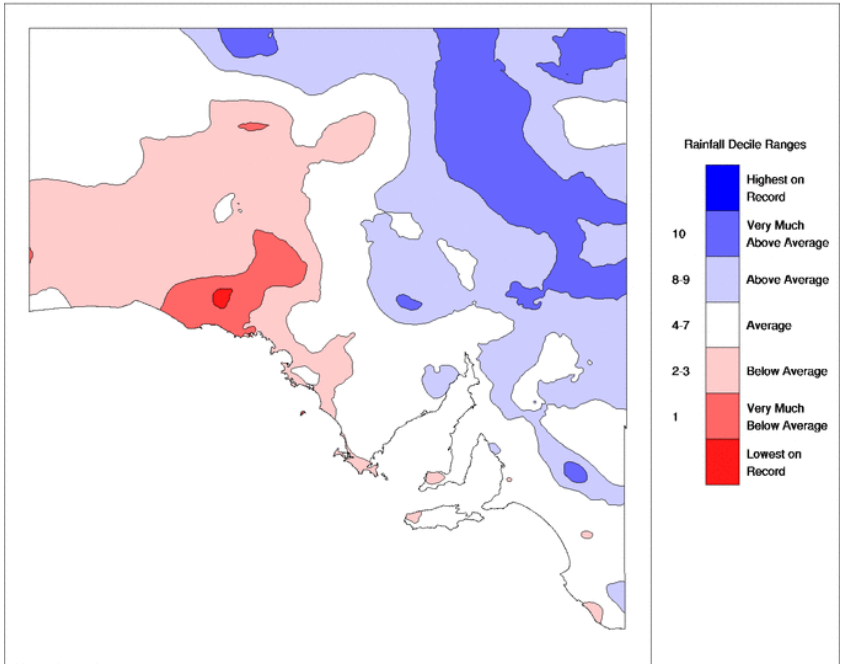
### Record highest summer daily rainfall

	New record (mm)	Old record	Years of record
Penola	81.6 on 13 Jan 2015	79.5 on 28 Dec 1896	134
Booleeroo Centre	84.6 on 10 Jan 2015	75.0 on 27 Feb 2000	132
Huddleston	72.8 on 10 Jan 2015	71.0 on 31 Dec 1979	59
Marree	105.0 on 9 Jan 2015	90.0 on 12 Feb 2000	35
Kalamurina	70.2 on 10 Jan 2015	56.2 on 27 Feb 2012	33

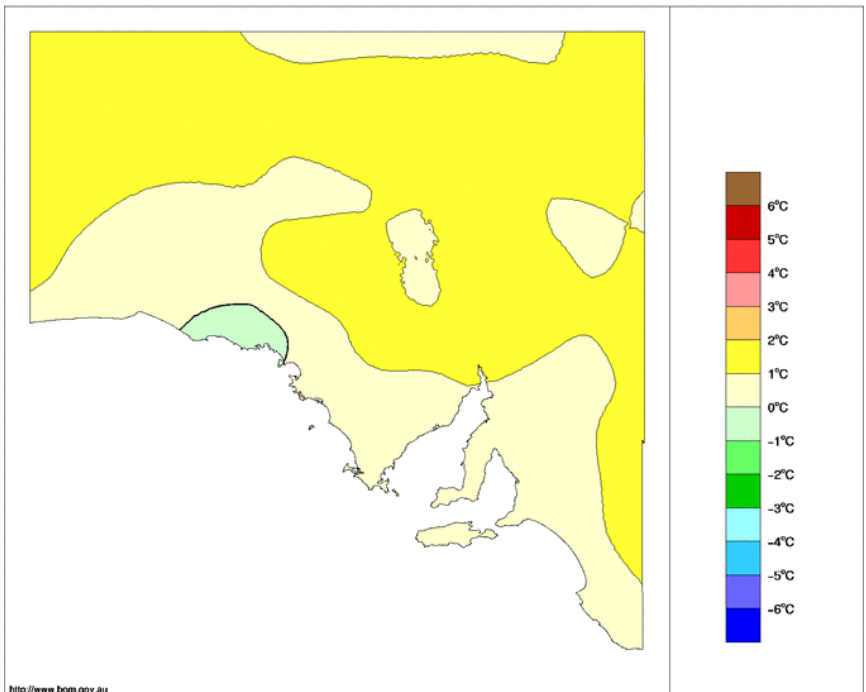
### Lowest summer total rainfall for at least 20 years

	Observed	Most recent lower	Years since lower	Summer Average
Macclesfield	17.8	6.4 in 1905*	108	84.7

Distribution Based on Gridded Data  
Australian Bureau of Meteorology



Maximum Temperature Anomaly (°C) 1 December 2014 to 28 February 2015  
Australian Bureau of Meteorology



## Adelaide in March 2015

A lack of tropical activity feeding moisture across South Australia throughout March resulted in another very dry month across the Adelaide region. There were just 3 days with any measureable rain at Kent Town, totalling just 2.4 mm (2.8 mm in the manual gauge). This has resulted in Adelaide having its driest March since 1994 (21 years ago with 0 mm recorded). The lack of significant rainfall was evident across the wider Adelaide region with several other sites having their lowest total March rainfall since 1994.

Cooler winds from the southwest dominated the month resulted in cooler temperatures throughout much of March across the Adelaide region. Maximum temperatures averaged across the month were more than 1 °C cooler than average. Adelaide experienced 4 days with a maximum temperature exceeding 30 °C; typically the city can expect around 8 days of maximum temperature greater than 30 °C during March. The lack of very warm days resulted in Adelaide having its coolest March with respect to daytime temperatures since 2011.

Night time temperatures also tended to be cooler than average, particularly at the end of the month, when the city observed its coldest March night in 7 years, with the overnight temperature at Kent Town dropping to 9.2 °C on the 28th. The cool nights resulted in Adelaide having its coolest March nights on average in 10 years.

- Adelaide's driest March in 21 years
- Adelaide's coolest March nights in 10 years
- Adelaide's coolest March days in 4 years

### Extremes in March 2015

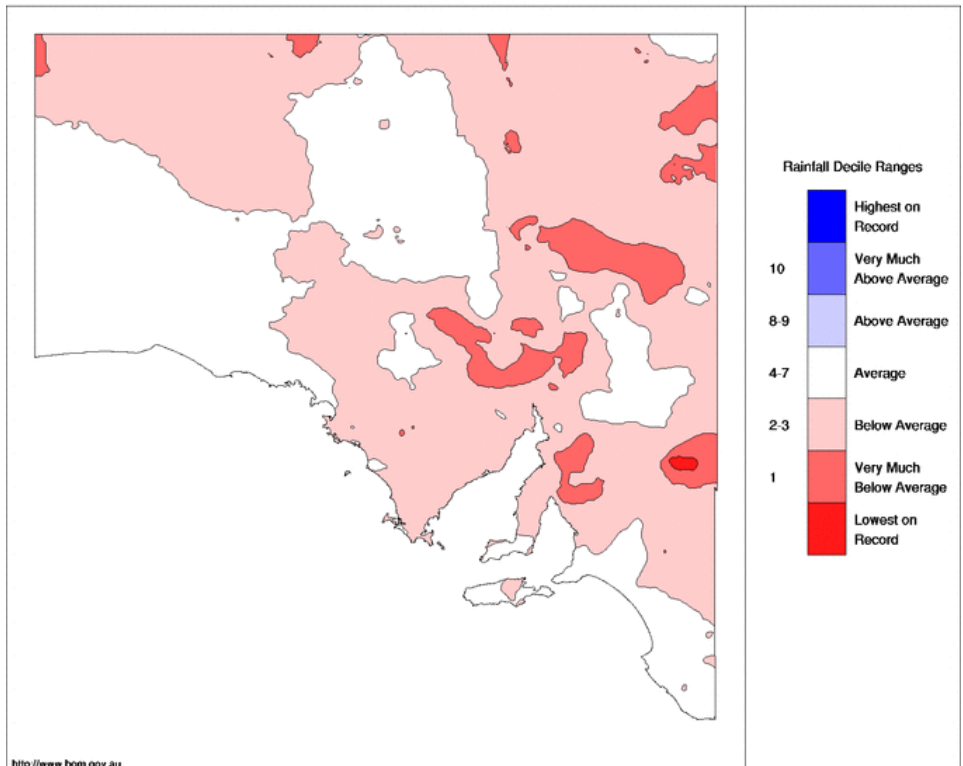
Hottest day	34.2 °C at Edinburgh RAAF on the 16th
Warmest days on average	25.8 °C at Parafield Airport
Coollest days on average	19.9 °C at Mount Lofty
Coldest day	12.2 °C at Mount Lofty on the 24th
Coldest night	5.6 °C at Mount Barker on the 22nd
Coollest nights on average	9.8 °C at Mount Lofty
Warmest nights on average	14.6 °C at Noarlunga
Warmest night	20.5 °C at Adelaide Airport on the 17th
Warmest on average overall	20.0 °C at Adelaide (Kent Town)
Coollest on average overall	14.9 °C at Mount Lofty
Wettest overall	24.4 mm at Crafers West
Wettest day	8.6 mm at Echunga on the 18th
Strongest wind gust	74 km/h at Mount Crawford on the 17 <sup>th</sup>

<b>Record lowest March total rainfall</b>				
	New record	Old record	Years of record	March Average
Mount Crawford	7.4	9.0 in 2005	21	29.7

Lowest March total rainfall for at least 20 years				
	Observed	Most recent lower	Years since lower	March Average
Parafield Airport	3.6	0.8 in 1990*	23	22.5
Hope Valley	0.2	0.0 in 1994	21	29.6
Adelaide (Kent Town)	2.4	0.0 in 1994	21	26.4
Adelaide Airport	2.6	0.0 in 1994	21	21.8
Cudlee Creek	1.2	0.0 in 1994	21	30.3
North Adelaide	2.2	0.0 in 1994	21	25.3
Heathfield	4.4	0.0 in 1994*	20	40.2

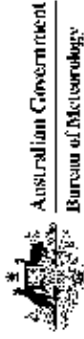
\* *note: there are gaps in the historical record at this site, so it is possible a lower value*

South Australian Rainfall Deciles March 2015  
 Distribution Based on Gridded Data  
 Australian Bureau of Meteorology



# Adelaide, South Australia March 2015 Daily Weather Observations

Observations are from Kent Town, about 2 km east of the city centre.



Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9am					3pm						
		Min °C	Max °C				Dirn	Spd km/h	Time local	Temp °C	RH %	Cid	Dirn	Spd km/h	MSLP hPa	Temp °C	RH %	Cid	Dirn	Spd km/h	MSLP hPa
1	Su	15.1	25.4	0	0		SSE	41	08:35	18.2	55		SSW	13	1016.3	24.0	37		SE	19	1015.9
2	Mo	15.1	25.5	0	13.4		ESE	28	23:07	20.4	45		N	9	1015.9	26.7	20		SW	17	1013.3
3	Tu	16.1	30.0	0	4.0		SSE	30	22:17	20.2	53		SSE	4	1018.2	28.9	29		WSW	17	1015.7
4	We	13.8	23.6	0	6.0		WNW	46	18:51	17.2	62		NE	4	1019.2	22.8	40		WSW	22	1018.0
5	Th	15.6	23.5	0	6.0	10.6	SSW	44	00:17	17.2	48		SSE	15	1022.8	21.8	35		W	26	1021.1
6	Fr	13.9	23.5	0	6.0	8.0	W	37	13:24	16.7	67		SSW	9	1019.4	22.5	48		SW	19	1017.0
7	Sa	15.8	23.8	0	7.9	7.9	WSW	31	15:20	18.3	65		SW	2	1016.1	22.7	48		SW	13	1014.5
8	Su	17.1	24.4	0	9.0	9.0	WSW	31	13:46	18.6	63		WNW	13	1015.1	23.7	42		WSW	17	1014.0
9	Mo	16.9	24.8	0	7.1		W	30	14:11	18.3	81		NNE	7	1016.3	23.7	55		WSW	19	1015.5
10	Tu	12.1	25.4	0.4	18.6	11.6	W	28	12:41	16.9	63		NE	4	1019.3	23.2	40		SW	17	1016.8
11	We	12.4	25.0	0	4.6	11.1	WSW	37	15:01	17.6	72		SW	2	1019.3	23.9	44		SW	20	1016.8
12	Th	13.8	26.2	0	4.2	11.2	S	39	17:58	17.9	72		WNW	7	1019.3	24.7	40		WSW	20	1008.1
13	Fr	13.8	25.1	0	5.8	11.4	ESE	33	05:22	16.9	48		E	9	1017.9	23.8	37		SW	15	1020.2
14	Sa	11.4	29.2	0	10.9	10.9	WSW	37	15:53	19.4	43		NE	9	1017.9	28.8	23		WSW	15	1015.6
15	Su	16.2	24.8	0	6.6		ESE	28	08:41	17.9	68		ESE	11	1017.7	24.1	31		SSE	9	1015.4
16	Mo	15.2	33.6	0	15.0	6.6	NNE	35	21:37	22.9	26		NE	15	1011.6	32.5	21		N	15	1007.2
17	Tu	20.2	27.4	0	6.2	6.1	NW	52	15:13	21.1	77		N	13	1003.8	25.1	51		NW	28	1002.5
18	We	17.8	26.2	1.0	3.2	9.6	WSW	33	23:17	19.7	77		W	13	1007.7	26.3	44		NNW	11	1007.2
19	Th	18.6	27.3	0	5.6	10.7	N	54	04:00	26.1	47		N	7	1005.5	25.8	47		SW	20	1008.1
20	Fr	15.7	23.6	0	7.3		SSE	35	18:31	17.8	57		S	11	1021.5	22.9	38		WSW	19	1022.0
21	Sa	14.0	24.9	0	10.8	10.8	WNW	30	15:20	16.4	44		E	15	1025.4	23.6	33		W	17	1022.6
22	Su	11.7	31.2	0	10.6	10.6	WSW	28	14:27	20.3	30		NE	11	1018.2	29.9	14		NW	15	1013.8
23	Mo	19.7	22.5	0	21.4	5.5	WNW	48	03:43	20.1	71		SW	20	1014.1	21.8	50		WSW	24	1015.9
24	Tu	12.3	19.3	0	5.0	3.8	S	39	12:41	15.1	59		S	13	1022.2	17.7	47		SSE	19	1021.4
25	We	11.9	22.5	0	3.4	4.0	WSW	63	17:22	13.7	53		N	11	1020.5	21.3	34		W	28	1017.5
26	Th	12.5	19.4	1.0	4.0	9.1	W	48	12:57	14.9	45		SW	24	1025.4	17.8	44		WSW	22	1026.3
27	Fr	13.1	19.9	0	3.8	1.4	W	28	11:24	15.4	55		SSW	11	1029.5	17.9	57		WSW	19	1026.7
28	Sa	9.2	23.0	0	7.4	7.4	NNW	28	11:18	13.0	76		W	13	1025.9	22.0	38		W	13	1022.4
29	Su	12.9	25.3	0	8.0	8.0	W	28	13:29	15.9	70		W	2	1023.1	24.4	33		W	15	1021.7
30	Mo	11.8	26.2	0	8.0	10.7	W	26	16:03	16.4	68		NE	2	1025.2	24.8	45		WSW	15	1023.6
31	Tu	13.3	31.7	0	4.0	9.5	NE	28	09:22	17.9	68				1024.1	31.2	16		NNW	11	1020.0

## Statistics for March 2015

Mean	14.5	25.5		7.3	8.4					18.0	58				9	1018.5	24.2	38			17	1017.0
Lowest	9.2	19.3		3.2	1.4					13.0	26				Calim	1003.8	17.7	14		SSE	9	1002.5
Highest	20.2	33.6	1.0	21.4	11.6	WSW	63			28.1	81		SW	24	1029.5	32.5	57		#	28	1026.7	
Total			2.4	146.0	218.5																	

Observations were drawn from Adelaide (Kent Town) (station 033698)

Kent Town is a suburban site with good exposure. Climate averages are available for West Terrace as well as Kent Town.

ICD-LW05002-201503 Prepared at 13:05 UTC on 7 Apr 2015

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<http://www.bom.gov.au/adelaide/awo/ICD-LW050000.pdf>

## South Australia in March 2015

A lack of tropical activity feeding moisture across South Australia throughout the month saw the statewide average rainfall during March come in at 87% below the historical average, resulting in the driest March for South Australia since 2005, with several sites across the state having their lowest total March rainfall in 20 years. Rainfall was very much below average across central and eastern agricultural districts as well as through central and northeastern parts of pastoral districts. Monthly totals were highest across the lower southeast coast of the state, with several locations observing 10 to 25 mm for the month; about 80% of what would be expected through March.

A southwesterly airstream dominated weather for much of the month across the southern parts of the state, which led to a lack of very warm days throughout the month, and a relatively mild month as a whole. While the statewide average daytime temperature was 0.37 °C above average, days were generally cooler than average across much of the agricultural districts, particularly across the southeast of the state where days were 1 to 2 °C cooler than average.

The monthly mean minimum temperature was 0.42 °C below average for the state as a whole, resulting in the coolest March nights for South Australia since 2012. Nights were coolest across most of the agricultural half of the state, tending closer to average across most of the pastoral areas while the far northeast and far northwest pastoral districts saw above average minimum temperatures.

- Driest March in 10 years for South Australia
- Very dry across eastern districts of the state
- Cool days and nights across agricultural districts

### Extremes in March 2015

Hottest day	45.4 °C at Moomba Airport on the 19th
Warmest days on average	34.4 °C at Moomba Airport
Coolest days on average	19.9 °C at Mount Lofty
Coldest day	12.2 °C at Mount Lofty on the 24th
Coldest night	1.8 °C at Mount Gambier Aero on the 21st 1.8 °C at Naracoorte Aerodrome on the 21st
Coolest nights on average	8.3 °C at Coonawarra
Warmest nights on average	20.1 °C at Moomba Airport
Warmest night	27.8 °C at Moomba Airport on the 20th
Warmest on average overall	27.2 °C at Moomba Airport
Coolest on average overall	14.9 °C at Mount Lofty
Wettest overall	39.2 mm at Mount Gambier Council Depot
Wettest day	13.6 mm at Parawa (Sharon) on the 24th
Strongest wind gust	98 km/h at Sellicks Hill on the 30 <sup>th</sup>

### Record lowest March total rainfall

	New record	Old record	Years of record	March Average
Clare High School	4.0	4.5 in 2003	21	25.6
Mount Crawford	7.4	9.0 in 2005	21	29.7
Nangwarry	13.2	16.2 in 2008	21	34.4

Parawa	5.4	6.0 in 1996	21	38.0
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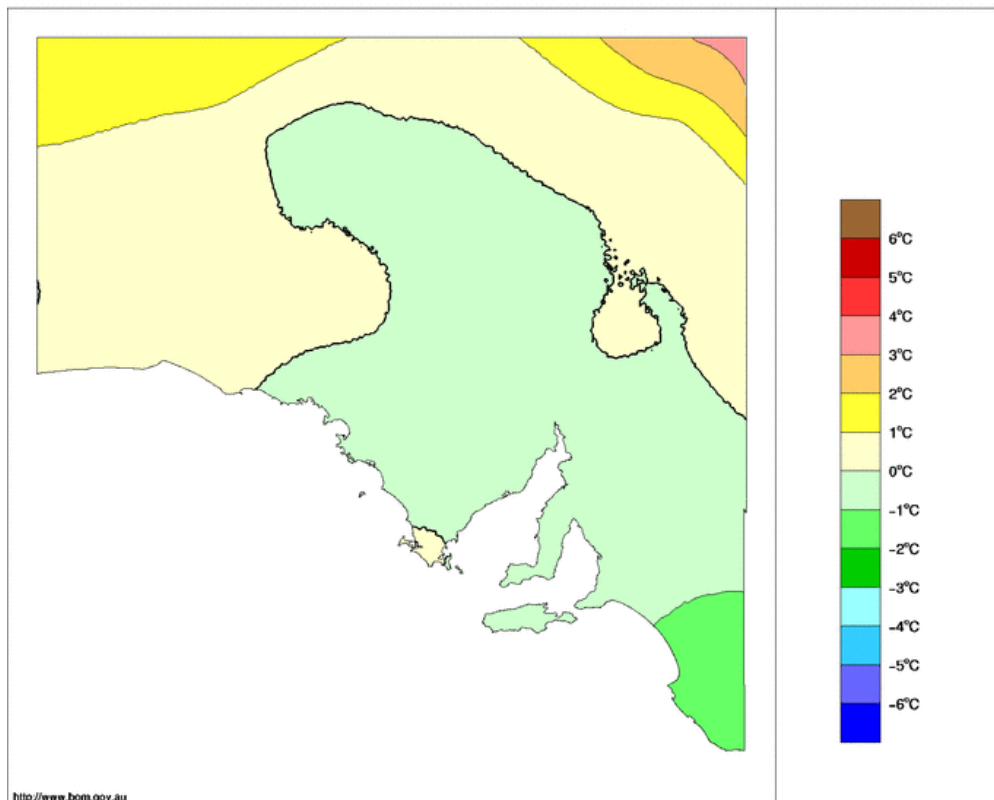
### Record highest March temperature

	New record	Old record	Years of record	March Ave
Moomba	45.4 on the 19th	45.2 on the 3rd in 2009	20	33.8

### Record lowest March temperature

	New record	Old record	Years of record	March Ave
Warooka	7.6 on the 26th	8.0 on the 31st in 1970	51	14.7
Hawker	4.5 on the 27th	5.1 on the 28th in 2008	42	14.9

Maximum Temperature Anomaly (°C) March 2015  
Australian Bureau of Meteorology





Australian Meteorological Association Inc (AMetA)  
www.ameta.org.au

## **NEXT MEETING**

**5.30 PM MONDAY 27 April 2015**

**Please note the change of date from that previously advised.**

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

**Subject: Choosing, installing and making online a personal  
weather station**

**Speaker: Mark Seaborn, Technical Officer (Electronics) with  
the SA BoM**

Ever wanted to set up your own weather station? Find out how, and how to connect the data online, from Met Bureau Technician Mark Seaborn at the Australian Meteorological Association meeting.

Mark will detail his own experiences choosing, setting up and connecting an automatic weather station at his home, and then connecting the data online including to the Bureau of Meteorology Weather on the Web page, a collaborative project with the UK Met Office (<http://bom-wow.metoffice.gov.uk/>)

*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.*