



# Monana

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## Flying Operations of the Royal Flying Doctor Service by Captain Geoff Aro



At our June meeting we were treated to an excellent presentation by Geoff Aro a pilot with the RFDS. Geoff has worked out of Alice Springs and Adelaide. Since 1927, RFDS has grown from operating one aerial ambulance, a De Havilland bi-plane, based in Cloncurry, to flying 69 aircraft, Australia wide. Sixteen Pilatus PC-12 are based in the SA/NT region along with 3 emergency 4WD ambulances, and 205 staff including 34 pilots.

Apart from medi-evacuations the Flying Doctor provides remote locations with primary health services (eg immunisations), oral and mental health services, and preventative education for chronic disease.

We soon realised it takes a very dedicated and astute person to fly for the RFDS. Less than 20% of the airstrips serviced by Alice Springs are sealed. Dirt airstrips can present serious problems after rain events. Geoff told the story of a request for an evacuation from one such strip after a big rain event. He asked the station manager how much rain had fallen and what was the condition of the strip. The manager couldn't provide any detail about the strip – he hadn't looked. Geoff asked him to go out and make an assessment. The manager rang back some time later to say it was OK – a few puddles but - not too bad. Taking this into consideration, Geoff said 'OK, when you drove down the strip in your 4WD and went through the muddy patches – how deep were the ruts?' 'Oh' said the manager 'I didn't drive my 4WD down the strip!' 'Well' said Geoff 'If you won't drive your 3-tonne 4WD down it I won't be landing my 5-tonne aircraft there.'

Medics can be called out in any weather conditions – it is up to the pilot to make the call – is it safe – do we wait, do we make alternative arrangements? Fog is a serious hazard – a visual reference of the runway from a safe altitude is essential on approach – if this is not possible neither is landing. Medical conditions of patients also dictate flight considerations. While PC-12's can fly up to an altitude of 30,000ft – some patients are unable to cope with a reduced pressure environment – and so the flight is restricted to much lower altitudes. In summer, with ground temperatures into the 40°Cs, thermals can cause considerable turbulence up to altitudes well over 10,000 ft, ensuring a rough flight – also unsuitable for many medical cases.

Other meteorological hazards include thunderstorms with hail, icing and severe turbulence, wind shear turbulence, duststorms. Many flights are made at night, to airstrips without regular observations. Geoff acknowledged the immense value of being able to contact the TAF desk at Adelaide RFC to get up to date reports on conditions. He also described how he integrated local radar images with existing flight conditions to plan his route.

There were many questions following the talk, particularly about the aircraft. This year Central Region's recently built world class aeromedical facility at Adelaide Airport will take delivery of its first purpose-built PC-24 jet. With a maximum cruise speed and flight range almost twice the PC-12 it will mean much quicker response times for the critically ill. The jet is capable of landing on unsealed airstrips and runway length requirements are only marginally longer than the PC-12 (856m cf 850m).

A pass around of the hat during the meeting raised \$150 for AMETA to donate to the RFDS.

Thanks to everyone concerned.

Beth Walton



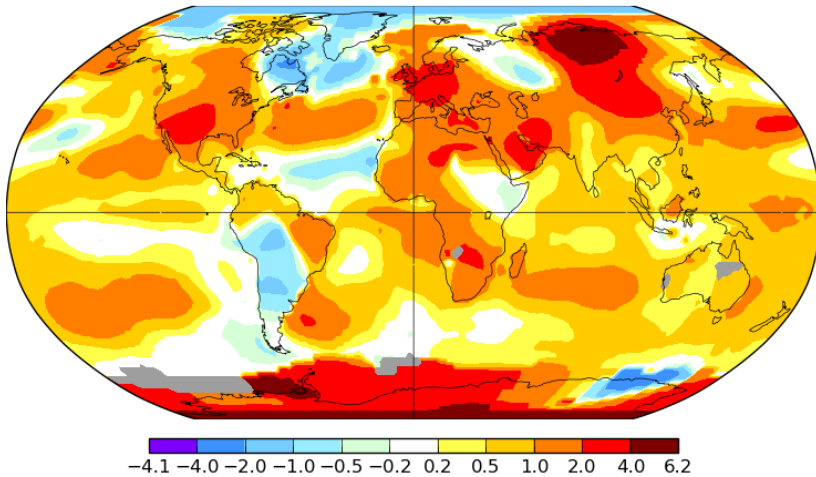
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## Hot and dry summer in the northern hemisphere

The last few months have seen widespread heatwaves across Europe, deaths in wild fire in Greece, and currently, record wildfires in western US, fires CFS and other Australian and NZ firefighters are currently assisting in controlling.

Global maps of temperatures and trends can be seen at the US GISS website:

<https://data.giss.nasa.gov/gistemp/>



Difference from the 1950-1980 average, of temperatures around the globe in June 2018

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## 2018 Australian drought conditions

The Bureau of Meteorology produce regular analysis of rainfall deficiencies to support state and Federal Government decision making around drought support for impacted agricultural producers.

With unusually dry and warm conditions so far this year, drought has returned to recent discussion. The Bureau of Meteorology produces a regular Drought statement which looks at rainfall deficiencies on different timescales.

<http://www.bom.gov.au/climate/drought/>

While exact definition is difficult, typically drought is seen as drier conditions across periods of more than a year. Queensland and NSW have had very dry conditions across large areas over the last 16 months. But for South Australia, the situation is less extreme, though grain producers in parts of northern Eyre Peninsula and the Mid-North are looking at two seasons in a row with low rainfall and poor crop yields.

A Drought reporting tool is also available—click on the map to generate a report for a specific location: <http://www.bom.gov.au/climate/ada/fmd.shtml>

## Greater Adelaide in June 2018: slightly drier than average

June rainfall totals were generally below average across Adelaide and the Hills. Daytime temperatures were generally slightly warmer than average, while nights were slightly cooler than average.

### Average to below average rainfall

- Rainfall totals were generally less than average in Adelaide and the Hills
- After a week of low rainfall totals around the city, the wettest period was the mid month (8th to the 18th) as a series of cold fronts crossed the city, bringing a run of daily totals in excess of 10 mm to eastern suburbs and the Hills
- Rainfall totals ranged from 45% of average at Noarlunga to 103% of average at Mount Lofty

### Cool end to the month

- Daytime temperatures were generally close to average throughout Adelaide and the Hills
- Days were generally warmer than average in the first half of June and cooler than average in the second half of the month
- Mean maximum temperatures ranged from 0.2 °C cooler than average at Kent Town, Noarlunga, and Adelaide Airport, to 0.9 °C warmer than average at Mount Lofty
- Overnight temperatures were slightly cooler than average across Greater Adelaide
- June began with several cooler than average nights before warming up midway through the month
- The coldest nights of the month were between the 26th and 28th, with air temperatures dropping close to freezing in most suburbs
- On the 26th more broadly, overnight temperatures were up to 8 °C cooler than average in some parts of the State, with Kuitpo Forest Reserve having its lowest June temperature on record
- Mean minimum temperatures ranged from 1.8 °C cooler than average at Rosedale to 0.2 °C cooler than average at Mount Barker and Mount Lofty

### Adelaide (West Terrace / ngayirdapira)

- Total rainfall for Adelaide (West Terrace / ngayirdapira) was 54.6 mm, which is 77% of the long-term average of 71.1 mm
- The mean daily maximum temperature for Adelaide (West Terrace / ngayirdapira) was 15.8 °C, equal to the long-term average. The warmest day was 21.0 °C on the 11th, and the coolest day was on the 18th when the temperature reached 12.4 °C
- The mean daily minimum temperature for Adelaide (West Terrace / ngayirdapira) was 7.6 °C, which is 0.8 °C below the long-term average of 8.4 °C. The coldest morning was 2.9 °C on the 28th, and the warmest morning was on the 11th when the minimum temperature was 13.8 °C

## Extremes in June 2018 for Greater Adelaide

Hottest day	22.3 °C at Edinburgh RAAF on the 11th
Warmest days on average	16.4 °C at Parafield Airport
Coollest days on average	10.2 °C at Mount Lofty
Coldest day	6.1 °C at Mount Lofty on the 16th
Coldest night	-1.5 °C at Mount Barker on the 26th
Coollest nights on average	4.4 °C at Rosedale (Turretfield Research Centre)
Warmest nights on average	8.6 °C at Noarlunga
Warmest night	13.8 °C at Adelaide on the 11th
Warmest on average overall	12.0 °C at Noarlunga
Coollest on average overall	7.8 °C at Mount Lofty
Wettest overall	159.4 mm at Piccadilly (Woodhouse)
Driest overall	19.8 mm at Gawler
Wettest day	44.6 mm at Bridgewater on the 15th
Strongest wind gust	87 km/h at Mount Crawford AWS on the 12 <sup>th</sup>

### Some notable statistics for June were:

#### Record lowest June temperature

	<b>New record (°C)</b>	<b>Old record</b>	<b>Years Held</b>	<b>June Average</b>
Kuitpo	1.3 on the 26th	1.7 on the 21st in 2015	21	7.4

**For more information on June's temperatures and rainfall plus a summary of statistics please see:**

<http://www.bom.gov.au/climate/current/month/sa/archive/201806.adelaide.shtml>

# Adelaide (West Terrace / Ngayirdapira), South Australia June 2018 Daily Weather Observations

The official site for Adelaide, having reopened in May 2017.

Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9am			3pm							
		Min °C	Max °C				Dirn	Spd km/h	Time	Temp °C	RH %	Cld eighths	Dirn	Spd km/h	MSLP hPa	Temp °C	RH %	Cld eighths	Dirn	Spd km/h
1	Fr	5.3	18.5	0.2			NE	19	08:32	11.3	60	N	2	1029.1	16.2	46	SSW	9	1025.9	
2	Sa	7.4	19.7	0			NE	20	00:40	10.2	66	NNE	2	1027.0	19.2	32	NE	2	1025.1	
3	Su	5.5	17.9	0			SW	20	15:08	12.1	57	Caltn		1026.5	17.4	65	SW	11	1024.4	
4	Mo	7.9	16.3	0			SW	20	13:53	10.6	97	N	4	1026.6	15.1	75	WSW	13	1025.1	
5	Tu	5.4	17.1	0			E	17	00:46	10.4	94	N		1029.2	16.1	58	SW	9	1026.1	
6	We	6.8	18.4	0.2			NNE	35	11:57	12.5	62	NNE	6	1025.5	16.9	39	N	11	1020.7	
7	Th	12.5		0			N	46	09:57	15.4	38	N	13	1019.7	17.6	42	NNW	19	1015.5	
8	Fr	12.0	14.6	2.6			NNE	39	00:56	13.0	88	N	11	1019.0	13.8	91	NE	7	1016.7	
9	Sa	12.1	18.1	0.8			WSW	19	14:02	13.8	89	NNW	4	1022.2	16.1	72	WSW	9	1021.1	
10	Su	9.3	19.5	0			NE	39	23:47	13.8	77	NE	9	1024.3	18.5	49	NNE	15	1020.3	
11	Mo	13.8	21.0	0			NW	43	19:13	15.4	69	N	13	1013.7	17.9	64	WNW	17	1009.2	
12	Tu	12.4	15.0	6.0			W	54	03:11	13.1	86	W	22	1011.9	14.5	54	WSW	22	1011.6	
13	We	9.9	15.6	14.2			W	57	20:35	11.7	89	WNW	11	1008.9	14.9	55	WSW	17	1009.6	
14	Th	10.5	16.1	6.0			NW	63	17:05	11.0	93	N	17	1012.9	15.1	71	NW	24	1010.1	
15	Fr	9.7	15.3	7.4			WSW	46	05:02	11.2	78	W	15	1018.2	14.3	60	WSW	22	1018.3	
16	Sa	9.1	13.5	7.4			SW	52	02:16	11.0	67	SW	13	1021.2	11.0	72	SW	28	1020.4	
17	Su	6.5	13.9	6.0			S	41	14:02	10.8	78	SSW	15	1027.1	11.9	67	SSW	17	1027.2	
18	Mo	5.4	12.4	2.0			WSW	17	13:57	9.6	84	SSSE	2	1031.4	11.9	74	WSW	6	1028.9	
19	Tu	7.3	13.8	0			N	26	12:47	9.0	68	NE	13	1027.2	12.1	62	NNW	11	1024.8	
20	We	8.2	15.3	0			N	26	12:49	9.4	60	NNE	11	1026.2	14.6	48	NNW	13	1024.9	
21	Th	6.7	16.2	0			WSW	19	14:20	10.3	71	Caltn		1029.3	14.8	48	WSW	9	1027.5	
22	Fr	3.5	15.8	0			N	17	10:05	9.8	62	NE	7	1028.8	15.7	40	WNW	7	1026.4	
23	Sa	4.2	16.5	0			WSW	19	14:14	10.1	60	NNE	9	1028.1	14.6	44	SW	7	1027.5	
24	Su	5.9	15.9	0			ESE	20	23:01	9.5	91	Caltn		1031.6	14.2	69	SSE	9	1029.7	
25	Mo	4.4	12.9	0						10.2	56	E	7	1033.4	11.9	51	E	11	1031.0	
26	Tu	5.4	13.7	0			E	24	02:02	9.8	61	NE	7	1032.6	12.6	46	ENE	11	1029.7	
27	We	3.1	13.4	0			NW	19	12:15	8.1	74	Caltn		1030.9	12.9	67	WSW	9	1027.5	
28	Th	2.9	13.7	0			N	20	10:59	7.2	73	NNE	9	1024.8	12.6	56	NNW	7	1020.6	
29	Fr	7.1	14.7	0			NNW	48	12:05	10.6	52	N	17	1016.0	11.8	84	W	19	1014.5	
30	Sa	8.2	14.4	1.8			SW	41	02:00	11.0	70	ENE	2	1025.9	13.8	53	WSW	11	1027.4	
<b>Statistics for June 2018</b>																				
Mean		7.6	15.8							11.1	72		8	1024.3	14.7	58		12	1022.3	
Lowest		2.9	12.4							7.2	38		Caltn	1008.9	11.0	32	NE	2	1009.2	
Highest		13.8	21.0	14.2			NW	63	15.4	97	91	W	22	1033.4	19.2	91	SW	28	1031.0	
Total				54.6																

Observations were drawn from Adelaide (West Terrace / Ngayirdapira) (station 023000)  
This is now the "official" site for Adelaide, having reopened in May 2017. Observations are also available from the Kent Town site (station number 023090).  
IDC/DW5081/201806 Prepared at 16:02 UTC on 2 Aug 2018  
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Users of this product are deemed to have read the information and accepted the conditions described in the notes at <http://www.bom.gov.au/climate/dwo/IDC/DW00000.pdf>

## **South Australia in June 2018: below average rainfall in many districts**

Rainfall totals during June were below average in some Agricultural districts, exacerbating serious to severe rainfall deficiencies in those areas for the year-to-date. It was also drier than average in the Northwest and parts of the Far North Pastoral districts. Daytime temperatures were warmer than average across the State's north, but overnight temperatures were cooler than average in much of eastern South Australia.

### **Continuing dry in some agricultural districts**

- Rainfall totals for June were below average in the Northwest Pastoral district, parts of the Far North, and across the central Agricultural districts
- For South Australia as a whole, June rainfall was 39% below average
- The below average rainfall in central and eastern Agricultural districts contributed to the ongoing serious to severe rainfall deficiencies in those areas since the start of the year
- Yardea and Arkaroola had their lowest total June rainfall for at least 50 years

### **Cool nights in the east**

- Daytime temperatures were warmer than average across the State's north, but otherwise were close to average in most districts
- The mean maximum temperature for South Australia as a whole was 0.38 °C warmer than average, continuing a run of 14 consecutive months of above average daytime temperatures for the State; April 2017 was the most recent month with a below average mean maximum temperature for South Australia
- Overnight temperatures were cooler than average in much of the State's east and in the far northwest, and very much cooler than average nights in the Northeast
- On the 26th and 27th, overnight temperatures were up to 8 °C cooler than average in some parts of the State
- The mean minimum temperature for South Australia as a whole was 0.70 °C cooler than average
- This was the second consecutive month of below average overnight temperatures, which ended a sequence of ten months of above average minimum temperatures from July 2017
- On the 10th, Ernabella (Pukatja) had its highest June temperature on record
- Later in the month, several sites with less than 30 years of record set cold temperature records, including Minnipa having its coldest June day on record, and both Moomba Airport and Kuitpo Forest Reserve having their lowest June temperature on record

### **Strong winds at times**

- High pressure systems over or close to the State brought clear skies and light winds to South Australia for much of the month
- However, cold fronts crossed the State several times during June, bringing rain and severe winds
- The strongest wind gust recorded for the month was 117 km/h at Neptune Island on the afternoon of the 11<sup>th</sup>

## Extremes in June 2018 for South Australia

Hottest day	30.4 °C at Oodnadatta Airport on the 10th
Warmest days on average	20.6 °C at Oodnadatta Airport
Coollest days on average	10.2 °C at Mount Lofty
Coldest day	6.1 °C at Mount Lofty on the 16th
Coldest night	-5.5 °C at Yunta Airstrip on the 21st
Coollest nights on average	1.6 °C at Yunta Airstrip
Warmest nights on average	12.4 °C at Neptune Island
Warmest night	16.0 °C at Moomba Airport on the 10th
Warmest on average overall	14.1 °C at Neptune Island
Coollest on average overall	7.8 °C at Mount Lofty
Wettest overall	159.4 mm at Piccadilly (Woodhouse)
Driest overall	0 mm at Ernabella (Pukatja)
Wettest day	44.6 mm at Bridgewater on the 15th
Strongest wind gust	117 km/h at Neptune Island on the 11 <sup>th</sup>

### Some notable statistics for June were:

#### Record highest June temperature

	New record (°C)	Old record	Years Held	June Average
Ernabella	29.2 on the 10th	29.0 on the 14th in 2002	20	17.7

#### Record lowest June daily maximum temperature

	New record (°C)	Old record	Years Held	June Average
Minnipa	11.4 on the 19th	11.7 on the 22nd in 2012	22	16.7

#### Record lowest June temperature

	New record (°C)	Old record	Years Held	June Average
Moomba	-0.3 on the 19th	0.1 on the 28th in 2010	24	7.4
Kuitpo	1.3 on the 26th	1.7 on the 21st in 2015	21	7.4

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

	Observed (mm)	Most recent lower	June Average
Yardea	1.6	0.0 in 1958	33.1
Arkaroola	0.2	0.0 in 1964	15.1

For more information on June's weather statistics please see:

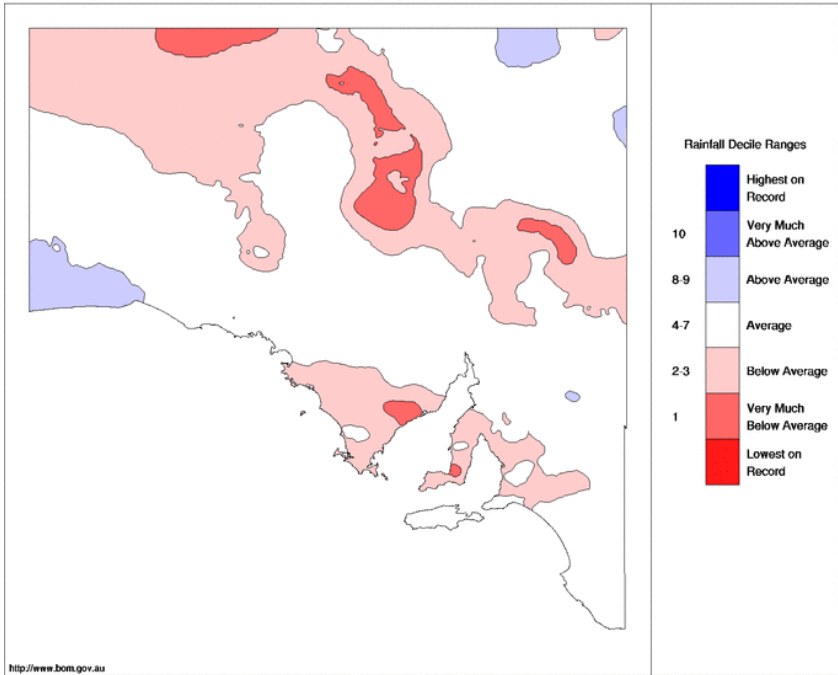
<http://www.bom.gov.au/climate/current/month/sa/archive/201806.summary.shtml>

**All the detail you could possibly want and more is available on the BoM website.**

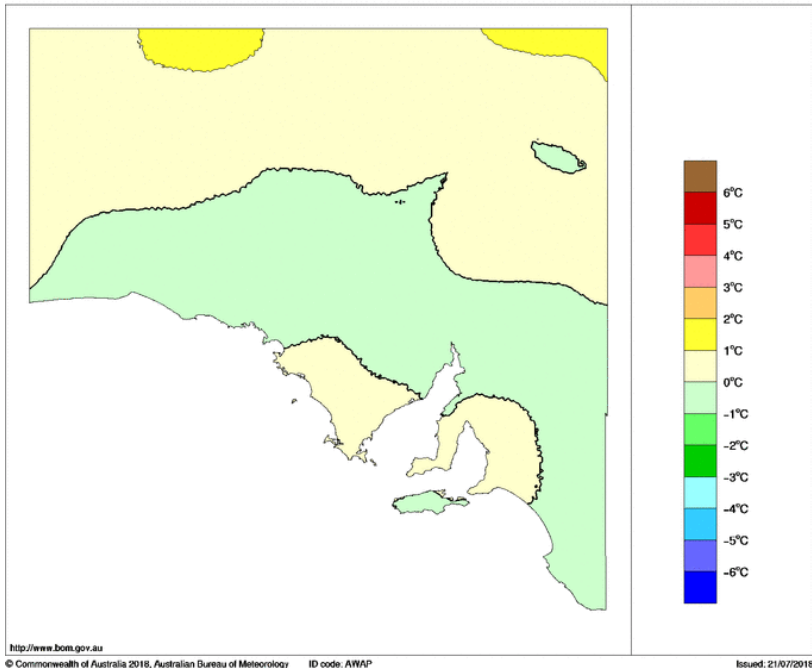
Visit <http://www.bom.gov.au/climate> and wander through the various archived climate reports and summaries which are available in text and graphical forms.



South Australian Rainfall Deciles June 2018  
 Distribution Based on Gridded Data  
 Australian Bureau of Meteorology



Maximum Temperature Anomaly (°C) June 2018  
 Australian Bureau of Meteorology



## **Greater Adelaide in July 2018: driest July since 1997**

Rainfall in July was below average throughout Adelaide and the Hills. Averaged across Greater Adelaide as a whole, it was the driest July since 1997. Both daytime and night time temperatures were warmer than average in most suburbs.

### **Drier than average**

- July rainfall was below average at all reporting sites in Adelaide and the Hills
- For the Greater Adelaide region as a whole, it was the driest July since 1997
- Monthly rainfall at Kent Town was close to average with a count of 17 rain days during the month, similar to the long-term average count of 16 rain days in July
- Rainfall totals ranged from 46% of average at Edinburgh RAAF to 87% of average at Kent Town
- Some sites in the northeast had their lowest total July rainfall since 1997

### **Warmer than average**

- Daytime temperatures were warmer than average throughout Adelaide and Hills
- Mean maximum temperatures were all above average and ranged from +0.6 °C at Noarlunga to +1.8 °C at Mount Barker
- Night time temperatures were generally warmer than average
- Mean minimum temperatures ranged from 0.3 °C cooler than average at Rosedale to 1.5 °C warmer than average at Mount Barker
- Edinburgh RAAF and Rosedale had their highest July mean daily maximum temperature since 1994

### **Strong winds at times**

- There were several days of strong winds early in July, with Adelaide Airport recording a maximum wind gust of 93 km/h in the early hours of the 7th
- On the 17th, a fast-moving cold front brought damaging winds across much of southeastern Australia including Adelaide, with a maximum wind gust of 117 km/h recorded at Mount Crawford and gusts in excess of 80 km/h at Adelaide Airport, Edinburgh RAAF, Roseworthy, and Noarlunga
- Another cold front brought strong winds on the 23rd, with a gust of 80 km/h at Mount Crawford and 72 km/h at Adelaide Airport

### **Adelaide (West Terrace / ngayirdapira)**

- The mean daily maximum temperature was 16.1 °C, (1.2 °C above the long-term average of 14.9 °C). The warmest day was 21.2 °C on the 27th, and the coolest day was the 19th when the temperature reached 12.2 °C
- The mean daily minimum temperature was 8.8 °C, (1.3 °C above the long-term average of 7.5 °C). The coldest morning was 3.3 °C on the 1st, and the warmest morning was on the 5th when the minimum temperature was 13.3 °C

### **Extremes in July 2018 for Greater Adelaide**

Hottest day	22.1 °C at Adelaide (Kent Town) on the 27th
Warmest days on average	16.6 °C at Edinburgh RAAF
Coollest days on average	10.1 °C at Mount Lofty
Coldest day	6.2 °C at Mount Lofty on the 19th
Coldest night -	1.4 °C at Mount Barker on the 13th
Coollest nights on average	5.3 °C at Rosedale (Turretfield Research Centre)
Warmest nights on average	9.4 °C at Noarlunga
Warmest night	13.6 °C at Noarlunga on the 5th
Warmest on average overall	12.5 °C at Adelaide (West Terrace / ngayirdapira)
Coollest on average overall	7.8 °C at Mount Lofty
Wettest overall	109.2 mm at Lenswood
Driest overall	24.6 mm at Gawler
Wettest day	22.2 mm at Aldgate on the 7th
Strongest wind gust	117 km/h at Mount Crawford AWS on the 17 <sup>th</sup>

***Many other rainfall & temperature records were also set in July. For more information plus a summary of statistics please see:***

*<http://www.bom.gov.au/climate/current/month/sa/archive/201807.adelaide.shtml>*

# Adelaide (West Terrace / Ngayirdapira), South Australia July 2018 Daily Weather Observations

The official site for Adelaide, having reopened in May 2017.

Date	Temps		Max wind gust		Sun		Evap		Rain		Sun		Max wind gust		9am		3pm		MSLP		
	Day	Min °C	Max °C	Dirn	Spd km/h	Time local	Dirn	Spd km/h	Dirn	Spd km/h	Dirn	Spd km/h	Dirn	Spd km/h	Dirn	Spd km/h	Dirn	Spd km/h	Dirn	Spd km/h	MSLP hPa
1	Su	3.3	16.1	NNW	20	11:36	NNW	20		0											1029.8
2	Mo	6.1		NNW	41	12:40	NNW	41		0											1025.5
3	Tu	10.1	19.6	NE	37	01:49	NE	37		0											1018.9
4	We	11.4	19.0	WSW	59	07:53	WSW	59		0.2											1015.6
5	Th	13.3	17.3	WSW	74	03:27	WSW	74		9.8											1007.5
6	Fr	8.9	15.0	SW	33	10:47	SW	33		0.6											1015.0
7	Sa	8.4	14.1	SW	22	00:15	SW	22		0											1023.3
8	Su	10.0	15.0	SW	22	00:15	SW	22		0											1029.8
9	Mo	8.4	13.6	SSW	37	11:49	SSW	37		2.6											1031.2
10	Tu	4.8	14.5	WSW	28	04:54	WSW	28		1.6											1027.8
11	We	5.3	14.0	NE	20	22:36	NE	20		0.2											1023.1
12	Th	7.4	14.8	NNW	33	13:24	NNW	33		0											1022.2
13	Fr	3.8	14.5	NNW	35	11:19	NNW	35		0											1020.9
14	Sa	6.0	16.6	NNW	33	13:24	NNW	33		0											1015.4
15	Su	8.2	16.5	NNW	33	16:17	NNW	33		0.2											1008.2
16	Mo	10.7	16.8	NW	46	17:22	NW	46		0											1019.1
17	Tu	11.7	14.9	WSW	46	00:26	WSW	46		12.8											1020.0
18	We	7.4	17.2	NW	33	15:01	NW	33		1.8											1011.9
19	Th	9.1	12.2	NNE	50	21:43	NNE	50		0.2											1009.4
20	Fr	7.7	13.2	NW	65	12:35	NW	65		0											1008.4
21	Sa	7.8	15.4	NNW	57	13:02	NNW	57		3.0											1019.1
22	Su	9.7	17.7	NNW	26	14:31	NNW	26		8.0											1020.0
23	Mo	12.5	18.4	NNW	26	14:31	NNW	26		0											1011.9
24	Tu	10.8	17.0	NNW	26	14:31	NNW	26		0											1003.4
25	We	11.1	16.2	N	26	13:41	N	26		0											1012.2
26	Th	9.1	19.6	NNE	30	04:54	NNE	30		0											1017.4
27	Fr	12.9	21.2	W	44	21:42	W	44		0											1010.9
28	Sa	7.7	17.6	WSW	44	09:37	WSW	44		2.2											1007.9
29	Su	8.9	13.8	NNW	50	13:20	NNW	50		0.6											1015.6
30	Mo	8.6	15.8	W	48	16:09	W	48		1.8											1013.8
31	Tu	11.0	16.1																		1015.5
<b>Statistics for July 2018</b>																					
Mean		8.8	16.1																		1016.7
Lowest		3.3	12.2																		1003.4
Highest		13.3	21.2	WSW	74		WSW	74		12.8											1031.2
Total										45.6											

Observations were drawn from Adelaide (West Terrace / Ngayirdapira) (station 023000)

This is now the 'official' site for Adelaide, having reopened in May 2017. Observations are also available from the Kent Town site (station number 023090).

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## **South Australia in July 2018: drier than average with warm days**

Rainfall in July was below average in many central, eastern, and northern districts, but close to average in the Lower Southeast and western parts of South Australia. Daytime temperatures were very much warmer than average throughout most of South Australia. Night time temperatures were cooler than average in the Northeast, but warmer than average in Agricultural districts.

### **Driest July since 1999**

- July 2018 was drier than average in many Agricultural districts
- Overall, rainfall in July 2018 was 55% below average, making it the driest July since 1999 for the State as a whole
- July rainfall was very much below average in parts of the central Agricultural districts including the Eastern Eyre Peninsula and Mid North, and little or no rain fell across northern Pastoral districts
- Rainfall was average to above average in the Lower Southeast
- The wettest locations were in the Southeast, with most places south of a line between Beachport and Coonawarra receiving at least 100 mm
- The State's highest recorded total for the month was 156.6 mm at Kalangadoo, which had its wettest July since 1995
- July 2018 continued a run of six consecutive months of below average rainfall for South Australia as a whole
- Longer term rainfall deficiencies in South Australia increased in severity and spatial extent
- Some sites with less than 40 years of data had their lowest July rainfall on record
- Several sites had their lowest July rainfall for at least 20 years, mostly since 1997

### **Warmer than average days**

- Daytime temperatures were very much above average throughout most of South Australia, but were near-average in the Lower Southeast
- The mean maximum temperature for the State as a whole was the fourth-warmest on record for July; 2.35 °C above average
- Night time temperatures were cooler than average in much of the Northeast Pastoral district but warmer than average in Agricultural districts
- The mean minimum temperature for the State as a whole was close to the July average; 0.03 °C above average
- For mean temperature it was South Australia's equal ninth-warmest July on record
- Some sites had either their highest July mean daily maximum temperature on record or their highest July mean maximum temperature since 1994
- Warm northwesterly winds led to some sites having their warmest July night on record on the 5th
- Several sites had either their highest July mean temperature on record or their highest July mean temperature since 1975

## Strong winds at times

- There were several days of strong winds in early July, with Mount Gambier recording a gust of 115 km/h on the night of the 6th and Neptune Island recorded 117 km/h early the following morning
- On the 17th, a fast-moving cold front brought damaging winds across much of southeastern Australia, with a maximum wind gust of 133 km/h recorded at Neptune Island and gusts in excess of 100 km/h at Cape Borda, Cape Willoughby, Edithburgh, Mount Crawford, and Cape Jaffa
- Another cold front crossed the State on the 23rd, with a maximum wind gust of 109 km/h at Neptune Island

## Extremes in July 2018 for South Australia

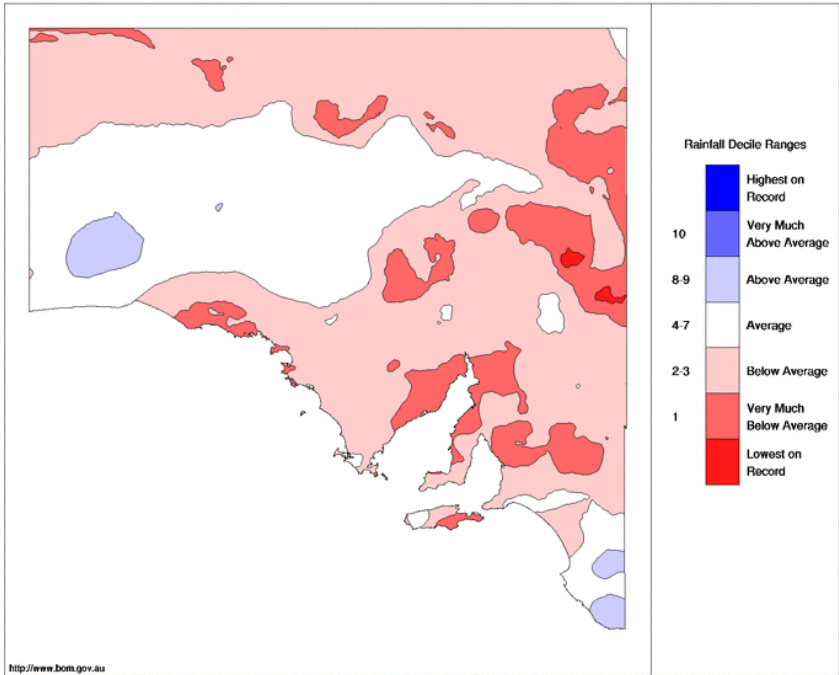
Hottest day	30.1 °C at Oodnadatta Airport on the 5th
Warmest days on average	22.2 °C at Oodnadatta Airport
Coollest days on average	10.1 °C at Mount Lofty
Coldest day	6.2 °C at Mount Lofty on the 19th
Coldest night	-5.0 °C at Arkaroola on the 1st
Coollest nights on average	2.2 °C at Arkaroola
Warmest nights on average	11.8 °C at Neptune Island
Warmest night	14.6 °C at Cleve Aerodrome on the 5th
Warmest on average overall	13.6 °C at Neptune Island
Coollest on average overall	7.8 °C at Mount Lofty
Wettest overall	156.6 mm at Kalangadoo
Driest overall	0 mm at several sites in Pastoral districts
Wettest day	33.0 mm at Kalangadoo on the 2nd
Strongest wind gust	133 km/h at Neptune Island on the 17 <sup>th</sup>

Record lowest July total rainfall				
	New record (mm)	Old record	Duration	July Average
Whyalla	2.8	5.7 in 1985	36	22.4
Roseworthy	22.0	24.6 in 2012	21	44.4
Snowtown	24.2	= 24.2 in 1999	21	40.9
Gluepot	9.6	11.0 in 2014	20	19.6

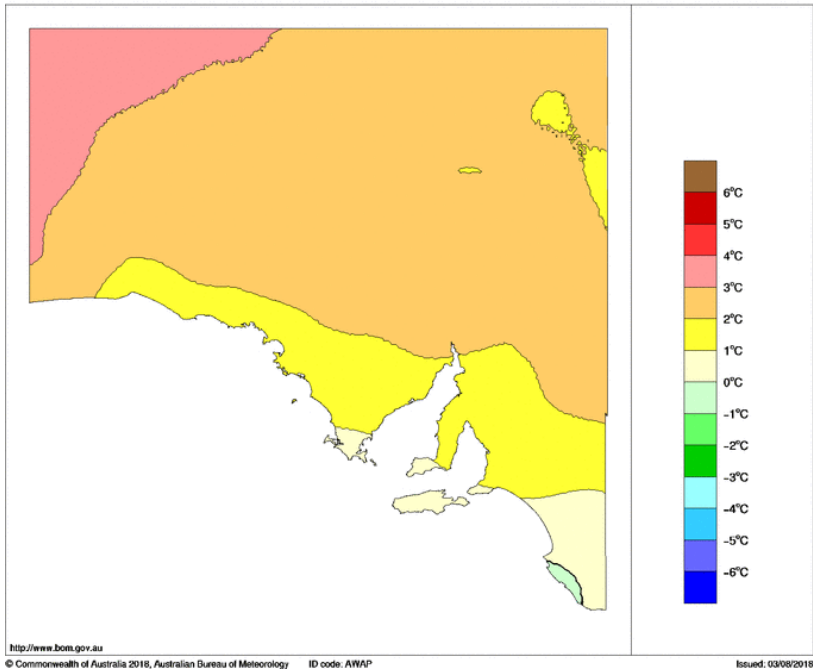
Record highest July mean daily maximum temperature				
	New record (°C)	Old record	Duration	July Average
Elliston	17.8	= 17.8 in 2002	56	16.4
Nuriootpa	15.0	14.8 in 2017	21	13.5
Roseworthy	16.9	16.5 in 2017	20	15.3

Record highest July daily minimum temperature				
	New record (°C)	Old record	Duration	Average
Eudunda	14.3 on the 5th	14.0 on the 30th in 1975	54	5.0
Maitland	12.2 on the 5th	12.0 on the 2nd in 2011	39	7.0
Clare	12.2 on the 5th	= 12.2 on the 14th in 2013	25	4.1
Cleve	14.6 on the 5th	= 14.6 on the 1st in 2011	23	7.5
Minnipa	14.2 on the 5th	13.2 on the 29th in 2011	23	6.6

South Australian Rainfall Deciles July 2018  
 Distribution Based on Gridded Data  
 Australian Bureau of Meteorology



Maximum Temperature Anomaly (°C) July 2018  
 Australian Bureau of Meteorology





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

## **NEXT MEETING**

**6.00 PM TUESDAY 21 August 2018**

*Bureau of Meteorology offices, Level 4, Optus Building, NW corner of  
South Terrace & King William Street , Adelaide*

*The August 2018 meeting is a non-election Annual General Meeting for AMETA*

### **Topic: What cloud is that?**

***Beth Walton, AMETA President and former Manager of Climate Services at the Weather Bureau (S.A.), will lead a session on identification of clouds and how they are formed from forces that drive our daily weather cycles.***

***Members are encouraged to submit their own cloud photos by emailing them to the webmaster@ameta.org.au prior to the meeting, and see how Beth interprets them***

***Convenient free street parking is usually available nearby (e.g. South Tce.)***

*We look forward to seeing you.*

*For further information contact*

<i>Secretary:</i>	<i>Darren Ray</i>
<i>Phone:</i>	<i>8366 2664</i>
<i>Fax:</i>	<i>8366 2693</i>

*Inquiries or suggestions, please contact the Secretary on the phone number listed above.*