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Climate Averages

Make sure you understand what the Climate Averages are all about before you make use of the following details.

CLIMATE AVERAGES - long term mean values of weather data

085096 **WILSONS PROM. (WILSON PROM. LIGHTHOUSE)** Commenced: 1872 Last record:
 Latitude: 39.13 S Longitude: 146.42 E Elevation: 88.7 m State: VIC

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DE
Mean Daily Max Temp (deg C)	20.2	20.5	19.4	17.2	14.9	12.9	12.2	12.7	14.1	15.7	17.1	18
Mean no. Days, Max >= 40.0 deg C	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Mean no. Days, Max >= 35.0 deg C	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0
Mean no. Days, Max >= 30.0 deg C	1.8	1.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0
Highest Max Temp (deg C)	41.1	39.0	36.2	29.0	23.9	22.2	22.0	23.3	30.0	32.8	36.1	37
Mean Daily Min Temp (deg C)	13.9	14.7	14.1	12.6	10.9	9.2	8.2	8.3	8.8	9.8	11.1	12
Mean no. Days, Min <= 2.0 deg C	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0
Mean no. Days, Min <= 0.0 deg C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Lowest Min Temp (deg C)	5.6	7.2	5.4	3.3	3.3	-0.6	0.0	0.6	0.6	2.3	1.7	2
Mean 9am Air Temp (deg C)	16.9	17.4	16.7	14.8	12.9	11.0	10.1	10.4	11.5	12.9	14.0	15
Mean 9am Wet-bulb Temp (deg C)	14.6	15.2	14.5	12.8	11.1	9.4	8.5	8.7	9.7	10.9	12.0	13
Mean 9am Dew Point Temp (deg C)	12.5	12.9	12.6	10.6	9.1	7.4	6.2	6.3	7.3	8.3	9.7	11
Mean 9am Relative Humidity (%)	76	78	78	78	79	80	79	78	78	77	77	
Mean 3pm Air Temp (deg C)	17.9	18.3	17.3	15.4	13.5	11.7	10.9	11.3	12.3	13.5	14.9	16
Mean 3pm Wet-bulb Temp (deg C)	15.1	15.7	15.0	13.2	11.6	10.0	9.2	9.4	10.2	11.4	12.5	13
Mean 3pm Dew Point Temp (deg C)	12.8	13.4	12.8	11.0	9.4	7.9	6.7	7.0	7.6	8.7	10.0	11
Mean 3pm Relative Humidity (%)	74	75	76	77	79	79	78	77	76	75	74	

Mean Rainfall (mm)	51.1	46.4	71.2	86.7	113.2	121.6	122.6	119.9	99.1	93.3	72.2	64
Median (Decile 5) Rainfall (mm)	45.7	38.1	59.2	80.9	100.5	118.6	109.5	112.6	98.0	85.0	68.2	55
Decile 9 Rainfall (mm)	104.8	100.3	136.3	144.5	195.5	186.2	211.6	190.2	149.7	153.6	121.6	115
Decile 1 Rainfall (mm)	10.7	10.0	17.9	29.0	46.7	61.0	58.5	63.8	54.6	45.4	30.2	21
Mean no. of Raindays	9.8	8.7	11.7	15.0	17.7	19.0	19.4	19.4	17.5	15.8	13.4	11
Highest Monthly Rainfall (mm)	186.7	210.6	499.5	246.3	349.4	258.9	338.8	354.4	199.6	234.5	170.8	185
Lowest Monthly Rainfall (mm)	0.3	0.8	8.4	6.4	9.7	22.4	19.6	31.8	6.2	5.1	7.5	4
Highest Recorded Daily Rain (mm)	80.0	92.5	110.0	116.1	123.2	64.0	86.6	64.0	47.2	77.5	68.6	62
Mean no. of Clear Days	2.7	3.1	2.4	1.7	1.1	0.8	1.2	1.4	1.5	1.8	1.5	1
Mean no. of Cloudy Days	13.1	11.6	15.3	16.9	17.6	17.4	16.8	16.4	15.5	15.5	15.4	14
Maximum Wind Gust (km/hr)	135.4	163.1	124.2	139.0	166.7	131.4	144.7	142.6	140.8	153.7	161.3	131

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Climate Averages - Detailed Information

The Australian climate averages consists of information for nearly 1000 sites. The information is available free over the web on a site-by-site basis or the information for a group of sites can be supplied by the National Climate Centre's Data Services Section for a fee. Please note: all of the material on these pages are protected by copyright.

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Introduction

The tables of climate averages prepared for each site provide averages and other statistics for a number of elements including:

- maximum and minimum temperatures;
- temperatures and humidity (nominally) at 9am and 3pm;
- sunshine and evaporation where available; and
- rainfall, for each calendar month.

Daily maximum temperature is recorded for the 24 hours from 9am, daily minimum temperature and rainfall are recorded for the 24 hours up until 9 am. A "rainday" is one with a daily rainfall of at least 0.2 mm. Daylight Saving Time, during the summer, has applied in most Australian States since 1973 and this can affect the values of some elements. Detailed information on observing practices followed under DST is available.

All sites chosen have a minimum of 10 years of temperature data, but no such criterion was applied to rainfall. Because of this, some sites have rainfall statistics derived from a short record, much less than the preferred minimum of 30 years, and these may not necessarily be a reliable indicator of the longer term averages. They should be used with caution. All statistics were calculated from data extracted from the computer data bank of the National Climate Centre, Bureau of Meteorology, in 1996.

The official Bureau site number (eg 014015 for Darwin Airport) identifies each station, and the official Bureau name has also been used here. This name may be based on a town name, a geographical feature such as a cape, point, lake or mountain, or a local property name. Because a site has the name of a town, this does not necessarily mean that it is situated in the town centre - it may be on the outskirts or the town may be the nearest identifiable feature.

Missing data

Incomplete ('short') months

For most elements the program uses only months which have more than 20 days of observations, to prevent any bias. Sites which do not report on weekends will usually be included, but their percentage completeness (given at the end of the row) will be lower (about 70%) as compared to a complete unbroken record.

Extremes

Extremes in 'short' months

All data were used for the Highest maximum or lowest minimum temperatures, or for the maximum wind gust as these values are not biased by 'short' months to the same extent.

Early and very recent extremes

The temperature extremes given in this report are those values which are in the computer archive. Some sites may have had more extreme values in the 1800s or the early 1900s, which have not yet been computer entered. Extremes which have occurred within the last two to three months of this report, may also not have been entered into the computer archive.

Highest daily rainfall

The highest daily rainfall is the highest value which has been recorded. Many sites report accumulated falls at the end of a weekend or holiday, and such falls may conceal higher daily amounts than are shown.

Length of record and missing data

The last two fields in each row indicate the length of the record and how complete that record might be for each element. Together these row supply a rough indication of what data are available for the element in question

The *number of 'years' of data* used is simply the number of months used divided by 12, and does **not** mean calendar or complete years except for the rain fall decile values. It gives the rough amount of data used between the first date of occurrence and the last data of occurrence of the element.

The *percentage of a complete record* gives an estimate of how complete the data are for that element, where a record with no missing values between these two dates would be 100% complete. Sites with missing data will be less than 100%. The percentage complete and the number of years for one element are not necessarily related to those for another element. There will often be far more data available for rainfall than there will be for other elements.

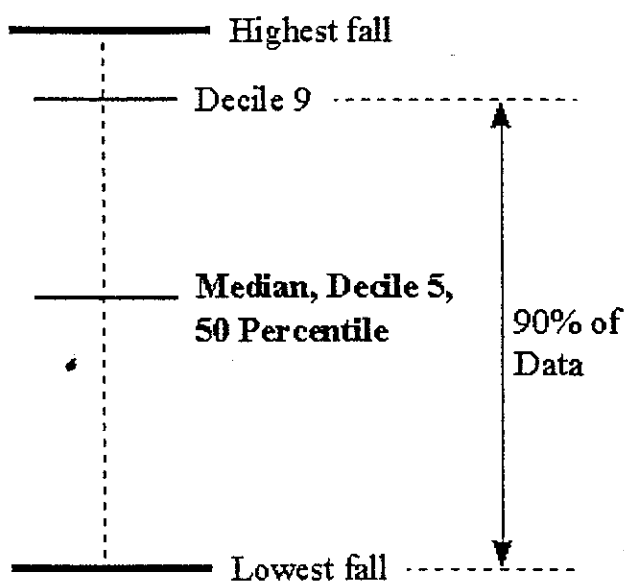
The deciles figures were derived from 'complete' years that is years with no missing monthly totals. Thus the number of years will usually be less than for the monthly mean rainfall.

Limited elements

In many cases there will be no data for a particular month or element. The rows for sunshine duration, maximum wind gust or evaporation will usually not be included as these elements are only recorded by a restricted number of sites.

Statistics used

Median and Deciles



To calculate deciles, we divide the ranked dataset into ten parts. The median is simply that value which marks the level dividing the ranked dataset in half. For example 50 % of Januaries will have a total rainfall at or above the January median and 50% will have a total below. The median is also known as the 5th decile, decile 5 and the 50th percentile - they are all the same thing. Decile 9 or the 90th percentile for January, means that 90 % of January totals will be at or below this figure. In other words there is a 90% chance of a January rainfall being at or below decile 9 (90th percentile), a 10% chance of it being above decile 9, and a 10% probability of it being below decile 1 (10th percentile). To get the annual decile value, you do not sum the deciles for the

12 individual months, but must calculate it separately. However it is possible for the two values to be the same by chance.

Average rainfall

Both mean and median rainfall are included, although median is the preferred measure of 'average' rainfall from the meteorological point of view. This is because of the high variability of daily rainfall - one large fall or very small fall will over-affect the arithmetic

mean, but will have less affect on the median. The median (decile 5) is therefore usually considered the more reliable indicator.

Statistics and length of record

All rainfall observations for a site that have been quality controlled were used, regardless of how many years of data there are. Users should remember that a period of less than 30 years of rainfall data may not produce reliable statistics and such information should be used with caution. As a comparison some 5-10 years of temperature data will provide a reasonable estimate of the mean, (although probably not of the extremes).

Means for specific hours and Daylight Saving

Due to the effect of Daylight Saving, these values are only nominal for most Australian sites. Daylight Saving has been used in some, but not all, states of Australia, since about 1973. The changeover occurs almost always in October and March but the exact dates vary from state to state and year to year. The averages for 9 am are hence generally a combination of 8am and 9am values, and those for 3 pm, of 2pm and 3 pm values.

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