## Annual Weather Review Armidale NSW - 2019

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2019 was Armidale's warmest and driest year on record as the severe drought continued to worsen.

**RAINFALL:** The drought which commenced in 2018 continued into 2019 and intensified during the autumn, winter and spring months. The total for the year of 306.6 millimetres was 475 mm lower than the long term average (LTA) or just 39 per cent of the normal rain. It was the driest year on record, the previous driest being 420 mm in 1874. Rain was below average in all months except March, with the greatest deficits from April to September. January was the wettest month recording 69.6 mm, and September was the driest with just 1.2 mm. The highest daily fall was 26.8 mm on 20th January.

**TEMPERATURES**: 2019 was Armidale's warmest year on record (from 129 years of temperature recordings commencing in 1891) with January, September, October, November and December having the highest deviations above the LTA for day temperatures. The hottest day was 21st December which recorded 37.8 degrees. Temperatures reached 30.0 degrees or higher on 70 days which was a record high, the LTA is 16 days.

Overnight temperatures were mostly close to normal except in January which was much warmer than the LTA. The coldest day was 4th June with a maximum of 7.5 degrees, and the coldest overnight minimum was -8.3 degrees on 22nd June.

**WINDS:** Winds were moderate in August, September, October and November, and light in all other months. The year totalled 19 windy days\* (annual average 19 days). Wind direction at 3pm: west: 134 days, east: 77 days, south-west: 56 days, south-east: 29 days, north-west: 26 days, south: 18 days, north-east: 18 days, north: 7 days.

**EVAPORATION:** As a result of the high day temperatures and very low rainfall the total pan evaporation for the year was the highest on record at 1,541.6 millimetres, 352 mm above the LTA. Average daily evaporation for the year was 4.2 mm.

**FROSTS:** Total number of frosts was 114 which was 16 more than the LTA. July was the frostiest month recording 25 frosts. There were 42 light frosts, 44 moderate frosts, and 28 severe frosts\*\*. The first frost was on 1st April, ending a frost-free period of 175 days over the summer of 2018-19, and the last frost for the year was on 14th November.

**FOGS:** There were fogs on 23 days which is eight less than the annual average. The foggiest month was June with fogs on 6 days. All fogs occurred in the early mornings.

**SNOW:** There were snowfalls on two days - 10th August from 6.30 to 8.00pm, and 11th August from 8.30 to 9.15pm. Snow settled on the ground on the 11th. The annual average is 2.2 snow days.

**THUNDERSTORMS:** There were storms on 29 days of the year, eight less than the LTA. Thunderstorm activity was highest in January and November. There were no severe storms.

**HAIL:** No hail was observed, although there may have been occurrences of small hail during thunderstorms which were not observed. The annual average is 3.3 hail days.

**FLOODS:** Flash flooding occurred in Dumaresq Creek on 30th March. Minor brief flash flooding may have occurred on other dates not noted here.

**SMOKE & DUST**: From August to December smoke from bushfires to the east of Armidale reduced visibility on 45 days with the two worst affected days being 17th September and 8th December. Dust haze occurred on 13th February, and in the morning of 27th November.

## Weather Statistics 2019 - Armidale NSW

Data recorded at East Armidale, elevation 987 metres, Bureau of Meteorology station no 56037

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
RAINFALL mm	69.6	15.2	69.2	3.0	11.0	11.8	6.2	7.0	1.2	24.2	25.6	62.6	306.6
Long Term Average mm	101.1	87.9	65.3	<i>45.0</i>	<i>4</i> 2.6	<i>55.2</i>	47.6	48.0	50.7	67.8	82.6	88.7	782.4
RAIN DAYS	6	8	9	3	5	10	5	4	2	5	6	6	69
Long Term Average days	10	10	10	8	8	10	9	9	8	9	9	10	110
HIGHEST DAILY RAINFALL mm	26.8	5.8	23.6	1.8	5.4	3.8	2.8	3.6	0.6	16.4	15.0	25.4	26.8
Day	20	22	23,31	10	4	4	9	12	18,23	12	25	25	
AVERAGE DAILY MAX TEMP deg C	32.1	27.5	26.2	21.9	17.7	14.6	15.3	16.5	21.0	24.4	27.4	30.4	22.9
Long Term Average deg C	26.5	25.5	23.5	2 <i>0.1</i>	16.4	1 <i>3.</i> 2	<i>12.6</i>	1 <i>4.</i> 3	<i>17.</i> 8	20.8	23.0	25.2	19.9
AVERAGE DAILY MIN TEMP deg C	14.9	11.9	12.1	7.1	2.1	0.6	-1.1	-1.3	0.8	5.5	8.6	11.8	6.1
Long Term Average deg C	12.7	<i>12.6</i>	<i>10.4</i>	6.5	3.0	<i>0.9</i>	-0.3	<i>-0.2</i>	2.6	5.7	<i>8.9</i>	<i>11.</i> 2	<i>6.1</i>
AVERAGE GRASS MIN TEMP deg C	9.3	7.2	8.0	1.9	-1.9	-3.0	-5.2	-5.6	-3.2	1.2	3.5	6.6	1.6
Long Term Average deg C	9.7	9.7	7.2	3.0	- <i>1.</i> 8	-2.8	<i>-4.</i> 3	<i>-4.5</i>	-1.5	1.9	5.7	<i>8.0</i>	2.5
HIGHEST MAXIMUM TEMP deg C	37.4	34.5	31.3	26.7	23.0	20.1	18.6	21.6	26.4	32.4	34.6	37.8	37.8
Day	19	19,20	24	8	23	12	1	18	6	7	20	21	
LOWEST MAXIMUM TEMP deg C	25.4	20.1	16.4	17.6	9.6	7.5	10.2	8.4	11.8	12.1	17.8	20.4	7.5
Day	21	24	27	2	11	4	15	11	9	12	5	2	
HIGHEST MINIMUM TEMP deg C	20.3	16.4	17.0	12.5	12.7	7.6	7.6	4.7	10.2	12.4	15.5	17.7	20.3
Day	27	1,2	26	20	4	27	5	22	20	17	4	24	
LOWEST MINIMUM TEMP deg C	11.2	7.4	2.9	0.4	-5.5	-8.3	-8.2	-6.0	-4.3	-1.0	0.1	3.8	-8.3
Day	2	12	31	1,29	31	22	20	5	11	19	14	3	
LOWEST GRASS MIN TEMP deg C	5.1	2.7	-2.0	-3.5	-10.7	-11.3	-11.9	-11.0	-8.4	-6.1	-3.5	-2.3	-11.9
Day	8,13	16	31	29	31	22	20	20	11	19	14	3	
FROSTS	0	0	0	3	18	17	25	24	19	5	3	0	114
Long Term Average days	0	0	1	5	14	16	20	20	15	6	1	0	<i>9</i> 8
FOGS days	1	1	2	0	3	6	4	4	1	1	0	0	23
Long Term Average days	1	1	3	5	5	4	3	2	2	2	1	1	31
THUNDERSTORMS days	9	2	4	1	0	0	0	1	0	3	5	4	29
Long Term Average days	6	5	3	1	1	0	0	1	2	4	6	8	37
EVAPORATION (Class A Pan) mm	201.2	159.2	134.0	82.8	56.2	31.0	53.6	88.4	130.8	164.0	220.8	219.6	1541.6
Long Term Average mm	161.1	126.8	113.7	76.3	50.8	36.5	42.3	65.5	<i>95.2</i>	126.4	136.0	<i>15</i> 8.8	<i>1189</i> .3
AVGE. DAILY EVAPORATION mm	6.5	5.7	4.3	2.8	1.8	1.0	1.7	2.9	4.4	5.3	7.4	7.1	4.2
AVERAGE DAILY WIND RUN km Long Term Average km	92.5 151.2	138.8 144.9	129.1 138.1	94.5 123.1	105.2 121.6	85.9 143.7	136.5 151.6	152.6 162.4		114.4 157.9		121.5 152.1	120.5 147.5
PREVAILING 3PM WIND DIRECTION	SW	E	W	E	W	W	W	W	W	W	W	W	-
FINE SUNNY DAYS ^	12	13	10	16	15	9	19	19	20	15	21	20	189
Long Term Average days	15	13	15	15	15	13	15	<i>19</i>	19	17	13	15	185
MAXIMUM TEMP > 29.9 deg. days	26	9	6	0	0	0	0	0	0	2	8	19	70
MAXIMUM TEMP < 10.0 deg. days	0	0	0	0	1	1	0	1	0	0	0	0	3
MINIMUM TEMP < 5.0 deg. days	0	0	1	6	25	24	27	31	25	13	7	1	160

^ Fine Sunny Day - a dry sunny day generally free from excessive cloud