Regional Weather and Climate Guide

In the last 30 years in the Desert Channels
- Annual rainfall has been relatively stable
- Dry years have occurred six times and wet years 11 times
- Wet season rainfall averages have increased in some areas
- Rainfall has been moderately reliable in the north east of the region during monsoon season, but unreliable in the south west
- Useful rain events have occurred an average of twice a year
- Evaporation rates decreased in the north of the region and increased in the south
- There have been more hot days, with more consecutive days above 38 °C

The Desert Channels at a glance
The Desert Channels region covers 50.9 million hectares, with 88% of land under agricultural production. Beef is the dominant agricultural industry in the region, with sheep, wool and hay production also contributing. Agricultural production in the region was valued at $614 million in 2017-18.

A guide to weather and climate in the Desert Channels
Primary producers make decisions using their knowledge and expectations of regional weather patterns. The purpose of this guide is to provide an insight into the region’s climate and an understanding of changes that have occurred through recent periods. This information can potentially assist primary producers and rural communities make better informed decisions for their business and livelihoods. This guide is part of a series of guides produced for every Natural Resource Management area around Australia.
Annual Rainfall

Annual rainfall in the Desert Channels has been relatively stable

Annual (July to June) rainfall in the Desert Channels has been relatively stable, increasing by around 20 mm from 310 mm to 330 mm over the past 30 years (1989–2018) when compared to the previous 30 years (1959–1988). The charts show annual rainfall (blue bars), with a 10-year running average (solid blue line) for Boulia and Longreach. Although the average annual rainfall has remained unchanged, it still fluctuates from year to year with natural variability. In the past 30 years (1989–2018), dry years (lowest 30%) have occurred eight times and wet years (highest 30%) have occurred 10 times, while the remaining years were in the average range. During the previous 30-year period (1959–1988), dry years occurred eight times and wet years occurred nine times.

Desert Channels rainfall is unreliable year round

Rainfall reliability maps for the past 30 years (1989–2018) show that at the peak of the wet season, when monsoonal weather patterns are most likely, rainfall in the Desert Channels is more reliable in the north-eastern part of the region around Longreach and to a lesser extent, Boulia. Rainfall in the south and west of the region around Birdsville is unreliable. During the early wet season months, rainfall across the region is unreliable.

For more information on future projections, visit the Climate Change in Australia website > www.climatechangeinaustralia.gov.au


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Decreases in winter rainfall were offset by increases in spring and early summer rainfall at Longreach and Boulia between 1989–2018 (orange bars) compared with 1959–1988 (blue bars). Over the past 30 years, wet season rainfall (October to April inclusive) for Longreach was 344 mm, 24 mm higher than the 320 mm average for the previous 30-year period (1959–1988). However in Boulia, wet season rainfall decreased 9 mm over the same period, from 207 mm in 1959–1988 to 198 mm in 1989–2018.

For more information on the latest observations and science behind these changes, refer to the State of the Climate Report > www.bom.gov.au/state-of-the-climate/

Useful rain events have occurred an average of twice a year

At Longreach, two thirds of single rain events of 50 mm or more occur over summer (December through February). On average, two such events occur every wet season, but this can range from zero to seven. There have been 13 summer seasons since 1900 that have not had a 50 mm rain event, which represents about a 5% risk in any year of this occurring. Large rain events in the tropics often flow through to the Channel Country in the following weeks and months. On average, the Diamantina River at Birdsville is usually dry for around five months (40%) of each year, but there is large variation between years. It reaches minor flood level when the river height reaches 4 m, which happens, on average, about once every second year.
Evaporation rates have decreased in the north and increased in the south

The graphs show the mean monthly evaporation and water balance (rainfall minus evaporation) between 1989-2018 (orange bars) compared with 1959-1988 (blue bars). There has been a decrease in annual evaporation totals in the north of the region and a large increase in evaporation in the south of the region.

Longreach is very close to the north/south split. At Longreach, evaporation rates in January, February and March have increased by about 20 mm for each month in the past 30 years (1989-2018) when compared to the previous 30 years (1959-1988). The cooler months, July and August, also show an increase in evaporation, but only by about 10 mm each month.

Longreach evaporation for November and December show a small decrease over the past 30 years (1989-2018) when compared to the previous 30 years (1959-1988).

Desert Channels has experienced more hot days in the past 30 years

The charts show the annual number of days above 38 °C (red bars), with a 10-year running average (solid red line) for Longreach since records began. In the last 30 years (1989–2018), Longreach experienced an average of 58 days per year above 38 °C, compared to an average of 47 days per year above 38 °C between 1959–1988. Since 1990, temperatures of 46 °C have been recorded for Longreach four times. In the previous 30-year period (1959 – 1988) the temperature at Longreach reached 46 °C only twice, both times in 1960.

Instances of 30 or more consecutive days above 38 °C are common at Longreach. Long runs of very hot days have also been more frequent in the past 30 years. In 2014 and 2018, Longreach experienced runs of 10 or more days in a row above 42 °C. Before 2014, the last time Longreach had 10 days in a row above 42 °C was in 1913.