Climate Note – January 2025

Recap for December 2024

Average to above average rainfall has been recorded across most of Queensland since the start of November. While there has been some reports of storm and localised flood damage, the recent welcome rain has helped ensure a positive start to the summer cropping season, boosted pasture growth and helped replenish natural water courses and storages. The rain has also reduced the recent high bushfire risks experienced across much of the state following a very dry winter and spring during 2024.

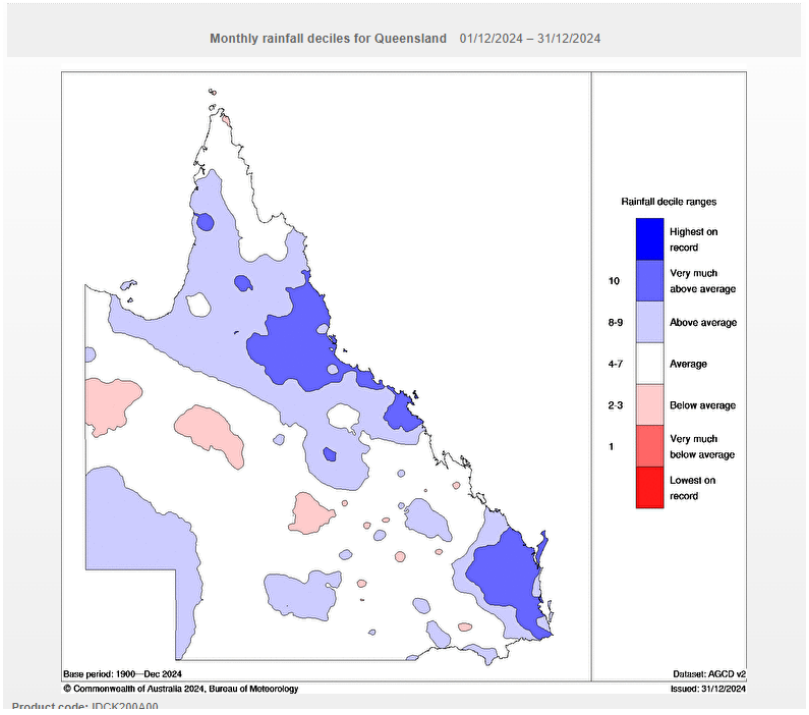


Figure 1: Rainfall deciles for Queensland December 2024

The warmer than average temperatures experienced since the start of spring have also continued. Both minimum and maximum temperature deciles for October through to the end of December across Queensland have been above average. Some regions (specifically in the central far west) experienced temperature deciles in the highest on record range. This pattern has been driven in part by an ongoing series of heatwaves. For more information on heatwaves go to the Bureau's Heatwave Service for Australia.

Climate Outlook for Queensland for February to April

The latest Climate Outlook from BoM indicates a reasonable (50 to 70%) chance of getting above median rainfall for February to April across the southern half of Queensland. The chance of getting above median rainfall for February to April increases to 60 to 80% plus for the northern half of Queensland.

This includes an increased chance of unusually high rainfall for the eastern third of Queensland. Unusually high rainfall is defined as being in the highest 20% of historical February to April rainfall.

Above median minimum (night-time) temperatures are very likely (greater than 80% chance) while above median maximum (or day-time) temperatures are also likely (greater than 60% chance) of being above median.

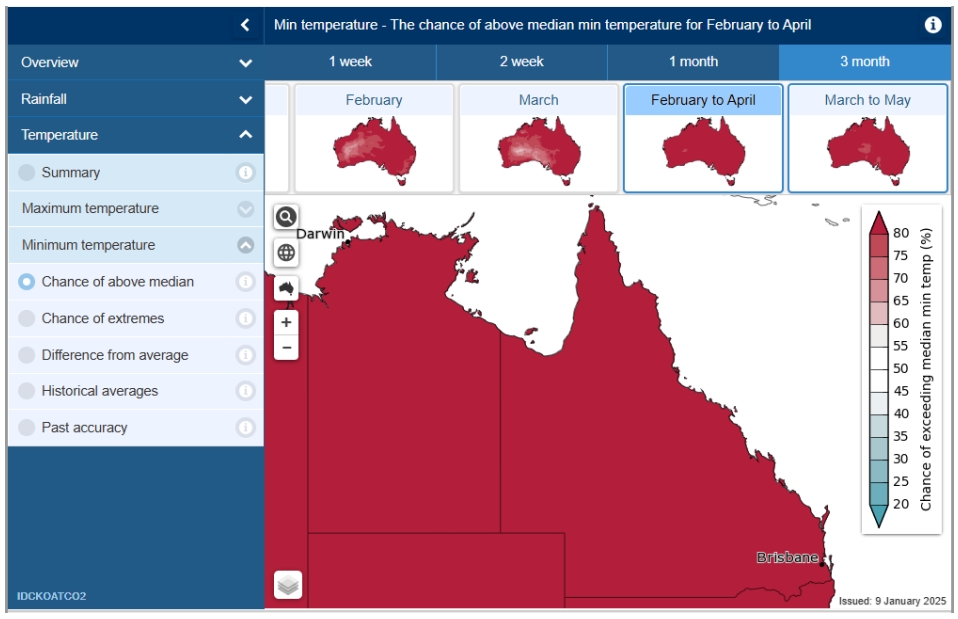


Figure 2: The chance of above median temperature for February to April 2025

When considering climate forecasts, it is worth remembering that an increased chance of getting above median rainfall (or temperature) doesn't mean it is going to rain (or be hotter than normal) consistently through the 3 month period. It simply means that rainfall for the 3 months in total is likely to be above median rather than below median.

Climate Driver in focus

The Australian Monsoon climate driver can occur in northern Australia any time during the northern wet season that extends from about October through to April. The monsoon develops as a result of summertime heating over the north Australian mainland drawing moist air from the surrounding oceans. This phenomenon can bring substantial rainfall and thunderstorms to northern Australia.

Monsoon arrival is marked by a dramatic increase in humidity and the formation of large cloud systems, leading to heavy and sustained rainfall. This seasonal

The Climate Note is funded by the Queensland Government's Drought and Climate Adaptation Program (DCAP) and aims to help producers better manage drought and climate impacts.

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influx of moisture is crucial for the region's ecosystems, agriculture and water resources, but can also bring challenges such as flooding and cyclones.

In Queensland, the monsoon has a profound impact on the weather and climate particularly in northern districts of the state. Heavy rains replenish community water storages, support agricultural activities and sustains natural habitats. The intensity and variability of the monsoon can also lead to extreme weather events posing risks to communities and infrastructure.

To get a better understanding of the Australian monsoon season, check out this video from the Bureau.

For an in-depth climate outlook, head to the Northern Australian Climate Program (NACP) and check out the Climate outlook videos where Andrew Marshall has created a series of informative videos relevant to producers in Queensland.

Resource of the Month - WAND

The Weather And Networked Data (WAND) system is a decision support tool for producers to assist with improving spray application practice.

This video explains that WAND consists of a network of over 100 automatic weather stations across Queensland and New South Wales, offering a two-hour predictive function updated every 10 minutes. This system is designed to provide real-time weather data, focusing on detecting hazardous temperature inversions that can affect spray applications.

A chemical spray drift inversion event occurs when the temperature inversions trap pesticide droplets in a stable layer of cool air near the ground, preventing them from dispersing on the targeted area. This phenomenon typically happens during calm, clear nights or early mornings when the ground cools rapidly, creating a temperature gradient. As a result the trapped chemicals can drift horizontally over long distances, potentially causing unintended damage to nearby crops and vegetation.

Understanding and predicting these inversion conditions are crucial for producers to ensure safe and effective chemical applications, minimising environmental impact and adhering to regulatory guidelines.

WAND was developed through a collaboration between the Grains Research and Development Corporation (GRDC) and the Cotton Research and Development Corporation (CRDC).

Be on the lookout for…

Producers located throughout Queensland's northern and western districts should regularly monitor their properties, for locusts or any unusual grasshopper activity, especially after rainfall. High-density swarms can develop and consume vast amounts of vegetation causing significant economic losses for producers, particularly those growing summer crops.

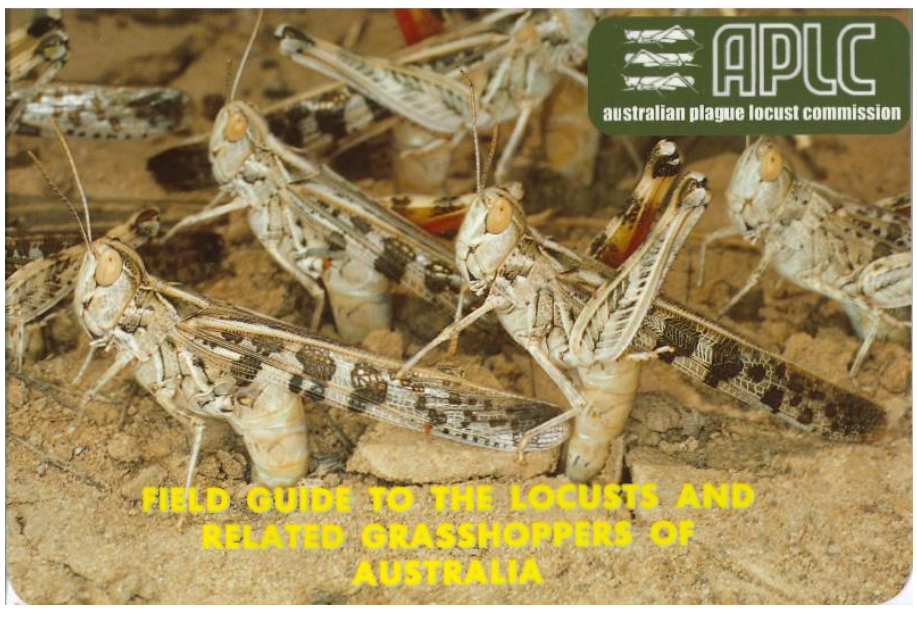
There are four main locust species of economic importance to agricultural systems in Queensland.

Australian plague locust (*Choroiticetes terminfera*)

Migratory Locust (*Locusta migratoria*)

Spur-throated locust (*Austracris guttulosa*)

Yellow-winged locust (*Gastrimargus musicus*).



Locust and grasshopper identification guide - DAFF

It is important that any locust activity is reported as soon as possible to the Department of Primary Industries call centre on 13 25 23 or The Australian Plague Locust Commission (APLC) on 1800 635 962

For more information download a copy of the Locusts fact sheet.

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