

Current climate and seasonal outlook information to support sustainable grazing land, water, catchment and environmental management in Queensland.

SEASONAL CONDITIONS SUMMARY

FINDINGS AS AT 17 NOVEMBER 2026

- **The strong El Niño event continues to intensify in the central and eastern tropical Pacific Ocean and will remain firmly established through the end of 2026 and persist into autumn 2027.**
- **As of 1 November 2026, the Science Division of DETSI considers that the probability of exceeding median summer (November 2026 to March 2027) rainfall for much of Queensland is currently in the below- to near-average range (10 – 40%).**
- **The DETSI outlook for summer rainfall factored in the extra-tropical sea surface temperature (SST) pattern in March and the evolving ENSO related SST in Pacific Ocean in October.**
- **Twelve-month rainfall to the end of October 2026, averaged over the main grazing lands of Queensland, was 25 per cent above the long-term average (1890 to 2025).**
- **Rainfall over the last three- and six-months was average to well-below average over the Cape York Peninsula and parts of coastal Queensland, while the rest of the State experienced average to extremely high rainfall.**
- **The last 12-month period rainfall was above average to extremely high over much of Queensland but average to well-below average in parts of central coast and southern Queensland.**

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CURRENT CONDITIONS – RELATIVE TO HISTORICAL RECORDS

Historical Rainfall Variability and Drought Situation

Figure 1 shows 12-month rainfall averaged over the region of Queensland shown on the grey map (top right). This region carries over 80 per cent of the State's cattle and sheep herd and covers only 60 per cent of Queensland's land area. In each graph, rainfall is expressed as a percentage difference from the long-term (1890 to 2025) average. The upper graph shows the running 12-month rainfall anomaly since 1890, indicating the long-term history of wet and dry periods over this region. The lower graph focuses on changes since 2010 and shows, at selected times, those parts of Queensland drought-declared under State Government processes. Twelve-month rainfall to the end of October 2026, averaged over the main grazing lands of Queensland, was 25 per cent above the long-term average (1890 to 2025). As reviewed at 1 November 2026, there is 5.1 per cent drought-declared local government areas.

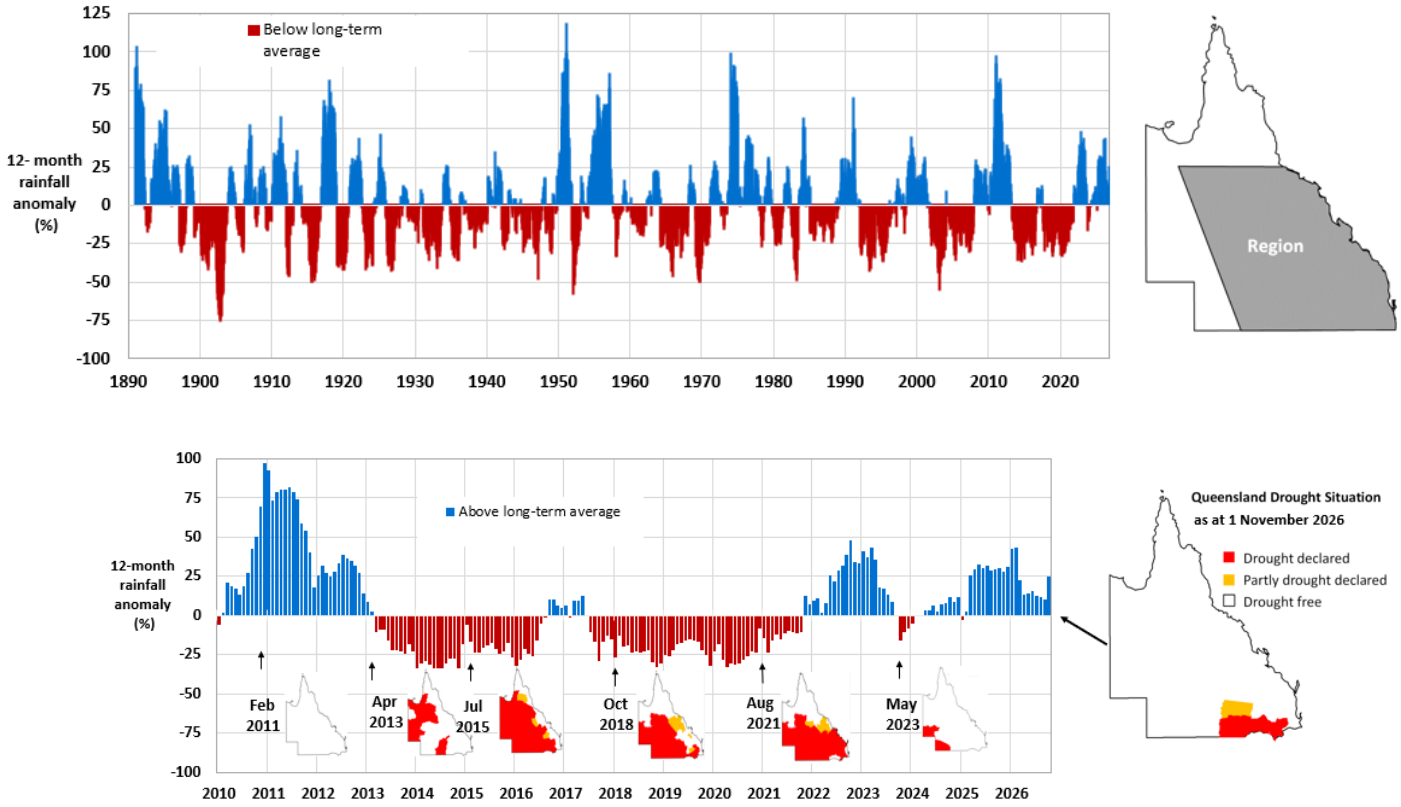


Fig.1: Historical 12-month rainfall anomalies
(Rainfall data source: https://www.longpaddock.qld.gov.au/silo/)

CURRENT CONDITIONS – RELATIVE TO HISTORICAL RECORDS

Rainfall and Pasture Growth Update

Figures 2 and 3 are products of the AussieGRASS Environmental Calculator (Carter et al. 2000). Figure 2 shows rainfall over the last three-, six- and 12-month periods (up to June 30, 2026) ranked against historical values. Rainfall over the last three- and six-months was average to well-below average across parts of the Cape York Peninsula and coastal Queensland, while the rest of the State experienced average to extremely high rainfall. Over the 12-month period, rainfall was above average to extremely high for much of Queensland, but average to well-below average in parts of central coast and southern Queensland.

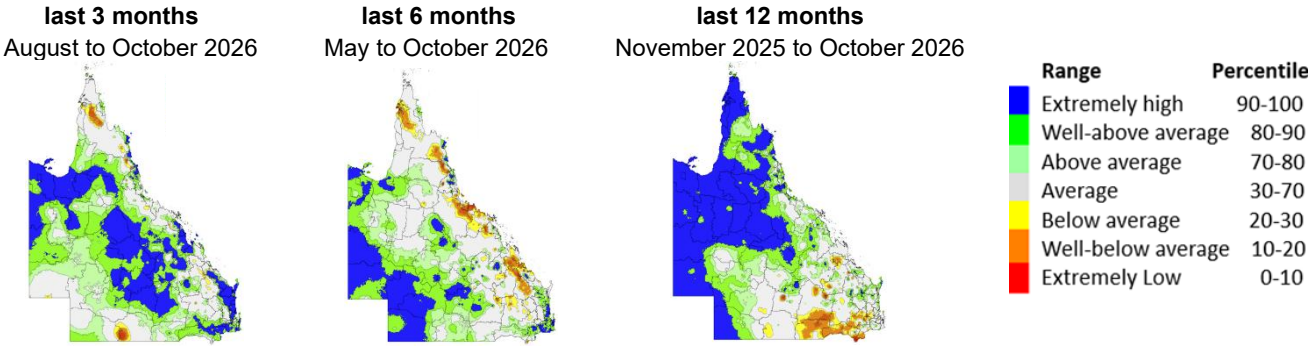


Fig. 2: Rainfall percentiles (base period 1890 to current)
(Source: https://www.longpaddock.qld.gov.au/aussiegrass/)

Figure 3 shows calculated pasture growth percentiles over the last three-, six-, and 12-month periods. The pattern of calculated pasture growth percentiles over the last three-, six-, and 12-month periods has broad similarities for much of the state to that of rainfall percentiles (above), ranging from extremely low to extremely high depending on region and length of period considered.

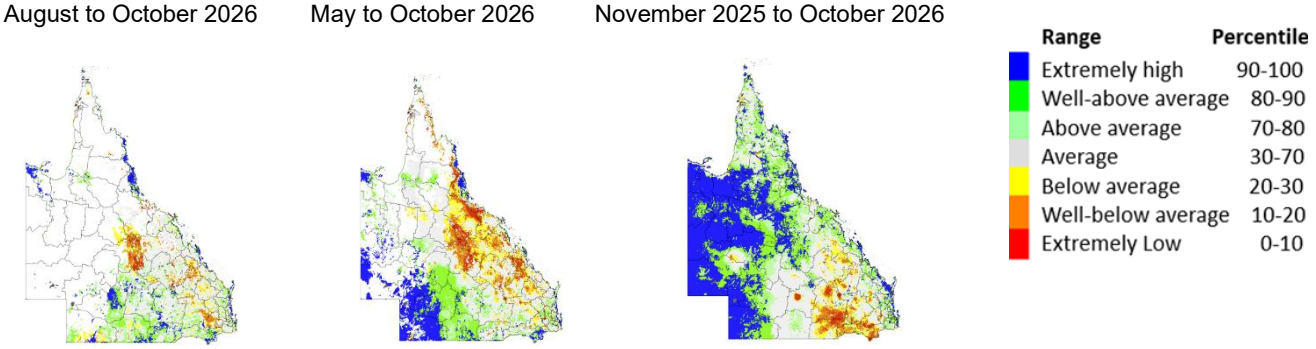


Fig. 3: Pasture growth percentiles (base period 1957 to current)
White shading indicates areas that normally have "seasonally low" pasture growth.
(Source: https://www.longpaddock.qld.gov.au/aussiegrass/)

Season-to-Date Rainfall versus April to October historical records

Rainfall for April to October 2026 period, averaged across Queensland's major grazing lands region (grey region on the map in Fig.4), totalled 191 mm, and is about 103 per cent of the long-term median for April to October period. The current season is wetter the same period last year for April to October 2025.

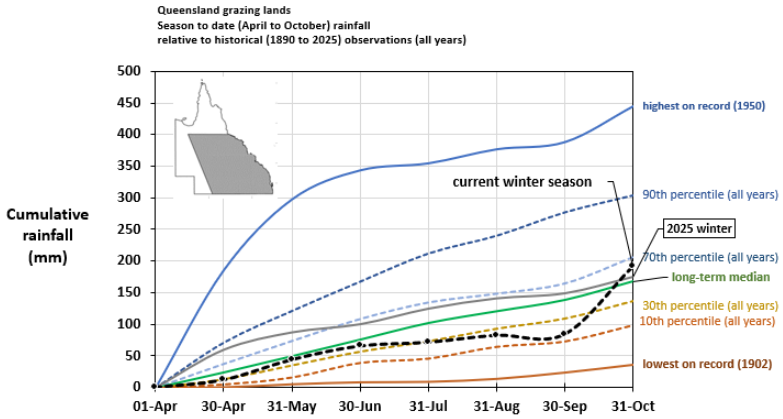


Fig. 4: April to October 2026 season accumulated rainfall as at 1 November 2026, compared to historical values.
Percentiles based on season-to-date rainfall at the end of each month since 1 November (based on data from 1890 to 2024).
Data source: https://www.longpaddock.qld.gov.au/silo/

El Niño-Southern Oscillation (ENSO)

The most closely monitored driver of Queensland rainfall is the El Niño-Southern Oscillation (ENSO) phenomenon. Climate scientists monitor several ENSO indices, including the atmospheric Southern Oscillation Index (SOI) and sea-surface temperature (SST) anomalies in the central equatorial Pacific Ocean.

Rolling three-month average values of the SOI and central equatorial Pacific (Niño 3.4 region) SST anomalies since 2009 are shown in Figure 5. Both the recent three-month (Aug to Oct) value of the SOI (-16.5) and the NOAA 3-month rolling Oceanic Niño 3.4 (ONI) SST anomaly (+2.87°C) are well in the El Niño range. The strong El Niño event continues to intensify in the central and eastern tropical Pacific Ocean (Figure 6), and will likely peak around November or December, and persist into autumn 2027. The most recent weekly average (anomaly) of the ONI Nino3.4 centred around October 14, 2026, reached +3.3ºC, providing further evidence of a very strong El Niño. Most international models, including the Bureau's, are forecasting a very strong El Niño event that will remain firmly established through the end of 2026 and persist into autumn 2027.

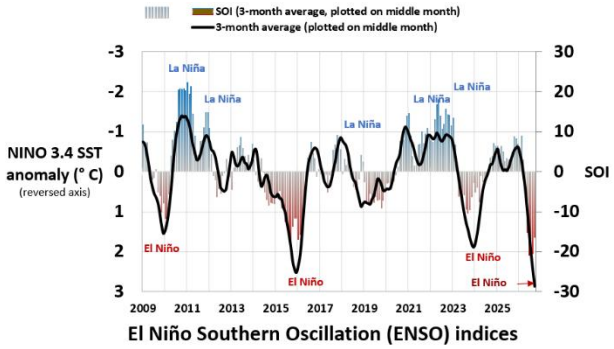


Fig. 5: El Niño Southern Oscillation (ENSO) Indices
SST source: www.cpc.ncep.noaa.gov/data/indices
(NINO3.4 SST, monthly OISST.v2.1 (1991 to 2020 base period)
SOI source: www.longpaddock.qld.gov.au/soi/soi-data-files
(monthly SOI 1887-1989 base period)

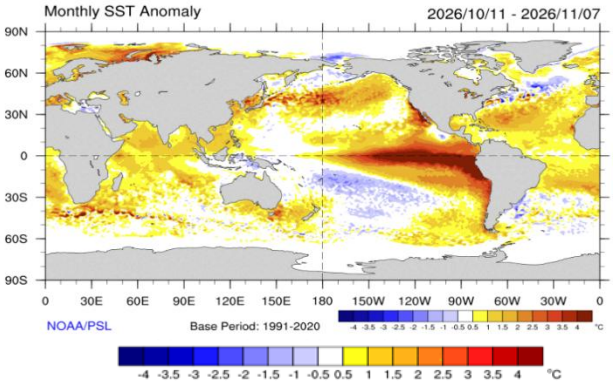


Fig. 6: Pacific Ocean sea-surface temperature anomalies (°C)
for 11 October to 7 November 2026 based on NOAA OISST.v3.1 SST data (1991 to 2020 based period)
Map source: https://psl.noaa.gov/map/clim/sst.shtml

Madden-Julian Oscillation (MJO)

The Madden-Julian Oscillation (MJO) is a broad area of tropical convection (cloud and rainfall) which tracks east from the western Indian Ocean toward the eastern Pacific Ocean. This MJO cycle tends to recur on average every 30 to 60 days (intraseasonal), distinct from El Niño and La Niña events which typically persist for three to nine months. In Queensland, the MJO has its greatest influence on rainfall during the tropical cyclone season (November to April), particularly in northern parts of the State, as its passage can enhance the strength of the northern Australian monsoon and increase the chance of tropical cyclones. For example, two tropical cyclones made landfall in Queensland during 2025 and 2026 ('Alfred' on 8 March 2025 and 'Koji' on 11 Jan 2026), and they occurred when the MJO was active in Australian-Western Pacific longitudes and Western Hemisphere respectively. The moderate MJO is currently in the Indian Ocean. Most models predict the strengthening of the MJO in the Indian Ocean for the next 7 days after which forecast confidence decreases beyond this point. While the MJO remains located over the Indian Ocean, its influence on the Australian region is expected to be limited. However, there are increased chances of above-average maximum temperatures for south-east Australia.

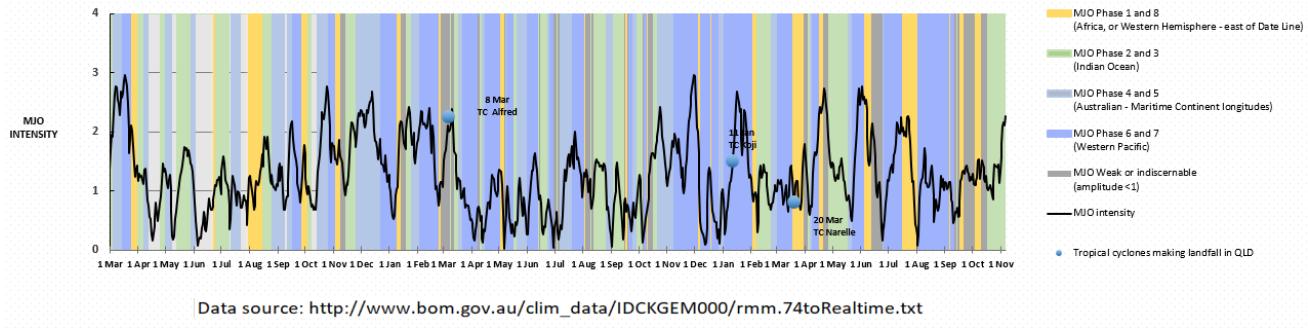


Fig. 7: Madden-Julian Oscillation intensity and phase-location

The graph shows the general location (coloured bars) and intensity (grey line) of the MJO from 1 March 2024 to 6 November 2026.
Data source: http://www.bom.gov.au/clim_data/IDCKGEM000/rmm.74toRealtime.txt

Long-lead Summer Rainfall Outlook

(produced on 5 November, based on SPOTA-1)

The Department of the Environment, Tourism, Science and Innovation (DETSI) monitors SST anomalies in key regions of the Pacific Ocean over autumn, winter, and spring and provides objective outlooks for summer (November to March) rainfall on this basis.

The current DETSI outlook for summer rainfall in Queensland is an objective analysis of historical conditions using an index based on SST anomalies measured in key regions of the extra-tropical Pacific Ocean. Historical SST gradients across these regions, from March to October, have been related to rainfall over much of Queensland in the following summer. As at 1 November, the Science Division of DETSI considers that the likelihood of much of Queensland receiving above-median summer rainfall (November 2026 to March 2027) is currently below- to near-normal (10-40 per cent; Figs. 8 and 9).

This long-lead outlook for summer is based on both the extra-tropical SST pattern in the Pacific Ocean in March, and the evolving ENSO-related SST pattern in the central and southwest Pacific in October 2026.

The November issue is the final DETSI outlook for 2026/27 summer rainfall season (November to March).

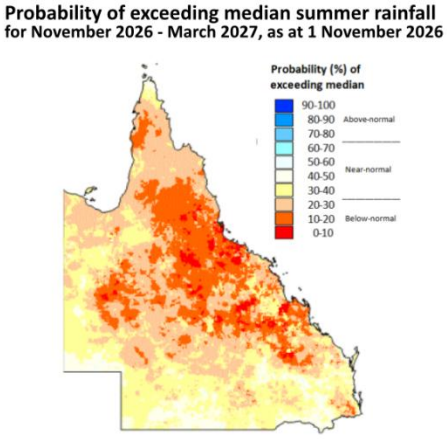


Fig. 8: Probability of exceeding median summer rainfall (for November 2026 to March 2027) as at 1 November 2026
Produced by the DETSI SPOTA-1 system.

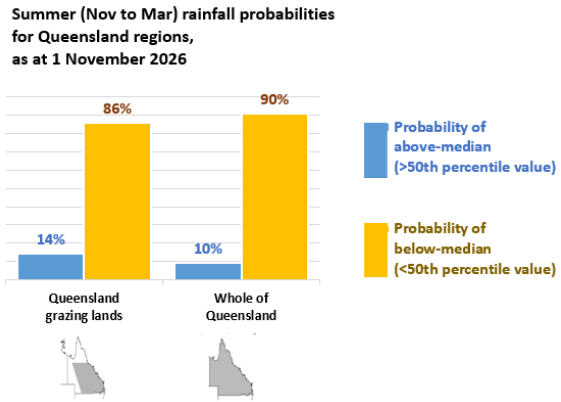


Fig. 9: Probabilities of above and below median summer rainfall (for November to March) as at 1 November 2026.
For the Queensland's major grazing region and the State as a whole, based on historical analogue year output from the DETSI SPOTA-1 system.

Three-month Rainfall Outlooks

based on international dynamical models

The maps in Figure 10 show rainfall probabilities for upcoming three-month periods, based on dynamical climate modelling, sourced from a range of international climate agencies. Rainfall probabilities differ for each model, on both a spatial and temporal basis, due to the different methodologies used.

For November 2026 to January 2027 period, all models show below normal probability of median rainfall for the Cape York Peninsula. The rest of the State indicates normal to above-normal probability of median rainfall.

Dynamical model outlook sources:

Australian Bureau of Meteorology http://www.bom.gov.au/jsp/sco/archive/

UK Met Office: http://www.metoffice.gov.uk/research/climate/seasonal-to-decadal/gpc-outlooks/glob-seas-prob

European C3S (Copernicus Climate Change Service) multi-model: https://climate.copernicus.eu/charts/c3s_seasonal/ (C3S multi-system (7)

NOAA North American Multi-model Ensemble -USA: https://www.cpc.ncep.noaa.gov/products/NMME/seasanom.shtml (Global prate)

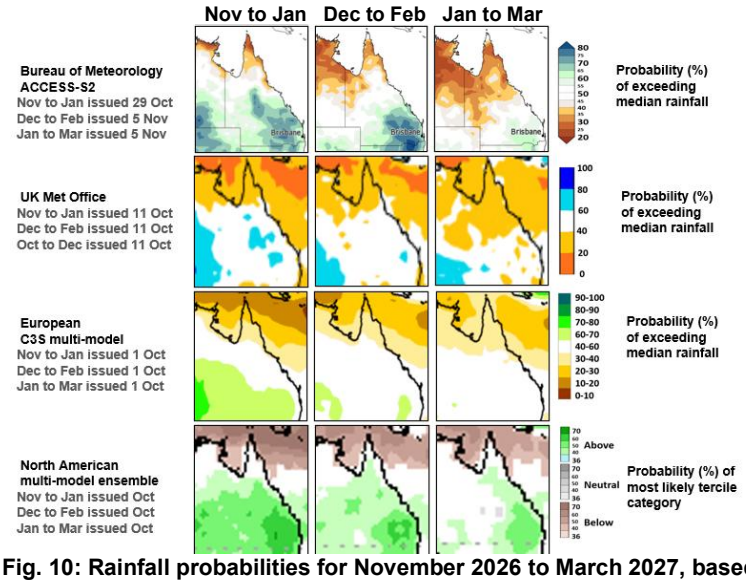


Fig. 10: Rainfall probabilities for November 2026 to March 2027, based on international dynamical models.

Three-month Rainfall Outlook

based on the SOI Phase system

The map in Figure 11 shows rainfall probabilities for the coming three-month period, based solely on a Consistently Negative 'phase' of the SOI at the end of October 2026, as determined by the SOI Phase system. The current phase of the SOI (click for more detail) is based on the most recent values of the SOI -20.6 for September and -14.8 for October 2026.

The map, which is based on 25 previous years (from 1889 to 2015) which had a 'Consistently Negative' phase of the SOI at the end of October 2026, indicates a generally 10 to 50 per cent probability of exceeding median November 2026 to January 2027 rainfall across much of Queensland.

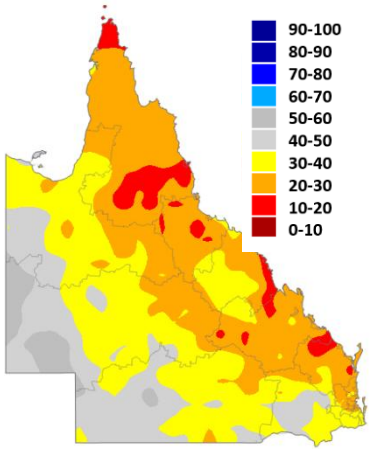
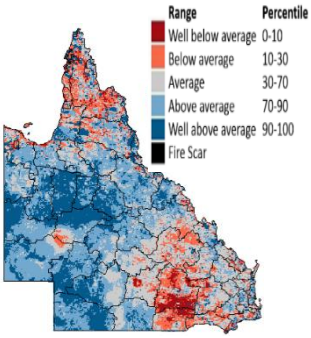


Fig. 11: Probability of exceeding median rainfall for November 2026 to January 2027 based on a 'Consistently Negative' phase of the SOI at the end of October 2026.

Pasture Outlook

Figures 12 and 13 are products of the AussieGRASS Environmental Calculator. Calculated pasture ground cover at the end of October 2026 (Fig. 12) ranged from average to well-above average in most parts of Queensland, except for the Cape York Peninsula and the central coast and southern Queensland with below to well-below average ground cover. Figure 13 shows that the probability of exceeding median pasture growth over November 2026 to January 2027 is average to above-average for much of Queensland, while below-average over the northern tip of the Cape York Peninsula. This calculation considers both current conditions (e.g., soil water content) and rainfall probabilities for the next three-month period) based on SOI Phase analogue years.



Relative to historical records since 1957

Fig. 12:

Calculated pasture cover at 31 October 2026.

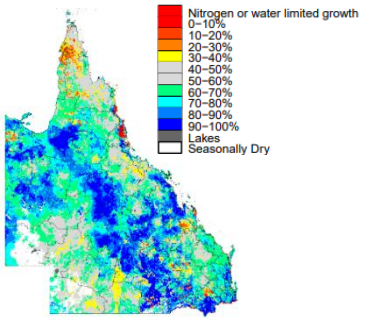


Fig. 13:

Probability of exceeding median pasture growth for November 2026 to January 2027 based on a 'Consistently Negative' phase of the SOI at the end of October 2026.

REFERENCES AND RESOURCES

References:

Carter, J.O. *et al*. (2000). Aussie GRASS: Australian Grassland and Rangeland Assessment by Spatial Simulation. In 'Applications of seasonal climate forecasting in agricultural and natural ecosystems - the Australian experience.' (Eds. G. Hammer, N. Nicholls and C. Mitchell). Kluwer Academic Press, Netherlands, pp. 329-349.

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Day, K.A. and McKeon, G.M. (2018). An Index of Summer Rainfall for Queensland's Grazing Lands. *Journal of Applied Meteorology and Climatology*, **57**, 1623-41. https://doi.org/10.1175/JAMC-D-17-0148.1

McKeon, G. *et al.* (2004). 'Pasture Degradation and Recovery in Australia's Rangelands: Learning from History.' Queensland Department of Natural Resources, Mines, and Energy, Brisbane, Australia.

Stone, R. and Auliciems, A. (1992), SOI phase relationships with rainfall in eastern Australia. Int. J. Climatol., 12: 625-636. https://doi.org/10.1002/joc.3370120608

Stone, R., Hammer, G. & Marcussen, T. Prediction of global rainfall probabilities using phases of the Southern Oscillation Index. *Nature* **384**, 252–255 (1996). https://doi.org/10.1038/384252a0

Additional resources:

For further information on AussieGRASS, seasonal climate outlooks (including the SOI Phase scheme and the SPOTA-1 scheme) and Queensland drought declarations, visit the Long Paddock website, https://www.longpaddock.qld.gov.au.

MJO description: https://www.climate.gov/news-features/blogs/enso/what-mjo-and-why-do-we-care

General Disclaimer:

Information contained in this report is provided as general advice and the maps are designed to provide information relevant at a regional (shire) scale. More detailed information is required when making specific property scale management decisions. The State of Queensland, as represented by the Department of the Environment, Tourism, Science and Innovation, gives no warranty in relation to the data including without limitation, accuracy, reliability, completeness or fitness for a particular purpose.

It should be noted that seasonal outlooks are probabilistic and not deterministic in nature. For example, if an outlook indicates that there is an 80 per cent probability of exceeding median rainfall, should be interpreted as also meaning that there is a 20 per cent probability of rainfall being below the long-term median. In cases where outcomes with a high probability may be more likely, this does not mean that less probable events will not occur in any given year. Users should also consider sourcing information related to the historical track record of any outlook scheme, and such information is becoming increasingly available.

Contact: Simba Chidzambwa, Water Planning Science; Phone: 07 3170 5499; Email: simba.chidzambwa@detsi.qld.gov.au