

# Northern Australia Climate Program

## Climate and Weather Newsletter

Issued Monday 1/2/21

---

Here is this week's opinion and review of relevant weather and seasonal forecast systems produced by major global agencies.

Updated information, issued Monday 1/2/21 covering shorter-term weather forecasts, monthly and seasonal climate forecasts, to cover cattle (and sugar) production regions on an advisory basis and as a follow-up to the Managing for Climate Workshops and similar (but other industry regions are also now included as an addition in the text). In effect, this means we are providing review information for the short, medium and seasonal (longer term) periods.

- The 30-day average of the SOI is +15.9 (plus 15.9).
- La Niña is established in the central and eastern Pacific and the sea-surface temperatures in the Coral Sea are now above normal (an almost 'classic La Nina' pattern).
- The MJO may next likely be due towards the end of February. In terms of individual daily forecasts (including Tropical Cyclone updates) please refer to BoM for these shorter term forecasts.

### Weather Forecasts

The model outputs below are obtained from a variety of sources without further comment, except that they are based purely on my opinion on the capability of various weather and climate models and based on the initiating agencies verification outputs and published manuscripts and as explained at our regional workshops.

1st week weather forecasts – higher confidence (all values approximate) – an opinion and summary/review of a number of national and international *weather* (as opposed to seasonal climate) models:

Values in mm – all values approximate.

### Weekly rainfall forecast totals - review of the US COLA system:

**1/2-9/2** 10-20 mm over most of the continent (but with the notable exception of central Australia), increasing to 40-60 mm approx. in a line from the Southern Gulf to Windorah to Merimbula (higher falls in SE NSW) and along the SE Qld and NE NSW coast; increasing to 100 to over 200 mm north from Rollingstone to Aurukun and across to the Top End of the NT. Falls increasing to 100 to 200 mm over the Kimberley and parts of the Pilbara and into parts of inland northern NT.

**9/2-17/2 (much less confidence for this period):** 5-20 mm over the Maranoa, NE Qld, the southern Qld and NSW coasts and north of a line from approx. Townsville to Broome, increasing to 100-200 mm over Cape York. Falls increasing 50 to 100 mm over the Top End and the Kimberley. Nil significant remainder.

### Weekly temperature forecast anomalies

**1/2-9/2** Above normal mean temperatures over much of northern inland Australia (+2 to +8 deg), especially NW Qld. Below normal mean temperatures over much of the remainder (-2 to -4 deg).

## Seasonal Forecasts

For the longer period, the various seasonal climate forecast models are indicating the following (to be updated when new information confirmed). The forecasts are probabilistic:

- For the February to April period, the BoM 'ACCESS-S' coupled GCM is continuing to indicate high probability of 'above average' rainfall probability values (~80% probability of exceeding the median) especially for NE Queensland, and NW WA. Mostly ~65% probability of exceeding the respective long-term median for the remainder.
- The USQ/Qld Govt SOI phase statistically-based model for the end of January suggests the SOI phase as "consistently positive". For this February to April period 2021, this equates to a ~70% probability of exceeding of the long-term median rainfall for most of Queensland (albeit a little 'patchy'), especially NE NSW, NW WA and the Gascoyne/Murchison. Close to climatology for remaining regions.
- The UKMetOffice GCM is similarly forecasting a 60% to 80% probability of exceeding the long-term median through, at this stage, to at least April 2021 for most of Australia, especially for eastern Australia.
- The US CPC ocean-atmosphere model suggests a continuation of this La Niña climate pattern into the rest of 2021 and into early 2022. This La Niña appears to have currently weakened in the far eastern tropical Pacific but, importantly, remains strong in the central equatorial Pacific.
- The European ECMWF GCM is similar to BoM ACCESS indicating 70%-80% probability of exceeding median rainfall through to at least the end of March 2021, although with the highest probability values over eastern Australia. For the period between March and May 2021, the ECMWF system is now indicating above normal rainfall probability values for much of Eastern Australia and the Gascoyne/Murchison (with closer to normal rainfall probability values ('climatological normals') for the east of the continent).
- The Florida State University (FSU) model is showing slightly positive SOI values for the first half of 2021 and then slightly positive or close to zero for the second half of 2021.
- The SOI 30-day average is now plus 15.9 (+15.9)
- MJO information (also courtesy of BoM): the MJO may next be due toward the end of February.

We are very grateful to Meat and Livestock Australia and the MLA Donor Company for funding key research projects in this area of seasonal and shorter-term forecasting and to which this output belongs.

Best wishes,

**Roger Stone**

Centre for Applied Climate Sciences

University of Southern Queensland

Toowoomba

*This Climate and Weather update has been reinstated by the Northern Australia Climate Program (NACP) with funding from MLA Donor Company, the Drought and Climate Adaptation Program (Qld Government) and the University of Southern Queensland.*

*NACP has climate risk advisers (climate mates) in 8 regions across northern Australia.*



