

Northern Australia Climate Program

Climate and Weather Newsletter

Issued Monday 8/3/21

Here is this week's opinion and review of relevant weather and seasonal forecast systems produced by major global agencies. (Please note: earlier output this week due to leave requirements). Note that smaller, individual regions may vary in forecast probability values from this overview (in which case please refer to ClimateARM and similar).

Updated information, issued Monday 8/3/21 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 +7.0 (plus 7.0).
- A "weak" La Niña currently remains in the central and eastern Pacific.
- The MJO may next likely be due across northern longitudes in mid-April.
- 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:

8/3-16/3 5-20 mm over much of the continent, increasing to 50-90 mm over the Darling Downs and parts of the central interior of Qld; plus 50-90 mm over parts of the Pilbara, Cape York, and the Top End.

16/3-24/3 **(much less confidence for this period):** 5-20 mm N of a line approx. Bourke to NW Cape, increasing to 20-30 mm over NE NSW, southern inland Qld, central inland WA, and north of a line from approx. Boulia to Port Hedland. Falls increasing to 50-90 mm over part of central coastal and inland Qld (e.g. the Desert Uplands), the Top End, and the Kimberley. Nil significant remainder.

Weekly temperature forecast anomalies

8/3-16/3 above normal mean temperatures over much of inland Australia (+2 to +4 deg); below normal mean temperatures over NE NSW and the Top End (-1 to -3 deg).

Seasonal Forecasts

For the longer period, the *seasonal climate forecast models* are indicating the following (to be updated when new information confirmed):

- For the March to May period, the BoM 'ACCESS-S' coupled GCM is indicating a high probability (~70%) of 'above median' rainfall probability values, mainly for most of southeastern Australia. Remaining regions have probability values close to climatology (the long-term climate average values). For the April to June period the BoM system is indicating a high probability of above median rainfall (relative to that time of the year) for much of northern Australia, especially NW Qld, the Top End, and the Kimberley.
- The USQ/Qld Govt SOI phase statistically-based model for the end of February suggests the SOI phase as "consistently positive". For this March to May period 2021, this equates to a ~70% probability of exceeding of the long-term median rainfall for 'patchy regions' of Queensland - mainly central inland, southern Cape York, NE Tropical Coastal regions; SE Qld coastal regions, the Yeppoon to Mackay region; plus NE NSW, SW WA and northern NT and some patchy regions of southern NT. Close to climatology for remaining regions.
- The UKMetOffice GCM is forecasting a 60% to 80% probability of exceeding the long-term median through, at this stage, to at least May 2021 for most of Australia, especially for eastern Australia. An update to this system is due mid-week.
- The European ECMWF GCM is indicating a 70%-80% probability of exceeding median rainfall for the March to May period, with the highest probability values being over eastern Queensland. ECMWF is indicating 60%-70% probability of exceeding the median for the May to July period mainly for Western Australia (Pilbara) but with much of the rest of the continent indicating close to climatological normal. (Note: this is the time of the year (autumn) when seasonal climate forecasts tend to be erratic).
- The Florida State University (FSU) model is showing slightly positive SOI values through until about September and then slightly positive or close to zero for the remainder of 2021.
- The SOI 30-day average is now plus 7.0 (+7.0)
- MJO information (also courtesy of BoM): the MJO may next be due again in mid-April.

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,

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

