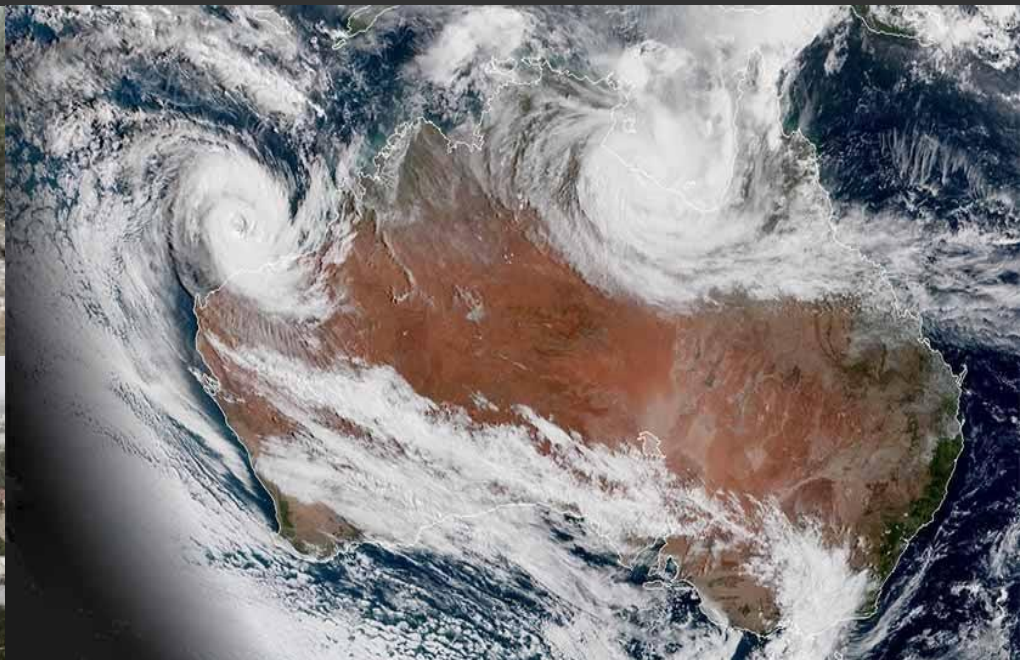




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Rainfall Outlook for 2020/21

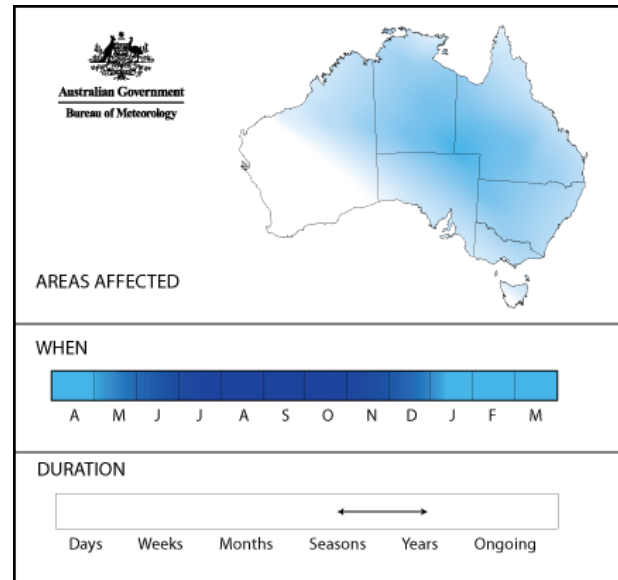
Steven Crimp

ANU Climate Change Institute

La Niña increases flood risk

- BoM announced a La Niña “watch” in July 2020, this has strengthened to an “Alert” in September.
- The presence of La Niña increases the chance of widespread flooding.
- Of the 18 La Niña events since 1900, **12 have resulted in floods** for some parts of Australia. <http://www.bom.gov.au/climate/enso/lnlist/>
- The east coast experiencing twice as many severe floods during La Niña years than El Niño years.
- Typically, some areas of northern Australia will experience flooding during La Niña because of the increase in tropical cyclone numbers.

Where and When does it occur?

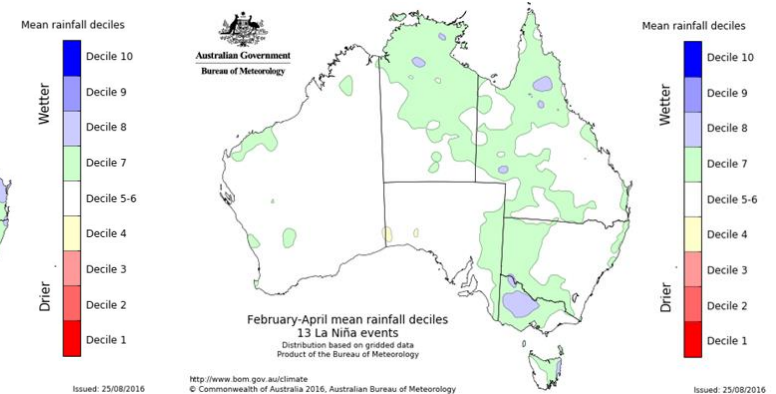
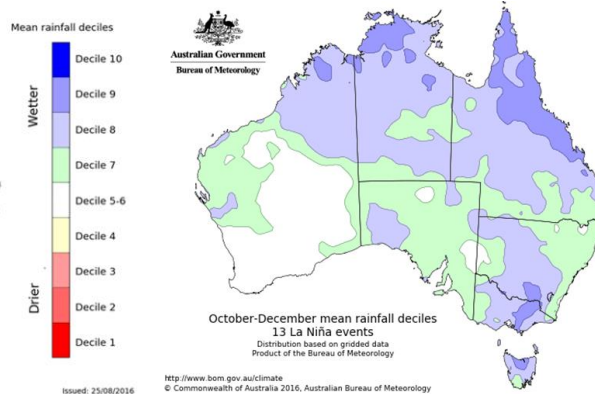
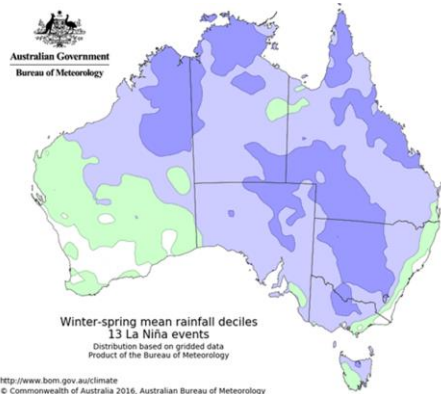


La Niña events tend to begin in autumn, mature during winter, spring and early summer, then begin to decay in late summer.

June to Oct

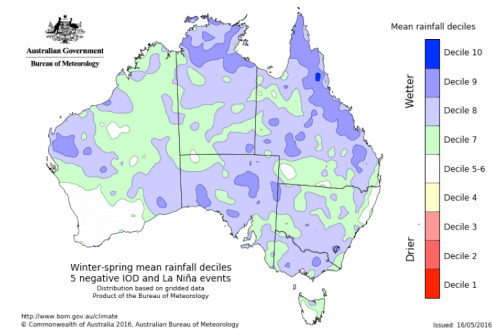
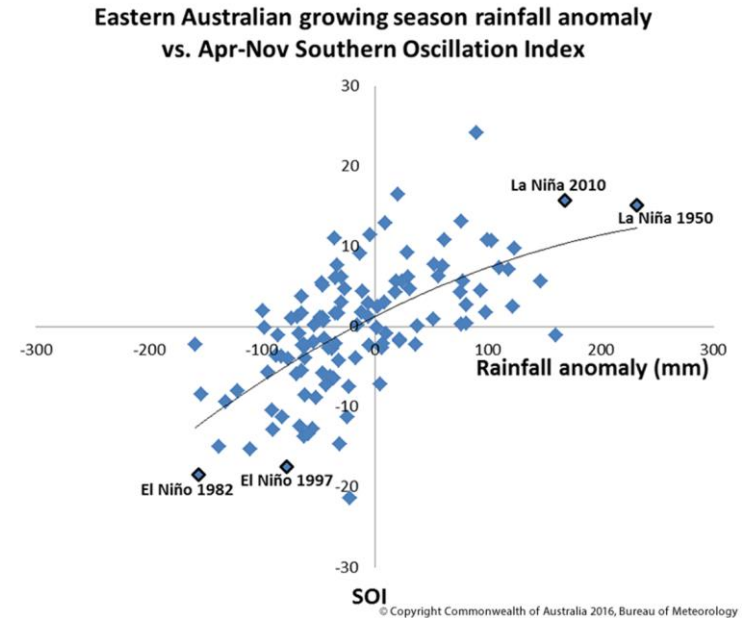
Oct to Dec

Feb to April



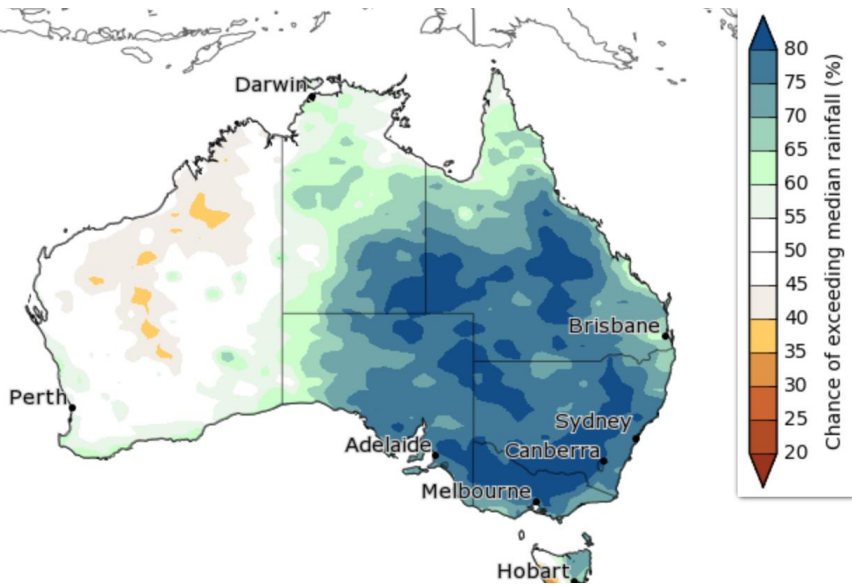
La Niña strength \approx rainfall amount

- The greater the sea surface temperature and SOI difference from normal, the larger the rainfall response.
- The wettest years on record for Australia occurred during the strong 2010–2012 and 1974 La Niña events.
- The 2010–12 La Niña event was particularly devastating in terms of widespread flooding across Australia, exacerbated by the Indian Ocean temperatures (negative IOD).

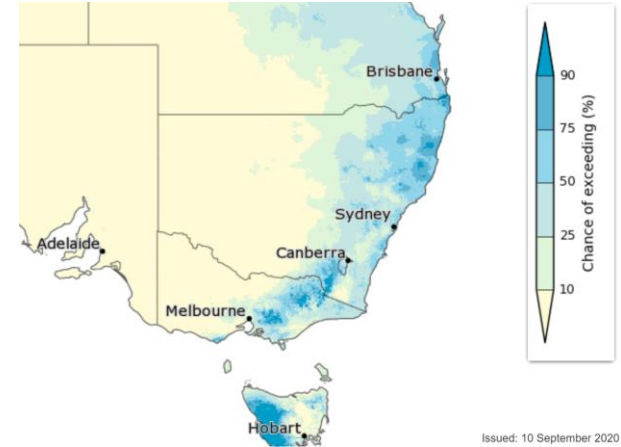


Rainfall outlook for 2020/21

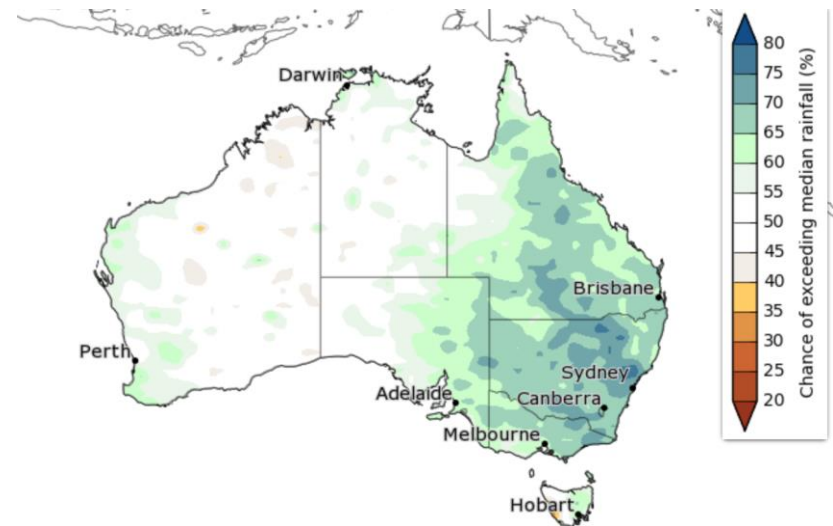
October to December



Chance of Exceeding 300mm Oct to Dec

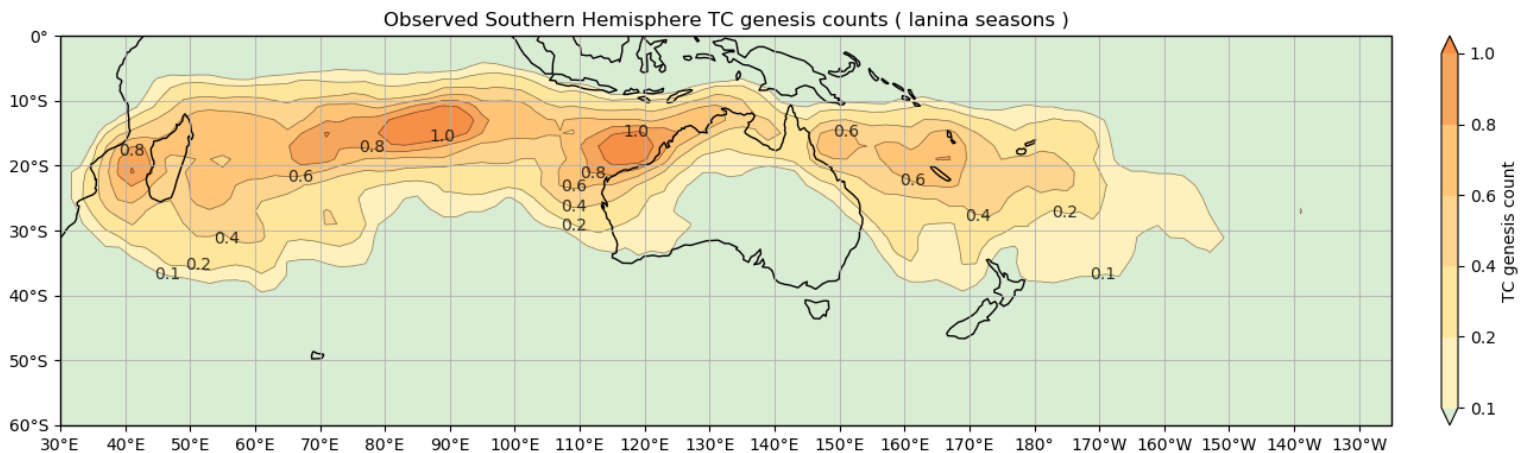


November to January



La Niña and Cyclones

- During La Niña's, there are typically more tropical cyclones in the Australia region, with twice as many making landfall than during El Niño years on average.



- The first cyclone to cross the Australian coast also tends to occur earlier in the season.
- The only years with multiple severe tropical cyclone landfalls in Queensland have been La Niña years.

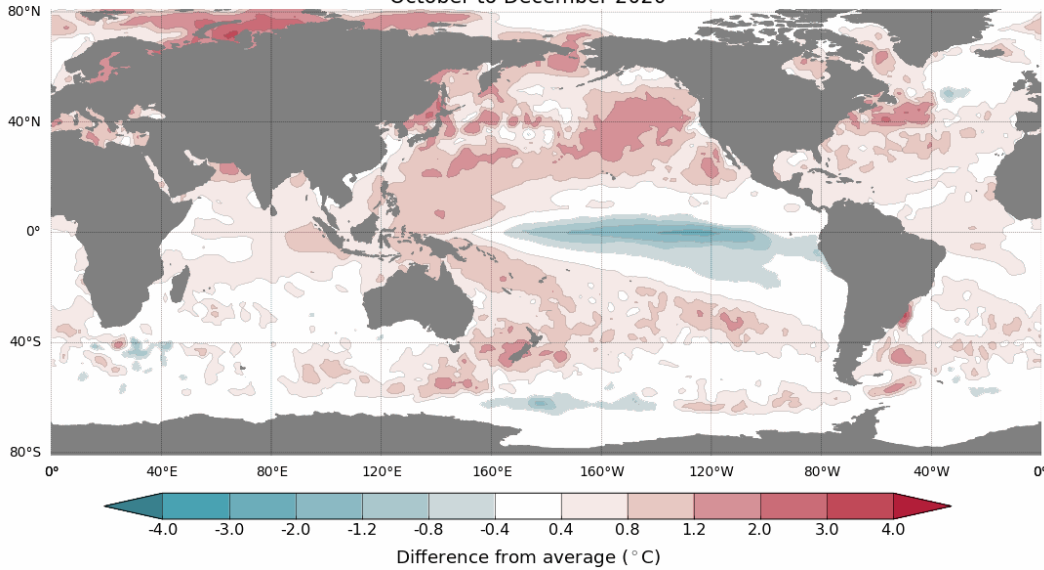


Thank you



La Niña and Negative IOD possible

Difference from average sea surface temperature forecast for October to December 2020



Monthly sea surface temperature anomalies for IOD region

