

# Climate Outlook

Northern Fire Managers Forum  
Darwin, Northern Territory  
3-4 April, 2019



*David Jones & Paul Gregory  
Climate Services, Bureau of Meteorology*

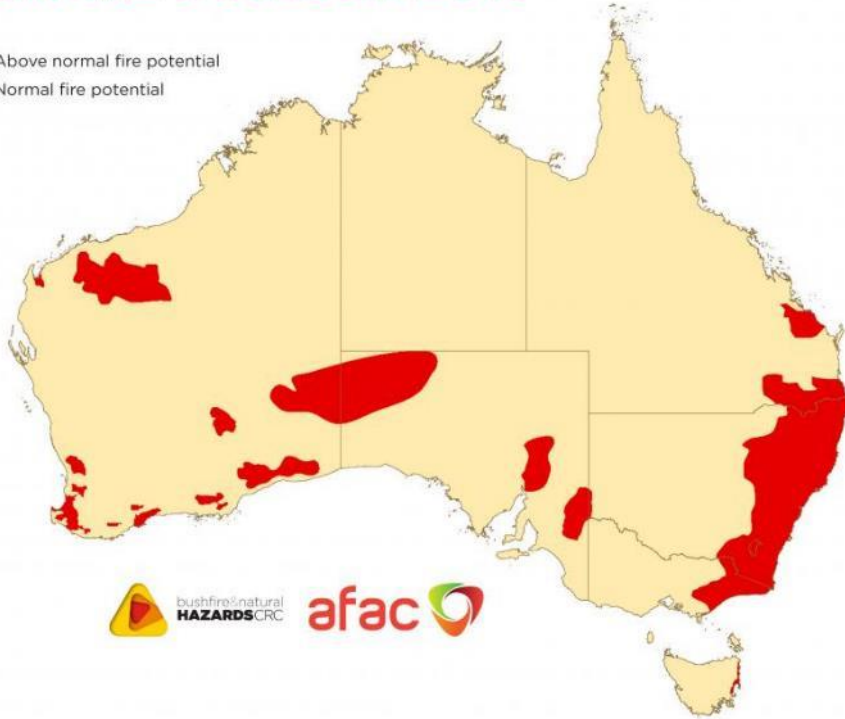


Timburra Fires Gippsland Helenka King @HelenkaKingTwitter

# 2018 fire season outlook

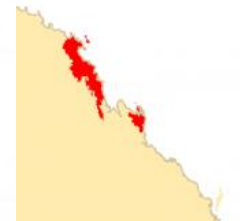
## SOUTHERN AUSTRALIA SEASONAL BUSHFIRE OUTLOOK 2018

-  Above normal fire potential
-  Normal fire potential

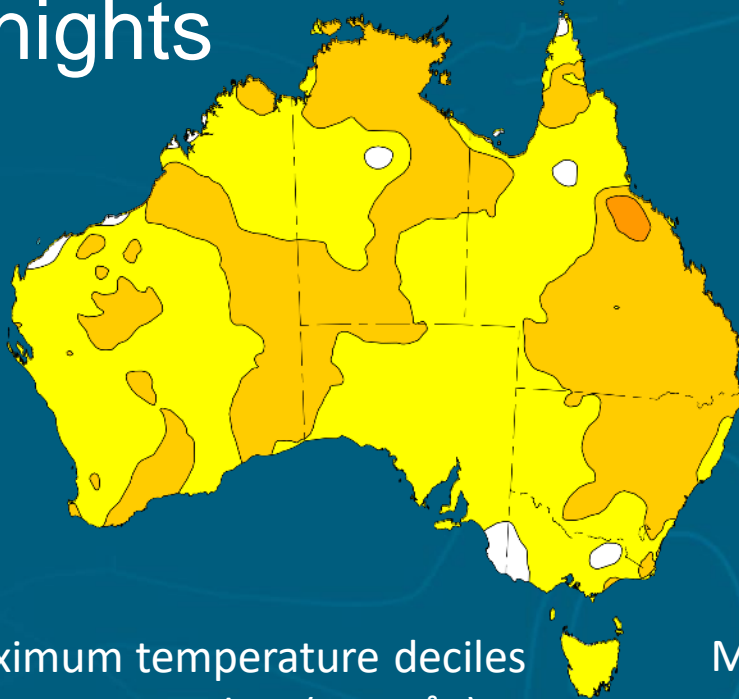


Average fire potential for most areas:

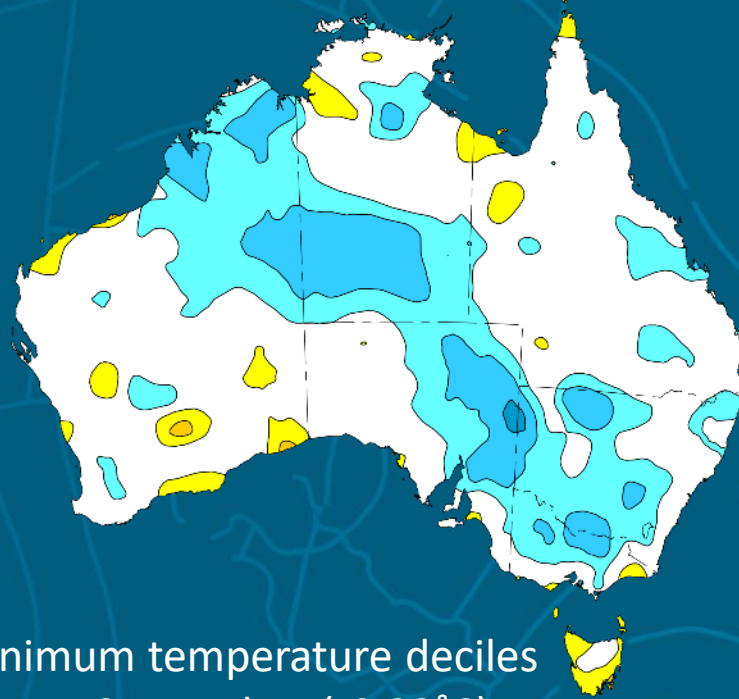
- High fuels in west
- Impact of TC Marcia and Debbie in Queensland
- Average across NT



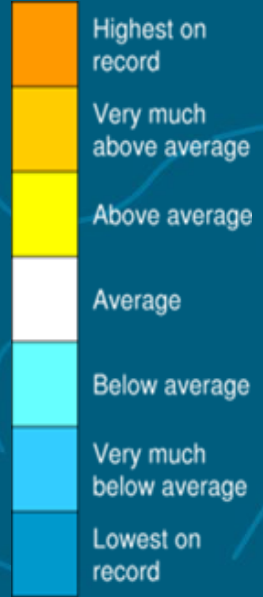
# 2018 season: warm days and near average nights



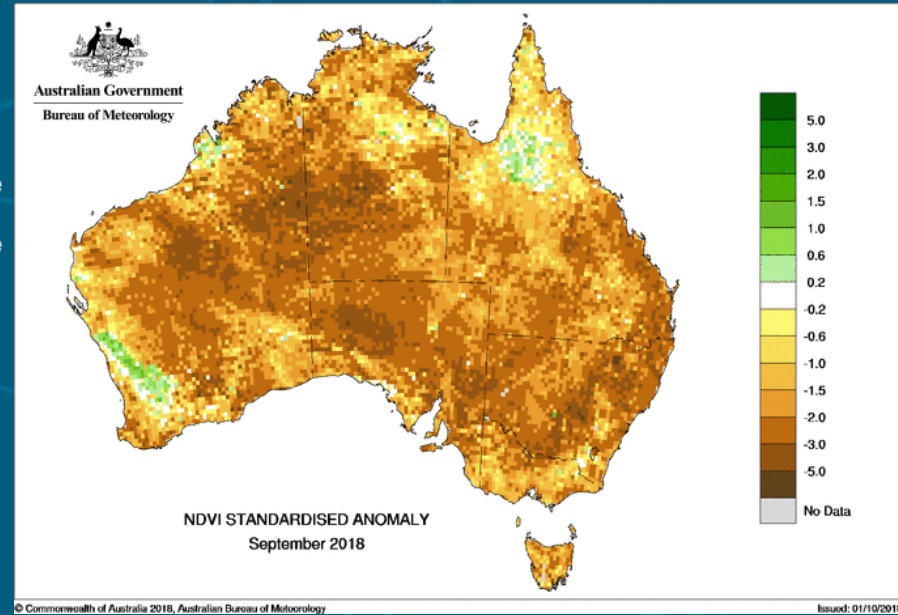
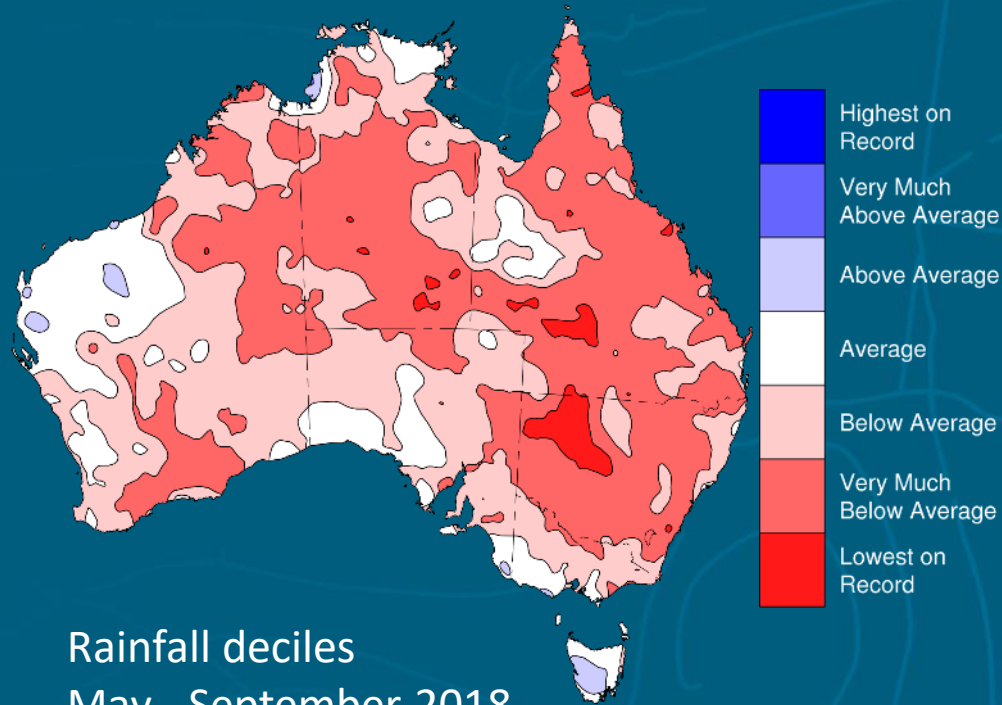
Maximum temperature deciles  
May to September (+1.24°C)



Minimum temperature deciles  
May to September (-0.23°C)



# Seasonal rainfall deciles: Early start and very dry

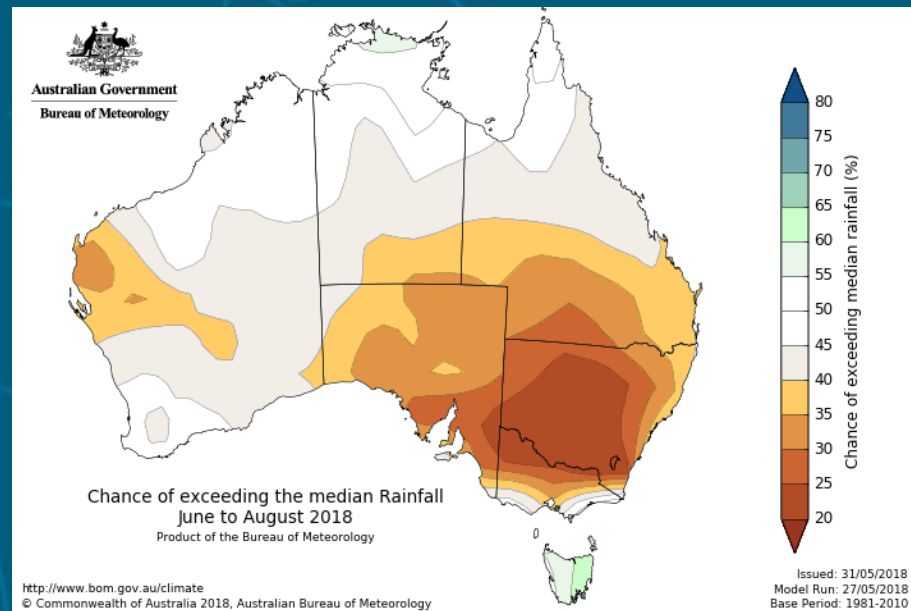
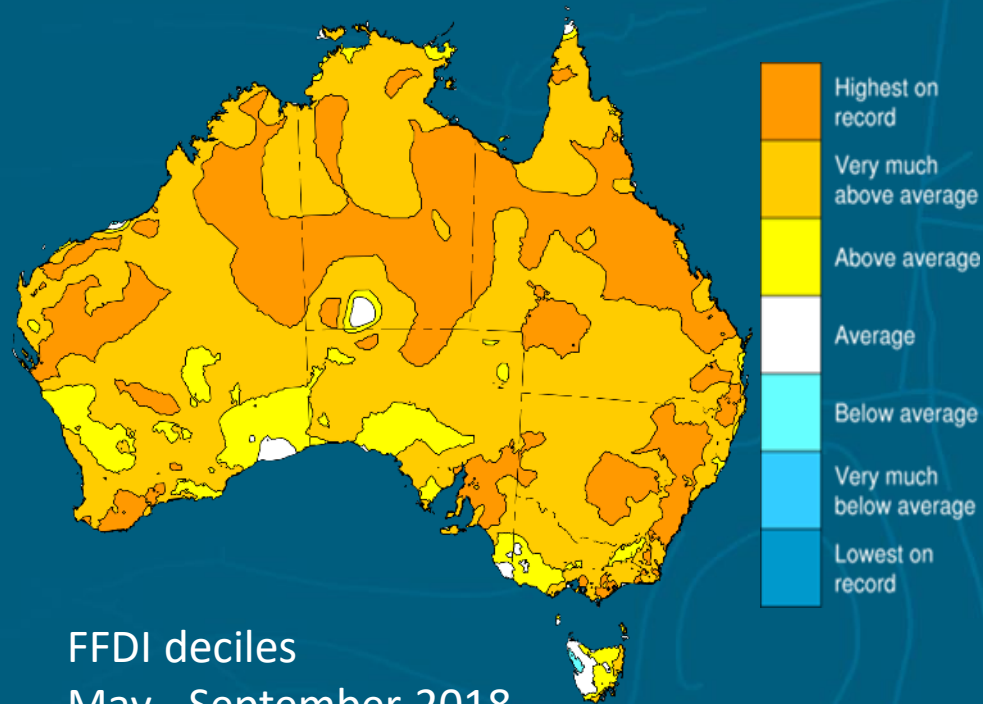


September 2018 NDVI anomaly



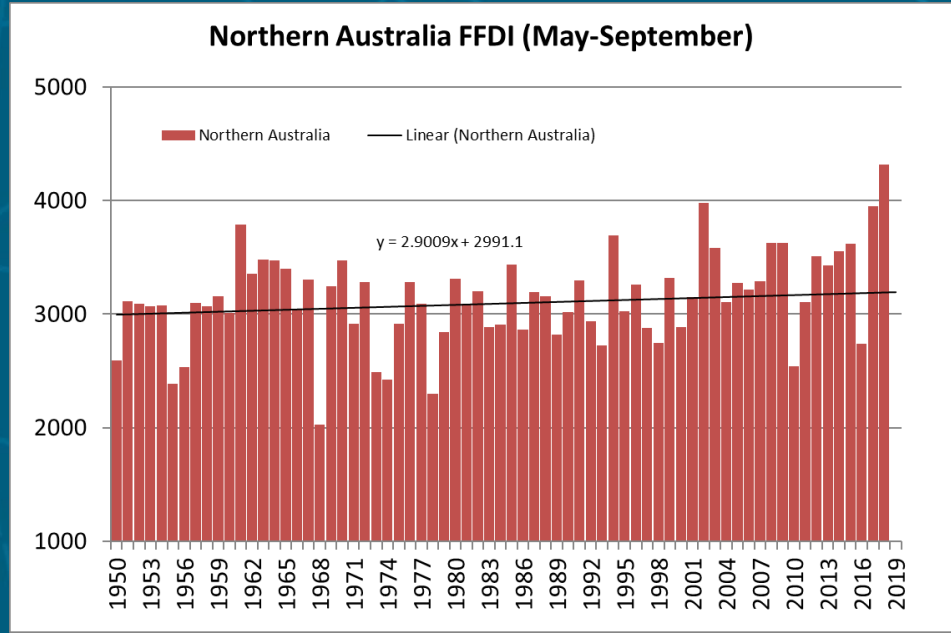
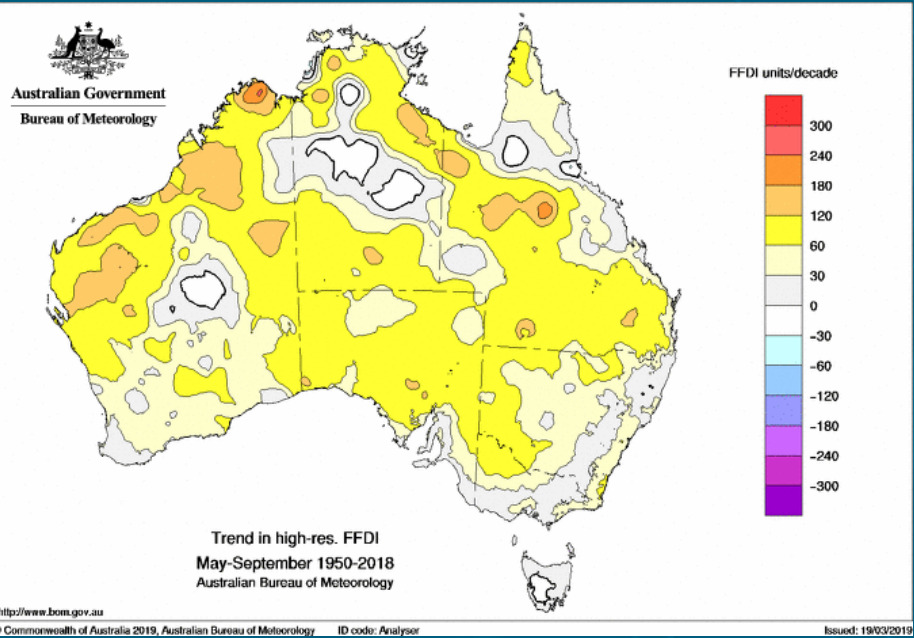


# Cumulative FFDI (no GFDI yet): Fire season



Jun - Aug seasonal outlook 2018

# Bushfire weather and a warming planet



Trends in dry season Forest Fire Danger Index (FFDI) (1950-2018)

Northern Australia dry season FFDI

# Southern and Northern fire seasons overlapped (again)



Albany. 25 May 2018

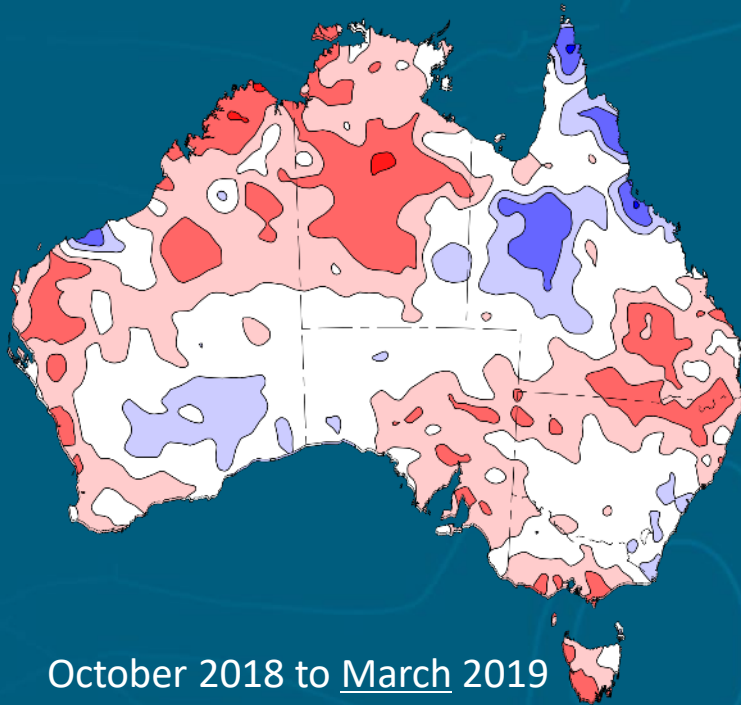
Agnes Water, 26  
November (ABC)



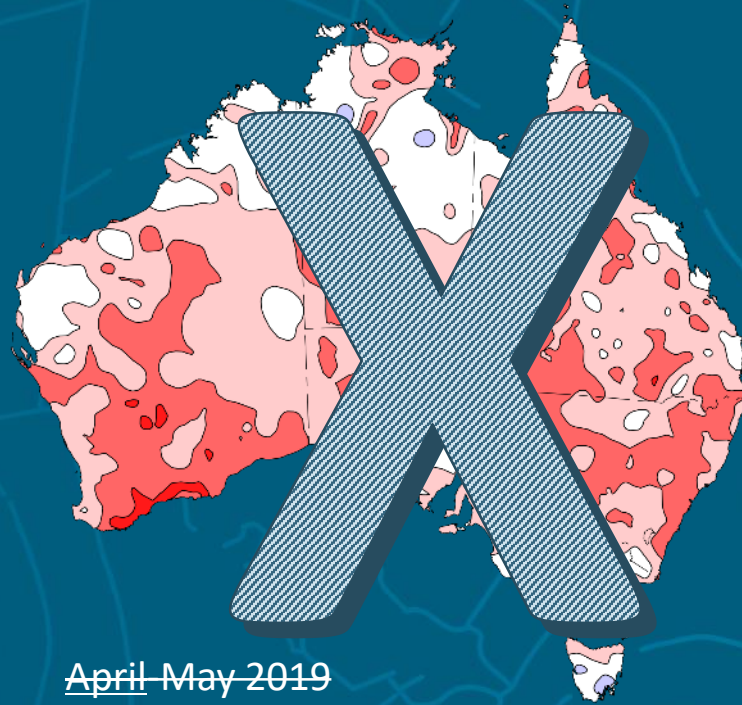
Bega Valley, 15  
August (ABC)



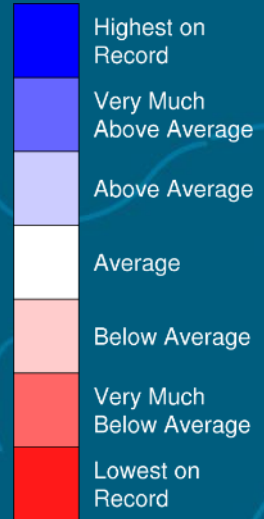
# Rainfall: Monsoon season and the dry (so far)



October 2018 to March 2019

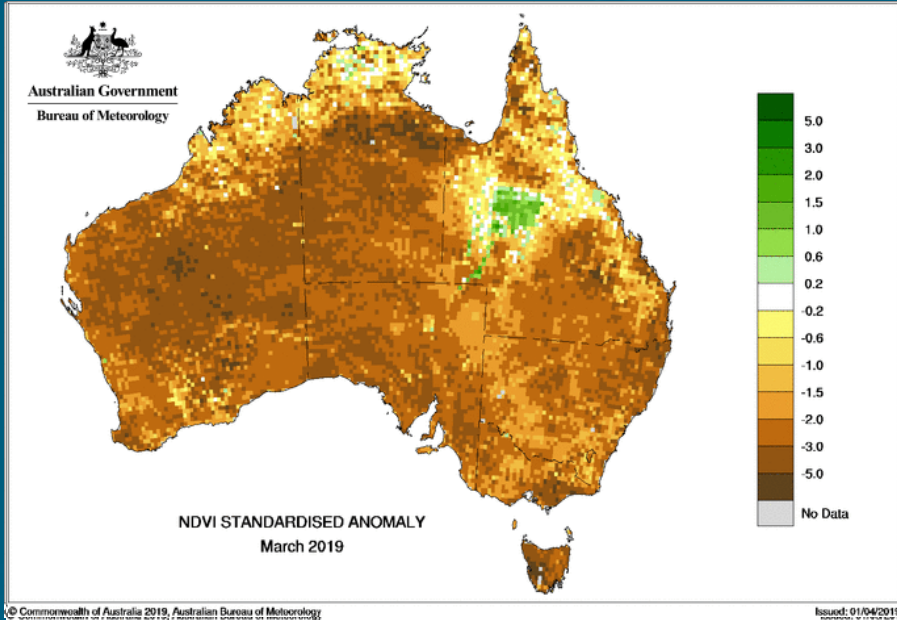


April May 2019

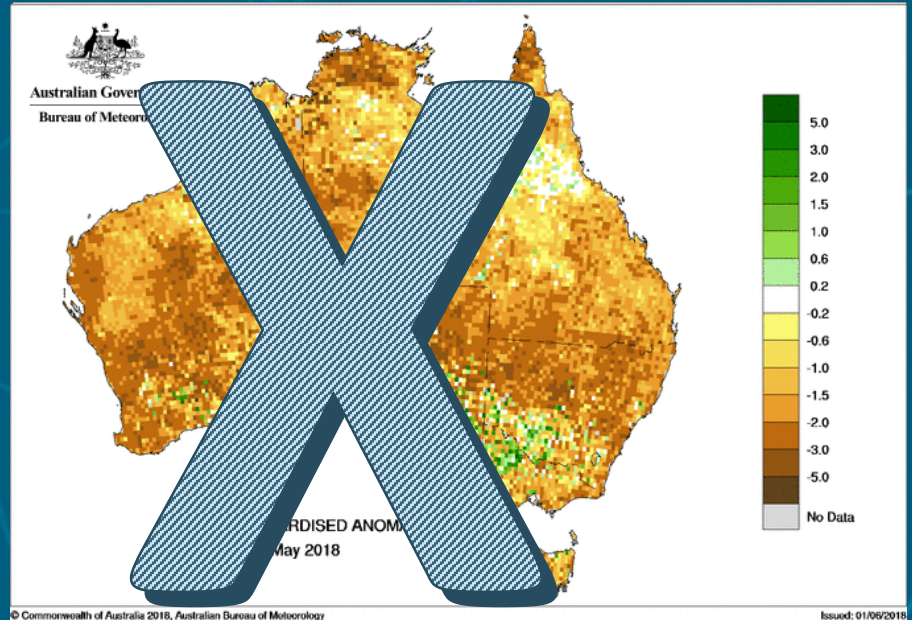




# Recent NDVI: ~~March & May 2019~~



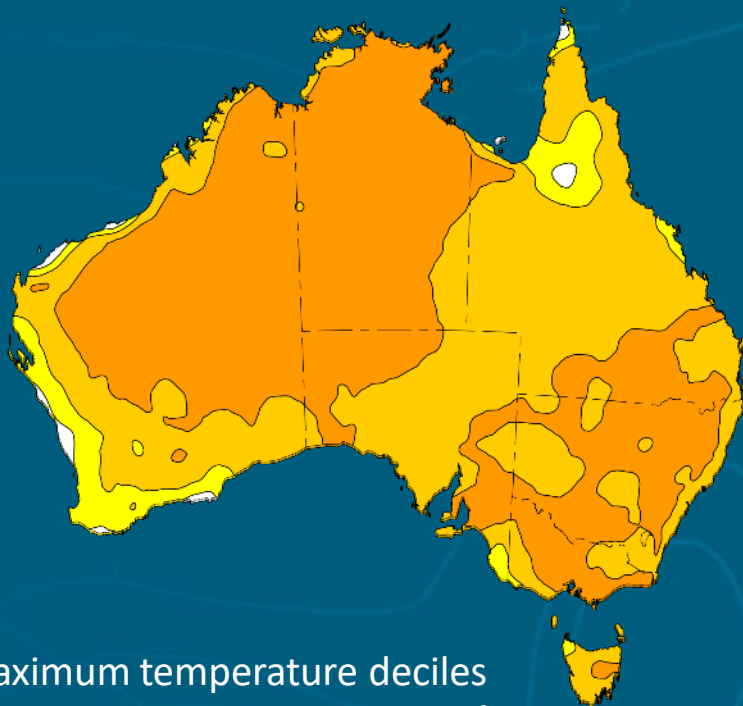
March 2019 NDVI anomaly



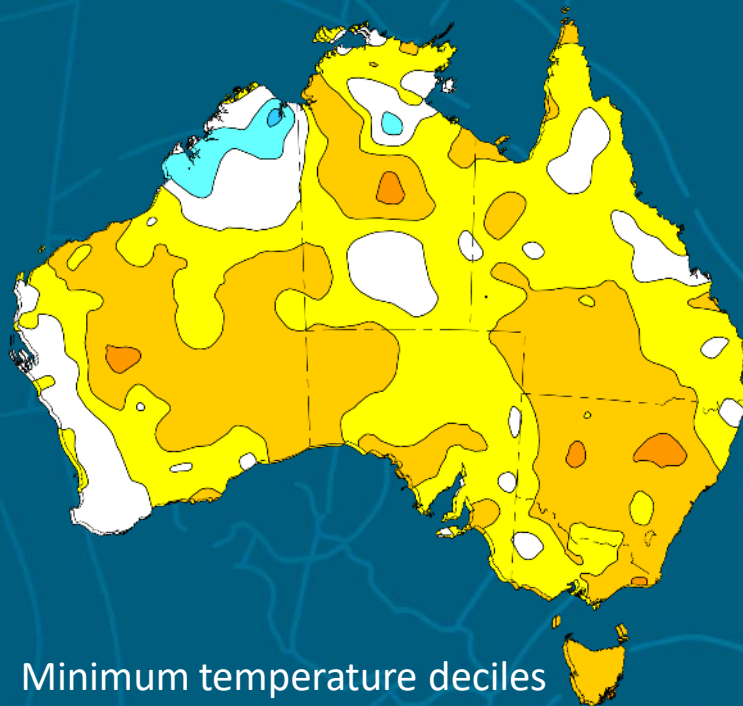
~~May 2019 NDVI anomaly~~



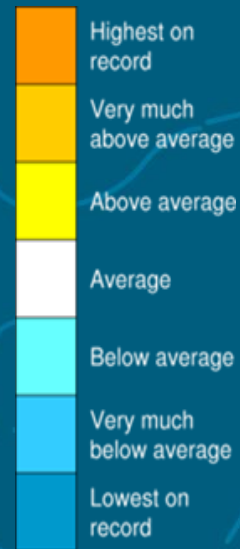
# Temperatures: Exceptionally warm days



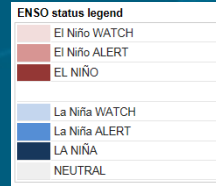
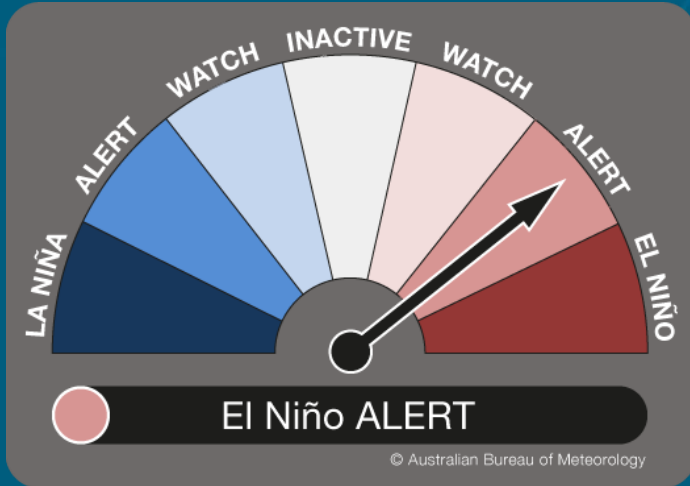
Maximum temperature deciles  
April 2018 to Mar 2019 (+1.84°C, highest)



Minimum temperature deciles  
April 2018 to Mar 2019 2018 (+0.85°C)

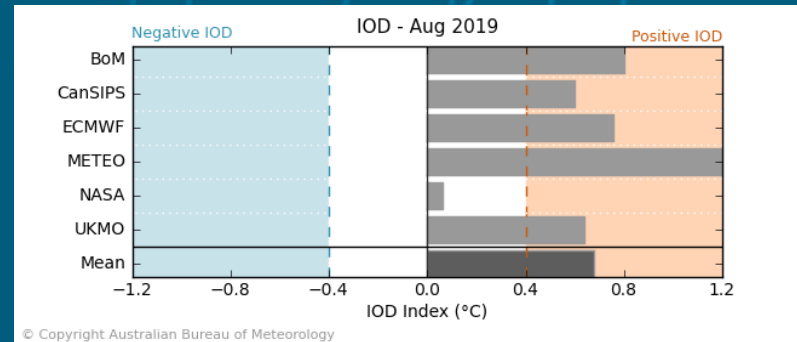
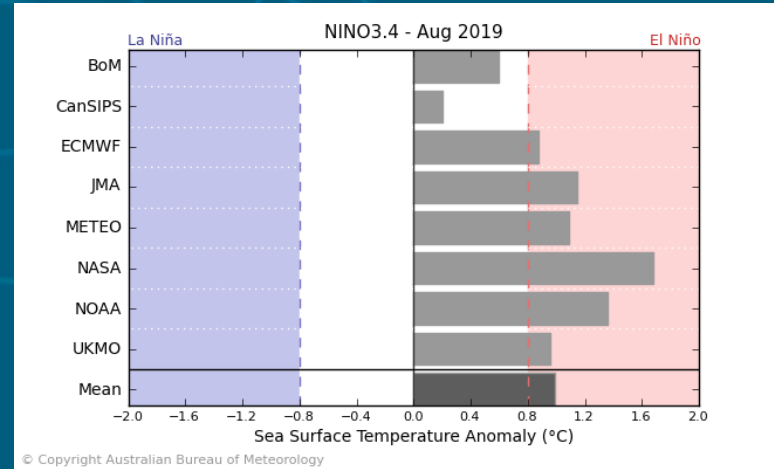


# El Niño watch → 70% probability of an event



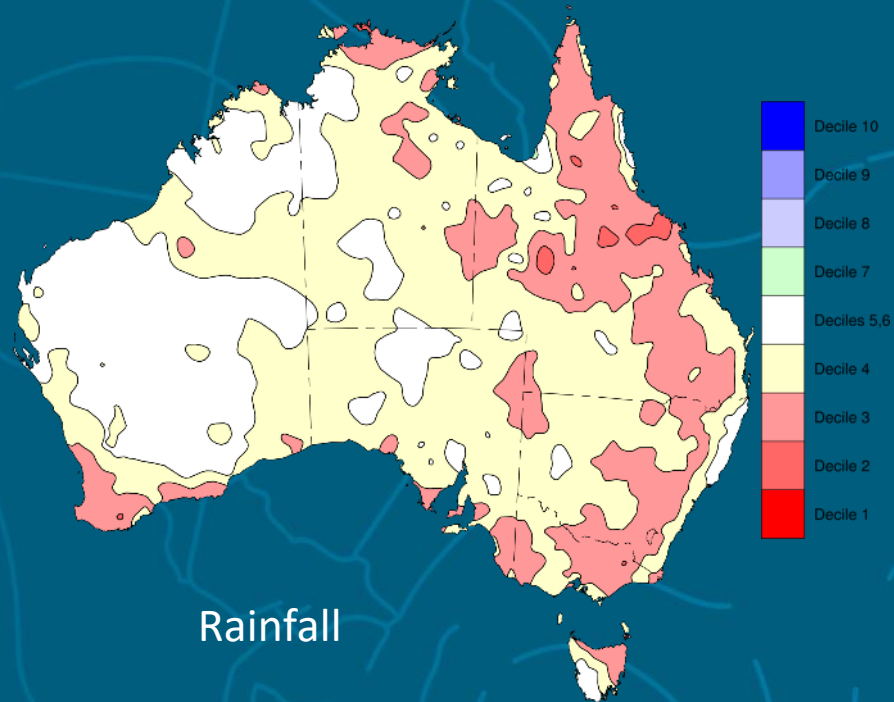
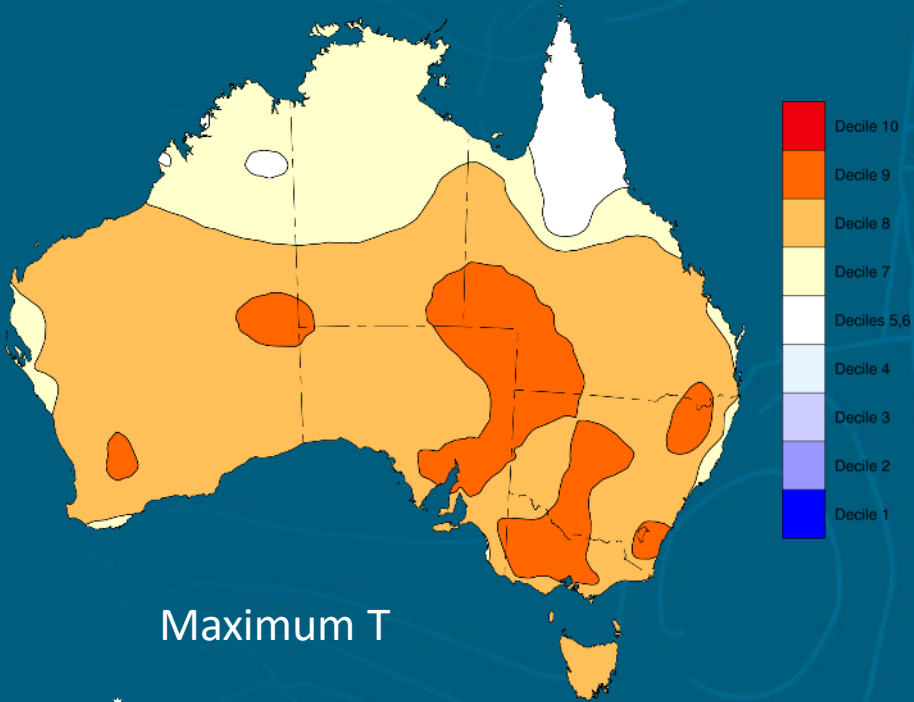
Model forecasts for IOD and El Niño

Model forecasts show El Niño conditions most likely



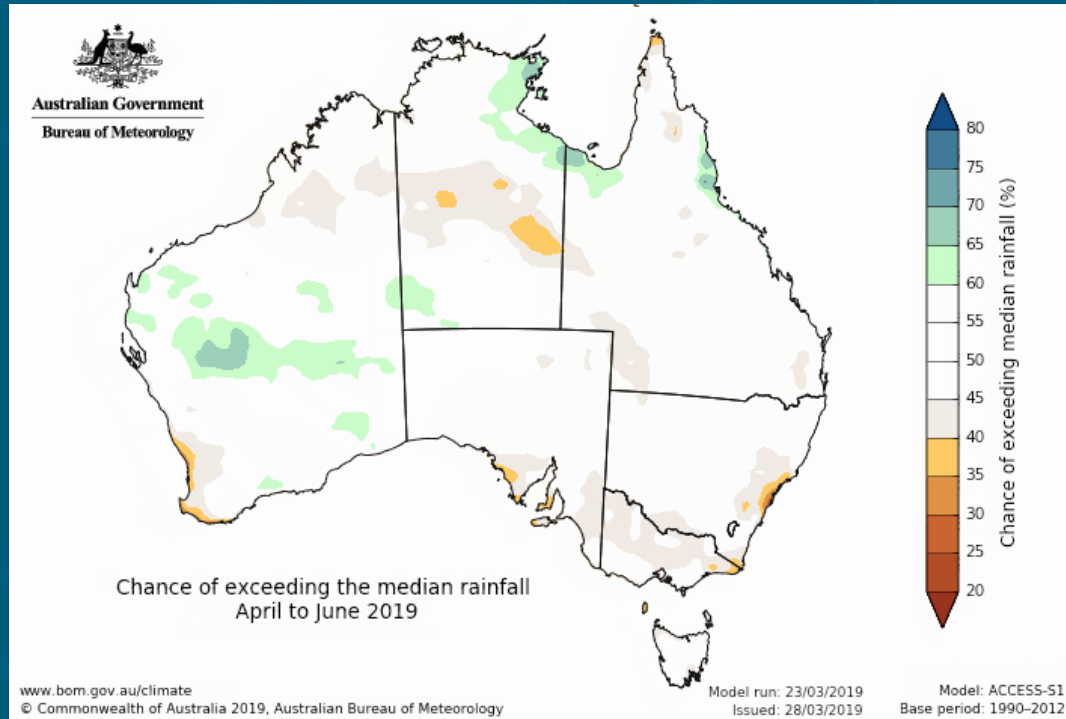
# El Niño impacts (composites since 1970s)

Winter-spring rainfall and maximum temperatures

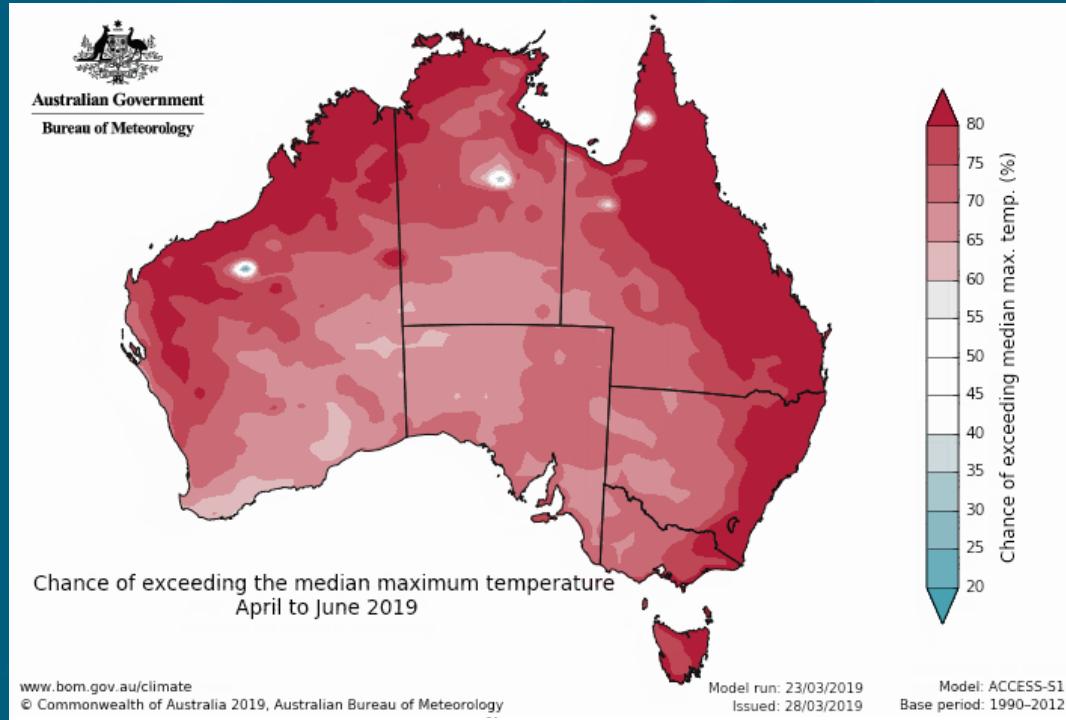




# April-June rainfall outlook



# April-June maximum temperature outlook



# Summary

- Very poor monsoon across much of the north, and locally record dry
- Late cyclones (Trevor and Veronica) brought locally heavy rainfall
- Pacific currently near El Niño , with further development likely
- Preliminary outlooks:
  - Rainfall mixed, but unlikely to have much impact in north
  - Above average temperatures almost everywhere
  - Likely that the northern fire season will again extensively overlap with that in the south

