

# Climate Outlook

North Australian Fire Managers Forum

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Australian Government  
Bureau of Meteorology

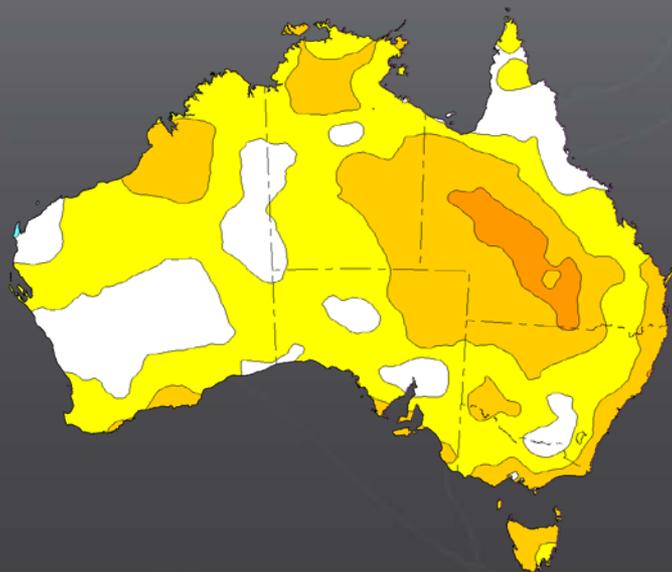
# Overview

1. Recent Conditions
2. Seasonal Climate Outlook
3. Potential for developing El Niño—longer-term outlook guidance

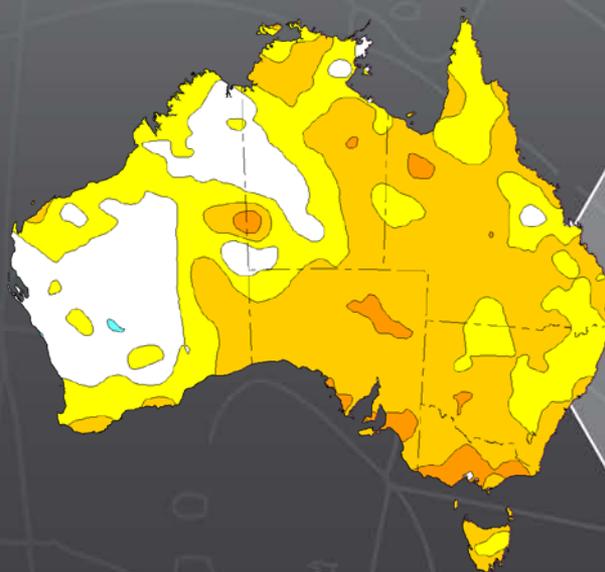




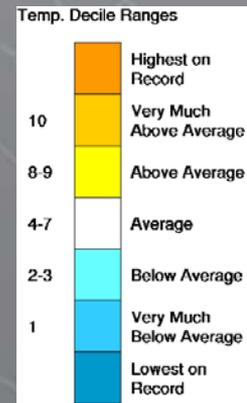
# Recent Temperature



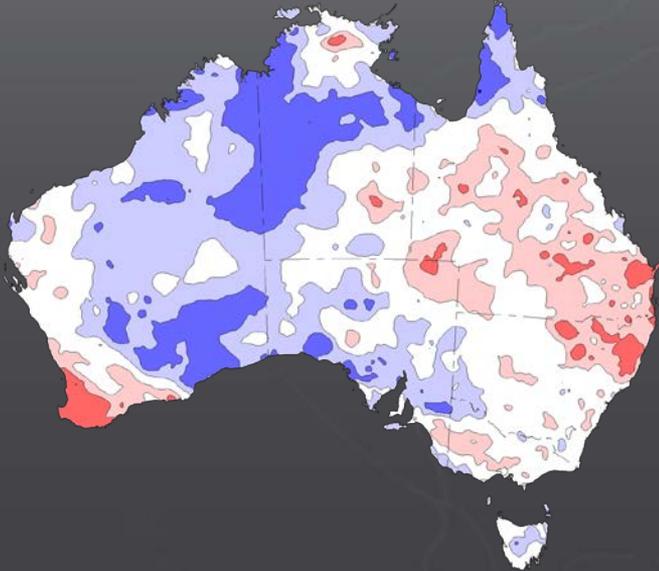
Maximum  
temperature  
deciles April - June



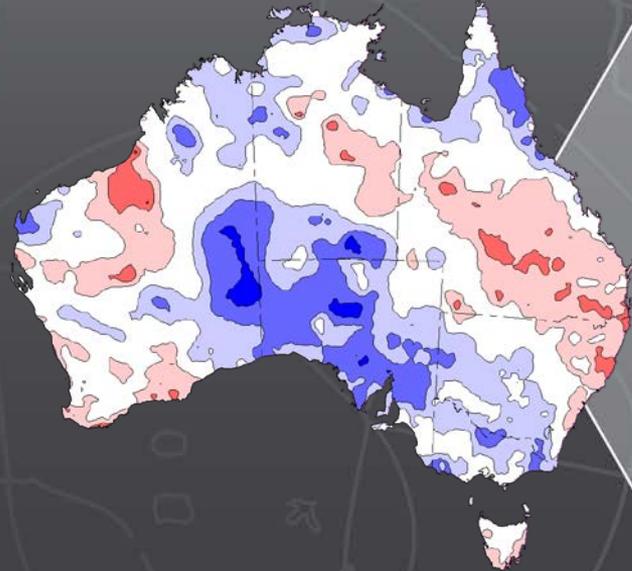
Minimum  
temperature  
deciles April - June



# Recent Rainfall

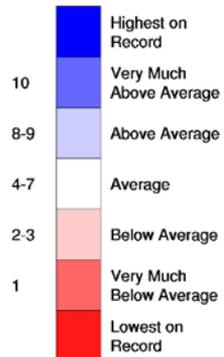


Rainfall deciles  
Northern wet season  
Oct 2013 – April 2014

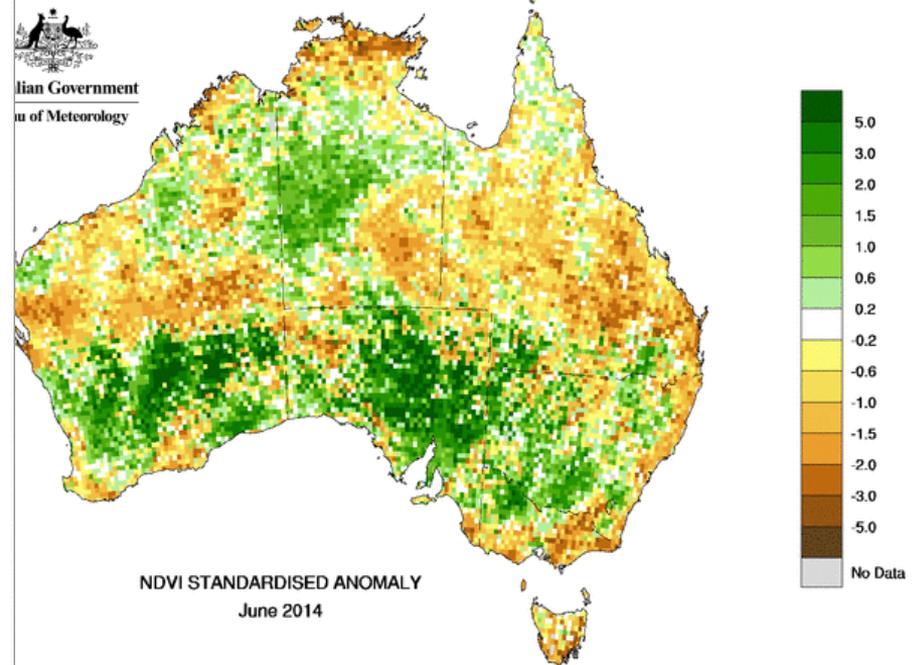
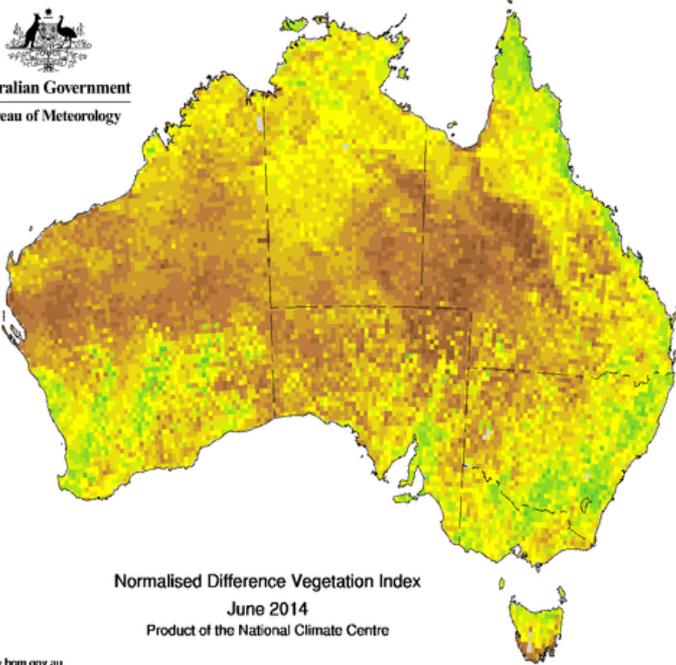


Rainfall deciles  
April – June 2014

## Rainfall Decile Ranges



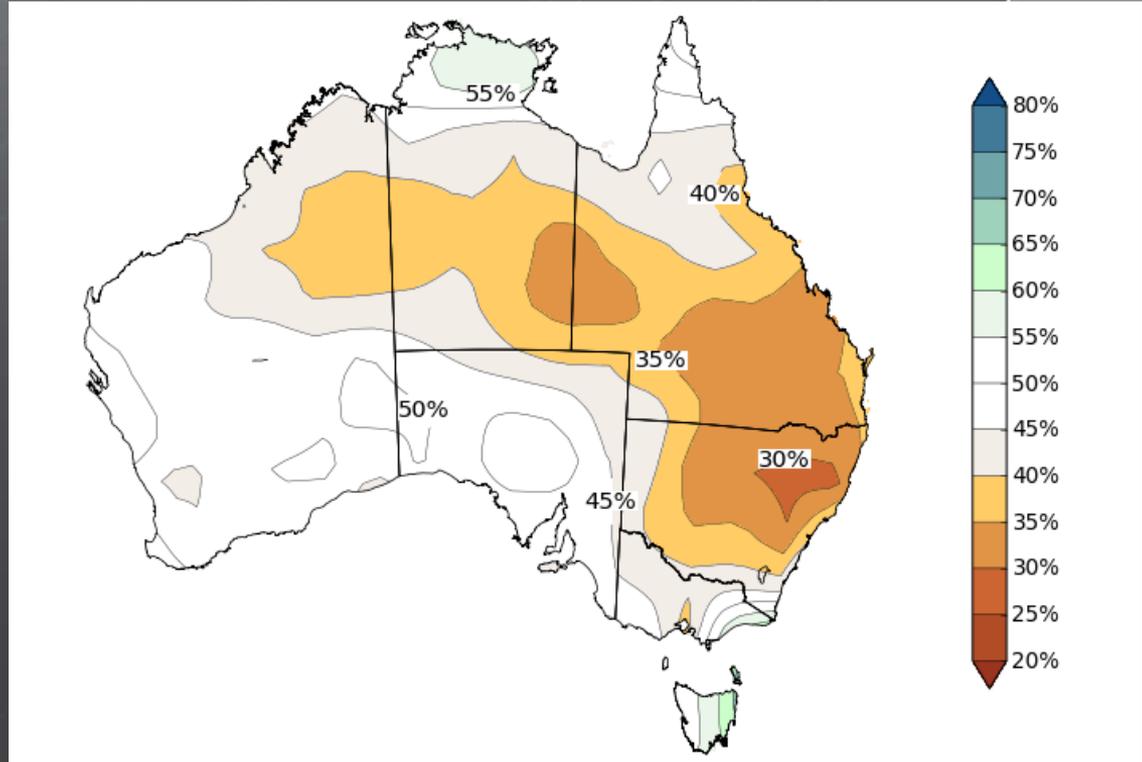
# Recent NVDI



# Rainfall outlook for July - September

Increased chance of below normal rainfall for much of New South Wales and Queensland

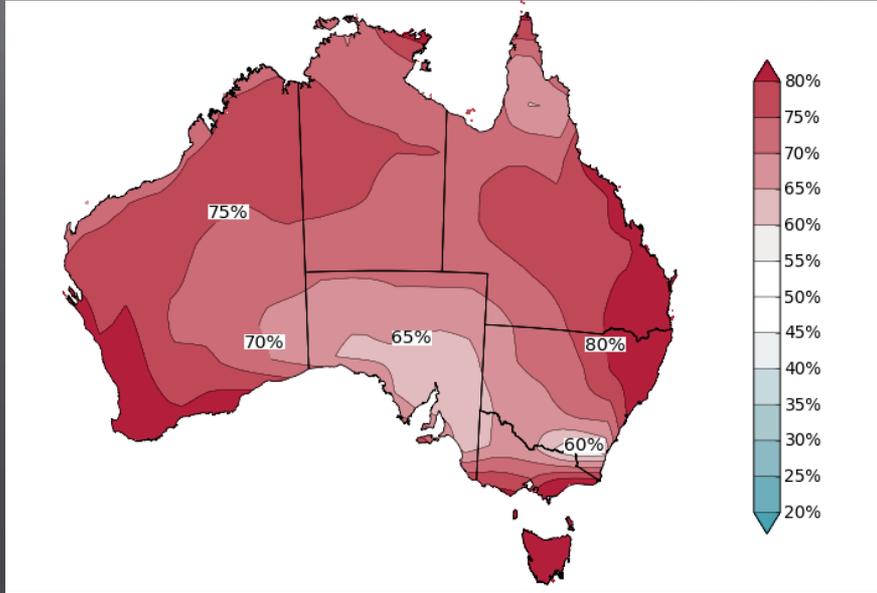
Tropical regions currently in dry season



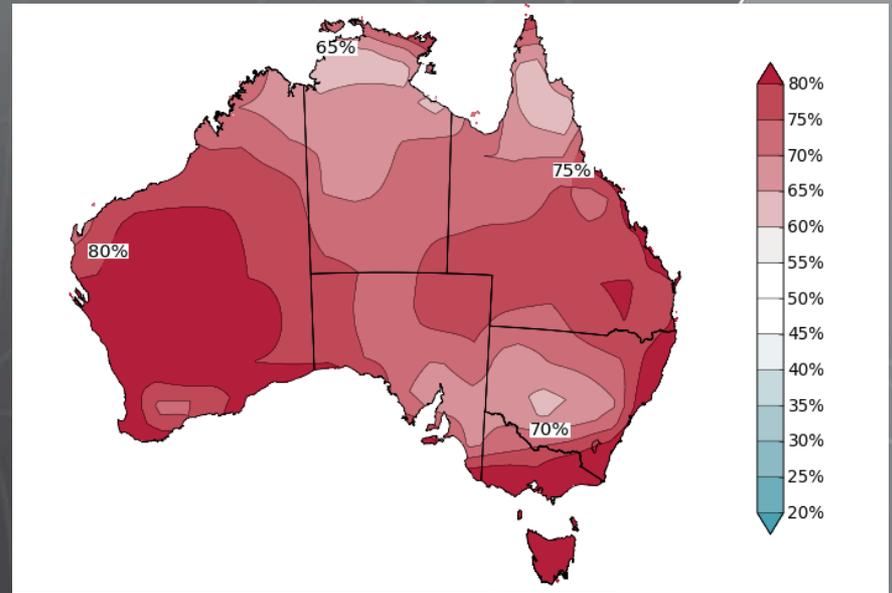
Chance of exceeding median rainfall July – September\*

\* moderate confidence at this time of year

# Temperature outlook for July – September\*



Chance of exceeding median maximum temperature

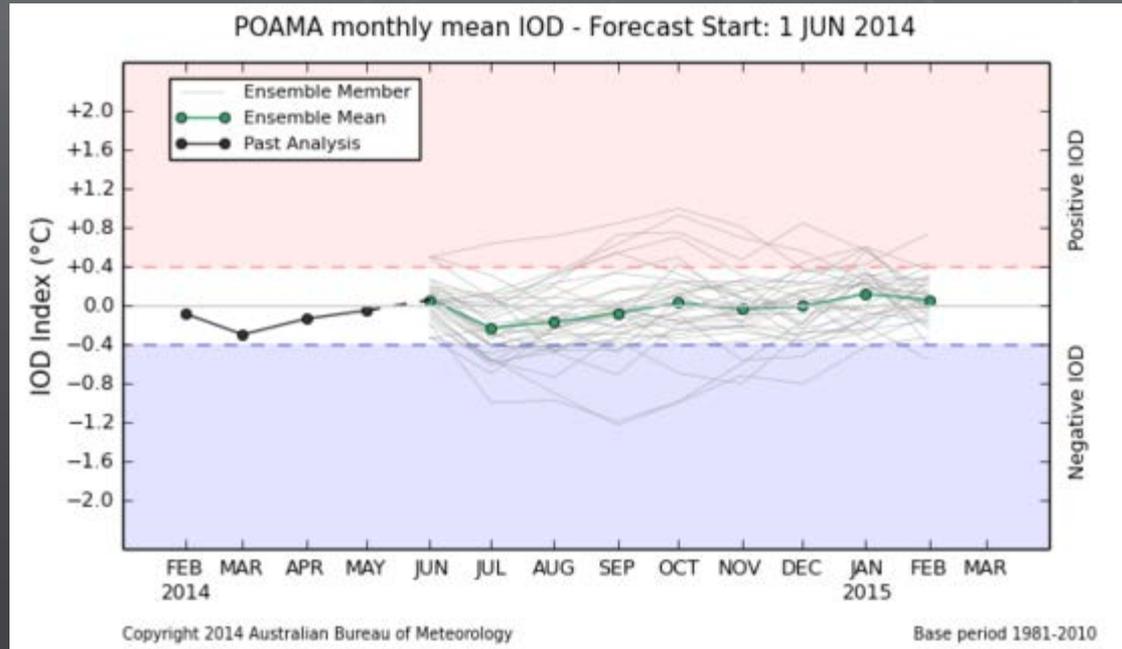


Chance of exceeding median minimum temperature

- Warmer than normal days and nights likely over most of the country

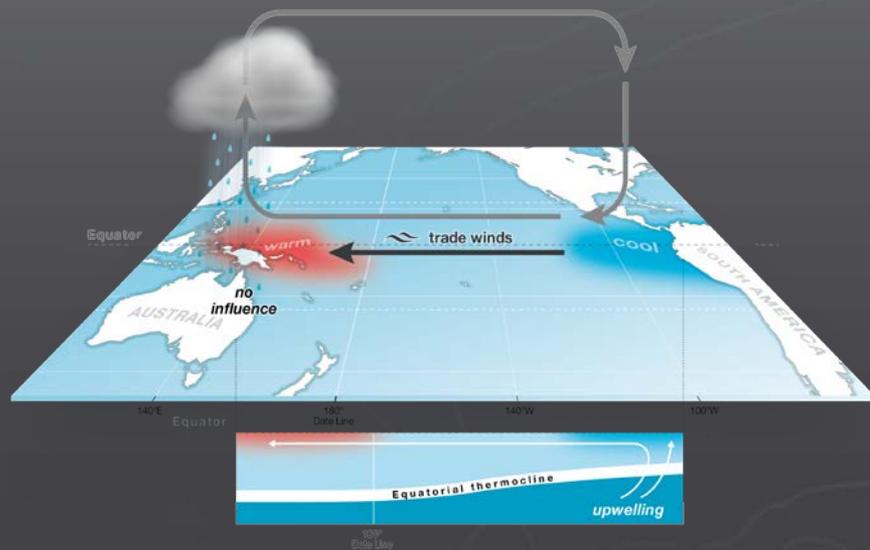
\* moderate confidence at this time of year

# Indian Ocean dipole is currently forecast to remain neutral for coming season

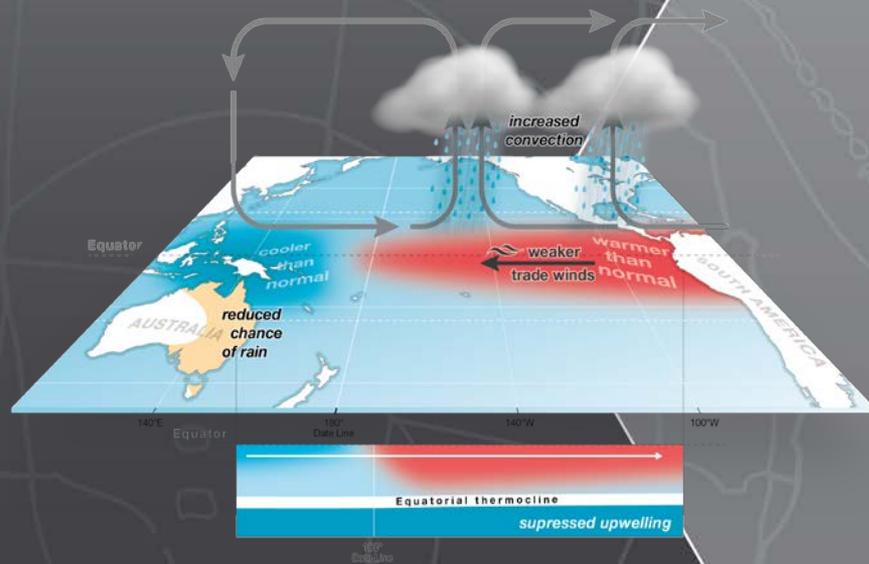




# El Niño—Southern Oscillation Neutral pattern

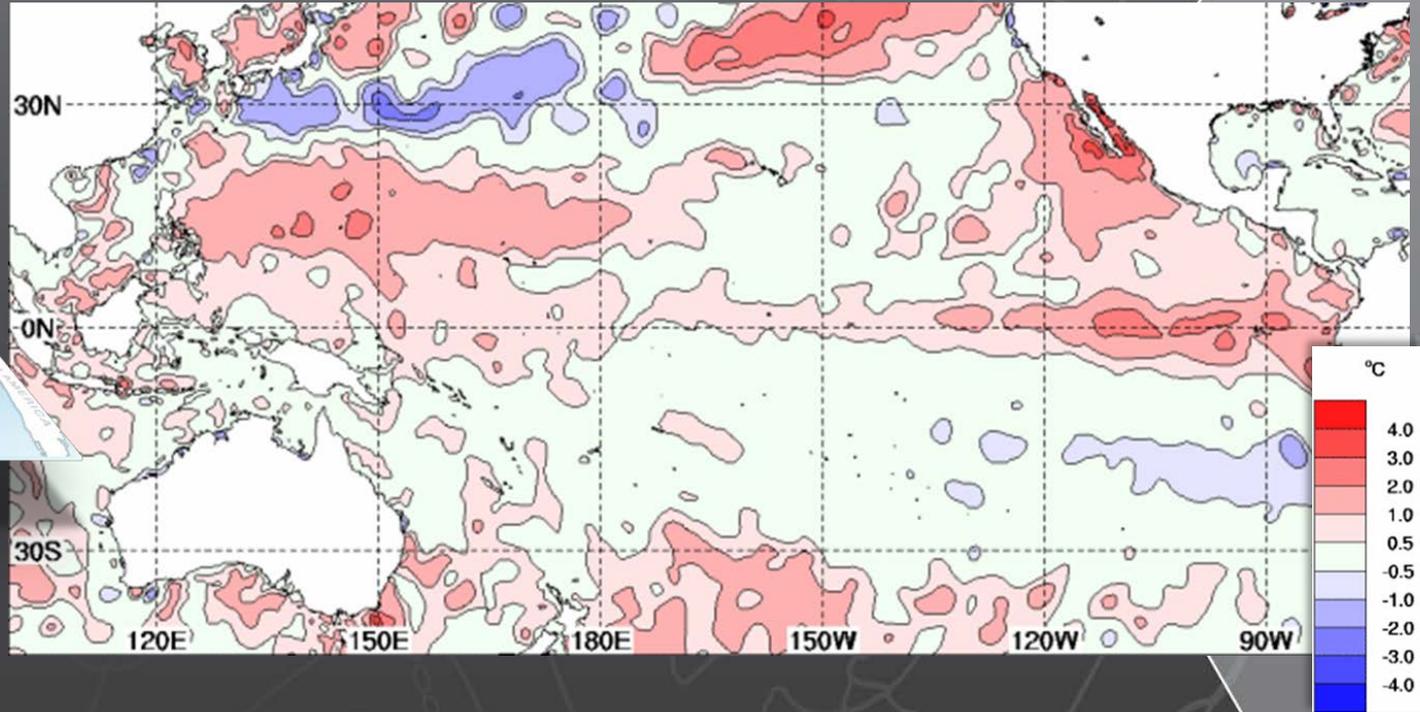
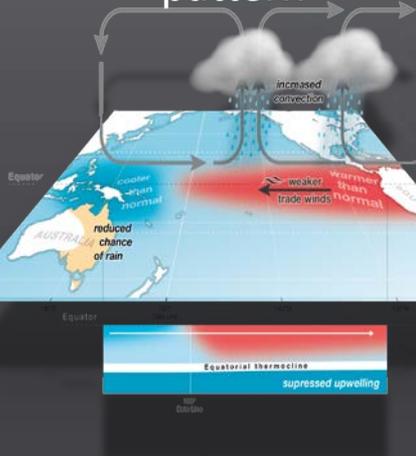


# El Niño—Southern Oscillation Typical El Niño pattern



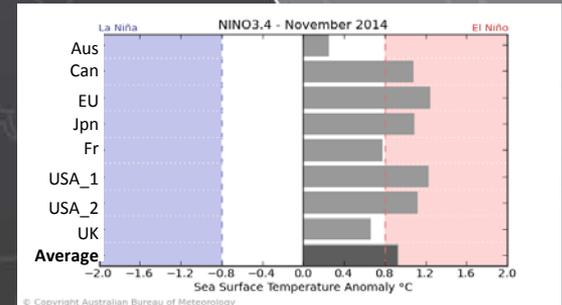
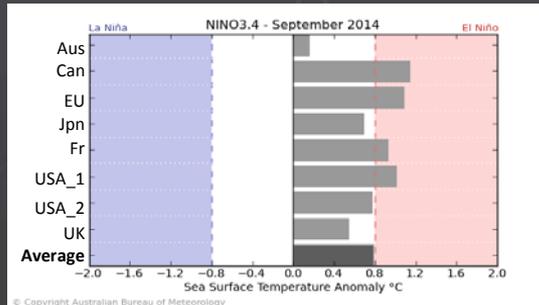
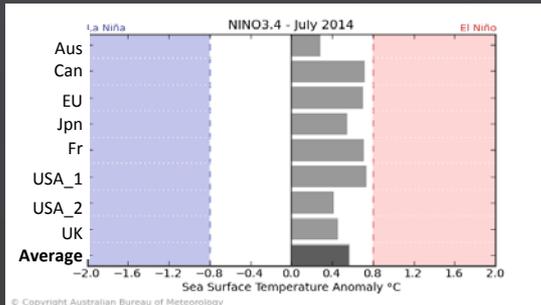
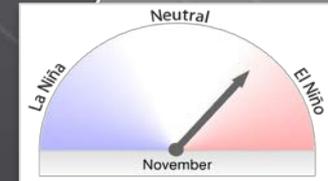
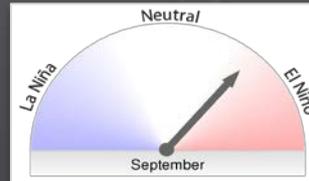
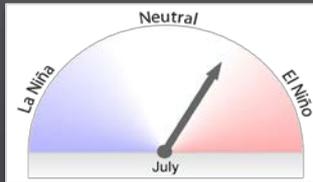
# Weekly sea surface temperature anomalies (to 29 June 2014)

Typical El Niño  
pattern



# Climate model forecasts for Pacific Ocean

- The Bureau's model (POAMA) is now indicating El Niño thresholds will not be exceeded
- However, a majority of international models indicate El Niño thresholds will be exceeded by September

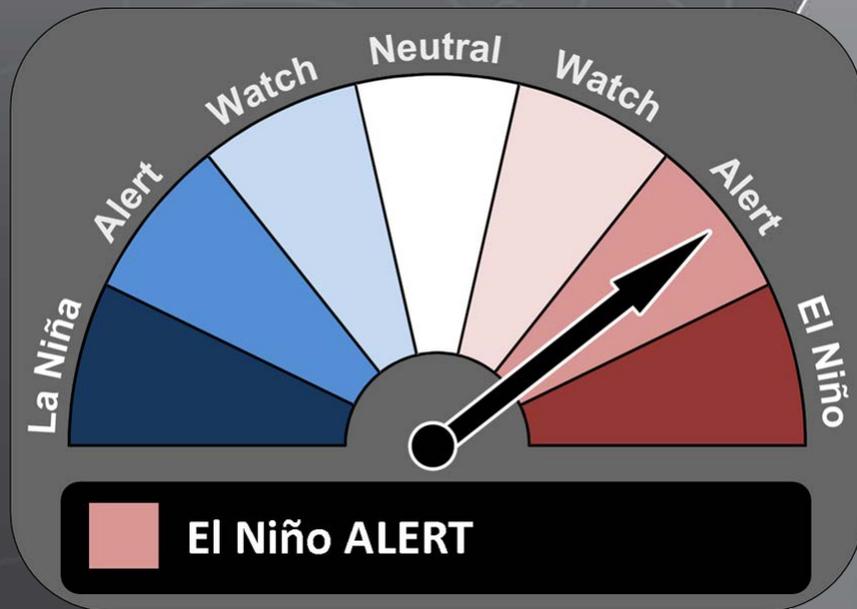


Average NINO3.4 forecast from eight international climate models (Australia, Canada, EU, Japan, France, US (NASA and NOAA) and UK)

# ENSO Tracker remains at ALERT

- >70% likelihood of an El Niño developing in 2014

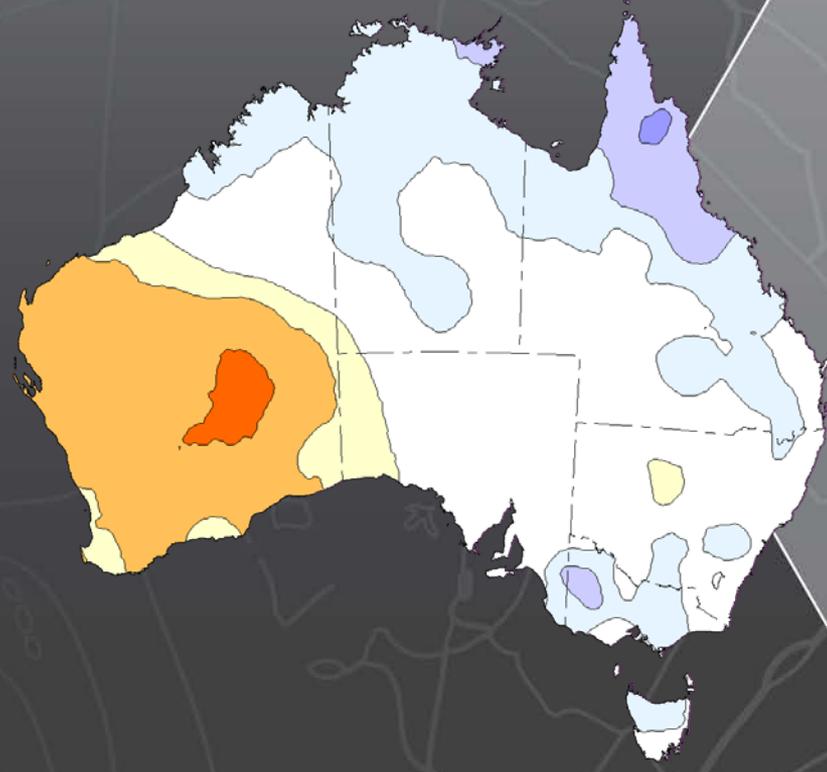
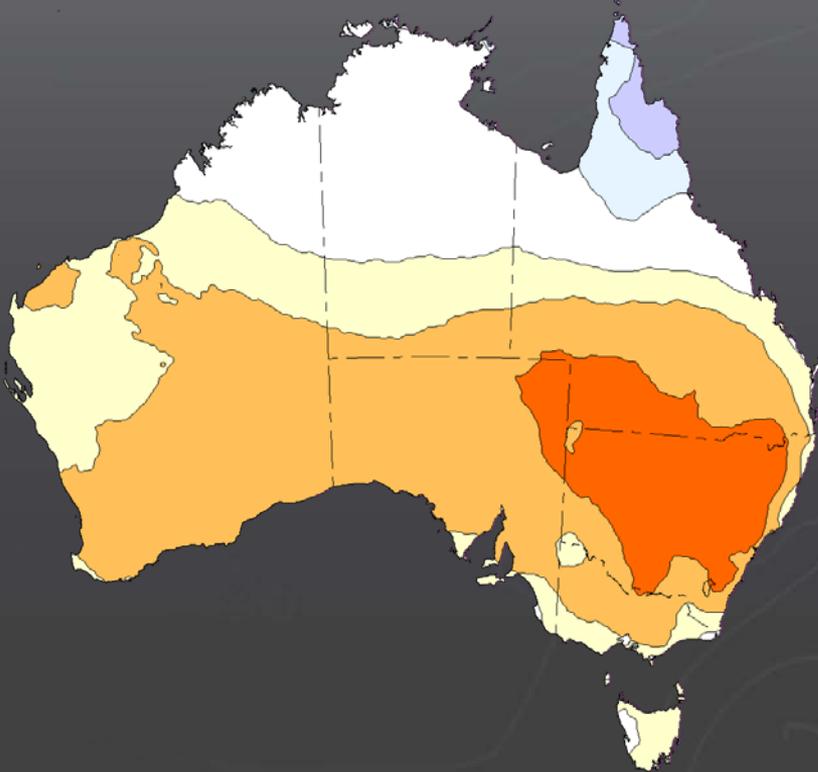
ENSO Tracker Criteria	Alert
Air pressure patterns	
Central pacific ocean temperature pattern	✓
Weakening trade winds	✓
Model consensus	✓



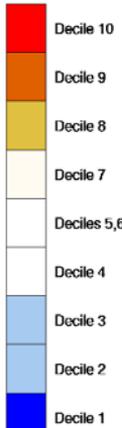
# Typical El Niño impacts-Temperatures

Winter and spring maximum temperature deciles for 12 classical El Niños

Winter and spring minimum temperature deciles for 12 classical El Niños



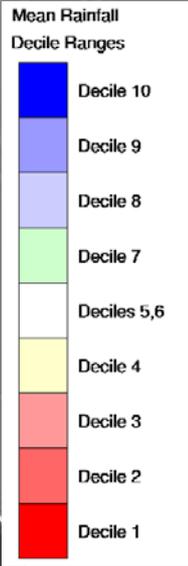
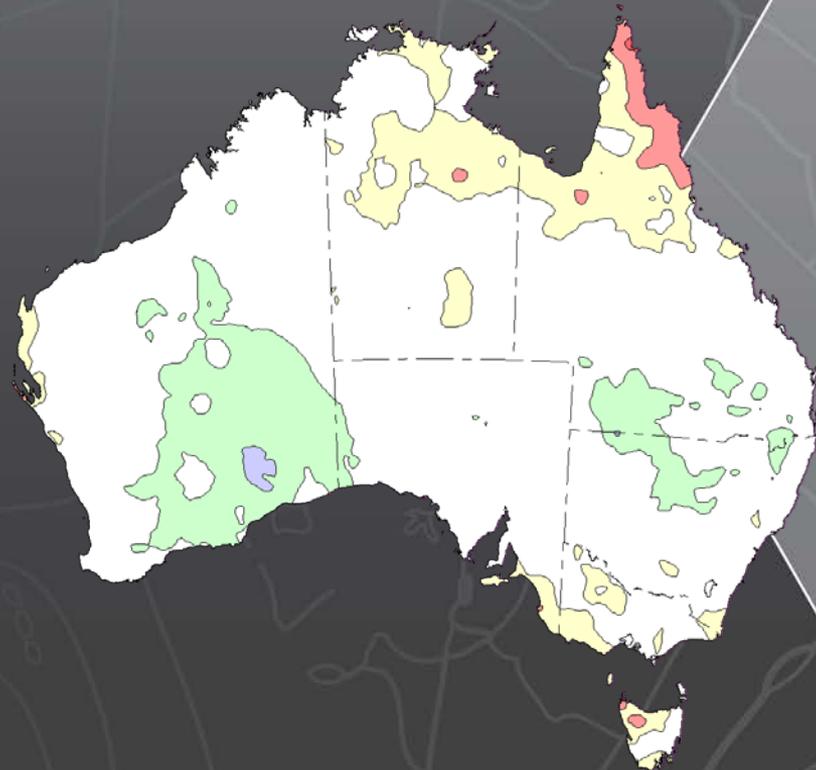
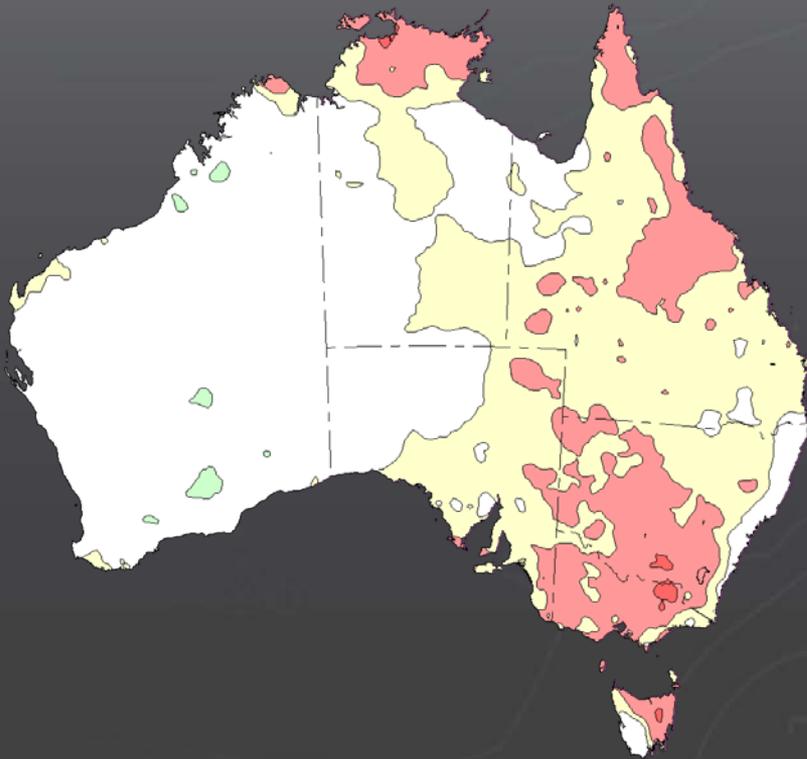
Temperature Decile Ranges



# Typical El Niño impacts-Rainfall

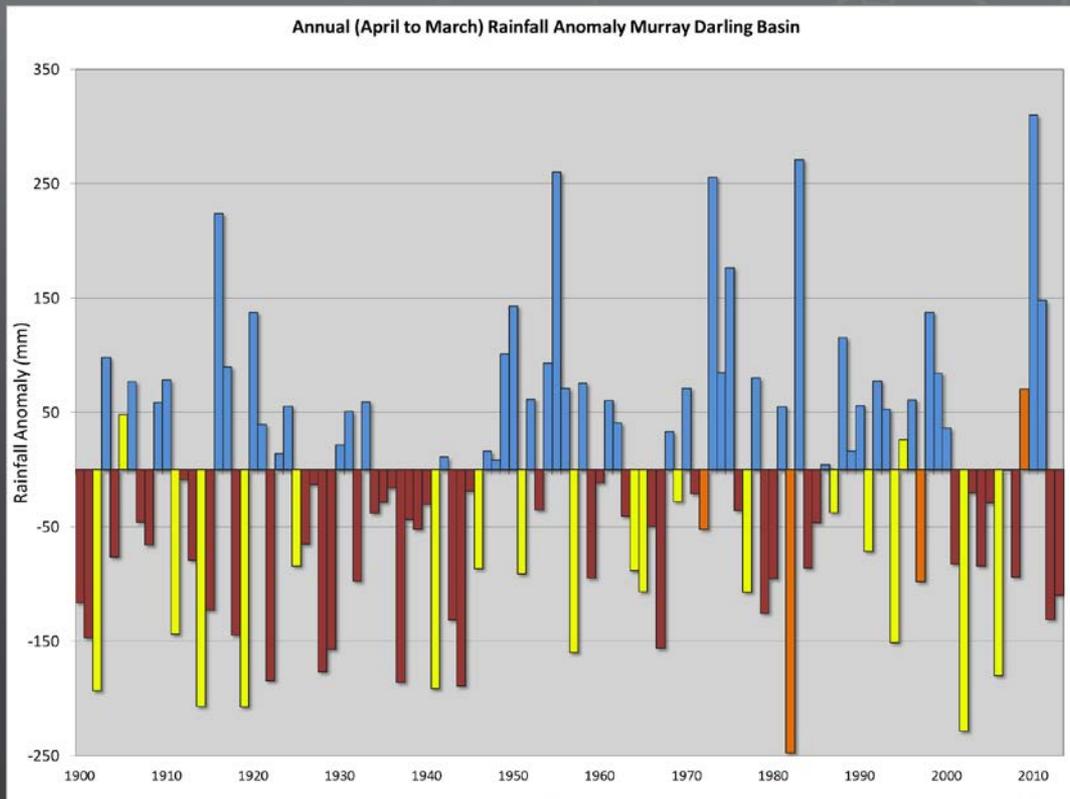
Spring rainfall deciles for 12 classical El Niños

Summer rainfall deciles for 12 classical El Niños





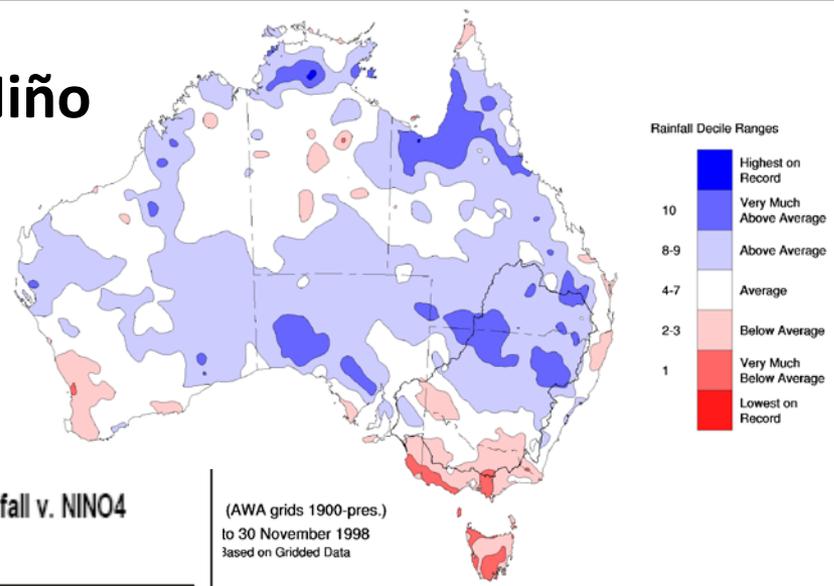
# Variation in rainfall impacts of El Niño



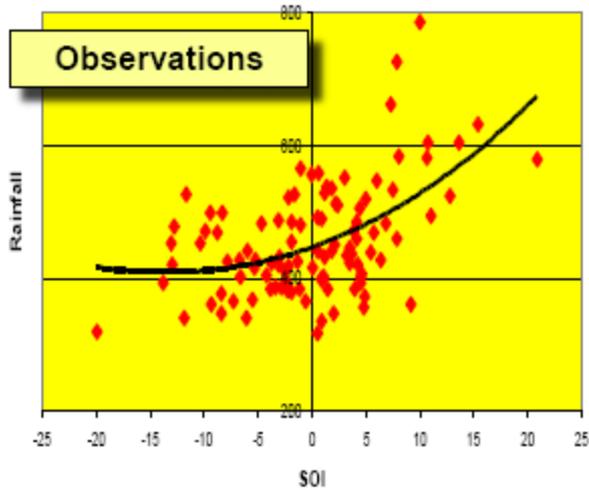
-  El Niño events
-  El Niño years where NINO3.4 anomaly reached 1.8°C

# Variation in rainfall impacts of El Niño

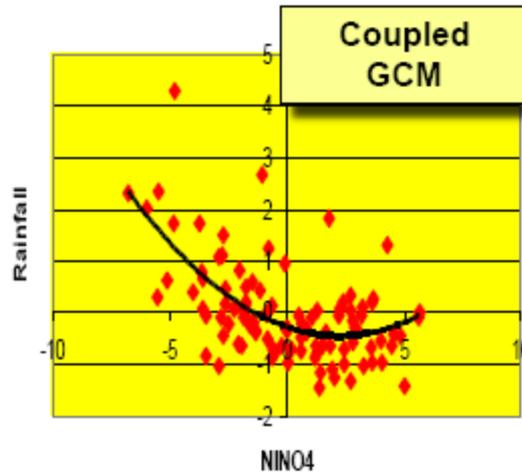
- 1997-98 El Niño was one of the strongest in recorded history yet Australian impacts were small



All-Australia Rainfall v. SOI, 1900-2004, Annual Data



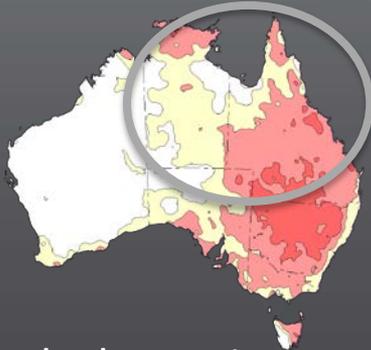
CGCM: All-Australia Rainfall v. NINO4 (JJASOND)



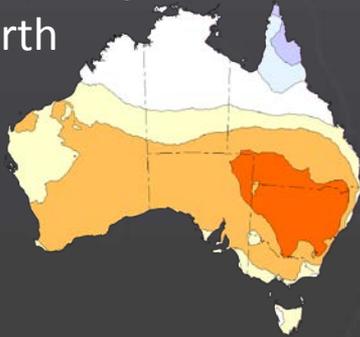
Some evidence that the position of sea surface temperature anomalies in the tropical Pacific is more important for rainfall anomalies in Australia

# Potentially increased fire danger in eastern Australia

Low rainfall in the east



Not much change in daytime temperatures in the north



FIRE DANGER RATING
Category
<b>CATASTROPHIC (CODE RED)</b>
EXTREME
SEVERE
VERY HIGH
HIGH
LOW – MODERATE

# Thank you

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