



Australian Government

Bureau of Meteorology

NexGenFWS

Next Generation Forecast and Warning System



Vikash Prasad,

Meteorologist, Brisbane Forecasting Centre

(Qld **NexGenFWS** Co-ordinator)

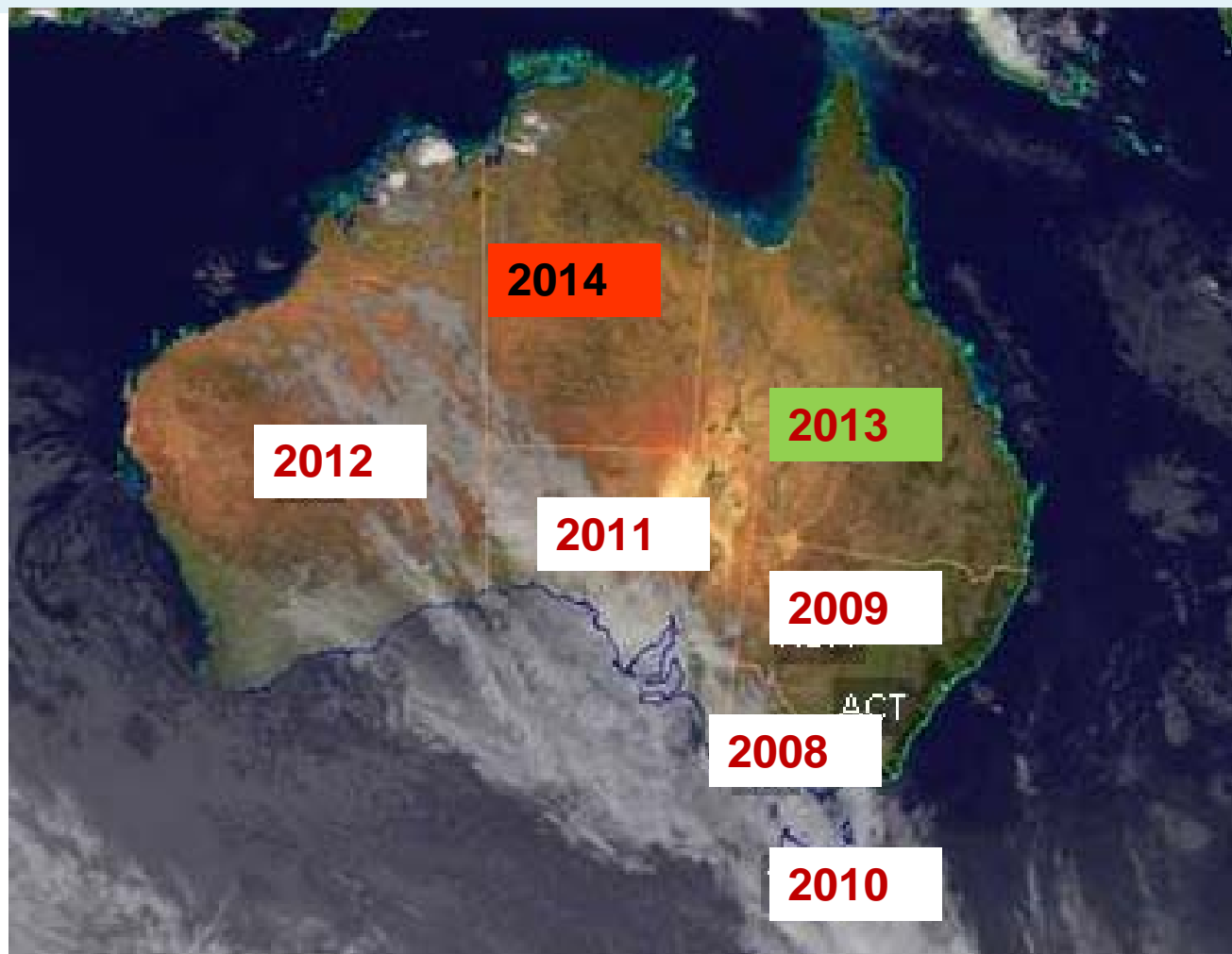




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NexGenFWS project implementation

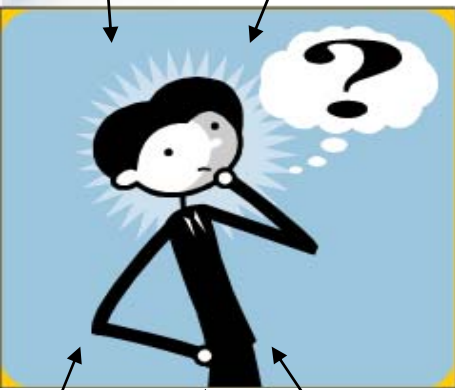
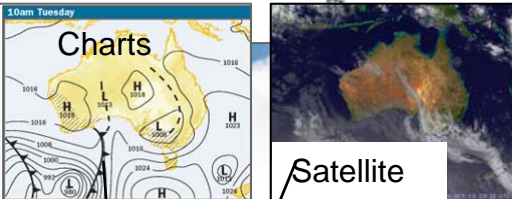


Forecasting before *NexGenFWS*

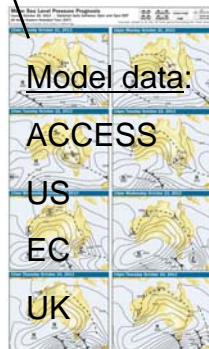


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Bureau of Meteorology



Observations



Forecaster converts
pictures into text forecast

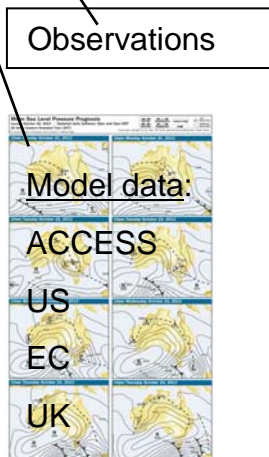
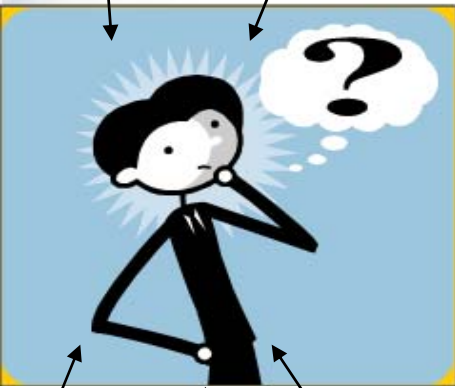
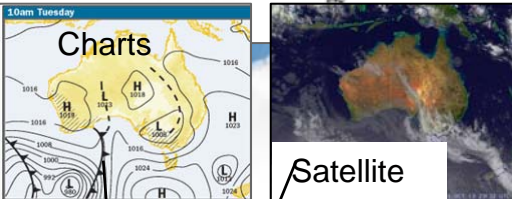
The screenshot shows the Australian Government Bureau of Meteorology website. The breadcrumb trail is: Bureau Home > Australia > Queensland > Forecasts > Central Highlands and Coalfields Forecast. The page title is 'Central Highlands and Coalfields Forecast'. A yellow banner says 'View the current warnings for Queensland'. The forecast was issued at 6:00 am EST on Monday 21 October 2013. The 'Weather Situation' section describes a high pressure ridge over the eastern Tasman Sea and a surface trough moving into western Queensland. The 'Forecast for the rest of Monday' section predicts mostly sunny conditions with winds from 15 to 30 km/h. A 'Fire Danger - Very High' alert is shown for 8:00 am to 3:40 pm. The 'Tuesday 22 October' section predicts mostly sunny conditions with winds from 15 to 20 km/h. The 'Wednesday 23 October' section predicts hot, mostly sunny conditions with isolated showers and gusty thunderstorms in the south.

Forecasting using *NexGenFWS*



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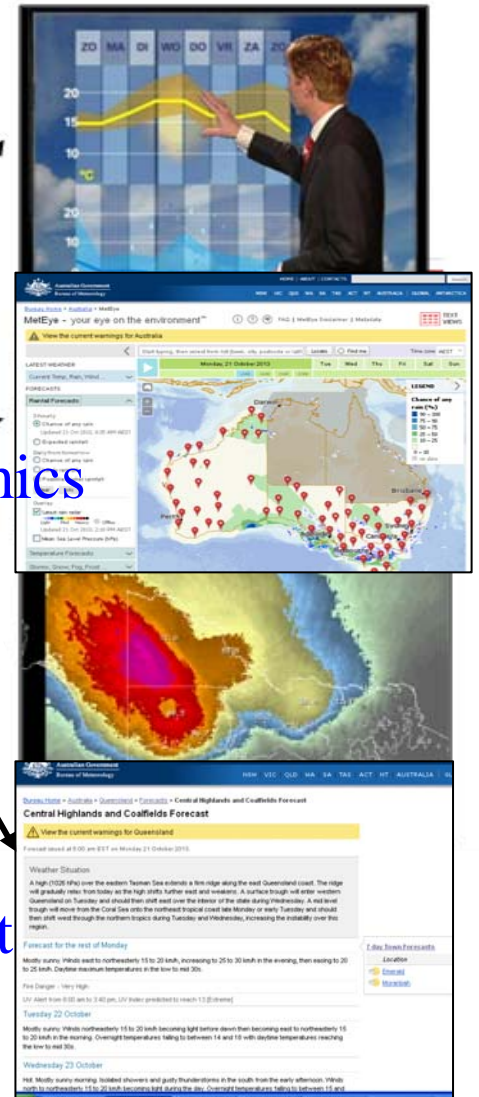


Forecaster edits model
grids (or 'pictures') in GFE


Grid
data

Graphics

Auto Text



New Queensland web page



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Bureau of Meteorology


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[Bureau Home](#) > [Australia](#) > [Queensland Weather and Warnings](#)


Queensland Weather and Warnings

 View the current warnings for Queensland

Forecasts


- All forecasts
- Brisbane forecast
-  District forecasts via clickable map
-  7 Day town forecast map via clickable map
- Torres Strait Weather
- Weather and wave maps
- Short-term forecast map
- Forecast maps for next 4 days

Observations

- All observations
- Brisbane area latest observations
- QLD latest observations
-  Latest rainfall & river conditions via clickable map



Radars

- Brisbane radar



Select location to see its image.

Past Weather


- MSLP analysis maps
- Maps of recent & past conditions
- Data and graphs
- Climate averages
 -  Maps
 -  Monthly statistics


Outlooks

- Rainfall
- Temperature

Water Storage

Discover how much water we have in our storages nationwide.






Australian Government
Bureau of Meteorology

New 7-day forecasts benefit Queenslanders

Now expanded from 4 to 67 locations, the Next-Generation forecasts enable better planning of the week ahead.

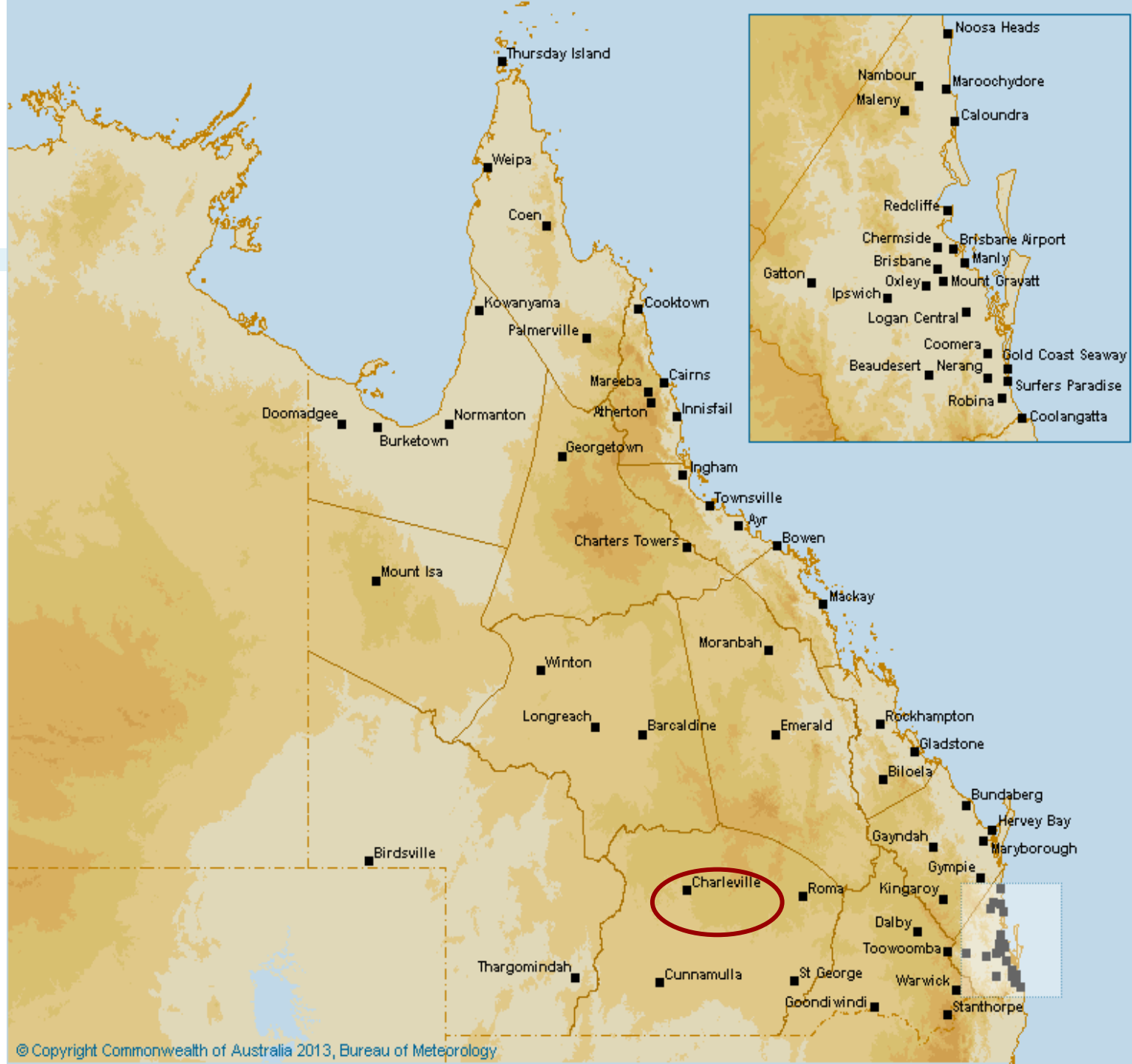


www.bom.gov.au/NexGenFWS/

www.bom.gov.au/qld/forecasts/map7day.shtml



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[Bureau Home](#) > [Australia](#) > [Queensland](#) > [Forecasts](#) > [Queensland Forecast Area Map](#)

Queensland Forecast Area Map

For the full list of forecast locations see [Forecast Summary for Queensland Towns](#).








7-day précis forecast

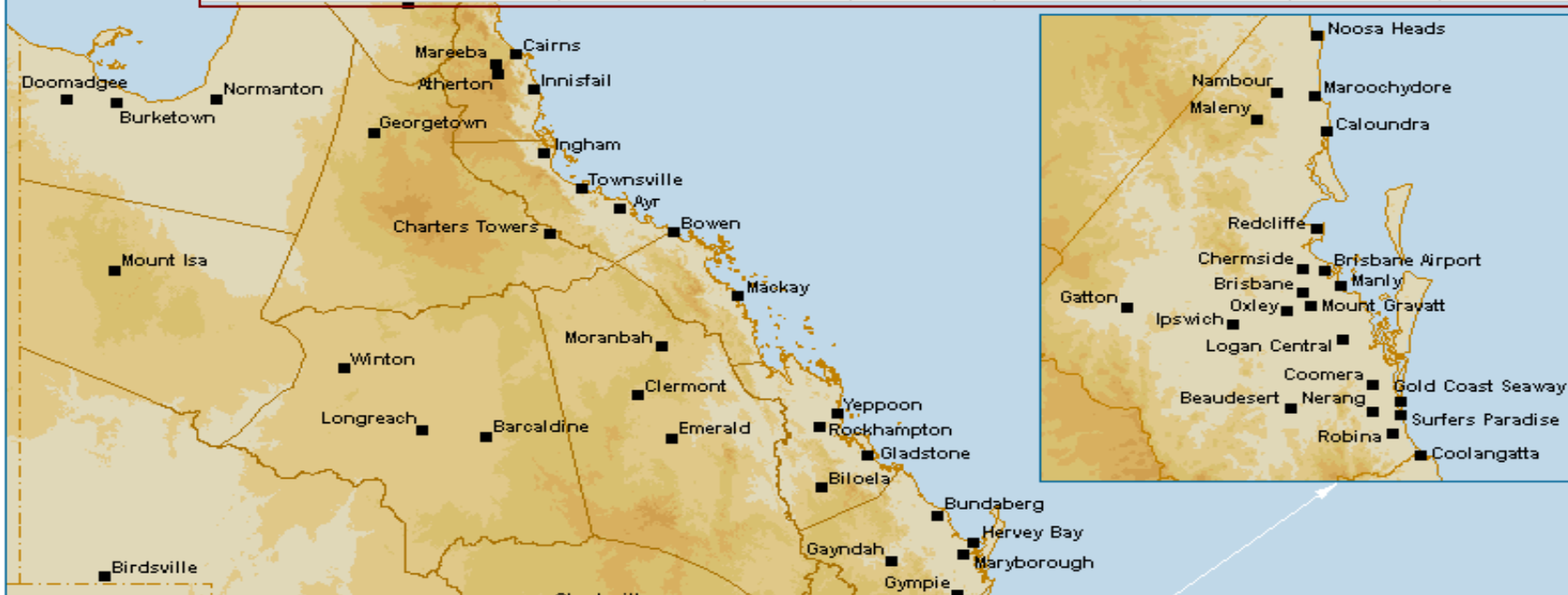
Click on the map to display the 7-day summary forecast for the location.

Charleville

Forecast updated at 6:06 am EST on Thursday 24 October 2013.

[Detailed Charleville Forecast](#)

	Thu. 24 Oct	Fri. 25 Oct	Sat. 26 Oct	Sun. 27 Oct	Mon. 28 Oct	Tue. 29 Oct	Wed. 30 Oct
							
	Early shower clearing.	Sunny.	Sunny.	Sunny.	Shower or two developing.	Shower or two developing.	Shower or two.
Max. Temperature	31 °C	31 °C	32 °C	34 °C	36 °C	38 °C	36 °C
Min. Temperature		13 °C	12 °C	12 °C	13 °C	18 °C	18 °C



Charleville Forecast

7-day worded forecast

 [View the current warnings for Queensland](#)

Forecast issued at 4:55 am EST on Thursday 24 October 2013.

Forecast for the rest of Thursday



Max **31**
Early shower clearing.

Cloud and early shower clearing. Winds southerly 15 to 20 km/h tending southeasterly in the late evening.

Fire Danger - Very High

UV Alert from 8:10 am to 3:50 pm, UV Index predicted to reach 13 [Extreme]

Friday 25 October



Min **13** Max **31**
Sunny.

Sunny. Winds south to southeasterly 15 to 20 km/h.

Saturday 26 October



Min **12** Max **32**
Sunny.

Sunny. Winds south to southeasterly and light.

Sunday 27 October



Min **12** Max **34**
Sunny.

Sunny. Light winds.

Monday 28 October



Min **13** Max **36**
Shower or two developing.

Sunny morning. A shower or two and the chance of a thunderstorm later in the day. Light winds.

Tuesday 29 October



Min **18** Max **38**
Shower or two developing.

Mostly sunny morning. A shower or two later in the day. Winds west to northwesterly 15 to 25 km/h turning southwesterly 15 to 20 km/h later.

Wednesday 30 October





Min **18** Max **36**
Shower or two.

Partly cloudy. A shower or two. Winds southeast to southwesterly 15 to 20 km/h.

The next routine forecast will be issued at 4:30 pm EST Thursday.

7 day Town Forecasts

Location	Min	Max
 Charleville	–	31
 Roma	–	32
 St George	–	30
 Cunnamulla	–	29





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District Forecasts




4-day district forecasts:

- Cloud
- Weather
- Wind speed in km/hr and in ranges
- Max and Min Temperature ranges
- Fire Danger Ratings
- UV Alert



[Bureau Home](#) > [Australia](#) > [Queensland](#) > [Forecasts](#) > **Darling Downs and Granite Belt Forecast**

Darling Downs and Granite Belt Forecast

 View the current warnings for Queensland

Forecast updated at 6:20 am EST on Thursday 24 October 2013.

Weather Situation

A surface trough lies from the northwest of the state into the southeast interior of Queensland and is expected to contract off the southeast coast late this evening. A high in the Great Australian Bight will extend a ridge over western Queensland in the wake of the trough. The trough is expected to move north through southern Queensland waters into Capricornia waters on Friday whilst the inland portion of the trough is expected to remain slow moving through the central interior.

Forecast for the rest of Thursday

Partly cloudy. Isolated showers in the south and far east extending throughout from the early afternoon. The chance of thunderstorms, mostly in the east. Winds north to northwesterly 15 to 20 km/h shifting south to southwesterly 15 to 25 km/h during the day. Daytime maximum temperatures in the low to mid 30s. Winds north to northwesterly 15 to 20 km/h shifting south to southwesterly 15 to 25 km/h during the day. Daytime maximum temperatures in the low to mid 30s.

Fire Danger - Very High

UV Alert from 7:40 am to 3:30 pm, UV Index predicted to reach 12 [Extreme]

Friday 25 October

Mostly sunny. Isolated showers in the east. Isolated thunderstorms in the north from the early afternoon. Winds south to southeasterly 15 to 20 km/h turning east to northeasterly 15 to 25 km/h in the morning. Overnight temperatures falling to between 10 and 14 with daytime temperatures reaching 26 to 31.





Saturday 26 October

Mostly sunny. Light winds becoming west to southwesterly 15 to 20 km/h during the day then tending south to southwesterly during the afternoon. Overnight temperatures falling to between 8 and 12 with daytime temperatures reaching around 30.

Sunday 27 October

Sunny morning. Isolated showers in the far east during the afternoon and evening. Light winds. Overnight

7 day Town Forecasts

Location	Min	Max
 Dalby	–	33
 Goondiwindi	–	30
 Toowoomba	–	30
 Warwick	–	31
 Stanthorpe	–	28

[NexGenFWS further information](#)

<http://www.bom.gov.au/NexGenFWS/>



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nexgenfws

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[Bureau Home](#) > [Weather Services](#) > **Queensland's improving weather services**

Queensland's improving weather services

From October 2013, the Bureau of Meteorology is upgrading its forecasts and warnings services in Queensland. A total of 67 locations across Queensland will get weather forecasts for 7-days from early October. The forecasts will be presented as a combination of text and graphics. Regional Queensland will now have access to the type of detailed forecasts previously provided for four of the Southeast Coast district locations.


During 2014, services will expand further to include map based graphical forecasts and the capability to generate a forecast for any location, including the coastal waters zones. The recently-launched [MetEye™](#) will be a doorway to maps of temperature, rainfall, winds and weather all designed to make weather-based decision-making easier. In addition, rainfall information including forecast probabilities of rain and average rainfall amounts will be issued for major centres across Queensland.

Changes to the Public Weather Forecast services

The new Queensland public weather forecast product suite will include:

- **State forecast:** The state forecast will continue to be provided for 4 days plus an outlook for the next 3 days
- **District forecast:** The 4-day district forecast for the 15 districts will contain detailed information on weather, temperature and winds. The wind speeds will be given with actual values in km/h instead of categories as light, moderate, etc, fire danger and UV Alert will be included for the current day. See [more information on changes to District Forecasts](#).
- **Metro forecast:** 7-day fully worded forecasts will be provided for Brisbane, Sunshine Coast and Gold Coast. In addition, rainfall probability and rainfall amount will also be included for the current day and the next day for Brisbane, Maroochydore and Surfers Paradise. Some of the metropolitan suburbs of Brisbane, Gold Coast and Sunshine Coast will also receive their own 7-day forecast précis.
- **Town forecast:** 7-day fully worded forecasts will be provided for 23 locations across the state twice a day ([See forecast issue times below](#)). These locations include Weipa, Charters Towers, Cairns, Townsville, Mackay, Rockhampton, Gladstone, Emerald, Longreach, Mount Isa, Birdsville, Charleville, Roma, Toowoomba, Goondiwindi, Maryborough, Gympie, Hervey Bay, Bundaberg, Brisbane, Gold Coast, Sunshine Coast, and the Torres Strait Islands.

Comments and Feedback

What do you think of this change?
[Queensland NexGen Survey](#)

Brochures

[→ District Forecasts Improvements PDF, 2,855Kb](#)
[→ Brisbane Forecast Improvements PDF, 987Kb](#)
[→ Town Forecast Improvements PDF, 1,048Kb](#)
[→ Marine Service Improvements PDF, 504Kb](#)

Additional Information

[→ FAQ](#)
[→ Product ID listing](#)

Rollout Schedule

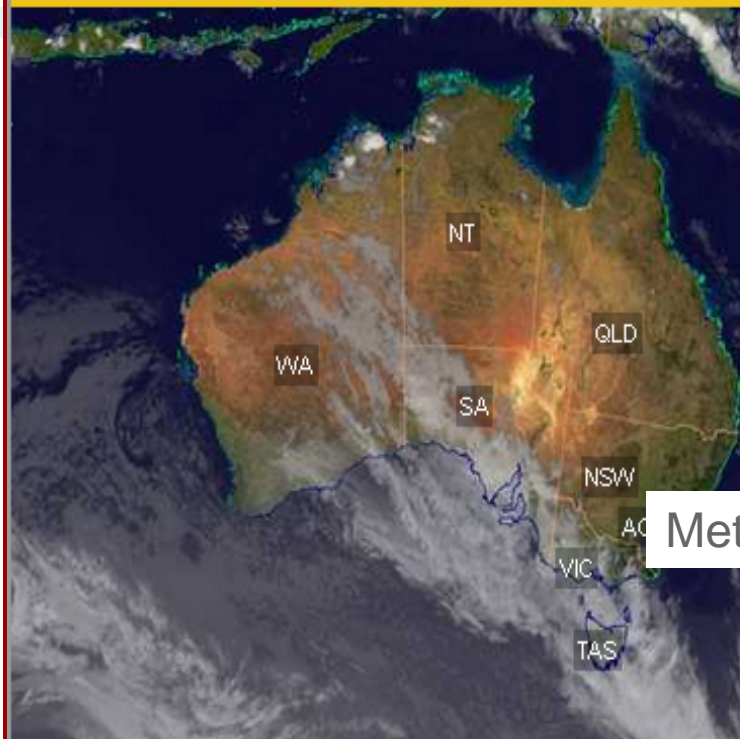
[→ Northern Territory \(late 2014\)](#)



Warnings current

[NSW](#) | [VIC](#) | [QLD](#) | [WA](#) | [SA](#) | [TAS](#) | [ACT](#) | [NT](#)

Warning services



> Rain radars

> Satellite images

> Weather maps

> MetEye

MetEye - access to gridded data



Advertising [Why advertising?](#)

Forecast for Monday 21 October

City observations



Sydney

Now

22.1°

Melbourne

Now

21.2°

Brisbane

Now

22.1°

Perth

Now

17.0°

Adelaide

Now

22.7°

Hobart

Now

10.5°

Canberra

Now

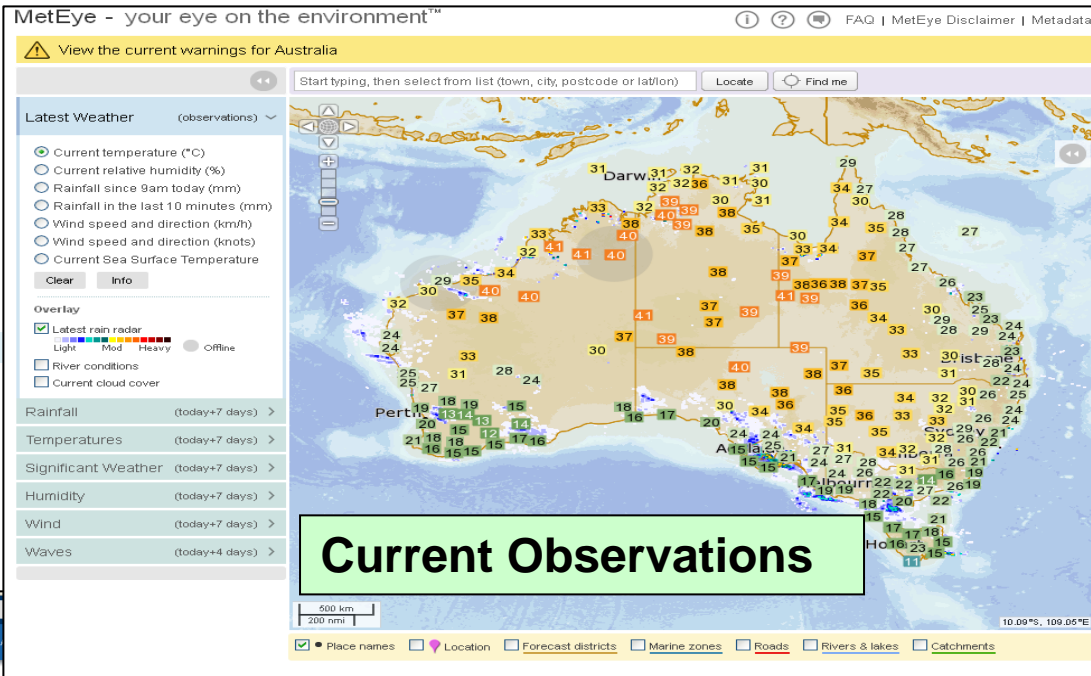
15.8°

Darwin

Now

30.3°

MetEye



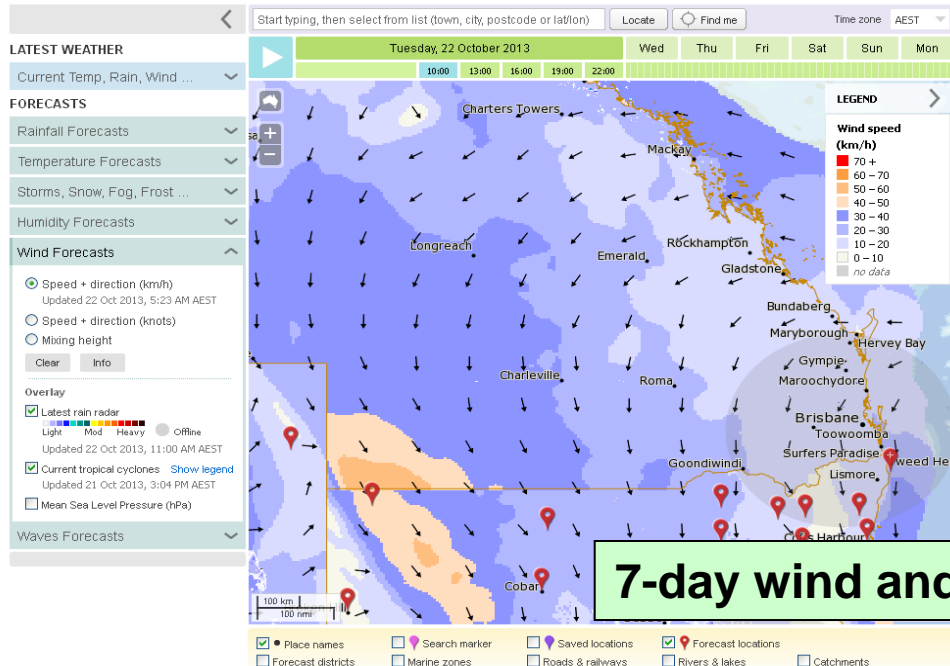
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MetEye - your eye on the environment™

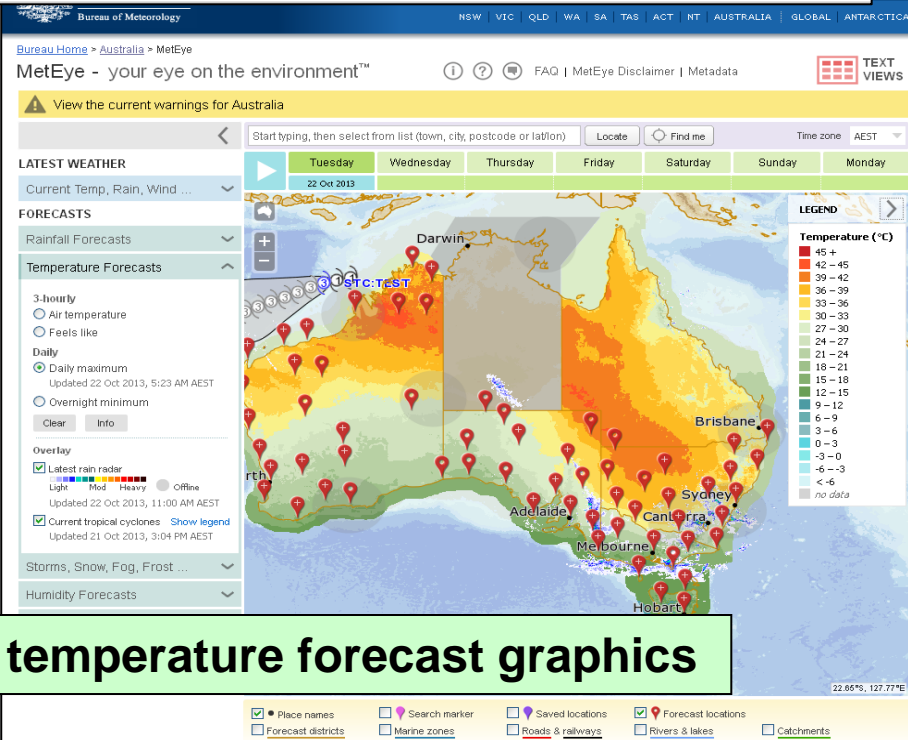
[FAQ](#) | [MetEye Disclaimer](#) | [Metadata](#)

TEXT
VIEWS

View the current warnings for Australia



7-day wind and temperature forecast graphics





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MetEye - 7-day précis forecasts



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TEXT VIEWS

View the current warnings for Australia

LATEST WEATHER

Current Temp, Rain, Wind ...

FORECASTS

Rainfall Forecasts

3-hourly

Chance of any rain
Updated 22 Oct 2013, 5:21 AM AEST

Expected rainfall

Daily from tomorrow

- Chance of any rain
- Likely rainfall
- Possible higher rainfall

Clear Info

Overlay

- ☒ Latest rain radar
Light Mod Heavy Offline
Updated 22 Oct 2013, 10:50 AM AEST
- ☐ Mean Sea Level Pressure (hPa)

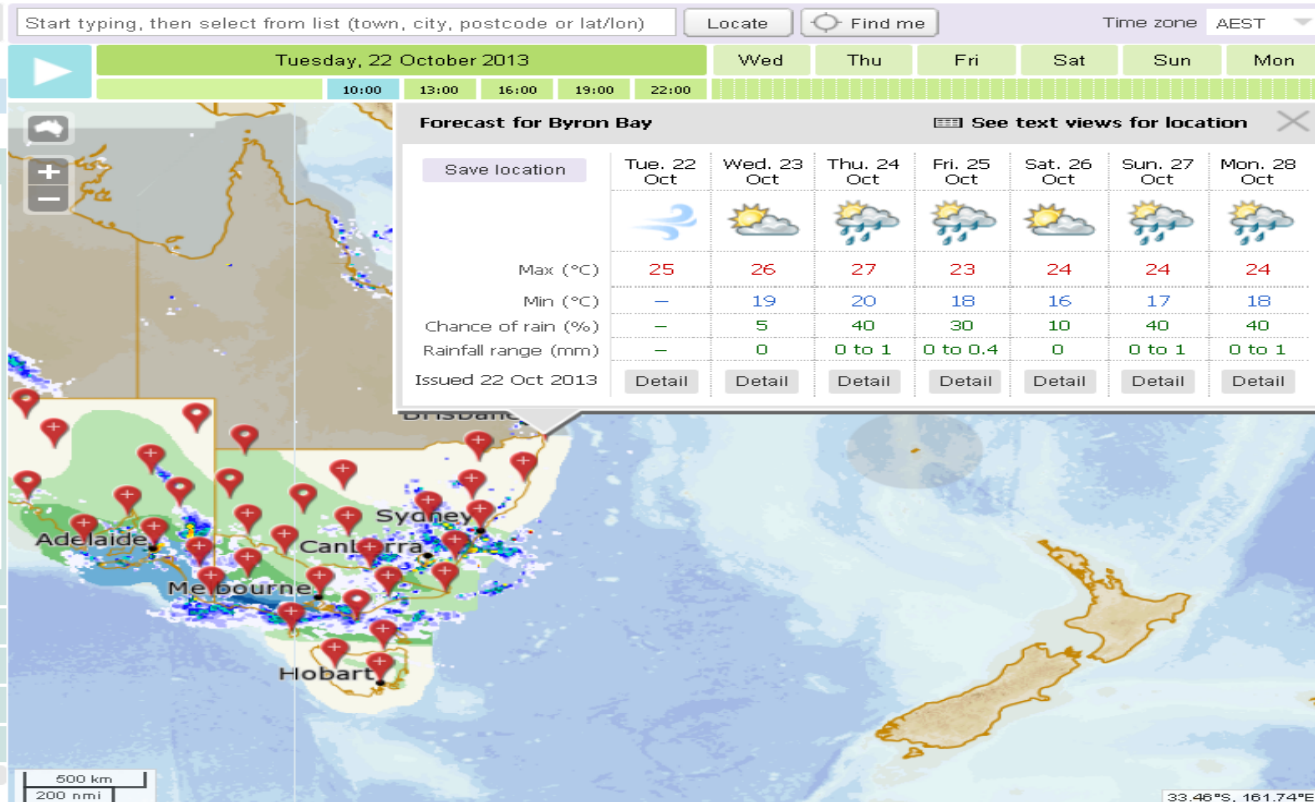
Temperature Forecasts

Storms, Snow, Fog, Frost ...

Humidity Forecasts

Wind Forecasts

Waves Forecasts



- ☒ Place names
- ☐ Search marker
- ☐ Saved locations
- ☒ Forecast locations
- ☐ Forecast districts
- ☐ Marine zones
- ☐ Roads & railways
- ☐ Rivers & lakes
- ☐ Catchments



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MetEye

Today's forecast



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Bureau of Meteorology

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[Home](#) > [Places \(beta\)](#) > [New South Wales](#) > [Sydney Weather \(beta\)](#)

Sydney Weather (beta)

MAP VIEW
MetEye

View the current warnings for New South Wales

Change location

Locate

Find Me

Latest Weather

at 11:54am

22.7 °C

low **19.5 °C**
(4:59 am)

high **23.9 °C**
(9:53 am)

0.0 mm of rain since 9 am

70% Humidity
1015.5 hPa Pressure
19 km/h Wind Speed

Forecast

issued at 10:40 am EDT on Tuesday 22 October 2013.

Rest of
Tuesday



28 °C Chance of a storm.

When will it rain?

	Chance of any rain	Expected Rainfall
11:00 am	10%	0.2 mm
2:00 pm	20%	0.2 mm
5:00 pm	20%	0.2 mm
8:00 pm	20%	0.2 mm
11:00 pm	10%	0.2 mm
2:00 am	20%	0.2 mm

Wed 23 Oct **20 °C** **32 °C** Morning shower or two.

Chance of any rain: 50% Rainfall amount: 0 to 1 mm

The days ahead

Station: Sydney - Observatory Hill
[94768]
Approx. 6 km away.

[View all current and past](#)

WEATHER OVERVIEW

DETAILED 3-HOURLY FORECAST

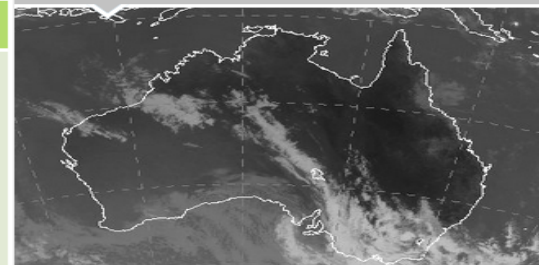
EXTENDED FORECAST (7-DAY)

CURRENT AND PAST WEATHER

RADAR



SATELLITE





Australian Government
Bureau of Meteorology

MetEye

3-hrly 7-day forecast information



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[Home](#) > [Places \(beta\)](#) > [New South Wales](#) > [Sydney](#) > [Forecast](#) > **Sydney Detailed Forecast (beta)**

Sydney Detailed Forecast (beta)

MAP VIEW
MetEye

View the current warnings for New South Wales

Change location

Locate

Find Me

Tuesday 22 October

Rainfall

	2:00 AM	5:00 AM	8:00 AM	11:00 AM	2:00 PM	5:00 PM	8:00 PM	11:00 PM
Chance of any rain	—	—	—	10%	20%	20%	20%	10%
Expected rainfall (mm)	—	—	—	0.2	0.2	0.2	0.2	0.2

Temperatures

	2:00 AM	5:00 AM	8:00 AM	11:00 AM	2:00 PM	5:00 PM	8:00 PM	11:00 PM
Air temperature (°C)	—	—	—	27	27	26	25	23
Feels like (°C)	—	—	—	25	28	26	22	21
Dew Point Temperature (°C)	—	—	—	18	18	19	17	18

Significant Weather

	2:00 AM	5:00 AM	8:00 AM	11:00 AM	2:00 PM	5:00 PM	8:00 PM	11:00 PM
Thunderstorms	—	—	—	○	●	●	●	○
Snow	—	—	—	○	○	○	○	○
Rain	—	—	—	●	●	●	●	●
Fog	—	—	—	○	○	○	○	○
Frost	—	—	—	○	○	○	○	○

Humidity & Wind

	2:00 AM	5:00 AM	8:00 AM	11:00 AM	2:00 PM	5:00 PM	8:00 PM	11:00 PM
Wind Speed (km/h)	—	—	—	22	7	17	24	26
Wind Direction	—	—	—	SW	E	ENE	NE	NNE
Relative Humidity (%)	—	—	—	57	57	63	63	73
Forest fuel dryness factor	—	—	—	9.9	9.9	9.9	9.9	9.9
Mixing height (m)	—	—	—	1091	728	688	206	21

Wednesday 23 October

Thursday 24 October

WEATHER OVERVIEW

DETAILED 3-HOURLY FORECAST

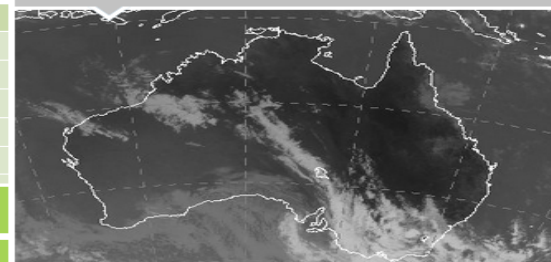
EXTENDED FORECAST (7-DAY)

CURRENT AND PAST WEATHER

RADAR



SATELLITE



NexGenFWS

Next Generation Forecast and Warning System

Questions?

Thank you



Vikash Prasad

Qld *NexGenFWS* Co-ordinator



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Seasonal climate risk A Queensland perspective (October 2013)

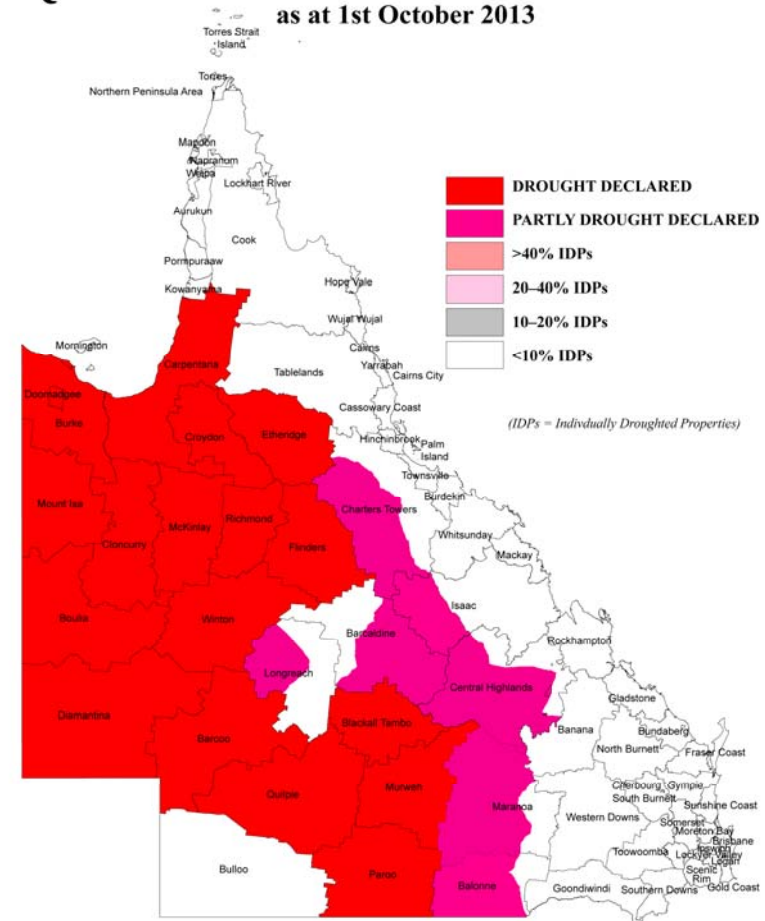
Today's topics

- Current context
- Sea surface temperatures/ENSO
- Seasonal outlooks
- Available tools and more information

The current context

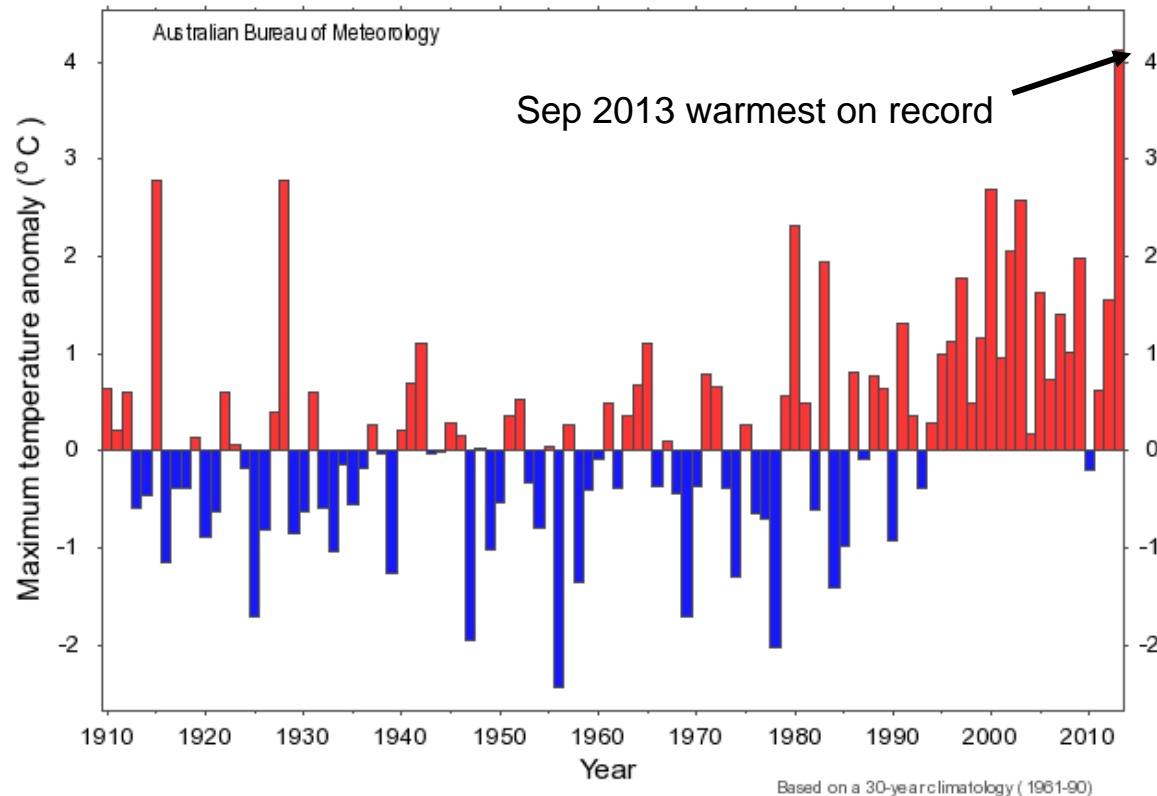
- More than 60% of state drought declared under state government process
- For assistance
www.daff.qld.gov.au/environment/drought
- For drought situation updates
www.longpaddock.qld.gov.au/

QUEENSLAND DROUGHT SITUATION as at 1st October 2013



The current context

September maximum temperature anomaly - Queensland (1910-2013)

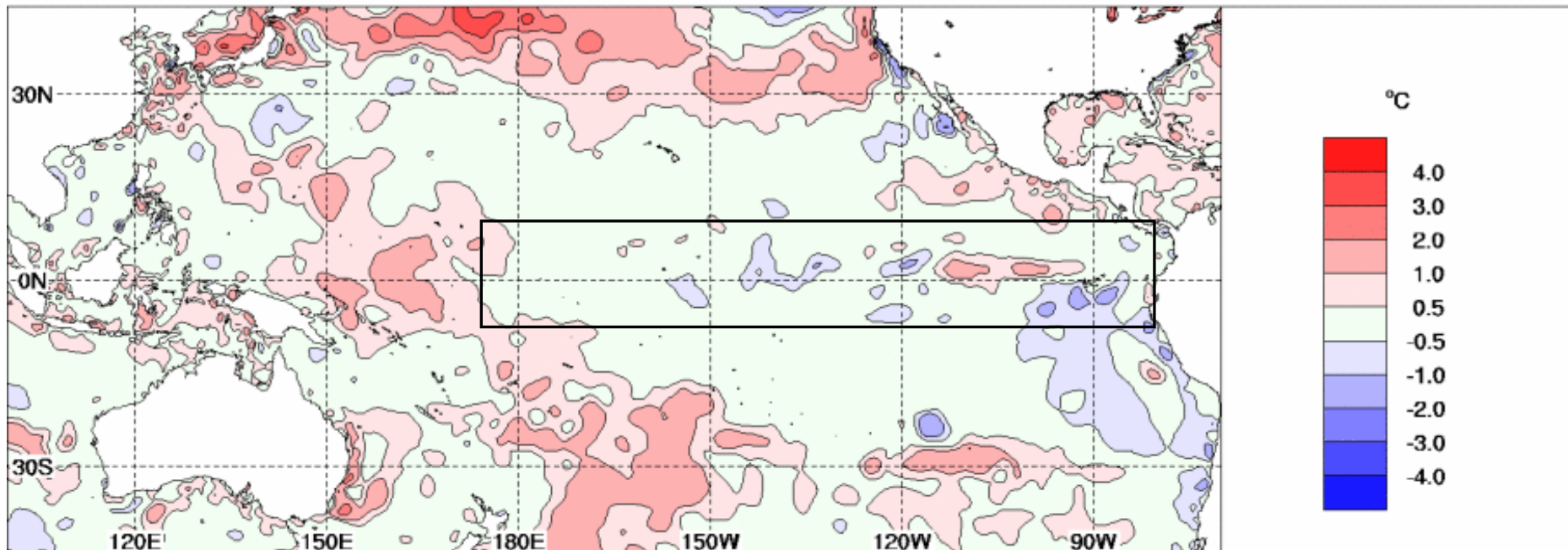


Graph and data source: Bureau of Meteorology

- Queensland mean daily maximum temperatures (1910 to current)
 - warmest September on record
 - last 12 months warmest on record
 - Jan-Sept warmest on record
 - January 2nd warmest
 - June 3rd warmest
 - August 2nd warmest

Current Sea Surface Temperature Anomalies

SSTA 1.0X1.0 NMOC OCEAN ANOMALIES (C) 20130930 20131006

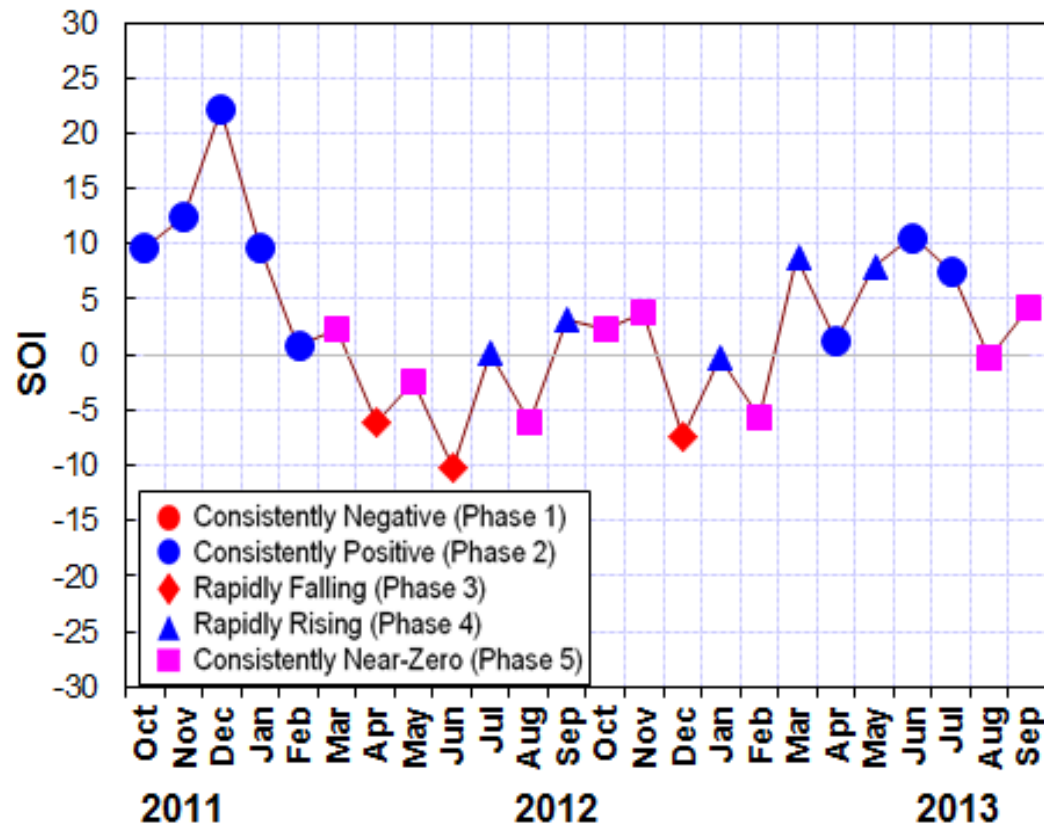


http://www.bom.gov.au/climate/enso/sst_weekly.gif

Southern Oscillation Index (SOI)

Southern Oscillation Index (SOI) and 'SOI Phase'

Data source: Department of Science, Information Technology, Innovation and the Arts

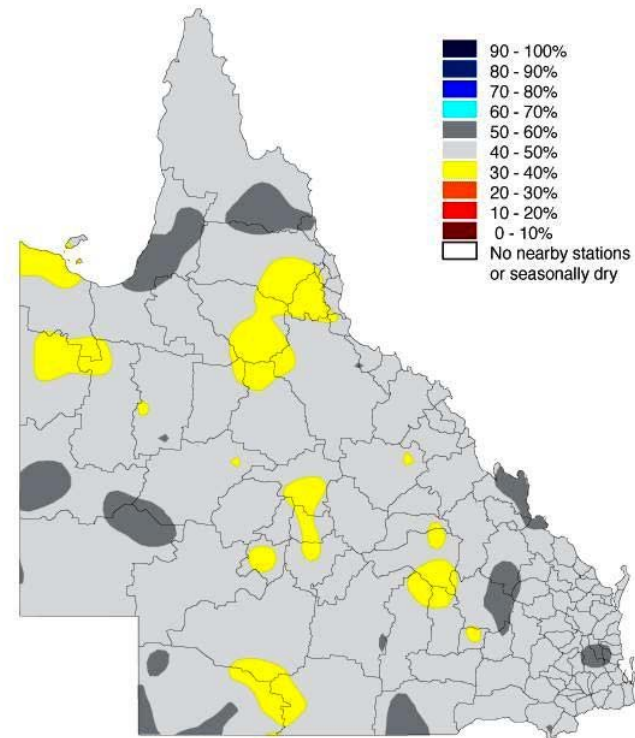


SOI phase - Qld

- Based on a 'Consistently Near Zero' SOI phase at the end of September there is a 40 to 60% (or near average) chance of getting median rainfall during October to December throughout Queensland.
- www.longpaddock.qld.gov.au

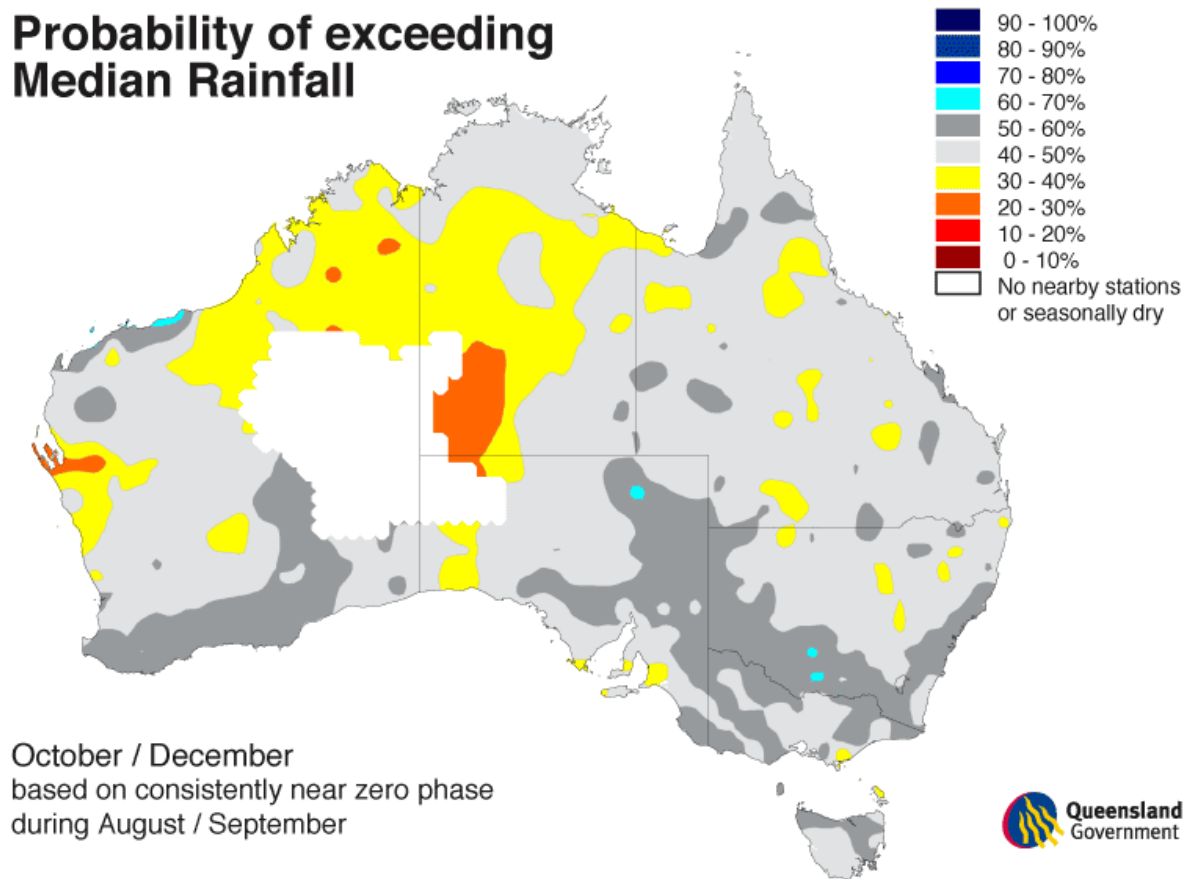
Probability of exceeding Median Rainfall

for October / December
based on consistently near zero phase
during August / September



SOI phase - Australia

Probability of exceeding Median Rainfall



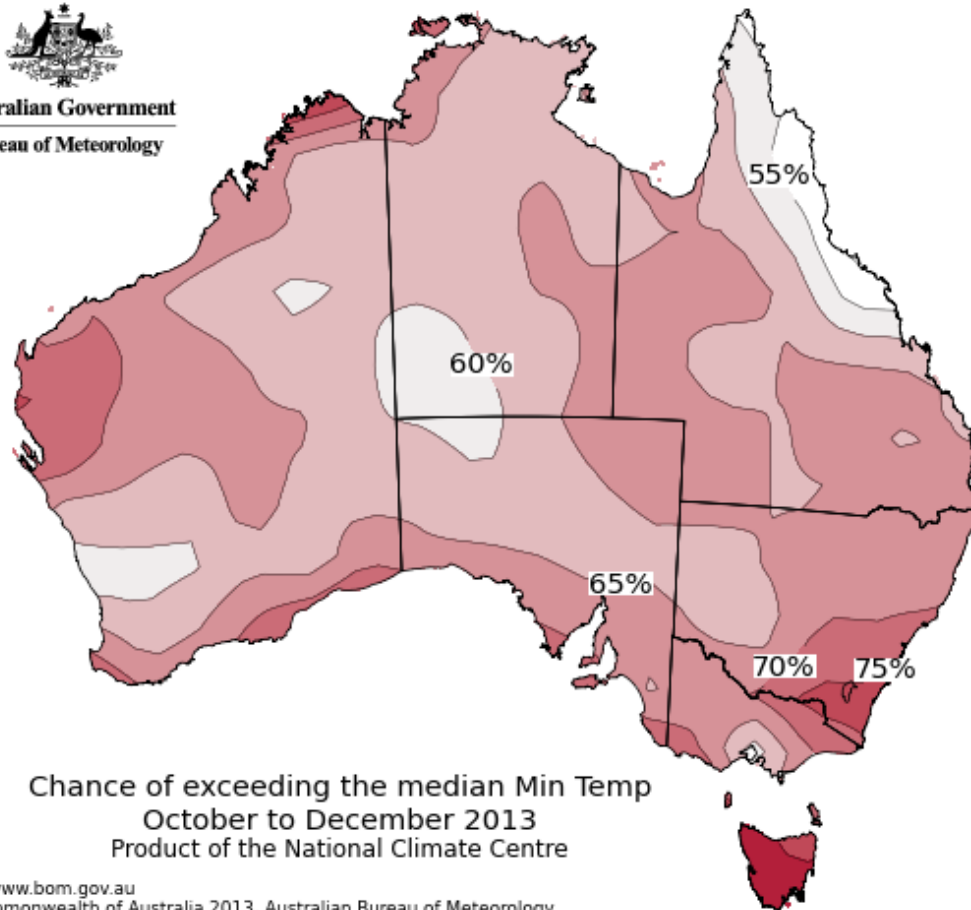
<http://www.longpaddock.qld.gov.au/>

SOI phase - Roma

Chance of rainfall at ROMA AIRPORT COMPOSITE*						
Analysis of historical data (1878 to 2013) using SOI Phases: Sep to Oct Leadtime of 0 months						
The SOI phases/rainfall relationship for this season is statistically doubtful because KW test is above 0.9 but Skill Score (6.9) is below 7.6 (p = 0.88).						
Rainfall period: Nov to Jan	SOI falling	SOI negative	SOI neutral	SOI rising	SOI positive	All years
% yrs with at least 394 mm	0	0	5	0	12	5
300 mm	0	5	14	16	33	17
250 mm	20	9	22	37	43	28
200 mm	47	23	46	53	64	49
160 mm	67	55	65	58	76	66
120 mm	87	64	81	79	90	81
83 mm	93	91	95	89	100	95
% yrs above median 195 mm	47	23	49	53	64	50
KS/KW probability tests	KS=0.54	KS=0.98	KS=0.44	KS=0.38	KS=0.97	KW=0.96
Significance level	Not significant	*	Not significant	Not significant	*	
Years in historical record	15	22	37	19	42	135
Highest recorded (mm)	276	357	552	378	473	552
Lowest recorded (mm)	82	80	37	66	94	37
Median rainfall (mm)	188	163	195	219	239	195
Average rainfall (mm)	189	163	203	201	248	209

POAMA - Min temp outlook

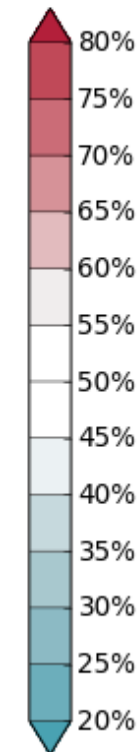

Australian Government
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<http://www.bom.gov.au>

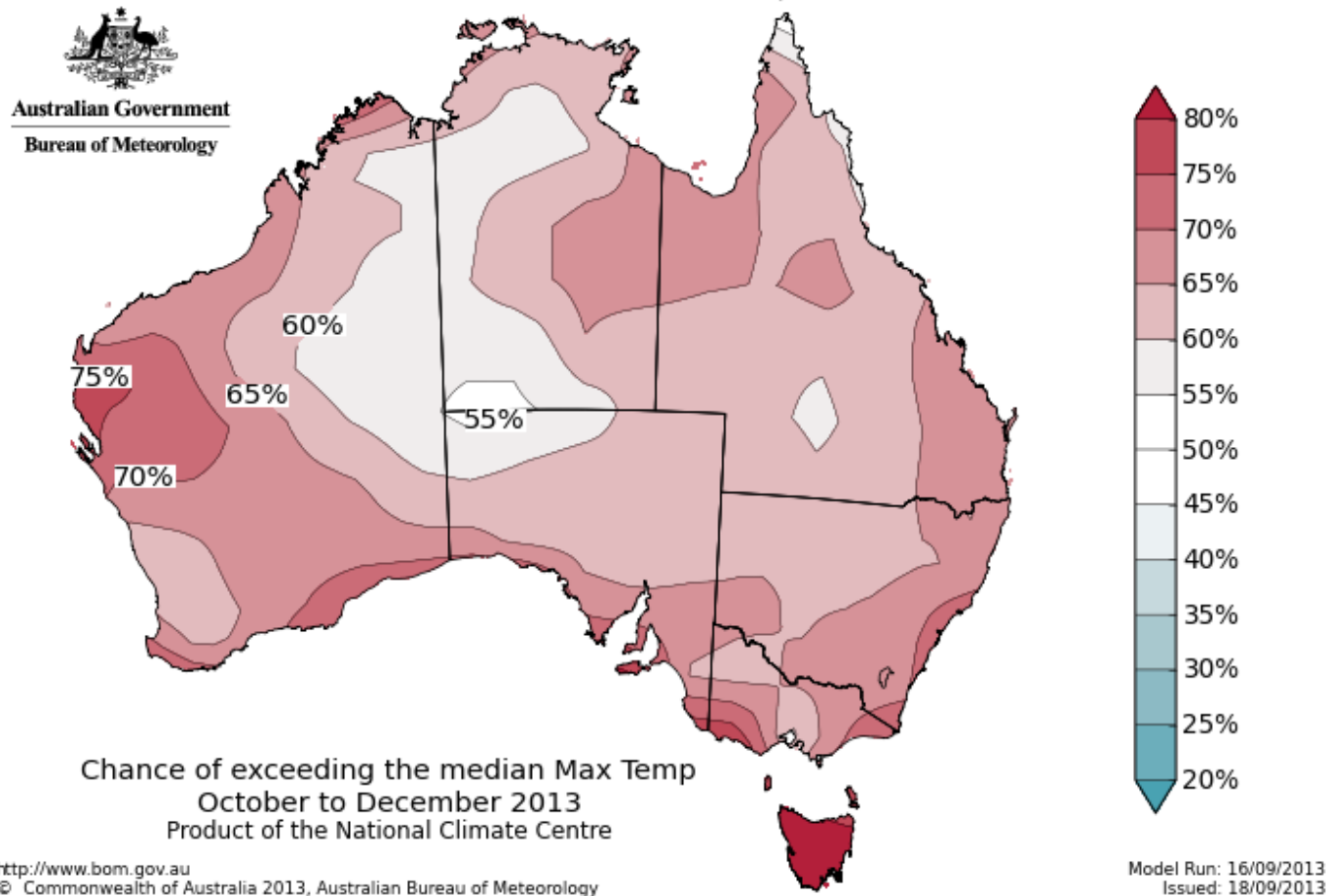
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http://www.bom.gov.au/climate/ahead/temps_ahead.shtml



Model Run: 16/09/2013
Issued: 17/09/2013

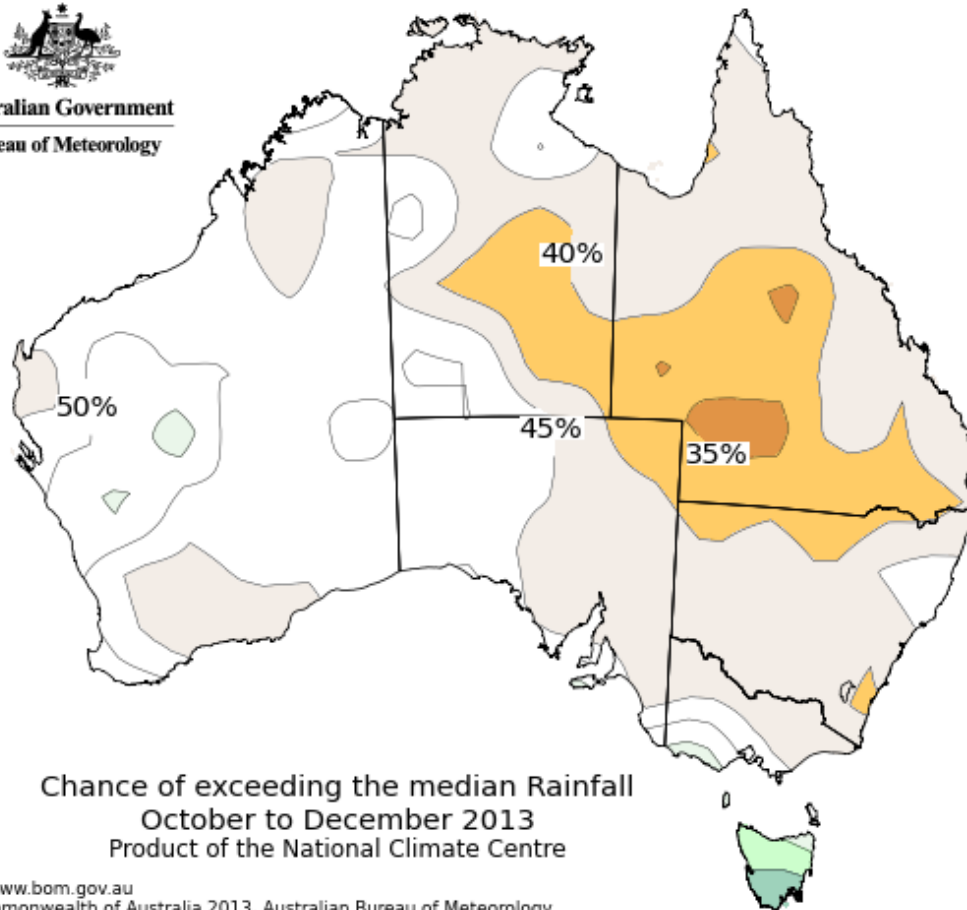
POAMA - Max temp outlook



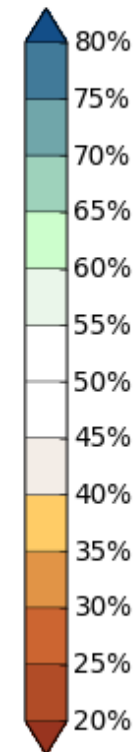
http://www.bom.gov.au/climate/ahead/temps_ahead.shtml

POAMA – rainfall outlook


Australian Government
Bureau of Meteorology



<http://www.bom.gov.au>
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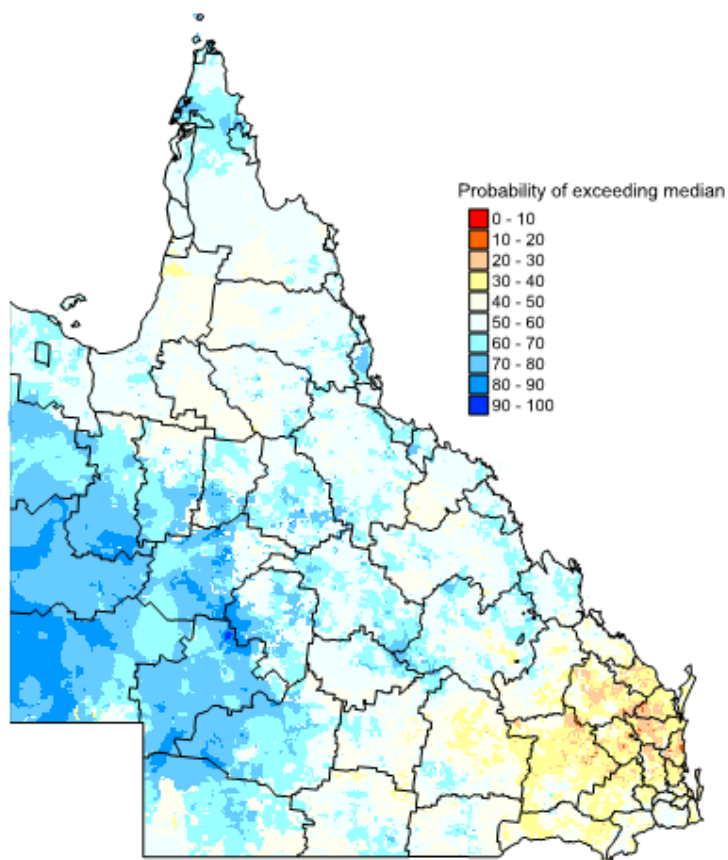
Model Run: 16/09/2013
Issued: 17/09/2013

http://www.bom.gov.au/climate/ahead/rain_ahead.shtml

Wet season outlook - Nov to Mar 2013/14

Probability of Exceeding Median Summer Rainfall

November 2013 - March 2014 based on the SPOTA-1 Index
as at October 1, 2013

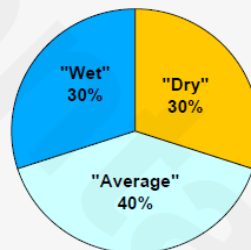


SPOTA-1 scheme

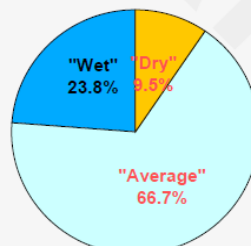
issued Oct 8, 2013

Probability of 'wet', 'dry' or 'average' summer

All years:

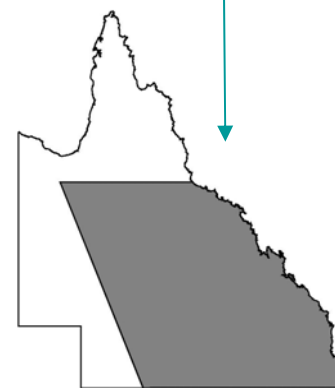


Analogue years:



Percent of years in this category IS (red) or IS NOT (black)
significantly different ($p=0.05$) from 'all' years

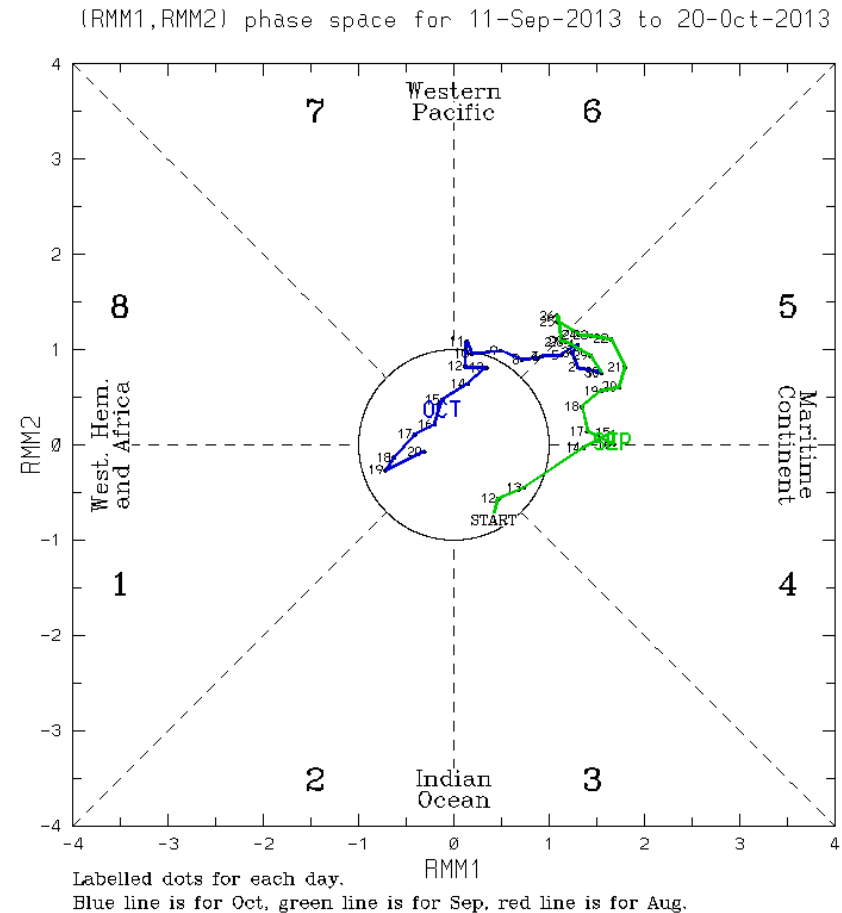
Major grazing region
in Queensland



<http://www.longpaddock.qld.gov.au/>

MJO – 20/10/13

- The MJO is a band of low air pressure which originates off the east coast of central Africa.
- For information and updates on its current location try www.bom.gov.au/climate/mjo/



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Summary

- Current seasonal conditions reflect last summer's very poor wet season followed by above average temperatures
- ENSO neutral conditions to persist
- DSITIA spring and summer wet season outlook near average
- BoM outlook drier than earlier forecasts
- High probability of warmer than normal temperatures (day and night time)

Sources of information

- Climate information
 - www.longpaddock.qld.gov.au
 - www.bom.gov.au/climate/enso
 - www.cpc.ncep.noaa.gov/
 - <http://iri.columbia.edu/>
- How farmers have used climate information
 - www.climatekelpie.com.au/ask-a-farmer/climate-champion-program
- Management tools
 - Rainman Streamflow, HowWet?, Whopper Cropper www.daff.qld.gov.au
 - MLA Rainfall to pasture growth outlook tool www.mla.com.au/News-and-resources/Tools-and-calculators/Rainfall-to-pasture-growth-outlook-tool
- Other drivers of our climate and weather
 - www.bom.gov.au/watl/about/index.shtml



Thank you.

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