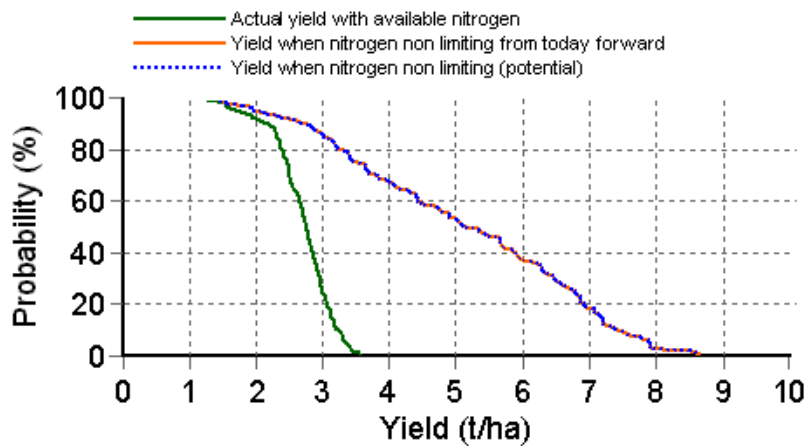


Crop Report

Report name: Graham Centre Field Site Crop Report (Complete)
 Report date: 27/05/2015
 Last climate date available: 25/05/2015
 Client name: EH Graham Centre
 Paddock name: Graham Centre Field Site
 Report generated by: EH Graham Centre
 Date sown: 22-May
 Crop type: Wheat
 Variety sown: Gregory
 Sowing density: 150 plants/m²
 Initial conditions date: 05-Mar
 Soil type: Red Kandosol (No498-Generic)

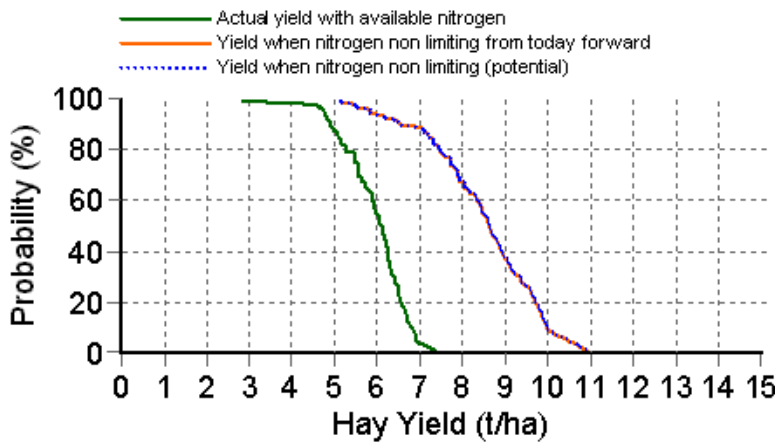
SILO station used: Wagga Wagga AMO
 Rainfall records used: SILO
 Temperature records used: SILO
 Maximum rooting depth: 100 cm
 Stubble type: None
 Stubble amount: kg/ha
 Number of tillage operations: 0
 Stubble % incorporated into the top 10cm: 0 %
 Rainfall since 5-Mar: 81.4 mm
 Date of last rainfall entry: ?
 Expected maturity date: 27-Nov

Grain Yield Outcome



This graph shows the probability of exceeding a range of yield outcomes this season. It takes into account your pre-season soil moisture; the weather conditions so far; soil N and agronomic inputs. The long term record from your nominated weather station is then used to simulate what would have happened from this date on in each year of the climate record. The yield results are used to produce this graph.

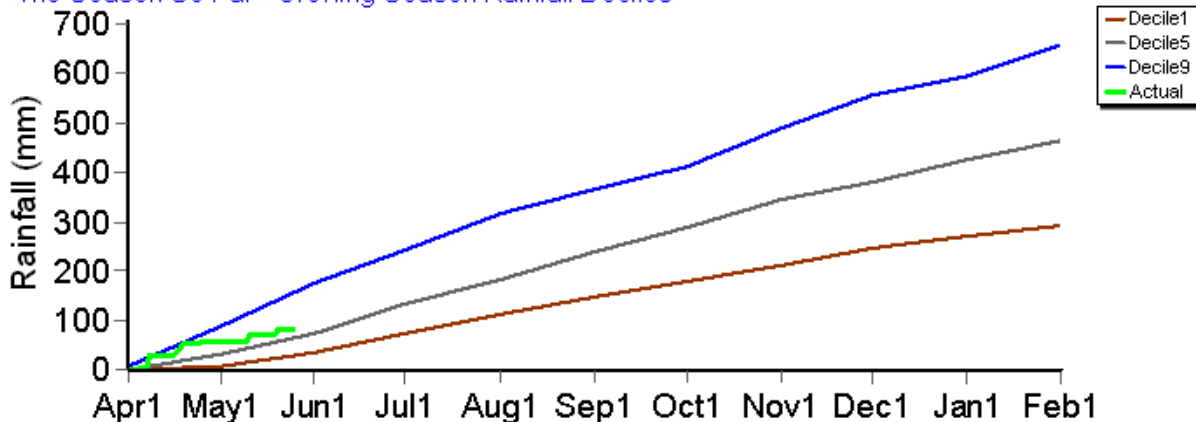
Hay Yield Outcome



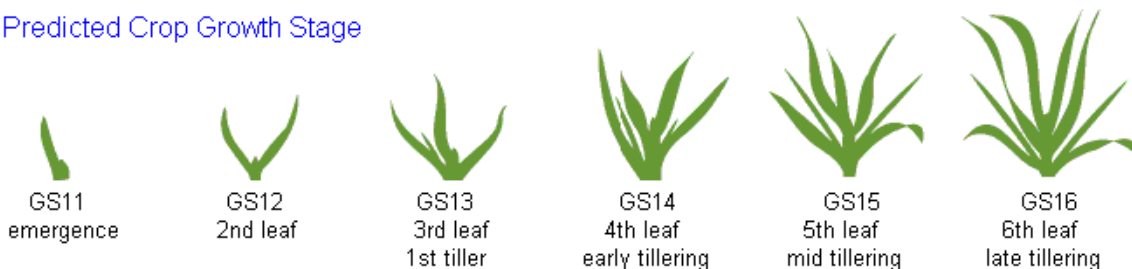
This graph show the probability of exceeding a range of hay yield outcomes this season. It takes into account the same factors as the grain yield graph above. When above ground dry matter is below 2t/ha, hay yield is assumed to be 70% of dry matter, with a moisture content of 13%. When dry matter is between 2 and 12t/ha, hay yield is assumed to be between 70 and 75% of dry matter (sliding scale). When dry matter is above 12t/ha, hay yield is assumed to be between 75 and 80% (sliding scale).

Current dry matter: 0 kg/ha

The Season So Far - Growing Season Rainfall Deciles

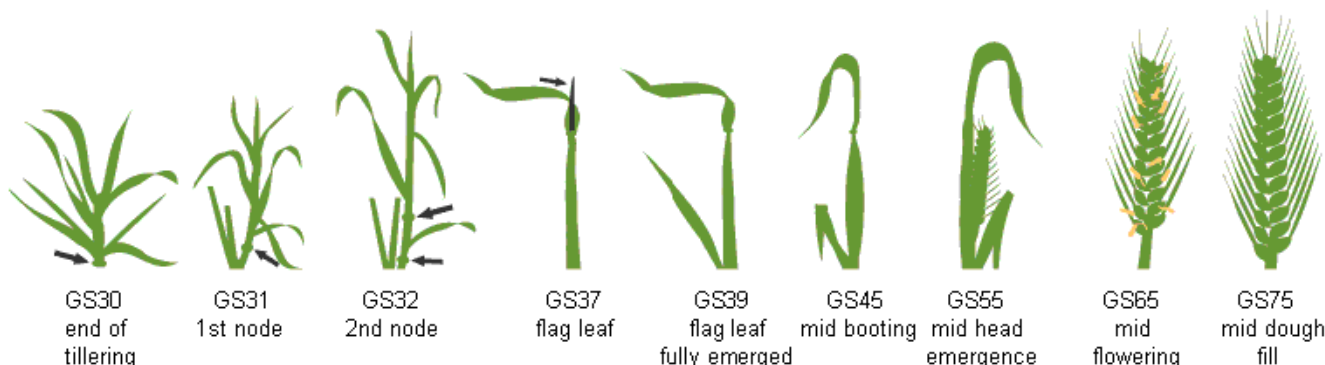


Simulated and Predicted Crop Growth Stage



Predicted

Earliest	29-May	11-Jun	21-Jun	1-Jul	11-Jul	23-Jul
Median	1-Jun	16-Jun	28-Jun	10-Jul	22-Jul	2-Aug
Latest	7-Jun	22-Jun	6-Jul	21-Jul	3-Aug	16-Aug



Predicted

Earliest	19-Aug	22-Aug	27-Aug	5-Sep	9-Sep	17-Sep	26-Sep	7-Oct	23-Oct
Median	26-Aug	30-Aug	3-Sep	15-Sep	19-Sep	27-Sep	7-Oct	17-Oct	2-Nov
Latest	4-Sep	8-Sep	12-Sep	24-Sep	29-Sep	8-Oct	18-Oct	28-Oct	17-Nov

Probability and Incidence of Frost and Heat Shock

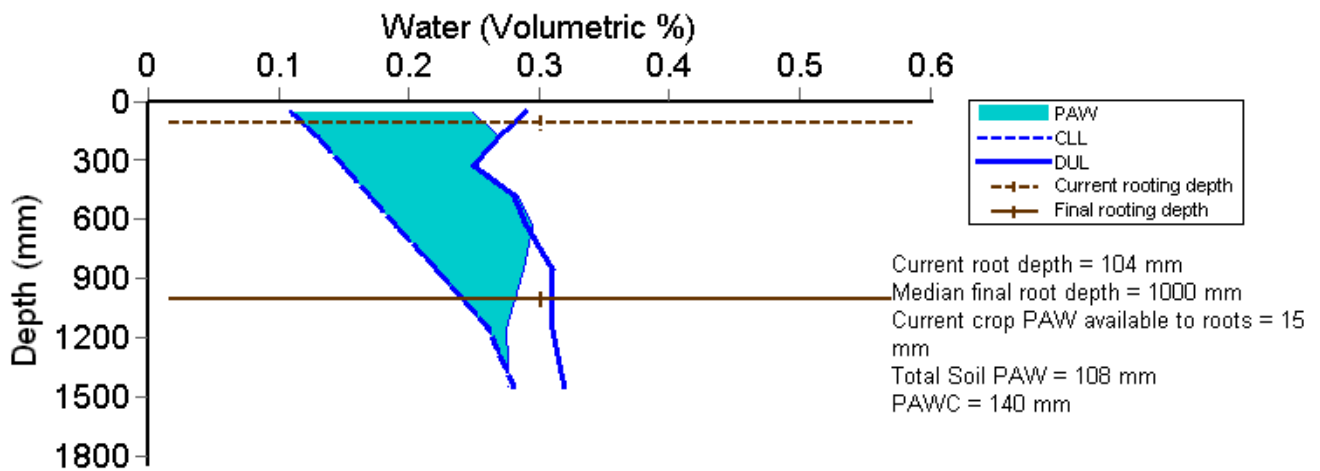
<i>Percentage of years in which frost occurs during flowering</i>	
Mild Minimum temperature between 2 and 0°C during flowering (Z60-69)	34%
Moderate Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75)	3%
Severe Minimum temperature less than -2°C during flowering and grain fill (Z60-79)	1%

<i>Percentage of years in which heat shock occurs during grain fill (Z70-79)</i>	
Mild Maximum temperature between 32 and 34°C	44%
Moderate Maximum temperature between 34 and 36°C	31%
Severe Maximum temperature above 36°	8%

<i>Incidence of frost for this growing season, during flowering</i>	
Mild Minimum temperature between 2 and 0°C during flowering (Z60-69)	0
Moderate Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75)	0
Severe Minimum temperature less than -2°C during flowering and grain fill (Z60-79)	0

<i>Incidence of heat shock for this growing season, during grain fill (Z70-79)</i>	
Mild Maximum temperature between 32 and 34°C	0
Moderate Maximum temperature between 34 and 36°C	0
Severe Maximum temperature above 36°	0

Current Distribution of PAW



PAW = Plant Available Water
CLL = Crop Lower Limit or Wilting Point
DUL = Drained Upper Limit or Field Capacity
PAWC = Plant Available Water Capacity
Current Crop PAW = Soil water currently accessible to the roots down to the current rooting depth
Soil PAW = Total accessible soil water in the soil profile

Water Budget

Initial PAW status @ 5-Mar	82 mm
Rainfall since 5-Mar	81.4 mm
Irrigations	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
Evaporation since 5-Mar	52 mm
Transpiration since 5-Mar	0 mm
Deep drainage since 5-Mar	0 mm
Run-off since 5-Mar	3 mm

Current PAW status: 108 mm

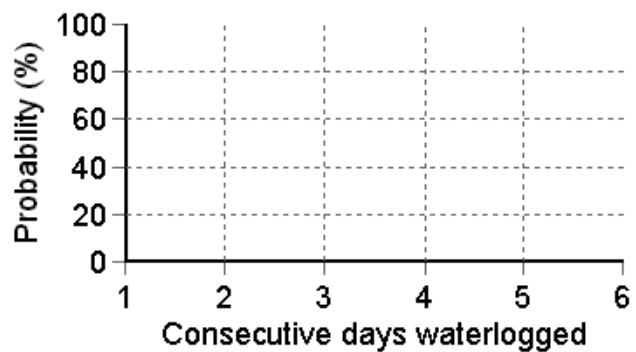
Nitrogen Budget

Initial N status @ 05-Mar	87 kg/ha
N mineralisation since 05-Mar	7 kg/ha
N tie up since 05-Mar	2 kg/ha
N applications	: kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
Total N in plant	0 kg/ha
De-nitrification since 05-Mar	1 kg/ha
Leaching	0 kg/ha

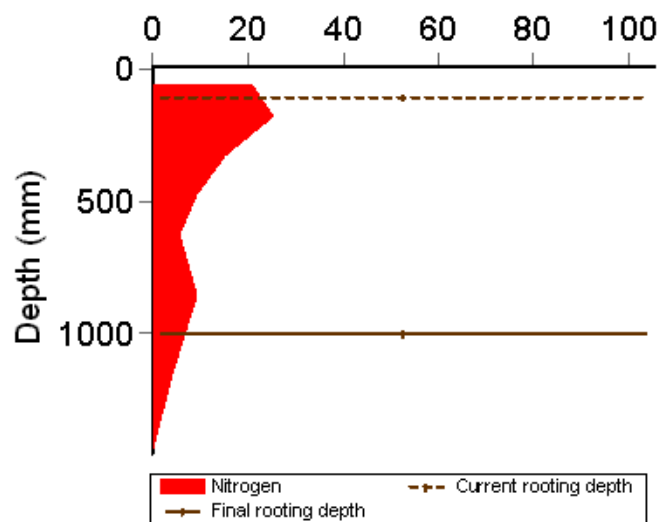
Current N status: 91 kg/ha

Median N mineralisation to maturity = 14 kg/ha
 Median N tie up to maturity = 0 kg/ha

Probability of Future Waterlogging Events

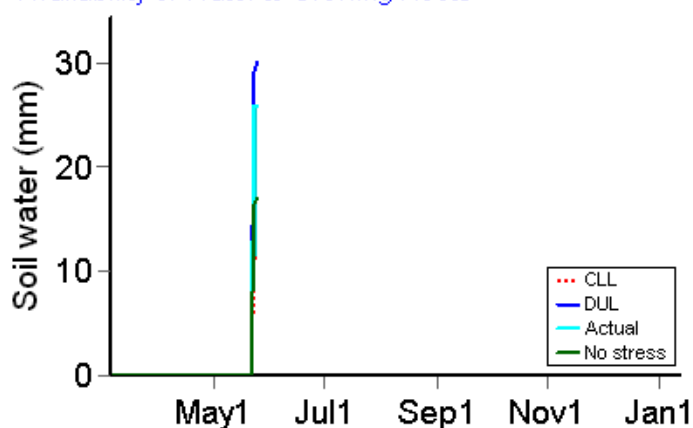


Current distribution of soil nitrogen (kg/ha)

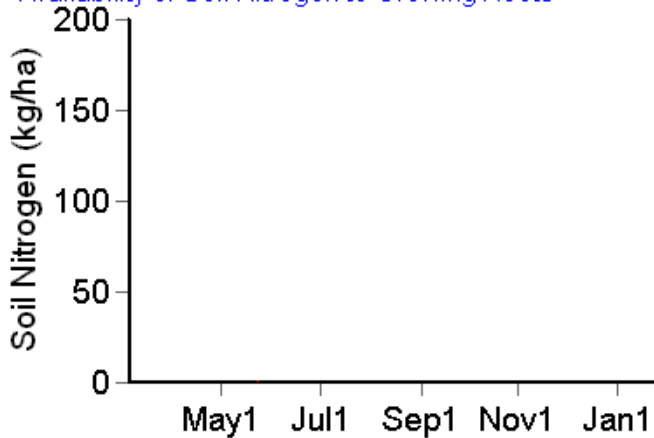


Current Crop Available N = 21 kg/ha
Total Soil N = 91 kg/ha

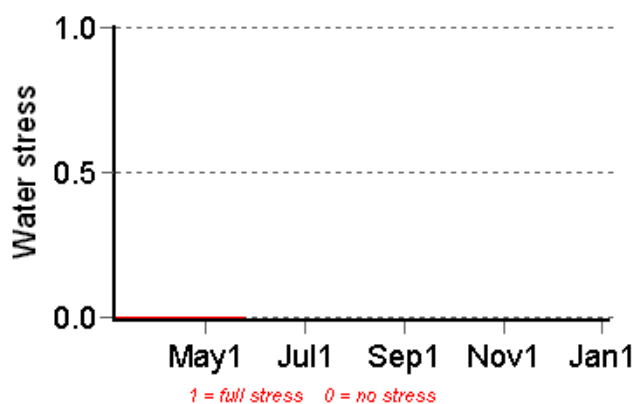
Availability of Water to Growing Roots



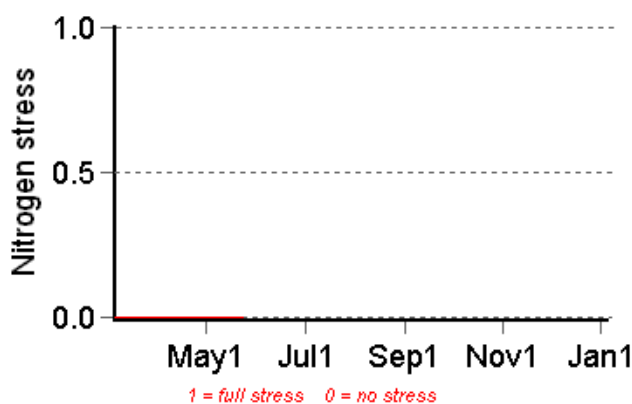
Availability of Soil Nitrogen to Growing Roots



Water Stress



Nitrogen Stress



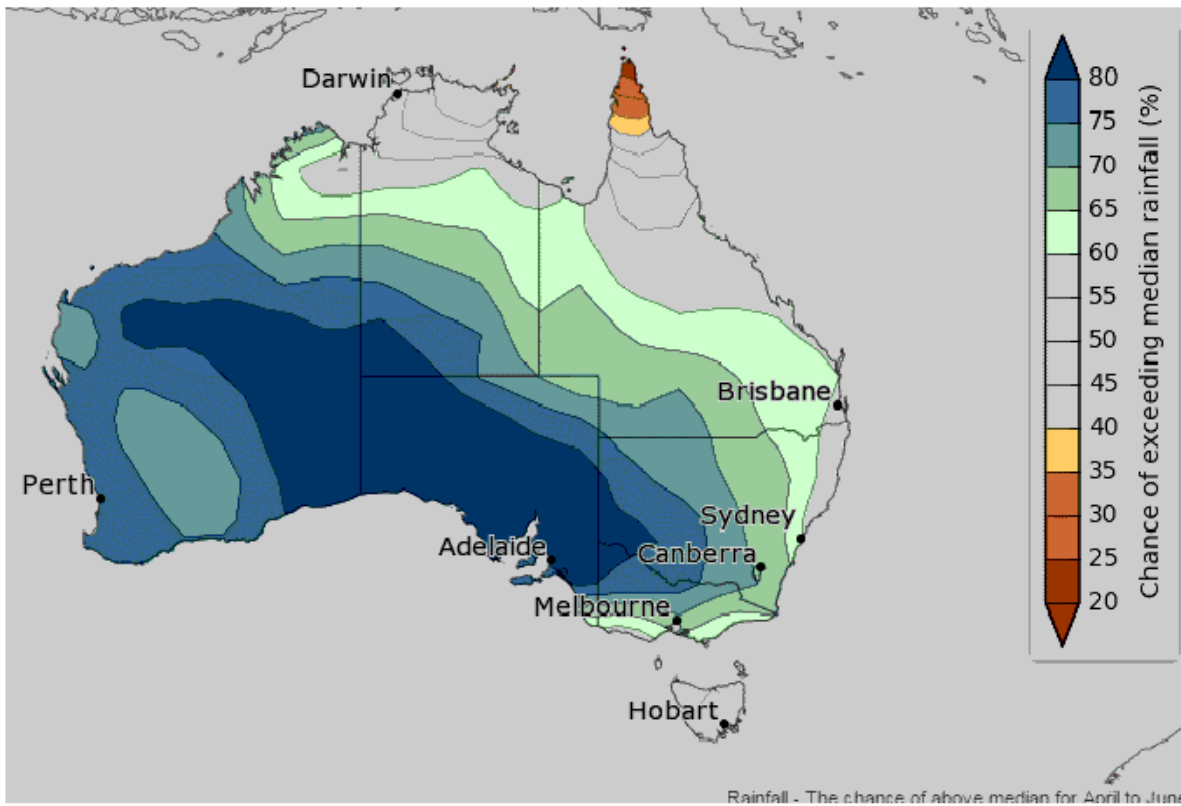
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

Mean projected crop performance and requirements for the next 10 days assuming no rain and no added fertiliser.

Date	Growth Stage	Evap. (mm)	Water use (mm)	N use (kg/ha)	Water available to roots above stress threshold (mm)	Water available to roots above CLL (mm)	N available to roots (kg/ha)	Mineralisation (kg/ha)	N tie up (kg/ha)
27-May	9.0	0.6	0.0	0.0	9.2	15.0	21.5	0.1	0.0
28-May	9.0	0.6	0.0	0.0	9.2	15.0	21.8	0.1	0.0
29-May	9.0	0.5	0.0	0.0	9.1	15.1	22.2	0.1	0.0
30-May	9.0	0.5	0.0	0.0	9.4	15.5	22.7	0.1	0.0
31-May	11.0	0.5	0.0	0.0	10.1	16.3	23.4	0.1	0.0
1-Jun	11.1	0.7	0.0	0.1	10.8	17.6	24.6	0.1	0.0
2-Jun	11.1	0.8	0.0	0.1	12.4	19.4	26.1	0.1	0.0
3-Jun	11.2	0.8	0.0	0.1	13.2	21.1	27.4	0.1	0.0
4-Jun	11.2	0.7	0.0	0.1	14.5	22.6	28.5	0.1	0.0
5-Jun	11.3	0.7	0.0	0.1	15.5	23.7	29.5	0.1	0.0

The water available to roots above the stress threshold is the amount of PAW (mm) above one third of the total water holding capacity of this soil. If the water values are below this stress threshold the water available to roots above the stress threshold will be negative.

How much rainfall can I expect?
 The Bureau of Meteorology Forecast for the next 3 months



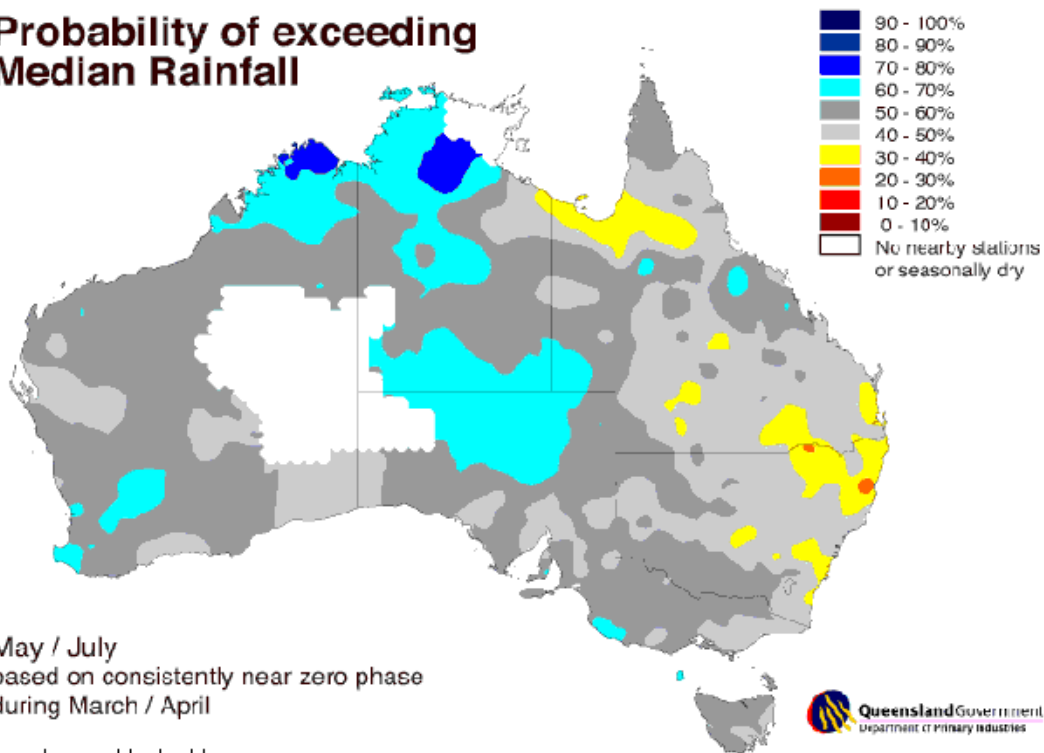
National Seasonal Rainfall Outlook: probabilities April to June 2015

Issued by the Bureau of Meteorology 26th March 2015.

For the outlook accuracy map go to: "http://www.bom.gov.au/climate/ahead/rain_ahead.shtml#abs=Outlook-accuracy"

Queensland Department of Environment and Resource Management (DERM) 3 month rainfall forecast based on the current phase of the SOI

Probability of exceeding Median Rainfall



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

SOI Phase and analogue years

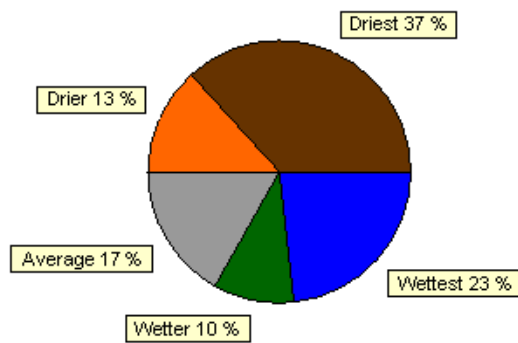
The SOI is currently in the Zero phase. The 30 day mean SOI for April was -3.08, in March the 31 day mean SOI was -10.7.

The years in history with the same SOI phase:

1891, 1894, 1895, 1901, 1907, 1908, 1910, 1913, 1919, 1920, 1922, 1926, 1932, 1933, 1937, 1939, 1944, 1948, 1949, 1954, 1959, 1966, 1967, 1976, 1982, 1984, 1986, 1996, 2003, 2007

How much rainfall can I expect?

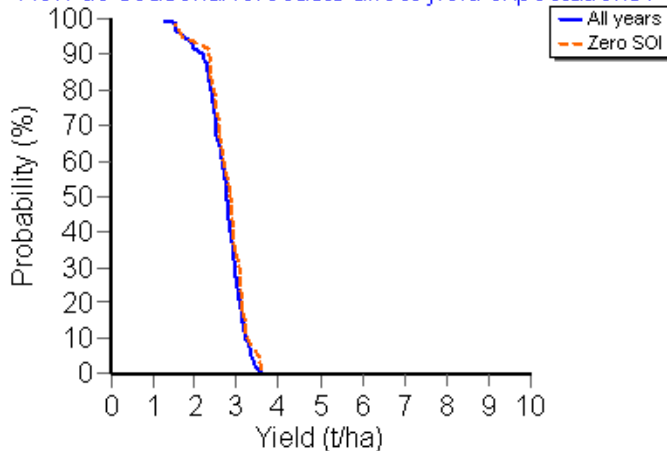
The SOI seasonal forecast for the next 3 months.



The SOI is an index that compares the atmospheric pressure between Tahiti and Darwin. SOI Phases are determined by comparing average monthly SOI values of the past two months. Phases of the SOI have been shown to be related to rainfall variability in a range of locations in Australia and around the world.

Rainfall	
Driest	0 to 110 mm
Drier	110 to 145 mm
Average	145 to 167 mm
Wetter	167 to 197 mm
Wettest	197 to 332 mm

How do seasonal forecasts affect yield expectations?



The 30 day mean SOI for April was -3.08, in March the 31 day mean SOI was -10.7.

Yield outcomes of the current SOI Phase ARE NOT significantly different from yield outcomes of all years. Significance is determined on a 90% probability threshold. (PValue=0.442)

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