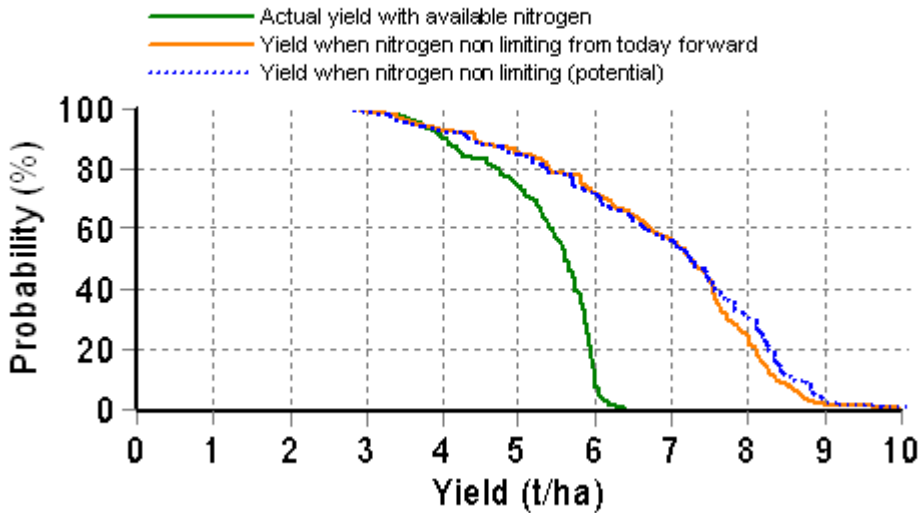


# Crop Report

Report name: Block 501W Crop report  
 Report date: 07/08/2012  
 Last climate date available: 6/08/2012  
 Client name: EH Graham Centre  
 Paddock name: Block 501W  
 Report generated by: EH Graham Centre  
 Date sown: 27-Apr  
 Crop type: Wheat  
 Variety sown: Wedgetail  
 Sowing density: 150 plants/m<sup>2</sup>

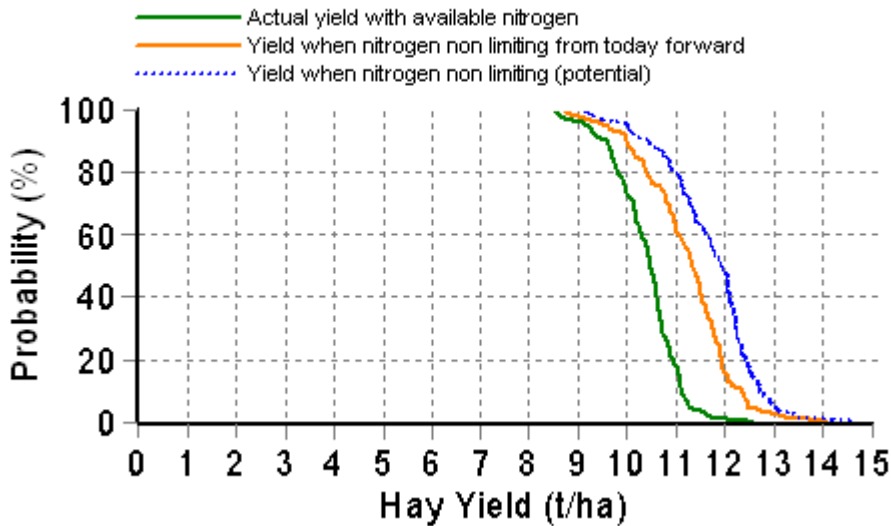
Weather station used: Wagga Wagga  
 Agricultural Institute  
 Rainfall records used: Weather station  
 Soil type: Red Kandosol (Dirnaseer No544)  
 Maximum rooting depth: 100 cm  
 Roots constrained by EC, CI and ESP: Yes  
 Stubble type: Canola  
 Stubble amount: 1 kg/ha  
 Start of growing season: 01-Apr  
 Initial conditions date: 01-Jan  
 Rainfall since 1-Jan: 480.8 mm  
 Date of last rainfall entry: ?  
 Expected harvest date: 19-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 of the past 100 years. The yield results are used to produce this graph.

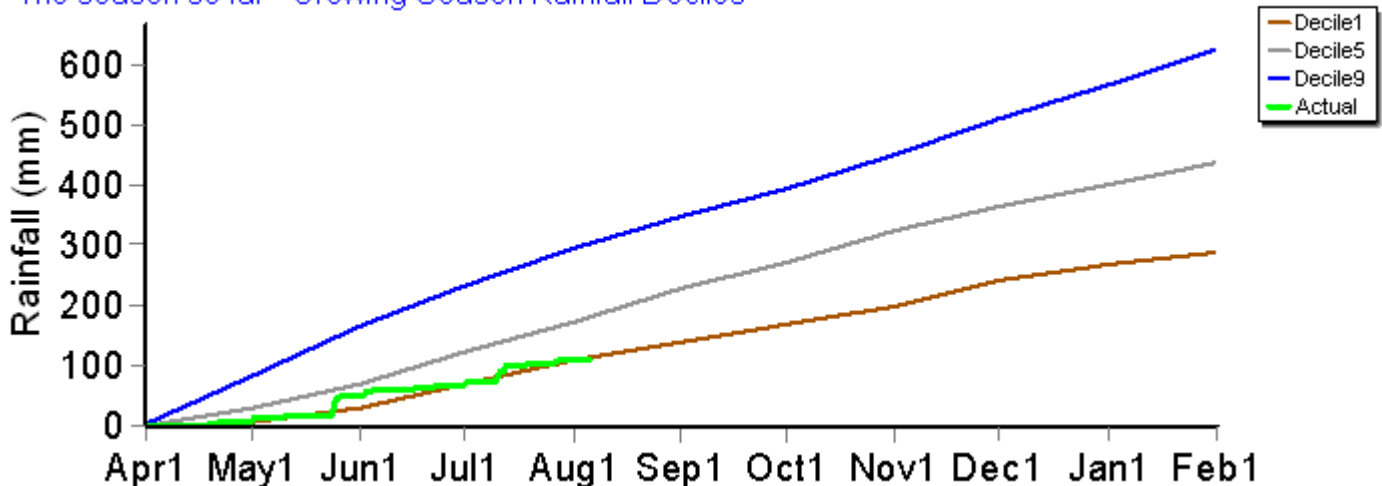
## Hay Yield Outcome

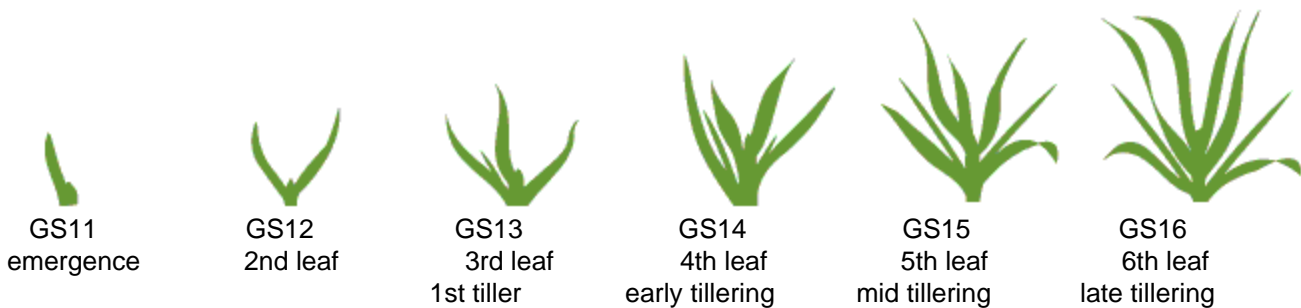


This graph show the probability of exceeding a range of hay yield outcomes this season. It takes into account the same factors as the grain yield graph above. When above ground dry matter is below 2t/ha, hay yield is assumed to be 70% of dry matter, with a moisture content of 13%. When dry matter is 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: 4088 kg/ha

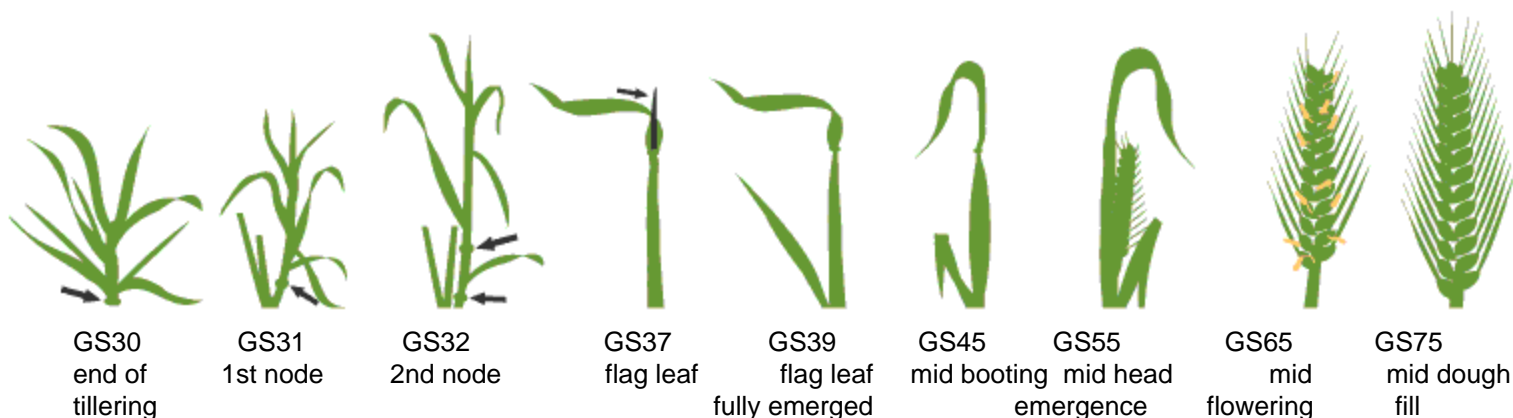
## The season so far - Growing Season Rainfall Deciles





**Predicted**

<b>Earliest</b>	6-May	17-May	27-May	6-Jun	16-Jun	28-Jun
<b>Median</b>	6-May	17-May	27-May	6-Jun	16-Jun	28-Jun
<b>Latest</b>	6-May	17-May	27-May	6-Jun	16-Jun	28-Jun



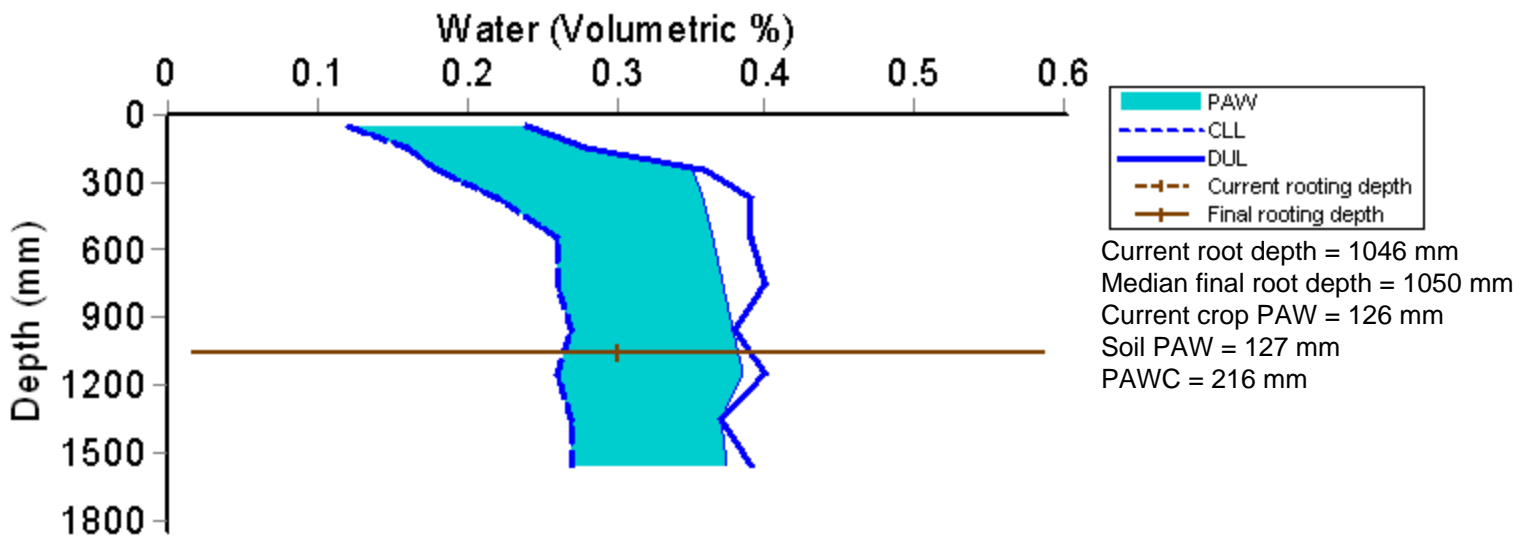
**Predicted**

<b>Earliest</b>	25-Aug	28-Aug	31-Aug	5-Sep	9-Sep	15-Sep	21-Sep	26-Sep	14-Oct
<b>Median</b>	30-Aug	3-Sep	7-Sep	15-Sep	18-Sep	23-Sep	1-Oct	7-Oct	24-Oct
<b>Latest</b>	14-Sep	19-Sep	25-Sep	5-Oct	8-Oct	13-Oct	19-Oct	25-Oct	11-Nov

<i>Percentage of years in which frost occurs during flowering</i>		<i>Percentage of years in which heat shock occurs during grain fill (Z70-79)</i>	
<b>Mild</b>		<b>Mild</b>	
Minimum temperature between 2 and 0°C during flowering (Z60-69)	22%	Maximum temperature between 32 and 34°C	34%
<b>Moderate</b>		<b>Moderate</b>	
Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75)	3%	Maximum temperature between 34 and 36°C	15%
<b>Severe</b>		<b>Severe</b>	
Minimum temperature less than -2°C during flowering and grain fill (Z60-79)	0%	Maximum temperature above 36°	7%

<i>Incidence of frost for this growing season, during flowering</i>		<i>Incidence of heat shock for this growing season, during grain fill (Z70-79)</i>	
<b>Mild</b>		<b>Mild</b>	
Minimum temperature between 2 and 0°C during flowering (Z60-69)	0	Maximum temperature between 32 and 34°C	0
<b>Moderate</b>		<b>Moderate</b>	
Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75)	0	Maximum temperature between 34 and 36°C	0
<b>Severe</b>		<b>Severe</b>	
Minimum temperature less than -2°C during flowering and grain fill (Z60-79)	0	Maximum temperature above 36°	0

## Current distribution of PAW

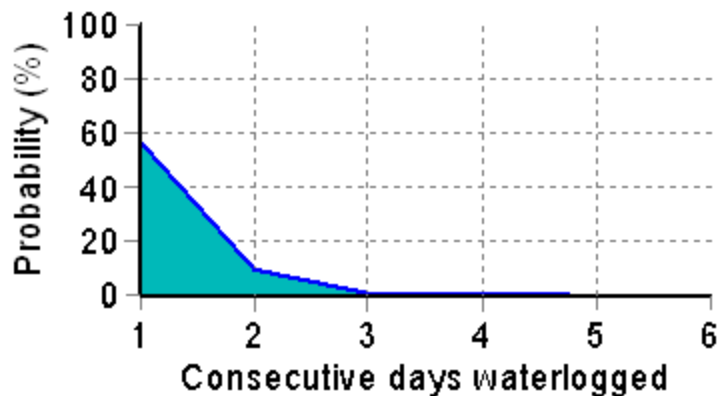


**PAW** = Plant Available Water  
**CLL** = Crop Lower Limit or Wilting Point  
**DUL** = Drained Upper Limit or Field Capacity  
**PAWC** = Plant Available Water Capacity  
**Current Crop PAW** = Soil water currently accessible to the roots down to the current rooting depth  
**Soil PAW** = Total accessible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

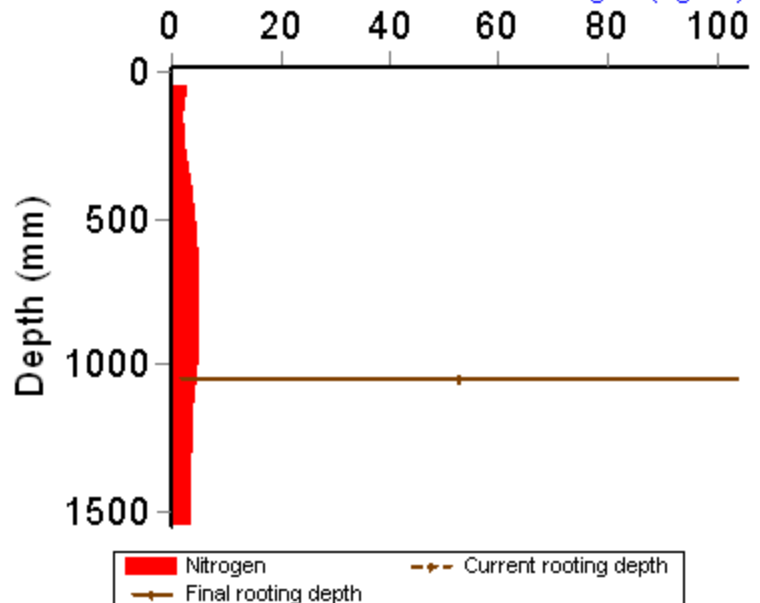
## Water Budget

Initial PAW status @ 1-Jan	69 mm
Rainfall since 1-Jan	480.8 mm
Irrigations	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
Evaporation since 1-Jan	173 mm
Transpiration since 1-Jan	48 mm
Deep drainage since 1-Jan	0 mm
Run-off since 1-Jan	137 mm
<b>Current PAW status:</b>	<b>127 mm</b>

## Probability of Future Waterlogging Events



## Current distribution of soil nitrogen (kg/ha)

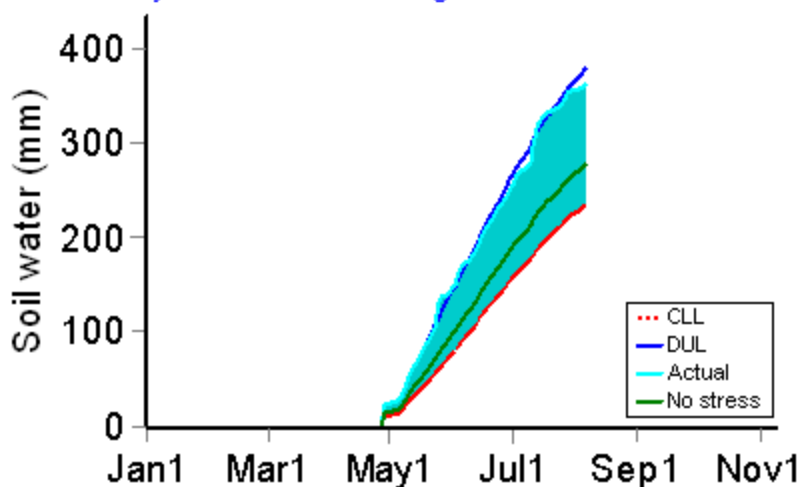


## Nitrogen Budget

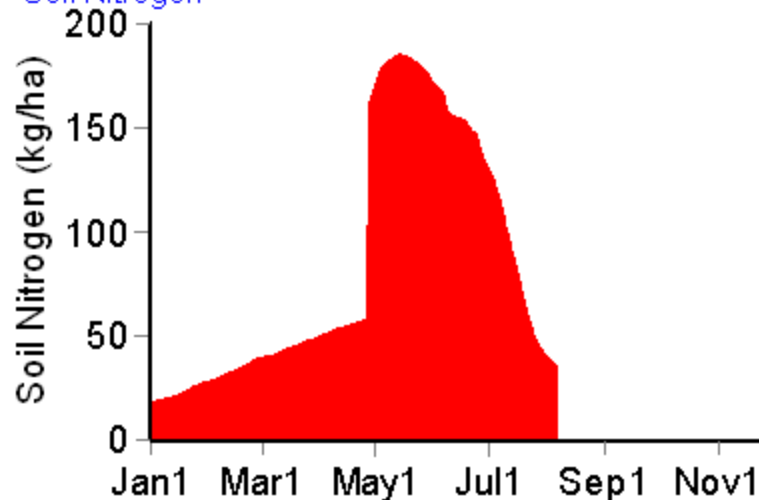
Initial N status @ 08-Jun	190 kg/ha
Mineralisation since 08-Jun	-1 kg/ha
N applications	: kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
Total N in plant	174 kg/ha
De-nitrification since 08-Jun	1 kg/ha
Leaching	0 kg/ha

**Current N status:** **38 kg/ha**

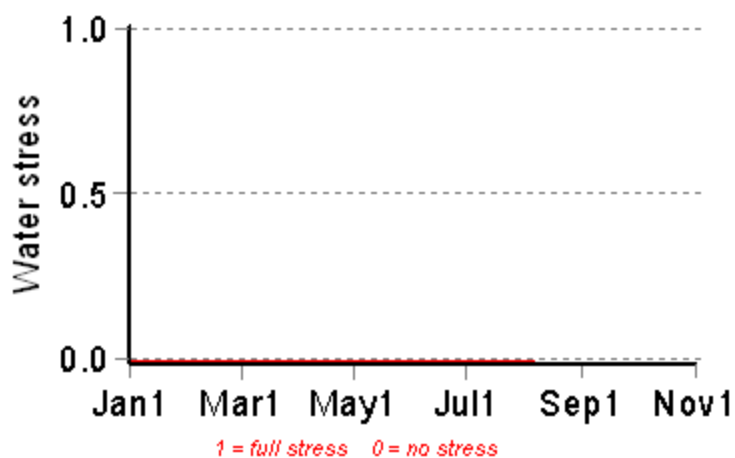
### Availability of Water to Growing Roots



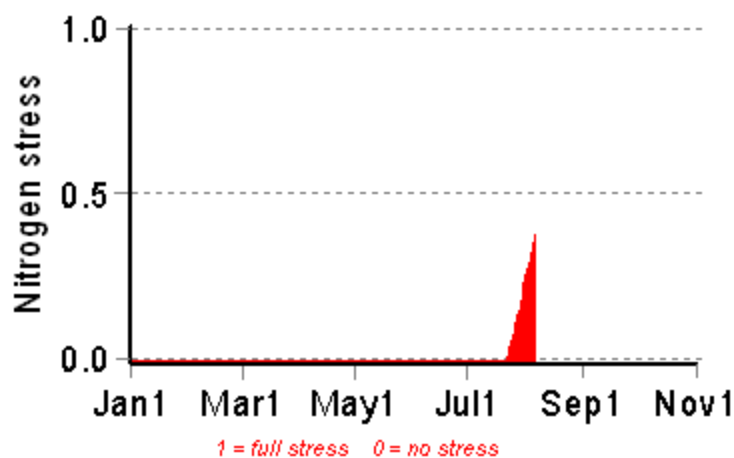
### Soil Nitrogen



### Water Stress



### Nitrogen Stress



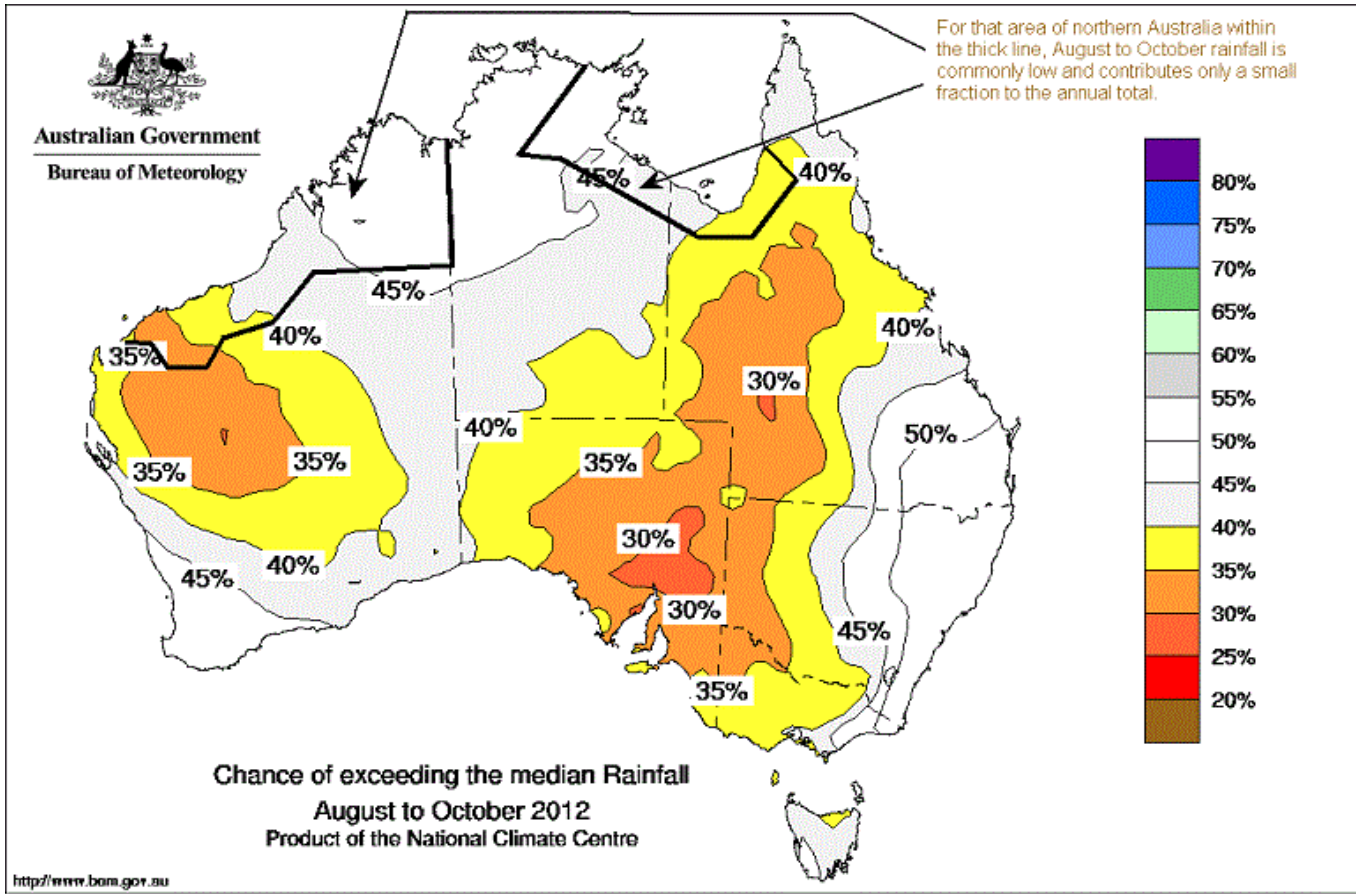
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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

Date	Growth Stage	Evap (mm)	Daily water use (mm)	Daily N use (kg/ha)	Water available to roots above stress threshold (mm)	Water available to roots above crop lower limit (mm)	N available to roots (kg/ha)
7-Aug	16.0	0.4	1.0	0.7	62.1	105.1	28.1
8-Aug	16.0	0.4	1.0	0.7	63.8	106.8	27.4
9-Aug	16.0	0.4	1.1	0.7	63.2	106.2	26.7
10-Aug	16.0	0.4	1.1	0.6	66.2	109.2	26.1
11-Aug	16.0	0.4	1.1	0.6	68.1	111.2	25.5
12-Aug	16.0	0.4	1.0	0.6	67.2	110.2	24.9
13-Aug	16.0	0.4	1.0	0.5	67.7	110.8	24.3
14-Aug	16.0	0.4	1.1	0.5	67.2	110.2	23.7
15-Aug	16.0	0.4	1.1	0.5	68.0	111.1	23.2
16-Aug	16.0	0.4	1.1	0.5	69.4	112.5	22.7

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

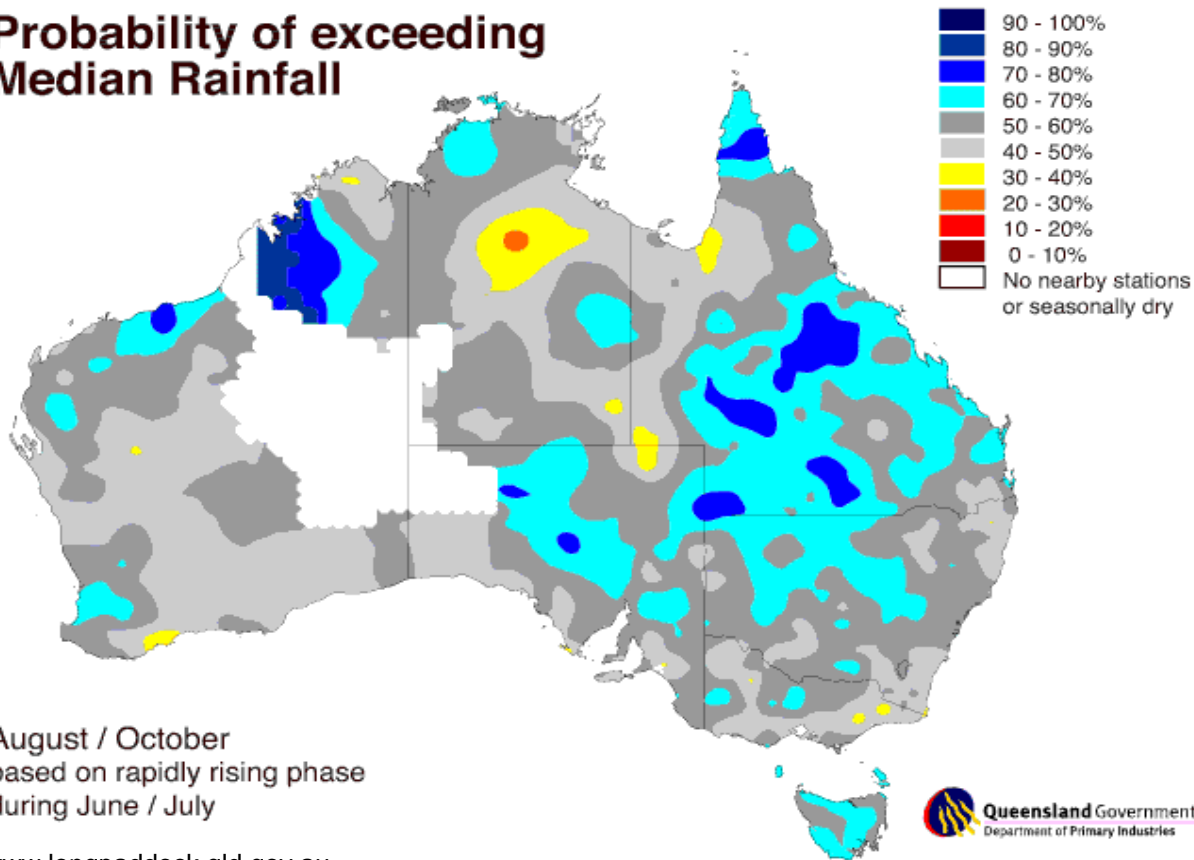


**National Seasonal Rainfall Outlook: probabilities August to October 2012**

Issued by the bureau of Meteorology 18th July 2012

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**



## SOI Phase and analogue years

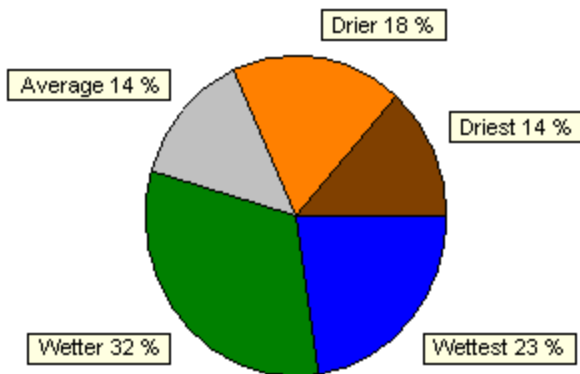
The SOI is currently in the Rising phase. The 31 day mean SOI for July was 0.1, in June the 30 day mean SOI was -10.2,

The years in history with the same SOI phase:

1901, 1904, 1906, 1908, 1928, 1937, 1942, 1943, 1944, 1945, 1954, 1962, 1964, 1966, 1967, 1970, 1971, 1983, 1985, 2000, 2007, 2008

## How much rainfall can I expect?

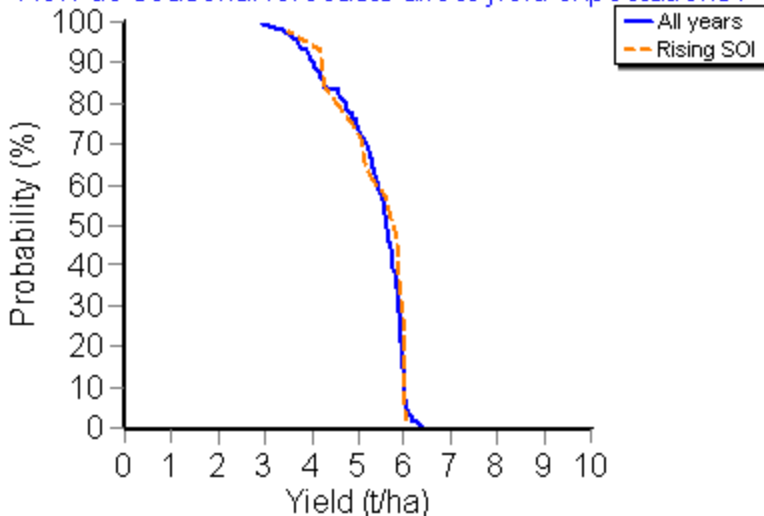
The SOI seasonal forecast for the next 3 months.



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 89 mm
Drier	89 to 114 mm
Average	114 to 144 mm
Wetter	144 to 184 mm
Wettest	184 to 328 mm

## How do seasonal forecasts affect yield expectations?



The 31 day mean SOI for July was 0.1, in June the 30 day mean SOI was -10.2,

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=0.644)