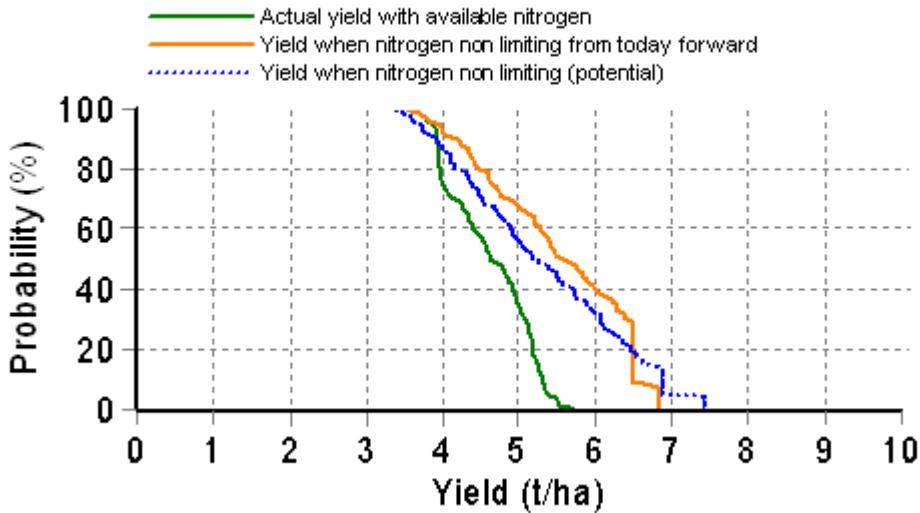


# Crop Report

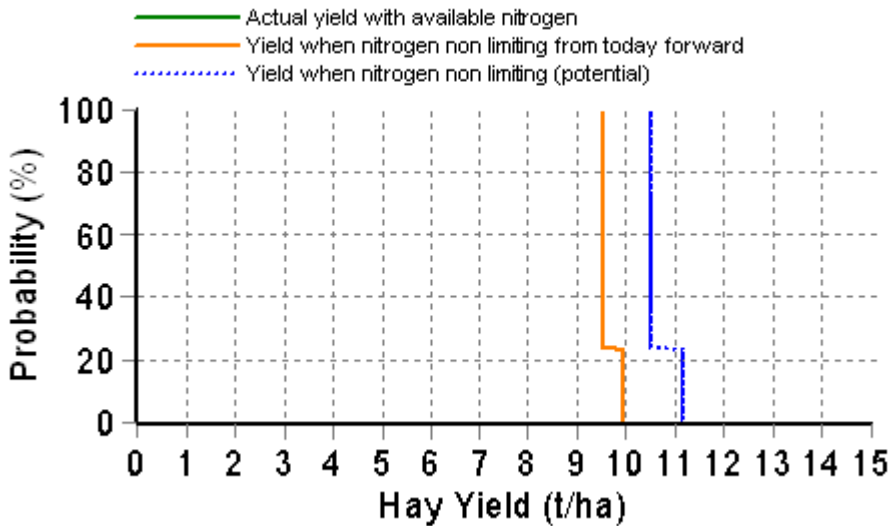
Report name: Block 501W Crop report9October2012 Weather station used: Wagga Wagga  
 Report date: 09/10/2012 Agricultural Institute  
 Last climate date available: 7/10/2012 Rainfall records used: Weather station  
 Client name: EH Graham Centre Soil type: Red Kandosol (Dirnaseer No544)  
 Paddock name: Block 501W Maximum rooting depth: 100 cm  
 Report generated by: EH Graham Centre Roots constrained by EC, CI and ESP: Yes  
 Date sown: 27-Apr Stubble type: Canola  
 Crop type: Wheat Stubble amount: 1 kg/ha  
 Variety sown: Wedgetail Start of growing season: 01-Apr  
 Sowing density: 150 plants/m2 Initial conditions date: 01-Jan  
 Rainfall since 1-Jan: 527.6 mm  
 Date of last rainfall entry: ?  
 Expected harvest date: 20-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.

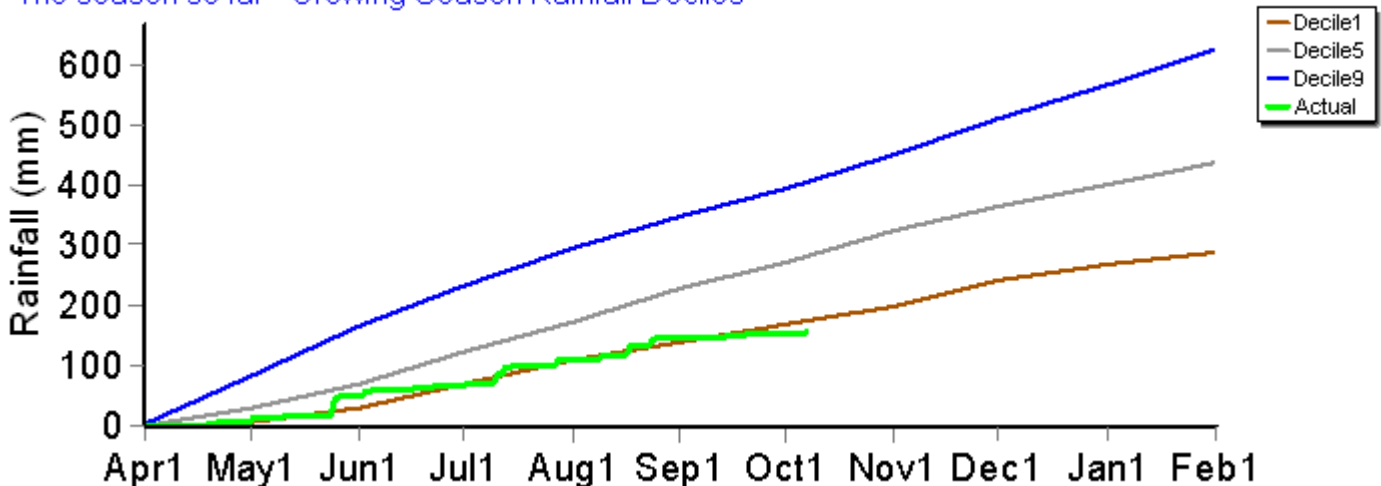
## Hay Yield Outcome

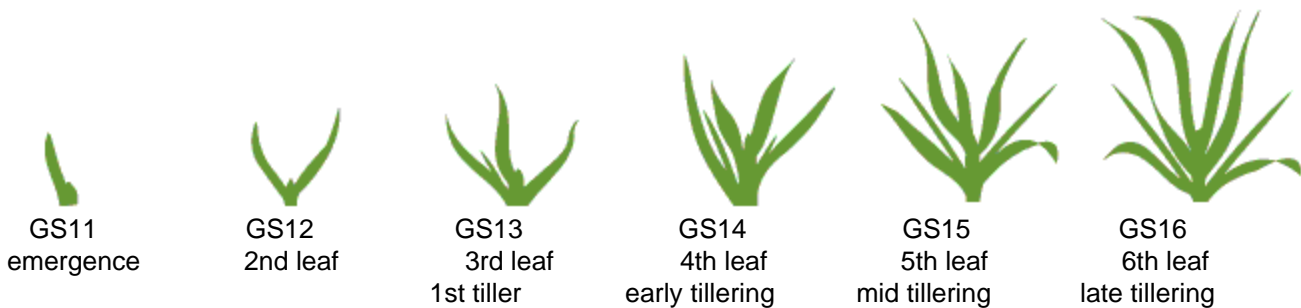


This graph show the probability of exceeding a range of hay yield outcomes this season. It takes into account the same factors as the grain yield graph above. When above ground dry matter is below 2t/ha, hay yield is assumed to be 70% of dry matter, with a moisture content of 13%. When dry matter is 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: 11679 kg/ha

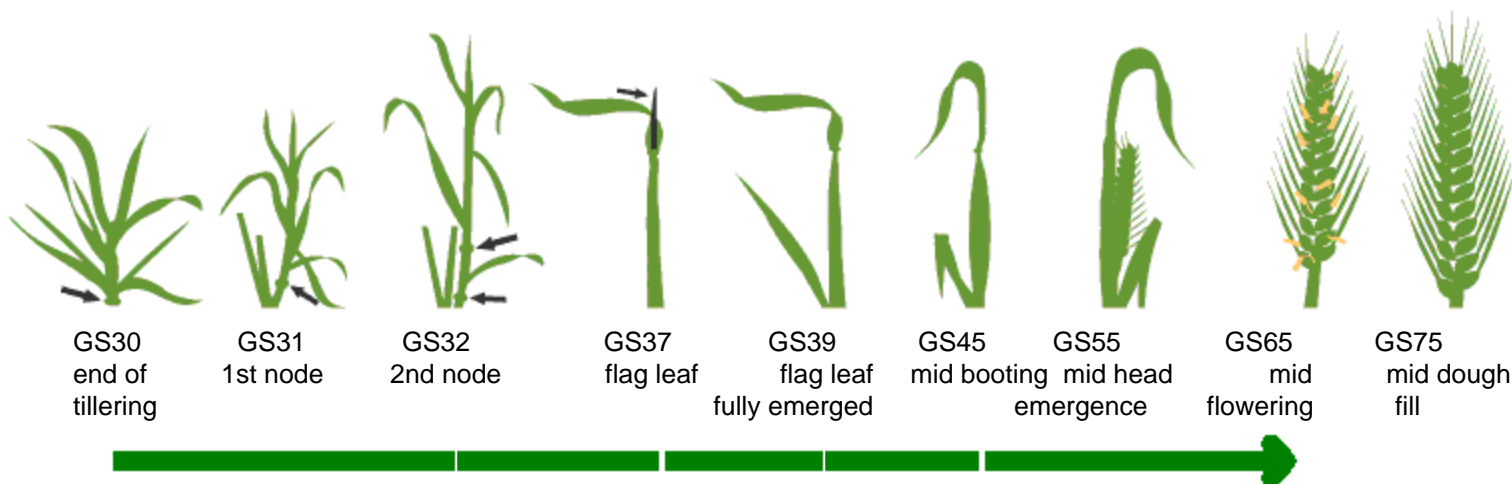
## The season so far - Growing Season Rainfall Deciles





**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>	1-Sep	5-Sep	9-Sep	17-Sep	20-Sep	25-Sep	2-Oct	8-Oct	21-Oct
<b>Median</b>	1-Sep	5-Sep	9-Sep	17-Sep	21-Sep	25-Sep	2-Oct	8-Oct	25-Oct
<b>Latest</b>	1-Sep	5-Sep	9-Sep	17-Sep	21-Sep	25-Sep	2-Oct	8-Oct	30-Oct

*Percentage of years in which frost occurs during flowering*

<b>Mild</b>	
Minimum temperature between 2 and 0°C during flowering (Z60-69)	15%
<b>Moderate</b>	
Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75)	2%
<b>Severe</b>	
Minimum temperature less than -2°C during flowering and grain fill (Z60-79)	0%

*Percentage of years in which heat shock occurs during grain fill (Z70-79)*

<b>Mild</b>	
Maximum temperature between 32 and 34°C	32%
<b>Moderate</b>	
Maximum temperature between 34 and 36°C	19%
<b>Severe</b>	
Maximum temperature above 36°	7%

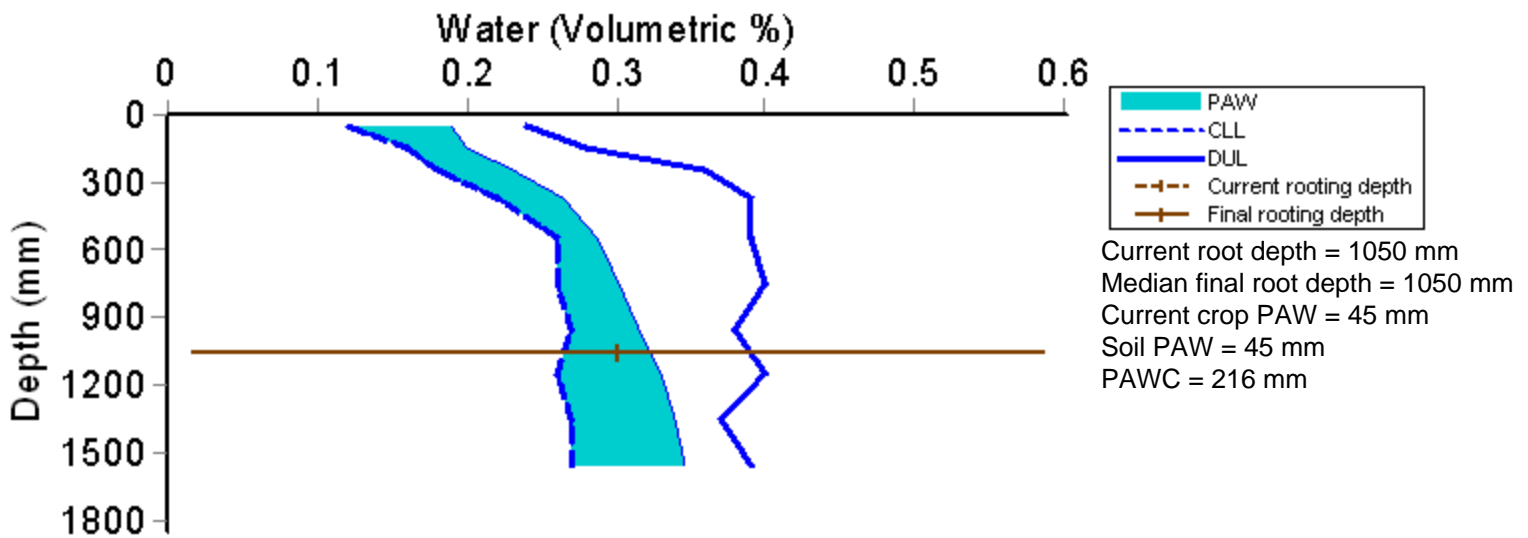
*Incidence of frost for this growing season, during flowering*

<b>Mild</b>	
Minimum temperature between 2 and 0°C during flowering (Z60-69)	0
<b>Moderate</b>	
Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75)	0
<b>Severe</b>	
Minimum temperature less than -2°C during flowering and grain fill (Z60-79)	0

*Incidence of heat shock for this growing season, during grain fill (Z70-79)*

<b>Mild</b>	
Maximum temperature between 32 and 34°C	0
<b>Moderate</b>	
Maximum temperature between 34 and 36°C	0
<b>Severe</b>	
Maximum temperature above 36°	0

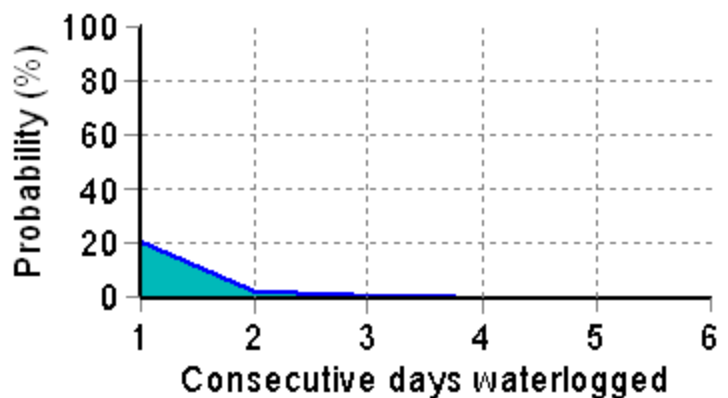
## Current distribution of PAW



## Water Budget

Initial PAW status @ 1-Jan	69 mm
Rainfall since 1-Jan	527.6 mm
Irrigations	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
Evaporation since 1-Jan	200 mm
Transpiration since 1-Jan	171 mm
Deep drainage since 1-Jan	0 mm
Run-off since 1-Jan	137 mm
<b>Current PAW status:</b>	<b>45 mm</b>

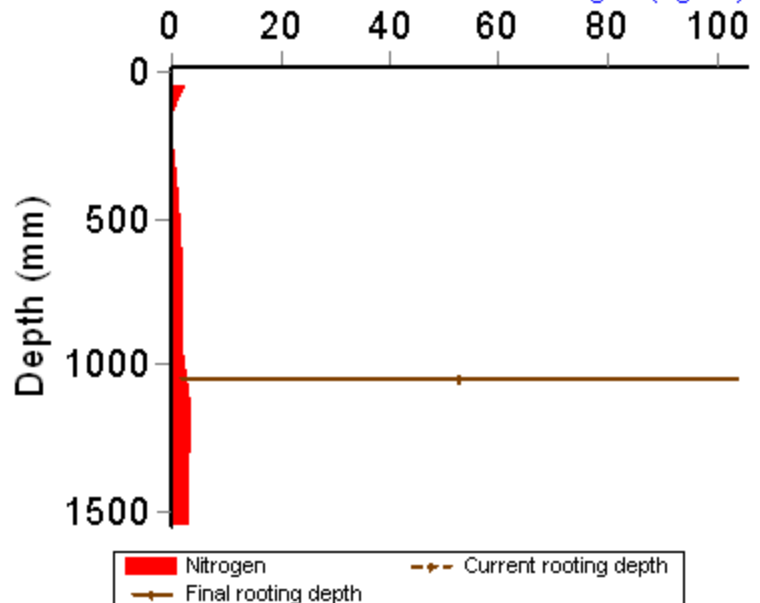
## Probability of Future Waterlogging Events



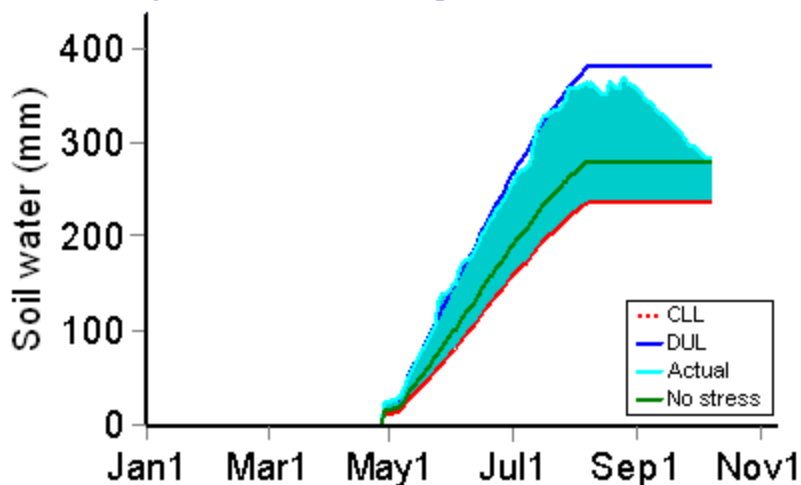
## Nitrogen Budget

Initial N status @ 08-Jun	190 kg/ha
Mineralisation since 08-Jun	-2 kg/ha
N applications	: kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
Total N in plant	185 kg/ha
De-nitrification since 08-Jun	0 kg/ha
Leaching	0 kg/ha
<b>Current N status:</b>	<b>21 kg/ha</b>

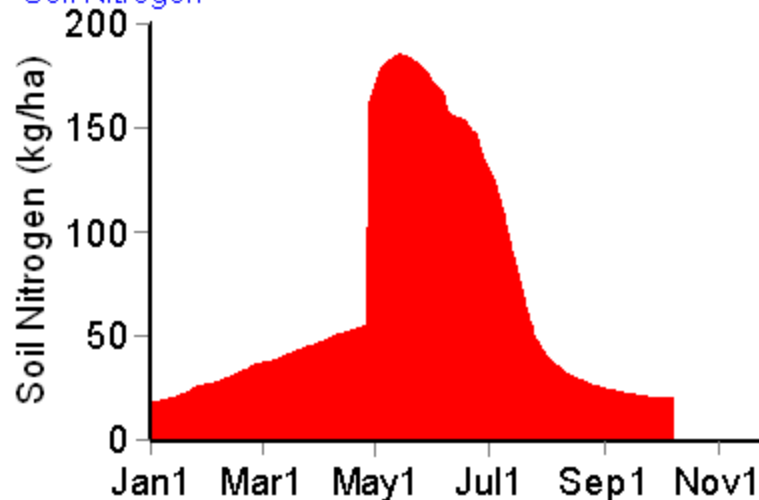
## Current distribution of soil nitrogen (kg/ha)



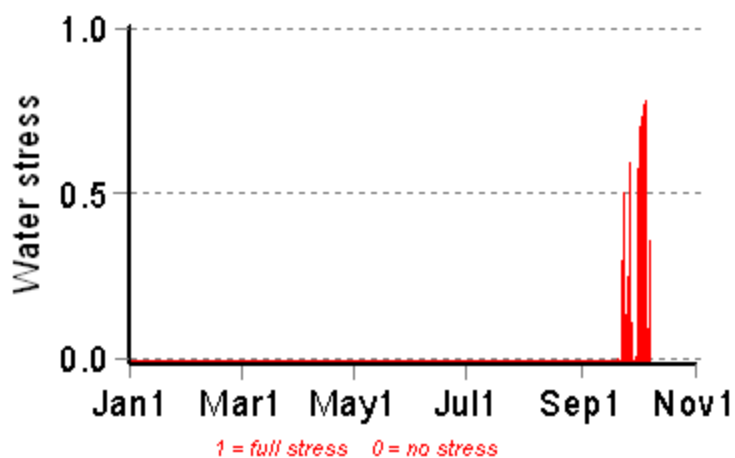
### Availability of Water to Growing Roots



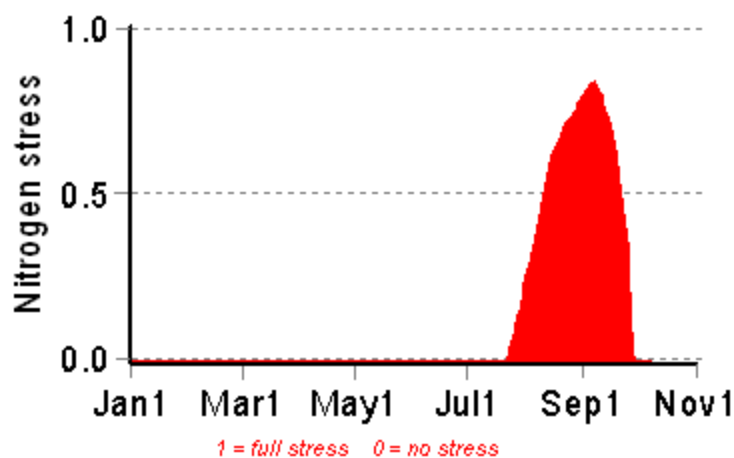
### Soil Nitrogen



### 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.

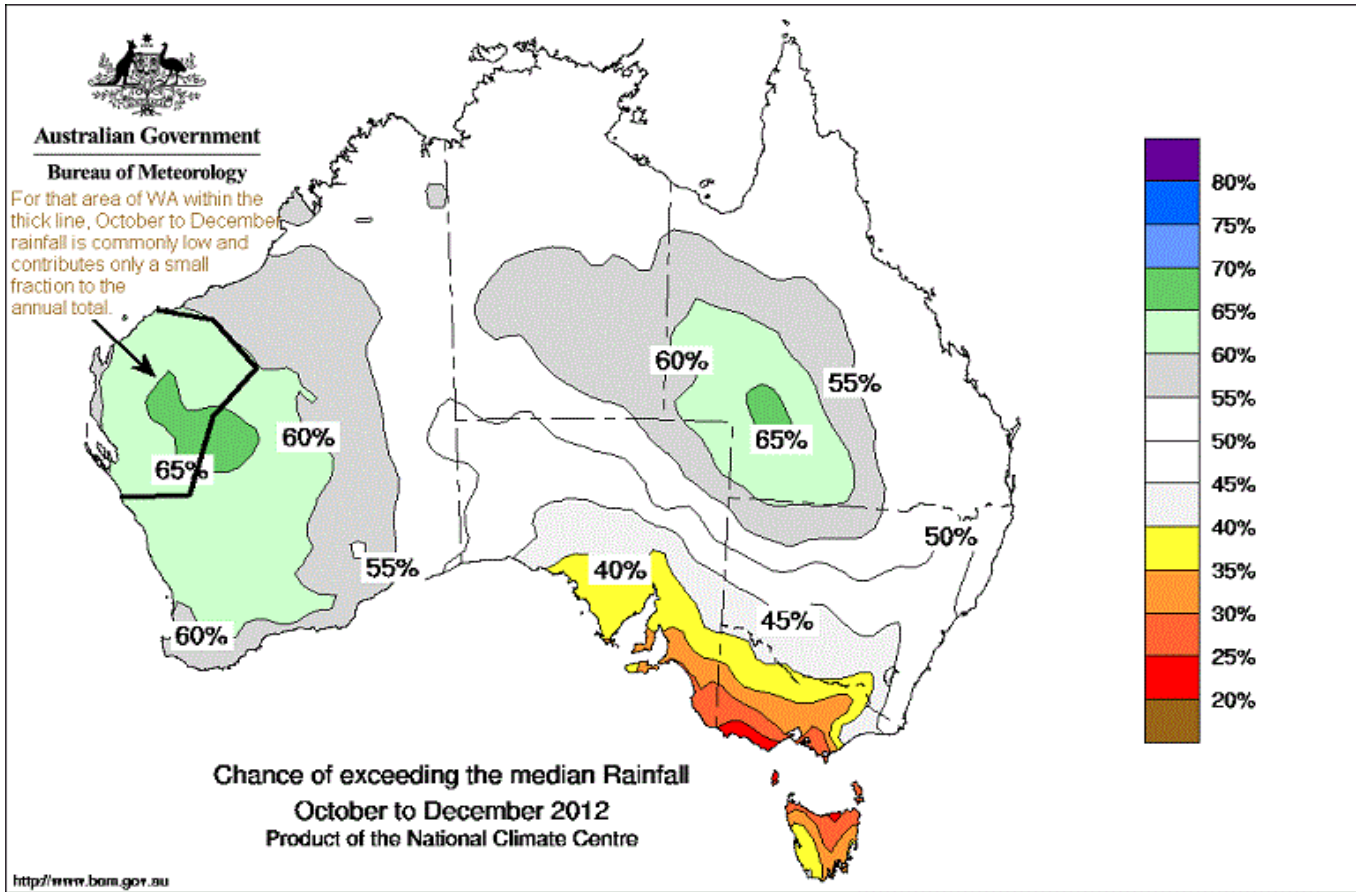
### Mean projected crop performance and requirements for the next 10 days assuming no rain and no added fertiliser.

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)
9-Oct	66.6	0.7	1.5	0.1	-10.6	32.5	12.8
10-Oct	67.2	0.4	1.5	0.1	-10.4	32.7	12.7
11-Oct	68.0	0.4	1.6	0.1	-9.0	34.0	12.7
12-Oct	68.7	0.5	1.6	0.1	-9.5	33.6	12.6
13-Oct	69.5	0.6	1.6	0.1	-9.1	34.0	12.5
14-Oct	70.1	0.6	1.6	0.1	-8.9	34.2	12.5
15-Oct	70.9	0.6	1.6	0.1	-9.0	34.1	12.4
16-Oct	71.0	0.6	1.5	0.1	-9.2	33.9	12.4
17-Oct	71.8	0.6	1.5	0.1	-10.5	32.5	12.3
18-Oct	72.3	0.5	1.4	0.1	-11.9	31.2	12.3

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

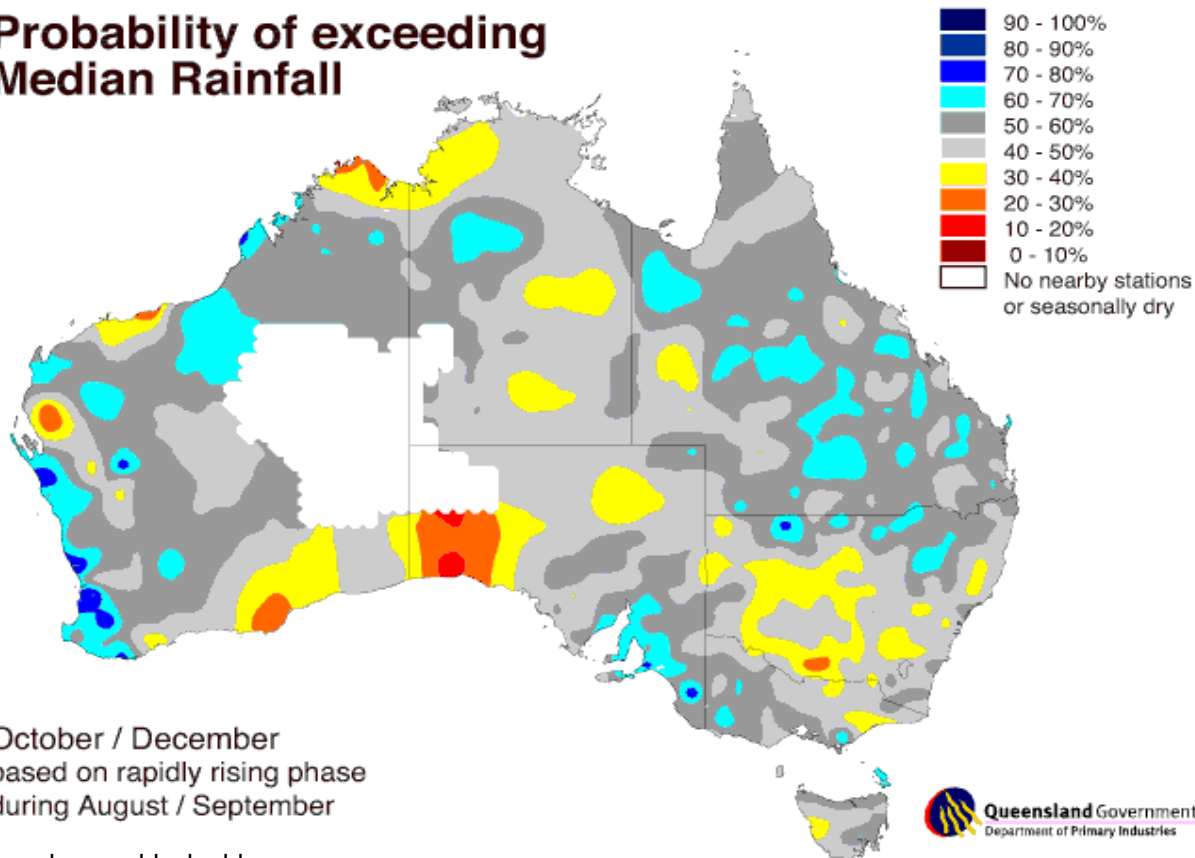


### National Seasonal Rainfall Outlook: probabilities October to December 2012

Issued by the bureau of Meteorology 19th September 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

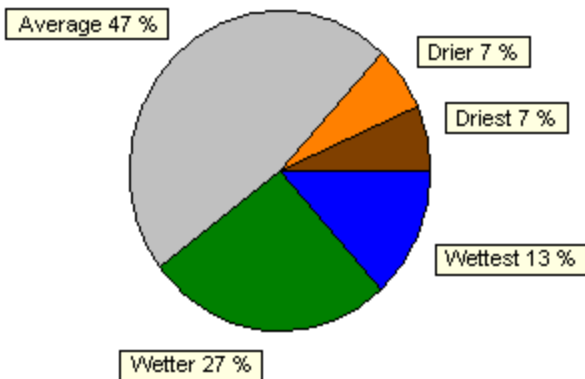
The SOI is currently in the Rising phase. The 30 day mean SOI for September was 3.2. In August the 31 day mean SOI was -6.

The years in history with the same SOI phase:

1891, 1899, 1929, 1930, 1934, 1948, 1950, 1952, 1953, 1956, 1957, 1976, 1986, 1999, 2005

## How much rainfall can I expect?

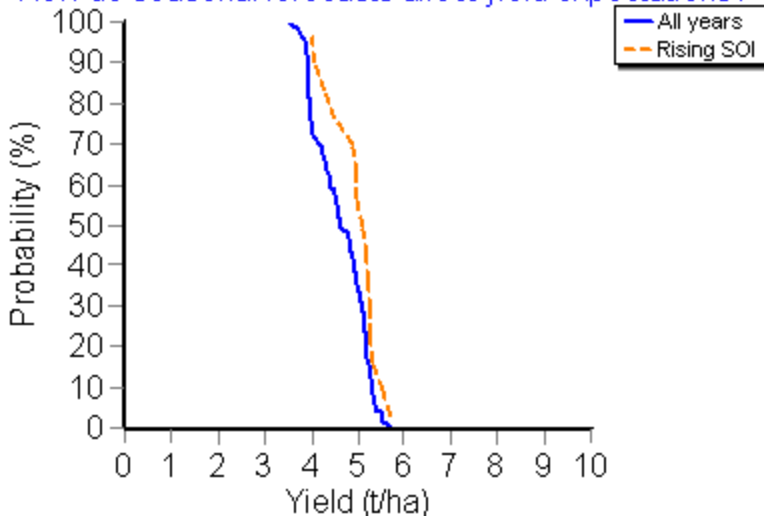
The SOI seasonal forecast for the next 3 months.



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 64 mm
Drier	64 to 92 mm
Average	92 to 124 mm
Wetter	124 to 174 mm
Wettest	174 to 359 mm

## How do seasonal forecasts affect yield expectations?



The 30 day mean SOI for September was 3.2. In August the 31 day mean SOI was -6.1.

Yield outcomes of the current SOI Phase ARE significantly different from yield outcomes of all years. Significance is determined on a 90% probability threshold. (PValue=0.031)