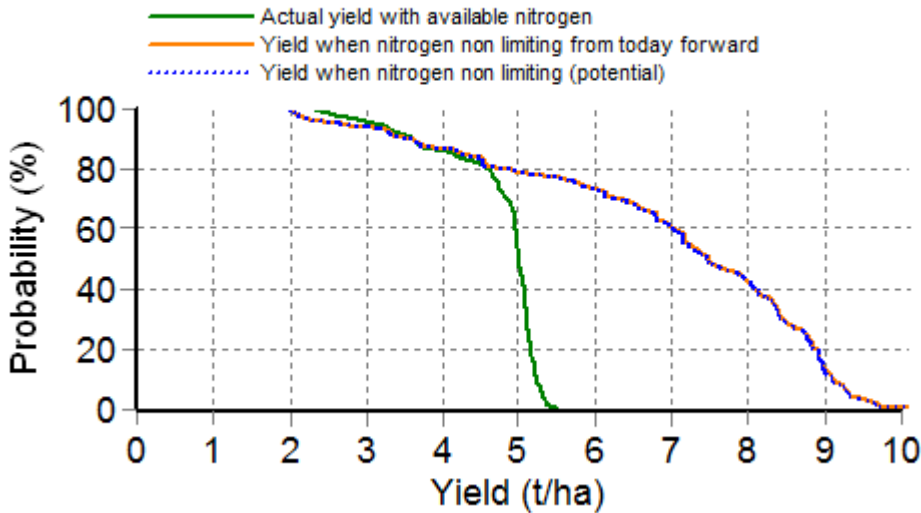


Crop Report

Report name: Block 501W Crop report
 Report date: 18/06/2013
 Last climate date available: 16/06/2013
 Client name: EH Graham Centre
 Paddock name: Block 501W
 Report generated by: EH Graham Centre
 Date sown: 15-Apr
 Crop type: Wheat
 Variety sown: Wedgetail
 Sowing density: 150 plants/m²

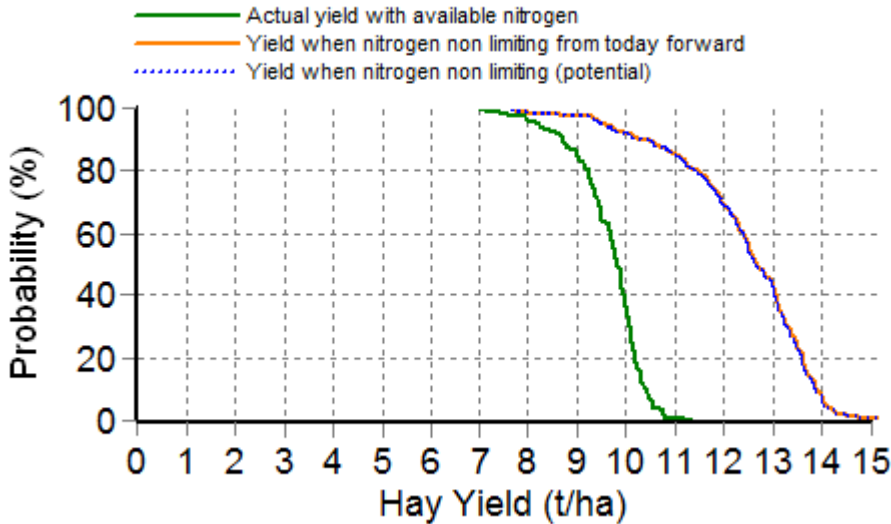
Weather station used: Wagga Wagga
 Agricultural Institute
 Rainfall records used: Weather station
 Soil type: Red Kandosol (Dirnaseer No544)
 Maximum rooting depth: 100 cm
 Stubble type: Wheat
 Stubble amount: 4000 kg/ha
 Number of tillage operations: 0
 Stubble % incorporated into the top 10cm: 0 %
 Initial conditions date: 01-Apr
 Rainfall since 1-Apr: 127.7 mm
 Date of last rainfall entry: ?
 Expected maturity date: 18-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.

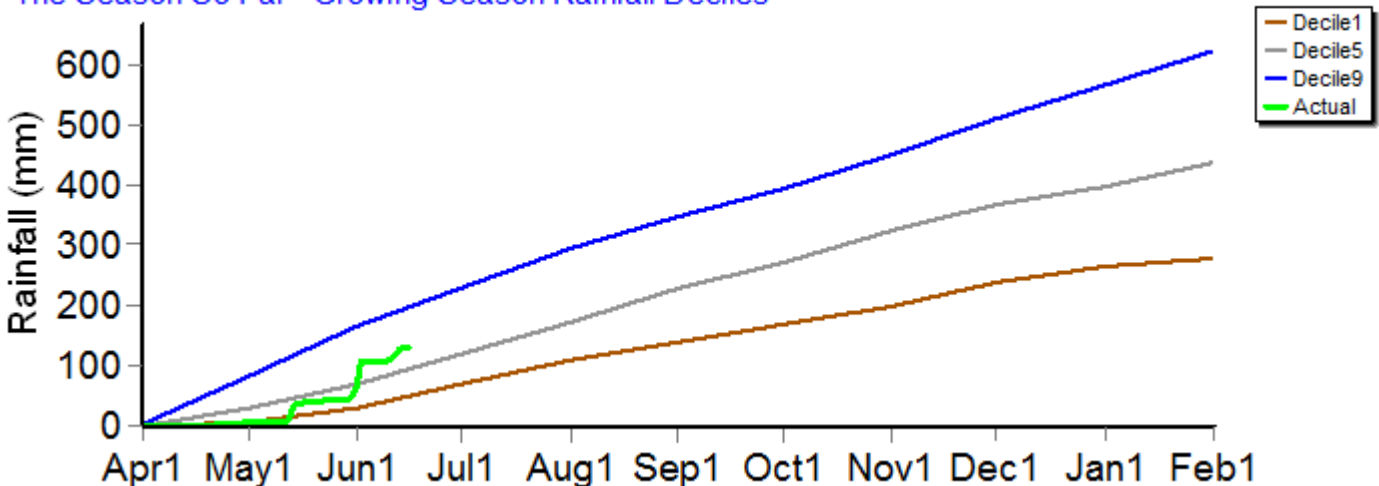
Hay Yield Outcome



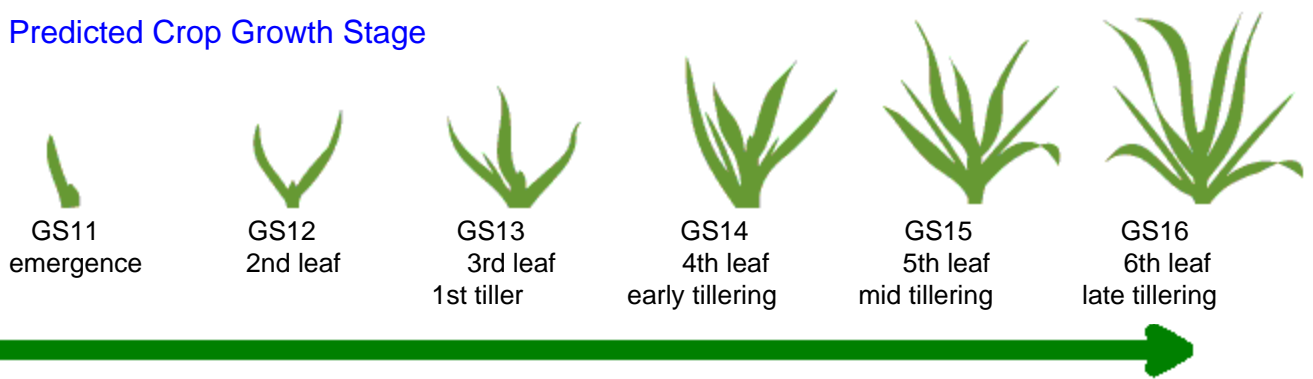
This graph show the probability of exceeding a range of hay yield outcomes this season. It takes into account the same factors as the grain yield graph above. When above ground dry matter is below 2t/ha, hay yield is assumed to be 70% of dry matter, with a moisture content of 13%. When dry matter is 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: 1591 kg/ha

The Season So Far - Growing Season Rainfall Deciles



Simulated and Predicted Crop Growth Stage



Predicted

	GS11 emergence	GS12 2nd leaf	GS13 3rd leaf 1st tiller	GS14 4th leaf early tillering	GS15 5th leaf mid tillering	GS16 6th leaf late tillering
Earliest	22-Apr	1-May	8-May	14-May	24-May	1-Jun
Median	22-Apr	1-May	8-May	14-May	24-May	1-Jun
Latest	22-Apr	1-May	8-May	14-May	24-May	1-Jun



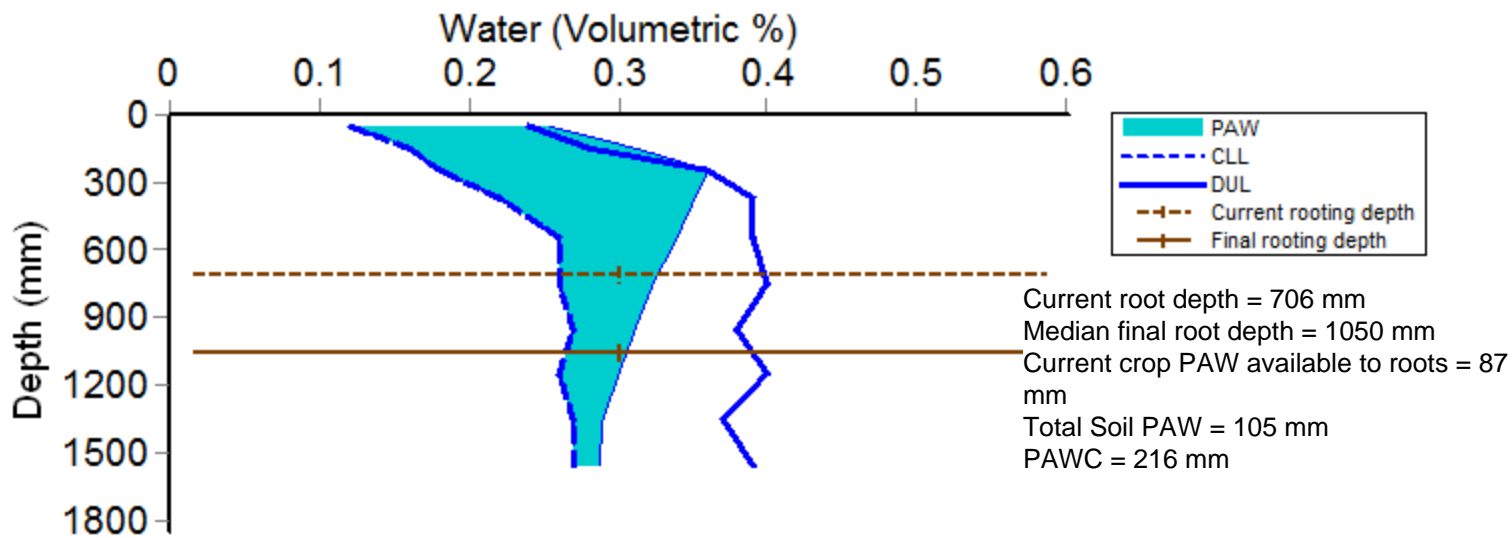
Predicted

	GS30 end of tillering	GS31 1st node	GS32 2nd node	GS37 flag leaf	GS39 flag leaf fully emerged	GS45 mid booting	GS55 mid head emergence	GS65 mid flowering	GS75 mid dough fill
Earliest	21-Aug	25-Aug	30-Aug	4-Sep	7-Sep	13-Sep	20-Sep	25-Sep	11-Oct
Median	28-Aug	1-Sep	5-Sep	13-Sep	16-Sep	22-Sep	29-Sep	5-Oct	22-Oct
Latest	23-Sep	28-Sep	3-Oct	10-Oct	12-Oct	17-Oct	25-Oct	30-Oct	15-Nov

Probability and Incidence of Frost and Heat Shock

<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>	
Mild		Mild	
Minimum temperature between 2 and 0°C during flowering (Z60-69)	21%	Maximum temperature between 32 and 34°C	33%
Moderate		Moderate	
Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75)	5%	Maximum temperature between 34 and 36°C	12%
Severe		Severe	
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>	
Mild		Mild	
Minimum temperature between 2 and 0°C during flowering (Z60-69)	0	Maximum temperature between 32 and 34°C	0
Moderate		Moderate	
Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75)	0	Maximum temperature between 34 and 36°C	0
Severe		Severe	
Minimum temperature less than -2°C during flowering and grain fill (Z60-79)	0	Maximum temperature above 36°	0

Current Distribution of PAW



Water Budget

Initial PAW status @ 1-Apr	43 mm
Rainfall since 1-Apr	127.7 mm
Irrigations	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
Evaporation since 1-Apr	28 mm
Transpiration since 1-Apr	20 mm
Deep drainage since 1-Apr	0 mm
Run-off since 1-Apr	4 mm

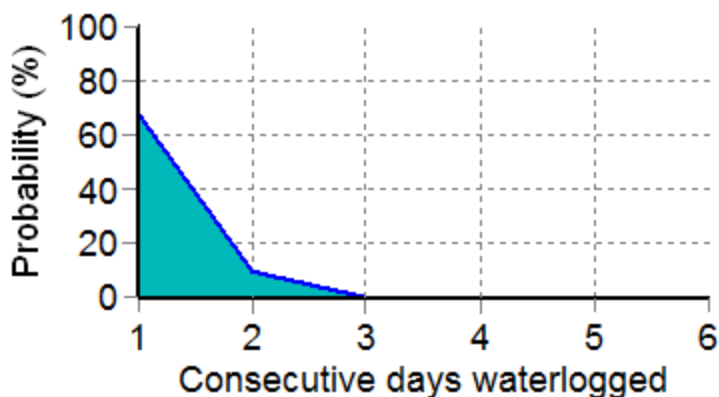
Current PAW status: 105 mm

Nitrogen Budget

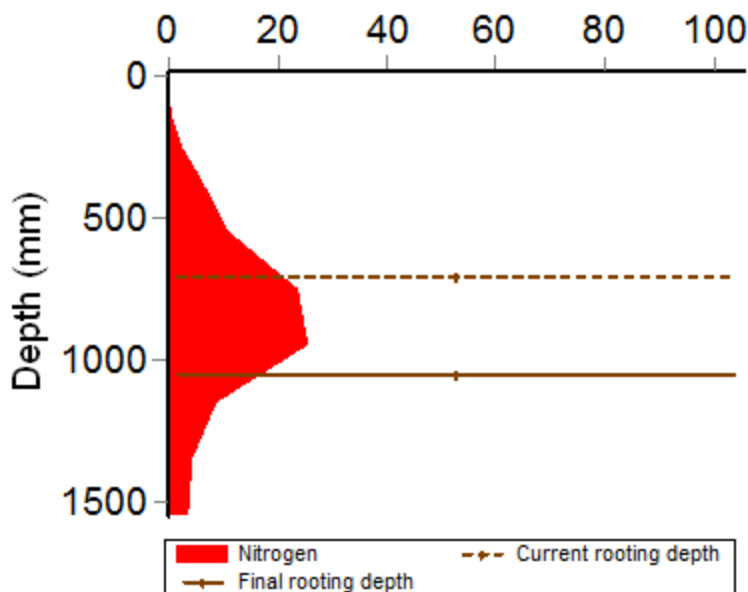
Initial N status @ 01-Apr	200 kg/ha
Mineralisation since 01-Apr	-5 kg/ha
N applications	: kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
Total N in plant	104 kg/ha
De-nitrification since 01-Apr	0 kg/ha
Leaching	0 kg/ha

Current N status: 90 kg/ha

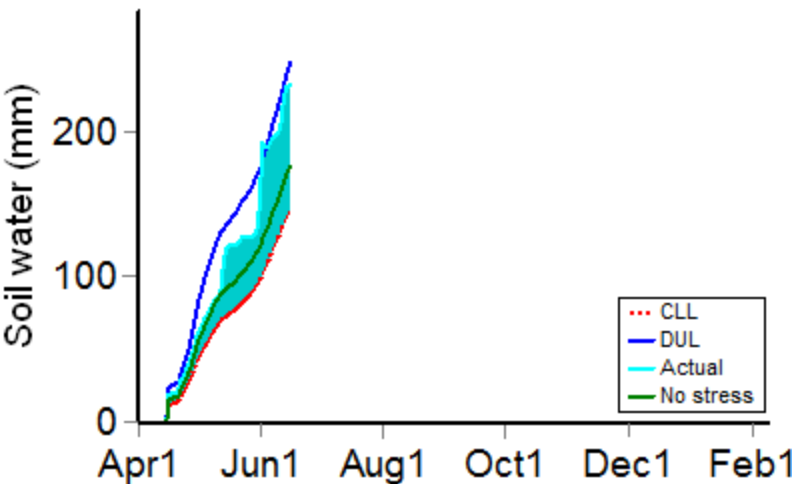
Probability of Future Waterlogging Events



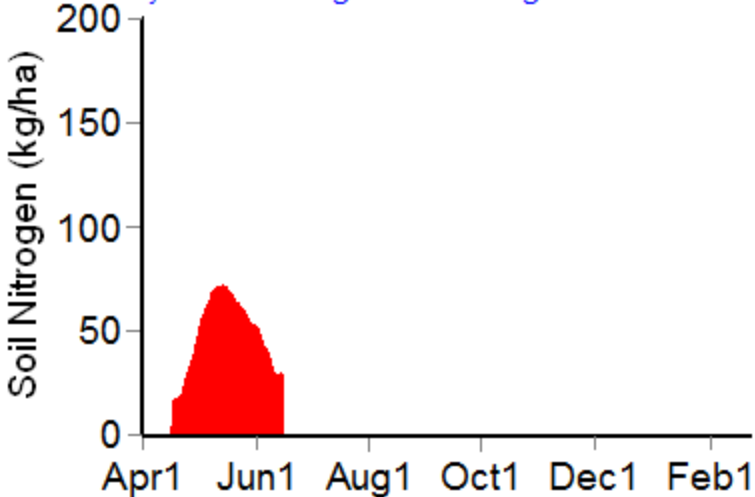
Current distribution of soil nitrogen (kg/ha)



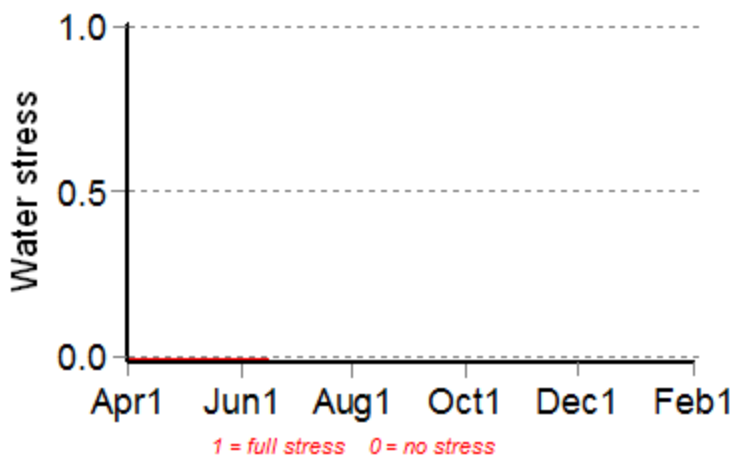
Availability of Water to Growing Roots



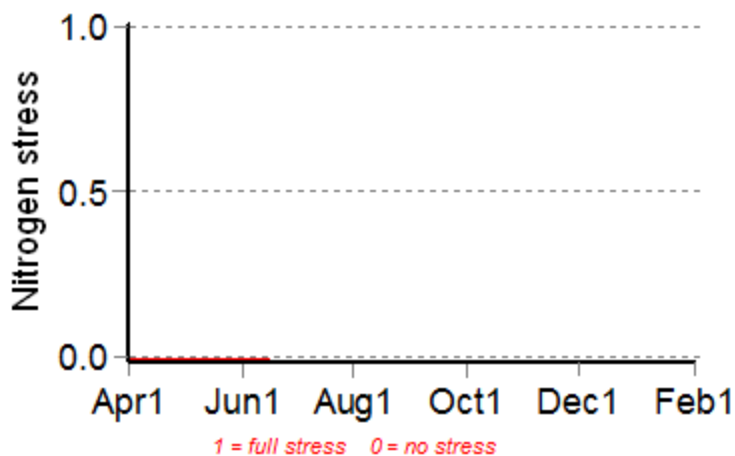
Availability of Soil Nitrogen to Growing Roots



Water Stress



Nitrogen Stress



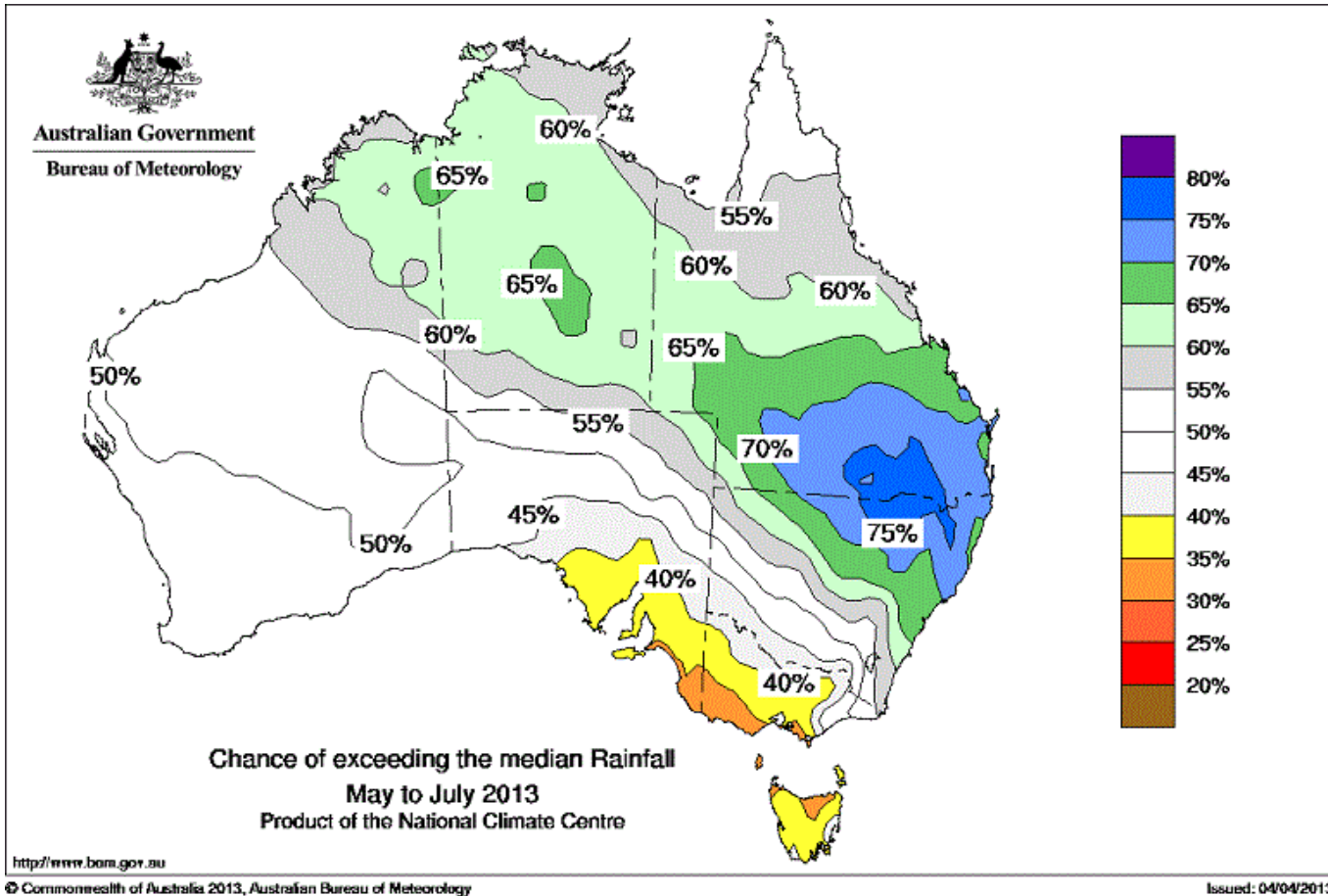
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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

Date	Growth Stage	Daily 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)
18-Jun	16.0	0.2	0.6	3.6	52.3	83.6	24.5
19-Jun	16.0	0.2	0.5	3.5	52.1	83.6	23.2
20-Jun	16.0	0.2	0.4	1.5	51.6	83.7	22.4
21-Jun	16.0	0.2	0.5	1.2	51.6	84.6	22.2
22-Jun	16.0	0.2	0.5	1.1	52.3	84.9	22.1
23-Jun	16.0	0.2	0.5	1.0	51.8	85.8	21.7
24-Jun	16.0	0.2	0.4	0.9	53.7	87.0	21.5
25-Jun	16.0	0.2	0.4	0.8	54.0	88.0	21.4
26-Jun	16.0	0.2	0.5	0.8	53.3	87.9	21.1
27-Jun	16.0	0.2	0.6	0.7	52.4	87.2	21.0

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

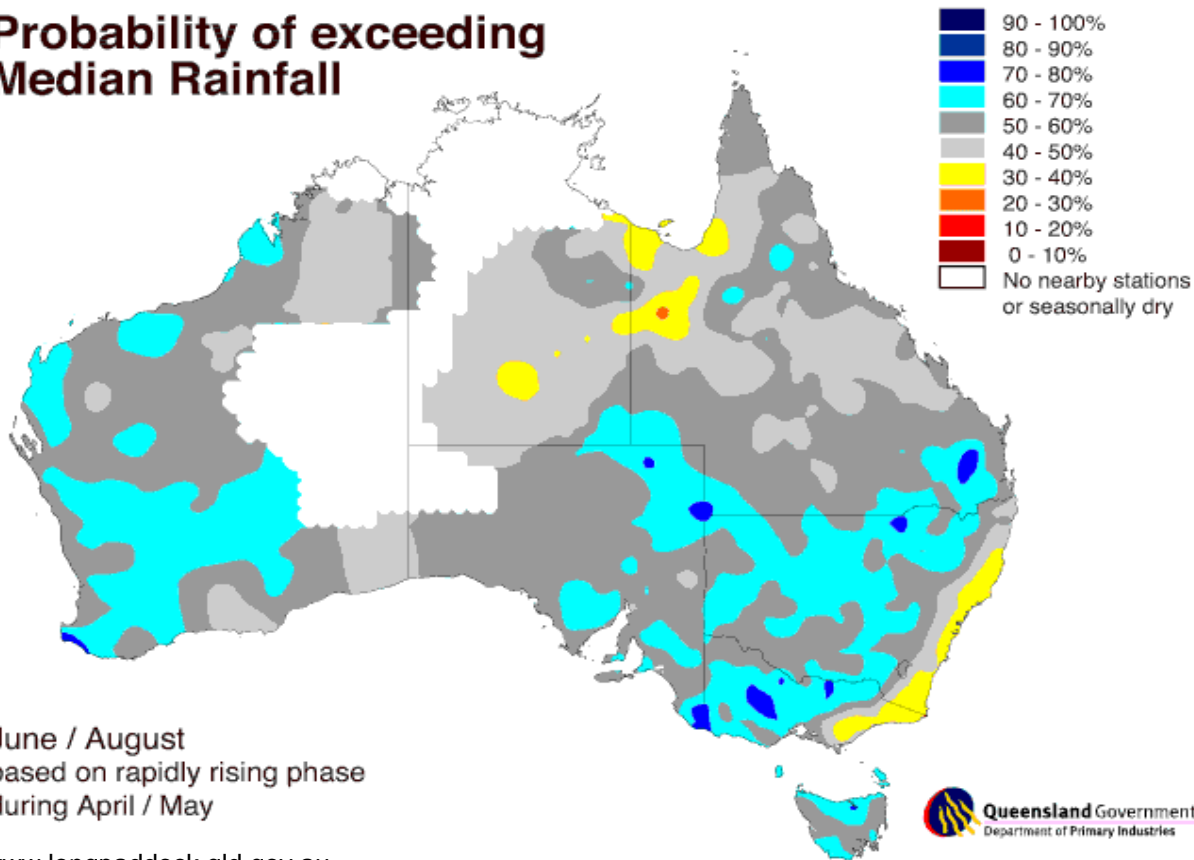


National Seasonal Rainfall Outlook: probabilities May to July 2013

Issued by the bureau of Meteorology 23rd April 2013

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

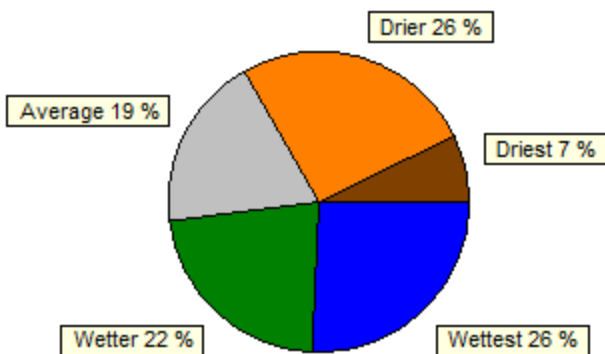
The SOI is currently in the Rising phase. The 31 day mean SOI for May was 8.0. In April the 30 day mean SOI was 1.3

The years in history with the same SOI phase:

1897, 1900, 1901, 1909, 1910, 1920, 1922, 1929, 1934, 1945, 1947, 1950, 1951, 1953, 1957, 1958, 1966, 1967, 1970, 1973, 1986, 1996, 1998, 2001, 2005, 2007, 2008

How much rainfall can I expect?

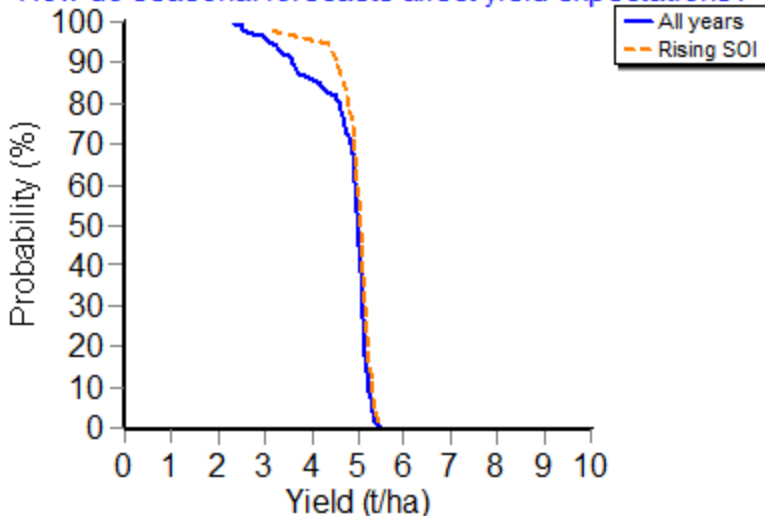
The SOI seasonal forecast for the next 3 months.



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 96 mm
Drier	96 to 132 mm
Average	132 to 152 mm
Wetter	152 to 175 mm
Wettest	175 to 257 mm

How do seasonal forecasts affect yield expectations?



The 31 day mean SOI for May was 8.0. In April the 30 day mean SOI was 1.3

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=0.234)