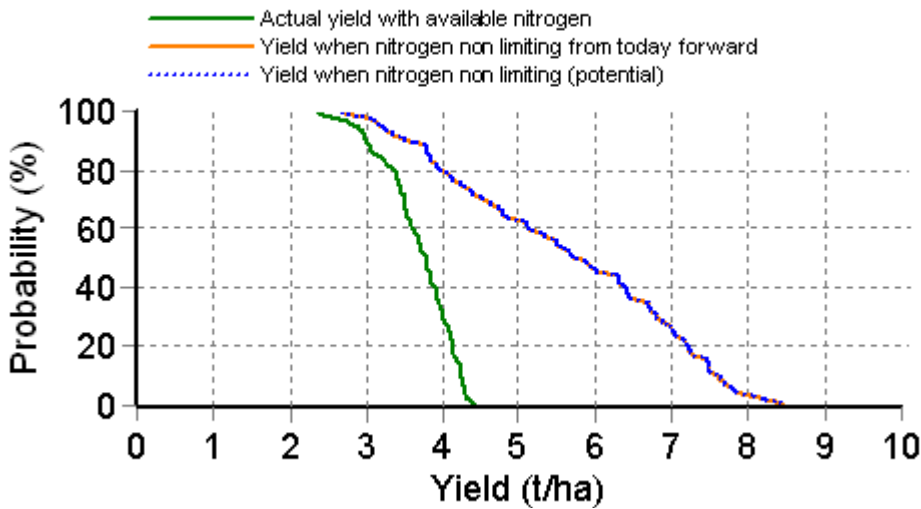


Crop Report

Report name: Graham Centre Field Site
 Report date: 31/08/2015
 Last climate date available: 29/08/2015
 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: 165 plants/m²
 Initial conditions date: 05-Mar
 Soil type: Red Kandosol (No498-Generic)

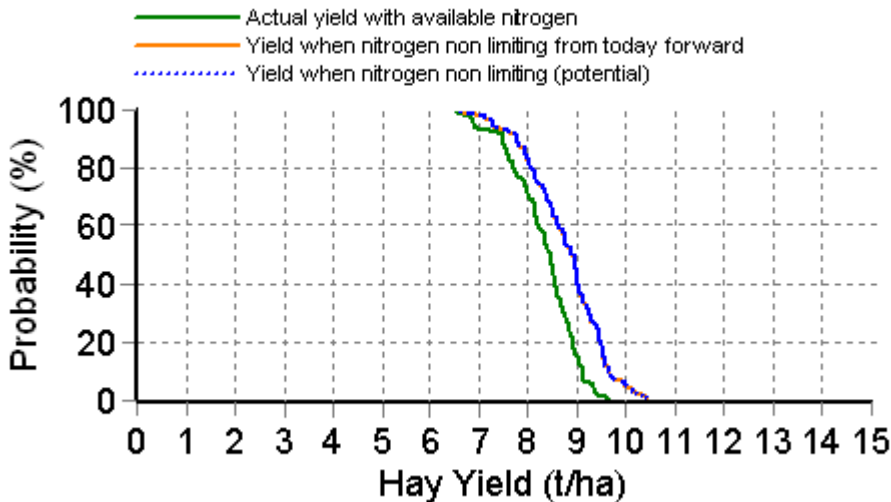
SILO station used: Wagga Wagga AMO
 Rainfall records used: SILO
 Temperature records used: SILO
 Maximum rooting depth: 100 cm
 Stubble type: None
 Stubble amount: kg/ha
 Number of tillage operations: 0
 Stubble % incorporated into the top 10cm: 0 %
 Rainfall since 5-Mar: 337.8 mm
 Date of last rainfall 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.

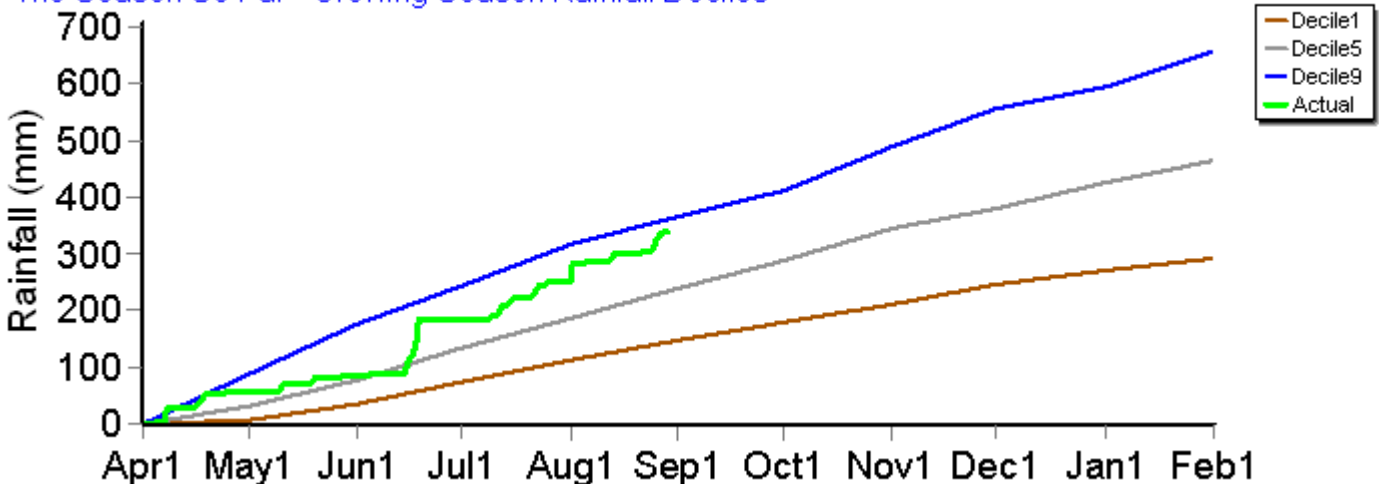
Hay Yield Outcome



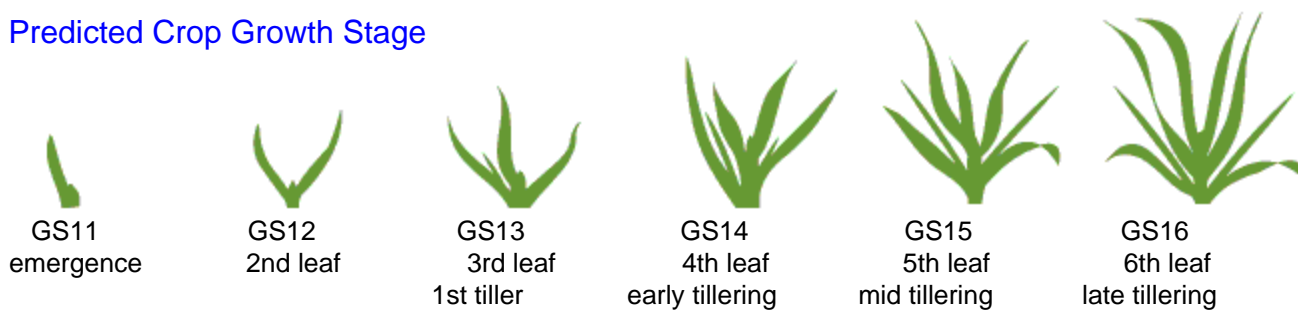
This graph show the probability of exceeding a range of hay yield outcomes this season. It takes into account the same factors as the grain yield graph above. When above ground dry matter is below 2t/ha, hay yield is assumed to be 70% of dry matter, with a moisture content of 13%. When dry matter is 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: 2848 kg/ha

The Season So Far - Growing Season Rainfall Deciles

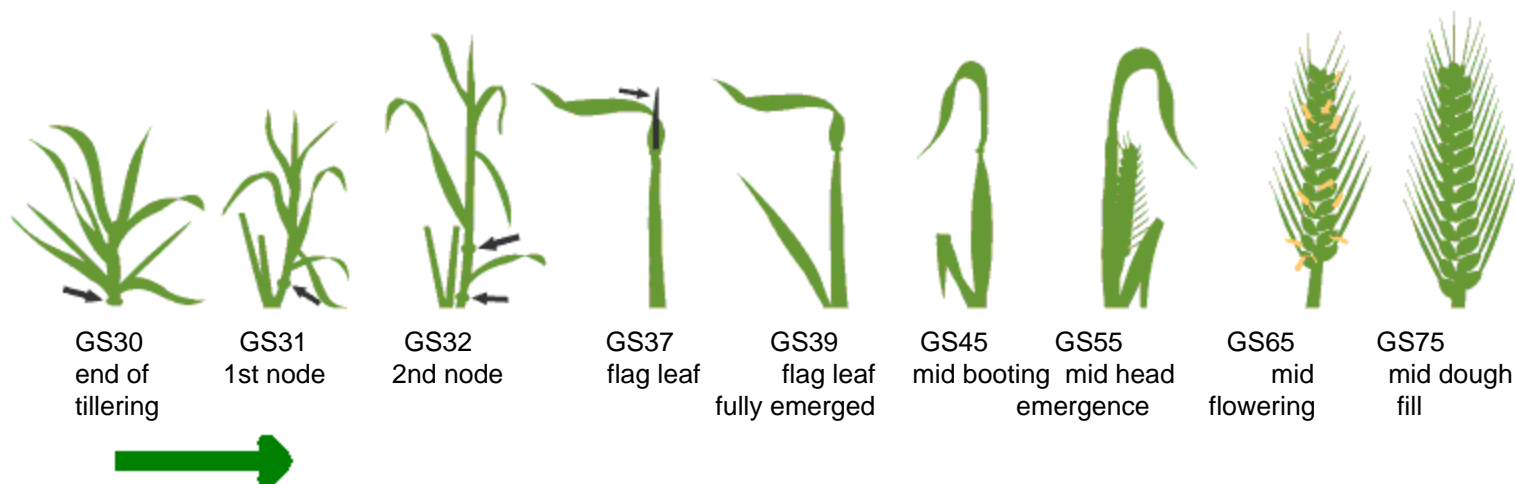


Simulated and Predicted Crop Growth Stage



Predicted

Earliest	1-Jun	16-Jun	28-Jun	12-Jul	24-Jul	4-Aug
Median	1-Jun	16-Jun	28-Jun	12-Jul	24-Jul	4-Aug
Latest	1-Jun	16-Jun	28-Jun	12-Jul	24-Jul	4-Aug



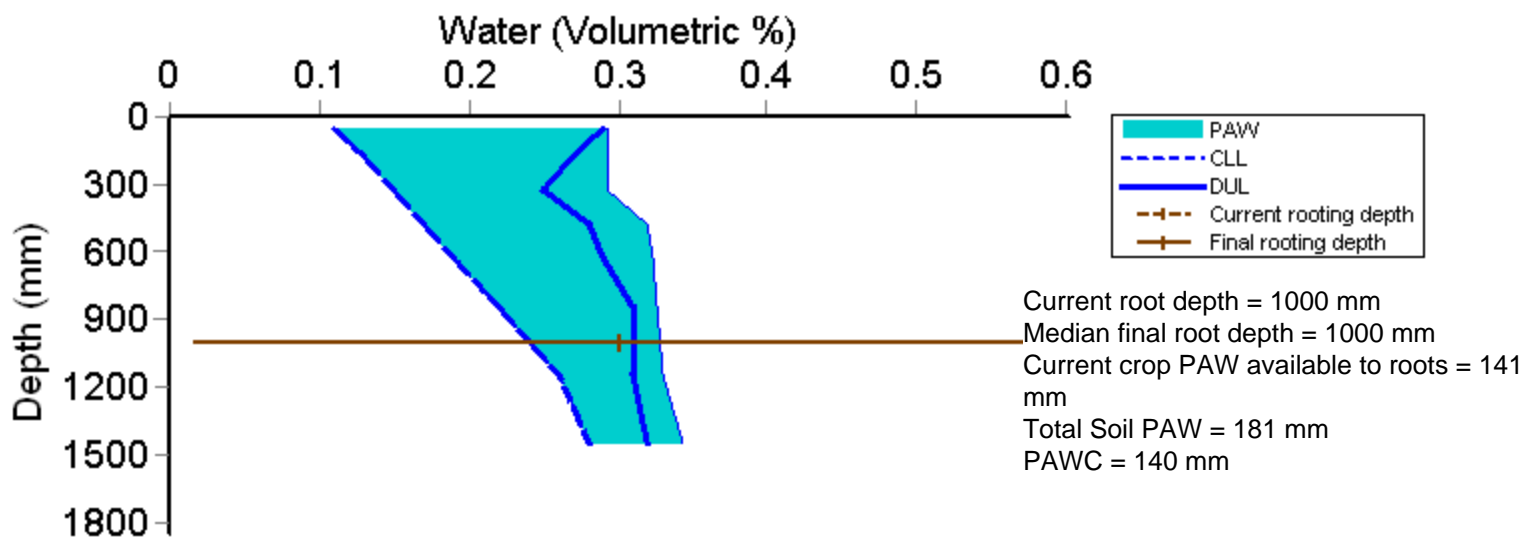
Predicted

Earliest	27-Aug	29-Aug	2-Sep	10-Sep	13-Sep	19-Sep	29-Sep	9-Oct	25-Oct
Median	27-Aug	30-Aug	3-Sep	14-Sep	19-Sep	27-Sep	7-Oct	16-Oct	2-Nov
Latest	27-Aug	30-Aug	4-Sep	18-Sep	24-Sep	5-Oct	15-Oct	26-Oct	14-Nov

Probability and Incidence of Frost and Heat Shock

Percentage of years in which frost occurs during flowering		Percentage of years in which heat shock occurs during grain fill (Z70-79)	
Mild		Mild	
Minimum temperature between 2 and 0°C during flowering (Z60-69)	30%	Maximum temperature between 32 and 34°C	46%
Moderate		Moderate	
Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75)	4%	Maximum temperature between 34 and 36°C	28%
Severe		Severe	
Minimum temperature less than -2°C during flowering and grain fill (Z60-79)	0%	Maximum temperature above 36°	9%
Incidence of frost for this growing season, during flowering		Incidence of heat shock for this growing season, during grain fill (Z70-79)	
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



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	337.8 mm
Irrigations	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
Evaporation since 5-Mar	112 mm
Transpiration since 5-Mar	28 mm
Deep drainage since 5-Mar	56 mm
Run-off since 5-Mar	43 mm

Current PAW status: 181 mm

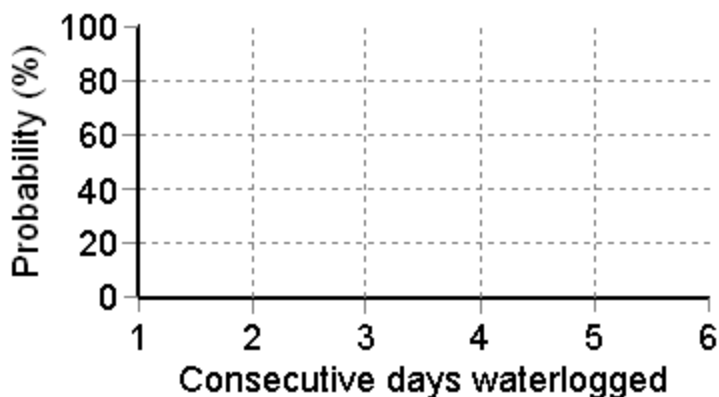
Nitrogen Budget

Initial N status @ 05-Mar	87 kg/ha
N mineralisation since 05-Mar	12 kg/ha
N tie up since 05-Mar	2 kg/ha
N applications	10-Aug: 50 kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
Total N in plant	99 kg/ha
De-nitrification since 05-Mar	12 kg/ha
Leaching	1 kg/ha

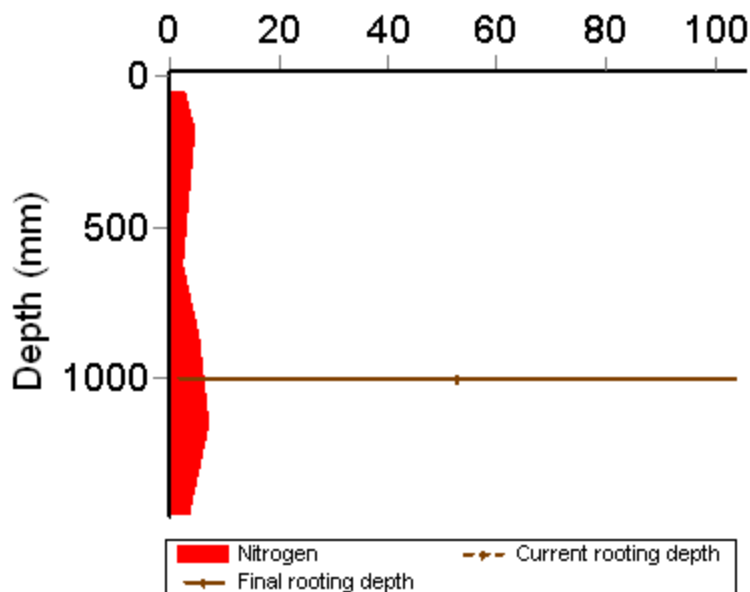
Current N status: 35 kg/ha

Median N mineralisation to maturity = 3 kg/ha
 Median N tie up to maturity = 0 kg/ha

Probability of Future Waterlogging Events

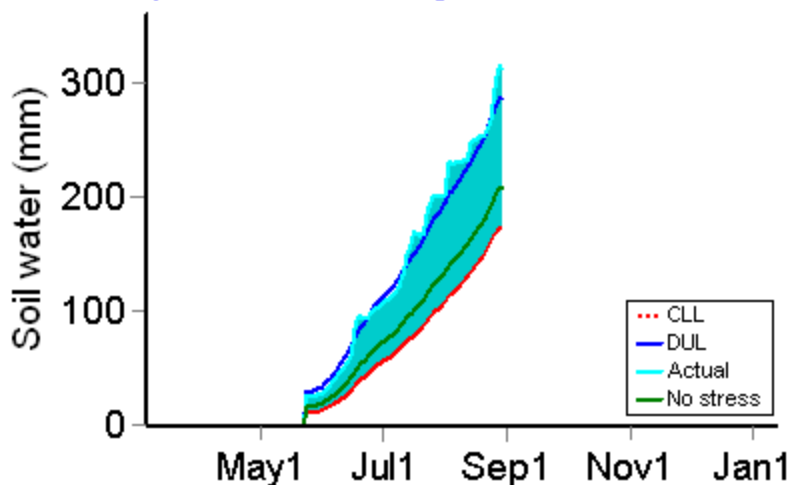


Current distribution of soil nitrogen (kg/ha)

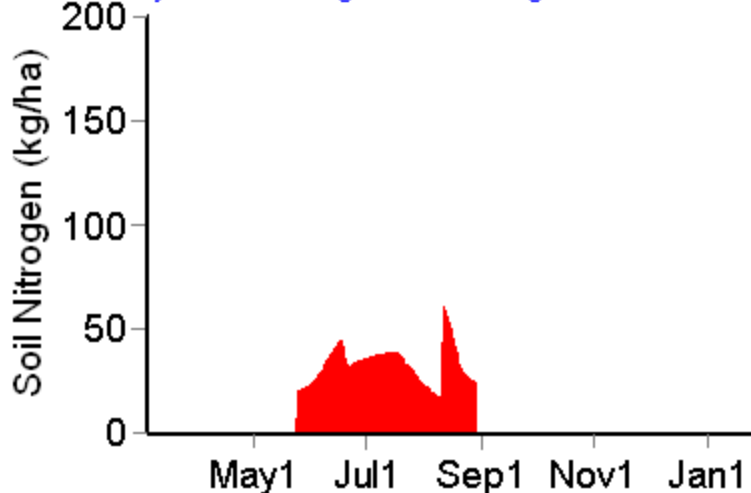


Current Crop Available N = 24 kg/ha
 Total Soil N = 35 kg/ha

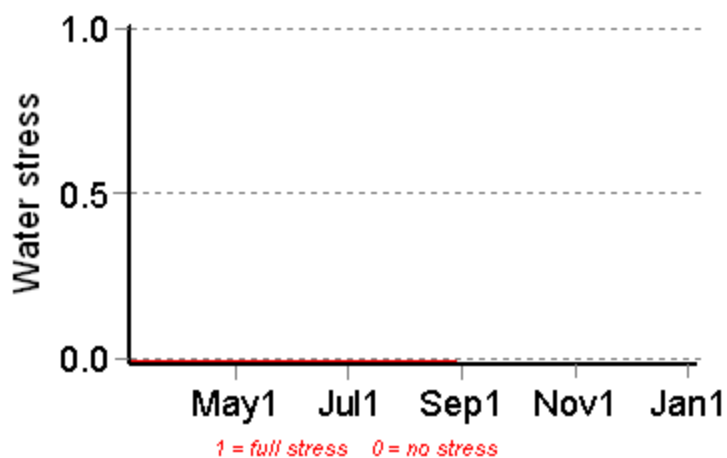
Availability of Water to Growing Roots



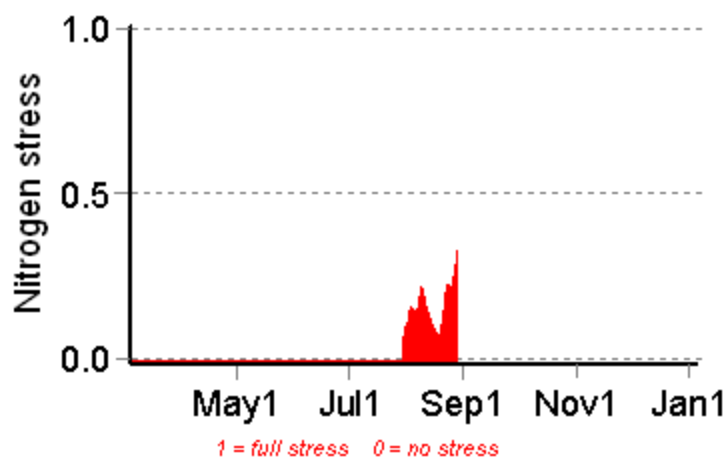
Availability of Soil Nitrogen to Growing Roots



Water Stress



Nitrogen Stress

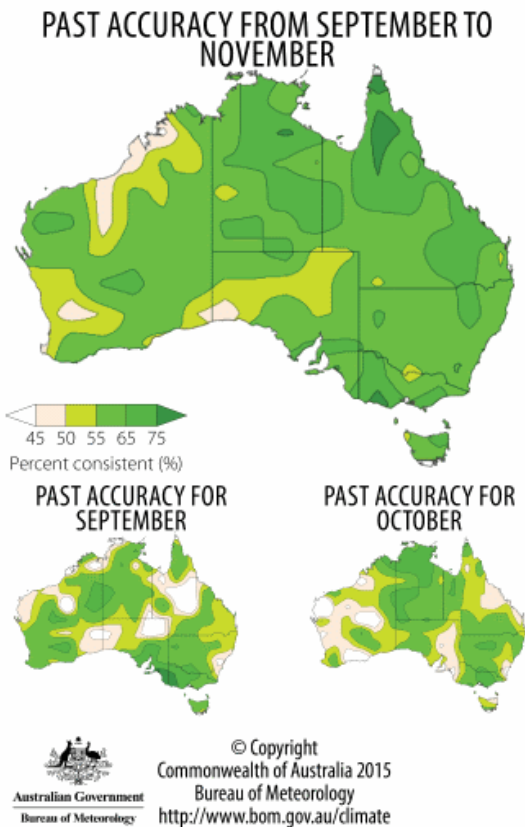
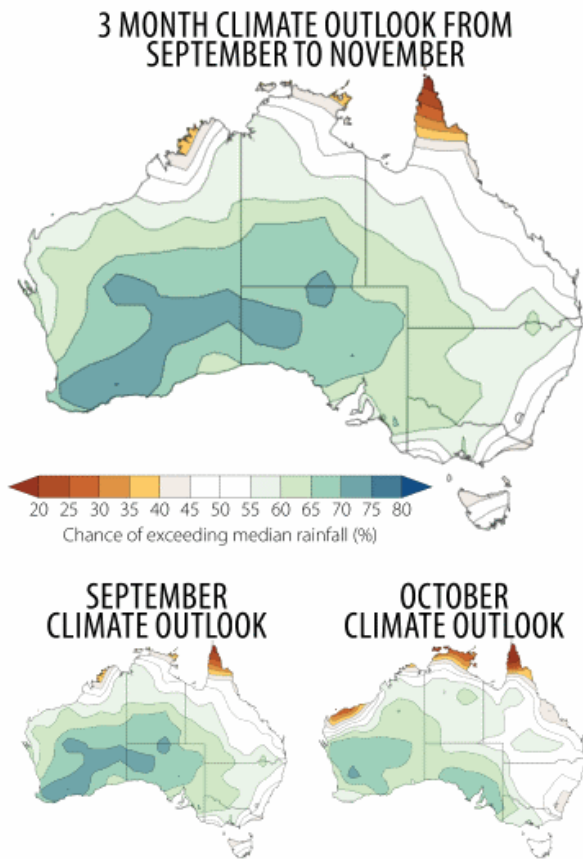


Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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)
31-Aug	31.9	0.5	1.6	0.6	99.7	133.4	21.7	0.0	0.0
1-Sep	32.0	0.5	1.9	0.6	97.6	131.3	21.1	0.0	0.0
2-Sep	32.5	0.5	1.8	0.6	95.7	129.5	20.5	0.0	0.0
3-Sep	32.9	0.6	2.0	0.5	94.3	128.0	19.9	0.0	0.0
4-Sep	33.3	0.6	2.0	0.5	91.9	125.7	19.4	0.0	0.0
5-Sep	33.7	0.6	1.8	0.5	91.3	125.0	18.8	0.0	0.0
6-Sep	34.1	0.6	1.8	0.4	88.8	122.5	18.4	0.0	0.0
7-Sep	34.5	0.6	2.0	0.4	86.4	120.1	17.9	0.0	0.0
8-Sep	34.9	0.6	2.1	0.4	84.9	118.6	17.5	0.0	0.0
9-Sep	35.3	0.6	2.0	0.4	82.4	116.2	17.2	0.0	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.



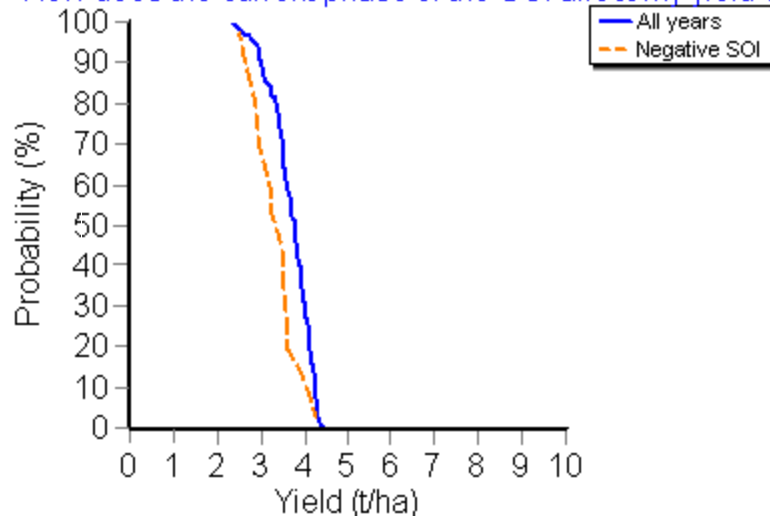
Southern Oscillation Index (SOI) Phase and Analogous Years

The SOI is currently in the Negative phase. The 30 day mean SOI for June was -10.3 . In May the 31 day mean was -13.11.

The years in history with the same SOI phase:

1896, 1899, 1905, 1911, 1914, 1919, 1940, 1941, 1946, 1972, 1977, 1982, 1987, 1992, 1993, 1994, 1997, 2004

How does the current phase of the SOI affect my yield exp



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=0.003)

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.