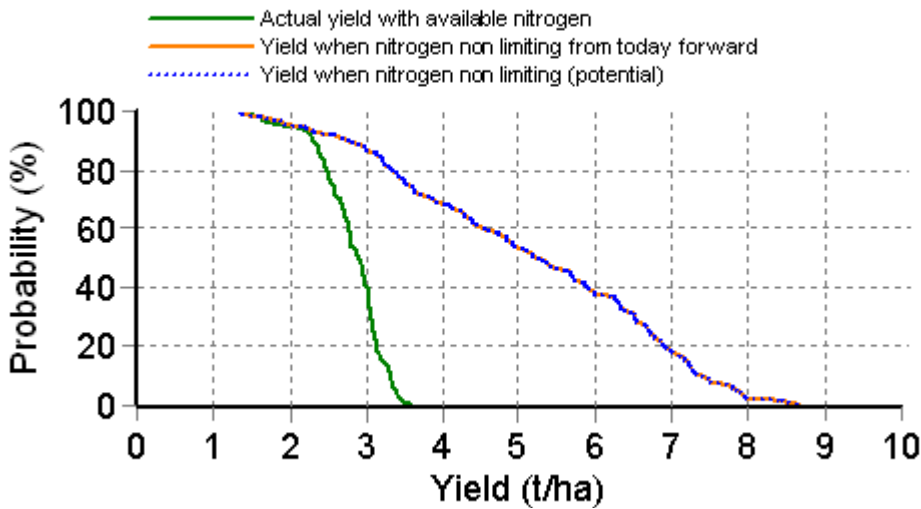


Crop Report

Report name: Graham Centre Field Site Crop Report (Complete)
 Report date: 03/06/2015
 Last climate date available: 1/06/2015
 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)

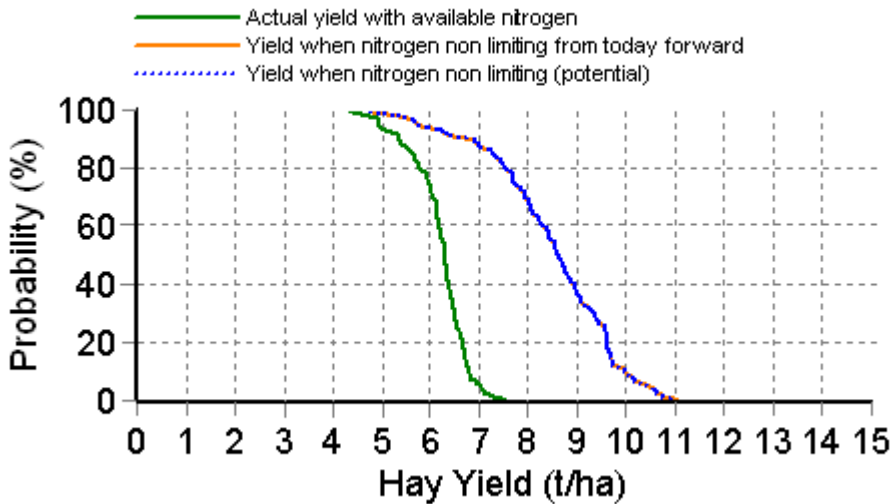
SILO station used: Wagga Wagga AMO
 Rainfall records used: SILO
 Temperature records used: SILO
 Maximum rooting depth: 100 cm
 Stubble type: None
 Stubble amount: kg/ha
 Number of tillage operations: 0
 Stubble % incorporated into the top 10cm: 0 %
 Rainfall since 5-Mar: 85 mm
 Date of last rainfall 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.

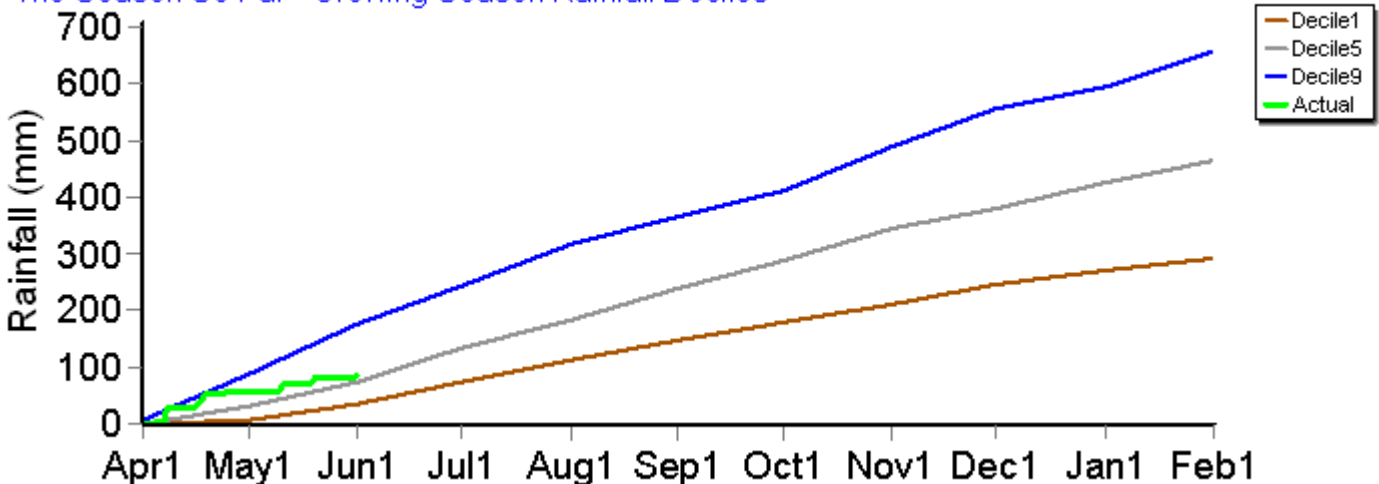
Hay Yield Outcome



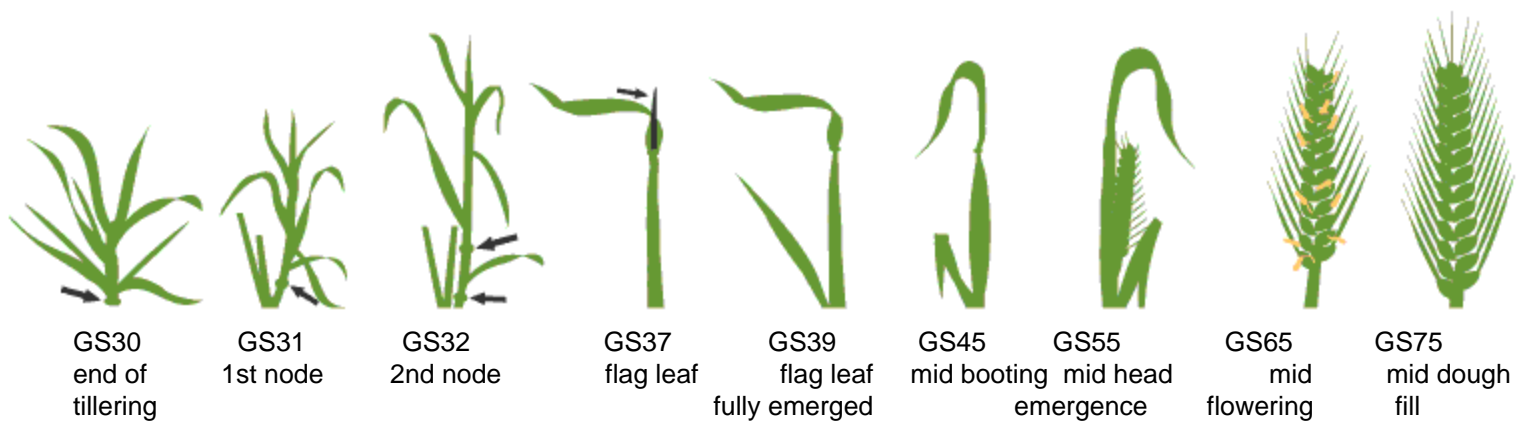
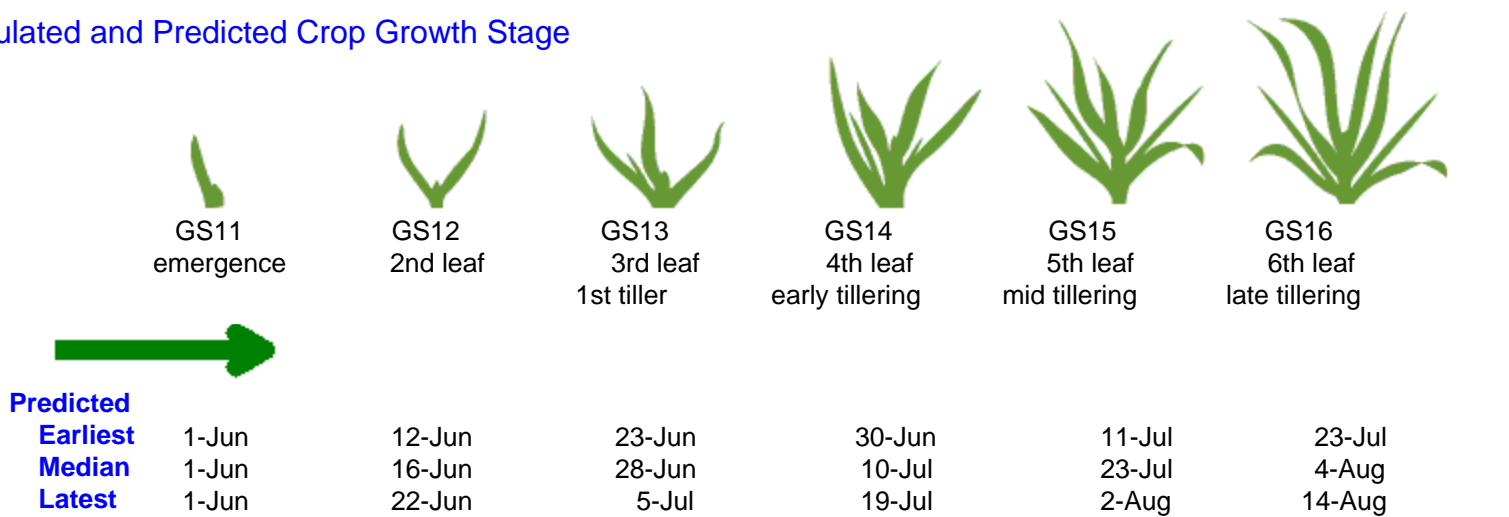
This graph show the probability of exceeding a range of hay yield outcomes this season. It takes into account the same factors as the grain yield graph above. When above ground dry matter is below 2t/ha, hay yield is assumed to be 70% of dry matter, with a moisture content of 13%. When dry matter is 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: 8 kg/ha

The Season So Far - Growing Season Rainfall Deciles



Simulated and Predicted Crop Growth Stage

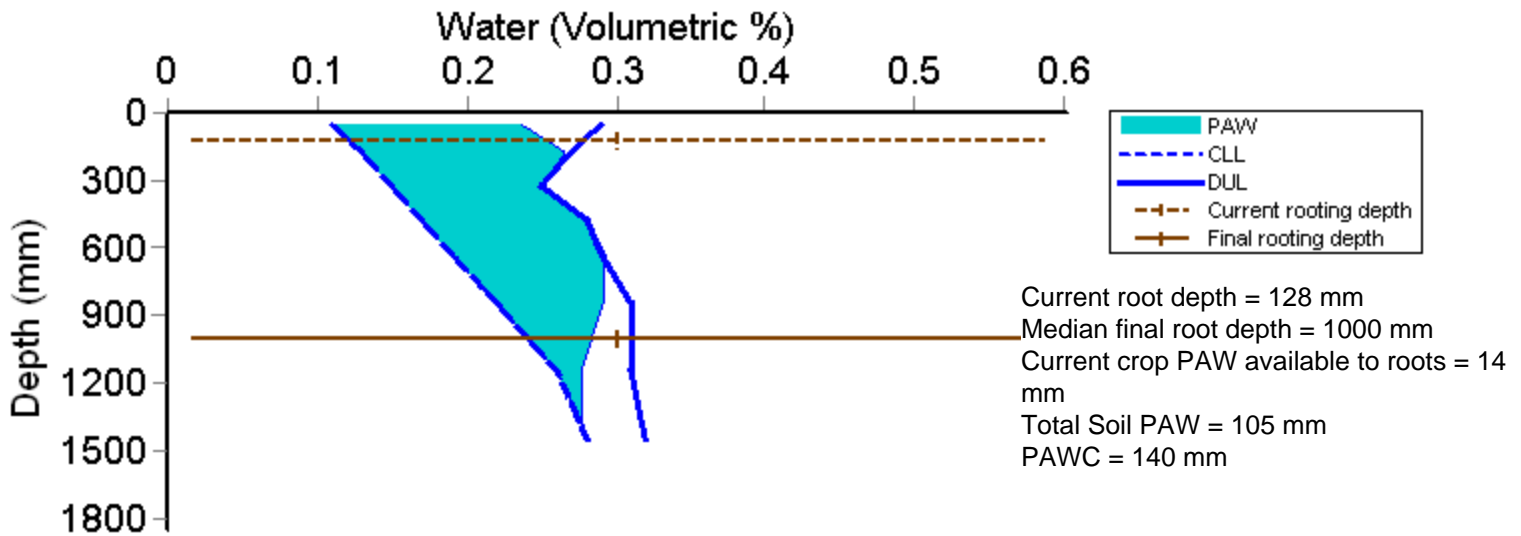


| | GS30 end of tillering | GS31 1st node | GS32 2nd node | GS37 flag leaf | GS39 flag leaf fully emerged | GS45 mid booting | GS55 mid head emergence | GS65 mid flowering | GS75 mid dough fill |
|---------------------------|-----------------------------|------------------|------------------|-------------------|------------------------------------|---------------------|-------------------------------|--------------------------|---------------------------|
| Predicted Earliest | 18-Aug | 21-Aug | 26-Aug | 6-Sep | 9-Sep | 17-Sep | 27-Sep | 7-Oct | 23-Oct |
| Predicted Median | 26-Aug | 29-Aug | 3-Sep | 14-Sep | 19-Sep | 27-Sep | 7-Oct | 16-Oct | 2-Nov |
| Predicted Latest | 4-Sep | 7-Sep | 11-Sep | 23-Sep | 29-Sep | 7-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> | | <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) | 34% | Maximum temperature between 32 and 34°C | 45% |
| Moderate | | Moderate | |
| Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75) | 3% | Maximum temperature between 34 and 36°C | 29% |
| Severe | | Severe | |
| Minimum temperature less than -2°C during flowering and grain fill (Z60-79) | 1% | Maximum temperature above 36° | 8% |
| <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 @ 5-Mar | 82 mm |
| Rainfall since 5-Mar | 85 mm |
| Irrigations | : mm |
| | : mm |
| | : mm |
| | : mm |
| | : mm |
| | : mm |
| | : mm |
| | : mm |
| | : mm |
| | : mm |
| | : mm |
| | : mm |
| Evaporation since 5-Mar | 58 mm |
| Transpiration since 5-Mar | 0 mm |
| Deep drainage since 5-Mar | 0 mm |
| Run-off since 5-Mar | 3 mm |

Current PAW status: 105 mm

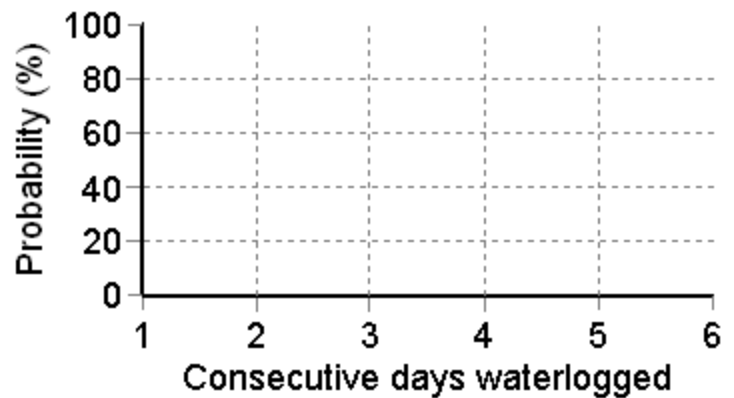
Nitrogen Budget

| | |
|-------------------------------|----------|
| Initial N status @ 05-Mar | 87 kg/ha |
| N mineralisation since 05-Mar | 8 kg/ha |
| N tie up since 05-Mar | 2 kg/ha |
| N applications | : kg/ha |
| | : kg/ha |
| | : kg/ha |
| | : kg/ha |
| | : kg/ha |
| | : kg/ha |
| Total N in plant | 1 kg/ha |
| De-nitrification since 05-Mar | 1 kg/ha |
| Leaching | 0 kg/ha |

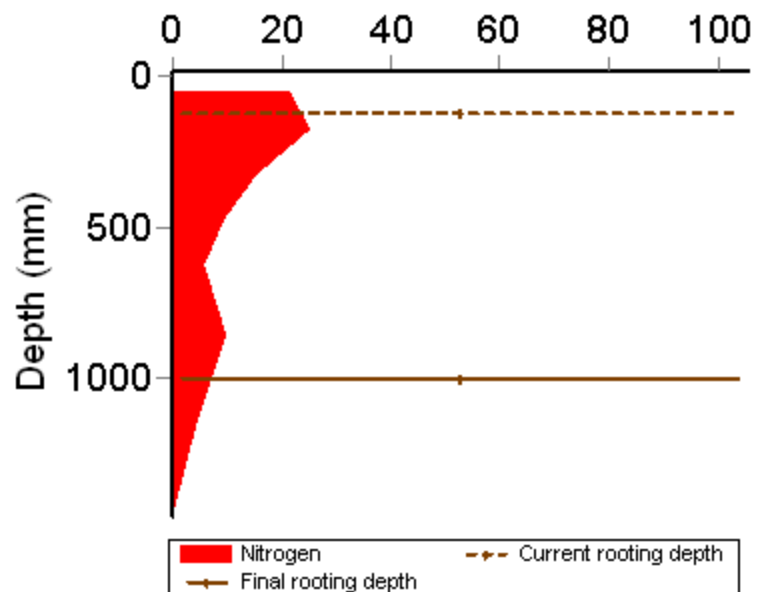
Current N status: 92 kg/ha

Median N mineralisation to maturity = 13 kg/ha
 Median N tie up to maturity = 0 kg/ha

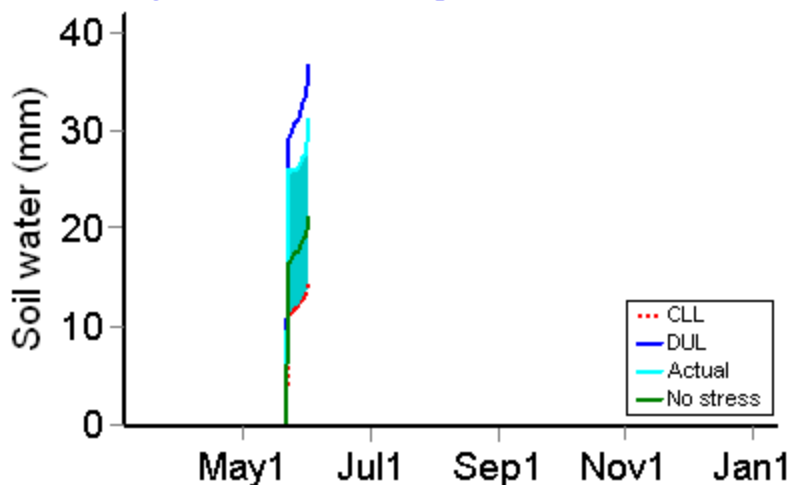
Probability of Future Waterlogging Events



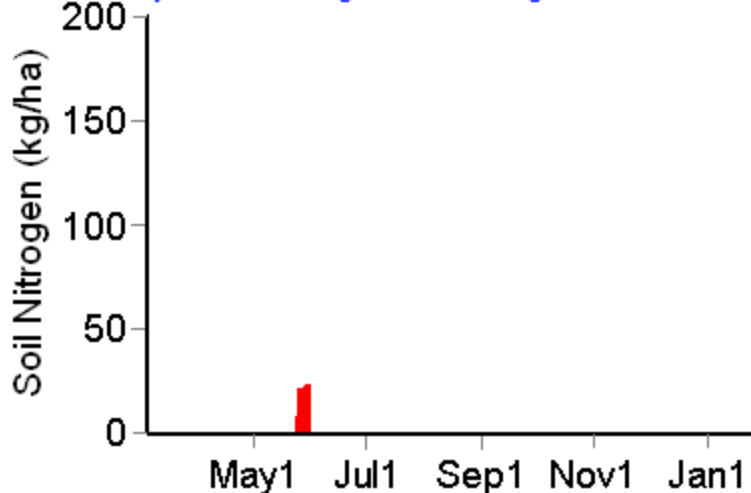
Current distribution of soil nitrogen (kg/ha)



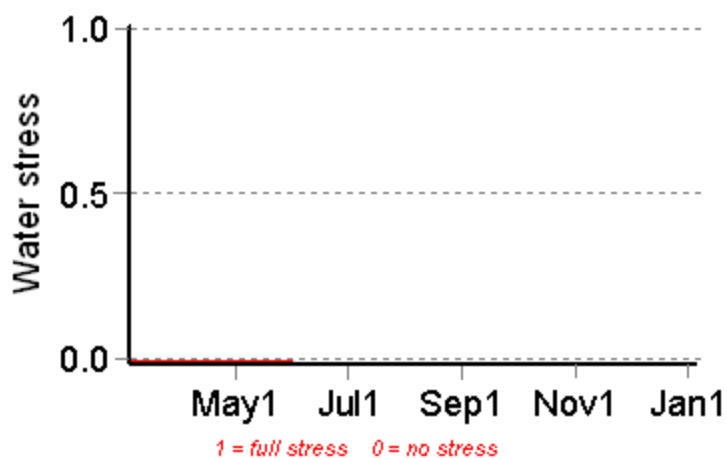
Availability of Water to Growing Roots



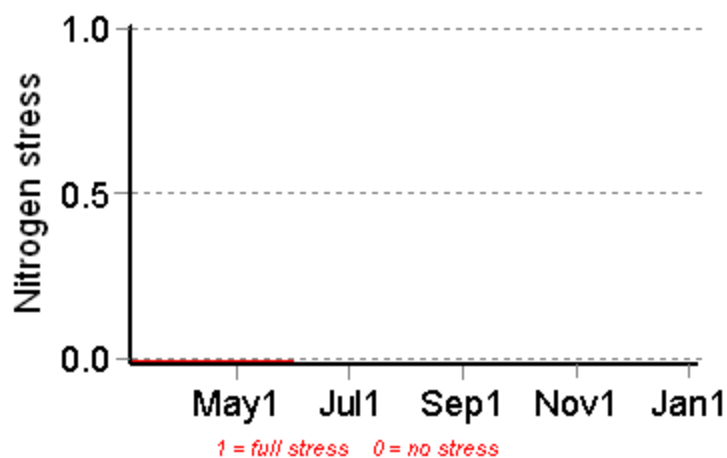
Availability of Soil Nitrogen to Growing Roots



Water Stress



Nitrogen Stress



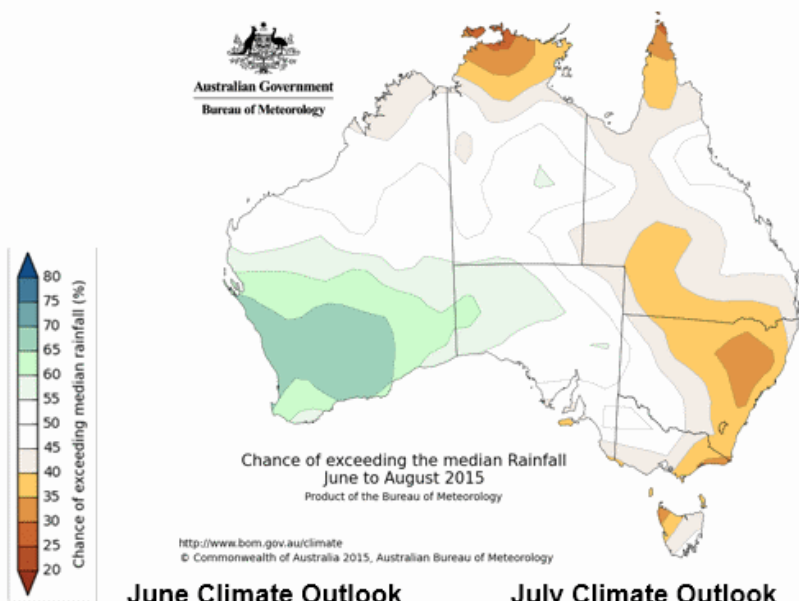
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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

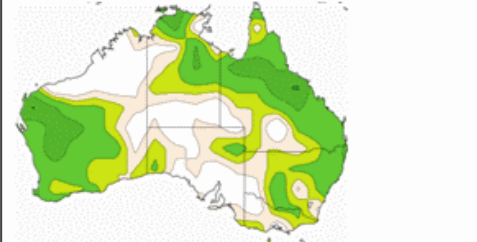
| Date | Growth Stage | Evap. (mm) | Water use (mm) | N use (kg/ha) | Water available to roots above stress threshold (mm) | Water available to roots above CLL (mm) | N available to roots (kg/ha) | Mineralisation (kg/ha) | N tie up (kg/ha) |
|--------|--------------|------------|----------------|---------------|--|---|------------------------------|------------------------|------------------|
| 3-Jun | 11.2 | 0.4 | 0.0 | 0.1 | 11.4 | 19.0 | 29.8 | 0.1 | 0.0 |
| 4-Jun | 11.2 | 0.5 | 0.0 | 0.1 | 12.5 | 20.7 | 31.5 | 0.1 | 0.0 |
| 5-Jun | 11.3 | 0.5 | 0.0 | 0.1 | 13.9 | 22.6 | 33.2 | 0.1 | 0.0 |
| 6-Jun | 11.3 | 0.6 | 0.0 | 0.2 | 15.3 | 24.6 | 34.9 | 0.1 | 0.0 |
| 7-Jun | 11.4 | 0.6 | 0.0 | 0.2 | 16.6 | 26.2 | 36.5 | 0.1 | 0.0 |
| 8-Jun | 11.5 | 0.7 | 0.0 | 0.2 | 18.2 | 28.5 | 38.0 | 0.1 | 0.0 |
| 9-Jun | 11.6 | 0.7 | 0.0 | 0.2 | 19.7 | 30.0 | 39.6 | 0.1 | 0.0 |
| 10-Jun | 11.6 | 0.7 | 0.0 | 0.2 | 20.7 | 31.5 | 40.8 | 0.1 | 0.0 |
| 11-Jun | 11.7 | 0.7 | 0.0 | 0.2 | 22.0 | 33.3 | 42.2 | 0.1 | 0.0 |
| 12-Jun | 11.8 | 0.6 | 0.0 | 0.2 | 23.0 | 34.7 | 43.3 | 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.

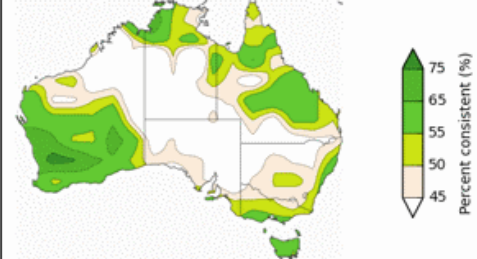
3 Month Climate Outlook from June to August



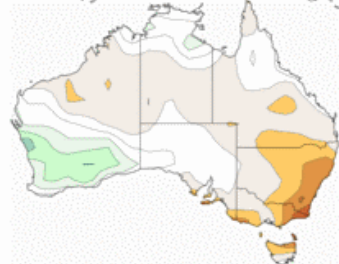
Past Accuracy from June to August



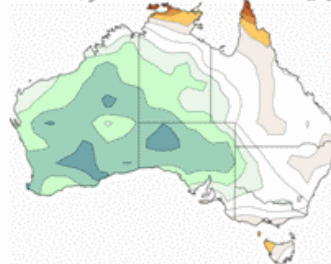
Past Accuracy for June



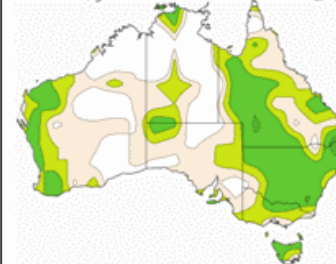
June Climate Outlook



July Climate Outlook



Past Accuracy for July



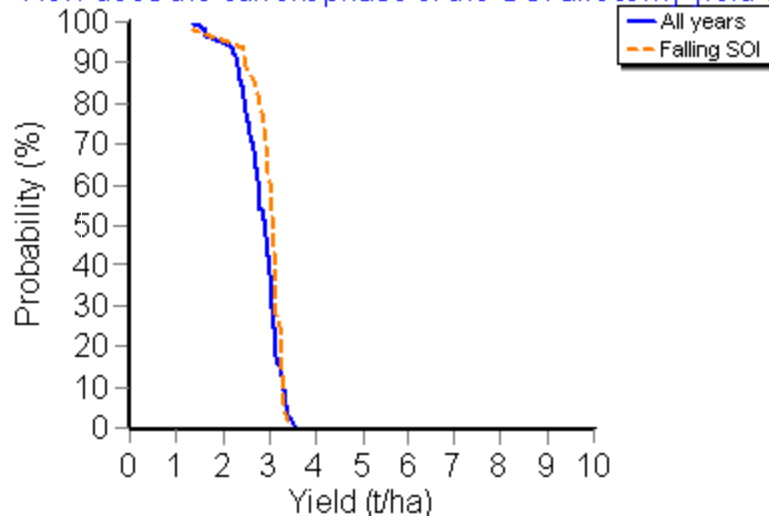
Southern Oscillation Index (SOI) Phase and Analogous Years

The SOI is currently in the Falling phase. The 31 day mean SOI for May was -13.11. In April the 30 day mean was -3.08.

The years in history with the same SOI phase:

1903, 1904, 1906, 1918, 1930, 1933, 1941, 1943, 1948, 1949, 1959, 1963, 1965, 1982, 1983, 1984, 1985, 1988, 1990, 1992, 2000, 2003, 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=0.066)

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.