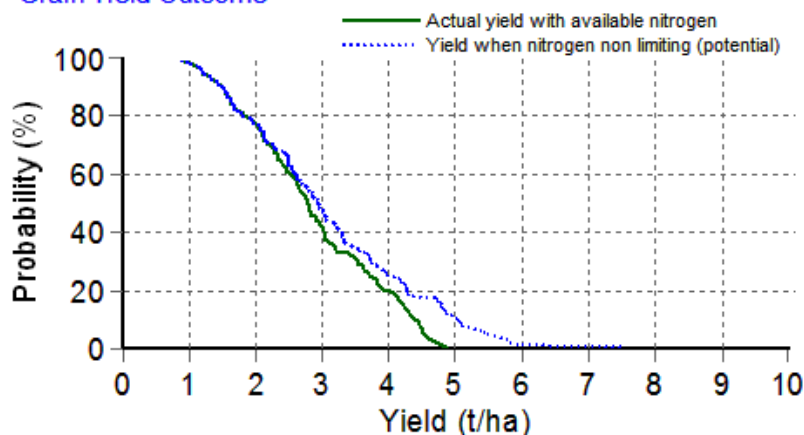


Crop Report

Report name: Lameroo Crop report
 Report date: 12/08/2010
 Last climate date available: 11/08/2010
 Client name: MSF
 Paddock name: Lameroo Swale
 Report generated by: MSF
 Date sown: 31-May
 Crop type: Wheat
 Variety sown: Gladius
 Sowing density: 120 plants/m²

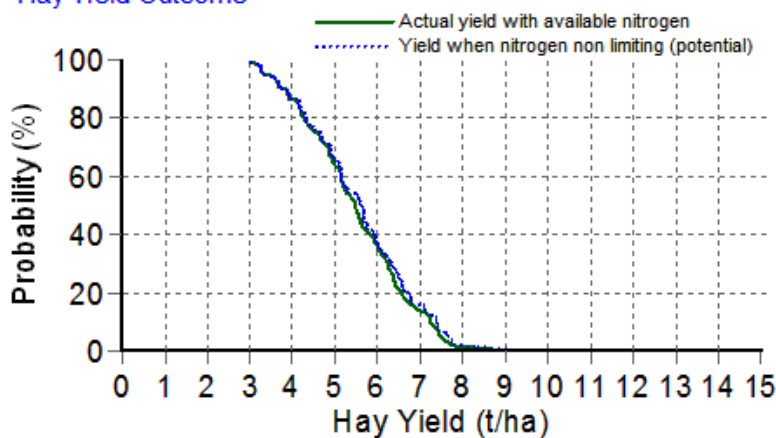
Weather station used: Lameroo
 Rainfall records used: Weather station
 Soil type: Swale Loamy Sand (Walpeup)
 Maximum rooting depth: 180 cm
 Roots constrained by EC: yes
 Stubble type: wheat
 Stubble amount: 250 kg/ha
 Start of growing season: 01-Apr
 Initial conditions date: 12-May
 Growing season rainfall to date: 123.4 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.

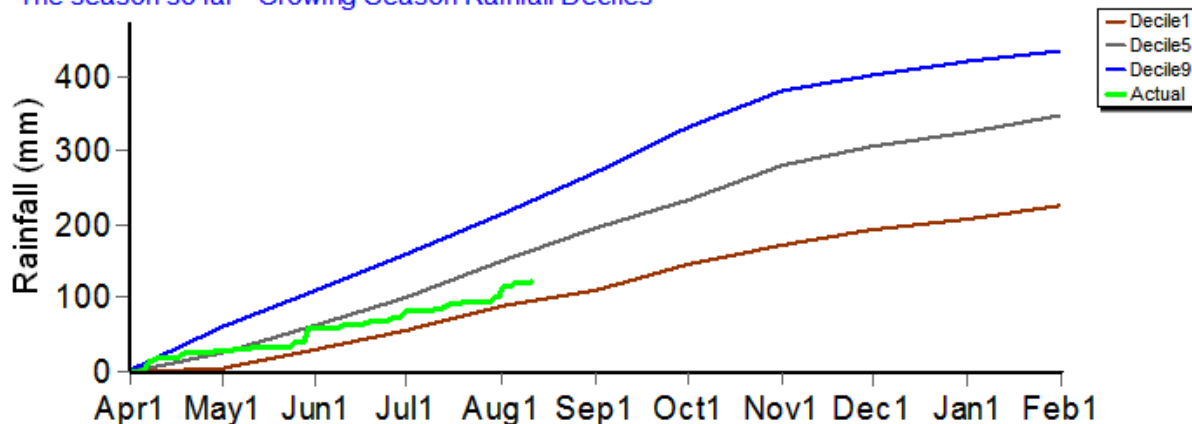
Hay Yield Outcome



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: 1264 kg/ha

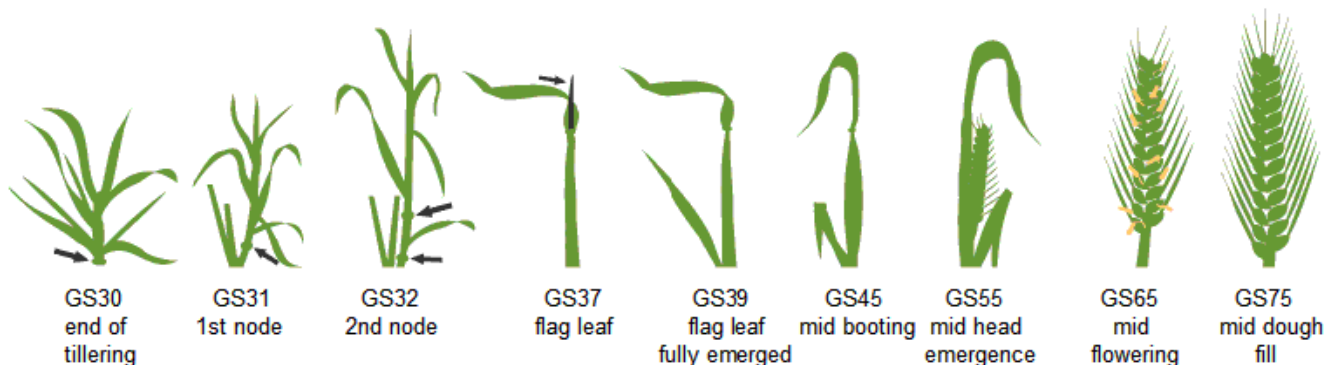
The season so far - Growing Season Rainfall Deciles





Predicted

Earliest	10-Jun	24-Jun	5-Jul	15-Jul	24-Jul	3-Aug
Median	10-Jun	24-Jun	5-Jul	15-Jul	24-Jul	3-Aug
Latest	10-Jun	24-Jun	5-Jul	15-Jul	24-Jul	3-Aug

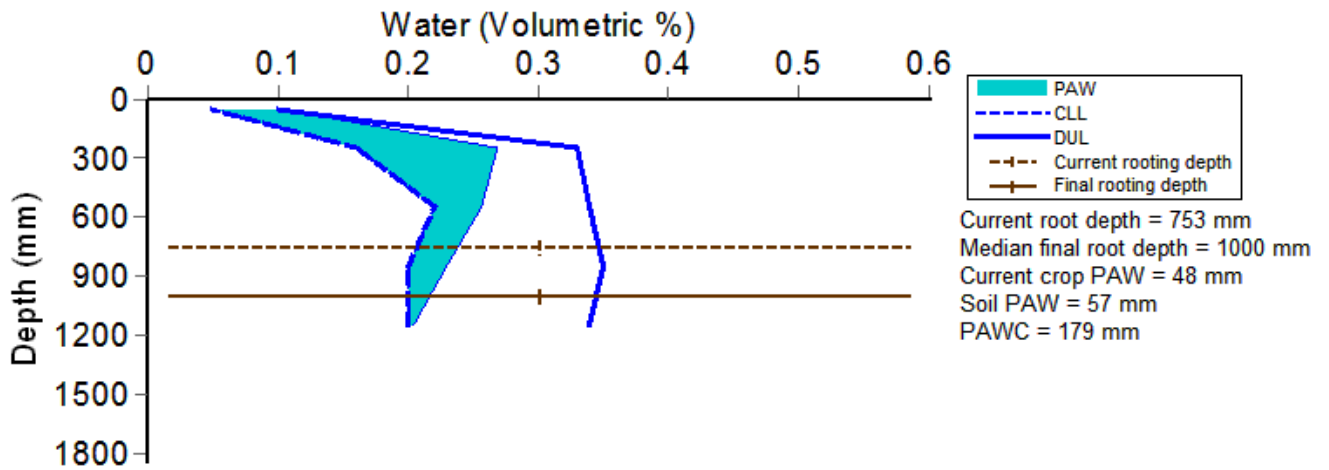


Predicted

Earliest	17-Aug	20-Aug	22-Aug	2-Sep	6-Sep	12-Sep	22-Sep	1-Oct	15-Oct
Median	19-Aug	22-Aug	25-Aug	6-Sep	10-Sep	18-Sep	28-Sep	7-Oct	24-Oct
Latest	20-Aug	24-Aug	27-Aug	10-Sep	14-Sep	23-Sep	6-Oct	16-Oct	5-Nov

<p><i>Percentage of years in which frost occurs</i></p> <p>Mild Minimum temperature between 2 and 0°C during flowering (Z60-69) 18%</p> <p>Moderate Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75) 2%</p> <p>Severe Minimum temperature less than -2°C during flowering and grain fill (Z60-79) 0%</p>	<p><i>Percentage of years in which heat shock occurs during grain fill (Z70-79)</i></p> <p>Mild Maximum temperature between 32 and 34°C 55%</p> <p>Moderate Maximum temperature between 34 and 36°C 28%</p> <p>Severe Maximum temperature above 36° 21%</p>
<p><i>Incidence of frost for this growing season</i></p> <p>Mild Minimum temperature between 2 and 0°C during flowering (Z60-69) 0</p> <p>Moderate Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75) 0</p> <p>Severe Minimum temperature less than -2°C during flowering and grain fill (Z60-79) 0</p>	<p><i>Incidence of heat shock for this growing season, during grain fill (Z70-79)</i></p> <p>Mild Maximum temperature between 32 and 34°C 0</p> <p>Moderate Maximum temperature between 34 and 36°C 0</p> <p>Severe Maximum temperature above 36° 0</p>

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 @ 12-May	54 mm
Rainfall since 12-May	91 mm
Irrigations	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
Evaporation since 12-May	71 mm
Transpiration since 12-May	14 mm
Deep drainage since 12-May	0 mm
Run-off since 12-May	0 mm

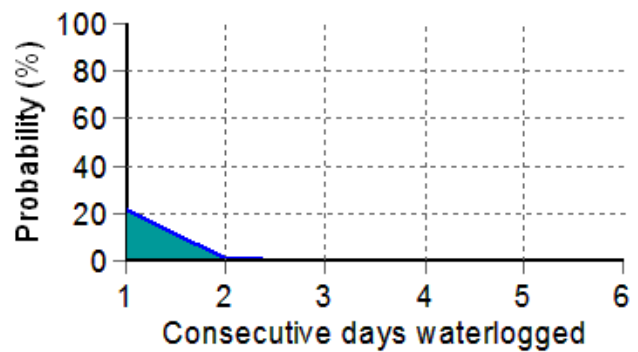
Current PAW status: 57 mm

Nitrogen Budget

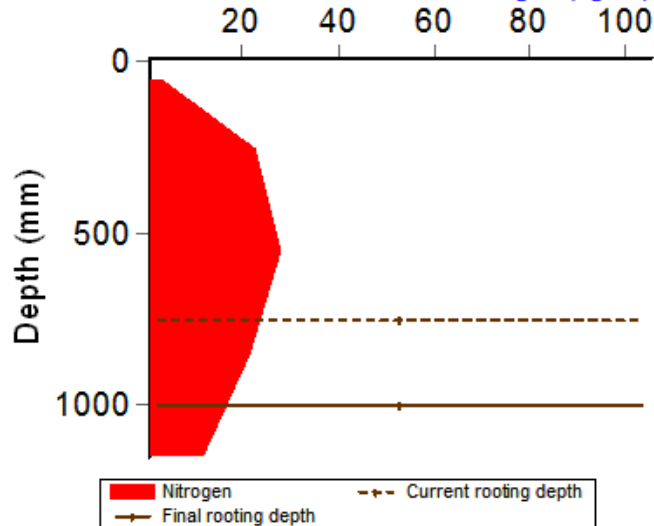
Initial N status @ 12-May	120 kg/ha
Mineralisation since 12-May	16 kg/ha
N applications	31-May: 11 kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
Total N in plant	57 kg/ha
De-nitrification since 12-May	0 kg/ha
Leaching	0 kg/ha

Current N status: 90 kg/ha

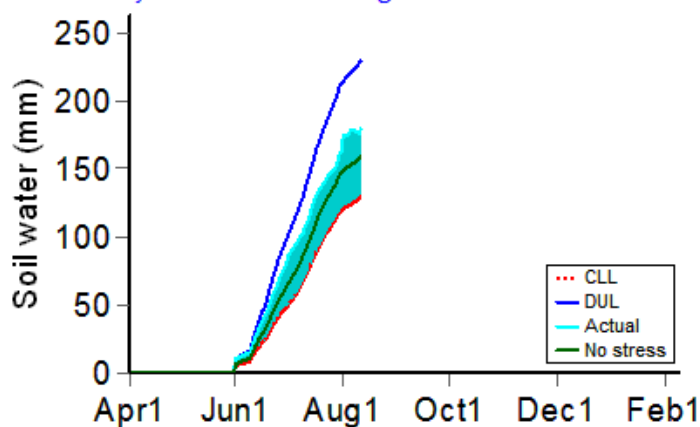
Probability of Future Waterlogging Events



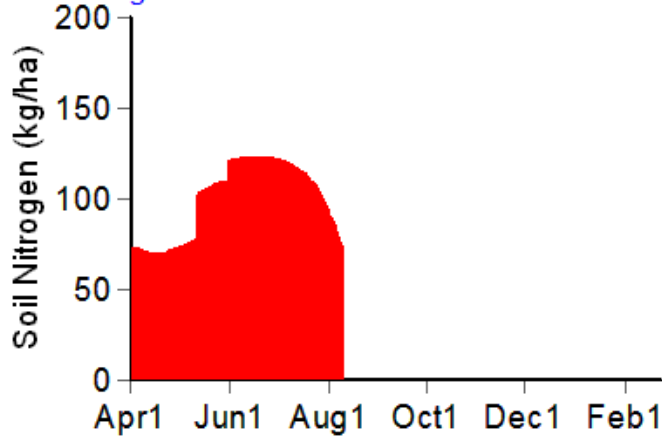
Current distribution of soil nitrogen (kg/ha)



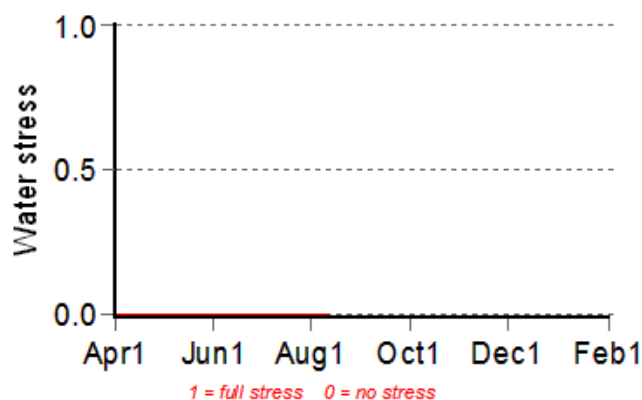
Availability of Water to Growing Roots



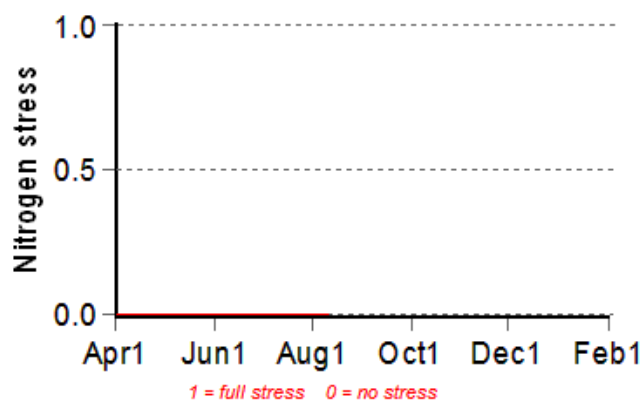
Soil Nitrogen



Water Stress



Nitrogen Stress



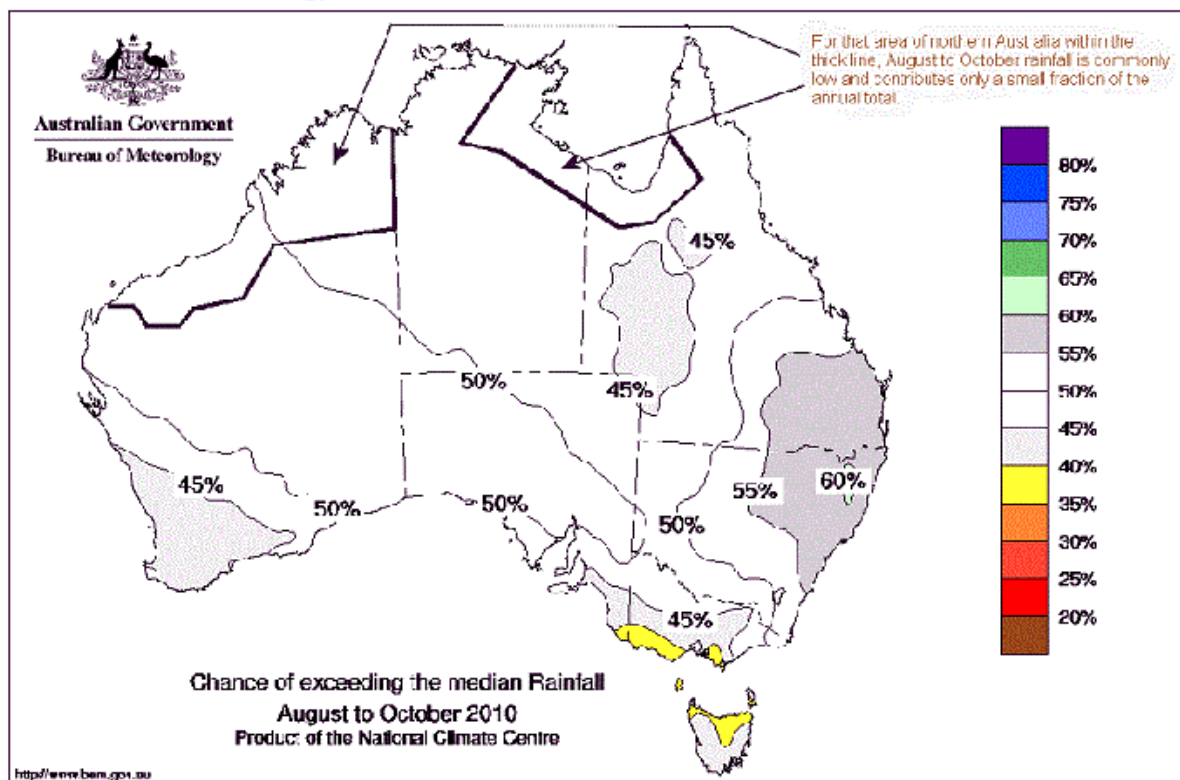
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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)
12-Aug	16.0	0.7	0.9	2.4	19.0	49.2	56.5
13-Aug	16.0	0.7	1.1	2.1	18.2	48.6	55.1
14-Aug	16.0	0.6	1.0	2.0	17.2	47.8	53.8
15-Aug	16.0	0.6	1.1	1.8	16.4	47.2	52.7
16-Aug	16.0	0.6	1.2	1.6	15.8	46.8	51.6
17-Aug	16.0	0.6	1.4	1.5	14.1	45.2	50.7
18-Aug	30.3	0.6	1.4	1.4	12.5	44.0	49.9
19-Aug	30.6	0.6	1.5	1.3	11.4	43.1	49.4
20-Aug	30.9	0.6	1.5	1.2	10.7	42.6	48.8
21-Aug	31.2	0.6	1.5	1.1	11.1	42.9	48.1

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

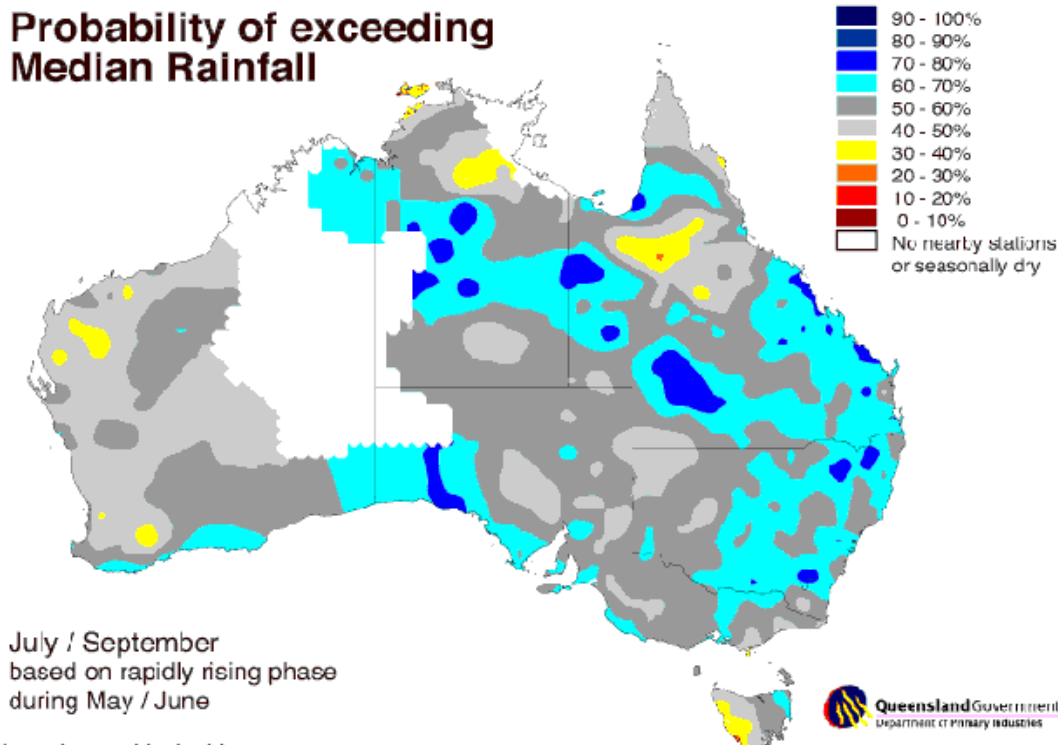


National Seasonal Rainfall Outlook: probabilities August to October 2010

Issued by the bureau of Meteorology 22nd July 2010

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

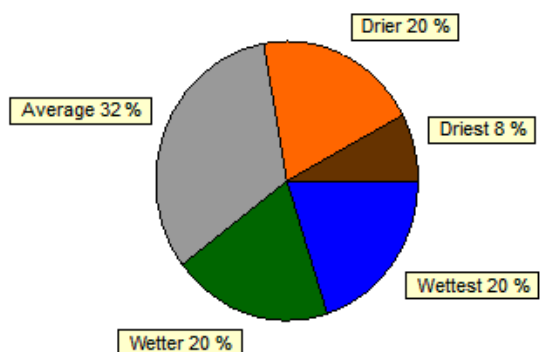
The SOI is currently in the Rising phase. The 31 day mean SOI for July was 18.74, in June it was 1.31.

The years in history with the same SOI phase:

1898, 1903, 1906, 1912, 1916, 1926, 1928, 1933, 1936, 1939, 1943, 1947, 1948, 1949, 1954, 1960, 1963, 1974, 1979, 1984, 1985, 1988, 1995, 1999, 2003

How much rainfall can I expect?

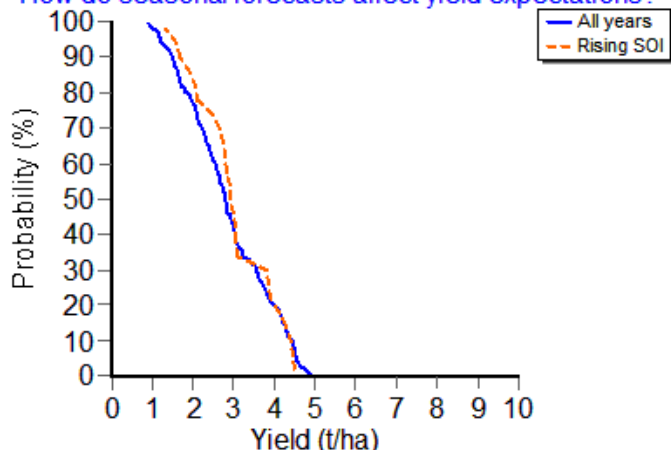
The SOI seasonal forecast for the next 3 months.



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 93 mm
Average	93 to 114 mm
Wetter	114 to 141 mm
Wettest	141 to 234 mm

How do seasonal forecasts affect yield expectations?



The 31 day mean SOI for July was 18.74, in June it was 1.31.

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=0.446)

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