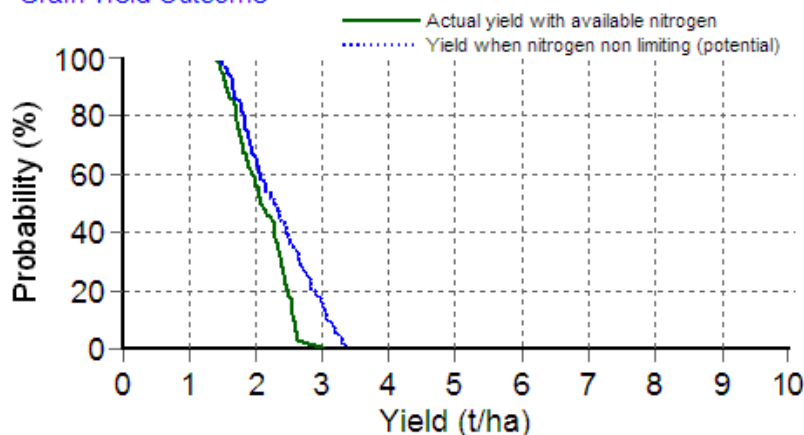


Crop Report

Report name: [Millewa Dune] Crop report
 Report date: 30/07/2010
 Last climate date available: 29/07/2010
 Client name: MSF
 Paddock name: Millewa Dune
 Report generated by: MSF
 Date sown: 18-May
 Crop type: Wheat
 Variety sown: Axe
 Sowing density: 120 plants/m²

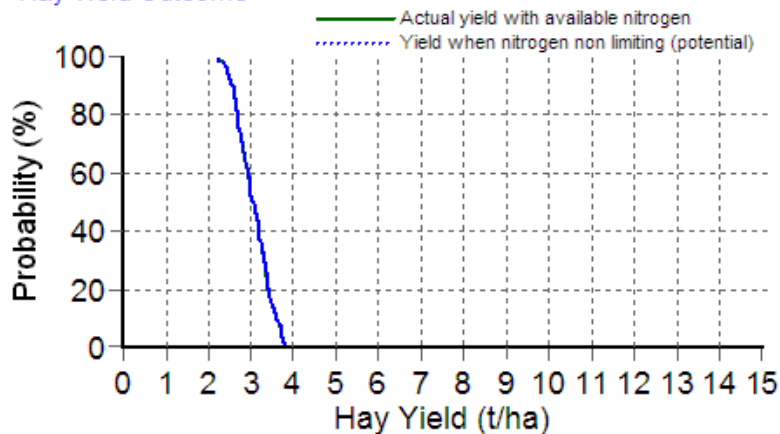
Weather station used: Mildura Airport
 Rainfall records used: Weather station
 Soil type: Sand over sandy loam (Karoonda dune No387)
 Maximum rooting depth: 180 cm
 Roots constrained by EC: yes
 Stubble type: wheat
 Stubble amount: 250 kg/ha
 Start of growing season: 01-Apr
 Initial conditions date: 17-May
 Growing season rainfall to date: 107.2 mm
 Date of last rainfall entry: ?
 Expected harvest date: 25-Oct

Grain Yield Outcome



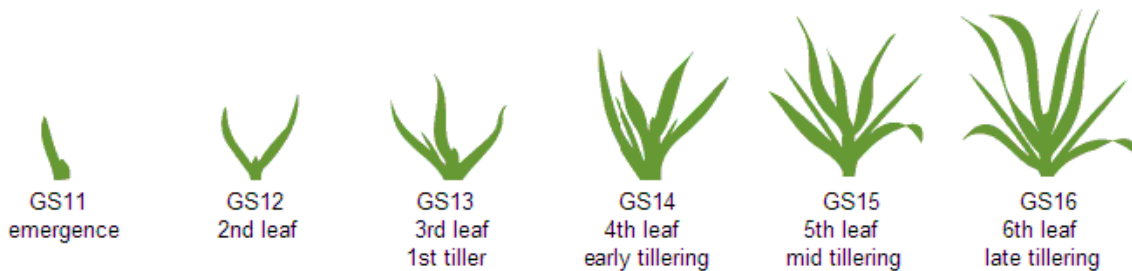
This graph shows the probability of exceeding a range of yield outcomes this season. It takes into account your pre-season soil moisture; the weather conditions so far; soil N and agronomic inputs. The long term record from your nominated weather station is then used to simulate what would have happened from this date on in each of the past 100 years. The yield results are used to produce this graph.

Hay Yield Outcome



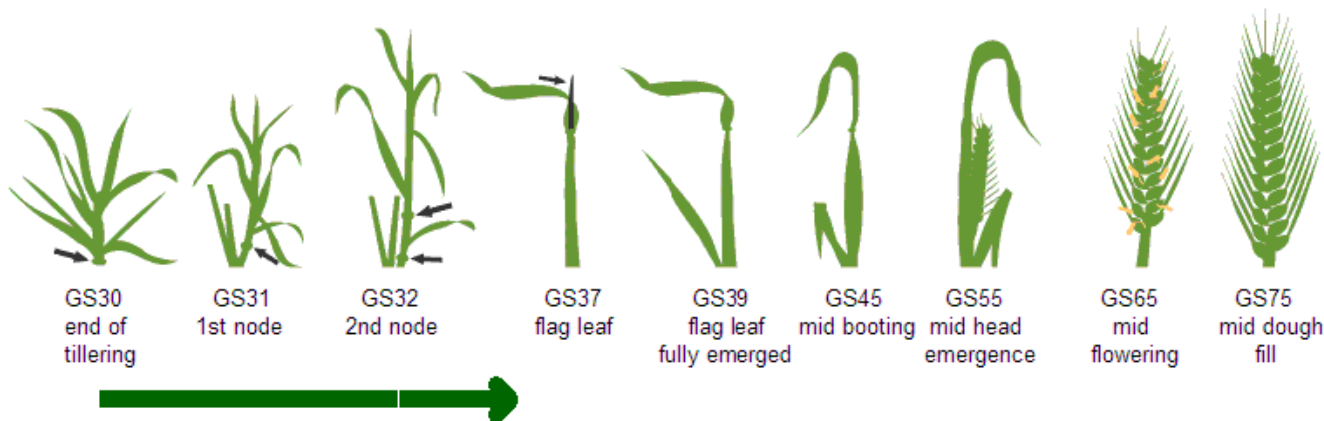
This graph show the probability of exceeding a range of hay yield outcomes this season. It takes into account the same factors as the grain yield graph above. When above ground dry matter is below 2t/ha, hay yield is assumed to be 70% of dry matter, with a moisture content of 13%. When dry matter is 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: 1307 kg/ha



Predicted

Earliest	26-May	9-Jun	18-Jun	26-Jun	7-Jul	15-Jul
Median	26-May	9-Jun	18-Jun	26-Jun	7-Jul	15-Jul
Latest	26-May	9-Jun	18-Jun	26-Jun	7-Jul	15-Jul



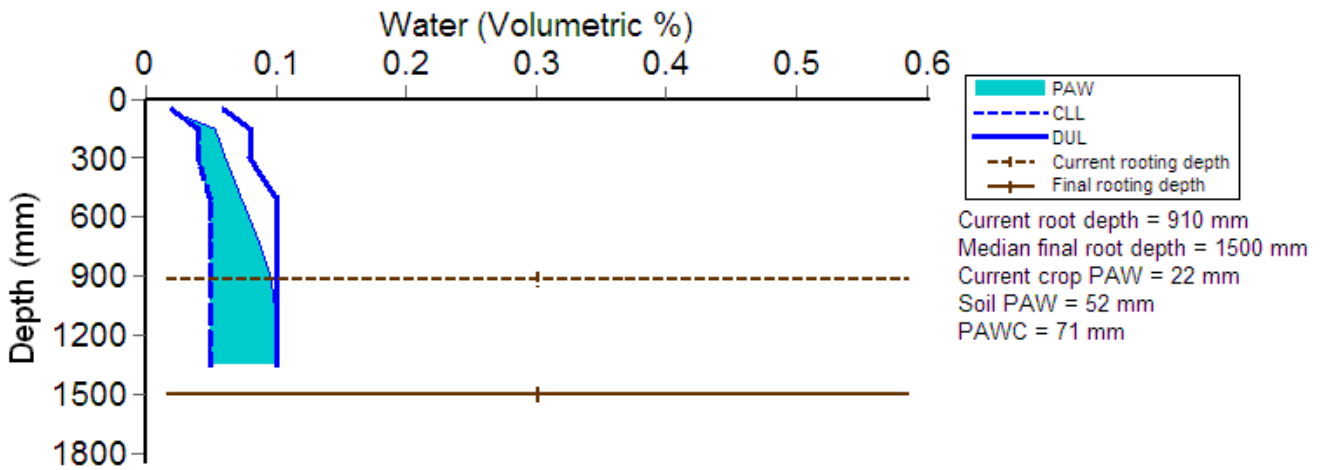
Predicted

Earliest	16-Jul	18-Jul	20-Jul	2-Aug	7-Aug	13-Aug	25-Aug	3-Sep	19-Sep
Median	16-Jul	18-Jul	20-Jul	3-Aug	9-Aug	17-Aug	29-Aug	8-Sep	26-Sep
Latest	16-Jul	18-Jul	20-Jul	5-Aug	11-Aug	21-Aug	3-Sep	13-Sep	4-Oct

<i>Percentage of years in which frost occurs</i>	
Mild	
Minimum temperature between 2 and 0°C during flowering (Z60-69)	22%
Moderate	
Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75)	3%
Severe	
Minimum temperature less than -2°C during flowering and grain fill (Z60-79)	0%
<i>Incidence of frost for this growing season</i>	
Mild	
Minimum temperature between 2 and 0°C during flowering (Z60-69)	0
Moderate	
Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75)	0
Severe	
Minimum temperature less than -2°C during flowering and grain fill (Z60-79)	0

<i>Percentage of years in which heat shock occurs during grain fill (Z70-79)</i>	
Mild	
Maximum temperature between 32 and 34°C	20%
Moderate	
Maximum temperature between 34 and 36°C	12%
Severe	
Maximum temperature above 36°	2%
<i>Incidence of heat shock for this growing season, during grain fill (Z70-79)</i>	
Mild	
Maximum temperature between 32 and 34°C	0
Moderate	
Maximum temperature between 34 and 36°C	0
Severe	
Maximum temperature above 36°	0

Current distribution of PAW

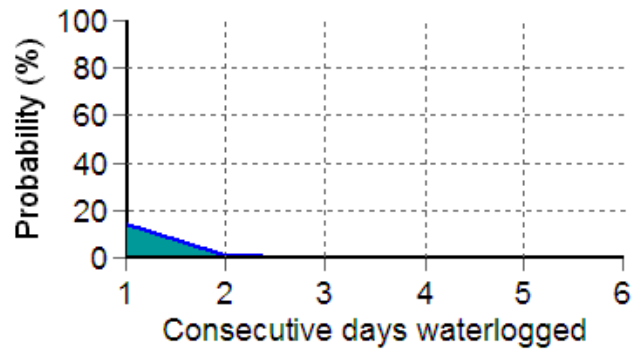


PAW = Plant Available Water
CLL = Crop Lower Limit or Wilting Point
DUL = Drained Upper Limit or Field Capacity
PAWC = Plant Available Water Capacity
Current Crop PAW = Soil water currently accessible to the roots down to the current rooting depth
Soil PAW = Total accessible soil water in the soil profile

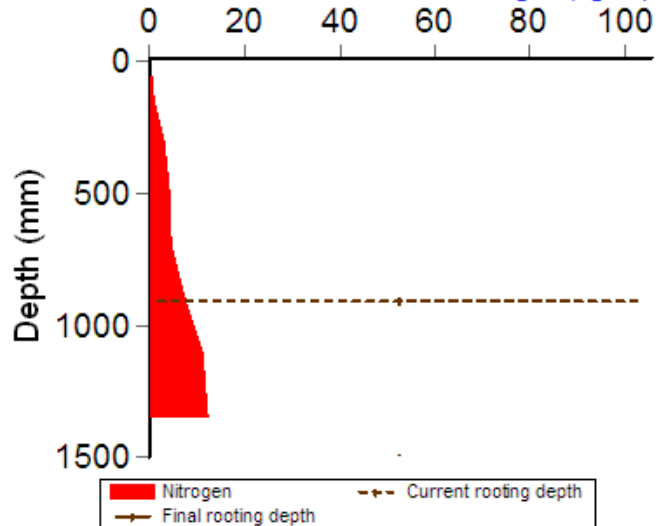
Water Budget

Initial PAW status @ 17-May	41 mm
Rainfall since 17-May	88.4 mm
Irrigations	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
Evaporation since 17-May	61 mm
Transpiration since 17-May	15 mm
Deep drainage since 17-May	3 mm
Run-off since 17-May	0 mm
Current PAW status:	52 mm

Probability of Future Waterlogging Events



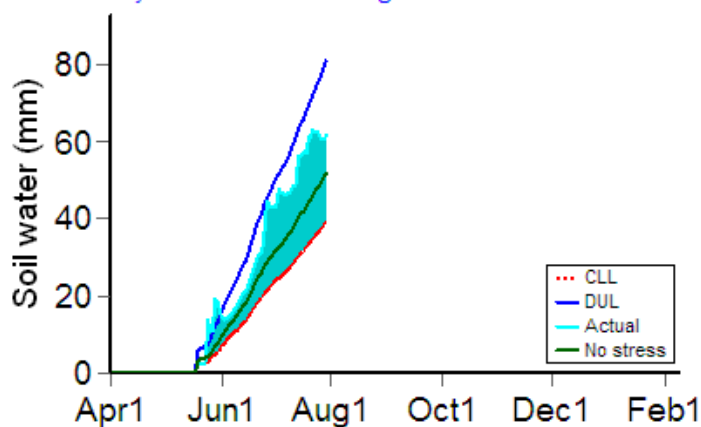
Current distribution of soil nitrogen (kg/ha)



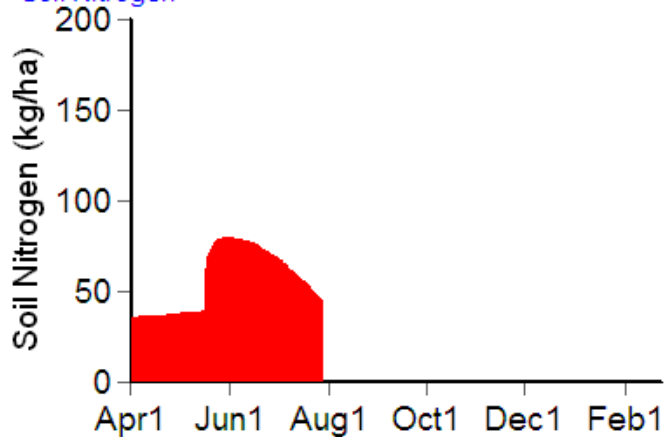
Nitrogen Budget

Initial N status @ 17-May	84 kg/ha
Mineralisation since 17-May	-2 kg/ha
N applications	18-May: 4 kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
Total N in plant	34 kg/ha
De-nitrification since 17-May	0 kg/ha
Leaching	1 kg/ha
Current N status:	47 kg/ha

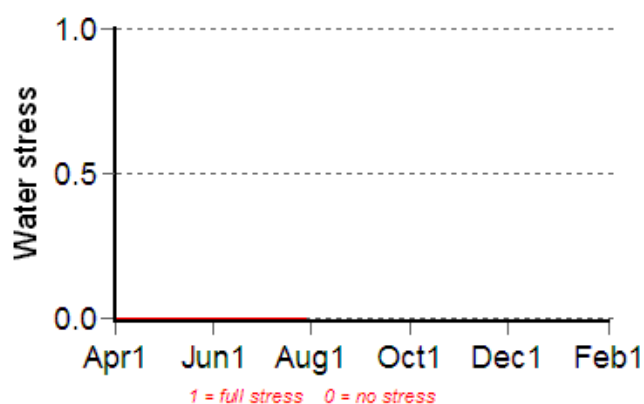
Availability of Water to Growing Roots



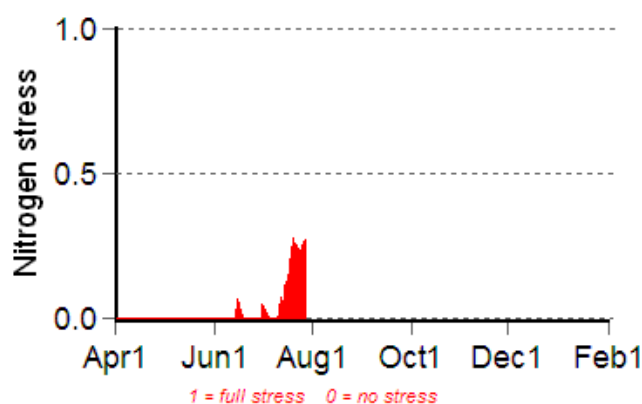
Soil Nitrogen



Water Stress



Nitrogen Stress



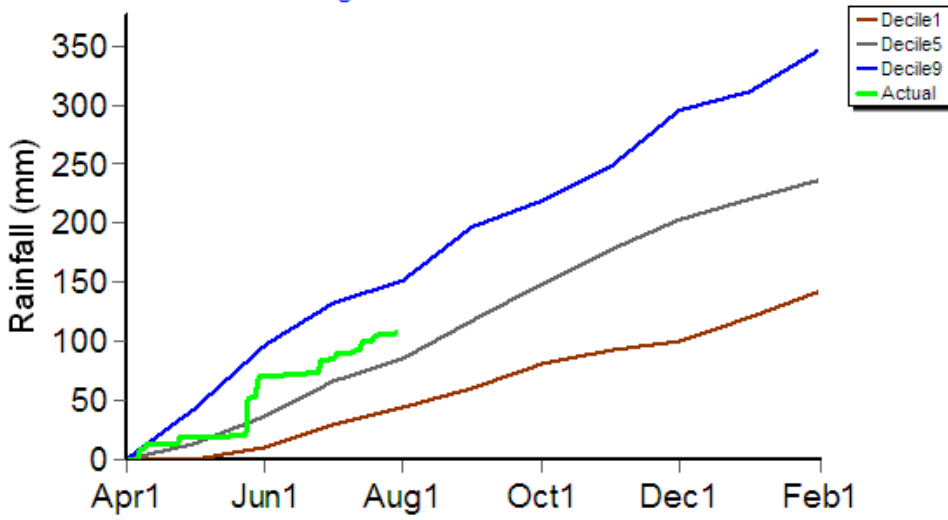
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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)
30-Jul	35.9	0.5	0.8	0.5	8.8	21.4	18.9
31-Jul	36.3	0.3	0.8	0.5	8.4	21.2	19.0
1-Aug	36.7	0.4	0.8	0.4	7.9	20.9	19.0
2-Aug	37.0	0.4	0.8	0.4	7.5	20.7	19.1
3-Aug	37.4	0.5	0.8	0.4	7.0	20.3	19.1
4-Aug	37.7	0.5	0.9	0.3	6.5	20.2	19.1
5-Aug	38.1	0.6	0.9	0.3	6.4	20.1	19.2
6-Aug	38.5	0.5	0.9	0.3	6.1	20.0	19.4
7-Aug	38.9	0.6	0.9	1.0	5.7	19.8	19.7
8-Aug	39.3	0.7	0.9	0.9	6.1	20.4	20.0

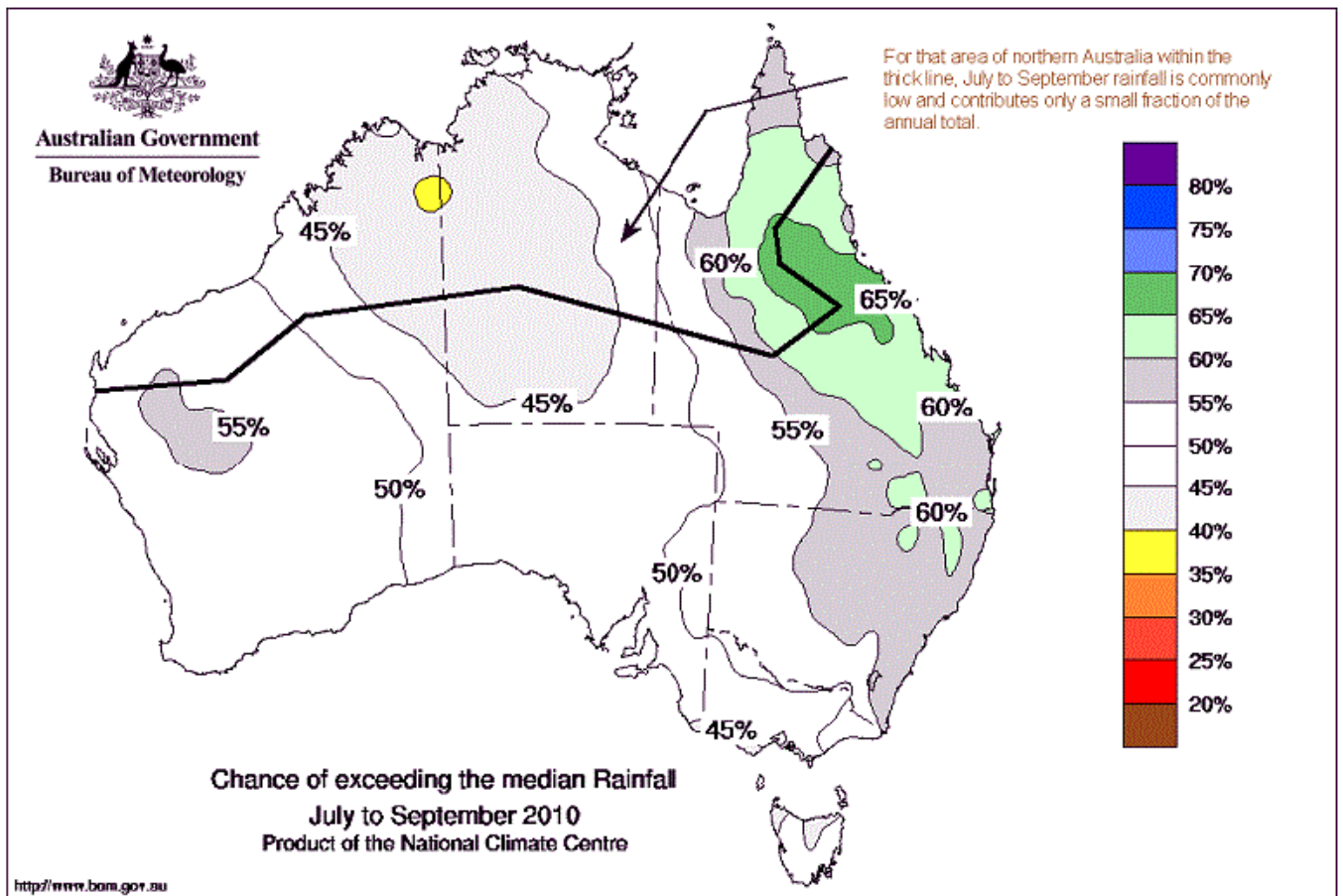
The water available to roots above the stress threshold is the amount of PAW (mm) above one third of the total water holding capacity of this soil. If the water values are below this stress threshold the water available to roots above the stress threshold will be negative.

The season so far - Growing Season Rainfall Deciles



How much rainfall can I expect?

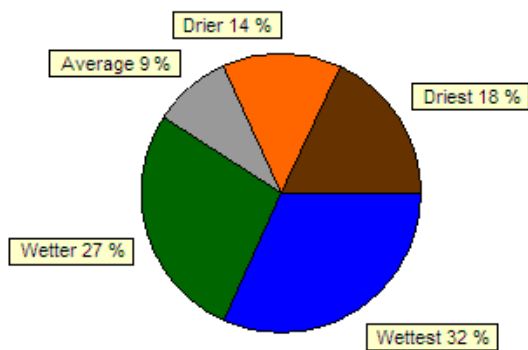
The Bureau of Meteorology Forecast for the next 3 months



National Seasonal Rainfall Outlook: probabilities July to September 2010

Issued by the bureau of Meteorology 23rd June 2010

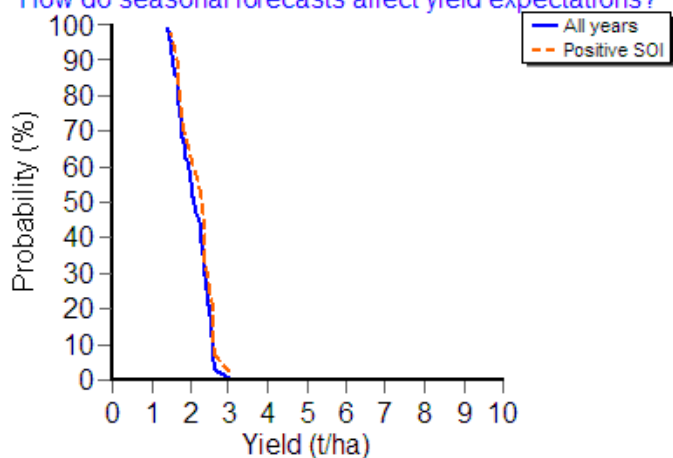
How much rainfall can I expect?
The SOI seasonal forecast for the next 3 months.



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 42 mm
Drier	42 to 62 mm
Average	62 to 85 mm
Wetter	85 to 110 mm
Wettest	110 to 205 mm

How do seasonal forecasts affect yield expectations?



The 30 day mean SOI for June was 1.31, in May it was 10.48.

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=0.335)

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