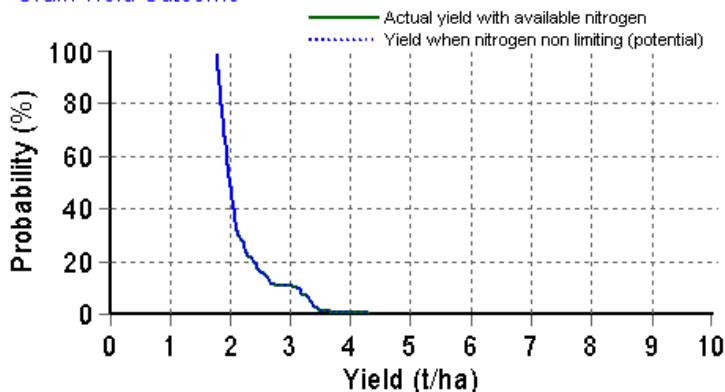


# Crop Report

Report name: Temora WUE site Crop report  
 Report date: 19/10/2009  
 Last climate date available: 18/10/2009  
 Client name: farmlink  
 Paddock name: Temora WUE site  
 Report generated by: condon  
 Date sown: 30-Apr  
 Crop type: Wheat  
 Variety sown: Gregory  
 Sowing density: 60 plants/m2

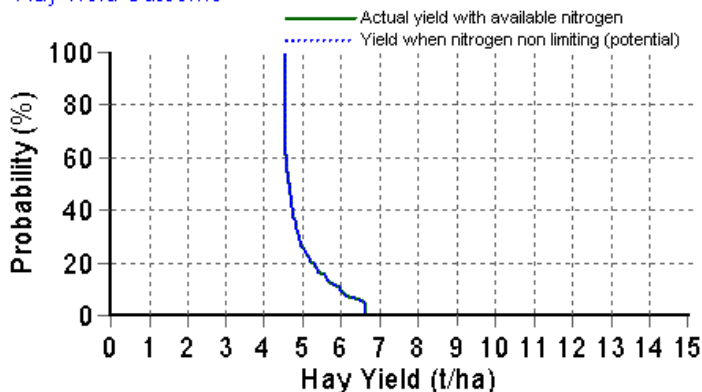
Weather station used: Temora A.R.S.  
 Rainfall records used: Temora WUE site rain gauge  
 Soil type: Brown Chromosol (Temora No 179)  
 Maximum rooting depth: 180 cm  
 Roots constrained by EC: no  
 Stubble type: lucerne  
 Stubble amount: 1000 kg/ha  
 Start of growing season: 01-Apr  
 Initial conditions date: 16-Mar  
 Growing season rainfall to date: 204.2 mm  
 Date of last rainfall entry: 04-Oct  
 Expected harvest date: 9-Nov

## Grain Yield Outcome



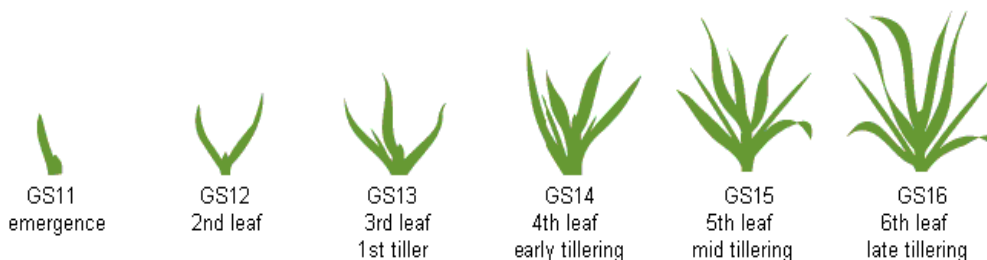
This graph shows the probability of exceeding a range of yield outcomes this season. It takes into account your pre-season soil moisture; the weather conditions so far; soil N and agronomic inputs. The long term record from your nominated weather station is then used to simulate what would have happened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

## Hay Yield Outcome



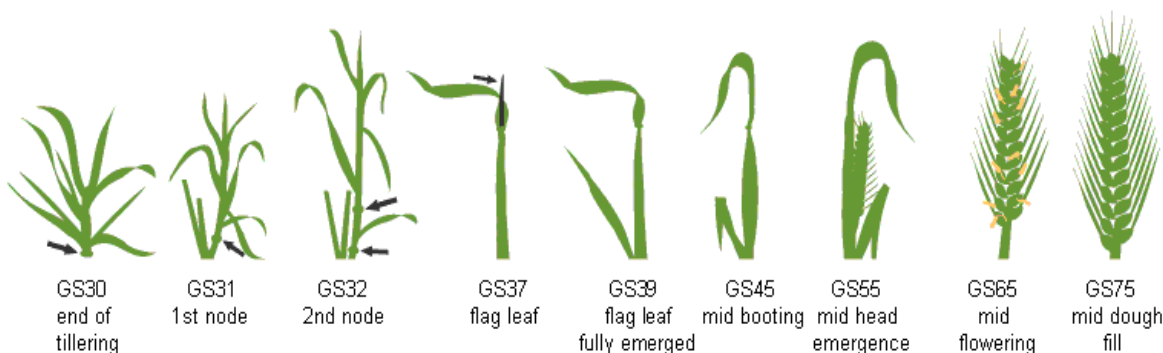
This graph show the probability of exceeding a range of hay yield outcomes this season. It takes into account the same factors as the grain yield graph above. When above ground dry matter is below 2t/ha, hay yield is assumed to be 70% of dry matter, with a moisture content of 13%. When dry matter is 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: 6013 kg/ha



**Predicted**

<b>Earliest</b>	19-May	25-May	2-Jun	12-Jun	23-Jun	1-Jul
<b>Median</b>	19-May	25-May	2-Jun	12-Jun	23-Jun	1-Jul
<b>Latest</b>	19-May	25-May	2-Jun	12-Jun	23-Jun	1-Jul

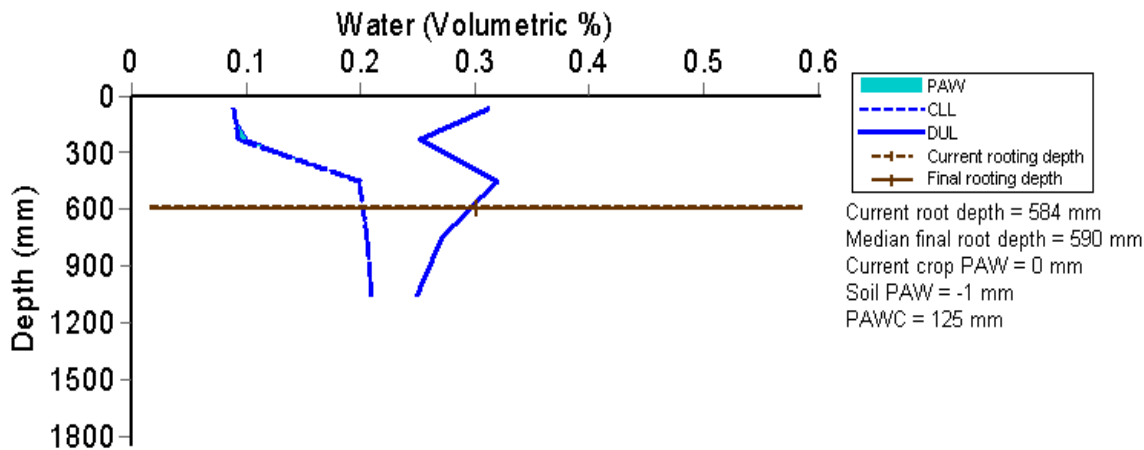


**Predicted**

<b>Earliest</b>	26-Jul	30-Jul	3-Aug	19-Aug	24-Aug	1-Sep	13-Sep	22-Sep	11-Oct
<b>Median</b>	26-Jul	30-Jul	3-Aug	19-Aug	24-Aug	1-Sep	13-Sep	22-Sep	11-Oct
<b>Latest</b>	26-Jul	30-Jul	3-Aug	19-Aug	24-Aug	1-Sep	13-Sep	22-Sep	11-Oct

<p><i>Percentage of years in which frost occurs</i></p> <p><b>Mild</b> Minimum temperature between 2 and 0°C during flowering (Z60-69) 0%</p> <p><b>Moderate</b> Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75) 0%</p> <p><b>Severe</b> 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><b>Mild</b> Maximum temperature between 32 and 34°C 8%</p> <p><b>Moderate</b> Maximum temperature between 34 and 36°C 3%</p> <p><b>Severe</b> Maximum temperature above 36° 0%</p>	
<p><i>Incidence of frost for this growing season</i></p> <p><b>Mild</b> Minimum temperature between 2 and 0°C during flowering (Z60-69) 0</p> <p><b>Moderate</b> Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75) 0</p> <p><b>Severe</b> 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><b>Mild</b> Maximum temperature between 32 and 34°C 0</p> <p><b>Moderate</b> Maximum temperature between 34 and 36°C 0</p> <p><b>Severe</b> 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 @ 16-Mar	4 mm
Rainfall since 16-Mar	206.35 mm
Irrigations	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
Evaporation since 16-Mar	134 mm
Transpiration since 16-Mar	78 mm
Deep drainage since 16-Mar	0 mm
Run-off since 16-Mar	0 mm

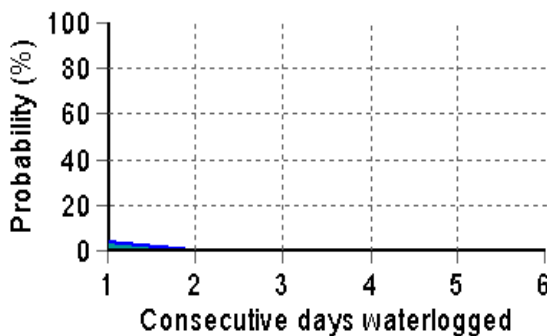
**Current PAW status:** -1 mm

Nitrogen Budget

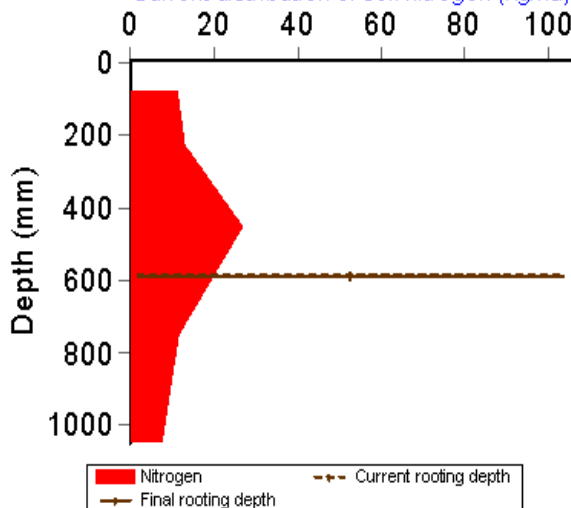
Initial N status @ 16-Mar	176 kg/ha
Mineralisation since 16-Mar	20 kg/ha
N applications	30-Apr: 9 kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
Total N in plant	132 kg/ha
De-nitrification since 16-Mar	0 kg/ha
Leaching	0 kg/ha

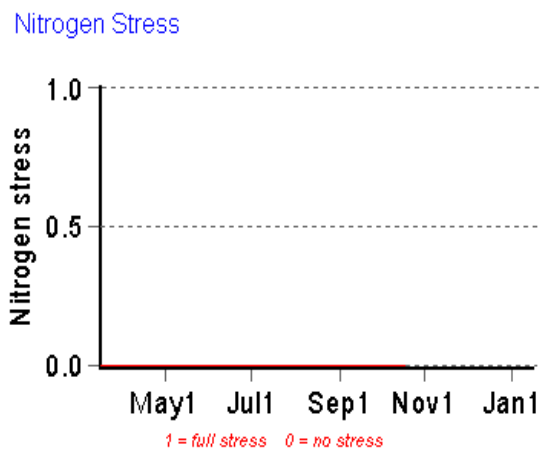
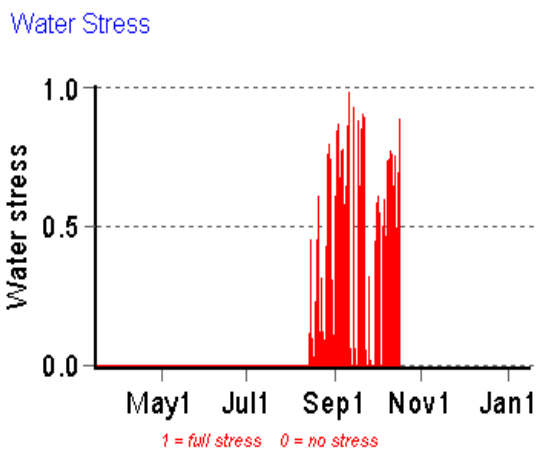
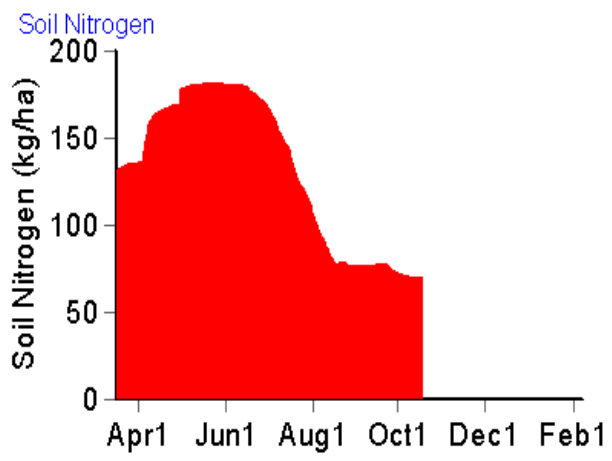
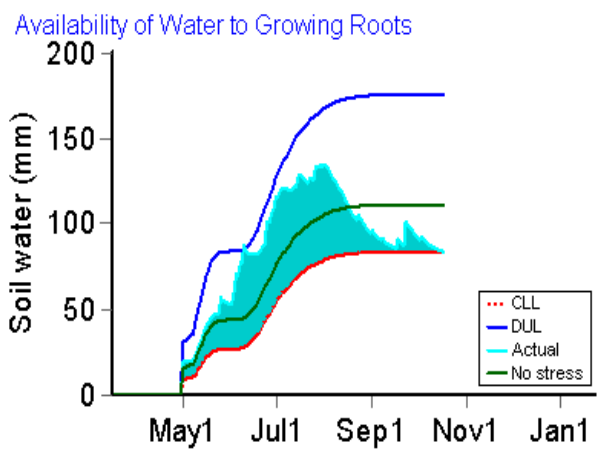
**Current N status:** 71 kg/ha

Probability of Future Waterlogging Events



Current distribution of soil nitrogen (kg/ha)





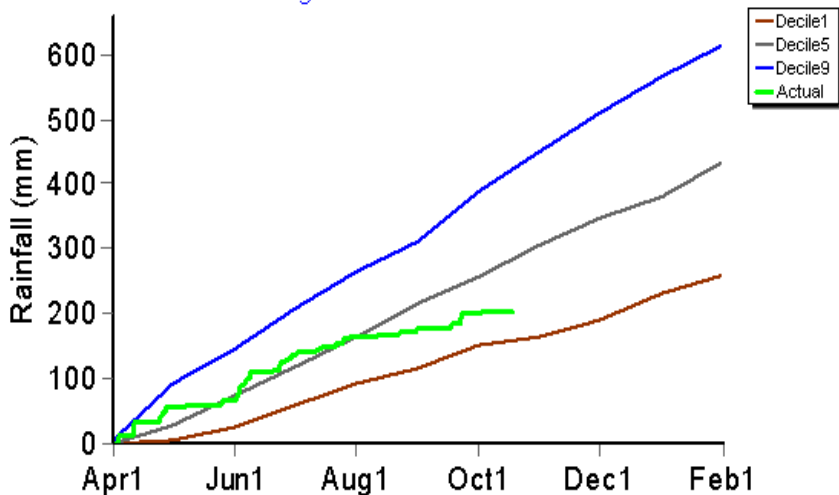
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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)
19-Oct	78.8	0.2	0.1	0.0	-27.9	0.0	50.4
20-Oct	79.3	0.2	0.1	0.0	-28.2	0.0	50.3
21-Oct	79.7	0.2	0.1	0.0	-28.5	0.0	50.3
22-Oct	80.2	0.3	0.1	0.0	-28.7	0.0	50.3
23-Oct	80.6	0.5	0.1	0.0	-28.8	1.3	50.3
24-Oct	81.1	0.5	0.1	0.0	-28.0	1.9	50.3
25-Oct	81.6	0.6	0.1	0.0	-27.8	1.9	50.2
26-Oct	82.1	0.6	0.1	0.0	-27.1	2.0	50.2
27-Oct	82.6	0.6	0.2	0.0	-26.9	2.4	50.2
28-Oct	83.1	0.6	0.1	0.0	-26.8	2.4	50.2

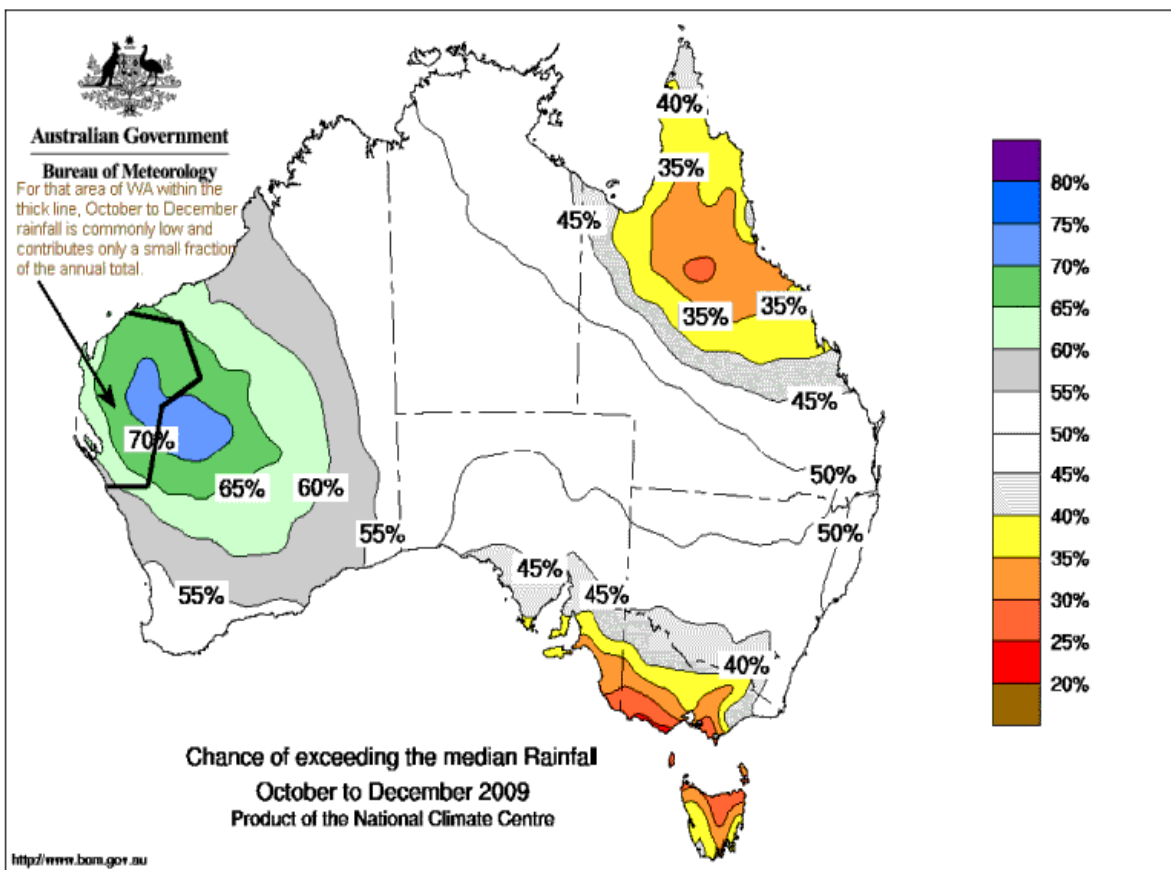
The water available to roots above the stress threshold is the amount of PAW (mm) above one third of the total water holding capacity of this soil. If the water values are below this stress threshold the water available to roots above the stress threshold will be negative.

The season so far - Growing Season Rainfall Deciles



How much rainfall can I expect?

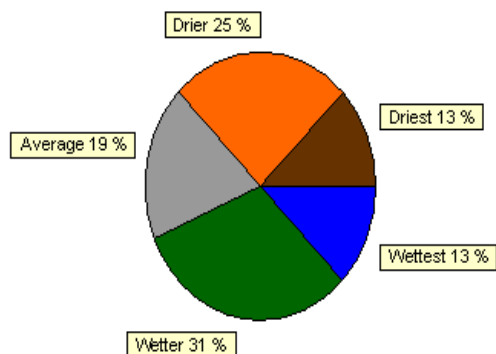
The Bureau of Meteorology Forecast for the next 3 months



National Seasonal Rainfall Outlook: probabilities October to December 2009

Issued by the bureau of Meteorology 22nd September 2009

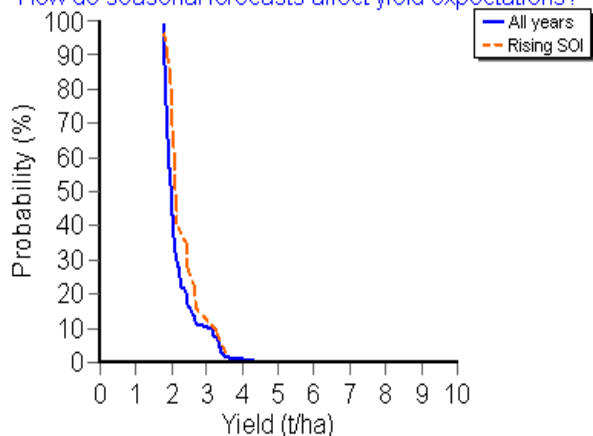
How much rainfall can I expect?  
 The SOI seasonal forecast for the next 3 months.



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 63 mm
Drier	63 to 96 mm
Average	96 to 129 mm
Wetter	129 to 187 mm
Wettest	187 to 357 mm

How do seasonal forecasts affect yield expectations?



The 30 day mean SOI for September was 3.65, in August it was -3.89.

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=0.041)

The ENSO Sequence System (ESS) - An alternative but still experimental forecasting system.

ESS Analogue Years

Year	Yields	N Unlimited Yields
Year 1963	1.9 t/ha	1.9 t/ha
Year 1951	1.9 t/ha	1.9 t/ha
Year 1976	2.3 t/ha	2.3 t/ha
Year 2006	1.8 t/ha	1.8 t/ha
Year 1994	1.8 t/ha	1.8 t/ha

Note: The ESS Analogue system is still experimental.

Of the top ten ESS analogues eight of them had weak El Niño conditions present by the end of the year and two had neutral conditions. In the following year, six analogues were neutral (1952, 1958, 19

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