

# ClimateSupport for Primary Producers 2007

**Seasonal climate forecasts, tools and services to assist management decisions**

This brochure lists the range of support currently available. The order form on the back page lets you order the products and services.

## 1. NEWSLETTER - *State Outlook*

The newsletter interprets what can be confusing information into information that can be utilised by primary producers across the state to make management decisions.

It keeps you in touch with latest research outputs from the SARDI Climate Applications Unit as well as providing summaries from reputable climate and weather centres around the world including:

### 3 Month Rainfall, Temperature, Crop and Pasture Growth Outlooks

Includes seasonal rainfall and temperature outlooks from the Bureau of Meteorology (BOM), the European Centre for Weather Forecasting (ECMWF), the International Research Institute (IRI), the UK Met Office's, Department of Agriculture and Food WA's (DAFWA) experimental system, and the SOI Phase rainfall outlook from Queensland Department of Primary Industries and Fisheries (QLD DPI).

The crop growth outlooks are included when available and are from DAFWA STIN model. The pasture growth outlook is from AUSSIEGrass developed by the QLD DPI.

### 5-8 Month Rainfall Outlook

12 reputable ocean atmosphere forecast models are used to determine if El Niño Southern Oscillation (ENSO) is likely for 5 and 8 months ahead.

### Short to Medium Term Rainfall Outlooks

The Madden-Julian Oscillation (MJO) is used to provide a 40-60 day rainfall outlook when available.

Other hints and tips and web sites are provided for 10 day rainfall outlooks

### Seasonal Rainfall and Temperature Summaries

Images from the BOM website are utilised to show recent rainfall and temperatures for different regions in South Australia.

*Newsletters sent out monthly for 12 months, via email, fax or post.*

## 2. DISTRICT SPECIFIC OUTLOOKS

The latest seasonal outlooks specific to your nearest town, using atmospheric measurements.

The District specific outlooks include information such as :

- accumulated rainfall graphs (as shown in figure 1);
- rainfall probability;
- rainfall decile outlooks;
- historical rainfall;
- chance of rain probabilities in the next month.

*District Specific Outlooks are sent out monthly from April to November, via email, fax or post.*

SARDI



SOUTH AUSTRALIAN  
RESEARCH AND  
DEVELOPMENT  
INSTITUTE

### FOR MORE INFORMATION:

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[www.sardi.sa.gov.au](http://www.sardi.sa.gov.au)

Click on 'Climate Applications'

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Government of South Australia  
Primary Industries and Resources SA



Queensland  
Government  
Department of  
Primary Industries  
and Fisheries



Australian Government  
Bureau of Meteorology



GRDC  
Grains  
Research &  
Development  
Corporation

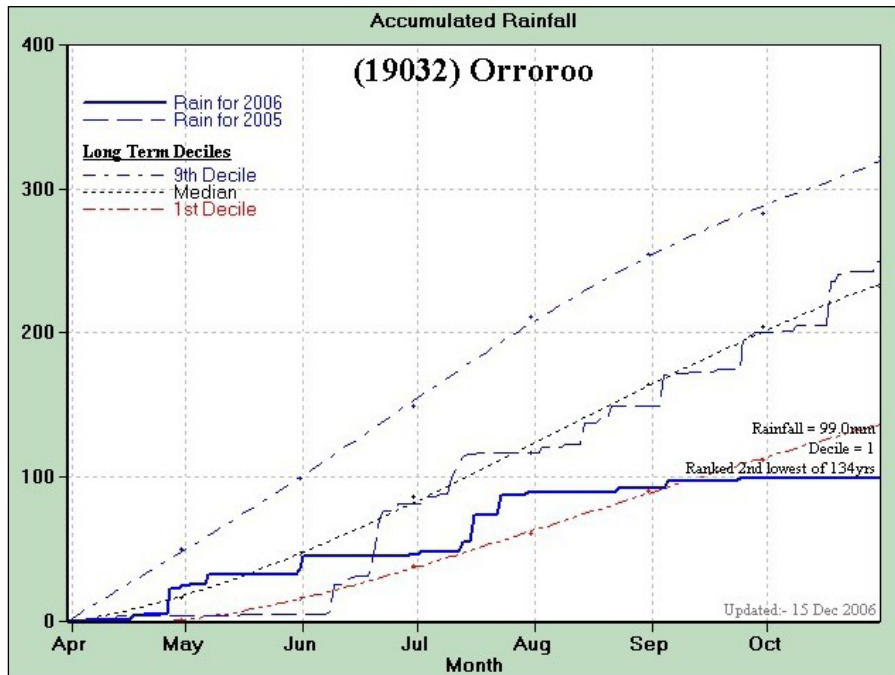


Figure 1: Accumulated Rainfall graph

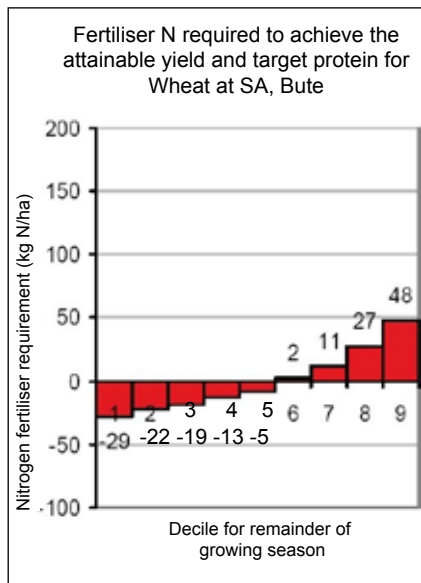
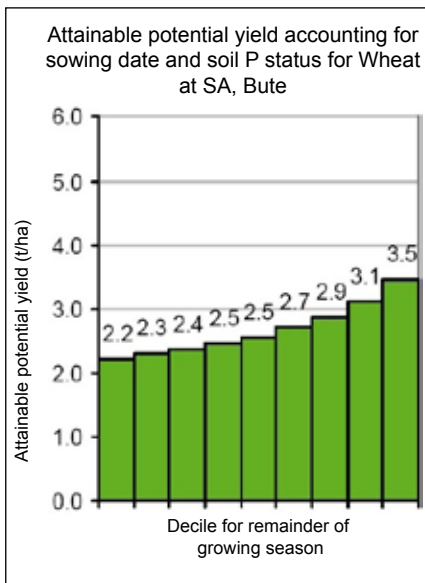


Figure 2: Yield & Nitrogen forecast, using N Calculator

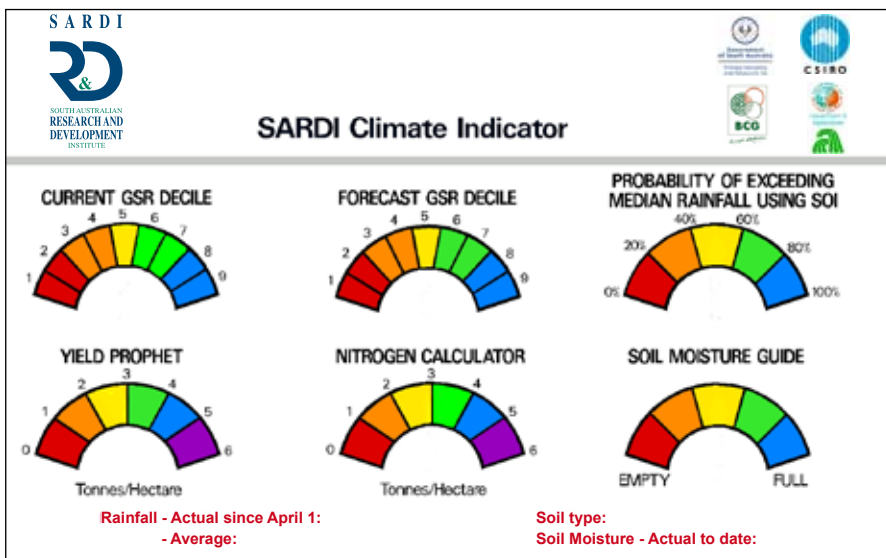


Figure 3: Climate Indicator sign

### 3. FARMER SPECIFIC OUTLOOKS

This information is specific to your farm. You need to provide the inputs depending upon the outputs you require.

Information can be chosen from some or all of the following decision support tools:

#### a. Flowering Dates & Frost and Heat Risk

INPUTS:

- crop varieties you will sow.

OUTPUTS:

- flowering dates for your selected varieties based on a range of sowing dates and the frost or heat risk window.

#### b. Rainfall Decile Graph

INPUTS:

- closest rainfall station.

OUTPUTS:

- accumulated rainfall graph and the historic decile range (similar to figure 1)

#### c. Stored Soil Water & Potential Yield

INPUTS:

- your rainfall to date from your farm and the cereal crops you will sow.

OUTPUTS:

- your current stored soil water for the growing season;
- your potential yield for the range of crops provided for a range or expected decile outcomes.

### 4. PADDOCK SPECIFIC OUTLOOKS

This information is provided specifically for the paddocks you select. It provides projected yields and required fertiliser amounts to reach that yield, based on growing season rainfall to date and forecast growing season rainfall.

There are a choice of 3 different model outputs, which require different inputs:

#### a. Fertiplan

No soil tests required

INPUTS:

- 2 yrs paddock history of yields, previous crops sown, rainfall to date and soil type

OUTPUTS:

- projected target yield based on history, available organic and ammonium N and required N to reach target yield.

## b. Yield Prophet using APSIM

*One off soil test required*

### INPUTS:

- rainfall to date.

### OUTPUTS:

- suggested N to reach target yield based on SOI forecast of rainfall.

## c. Yield & N Fertiliser Calculator

*Annual soil test required*

### INPUTS:

- soil tests required to find sub-soil constraints, available moisture to date and available Nitrogen.

### OUTPUTS:

- yield forecast, using N Calculator from CSIRO, for a range of decile outcomes (as shown in figure 2).

## 5. CLIMATE RISK MANAGEMENT WORKSHOPS

Workshops can be arranged for small groups and are tailored to your needs. The workshops are suitable for grains, livestock, horticultural, viticultural producers and interested parties.

Modules include:

- **Module 1:** Understanding Climate Risk
- **Module 2:** Understanding Climate & Weather
- **Module 3:** Climate Forecasting and Support
- **Module 4:** Making Management Plans for Climate Risk

*Most workshops and materials are fully subsidised by FarmBis, GRDC, SAGIT, LWW, SAMDB NRM Board and more.*

Learn more about:

- how to better manage for climate risk and climate change;
- forecasts for drought, frost, late breaks, strong winds and heavy rain;
- seasonal outlooks and trigger points to look for throughout the season;
- results and suggestions from the SARDI research.

All participants receive:

- free subscription to the monthly newsletter for the rest of the season;
- certificate of attendance;
- some of the publications listed in this brochure.

## 6. PUBLICATIONS

### Climate Risk Management Resource Manual – Version 3

Information about understanding weather, the role of atmosphere in seasonal forecasting, understanding climate risks and opportunities, understanding climate change, price risk management, useful websites and where to gain more information.

### Managing Frost Risk: A Guide for Southern Australian Grains

Contains information about agronomic practices to reduce frost risk, frost risk decision guide, the balancing act of delaying sowing to avoid frost risk, recognising frost damage in wheat, and what to do if your wheat has been frosted.

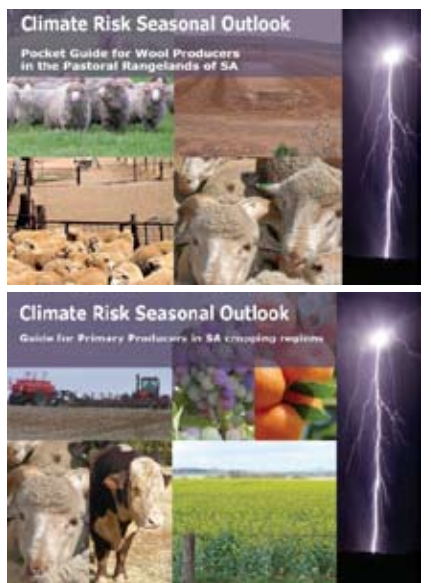
### Climate Risk Seasonal Outlook

There are two versions of this guide for primary producers. One is for north of Goyder's line and the other for south of Goyder's line.

They provide 3-month outlooks that show increased chances of lower rainfall and pasture growth or higher rainfall and pasture growth.

It helps you to understand:

- when to use seasonal outlooks and when to ignore them;
- impact of the SOI and El Niño and La Niña on your property;
- how to access important trigger points used to recognize a better or worse season in advance.



*These are available for purchase but it is recommended you attend a workshop to understand how to use them.*

## A Guide to Climate Change and Adaptation in Agriculture in South Australia

Contains projection trends and implications for agriculture plus suggestions on how to adapt.

## 7. AUSTRALIAN RAINMAN CD

*What is my average rainfall?  
How often will I receive my desired spring rains?*

This CD package is great for analysing historical rainfall and investigating current rainfall outlooks based on historical probabilities.

*Data is easily updated from the internet.*

## 8. FLOWERING CALCULATOR

Flowering Calculator is a model, originally designed in WA, which has now been validated for some SA wheat varieties including Aroona, Frame, Janz, Krichauff and Yitpi.

### INPUTS:

- variety choice and sowing dates

### OUTPUTS:

- flowering dates
- number of historical frost events
- average daily min and max temperatures

## OTHER CLIMATE SUPPORT

### Stock Journal weather page

Check out the weekly weather page in the Stock Journal by Melissa Rebbeck.

### Climate indicator signs

Three climate indicator signs have been put up around the state, involving farmer groups in 2007, at Orroroo, Tarlee and Paskeville (see figure 3).

If you are interested in being involved in the shared decision making process with a farmer group please contact us (08) 8303 9718.

### Decision Support Tools

There are many decision support tools and models available for purchase. Most are listed in our Order Form.

### Climate Applications website

See: [www.sardi.sa.gov.au](http://www.sardi.sa.gov.au) and click on "Climate Applications".

***We have attempted to save you the time and confusion by providing you the outputs in an easy to use manner.***



# Order form

Tick the box for which option you wish to subscribe to:

- |    |  |       |                          |
|----|--|-------|--------------------------|
| 1. | <b>NEWSLETTER - State Outlook</b>  |       |                          |
|    | - posted monthly   | \$ 40 | <input type="checkbox"/> |
|    | - emailed monthly  | \$ 20 | <input type="checkbox"/> |
| 2. | <b>DISTRICT SPECIFIC OUTLOOKS</b>  | \$120 | <input type="checkbox"/> |
| 3. | <b>FARMER SPECIFIC OUTLOOKS</b>  |       |                          |
|    | a. Flowering dates and Frost risk  | \$120 | <input type="checkbox"/> |
|    | b. Rainfall decile graphs  | \$120 | <input type="checkbox"/> |
|    | c. Stored soil water and potential yield                                   | \$120 | <input type="checkbox"/> |
|    | d. all of the above  | \$310 | <input type="checkbox"/> |
| 4. | <b>PADDOCK SPECIFIC OUTLOOKS</b>   |       |                          |
|    | a. Fertiplan   | \$120 | <input type="checkbox"/> |
|    | b. Yield Prophet   | \$120 | <input type="checkbox"/> |
|    | c. Yield & N Fertiliser Calculator   | \$120 | <input type="checkbox"/> |
|    | - to have soil tests analysed  | \$260 | <input type="checkbox"/> |
| 5. | <b>CLIMATE RISK MANAGEMENT WORKSHOPS</b>                                   | info  | <input type="checkbox"/> |
| 6. | <b>PUBLICATIONS</b>  |       |                          |
|    | Climate Risk Management Resource Manual – Version 3                        | \$ 30 | <input type="checkbox"/> |
|    | Managing Frost Risk: A Guide for Southern Australian Grains                | \$ 25 | <input type="checkbox"/> |
|    | Climate Risk Seasonal Outlook Guide  |       |                          |
|    | - for Wool Producers in the Pastoral Rangelands of SA                      | \$ 5  | <input type="checkbox"/> |
|    | - for Primary Producers in the SA Cropping Regions                         | \$ 5  | <input type="checkbox"/> |
|    | A Guide to Climate Change and Adaptation in Agriculture in South Australia | \$ 10 | <input type="checkbox"/> |
| 7. | <b>AUSTRALIAN RAINMAN CD</b>   |       |                          |
|    | - Standard & Educational   | \$110 | <input type="checkbox"/> |
|    | - Professional   | \$430 | <input type="checkbox"/> |
| 8. | <b>FLOWERING CALCULATOR</b>  | \$ 70 | <input type="checkbox"/> |

*All prices include GST and postage. Prices were correct at time of printing.*

**TOTAL** \$ \_\_\_\_\_

TAX INVOICE: **ABN 53 763 159 658**

## Payment method (tick the appropriate box)

Cheque enclosed - made out to SARDI - Climate Applications Unit

Please send me an invoice

Credit Card - *circle the card type*

Visa

Master

American Express

Card number \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

Expiry Date \_\_\_\_ / \_\_\_\_

## Your details

name \_\_\_\_\_

address \_\_\_\_\_

telephone \_\_\_\_\_ fax \_\_\_\_\_

email \_\_\_\_\_

ABN \_\_\_\_\_

signature \_\_\_\_\_ date \_\_\_\_\_

### RETURN THIS FORM TO:

Trudi Duffield, SARDI - Climate Applications Unit, GPO Box 397, Adelaide SA 5001 • Fax (08) 8303 9717