CLIMAG

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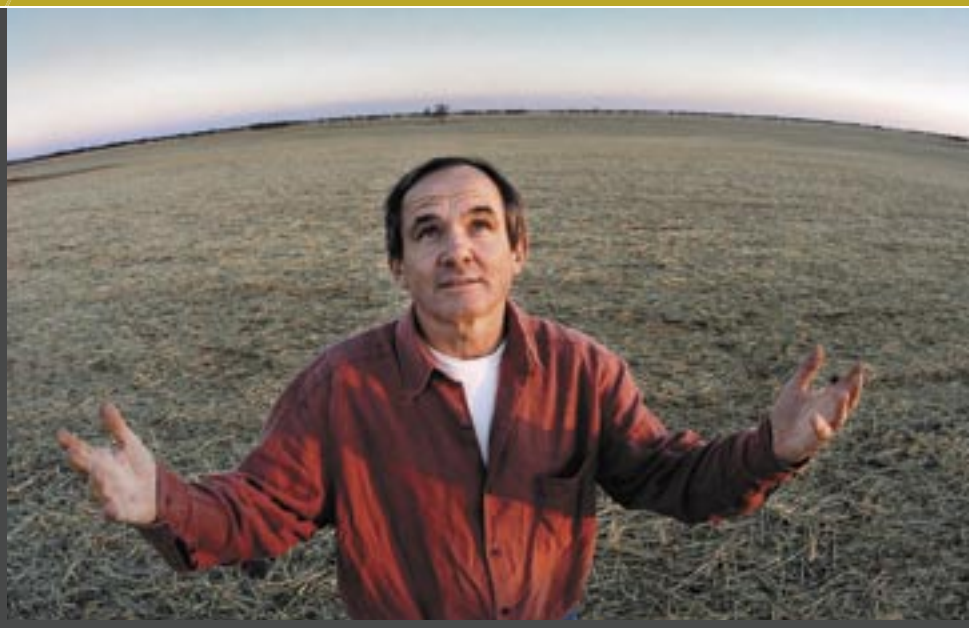

Bring it on...farmers such as Ian McClelland (pictured) from Victoria's Wimmera region are increasingly integrating climate risk management tools into farm business decisions thanks to practical research now underway through the Managing Climate Variability R&D Program (see full story page 3).

New eye on the sky — welcome to the Managing Climate Variability R&D Program

Australian primary producers and natural resource managers will shortly have a suite of practical new tools to better manage the impact of climate variability on their business operations — and help take the guesswork out of climate-based decision-making.

Managing Climate Variability R&D Program Chair, Dale Baker.

A total of 15 new research projects have now been approved as part of the new *Managing Climate Variability R&D Program*. The program was recently launched as the successor to the *Climate Variability in Agriculture R&D Program*, which concluded in 2003.

The new program is supported by Land & Water Australia, Grains Research and Development Corporation, Meat & Livestock Australia, Natural Heritage Trust, Australian Government Department of Agriculture, Forestry and Fisheries, the Rural Industries Research and Development Corporation, Sugar Research and Development Corporation and Dairy Australia. Associate supporters include the wool industry's Land, Water & Wool initiative and the National Farmers' Federation.

According to the Chair of the Program, Dale Baker, the new initiative brings together the combined resources of government, industry and the private sector for the next three years. This will ensure climate variability will be much better understood by the industries that suffer the greatest impact.

"The Managing Climate Variability initiative will take both a national and a local approach to broader scale seasonal climate forecasts, aiming to improve adoption within regions and across industry," Mr Baker, a Western Australian wheat farmer, said.

"The practicality and depth of projects funded under the new program provides an indication into the diversity and range of stakeholders with a keen interest in improving their understanding of climate.

"Priority research areas focus on the important elements of managing risk, improving seasonal forecasts, adapting and road-testing new and existing climate management tools for new applications as well as a strong focus on increasing the useability and relevance of risk management tools for regional stakeholders such as Catchment Management Authorities and farm production groups."

Mr Baker said the program should assist land managers to maximise returns in good years, and reduce risk in drought and low rainfall years. It should also help to provide tools for water resource managers — both rural and metropolitan — to better plan operations.

A summary of new projects funded can be found on page 2.

www.managingclimate.gov.au

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MANAGING CLIMATE VARIABILITY
R & D PROGRAM

New Projects — Managing Climate Variability R&D Program

Cropping farmers managing climate risk
Principal investigator: Harm van Rees, Birchip Cropping Group
This project aims to extend the success of the 'Yield Prophet' climate risk management information tool to farmers around Australia.

Horses for courses: using the best tools for managing climate risk
Principal investigator: Cameron Weeks, Mingenew Irwin Group
This project will work with farmers in the Mingenew-Irwin district of WA to compare a range of methods or 'tools' for making tactical management responses to the unfolding season.

National WhopperCropper — delivering risk management to agricultural advisors
Principal investigator: Howard Cox, QDPI (APSRU)
WhopperCropper is a tool used by agricultural advisors which generates risk information on yield and economic outcomes for desired crop scenarios. This project will enhance resource management aspects of *WhopperCropper* and extending its application nationally.

Oceans to Grains: a new approach to targeted seasonal forecasts
Principal investigator: Peter McIntosh, CSIRO
'*Oceans to Grains*' aims to increase the economic and environmental value of seasonal climate forecasts targeted for the grains industry in south-eastern Australia.

Climate science for better NRM in Western NSW
Principal investigator: Ron Hacker, NSW Agriculture
This project aims to develop a capacity to estimate and forecast total ground cover, including dynamic and static components, at regional and property scales for Catchment Management Authorities (CMAs), Rural Lands Protection Boards and landholders.

Increasing success of tree establishment by using seasonal climate forecasts
Principal investigator: Deborah O'Connell, CSIRO
This projects aims to obtain robust trial data on tree establishment in relation to interactions between site conditions, climate and management, and extend a scoping project exploring climate forecasting for tree establishment in south-eastern Queensland to other States.

Masters of climate revisited — innovative farmers coming through drought
Principal investigator: Jessie Blackadder, Blackadder Communications
This project revisits the 25 farmers in four States that were originally case studies in the *Masters of Climate* project in 1999. The project will investigate how their climate management methods worked over the intervening four years — including during the drought.

Farmer applying seasonal climate forecasting for profitable sustainable resource use
Principal investigator: Kevin Parton, University of Sydney (Orange)
This project aims to provide a comprehensive assessment of the value of improved Seasonal Climate Forecasts (SCFs) by developing a more robust economic framework, drawing on advances in SCF accuracy and economic approaches to evaluating risky decisions.

Enhanced forecasting of farm financial performance
Principal investigator: Phil Kokic, ABARE
Australia is at the forefront of international research integrating seasonal climate forecasting with crop and pasture models to assist farmers manage climate variability. The aim of this project is to illustrate the main features and likely benefits of several alternative development scenarios of systems linking seasonal climate forecasts with financial, crop and pasture models.

Managing natural resource issues in a trending but variable climate
Principal investigator: Mark Howden, CSIRO
This project aims to expand the use of information on climate variability and seasonal climate forecasts to improve risks in managing natural resources rather than solely production, and to deal with catchment-based issues rather than solely enterprise-based ones.

Assessing and developing targeted climate forecasts for the sugar industry
Principal investigator: Yvette Everingham, James Cook University
Owing to the increasing operational use of climate forecasting in the sugar industry, the purpose of this research project is to identify the best climate forecasting systems to improve short-term (climate variability) and long-term (decadal variability) risk management and planning.

The production, verification and distribution of synthetic evaporation (SVAP) and evapotranspiration (ETo) data for Australia
Principal investigator: Alan Beswick, QDNRM
There is currently no reliable, readily-available or long-term Australian time-series of evapotranspiration data — a critical component of many agricultural, hydrological and climate models. This project will deliver potential evapotranspirational (PET) spatial time-series data. Gridded data covering the whole of Australia at 5km resolution will be generated for every day, back to about 1910.

Innovative weather and climate risk management using derivative trading
Principal investigator: Peter Best, Katestone Environmental
This project will review the use of weather derivatives in agriculture; recommend potential farmer evaluation of SOI-based financial products; evaluate products from past and simulated patterns of weather and crop yields; identify issues for market liquidity and development; and summarise the potential for reducing farm income variability.

Increasing the adoption and accuracy of Aussie Grass in the NT
Principal investigator: Robyn Cowley, NT DBIRD
This project aims to improve the understanding of *Aussie Grass* in the Northern Territory by demonstrating its value to the pastoral industry, land administrators and to the NT Government.

Seasonal climate forecasts to improve dairy farmers feedbase management
Principal investigator: Katrina Slack, NSW Agriculture
This project investigates the usefulness of seasonal climate forecasting to improve the decision-making capacity of farmers in the sub-tropical dairy region, who since deregulation are now facing unfamiliar territory and increased risk in managing the feedbase to supply milk year-round to processors.

www.managingclimate.gov.au

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Monthly report helping farmers make 'prophetable' decisions

Members of the Birchip Cropping Group in Victoria's Wimmera and Mallee regions are already making better risk management decisions on their farms thanks to 'Yield Prophet', a monthly report of Agricultural Production System Simulator (APSIM) wheat yield forecasts.

Yield Prophet uses APSIM — a risk management decision-support tool, which models crop performance under different climatic and management decisions — to simulate crop growth during the season. Primarily focusing on inputs such as nitrogen fertiliser, crop and variety selection and the timing of farming operations, Yield Prophet also considers stored soil water and in-crop rainfall, seasonal conditions and forecasts (based largely on the Southern Oscillation Index), yield and protein, gross returns and margins.

A new research project which aims to extend the adoption of Yield Prophet to farmers around Australia is one of 15 new, practical projects now underway as part of the new *Managing Climate Variability R&D Program*.

Birchip Cropping Group member, Ian McClelland, says Yield Prophet is helping farmers to build climate risk and variability into their day-to-day farm management systems and make more informed decisions when it comes to cropping management.

"In the past, many of us have made plans for our farms based on a combination of previous experience and hunches. Now, with Yield Prophet, I feel I have a more reliable, comprehensive information source to help with my key decision-making," Mr McClelland said.

"During the 2002 drought, Yield Prophet predicted extremely low yields for wheat crops. Ever an optimist, the July 2002 report cautioned me to be more conservative so I cut back on all inputs and did things as cheaply as I could — we didn't top dress any nitrogen fertiliser that year.

"As a result, we saved a significant amount of money in a year when those extremely low yields, predicted by Yield Prophet, eventuated."

Yield Prophet was launched three years ago with APSIM simulations developed for two sites. In 2003, the simulations were extended to 29 paddocks and reports distributed to the Mingenew-Irwin and Liebe farmer groups in Western Australia. This year, in response to demand for similar information from farmer groups in NSW, WA, SA and Victoria, APSIM simulations will be completed for 100 paddocks around Australia.

CONTACT: Harm van Rees, Project Manager, E-mail: harm@cropfacts.com.au

Value of forecasting proven in National Heritage Trust projects

The Managing Climate Variability R&D Program owes much to the 12 projects funded by the Natural Heritage Trust (NHT) as part of the previous Climate Variability in Agriculture R&D Program (CVAP).

Program Coordinator, Dr Barry White, said the new *Managing Climate Variability R&D Program* would build on these short-term scoping projects, which resulted from an NHT contribution in 2002.

"The NHT-funded projects illustrated just how important it was to show the value of forecasts to farmers and natural resource managers in particular regions and industries," Dr White said.

"The funding meant we were able to pioneer some new approaches and expand our research beyond grazing and cropping to water resources and natural resource management. We were also able to test the capacity of tools, developed as part of the previous phase, in new areas."

Specific outputs of the NHT-funded projects included:

- Improved methods for monitoring drought, and predicting farm performance at the national scale;
- Demonstrations and case studies showing how seasonal climate forecasts could be used in managing water resources, tree establishment and cropping patterns in southern Australia;
- Analyses demonstrating how the extent of climate change in the last few decades is impacting on management of cropping and grazing; and
- The new version of *RAINMAN* promoted by the national distribution of 3000 trial copies of a CD giving users access for one year.

More information and final reports of all projects can be accessed from the Managing Climate Variability R&D Program website.

Click here for clever climate management

A new on-line, central contact point for climate variability and climate risk management has been launched as part of the new Managing Climate Variability R&D Program.

The new website — www.managingclimate.gov.au — is the centrepiece information resource supporting the program, which aims to present the program activities and research outcomes in a way that users will gain the most benefit. The website is also fully integrated with *Climag*, providing more detailed information and contact points from stories appearing in this publication.

Program Communication Coordinator, Tim Lester, indicated the first priority of the new resource would be to ensure fast access to the portfolio of new *Managing Climate Variability R&D Program* research projects.

"Users of the website will eventually be able to download the latest climate variability decision-support tools, which are rapidly becoming essential business and risk management tools for agriculture in Australia," he said.

The new website coincides with the launch of a fresh, new 'look and feel' for the program, reflecting the energy and life that the program — and our climate — both share.

"The new *Managing Climate Variability R&D Program* is not talking about 'high tech' research with little on-ground relevance," he said. "It is accessible, relevant research and development that impacts anybody in Australia who is trying to manage their business or natural resources," Mr Lester said.

CONTACT: Tim Lester, Communication Coordinator, Managing Climate Variability R&D Program, E-mail: tim.lester@lwa.gov.au

STOP PRESS ...

Climate CRC progresses through first round

The First Round bid for the Cooperative Research Centre (CRC) for Climate Risk Technologies was successful. A full business plan is now required to be submitted by July 2004. The *Managing Climate Variability R&D Program* decided at it is March 2004 meeting to become a partner in the CRC. The decision recognised that a CRC with a strong user input would be very effective in meeting the increasing need for improved climate risk management, and in maintaining continuity in the research effort.

www.crcclimaterisk.org.au

Climate variability now a National Research Priority

The Federal Minister for Education, Science and Training, the Hon Dr Brendan Nelson MP, recently announced editorial enhancements to the original National Research Priorities framework and the addition of new goals including the following areas:

- Responding to climate change and variability
- Increasing our understanding of the impact of climate change and variability at the regional level across Australia, and addressing the consequences of these factors on the environment and on communities.

http://dest.gov.au/priorities/s_s_humanties.htm

Climag calendar

Climate and Water Forum
16 June 2004, Toowoomba, Queensland

The *Managing Climate Variability R&D Program* will be represented at the Condamine Catchment Management Association's *Climate & Water Forum*. Mark Howden (CSIRO) will lead a workshop on 'Climate and Catchment Sustainability'. Mark is about to start a new *Managing Climate Variability R&D Program* project in the Condamine catchment. Program coordinator, Dr Barry White, will also discuss national directions for climate risk management research and the increasing priority to expand the Program to include natural resources management issues.

www.condaminecatchment.com.au

16th Australia New Zealand Climate Forum (ANZCF2004)
8–10 November 2004, Lorne, Victoria

ANZCF2004 brings together climate science researchers with users of strategic climate information. Recent droughts have focused attention on the importance of water. ANZCF 2004 sessions will include:

- Seasonal prediction of climate, particularly rainfall
- Impacts of climate change and variability on water
- Observations and lessons from southern Australia
- Applications of climate information for water management
- Oceans — the hidden climate signal

www.bom.gov.au/events/anzcf2004/index.html

Keep up to date with climate events and conferences.

www.managingclimate.gov.au

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Further information about the program can be found at the website www.managingclimate.gov.au

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Australian Government Department of Agriculture, Fisheries and Forestry
Land & Water Australia
Rural and Industries Research and Development Corporation
Sugar Research and Development Corporation

LandWater&Wool

The voice of Australian farmers for 25 years
National Farmers' Federation

DAIRY AUSTRALIA

GRDC Grains Research & Development Corporation

MEAT & LIVESTOCK AUSTRALIA

ZOO 17212

Managing Climate Variability R&D Program

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