

Climatology in Agriculture - DPI *Climate Risk Management* Project

Climate Change & Agriculture -
Impacts & Adaptation in the Namoi
Catchment - March 21-22 2007

Gary Allan
Project Leader
DPI Orange



NSW Greenhouse Plan



NSW Greenhouse Plan

www.greenhouseinfo.nsw.gov.au

- Released 29 November 2005
- *"A strategic response to combating climate change in NSW"*
- 3 sections:
 1. Awareness raising
 2. Adaptation to climate change impacts
 3. Reducing greenhouse gas emissions

2. Adapting to Climate Change

“Adaptation to the impacts of further inevitable climate change will be necessary”

- Agriculture must adapt to these impacts, even if greenhouse emissions are significantly reduced in the medium to long term (legacy of history)
- Effective adaptation requires an improved understanding of:
 - regional → catchment → sub-catchment/local impacts
 - sensitivity, vulnerability and “coping range” of each industry, within regions

Adaptation - 7 major actions:

- *Improve our understanding of impacts*
 - (2.1) Research program (fire, water, weeds, pests, bio.)
 - (2.2) Incorporate climate change into current environmental monitoring systems
- *Initiate adaptation processes*
 - (2.3) Capacity building (Govt., industry, business, NGOs)
 - (2.4) *Climatology in Agriculture (DPI project)*
 - (2.5) Tools/guidelines for l.u.p. and development
 - (2.6) Research coastal impacts/adaptation program
 - (2.7) NSW Implementation Plan - *National Biodiversity and Climate Change Action Plan 2004-2007*

2.4 Climatology in Agriculture

(DPI *Climate Risk Management* project)

- *“Strengthen the climatology in agriculture program and develop tools and guidelines for use by farmers and Catchment Management Authorities (CMAs)”*
- DPI Climatology team will work through existing networks to improve our understanding of climate change impacts on agriculture, and support development of effective adaptation strategies:
 - DPI extension network/management
 - CMA staff/management
 - Private sector (farming groups, primary industry bodies, Ag advisors and service industries)

Climate Risk Management project

- DPI is contracted by the Cabinet Office to deliver Action 2.4 of the NSW Greenhouse Plan
- 3 year project, 3 core staff, covers whole of NSW
- Will strengthen linkages and coordination on climate change, variability and risk management:
 - within DPI , across programs/divisions
 - with collaborative partners, including:
 - All NSW CMAs, NRM agencies (state/regional/local)
 - Primary industries agencies in Qld, Vic and SA
 - CSIRO, BoM, MCV, DAFF, BRS, AGO (national)

"Climate Change Risk and Vulnerability"

"Promoting an efficient adaptation response in Australia" - report to the AGO by the Allen Consulting Group (2005)

Considers the sensitivity and exposure of all sectors, regional studies, adaptive capacity and priorities:

Exposure + Sensitivity → Potential Impact + Adaptive Capacity



Vulnerability

Found those agri-business units most at risk are:

- those already stressed (economically/biophysically)
- those at the edge of their climate tolerance
- those involving large, long-lived investments

(Climate) Risk Management

- Project will test and evaluate climate risk management frameworks, including ANZS 4360: 2004 - Risk Management, adapted for agriculture by DAFF/BRS.....
- Five Stage process which involves:
 1. Establishing the criteria for identifying and assessing risks
 2. Identifying the risks
 3. Analysing the risks
 4. Evaluating the risks
 5. Treating the risks
- Other approaches will also be used/evaluated

Priority activities – Year 1

- 10 Regional Climate Forums over next 12 months
 - Will focus on the major regional industries and issues in a strategic way, incorporating local input
 - Balanced programs include expertise in different fields (policy/planning, science, finance/insurance etc.) together with regional industry/practitioner perspectives
 - Forums held in the Hunter (November 2006), Namoi, Lower Murray-Darling (March 2007)
 - Dubbo, Nowra, Bega (June 2007) – others tbc
- PROfarm training workshops – *“The Farmers Guide to Managing Climate Risk”*, targeting:
 - DPI /CMA technical/advisory staff
 - Industry/Farmer groups and individual producers

Priority activities – Year 1

- Industry focus groups to identify critical issues, priorities and needs for development of effective adaptation strategies, including parameters
- Identify the most relevant research for different industries and incorporate this into information and tools developed by the project:
 - DPI research projects, relevant research in other states/institutions
 - Major research programs (SEACI , MCV etc)
- Development of a simple “ready reckoner”
- Regional (major field days), local events and any other opportunities identified

“Creating Our Future – agriculture and food policy for the next generation”

Report of Agriculture & Food Policy Reference Group [Corish Report] 2006 recommended that:

Given that climate change may have significant implications for the agriculture & food sector, industry & government must work in a coordinated way to support increased research into:

- CC impacts on agriculture/food sector, including social and economic impacts
- Strengthening adaptive capacity...including farm & regional level decision-support tools and training
- Better understanding of whole of farm emissions profiles and potential emission reductions

DPI Climate Risk Team

Gary Allan – Orange (OAI) – 6391 3902

gary.allan@dpi.nsw.gov.au

Paul Carberry – Tamworth (TAI) – 6763 1132

paul.carberry@dpi.nsw.gov.au

Michael Cashen – Paterson (Tocal) – 4939 8953

michael.cashen@dpi.nsw.gov.au