

CLIMATE CHANGE AND AGRICULTURE - IRRIGATION

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NSW DEPARTMENT OF **PRIMARY INDUSTRIES**

INTRODUCTION

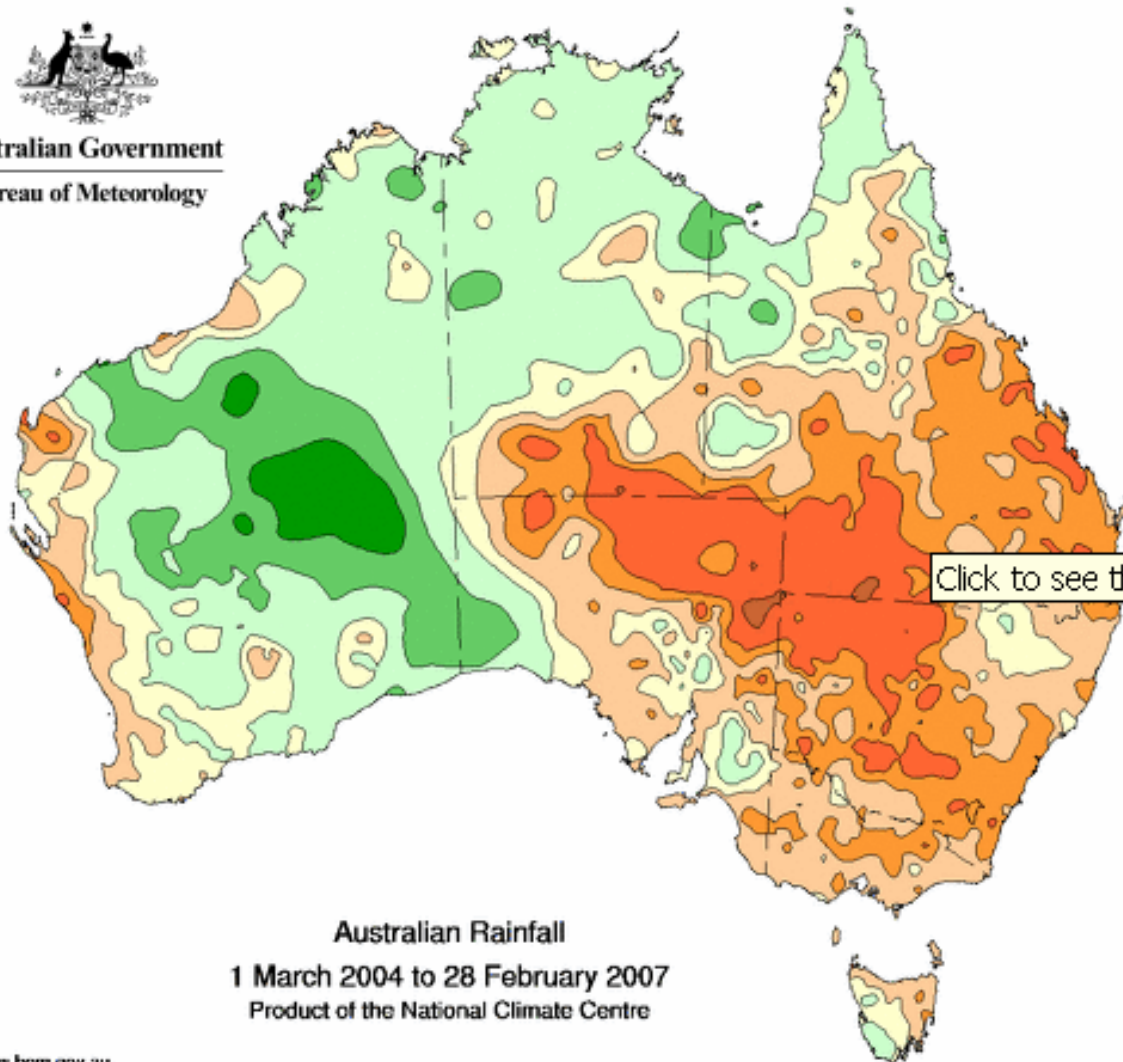
1. Irrigation management on-farm
2. Water supply and allocations

1. IRRIGATION MANAGEMENT ON-FARM

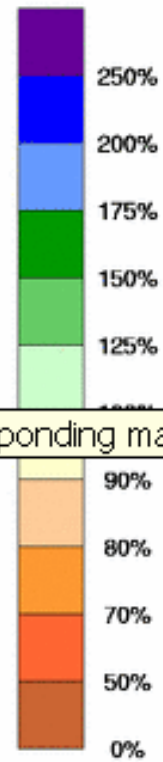
- Temperature increases
- Decreased rainfall
- Increased irrigation demand



Australian Government
Bureau of Meteorology



Percentage of Mean



Click to see the corresponding map for Q

Australian Rainfall
1 March 2004 to 28 February 2007
Product of the National Climate Centre

IRRIGATION MANAGEMENT ON-FARM

- Increased evapotranspiration (Eto) and crop coefficients?
- Possibly reach the end of an irrigation systems 'design life'
- Greater need to adopt water use efficiency measures
- Manufacturers developing more efficient products

INCREASE IN CANOPY GROWTH?

- Increased CO₂ levels will increase productivity
- Increased temperatures and lower rainfall will decrease growth
- End result will be due to these interactions

IRRIGATION MANAGEMENT ON-FARM

- Greater frequency of heatwave conditions
- Longer heatwave durations

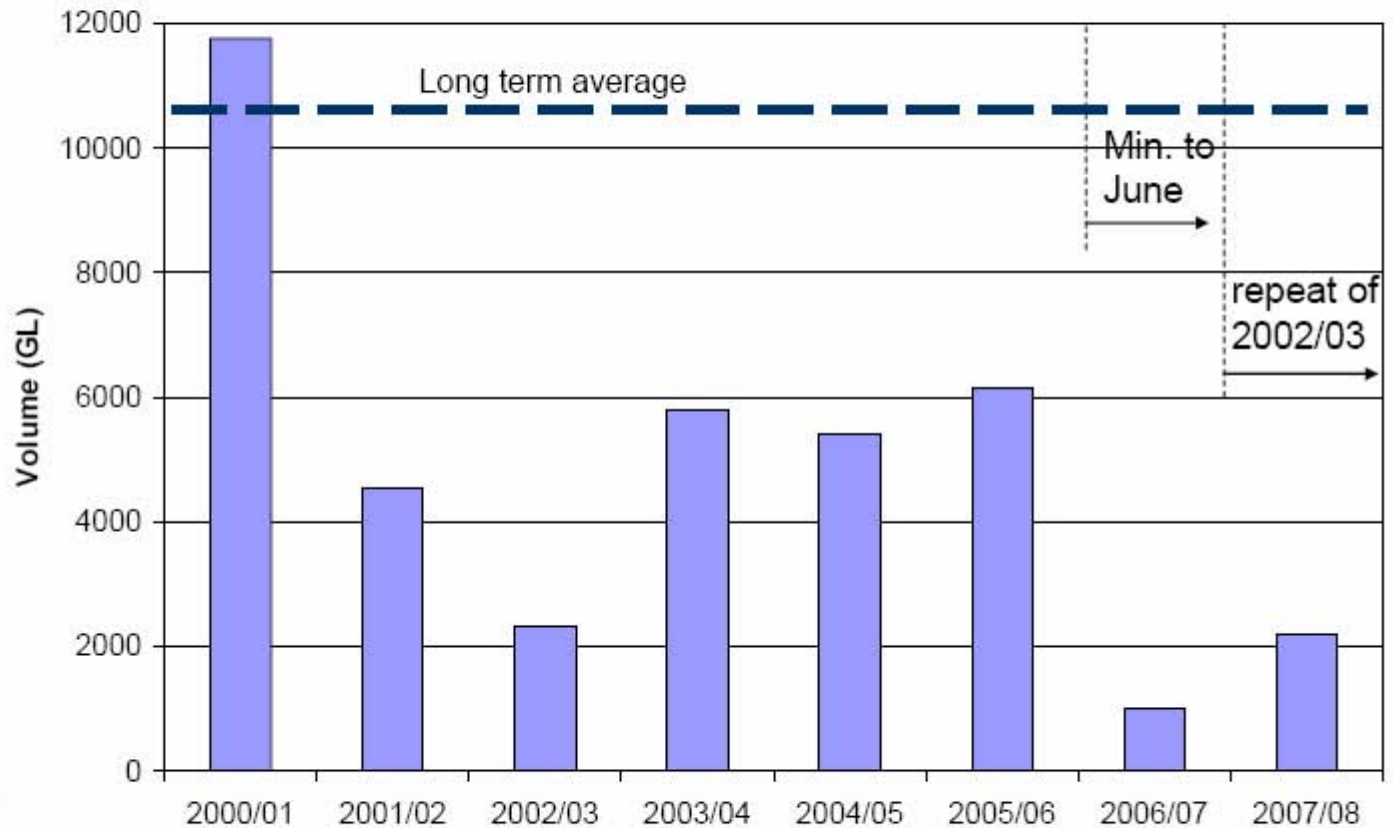
DUEL SYSTEMS - COOLING



2. WATER SUPPLY & ALLOCATIONS

- Decreased rainfall and runoff
- Change in growth rate, species selection and frequency of fire
- MDB river flow expected to decrease by 16-48% as temperatures increase 3-4°C

River Murray Inflows Outlook in extreme dry



Inflows to the River Murray

Long Term Average and Selected Years

Inflows to the River Murray
Selected Years -v- Long Term Average
Modelled Current Conditions to June 2000, Actual Data from July 2000

