MetAccess is a computer tool developed by CSIRO for rapid analysis of historical weather data. The program gives users simple and flexible ways to quantify weather variability and assess the likelihood of weather events. Long term daily meteorological data can be summarised in tables or graphs, to help the user assess and better manage the impact of weather in business, research and everyday life.

Met*Access*®

– coming to grips with variable weather

MetAccess does not predict the weather but enables users to evaluate historical weather data to make more informed decisions.

Who should use MetAccess?

MetAccess is a computer software package that is an essential tool for decision making whenever the weather affects activities:

Grazing and Cropping

- understand local weather patterns to select suitable pasture and crop varieties
- estimate potential crop and pasture yields when evaluating a new farm
- assess the likelihood of bad weather at critical times for stock or farm operations

Horticulture

- calculate the likelihood of frost that may cause critical crop damage
- assess the chance of high humidity that may expose crops to disease

Forestry

- determine the frequency of specified amounts of rain that may affect operations at plantation sites

Fishing

- assess the likelihood of heavy rainfall in coastal river catchment areas at specified times of the year

Mining

- estimate the likely length of dry periods and risk of heavy rains causing flooding for particular periods in open-cut mines.

Manufacturing

- analyse variations in weather conditions that may influence the supply of raw commodities

Transport, Communication and Public Utilities

- plan for major works where these may be seriously delayed by adverse weather

Finance

- lenders and investors can examine the feasibility of customers' proposals for farm production where these are influenced by weather variability

Knowing the Odds...of Rain or Drought, Frost or Heatwave

Whenever weather affects planning...sport, personal, research, education or business, MetAccess can easily and cheaply analyse the odds of specific weather conditions.

MetAccess gives users simple and flexible ways to display data for either daily, monthly or yearly averages, or total observations, in five different treatments:

- Historical
- Long Term Average
- Average – of specified period
- Data For – a specified period within years
- Sorted Data For – a specified period within years

Records can be displayed and analysed in 10 different ways - as raw (unadjusted) data or summarised as:

- Consecutive Means, Totals or Medians
- Running Means, Totals or Medians
- Summation
- Summed Deviations
- Summed Normal Deviations

Insurance

- assess risks using the probability functions in MetAccess

Tourism

- evaluate weather conditions during the peak season

There's more to the weather than rain

MetAccess can analyse weather records for up to 18 elements. These elements fall into three broad categories:

- Rain, Evaporation and Relative Humidity
- Temperature, Wind, Radiation and Sunshine
- Events: Thunderstorm, Hail, Snow, Frost, Fog, Dust, Haze, Strong Wind and Gale

Harnessing weather records

MetAccess contains powerful search functions, so that you can easily locate and sort all the records in a district for a chosen weather element.

The user can also search for

- a locality name
- an official weather station number
- proximity to a locality
- a specified number of years recorded for a chosen element

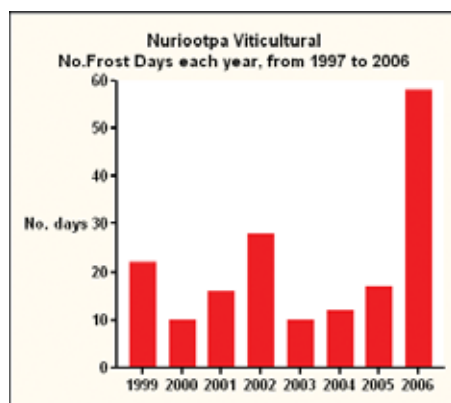## Getting the hard facts on the season

Wine grape production in South Australia during 2006-07 was reduced by 43% due to low rainfall, reduced allocations of irrigation water and frost damage (Australian Bureau of Agricultural and Resource Economics).

MetAccess can be used to examine the frequency and severity of critical weather events such as frosts at a specific location.
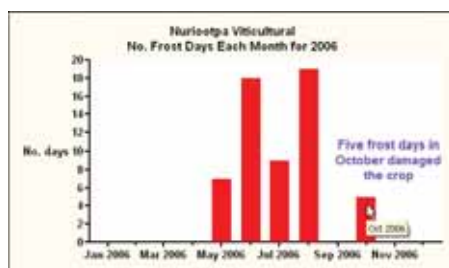
First a search is made for weather records within 12km of a chosen locality in the Barossa Valley of South Australia.

Records from around Nuriootpa show that 58 days with frost occurred in 2006 ...the second highest for any year since 1959.

The 2006 frosts also struck late in the season, with 5 frost days in October … the most for that month on record (along with 1960 and 1970)

What is the risk of a late frost at this location?

Using data from 1952 until the present, MetAccess calculates that the likelihood of at least one day with frost after 1 October is 44% but the chance of getting 5 frosts is remote –less than 4%.

MetAccess enables scrutiny of the past season by all wine industry players; grape growers, wine makers, investors, insurers and economists.

Probabilities

MetAccess also has powerful facilities to calculate the probability of specified weather patterns, or occurrence of events, in any locality for which weather records are available.

What is the chance of receiving enough rain to sow a winter wheat crop on the south-west slopes of NSW?
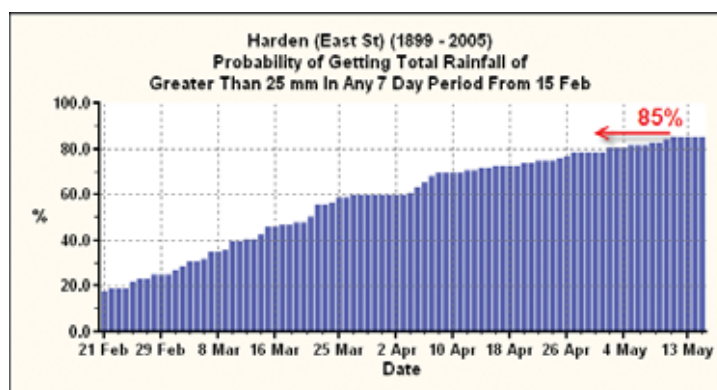
Using 106 years of records from Harden, MetAccess shows that there is an 85% chance of receiving 25mm rain over 7 days between mid-February and mid-May.

Availability of data

Daily weather data are supplied by the Australian Bureau of Meteorology and stored in a special format that is recognised by MetAccess.

Data are available for a single climatological district, as a statewide data base, or the full Australian weather data base comprising some 14,000 weather stations.

Distribution of the weather database is on CD-ROM.

The program also allows users to enter daily weather records collected from anywhere in the world. These records can be keyed in or read from a file of consecutive daily values.

*For information
on pricing and purchase, contact:*

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Website: www.hzn.com.au/metaccess.htm

*For technical information
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