

Section II: The local Predictants

In this particular project emphasis has been put on local surface air temperature a key parameter for impact studies on ecosystem, agriculture and human health. In Australia, it has been proven that climate variability and global changes have a strong impact on ecological and economic fluctuations.

Two areas of interest have been selected according to their importance in term of agricultural production: the South-West Corner (SWC) of Western Australia and the Murray-Darling Basin (MDB). The latter is of particular concern as it appears to be affected by abrupt changes in long term climatologies.

The density of high quality data in the areas of interest is rather good and superior to most other parts of Australia. Most of the 29 and 22 stations used in the MDB and the SWC are part of a subset of high quality record. This set of high quality observations covering the entire continent has been used to assess long term climatic trends over Australia.

Some additional stations have been added to extend the coverage. These extra stations are of high quality for the entire period of interest 1970-1993. Amongst these data, five stations in each domain are of particular interest as temperature is recorded every 3-hours.

The reliability of the data is high, very few missing data are reported. 50% of the stations report less than 1% of missing data, however a few stations report up to 10%. Results indicate no dependence of the statistical model's skill on the percentage of missing data.

