

# Geodetic Control Database project - GIANT Program

**Project Leader:** New Zealand - [Mr John Ritchie](#)

**Collaborators:** Australia (Glenn Johnstone), Russia

**Goal:** Establish a master index for Antarctic positional control, including all levels of accuracy

## Activities:

1. Develop high level metadata index on location of all control (including significant tide gauges) and contact for each site on WG-GGI web site

John Ritchie provided a paper to the WG-GGI Coordinators meeting in Siena (see [www.scar-ggi.org.au/siena/geodetic.pdf](http://www.scar-ggi.org.au/siena/geodetic.pdf)) which outlined 2 courses of action. Some feedback was received from members and the general opinion was that the option containing greater functionality should be pursued.

Due to funding pressures, time constraints and lack of personnel John Ritchie was unable to continue with the project. Glenn Johnstone, Executive Officer, then took up the running of the project, with a great deal of assistance from web developers at Geoscience Australia, National Mapping Division.

The current database utilises the 'Mapserver' software - which is OGC-compliant and is freeware <<http://mapserver.gis.umn.edu/>>.

The coordinates shown are to the nearest 0.01 of a second, equivalent to about 10 centimetres on the ground. A number of stations shown will have coordinates calculated to a higher resolution (millimetres) which can be obtained from the custodian country. There are a few countries that have their own online database and where this happens the Geodetic Control Database provides a hyperlink to the record in that database.

One issue encountered during putting the data together has been the lack of standardised fields of data which has been provided. In the case of the Australian control points there are a number of different (or combinations of different) fields of information shown:

- Positional uncertainty
- Ellipsoidal height
- Ellipsoidal uncertainty
- Height uncertainty
- Height Datum
- Mean sea level height

Other networks have a small number of points and almost no metadata other than a name code and position. A standardised model for the fields of data is required to assist with inputting data into the database.

See Appendix A for screen dump examples of the current database.

2. Develop a template for a distributed detailed data base including
  - Control identification information
  - Tide gauge connection information

Once a standardised model (ie. fields of information about each point) has been approved then a decision needs to be made about whether the database could / should be a distributed model (such as that proposed for the Cybercartographic Atlas).

Information on the connections to tide gauges has yet to be inputted. There is a question about where that information would come from and what exactly needs to be described.

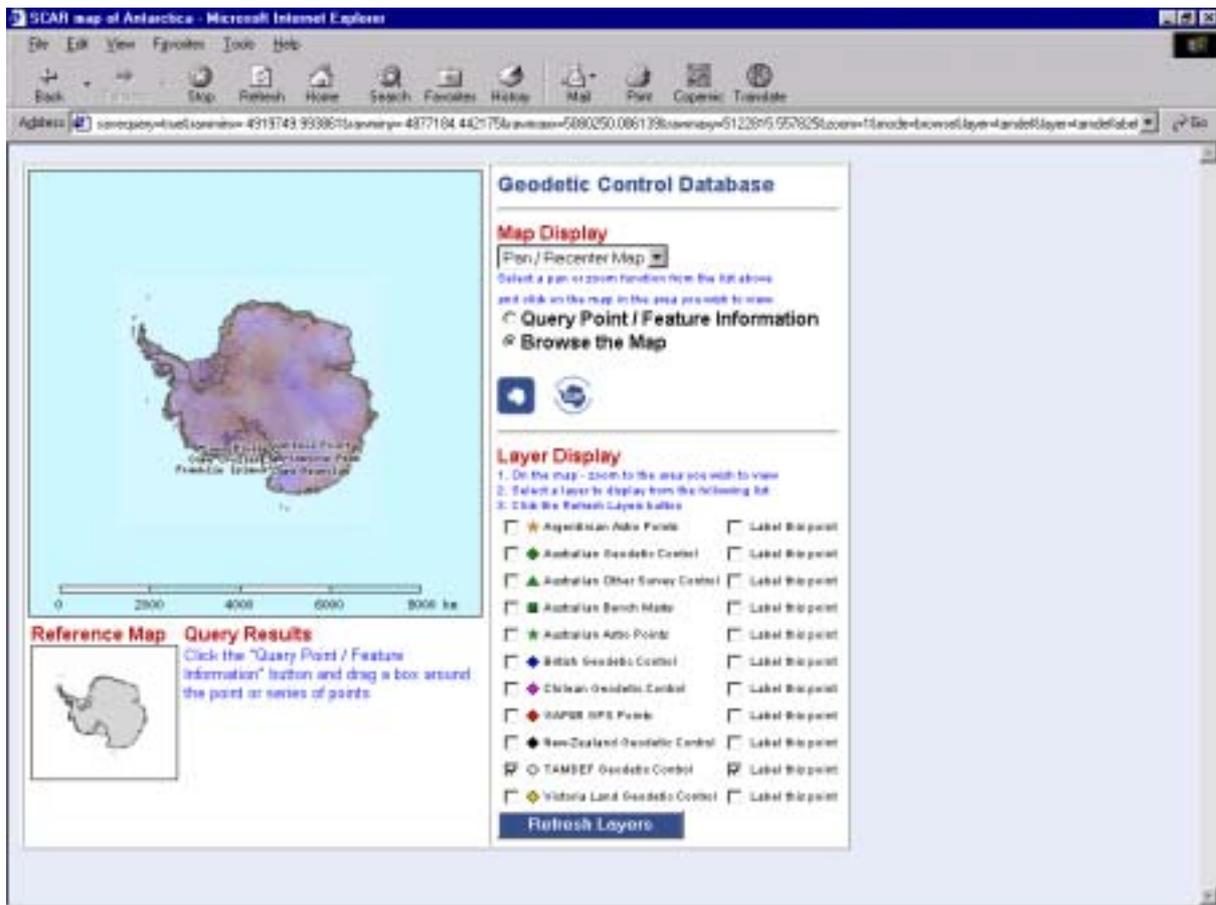


Fig. 1: Opening page from the On-line Geodetic Control Database. Also shows points from the TAMDEF network

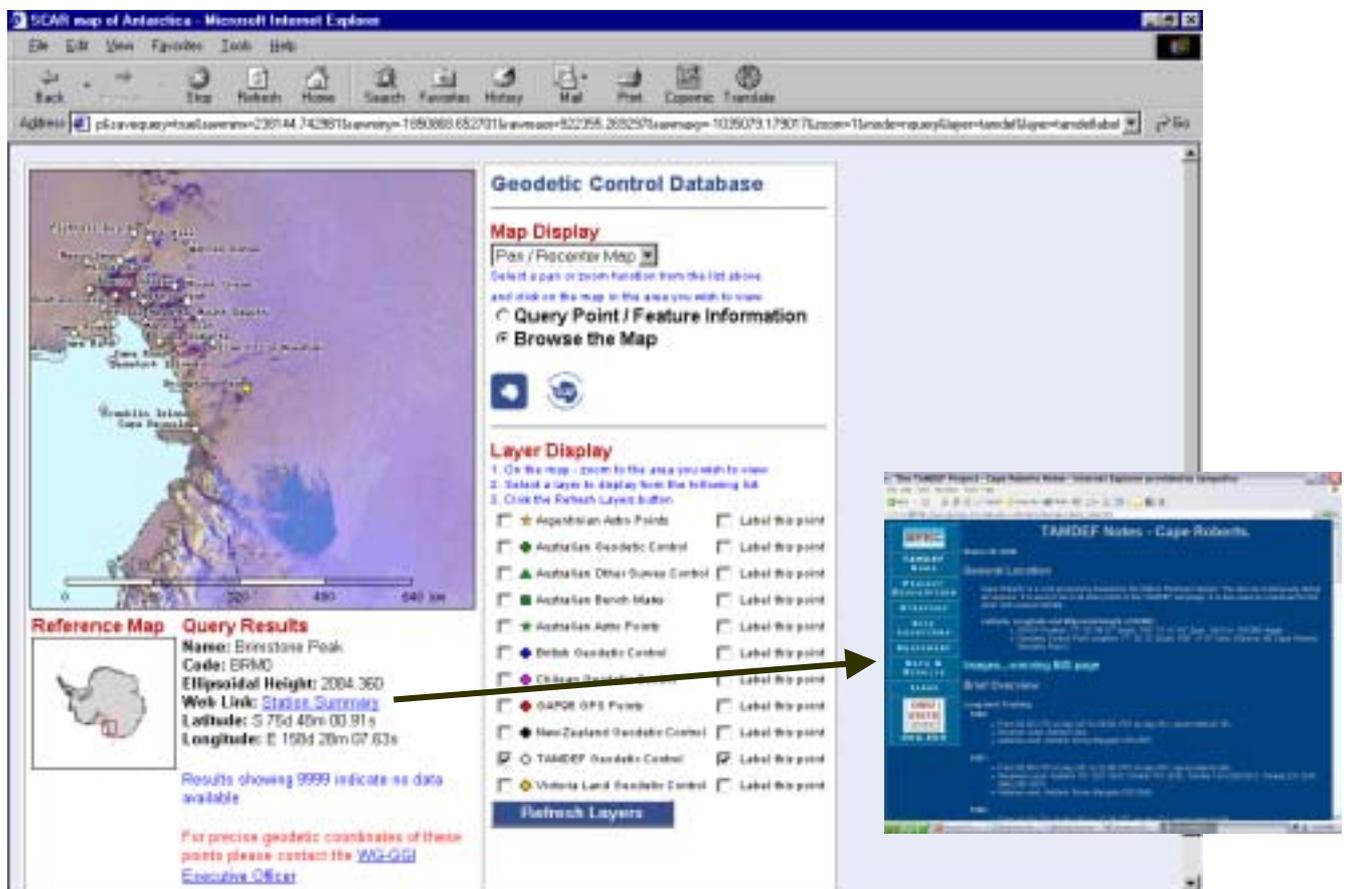


Fig.2: Query results from a point in the TAMDEF network. Note the hyperlink to another station summary

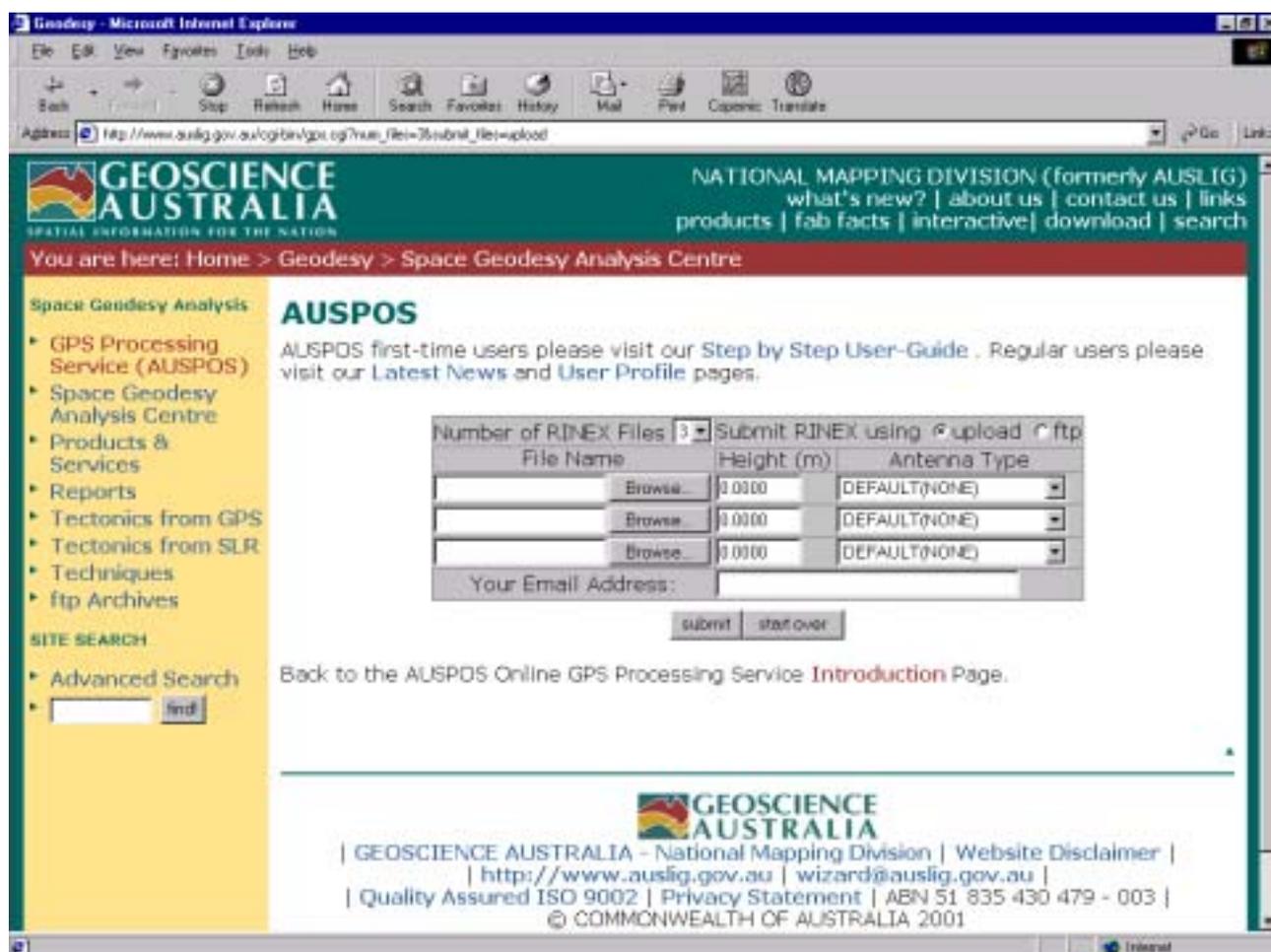


Fig.3: The AUSPOS on-line GPS processing system