Dear GIANT Listserver member

As a result of our discussions at the WG-GGI meetings held in Concepcion, July 1998, Australia has been tasked with providing a newsletter to publicise and distribute results of GIANT activities to the general Antarctic community. This information will also be made available on the WG-GGI web site.

The following information outlines the activities that Italy, Uruguay, Germany, Poland and the UK intend to undertake in the next season. Following these reports is some more general information on upcoming conferences and geodesy activities in Antarctica.

**Planned Activities for 1998-99 from Italy:**

1. Repetition of Italian geodetic network measurements for geodetic control and with geodynamics purposes.
2. GPS permanent station controlling and verification. Collecting data to send to GIANT at the end of summer expedition.
3. Participation to SCAR GPS Epoch 99 campaigns
4. GPS strain net at Domec repetition, for ice surface deformation investigation
5. Talus Dome strain net repetition
6. Kinematic GPS profile and small strain net measurements for deformation control along the terrestrial ITASE traverse from TNB to Dome C
8. Gravity measurements are scheduled along the ITASE, particularly one measurement every 5 km for about 1000 km from TNB to Dome C
   - radio echo sounding is scheduled for all the 1000 km
   - RES profiles are scheduled at Dome C during the movements to join the GPS strain net stations

**Planned Activities for 1998-99 from Uruguay:**

1. GPS Epoch Campaign, Ashtech Z XII receivers are going to be at:
   - Artigas Station (ART1) Latitude 62° 11´04´´S Longitude 58º 54´09´´W
   - Montevideo Station (MON1) - also a SIRGAS Station - Latitude 34º 53´17´´S Longitude 56º15´35´´W

2. Earth tides Monitoring Station and Tide Gauges at Artigas.
   - A Lacoste & Romberg relative gravimeter with a MVR Feedback System has been working since Dec.97. It is going to observe and record earth tides until December 1999.
   - Tide Gauges are being monitoring permanently at the same time.

**Planned Activities for 1998-99 from Germany:**

1. Duration
   Start: January 20, 1999, 00:00 UTC
   End : February 10, 1999, 24:00 UTC
2. Observation
Data sampling interval: 15 seconds recommended
Minimum elevation angle: 5 degrees recommended

3. Instrumentation
Dual frequency geodetic GPS receivers without squaring techniques recommended.

In parallel we will send out by mail the Circular Letter No. 8 with detailed instructions and the documentation sheets as part of the Epoch campaigns project.

Planned Activities for 1998-99 from Poland

1. Polish expedition to Arctowski Station will leave Poland at the beginning of November. The leader of the expedition is Mr. Z. Battke, comprising two other geodesists.

2. The group will be equipped with three Ashtech Z-12 receivers. We are planning to put one receiver on the pillar (already measured with DOPPLER and astronomical method) as soon as the expedition reaches the Station - about 10th of December. The receiver will be operational until the beginning of March 1999.

3. During this time we will have two additional Ashtech Z-12 receivers and we want to establish a local network for GIS as well as to measure some additional points of coastline, glaciers and bathymetry. We are planning to connect other stations on KGI with GPS. I hope we can exchange the collected data.

Planned Activities for 1998-99 from the UK:

1. HMS Endurance has purchased 6 Ashtech Z12 GPS units plus 3 Choke Ring Antennae for use on epoch sites. Monumentation methods are to be investigated. A UKHO geodesy rep will be onboard for January 1999.

2. The GPS units will be deployed this forthcoming season at the following places and approximate times. This is primarily for hydrographic and topographic control, although some points may be occupied for 24 hours or longer.

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Falkland Islands</td>
<td>December 1998</td>
<td>Temporary tide gauge.</td>
</tr>
<tr>
<td>South Georgia</td>
<td>December 1998</td>
<td>Temporary tide gauges.</td>
</tr>
<tr>
<td>Neumayer Channel</td>
<td>January 1999</td>
<td>Temporary tide gauge.</td>
</tr>
<tr>
<td>Antarctic Peninsula</td>
<td>Jan/Feb 1999</td>
<td></td>
</tr>
<tr>
<td>Antarctic Sound</td>
<td>February 1999</td>
<td></td>
</tr>
</tbody>
</table>

3. During January 1999, there will be a concentrated effort on establishing geodetic control points throughout the peninsula subject to logistics. This will be in support of mapping UK designated Sites of Special Scientific Interest by aerial photography.

4. Magnetic observations will also take place at a number of sites throughout the South Atlantic and Antarctic.

General News Items
In addition to the above activities I understand that

- Japan is continuing with VLBI experiments and hopes to be able to undertake the first intra-Antarctic baseline with observations from O'Higgins in early February 1999;
- China plans to install a permanent GPS receiver at Zhongshan;
- Gough Island and Sanae GPS are now registered as IGS sites;
- France will upgrade Dumont Durville to be able to bring GPS data out by satellite in early 1999;
- USA will carry out field activities on it's TAMDEF geodetic deformation survey at McMurdo and will work jointly with NZ to strengthen the regional geodetic survey;
- Australia plans to strengthen its terrestrial geodetic network in the region of the Amery Ice Shelf with precise GPS observations.

**ANTEC and EUG - European Union of Geosciences:**

Dr Terry Wilson has been appointed by SCAR as the convenor for ANTEC.

The following is a summary of the ANTEC-related symposium session to be held at EUG 10 in Strasbourg, France from 28 March to 1 April 1999

Neotectonic Deformation of the Antarctic Plate

Convenors: Ian Dalziel, Reinhard Dietrich, Terry Wilson

Antarctica is characterized by active crustal deformation and volcanism. The continent is also undergoing glacial loading and unloading. This association is unique. Moreover, Antarctica has virtually no recorded seismicity, and the Antarctic plate has apparently remained almost stationary for the last ~100 m.y. Of special interest globally is understanding the coupling of tectonics, erosion, and climate. A new international and interdisciplinary research effort on these problems has recently been endorsed by the Scientific Committee on Antarctic Research. The symposium offers an opportunity to assess the state of knowledge of Antarctic neotectonics at the start of this program, and at a critical juncture when the very first results of applications of new technology such as the Global Positioning System are becoming available.

More information from - http://eopg.ustrasbg.fr/EUG/Meeting.html

**AGU Conference:**

Reinhard Dietrich will chair a session at the December 1998 AGU on Antarctic Geodesy. The conference runs from Dec 6-10 - for more information please visit http://www.agu.org/meetings/fm98top.html

**EGS99 Conference:**

Prof. Marco Unguendoli and Dr. Johannes Ihde, will conduct the session "G5 - Geodetic activities in Antarctica" (described below) at the next XXIV EGS (European Geophysical Society) General Assembly, The Hague, The Netherlands, 19-24 April 1999.

**G5 - Geodetic activities in Antarctica**
The main goal of the symposium is major integration and co-operation among all the geodetic activities carried out by different groups working in Antarctica. The main topics of interest can be summarized as follows:
- organisation of geodetic work (in Antarctica) and possible international co-operations
- crustal dynamics
- sea level monitoring and ice balance investigation linked to climatological changes
- gravity and geoid
- long connection (GPS, VLIB, Doris)
- photogrammetry and cartography and GIS

Following this idea we would like to have some invited papers presented by the responsible of the major project in Antarctica followed by papers related to the above mentioned topics.


AGS99:

Following the success of AGS98 in Santiago, WG-GGI has decided to hold an Antarctic Geodesy Symposium in 1999. Dr Jan Cisak will host a meeting of SCAR and non-SCAR geodesists in Warsaw on 12 and 13 July 1999. Further details will be provided through this newsletter and on the WG-GGI web site.

IUGG:

The IUGG draft program is now available on the web - http://www.bham.ac.uk/IUGG99/sched.htm

Could you please notify me of any activities not included in this first newsletter.

Regards

John Manning
GIANT Convenor
25 November 1998