

Minutes of the I.O.N. Meeting of January 23, 2001

INSTITUTIONAL AND NATIONAL REPORTS (in alphabetical order)

Some reports are detailed in extended abstracts of the proceedings of the joint OHP/ION symposium

AUSTRALIA

(Brian Kennett)

Project in AAD (Australo-Antarctic Discordance)

C.T.B.T.O (Comprehensive Test Ban Treaty Organisation)

(Petr Fírbas)

The Provisional Technical Secretariat (PTS) of the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) will be processing data from a global hydroacoustic system which will be comprised of 11 stations. Six of these stations will be hydrophone based and five will be deployed on-shore to record T-phases (T-phase stations). The hydrophone stations are planned to be composed typically of two triplets of hydrophones. The aperture of each triplet will be around one kilometre. This set-up will help to avoid blockage by island(s) and to help distinguish signals arriving from different azimuths. The first ocean basin to be covered will be the Indian Ocean. The Diego Garcia hydrophone station with two hydrophone triplets is sending data already to the International Centre (IDC) in Vienna, Austria. The hydroacoustic data will be processed at the IDC along with the seismic, infrasonic and radionuclide data from the other CTBT global systems. It is expected that automatic processing of the hydroacoustic data will be close to real time and that the hydroacoustic signals will be processed together with seismic and infrasonic data to produce automatic global seismo-acoustic bulletin. This automatic bulletin will be reviewed by human analysts and the so-called Reviewed Event Bulletin (REB) will be distributed to the States Signatories to the CTBT within two days of the data day.

FRANCE

(Jean-Paul Montagner, Pascal Tarits)

The OFM program (Observatoire Fond de Mer = Ocean Floor Observatory) is trying to coordinate the efforts of the Seismological and the Geomagnetic communities. It is running slowly. The main problem stems from the difficult relationships between academic institutions and IFREMER (French Institute of Geosciences). Ifremer is very reluctant to support a scientific program on a long-term basis except at the European level. The appointment of a new Director Jean-Francois Minster, should improve this situation.

Several initiatives have been taken by academic research groups:

- At the European level, IPG-Paris is participating to the GEOSTAR2 project (see Italian report). IPG will provide a broadband seismometer derived from space technology. This seismometer will be also used in the portable ocean bottom broadband seismic station GEODIS (see Beguery et al., see extended abstract in proceedings).

-European program MOMAR (Monitoring of Mid-Atlantic Ridge) for investigating the Azores plume and its interaction with the Ridge. A European proposal MAGIA (Multiscale Approach of Geohazards Investigation in Azores) coordinated by CGUL (Lisboa, Portugal) has been written but is not yet funded. It might be the Regional scale component of MOMAR.

Another European is under discussion: O.P.P. (Ocean Plume Program). It is involving Germany, France and U.K. and might be coordinated by Jason Phipps Morgan in Germany.

A joint Japanese-French project is under discussion for the installation of NERO (Ninety-East Ridge Observatory) in the Indian Ocean. UBO (Brest) is participating to the electromagnetic part of H2O which should be installed in 2002, in the framework of an American-French cooperative project.

GERMANY

(Rainer Kind)

An effort is ongoing for purchasing OBS networks in the following institutions.

- GEOMAR: short period and broadband OBS O.P.P. (Ocean Plume Program): coordinated by Jason-Phipps Morgan - Alfred Wegener Institute
- University of Hamburg
- GeoForschungsZentrum Potsdam

ITALY

(Giuseppe Smriglio)

GEOSTAR2 is a multidisciplinary project funded by E.C. The Project involves groups in Italy, Germany and France. The experiment is ongoing (Sept. 2000 - Apr. 2001) in the Tyrrhenian Sea (2,000 m w.d.) at south-west of Ustica Island (38° 32'.4 lat. N; 12° 46'.5 long. E). The near real time communication buoy has been deployed in December 2000 (see extended abstract of Smriglio and Favalli in the proceedings).

Regarding GEOSTAR scientific sensors some difficulties have been encountered to integrate the space seismometer (not yet ready) and to operate the Guralp seismometer (glass sphere cracked before deployment). Other modules are operating correctly. During GEOSTAR experiment, 7 OBS and 7 OBH have been deployed in Southern Tyrrhenian Sea in co-operation with Geomar (Tyde Project). These instruments will be recovered in May 2001.

New programs:

- The deployment of a sea bottom observatory, derived from GEOSTAR, is foreseen in the Antarctica (Weddell Sea). The experiment will be done in the Antarctic summer 2001-2002 in collaboration with Alfred Wegener Institute for Polar Science. foreseen in 2002 in the Ionian Sea offshore Catania (2,100 m w.d.). This station should be connected with shore by an electro-optical cable (in collaboration with Italian Nuclear Physics Institute) and should become the first station of a permanent network.
- Other European programs:
- A proposal, co-ordinated by INGV, has been submitted to the last EC Call. The proposal is aimed at the deployment in the Tyrrhenian Sea (Marsili area) of an array of sea bottom observatories, mainly dedicated to the solid Earth science. This array should be composed by a central station and some smaller sea bottom observatories, all derived from GEOSTAR. All nodes should be able to exchange data and commands among them and with central station and shore.

JAPAN

(Hitoshi Mikada, Kiyoshi Suyehiro)

- OHP (see extended abstract of Fukao et al.)
- 2nd cable system installed, offshore Hokkaido
- 5 ocean cable seismic observatories to be developed. + geodetic and geomagnetic sensors.

In the framework of IODP, a new riser is under development.

Priority site: Nankai trough (seismogenic zone) So far, 3 observatories are operating on the ocean floor: WP2, JT1,2

Other extended abstracts in the proceedings detail some of these projects.

United Kingdom

(Adam Schultz)

National Programs:

- B-DEOS (British component of DEOS) (see extended abstract on the B-DEOS plans by Schultz et al. in the proceedings)

U.S.A.

Many programs have been launched

California - Monterey (Debra Stakes and Barbara Romanowicz)

Multidisciplinary Observatory Development in Monterey Bay (see extended abstract of Stakes et al.)

Dynamics of Earth and Ocean Systems: D.E.O.S. (John Orcutt, Bob Detrick)

Creation of a new group on Ocean Observatories.

Proposition of a New Major Research Equipment for Ocean observatories. This program is coordinating different programs at different spatial scales, local, plate scale, global scale.

(see extended abstract of Orcutt and Detrick).

A thorough investigation on mooring was undertaken. (see extended abstract of Detrick et al.)

H2O (Alan Chave, Rhett Butler)

This observatory after some initial problems is now perfectly operating and provide continuous data to IRIS/DMC. There is a proposal for biological and Electromagnetic observatory.

NEPTUNE (John Delaney)

Real-time, long-term Ocean and Earth Studies at the scale of a tectonic Plate.

(see the extended abstract of Delaney et al.)

GOOS (Chris Mooers)

The Global Ocean Observing System (GOOS) has been under development for more than a decade by IOC, WMO, and UNEP, with links to ICSU, GCOS, and GTOS. It aims to integrate in situ and satellite remote sensing observations and will rely heavily upon numerical modeling for the integration. It also aims to integrate ocean physics, chemistry, and biology. The emphasis is on fostering real-time, synoptic *operational oceanography*, analogous to *operational meteorology*, but in an alliance with the research community. The drivers are climate and global change, marine transportation, marine operations, natural hazards in the coastal zone, marine ecosystem management, sustainable fisheries, and so forth. Since GOOS is long-term and deals with the full water column, there may be possibilities for ION to find common grounds with GOOS. There are several regional GOOS activities underway around the world. In the USA, there are revitalized efforts to help develop both global-GOOS and coastal-GOOS.

At the IUGG General Assembly in Birmingham, UK in JUL 99, a resolution endorsing the Integrated Global Earth Monitoring System concept was adopted as an IUGG priority. In concert with the various discipline-based global observing system initiatives in progress, planned, or proposed, IUGG has a role to play in bringing the broad geophysical research community into the dialogue about such systems, to promote their use in scientific research, to advise on their scientific design, to seek synergies and economies between systems, and to use their data to assess the state of the Earth System. Thus, it may be beneficial to affiliate ION more broadly with IUGG than just IASPEI.

Discussion.

- How to coordinate efficiently ION activity with ODP?
- Possibility to move from IASPEI umbrella towards IUGG umbrella
- Improvement of the web site: suggestions and comments are welcome.
- Circulation of information: It should be necessary to open an office similar to the InterRidge Office, financially supported by participating countries. A full time PhD student should be well suited for this task.

•*Modification of the Charter of I.O.N. (see proceedings).*

List of participants at the ION institutional meeting

| Name | Institution | E-mail |
|---------------------|-------------------------------|-----------------------------|
| Barbara ROMANOWICZ | U.C. Berkeley, USA | barbara@seismo.berkeley.edu |
| Chris MOOERS | RSMAS/Univ. Miami, USA | cmooers@rsmas.miami.edu |
| Giuseppe SMRIGLIO | I.N.G.V., Roma, Italy | geostar@ingv.it |
| Ralph STEPHEN | W H O I, USA | rstephen@whoi.edu |
| John R.DELANEY | University of Washington | jdelaney@u.washington.edu |
| Pascal TARITS | Univ. Brittany, Brest, France | tarits@univ-brest.fr |
| Alan CHAVE | W H O I, USA | alan@whoi.edu |
| Petr FIRBAS | CTBO, Vienna, Austria | Petr.Firbas@ctbto.org |
| Rainer KIND | GFZ Potsdam, Germany | kind@gfz-potsdam.de |
| Bob DETRICK | W H O I, USA | rdetrick@whoi.edu |
| John ORCUTT | Scripps,IGPP, USA | jorcutt@igpp.ucsd.edu |
| Alan DZIEWONSKI | Harvard Univ. USA | dziewons@eps.harvard.edu |
| Adam SCHULTZ | Cardiff University, UK | adam@ocean.cf.ac.uk |
| Kiyoshi SUYEHIRO | JAMSTEC, Japan | suyehiro@jamstec.go.jp |
| Rhett BUTLER | IRIS , Washington DC, USA | rhett@iris.edu |
| Domenico GIARDINI | ETH Zurich, Switzerland | giardini@seismo.ifg.ethz.ch |
| Hitoshi MIKADA | JAMSTEC, Japan | mikada@jamstec.go.jp |
| Brian KENNETT | ANU Canberra, Australia | brian@rses.anu.edu.au |
| Jean-Paul MONTAGNER | IPG, Paris, France | jpm@ipgp.jussieu.fr |