

IAG Sub-Commission 3.2: Crustal Deformation Status Report, June 1., 2005

Members of the directing board:

Markku Poutanen (Chair)
Jim Davis
Kosuke Heki
John Manning
Janusz Sledzinski
Susanna Zerbini

General objectives of the Sub-Commission 3.2 include:

- to study tectonic motions, including plate deformation;
- to study postglacial rebound, but also glacial dynamics and glacial isostatic adjustment in the currently glaciated area of the Earth, as well as the water and ice mass balance;
- to study local crustal movements, some of which could be potentially hazardous
- to study sea-level fluctuations and changes in relation to vertical tectonics along many parts of the coastlines and in relation to environmental fluctuations/changes affecting the geodetic observations;
- to promote, develop and coordinate international programs related to observations, analysis and data interpretation for the three fields of investigation mentioned above;
- to promote the development of appropriate models.

The SC3.2 comprises sub-entities or working groups corresponding either to different geographical regions or different important and actual topics involved in the field of the SC studies. These sub-entities are dealing with main scientific objectives having common general aspects and, in parallel to these objectives, follow the development of technology and measurement techniques capable to best fulfill the scientific objectives. Sub-entities or working groups will be established by the directing board according to the needs or activities. Currently, there exist the Permanent Working Group Geodynamics of the Central Europe.

Permanent Working Group *Geodynamics of the Central Europe*, (reported by Janusz Sledzinski, Poland) has continued studies on geotectonic regions of Central Europe. The formal membership list of the WG includes 29 scientists from 12 European countries. The programme of the WG (Plan of Action for 2003-2006) includes the following subjects:

- Geodetic and geodynamic programmes
 - European programmes:
 - CERGOP = Central Europe Regional Geodynamics Project;
 - CEGRN = (Central European GPS Reference Network) Consortium,
 - Post-UNIGRACE action (Unification of gravity system in Central and Eastern Europe).

Local geodynamic projects:

- projects realised by the subgroups of the CERGOP Study Group CSG.5 “Geotectonic Analysis of the Region of Central Europe”; they concern the

following regions: Eastern Alps and the North and Eastern Adriatic Sea, Romania Plate, Pannonian Basin; Plitvice Lakes, Croatia; Tatra Mountains; Northern Carpathians; Balkan Peninsula.

- projects realised in bilateral/multilateral agreements of CEI countries, e.g. Czech-Polish-Slovak Cross-Border Studies of Regional Geodynamics (Sudetes, Beskydy, Tatra, Pieniny Mts);
- Working Group on University Education Standards;
- Working Group on Satellite Navigation Systems;
- Cooperation CEI Section C “Geodesy”– European Geophysical Society (EGS) / European Geosciences Union (EGU).

CEI WGST Section C “Geodesy” declares further close cooperation with the International Association of Geodesy in any form that would be considered as the most effective. The research and interpretation of recent crustal movements detected by satellite techniques are recognised as most important and urgent action within the mentioned workpackages of the CERGOP-2. The Section C “Geodesy” will provide the velocity vectors (displacement vectors) from the regions of Central Europe covering the area of CEI countries. The results of the CERGOP and other CEI projects will be release for the IAG scientific groups dealing with geodynamic investigations. The full report can be found on SC3.2 web page (see below).

Contacts between SC3.2 and WEGENER (Working group of European Geoscientists for the Establishment of Networks for Earth science Research, chaired by L. Bastos) continued. Zerbini is also a member of the WEGENER governing board. Zerbini and Poutanen participated in the board meeting of WEGENER held in Vienna in April 2005.

Discussions and planning on a joint symposium of SC3.1, 3.2 and 3.3 started. Preliminarily, the meeting is planned to be held in September 2008 in Jena. Chairman of the SC3.1, Gerhard Jentzsch is the chairman of the organising committee.

Markku Poutanen participated on the planning of the Antarctic geodynamics plan POLENET: Polar Earth Observing Network for IPY. It is an international plan, chaired by Terry Wilson of OSU, and proposed as an IPY project for the International Polar Year programme. One of the goals is to study present-day motions on Antarctica.

Markku Poutanen is the chairman of the Task Force set by Presidium of the Nordic Geodetic Commission to prepare the plan for the NGOS – Nordic Geodetic Observing System. The plan will follow the guidelines and principles of the GGOS (Global Geodetic Observing System) of IAG. NGOS will be a regional implementation of GGOS. The report of the NGOS task force can be found in <http://www.nkg.fi/nggos.html>.

Web pages of the IAG SC3.2 are under construction. Current version of the pages can be found in <http://iagsc32.fgi.fi>.