

GEO STC

Activities of the ICSU Unions in GEOSS

This report has been compiled by Ian Dowman (ISPRS) from direct responses from Scientific Unions and from searching the GEO task sheets.

Members

Only two ICSU Scientific Unions are participating organisations of GEO:

- **IAG:** International Association of Geodesy – A member of **IUGG** – International Union of Geodesy and Geophysics.
- **ISPRS:** International Society for Photogrammetry and Remote Sensing

DIVERSITAS and IGBP are associated to ICSU, as are the Global Climate Observing System (GCOS) Global Ocean Observing System (GOOS) and Global Terrestrial Observing System (GTOS)

The following Unions have reported activities related to GEOSS.

IUGS – International Union of Geological Science

IUGS activities which interact with GEO and GEOSS, as defined in the GEOSS 10-Year Implementation Plan, are related to natural and human-induced disasters, environmental factors affecting human health and well-being, management of energy resources, water resource management, desertification and understanding, monitoring and conserving biodiversity.

This topics are addressed, totally or partially, by several of IUGS 46 affiliated organizations that cover all fields of expertise in the earth sciences, as well as for commissions and task groups involved in geological education training and technology transfer, management and application of geoscience information, geoscience in environmental management, and standards in geosciences. Moreover the IUGS is involved in a series of joint initiatives with UNESCO and ICSU, that have a direct bearing in GEO purposes, such as the International Geosciences Program (IGCP), the Geological Applications of Remote Sensing (GARS), the International Year of Planet Earth (IYPE 2007-2009), the OneGeology initiative, the International Programme for the Lithosphere (ILP), the Commission for the Geological Map of the World (CGMW), and the Global Geoparks Network.

International Union of Soil Science - IUSS

IUSS is trying to link up GlobalSoilMap.net with GEOSS. There is no soils leg in GEOSS yet but that will soon change. Some scientific sessions have been organised at the EGU meeting in the past years.

URSI - Union Radio Scientifique Internationale

Since the beginning of 2009, URSI has tried to be involved in GEO activities, particularly task ST-09-02. Via its Commission on "Wave Propagation and remote sensing" (Commission F), URSI is directly involved in Global Earth Observation. Radio images can be obtained at any time (day and night) and for any weather conditions (more than 60% of the Earth's surface is overcast with clouds in average). The Commission F mission statements include:

- Wave interaction with the planetary surfaces (including land, ocean and ice), and subsurface

- Characterisation of the environment as it affects wave phenomena
- The application of the results of these studies, particularly in the areas of remote sensing and communications

Presently, URSI is engaged in the elaboration of an URSI White Paper on "Remote Sensing", including a part on contribution of radio science to disaster management. Commission F is the leading Commission on that subject, but, as several radio science aspects have to be taken into account, other Commissions are concerned, in particular:

- Commission A - Electromagnetic Metrology,
- Commission B - Fields and Waves
- Commission C - Radio-communication systems and signal processing
- Commission E - Electromagnetic environment and interference
- Commission G - Ionospheric Radio and Propagation

ISPRS – International Society for Photogrammetry and Remote Sensing

ISPRS is a Participating Organisation of GEO. Prior to the establishment of GEO, ISPRS regularly attended the annual CEOS plenary and were active in the CEOS Working Groups, Calibration Validation [WGCV] and Information Systems and Services [WGISS]). ISPRS has been particularly active in the sub group Terrain Mapping. ISPRS members Ian Dowman and Peter Muller have both chaired this group, Peter Muller is the current chair and he is also leading task:

- DA-09-03d. Global DEM.

Currently Martien Molenaar, President of ISPRS Commission VI, is a member of the Capacity Building Committee (CBC) and is lead in:

- CB-09-02a: 'Recognition of Cross Border Education and Training in EO'.

Ian Dowman is a member of the Science and Technology Committee (STC). Stan Morain and Amy Budge are active members of the 'Air Quality and Health' Community of Practice and have organised workshops on air quality. Stan Morain received a grant from ICSU on 'Mapping GeoUnions to the UCSU Framework for Sustainable Health and Wellbeing: Focus on sub-Saharan African Cities'.

Ian Dowman works with IEEE and OGC on Task CB-09-04: 'Capacity Building Needs and Gap Assessment' in organising the GEOSS Workshops.

IAG – International Association of Geodesy

IAG leads 2 GEOS tasks:

- DA-09-02c Global Geodetic Reference Frames
- US-09-01: User Engagement