United Nations Programme on GNSS applications

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Sixth Meeting of the International Committee on Global Navigation Satellite Systems

5 – 9 September
Tokyo, Japan
Programme on GNSS Applications

- Regional workshops on GNSS applications
- Training for capacity building in developing countries
- Promoting the use of GNSS technologies as tools for scientific applications
- International Space Weather Initiative

and

- Executive Secretariat of the ICG and its Providers’ Forum
Regional Workshops on GNSS applications

- Increasing awareness among decision and policy makers of the benefits of satellite navigation technology
- Strengthening regional information and data exchange networks with regard to the use of GNSS technology
  - Asia and the Pacific: Malaysia (2001), China (2006)
  - Europe: Austria (2001), Azerbaijan (2009), Moldova (2010)
  - Latin America and the Caribbean: Chile (2002), Colombia (2008)
  - Western Asia: United Arab Emirates (2011)

- United Nations International Meeting on GNSS Applications, 12 – 16 December 2011, Vienna, Austria
Training for capacity building in developing countries

- Provide support to the regional centres for space science and technology education, affiliated to the United Nations, which would also act as the ICG Information Centres (ICG-3, 2008 and UN GA 64/86, 2009)
  - Africa: Morocco and Nigeria
  - Latin America and the Caribbean: Brazil and Mexico
  - Asia and the Pacific: India
    - Remote sensing and GIS; Satellite communications; Satellite meteorology and global climate; Space and atmospheric sciences

- Training courses on GNSS, 2008 – 2010
  - Basic concepts of GNSS
  - Applications of satellite navigation with special emphasis on location-based services
  - Practical exercises, including different types of GNSS receivers, both in stand-alone mode and integrated with communications systems, as well as Matrix Laboratory (MatLab) programme simulation
  - Strengthen networks in the region for exchange of information on the use of GNSS
Training for capacity building in developing countries

Development of GNSS Education Curriculum

Collection of information on GNSS curricula taught in selected universities that had a long tradition of teaching GNSS technology and its applications, including web-based distance learning programmes

Establishment of an Ad hoc Group of Educators and Experts on GNSS

Structure of GNSS Education Curriculum

Duration: 10 weeks (150 hours of theory + 150 hours of laboratory experiments, field visits, project work)

Course prerequisite: Electronics and Communications Engineering

Proposal:

- to address the topic of space weather (atmospheric modelling)
- to invite system providers for the suggestions taking into account their current policies

UN Meeting on GNSS applications, 12 – 16 December 2011, Vienna, Austria

UN/Italy Long-term Fellowship Programme on GNSS and related applications: Masters’ Programme, Turin, Italy
Promoting the use of GNSS technologies as tools for scientific applications

- **Regional reference networks**
  - AFREF: African Geodetic Reference Frame, 2005
  - SIRGAS: Geocentric Reference System for the Americas
  - EUREF: International Association of Geodesy Reference Frame Subcommission for Europe
  - APREF: Asia Pacific Reference Frame, 2010

- **Workshops/seminars/training courses, 2008 – 2011**
  - To initiate space science research programmes in Africa
  - To develop common approaches and avoid duplication, as well as to define the mechanism for the sharing of GNSS data from continuously operating reference stations within regions
International Space Weather Initiative

A programme of international cooperation to advance space-weather science through instrument deployment and analysis and interpretation of space-weather data from the instruments deployed, in conjunction with other space data, and to communicate the results to the public and students (three-year workplan, UN GA 64/86, 2009)

To develop the insight necessary to understand the science involved and to reconstruct and forecast near-Earth space weather, including instrumentation, data analysis, modelling, education, training and public outreach

About 1,000 space-weather instruments are operational and recording data by utilizing detectors and spectrometers

With the installation of a Sudden Ionospheric Disturbance monitor (SID) in the permanent space exhibit at UNOV (November 2009), Vienna became one of the many sites worldwide reporting occurrences of solar flares

Stanford Solar Centre, SID Data Access: www.stanford.edu
Executive Secretariat of ICG

- Participate in and contribute to the international and regional meetings on GNSS
- Assist in the preparations for the annual meetings of the ICG and its Providers’ Forum, and for interim planning meetings
- Manage the content and maintain the server of the ICG information portal to reflect developments in ICG and its Providers’ Forum: www.icgsecretariat.org
- Prepare and publish the ICG/GNSS related reports/documents
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