

Report of Working Group C: Information Dissemination and Capacity Building

1. The Working Group C on Information Dissemination and Capacity Building held its fourth meeting in Turin, Italy, on 19 October 2010 in conjunction with the Fifth Meeting of the International Committee on Global Navigation Satellite Systems (ICG), 18 – 22 October 2010 under the chairmanship of the Office for Outer Space Affairs and Italy.
2. The meeting was attended by representatives of China, European Commission, Italy, Japan, Russian Federation, United Arab Emirates, United States of America, and the International Association of Geodesy (IAG). The African Regional Centre for Space Science and Technology Education - in English Language affiliated to the United Nations (ARCSSTE-E), and the Space Generation Advisory Council (SGAC) were also represented.
3. The welcome and opening remarks were made by the representative of the Office for Outer Space Affairs (UNOOSA), who outlined the work of the Working Group at its current meeting. The activities carried out in 2010 in the framework of the workplan of the Working Group were highlighted and particular emphasis was given to the capacity building component of the Working Group workplan. In that regard, information on the nine-month postgraduate courses on satellite meteorology and global climate, satellite communication, space and atmospheric science, and remote sensing and geographic information system offered by the United Nations-affiliated regional centres for space science and technology education was provided. The information was also given on a model of a GPS Block III satellite displayed at the United Nations permanent space exhibit. It was also noted that UNOOSA is planning to operate a GPS receiver for signals from different GNSS to supplement the qualitative results from the Sudden Disturbance (SID) monitors provided by Stanford University. The SID monitors are also displayed at the UNOOSA permanent space exhibit and operated by the UNOOSA¹.
4. Details of the meeting agenda and the presentations made are available at the ICG Information Portal².
5. The Working Group heard the following presentations:
 - i) “Means of information dissemination on GNSS”, by the representative of the Russian Federation;
 - ii) “Organizing the cooperation of Russian Education Centre with the United Nations-affiliated Regional Centres for Space Science and Technology Education”, by the representative of the Russian Federation;
 - iii) “International Education on Space Application in China”, by the representative of the People’s Republic of China;
 - iv) “GNSS Education Curriculum”, by the representative of UNOOSA;
 - v) “Youth for GNSS activities”, by the representative of SGAC.
6. The Working Group discussed about knowledge transfer via e-learning systems using the webpage dedicated to education in the field of GNSS and its applications contained in the ICG Information Portal and welcomed the proposal of the launch of a pilot cooperation project using web-based distance learning programmes between the Russian Education Centre and the regional centres affiliated to the United Nations. The project would also be opened to other educational centres that could be interested in participating.
7. The Working Group discussed ways of expanding the webpage dedicated to education in the field of GNSS and its applications contained in the ICG Information Portal. In that

¹ See <http://solar-center.stanford.edu/SID>

² See www.icgsecretariat.org

regard, the proposal was made to involve SGAC to prepare, based on the NASA J-Track 3D model, a JAVA application for navigation satellites with their names on-line in real time. This interactive model would be a good education tool displayed in the ICG Info Portal. It was also noted that the educational content of the ICG Info Portal could be enhanced by making available interactive pictures and descriptions of the GNSS applications. It was proposed that SGAC could contribute to this enhancement of the ICG Info Portal. In this regard the reference was made to the existing Virtual Galileo Information Centre for Latin America, hosted by the UN-affiliated regional centre for space science and technology education in Latin America and the Caribbean.

8. In the frame of Action C1: Training for capacity building in developing countries of its workplan, the Working Group agreed that a group of experts in the field of GNSS should be created to develop an education curriculum on GNSS to be implemented by the regional centres that are also acting as the ICG Information Centres. The development of the curriculum would be based on the assessment of the short-term training courses on satellite navigation that were held at the regional centres from 2008 through 2010 as well as of the available teaching materials, software and data. The deployment of a low-cost space weather instruments would be considered as a complementary tool to data analysis and applications.

9. The Working Group noted an expression of interest of Beihang University to become the ICG Information Centre and to contribute to education and training on GNSS and its applications, as well as information dissemination.

10. The Working Group took note of the proposal made by the representative of the United States to expand the Working Group workplan to include "Information Dissemination" as a separate item of the workplan so as to capture and report on various outreach activities conducted by or assigned to the Working Group.

11. The Working Group agreed that its workplan would be revised at its next meeting upon discussion on the progress made.

Attachment I

Recommendation for Committee Decision

Prepared by: Working Group C

Date of Submission: 21 October 2010

Issue Title: Development of a GNSS Education Curriculum

Background/Brief Description of the Issue:

Support education and training programmes related to satellite navigation for purposes of building capacity in developing countries through the regional centres for space science and technology education affiliated to the United Nations.

Discussion/Analyses:

- e-learning based mode of knowledge transfer (Politecnico di Torino, Roscosmos – Russian Education Center);
- expand ICG Info Portal's education focused page (NASA, SGAC, "GLONASS/GNSS Forum" Association, China);
- launch of a pilot cooperation project between the Russian Education Center and the UN-affiliated Regional Centres;
- issues related to the development of the GNSS curriculum (existing university courses and trainings, course lengths, modules, on-line materials, different students backgrounds).

Recommendation of Committee Action:

- Support the development of a GNSS Education Curriculum to be implemented by ICG Information Centres based on the UN - Affiliated Regional Centres for space science and technology education.
- Support further development of the ICG Information Portal to be utilized for the programme on GNSS Applications.