



Office for Outer Space Affairs
United Nations Office at Vienna



International Committee on
Global Navigation Satellite Systems

United Nations and GNSS: Global in Space and in Time

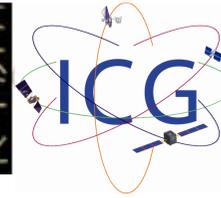
Sharafat Gadimova,

United Nations Office for Outer Space Affairs, Vienna

United Nations/Azerbaijan/United States of America/European Space Agency Workshop on the Applications of Global Navigation Satellite Systems

11 – 15 May 2009

Baku, Azerbaijan



Outline

- I. United Nations Office for Outer Space Affairs (UNOOSA)**
- II. Committee on the Peaceful Uses of Outer Space (COPUOS)**
- III. UNISPACE III: Action Team on Global Navigation Satellite Systems**
- IV. International Committee on Global Navigation Satellite Systems (ICG)**
- V. UN-affiliated Regional Centres for Space Science and Technology Education**
- VI. Education and Capacity Building in the Use of GNSS Technologies: 2009 Activities**



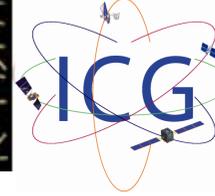


I. United Nations Office for Outer Space Affairs (UNOOSA)

- ◆ **Est. 1962 within the Department of Political and Security Council Affairs.**

Based in Vienna since 1993;

- ◆ **Secretariat to the Committee on the Peaceful Uses of Outer Space (COPUOS);**
- ◆ **Implements UN Programme on Space Applications through workshops, seminars, training programmes, and pilot projects;**
- ◆ **Promotes international cooperation in the use of space technology for sustainable development;**
- ◆ **Leads in the establishment of a legal framework governing space activities;**
- ◆ **Advises Member States, international organizations and other United Nations entities on space-related issues;**
- ◆ **Monitors legal, scientific and technical developments relating to space activities, technology and applications;**
- ◆ **Executive Secretariat of the International Committee on Global Navigation Satellite Systems (ICG)**

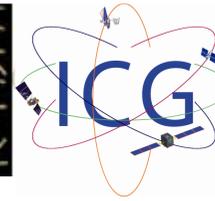


II. Committee on the Peaceful Uses of Outer Space (COPUOS)

- ◆ **The only Committee (set up by the General Assembly in 1959) of the General Assembly that deals with international cooperation in the peaceful uses of outer space;**
- ◆ **Two subsidiary bodies: Scientific and Technical Subcommittee and Legal Subcommittee;**
- ◆ **69 member States and 21 organizations with permanent observer status;**
- ◆ **COPUOS reports annually to Fourth Committee of the UN GA, which annually adopts a GA resolution on “International cooperation in the peaceful uses of outer space”;**

The Committee is mandated to:

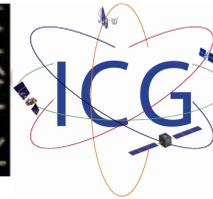
- ◆ **Review international cooperation in the peaceful uses of outer space;**
- ◆ **Encourage continued research and dissemination of information on outer space matters;**
- ◆ **Study legal problems arising from the exploration of outer space**



III. UNISPACE III: Action Team on Global Navigation Satellite Systems

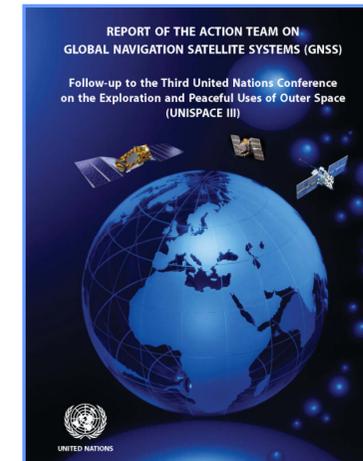
- ◆ **Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), 1999: “The Space Millennium: Vienna Declaration on Space and Human Development”**
 - ◆ **Recommendation concerning Global Navigation Satellite Systems (GNSS):**

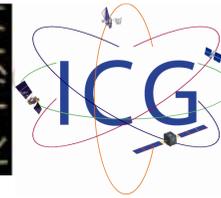
...to improve the efficiency and security of transport, search and rescue, geodesy and other activities by promoting the enhancement of, universal access to and compatibility of space-based navigation and positioning systems.



III. UNISPACE III: Action Team on Global Navigation Satellite Systems (GNSS) (cont.)

- ◆ 12 Action Teams established by UN COPUOS under voluntary leadership by Member States
 - ◆ *Recommendations that have been assigned highest priority by Member States of the United Nations*
- ◆ **GNSS Action Team** co-chaired by the United States and Italy
 - ◆ Membership: 38 nations & 15 organizations
 - ◆ Working Groups on 5 thematic areas:
 - ◆ *Surveying, mapping, and Earth science*
 - ◆ *Agriculture and management of natural resources*
 - ◆ *Environmental monitoring and management*
 - ◆ *Transportation*
 - ◆ *Education and training, awareness increase*
 - ◆ **UN OOSA: 2001 – 2002: Regional Workshops**
 - ◆ Malaysia (ESCAP) - Austria (ECE) – Chile (ECLAC) – Zambia (ECA)
 - ◆ 2002 – **2004: International Meetings**
 - ◆ Action Team concluded its work: Report of the Action Team on GNSS
 - ◆ *2004 International meeting (A/AC.105/846)*
 - ◆ *ICG ToR / Work Plan*
 - ◆ *Working Groups' Recommendations*



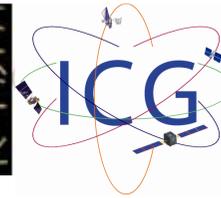


III. International Committee on Global Navigation Satellite Systems (ICG)

- ◆ **ICG Membership: Members, Associate Members and Observers**
- ◆ **ICG Secretariat: UN OOSA**
- ◆ **First Meeting of the ICG, UNOV, Vienna, Austria: 2006**
 - ◆ **Workplan**
 - ◆ **Compatibility and Interoperability**
 - ◆ **Enhancement of performance of GNSS services**
 - ◆ **Information dissemination (UN OOSA)**
 - ◆ **Interaction with international organizations, national, and regional authorities**
- ◆ **Second Meeting of the ICG, ISRO, Bangalore, India: 2007**
 - ◆ **Within the ICG is the Providers' Forum (U.S., Russia, EC, China, India, Japan), consisting of those countries operating GNSS systems or with plans to develop one. The Forum provides a venue for coordination and cooperation to improve overall service provision**
- ◆ **Third Meeting of the ICG, JPL, Pasadena, USA: 8 – 12 December 2008**
- ◆ **Fourth Meeting of the ICG, Roscosmos, Saint-Petersburg, Russian Federation: 14 – 18 September 2009**



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V. UN-affiliated Regional Centres for Space Science and Technology Education:

ICG Information Centres

Goal: to develop, through in-depth education, an indigenous capability for research and applications in the core disciplines of:

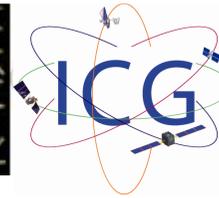
- ◆ Remote Sensing and GIS
- ◆ Satellite Communications
- ◆ Satellite Meteorology and Global Climate
- ◆ Space and Atmospheric Science as well as data management

Postgraduate courses are based on education curricula developed through UN expert meetings with the support of the prominent educators in 1989, 1995 and 2001

Regional Centres located in:

- ◆ Africa: CRASTE-LF (Morocco), AECSSTE-E (Nigeria)
- ◆ Asia and the Pacific: CSSTEAP (India)
- ◆ Latin America and the Caribbean CRCTEALC (Brazil, Mexico)





VI. Education and Capacity Building in the Use of GNSS Technologies: 2009 Activities

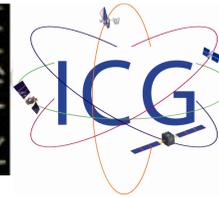
I. Use of GPS for **space weather** utilizing a ground-based world-wide instrument arrays

- ◆ **International Space Weather Initiative (ISWI)**

- ◆ *Aspects of the response of the mid- and low-latitude ionosphere to magnetic storms and their space weather effects, including in-situ and ground-based observations as well as modelling and theoretical studies, particularly using GPS*
- ◆ *To complement the ground based data, huge amounts of data from space based missions on Earth and heliospheric phenomena, which are freely accessible, and the analysis and interpretation of this data will be carried out*

II. Use of GNSS equipment in Africa for various disciplines (**geodesy, geophysics, space weather and meteorology**) and in attempt to coordinate and to facilitate scientists and organizers of networks of instruments – with a focus on GPS-based instruments

- ◆ **Satellite Navigation Science and Technology for Africa, 23 March – 09 April 2009, the Abdus Salam International Centre for Theoretical Physics, Trieste, Italy**
 - ◆ *“Geo-science” instruments in Africa (GPS Africa): African Array, AFREF, IHY projects, atmospheric monitoring of water vapor, space weather observations*
 - ◆ *Standards, communication of data policies to maximize the benefits of the networks*



VI. Education and Capacity Building in the Use of GNSS Technologies: 2009 activities (cont.)

III. Capacity building efforts in space science and technology

- ◆ **UN/ESA/USA Training Course on Satellite Navigation and Location Based Services, at the African Centre for Space Science and Technology – in French language (CRASTE- LF), 29 September – 24 October 2009, Rabat, Morocco**
- ◆ **UN/USA Training Course on Satellite Navigation and Location Based Services, at the Regional Centre for Space Science and Technology Education in Latin America and the Caribbean (CRECTEALC), Puebla, Mexico, the second half of 2009**
 - ◆ *Initiating development of the GNSS Education Curriculum*
 - ◆ *ICG Information Centre: To foster a more structured approach to information exchange in order to fulfill the reciprocal expectations of a network between ICG and Regional Centres*

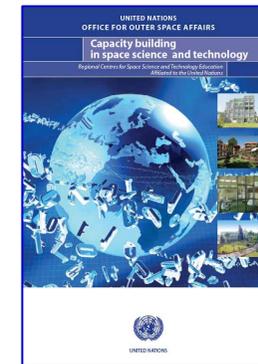
IV. Applications of GNSS

- ◆ **UN/Azerbaijan/USA/ESA Workshop on the Applications of GNSS, 11 – 15 May 2009, Baku, Azerbaijan**
 - ◆ *GNSS technology: Practical applications and scientific exploration perspective*
 - ◆ *Land-based and marine applications*
 - ◆ *Space weather monitoring*

...to enhance the utilization of existing and planned opportunities

United Nations Office for Outer Space Affairs provides...

- ◆ **web-based information, “a one-stop shop” for knowledge and information-sharing**
- ◆ **information brochures**
- ◆ **technical workshops and expert meetings**




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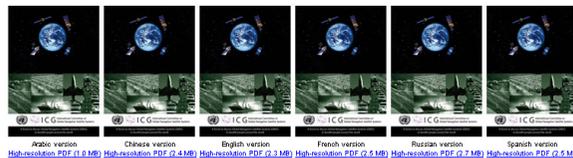
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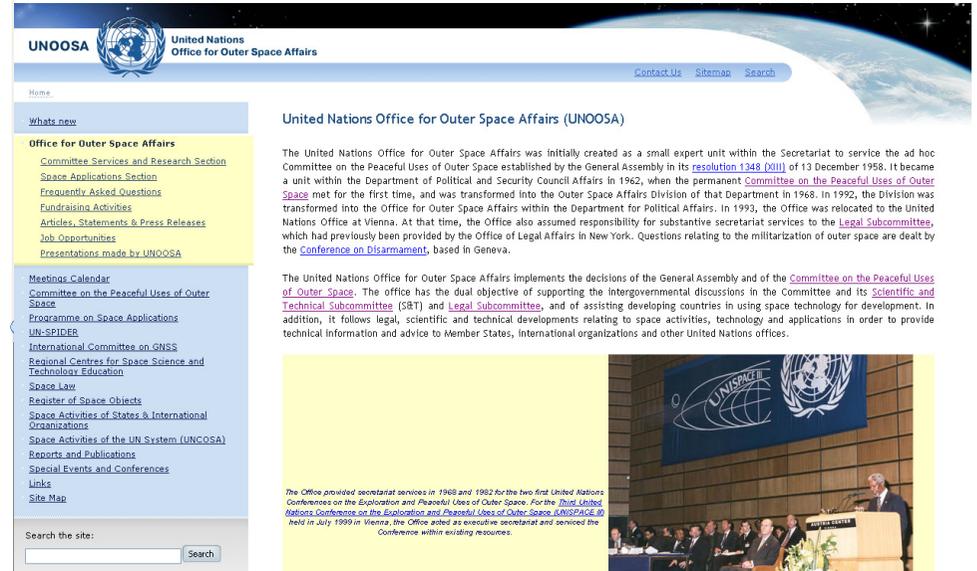


A forum to discuss Global Navigation Satellite Systems (GNSS) to benefit people around the world



The International Committee on Global Navigation Satellite Systems (ICG)
A forum to discuss Global Navigation Satellite Systems (GNSS) to benefit people around the world
(please email UNOOSA for a hardcopy version of this leaflet)

Following the [Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space \(UNISPACE III\)](#), held in 1999, in its resolution 54/68, the United Nations General Assembly endorsed the "Vienna Declaration: Space Millennium for Human Development". The Vienna Declaration called for action, among other matters, to improve the efficiency and security of transport, search and rescue, geodesy and other activities by promoting the enhancement of, universal access to and compatibility of, space-based navigation and positioning systems. In response to that call, in 2001 the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) established the Action Team on Global Navigation Satellite Systems (GNSS) to carry out those actions under the chairmanship of Italy and the United States of America. The Action Team on GNSS, consisting of 38 member States and 15 inter-governmental and non-governmental organizations, recommended, among other things, that an international Committee on GNSS (ICG) should be established to promote the use of GNSS infrastructure on a global basis and to facilitate exchange of information. The Committee included this recommendation in the Plan of Action proposed in its report to the



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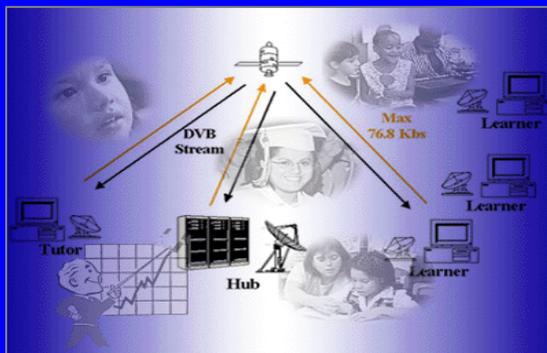
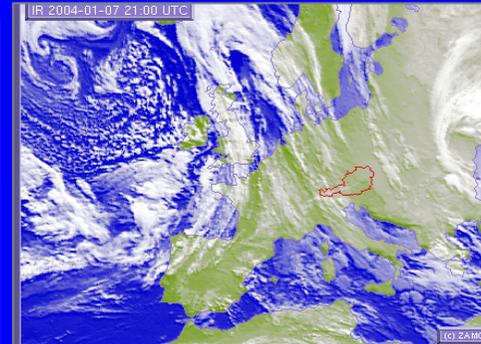
United Nations Office for Outer Space Affairs (UNOOSA)

The United Nations Office for Outer Space Affairs was initially created as a small expert unit within the Secretariat to service the ad hoc Committee on the Peaceful Uses of Outer Space established by the General Assembly in its [resolution 1348 \(XIII\)](#) of 13 December 1958. It became a unit within the Department of Political and Security Council Affairs in 1962, when the permanent [Committee on the Peaceful Uses of Outer Space](#) met for the first time, and was transformed into the Outer Space Affairs Division of that Department in 1969. In 1992, the Division was transferred into the Office for Outer Space Affairs within the Department for Political Affairs. In 1993, the Office was relocated to the United Nations Office at Vienna. At that time, the Office also assumed responsibility for substantive secretariat services to the [Legal Subcommittee](#), which had previously been provided by the Office of Legal Affairs in New York. Questions relating to the militarization of outer space are dealt by the [Conference on Disarmament](#), based in Geneva.

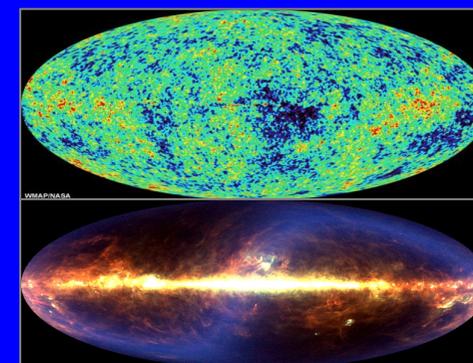
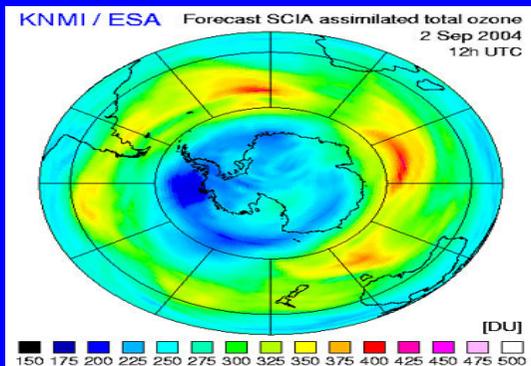
The United Nations Office for Outer Space Affairs implements the decisions of the General Assembly and of the [Committee on the Peaceful Uses of Outer Space](#). The office has the dual objective of supporting the intergovernmental discussions in the Committee and its [Scientific and Technical Subcommittee \(STT\)](#) and [Legal Subcommittee](#), and of assisting developing countries in using space technology for development. In addition, it follows legal, scientific and technical developments relating to space activities, technology and applications in order to provide technical information and advice to Member States, international organizations and other United Nations offices.

The Office provided secretariat services in 1960 and 1962 for the two first United Nations Conferences on the Exploration and Peaceful Uses of Outer Space. For the [Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space \(UNISPACE III\)](#) held in July 1999 in Vienna, the Office acted as executive secretariat and serviced the Conference within existing resources.



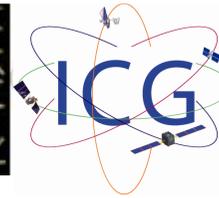


Space Benefiting Our Lives...





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