

ICG-10, 2 – 6 November 2015 Boulder,
Colorado, United States

Activities carried out in 2015 in the framework of the ICG workplan

Sharafat Gadimova
Office for Outer Space Affairs



UNITED NATIONS
Office for Outer Space Affairs

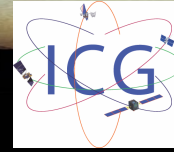


International Committee on
Global Navigation Satellite Systems



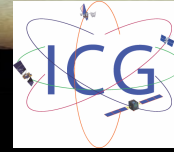
United Nations Office for Outer Space Affairs

- The Office **implements** the decisions of the **General Assembly** and of the United Nations **Committee** on the Peaceful Uses of Outer Space (COPUOS);
- Performs **functions** of substantive **Secretariat** of the Committee on the Peaceful Uses of Outer Space and its Scientific & Technical Subcommittee and Legal Subcommittee;
- **Promotes** international cooperation in the peaceful uses of outer space, and **assists** developing nations in utilizing space science and technology for socio-economic benefits;
- Serves as **Executive Secretariat** for the **International Committee on Global Navigation Satellite Systems (ICG) and its Providers' Forum**



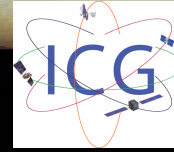
United Nations Office for Outer Space Affairs: **ICG Executive Secretariat**

- The Office **prepares** activities for the annual meetings of ICG in cooperation with the host country of the meeting;
- **Coordinates** the planning/inter-sessional meetings of the ICG, its Providers' Forum and its Working Groups in conjunction with sessions of COPUOS and its subsidiary bodies;
- **Implements** the ICG's **Programme on GNSS Applications**;
- **Maintains** a comprehensive information portal for ICG and users of GNSS services;
- **Contributes** to international and regional conferences to introduce the work of ICG will all its elements



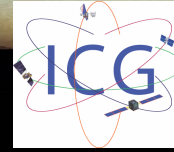
Programme on GNSS applications

- **United Nations Regional Workshops on the use and applications of GNSS**
 - These activities increase awareness among decision and policy makers of the benefits of GNSS, and develop regional and national pilot projects on GNSS applications
- United Nations/Russian Federation Workshop, May 2015, Krasnoyarsk
 - United Nations Report A/AC.105/1098
- ICG Experts Meeting: GNSS Services, 14 – 18 December 2015, Vienna
 - Website: http://www.unoosa.org/oosa/en/ourwork/icg/activities/icg2015_experts_meeting.html
- United Nations/Nepal Workshop, 1 – 5 December, 2016, Kathmandu



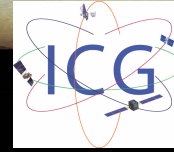
Programme on GNSS applications

- United Nations/Russian Federation Workshop, May 2015, Krasnoyarsk (A/AC.105/1098)
 - Develop educational materials on sources of interference to GNSS;
 - Conduct a survey to identify national and international regulations on spectrum protection, their possible inconsistency and necessary improvement;
 - The regional centres requested on-site training courses to be conducted by GNSS providers, in order to develop top-level skills to execute their missions as information centres for ICG and its Providers' Forum



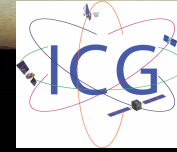
Programme on GNSS applications

- ICG Experts Meeting: GNSS Services, 14 – 18 December 2015, Vienna
 - To focus on identifying the needs of users with respect to the compatibility and interoperability of global and regional systems, and space-based augmentations providing and planning to provide GNSS service
 - To incorporate useful user and application sector views and inputs into the Working Groups work plans
- Seminar on GNSS Spectrum Protection and IDM
 - The early development of GNSS and spectrum that was available for its use
 - ITU recommendations, which deal with RNSS will be reviewed
 - National RNSS spectrum allocations will be discussed and compared to ITU allocations
 - IDM and GNSS jammers



Programme on GNSS applications

- **Promoting the use of GNSS technologies as tools for scientific applications**
 - These activities are to provide technical knowledge on the operational and practical aspects and issues relating to reference frames, in particular to facilitate a regional forum for geodetic agencies, improve data sharing (GNSS leveling, tide gauge, gravity)
 - Technical Seminars on Reference Frames in Practice, FIG Working Week 2016, Christchurch, New Zealand
- **Space Weather and its effects on GNSS**
 - ICTP and Boston College: Workshops on Ionospheric Effects on SBAS and GBAS Applications at Low Latitudes
- **United Nations/Italy Long-term Fellowship Programme: Master in Navigation and Related Applications (MNA), Politecnico di Torino, Turin, Italy**
 - The curriculum is structured to meet effectively work market demands for high-level technicians endowed with a broad vision of the navigation/localization state-of-the-art:
<http://www.unoosa.org/oosa/en/ourwork/psa/gnss/fellowships.html>



Information Centres for ICG

United Nations-affiliated Regional Centres for Space Science and Technology Education

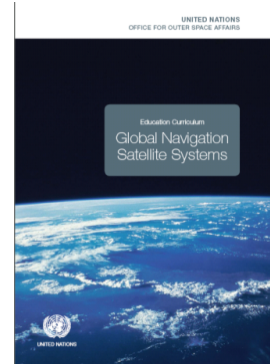
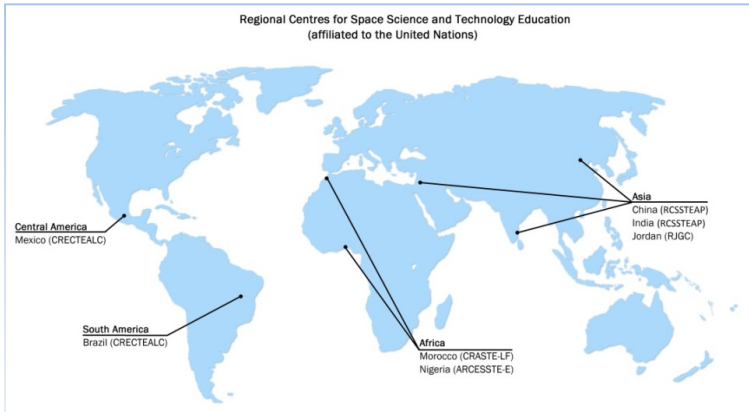
Africa: Morocco and Nigeria

Latin America and the Caribbean: Brazil/Mexico

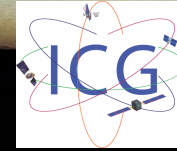
Asia and the Pacific: India and China

Western Asia: Jordan

Regional Centres for Space Science and Technology Education
(affiliated to the United Nations)



- The Technical Level: explore the benefits of GNSS technologies for regions and to spread their applications; exchange information and knowledge
- The Cooperative level: facilitate collaboration with the GNSS providers (seminars/trainings and educational material), as well as communication and outreach to the wider community through the ICG information portal



ICG Information Portal

[Our Work](#) > [ICG](#) > [Working Groups](#)

International Committee on Global Navigation Satellite Systems (ICG): Members

The International Committee is open to States Members of the United Nations, international organizations or international entities that are responsible for GNSS and their augmentations operating under governmental authority or involved in implementing or promoting GNSS services and applications. There are three categories of participants in the Committee: Members, Associate members and Observers.



Members

Current and future core system providers, including [China](#) (Compass/BeiDou Navigation Satellite System (CNSS)), the [European Union](#) (European Satellite Navigation System (Galileo)), the [Russian Federation](#) (Global Navigation Satellite System (GLONASS)) and the

Associate Members

International and regional organizations and associations dealing with GNSS services and applications, including the Office for Outer Space Affairs of the United Nations Secretariat, the [Civil GPS Service Interface Committee](#) (CGSIC) and the

Observers

The [Arab Institute of Navigation](#) (AIN), the Committee on Space Research (COSPAR), the Bureau international des poids et mesures (BIPM), the [European Space Policy Institute](#) (ESPI), the [International Association of Institutes of Navigation](#) (IAIN), the [International Telecommunication](#)

International Committee on Global Navigation Satellite Systems (ICG): Working Groups

The [International Committee on Global Navigation Satellite Systems](#) (ICG) adopted its terms of reference and workplan as developed in international meetings held since 2002 and incorporating the proposals made by the open-ended ad hoc working group of the International Committee, which met in Vienna in March, June and October 2006. The current workplan included [compatibility and interoperability](#); [enhancement of performance of GNSS services](#); [capacity building and information dissemination](#); and [reference frames, timing and applications](#).

These subjects relate to the Working Groups of ICG:

Working Group A -
Compatibility
and
interoperability

Working Group B -
Enhancement
of
performance
of GNSS

Working Group C -
Capacity
building and
information
dissemination

Working Group D -
Reference
frames,
timing and
applications

Our Work

Secretariat of COPUOS

Programme on Space Applications

UN-SPIDER

ICG

Members

Providers' Forum

Working Groups

Working Group A

Working Group B

Working Group C

Working Group D

ICG Annual Meetings

ICG Programme on GNSS

Applications

Resources

ICG Documents

Space Weather & GNSS

Other Events

ICG Timeline



ICG Information Portal



- About Us
- Our Work
- Benefits of Space
- Information for...
- Events
- Space Object Register
- Documents
- COPUOS 2015



Ninth Meeting of ICG, Prague, Czech Republic

NOVEMBER 10, 2014 — NOVEMBER 14, 2014

ICG addressed GNSS application market opportunities and applications in the areas of aviation, spatial aerial plants (e.g. cable cars), train control and management systems and high-precision agriculture. Representatives from industry, academia and Governments shared views on challenges and opportunities.



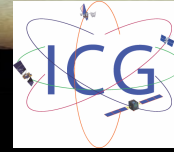
2010: Report on planned and existing global navigation satellite systems and their policies and procedures

- WWW.UNOOSA.ORG
- WWW.UNOOSA.ORG/OOSA/EN/OURWORK/ICG/ICG.HTML



ICG and UNISPACE+50

- 2018: 50th anniversary of the United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE I, 1968)
 - UNISPACE+50 theme for the session of COPUOS and its subsidiary bodies (STSC & LSC) will take stock of the contribution of the three UNISPACE conferences to global space governance
 - **Interoperability, including work done by the ICG and other coordination mechanisms**
- UNISPACE I (1968) focused on raising awareness of the vast potential of space benefits for humankind, and recommended that UN PSA to be established
 - **GNSS technologies and their utilization for peaceful purposes is one of the priority thematic areas of UN PSA**
- UNISPACE II (1982), to set in motion new ways of strengthening UN activities related to outer space, recommended that the UN-affiliated Regional Centres for Space Science and Technology Education to be established
 - **ICG Information Centres for training and information dissemination on global applications of GNSS and their benefits for humanity**



ICG and UNISPACE+50

- UNISPACE III (1999), the Vienna Declaration put forth 33 recommendations
 - Recommendation on GNSS: “...to improve the efficiency and security of transport, search and rescue, geodesy and other activity by promoting the enhancement of, universal access to and compatibility of space-based navigation and positioning systems”
 - **The work of ICG is growing rapidly in line with anticipation that GNSS applications will continue to grow in the coming years**
- Leading towards 2018, **High Level Forum: Space as a Driver for Socio-Economic Sustainable Development**
 - To facilitate constructive dialogue between policy-makers and key stakeholders from different parts of government, civil society, business and industry,
 - To address the broader perspective of space economy, space society, space accessibility and space diplomacy



Conclusion

- The activities and opportunities provided through the ICG result in the development and growth of capacities that will enable each country to enhance its knowledge, understanding and practical experience in those aspects of GNSS technology that have the potential for a greater impact on its economic and social development, including the preservation of its environment
- The ICG is an important vehicle in the multi-lateral arena, as satellite-based positioning, navigation and timing becomes more and more a genuine multinational cooperative venture

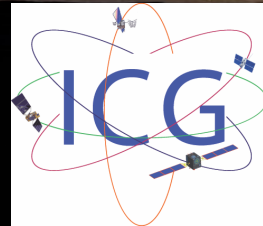


Thank you

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