International Committee on Global Navigation Satellite Systems

GNSS Training Programme
11 – 14 January 2022, Pokhara, Nepal

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UNITED NATIONS
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Global Navigation Satellite Systems

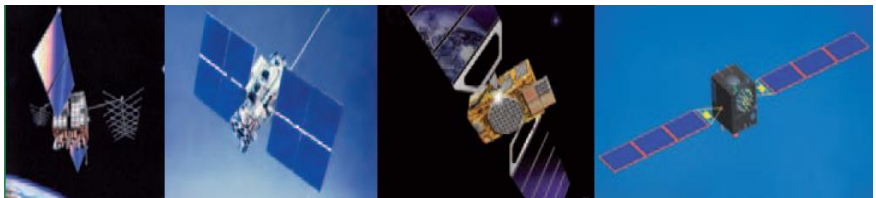
- A constellation of satellites providing signals from space that transmit positioning and timing data to GNSS receivers. The receivers then use this data to determine location

Global Constellations

- Global Positioning System (GPS, 24+3) of the United States,
- Global'naya Navigatsionnaya Sputnikovaya Sistema (GLONASS, 24+) of the Russian Federation,
- GALILEO (24+3) of the European Union, and
- BeiDou Navigation Satellite System (BDS, 27+3IGSO+5GEO) of China

Regional Constellations

- Indian Regional Navigation System/"Navigation with Indian constellation" (NavIC, 7) of India;
- The Quasi-Zenith Satellite System (QZSS, 4+3) of Japan.



International Committee on GNSS (ICG)

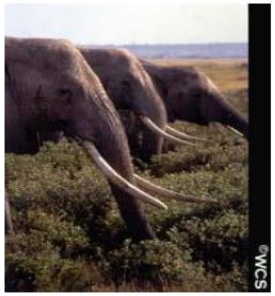
- UNOOSA serves as the executive secretariat of ICG
- Established in 2005, ICG provides a mechanism for multilateral discussion and coordination on GNSS issues of concern
- Encourages **coordination** among GNSS providers
- **Promotes** the introduction and utilization of GNSS services in developing countries
- **Assists** GNSS users with their development plans and applications

- Assure GNSS **interoperability and compatibility** among providers and users globally for enhanced services and applications

ICG: Working Groups

- **Systems, Signals and Services (*United States & Russian Federation*):** Compatibility and spectrum protection; interoperability and service standards; system-of-system operations
- **Enhancement of GNSS Performance, New Services and Capabilities (*India, China & ESA*):** Future & novel integrity solutions; implementation of interoperable GNSS Space Service Volume (SSV) and its evolution; ***examination of performance of atmospheric models, establish dialogue with space weather/RS community***
- **Information Dissemination and Capacity Building (*UNOOSA*):** Focused on education and training programmes, ***promoting GNSS for scientific exploration (incl., space weather and its effects on GNSS***)
- **Reference Frames, Timing and Applications (*IAG, IGS & FIG*):** Focused on monitoring and reference station networks

Working Group on Information Dissemination and Capacity Building



Wildlife Conservation

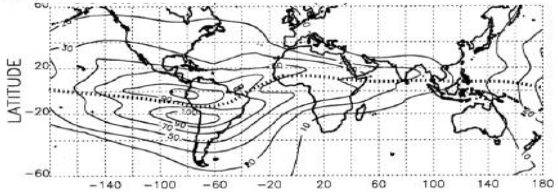

Land Navigation


Precision Farming


Air Navigation


Water Navigation


Disaster Relief



Scientific Exploration

Regional Workshops/training courses on the use and applications of GNSS:

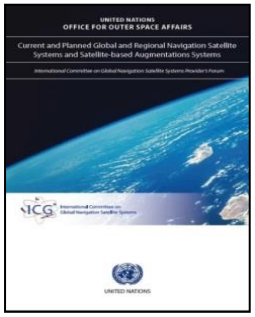
- To reinforce the exchange of information between countries and scale up the capacities in the regions for pursuing the application of GNSS solutions
- To provide updated knowledge of how GNSS operate and their applications; to describe the science of SW; and how to perform ionospheric and SW research with GNSS data

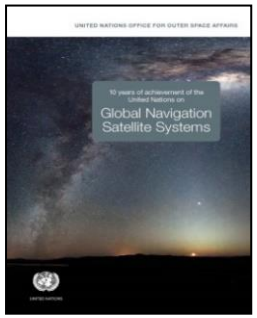
ICG Information Portal

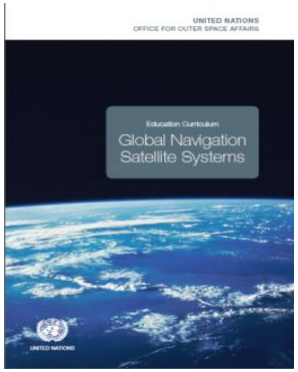
WWW.UNOOSA.ORG

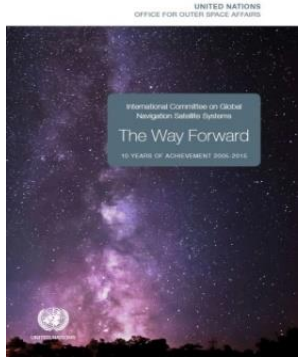
WWW.UNOOSA.ORG/OOSA/EN/OURWORK/ICG/ICG.HTML

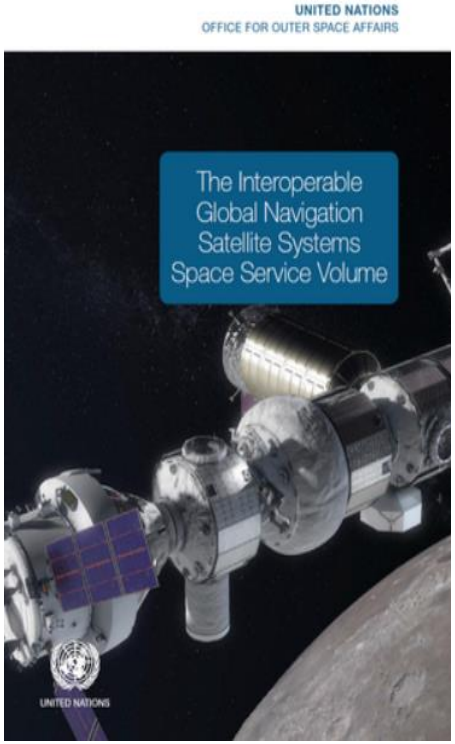
UNOOSA Publications

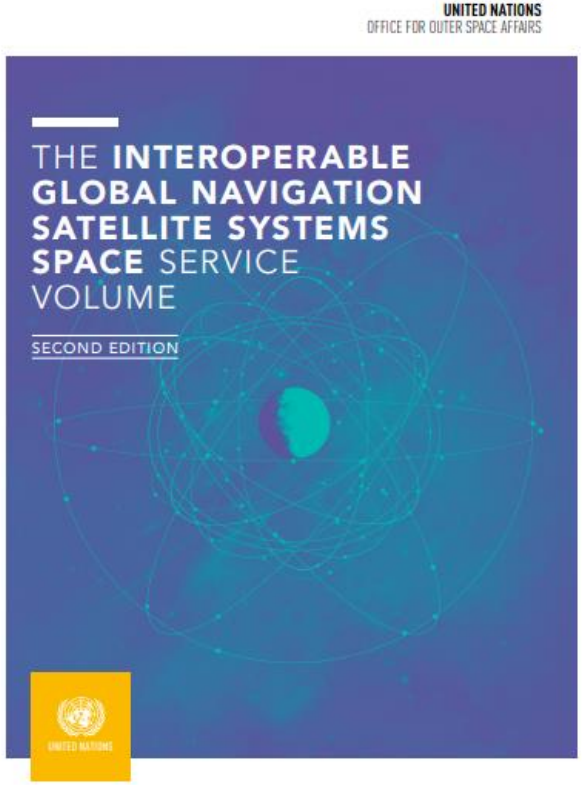








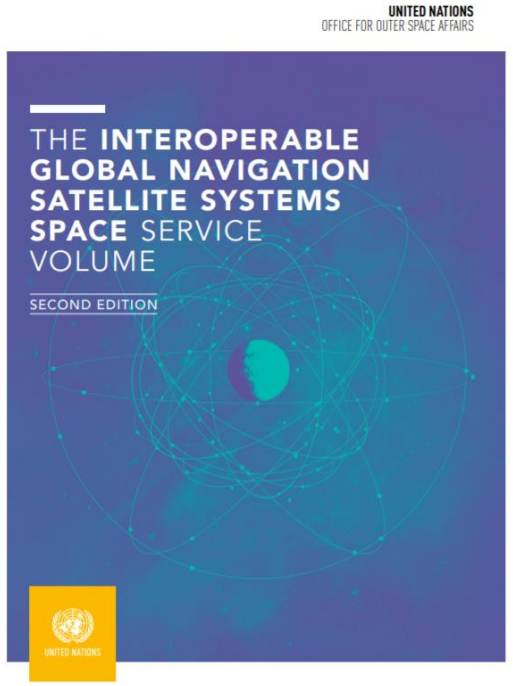




http://www.unoosa.org/oosa/en/ourwork/icg/documents/publications.html

Interoperable GNSS Space Service Volume

- All providers have agreed on the information presented in this booklet, and on several recommendations to continue development, support, and expansion of the multi-GNSS SSV concept.
- This publication, and the work of WGB, show the significant value of GNSS SSV for a much wider scope of future space exploration activities for countries all over the world.
- GNSS SSV and its potential augmentations can enable ambitious future missions and activities in the context of space exploration going beyond low-Earth orbit to the Moon, Mars and other celestial bodies.



https://www.unoosa.org/res/oosadoc/data/documents/2021/stspace/stspace75rev_1_0_html/st_space_75rev01E.pdf

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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