

INFORMATION NOTE

United Nations/ Austria Symposium on “Integrated Space Technology Applications for Climate Change”

Organized by
The United Nations Office for Outer Space Affairs

Co-Organized by
The Government of Austria

With the support of
The European Space Agency

12-14 September 2016, Graz, Austria

1. Introduction

Climate change has been recognized as a major challenge that needs to be addressed globally, through an integrated approach involving mitigation efforts as a way to keep green-house gas emissions under control, and through adaptation efforts as a way to minimize the impacts and effects of climate change in communities around the world. Integrated space technology applications are facilitating the geospatial visualization of the manifestations of climate change. Combining archived and up-to-date imagery, space agencies are demonstrating how the Arctic polar cap is diminishing in recent decades, how sea-level rise is affecting communities in a differential way, and how glaciers are receding worldwide. Remote sensing applications offer as well an objective basis to track related processes such as deforestation and re-forestation trends worldwide.

The 21st Conference of Parties on climate change (COP 21) which took place in Paris in December of 2015 concluded with the launch of the Paris climate change agreement. The Paris agreement acknowledges the view that climate change is a common concern of humankind and calls on Member States and stakeholders to hold “the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change”¹. The agreement addresses the need to carry out efforts in the areas of mitigation, adaptation, and loss and damage as a way to cope with the adverse effects of climate change, including extreme weather events and slow-onset events. In addition, the agreement calls for cooperation as a way to strengthen scientific knowledge on climate, including research, systematic observation of the climate system and early warning systems, in a manner that informs climate services and supports decision-making.

¹ UNFCCC: *Adoption of the Paris Agreement*. Report FCCC/CP/2015/L.9/Rev.1. Version as of 12 December 2015. Available at: <https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>

A relevant effort in the context of climate change negotiations under the umbrella of UNFCCC is the use of Systematic Observations as a way to address various needs. During COP 21, the Subsidiary Body for Scientific and Technological Advice (SBSTA) took note of the report submitted by the Global Climate Observing System (GCOS) entitled *Status of the Global Observing System for Climate*; and of the joint report prepared by CEOS and CGMS on behalf of space agencies regarding global observations. SBSTA requested all Parties to cooperate as a way to address the priorities and gaps identified in the GCOS report. 2

As a way to contribute to the promotion of the use of integrated space technology applications in the context of climate change, the United Nations and the Government of Austria are organizing the *United Nations/ Austria Symposium on "Integrated Space Technology Applications for Climate Change"* under the framework of the United Nations Programme on Space Applications. The Symposium will take place in Graz, Austria, from 12 to 14 September 2016. It will be supported by the Government of Austria, the European Space Agency, the State of Styria and the City of Graz. It will bring together experts from the space and the development community as well as decision makers, researchers and practitioners to discuss the most recent advances and methods to use space-based applications to monitor climate change, and contribute to preparedness to its effects.

2. Background and Objectives

In recent years, climate change has been recognized as a process which may deter sustainable development throughout the world. As a global phenomenon, climate change poses a threat to the economic, social, and environmental dimensions of sustainable development. In the context of peaceful uses of outer space, governments reiterated the need to protect the Earth's environment, and to promote international cooperation on the use of satellite applications for topics such as climate change. Satellites offer a unique point of view to observe climate change-related variables and features at the global level such as sea-level rise, deforestation trends or carbon emissions; and to measure on a permanent basis other parameters which may be too difficult or costly to observe from the ground such as changes in polar ice-caps and glaciers, and social trends such as increasing exposition of vulnerable communities to phenomena related to climate change.

The objectives of this Symposium are:

- 1) To discuss ways in which countries affected by climate change, especially developing countries, can make better use of space applications to assess vulnerability to climate change and potential losses and damages;
- 2) To become aware of recent advances in the use of integrated space technology applications in the context of mitigation and adaption to climate change;
- 3) To improve synergies among space agencies and organizations targeting efforts on climate change;
- 4) To strengthen international and regional cooperation in this area;
- 5) To raise awareness on the recent advances in space-related technologies, services and information resources which can be used to assess the impacts of climate change and the effects of measures implemented to reduce such impacts.

2 SBSTA: **Research and Systematic Observations. Draft conclusions proposed by the Chair.** Report FCCC/SBSTA/2015/L.18. Version of 3 December 2015.

Available at:

http://unfccc.int/documentation/documents/advanced_search/items/6911.php?pref=600008745#beg

The discussions to be conducted during various sessions will be linked to the recently launched *Sustainable Development Goals (SDGs)*. Specifically, they will make reference to Goal 13 of the SDGs that addresses the need to take urgent action to combat climate change and its impacts, including through the strengthening of the resilience and adaptive capacity of communities to climate-related hazards. The expected outcome is the identification of ways in which space-based technology can be used to generate relevant information for an effective climate change-related planning and management in developing countries.

The observations and recommendations of the Symposium will be published as a United Nations General Assembly document in all official languages of the United Nations and will be brought to the attention of relevant policy and decision making bodies. The recommendations will also inform the preparations towards UNISPACE+50, which will be held in 2018 marking the fiftieth anniversary of the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space held in 1968 (see information insert below).

UNISPACE+50

The year 2018 will mark the 50th anniversary of the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space - UNISPACE+50. The Committee on the Peaceful Uses of Outer Space (COPUOS) at its fifty-eighth session in June 2015 endorsed the plan of work for UNISPACE+50. UNISPACE+50 will review the contributions that the three UNISPACE conferences (UNISPACE I, held in 1968, UNISPACE II, held in 1982, and UNISPACE III, held in 1999) have made to global space governance. In line with the 2030 Agenda for Development and sustainable development goals, UNISPACE+50 aims to chart the future role of COPUOS, its subsidiary bodies and the United Nations Office of Outer Space Affairs, at a time of an evolving and more complex space agenda when more participants, both governmental and non-governmental, are increasingly involved in ventures to explore space and carry out space activities. The activities of the United Nations Programme on Space Applications are an integral part of the UNISPACE+50 thematic cycle and are aimed at contributing to outputs under the four pillars space economy, space society, space accessibility and space diplomacy. For additional information on UNISPACE+50 see <http://www.unoosa.org/oosa/en/ourwork/hlf/hlf.html>.

4. Location and Date of the Symposium

The Symposium will be held from 12 to 14 September 2016 at the Space Research Institute of the Austrian Academy of Sciences. Invited participants will receive information with details on hotels and other local arrangements.

5. Programme of the Symposium

The programme of this Symposium will include keynote addresses, plenary presentations and discussions on the following topics:

- Integrated space technology applications in the context of:
 - The water cycle – including permafrost and glacier melting;
 - Mitigation and adaptation: the use of integrated space technology applications to track greenhouse concentrations in the atmosphere, to contribute to the generation

- of relevant information for applications in agriculture, forests and ecosystems; human settlements and megacities exposed to climate change;
- Examples of the use of integrated space technology applications to track glacier melting and sea-level rise and potential consequences to rural communities in developed and developing countries
- Disaster-risk management, response and recovery – hydrometeorological hazards exacerbated by climate change.
- Political and legal aspects regarding the use of Integrated Space Technology Applications in the Paris climate change agreement.

The outcome of the symposium will be a series of observations, recommendations and proposals for future activities regarding the use of space technology applications to reach a better understanding of the effects of climate change and how to address such effects.

6. Language of the Symposium

Applicants must have a good knowledge of ENGLISH, which will be the ONLY working language of the Symposium.

7. Participation

The International Symposium is expected to bring together participants from national, regional, and international organizations from:

- Government agencies including ministries of development and planning, environment, agriculture, health, natural resources, and space agencies;
- National, regional and international organizations involved in space applications, environment and mountain development;
- Academic and research institutions;
- Non-governmental organizations;
- Private Sector and industries.

Applicants must have a well-established professional working experience in a field related to the theme of the Symposium. Applications from qualified female participants are particularly encouraged.

Selected participants who are funded by the co-sponsors of the Symposium will be required to prepare a presentation of approximately 10 to 20 minutes on topics relevant to the Symposium objectives. Presentations on actual on-going projects will be of particular interest to participants of the Symposium. In addition, they are expected to contribute to the moderation of discussion sessions and reporting activities.

The sponsors will jointly select international participants from candidates nominated by their governments and/or institutions. Selection of these participants will be made on the basis of:

- (i) hierarchical level and experience relevant to the Symposium objectives;
- (ii) degree of current involvement in the use of integrated space applications and/or involvement in development processes in mountainous areas;
- (iii) content and relevance of the abstract submitted as part of the application; and
- (iv) educational background.

Compliance with the instructions issued in the application form is mandatory. A limited amount of funding will be available to sponsor the travel and/or accommodation of a number of participants.

8. Deadline for Submission of Applications

Completed applications including the signature page with signatures and seals or stamps must be received by the United Nations Office for Outer Space Affairs no later than 29 May 2016.

International participants are kindly requested to submit their application online at

http://www.unoosa.org/oosa/en/ourwork/psa/schedule/2016/symposium_austria_climatechange.html

9. Life and Health Insurance

Life/major health insurance for each of the selected participants is necessary and is the responsibility of the candidate or his/her institution or government. The co-sponsors will not assume any responsibility for life and major health insurance, nor for expenses related to medical treatment or accidental events.

10. Contact Information

For information regarding the programme of the Symposium, as well as regarding the application process, please contact:

UNOOSA

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