



UNITED NATIONS
Office for Outer Space Affairs

12 Sept. 2016

**United Nations/Austria Symposium
Integrated Space Technology
Applications to Climate Change**

UNOOSA's efforts in Climate Change

United Nations Office for Outer Space Affairs
United Nations Office at Vienna
www.unoosa.org



Vision

Bringing the benefits of space to humankind

Mission Statement

The core business of the Office is to promote international cooperation in the use of outer space to achieve development goals for the benefit of humankind



The uniqueness of UNOOSA

- A **capacity-builder** for United Nations Member States
 - UNOOSA aims to bring the benefits of space to humankind by building space capacity of non-space-faring countries, particularly developing countries

- A **global facilitator** for the growing number of actors joining the space arena
 - UNOOSA plays a leading and facilitating role in the global promotion of peaceful uses of outer space.

- A **gateway** to outer space in the United Nations system
 - UNOOSA is the main UN agency on space matters and facilitates the coordination of UN agencies' activities for using space-related technologies for improving the human condition around the world (UN-Space).



Roles & responsibilities

- Execute the Secretariat functions of the **Committee on the Peaceful Uses of Outer Space** and its Subcommittees
- Lead UN Inter-Agency coordination mechanisms on Outer Space Activities (**UN-Space**)
- Discharge the responsibilities of the Secretary-General under the **UN treaties and principles on outer space**, including maintaining the Register of Objects Launched into Outer Space
- **Coordinate/cooperate** with space agencies, IGOs & NGOs, private sector, academia, involved in space-related activities
- Implement the **United Nations Programme on Space Applications**,
- Serve as Executive Secretariat for the International Committee on Global Navigation Satellite Systems (**ICG**) and the Space Missions Planning Advisory Group (**SMPAG**)
- Implement the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (**UN-SPIDER**) programme.



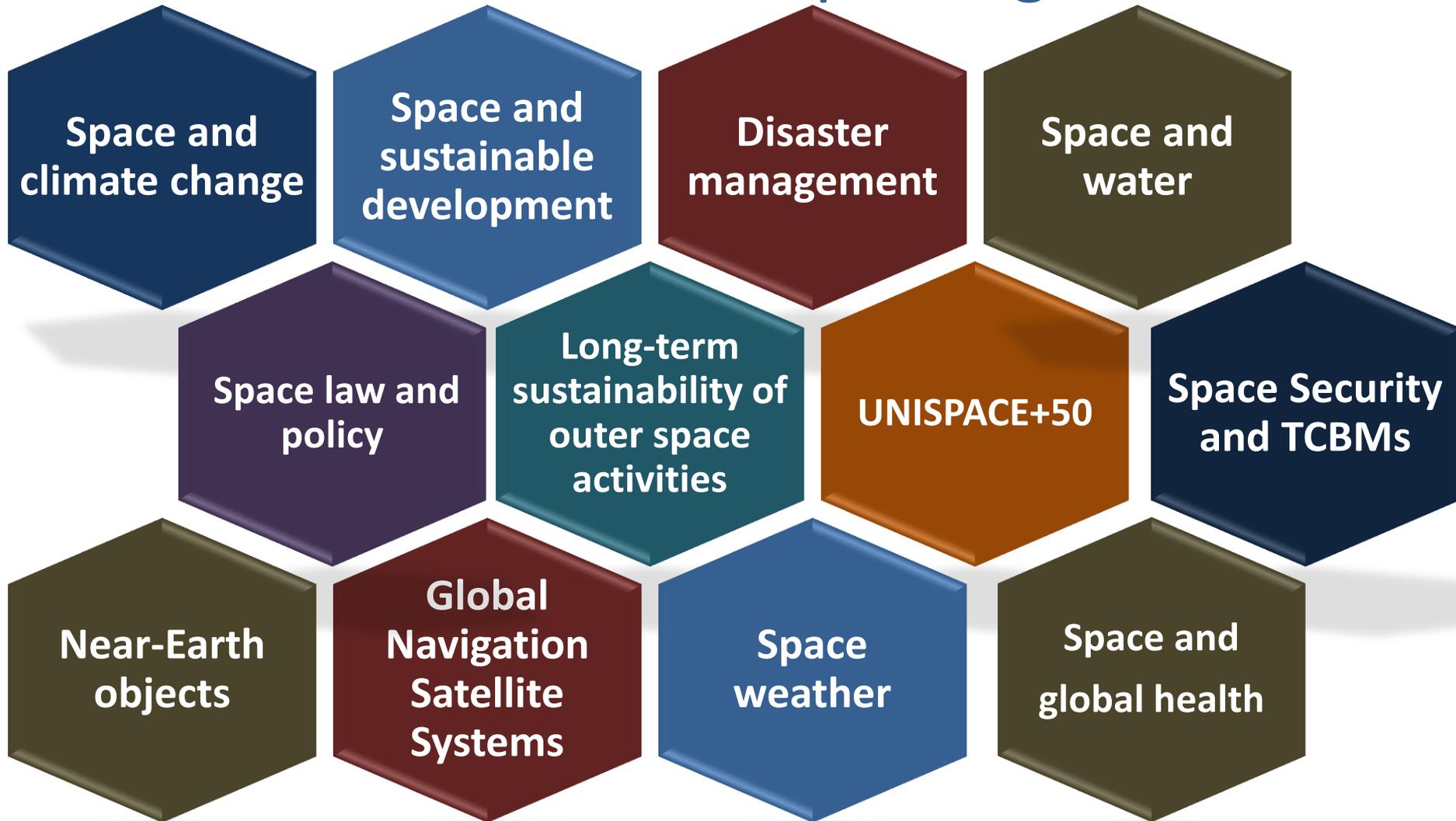
Committee on the Peaceful Uses of Outer Space

- Established by UNGA in 1959 **to govern exploration and use of space** for the benefit of all humanity
- Launched five treaties and five principles of outer space, and **strengthens the international legal regime** governing outer space
- A unique platform to monitor and **discuss developments in the space agenda** and space technology applications
- Supports efforts to **maximize the benefits of the use space science, technology and applications**
- **Increases coherence and synergy** in international cooperation in space activities at all levels.



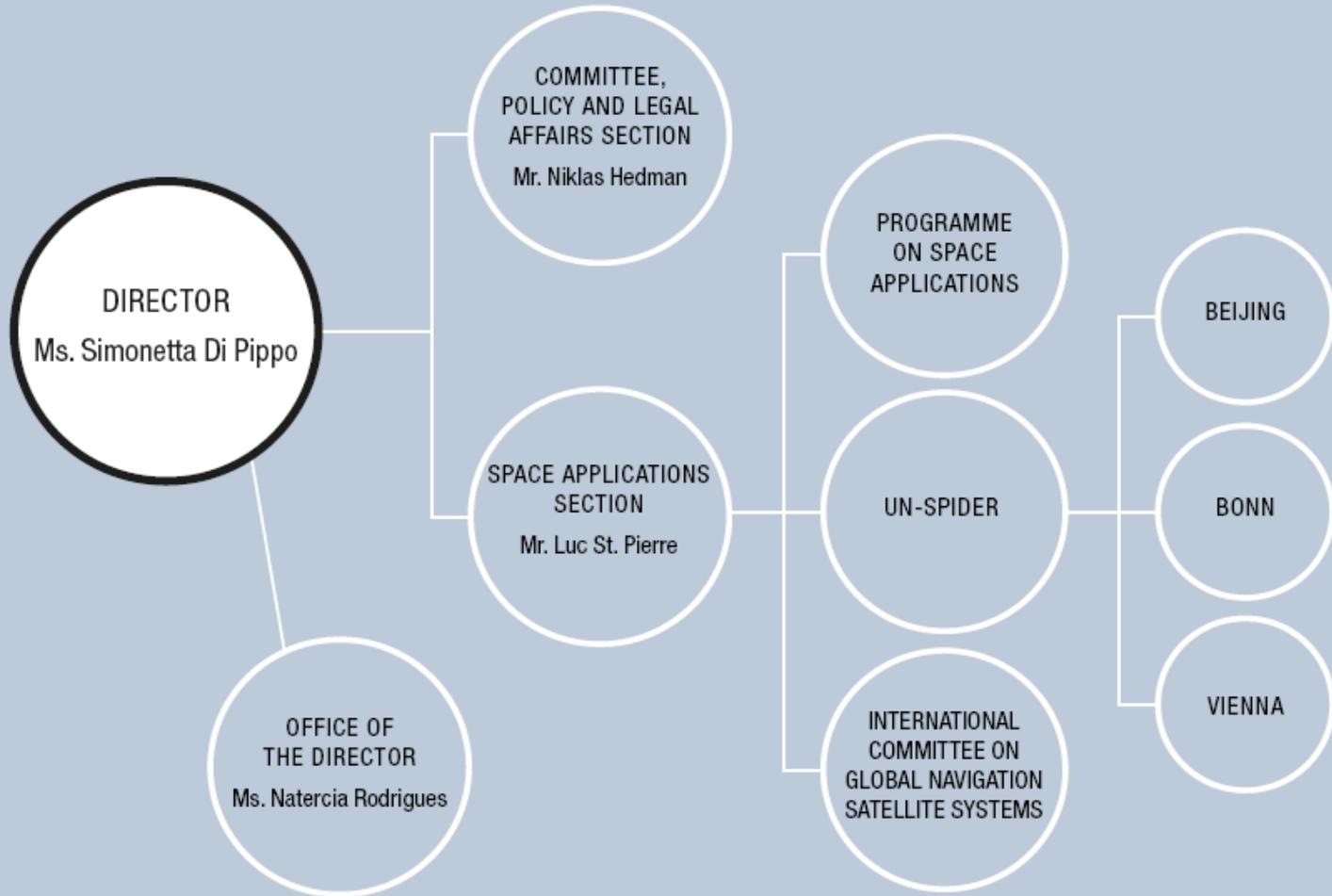


COPUOS: Current space agenda





Organizational Structure of the Office





Climate change efforts within UNOOSA

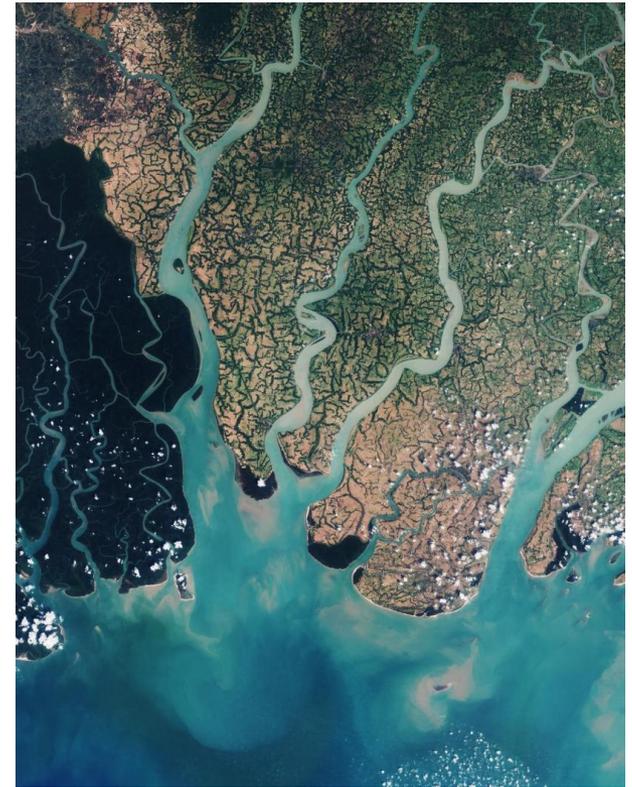
Adopted its internal Climate Change Strategy in November 2010.

Participates in annual events organised by UNFCCC, as well as in events organised by partners.

Established a **Project Team 2030** that includes climate change as one of the key topics.

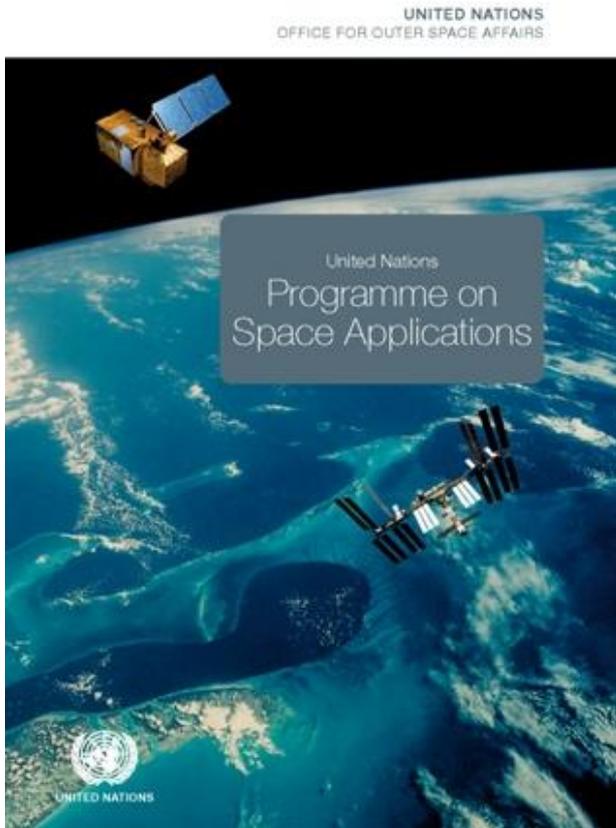
COPUOS and UNOOSA incorporated climate change in the **UNISPACE+50 process** as one of the 7 thematic priorities.

The PSA conducts international conferences and symposia on issues related to climate change since several decades ago.





Programme on Space Applications



- The PSA conducts international conferences and workshops on the use of space technology applications in key priority areas including:
 - Environmental monitoring
 - Natural resource management
 - Tele-health, tele-epidemiology
 - Disaster risk reduction and emergency response
 - **Climate change**
 - Socio-economic benefits.



Programme on Space Applications

Examples of these conferences and workshops include:

- UN/Austria/ESA Symposium on Space Applications to Support the Plan of Implementation of the World Summit on Sustainable Development: “Space Tools and Solutions **for Monitoring the Atmosphere** in Support of Sustainable Development” (2007)
- UN/Vietnam/ESA Workshop on the Use of Space Technology for Use of Space Technology for **Forest Management and Environmental Protection** (2008)
- UN/Kenya/ESA Regional Workshop on Integrated Space Technology Applications for Monitoring **Climate Change Impact on Agricultural Development and Food Security**. (2008)
- UN/IAF Workshop on Integrated Space Technologies and Space-based information for **Analysis and Prediction of Climate Change** (2009)
- UN/Peru/Switzerland/ESA Workshop on Integrated Space Technology Applications for Sustainable Development in the **Mountain Regions of Andean Countries** (2010).



Programme on Space Applications

Examples of these conferences and workshops include:

- UN/Argentina International Conference on the Use of Space Technology for **Water Management** (2011)
- UN/Pakistan International Workshop on Integrated Use of Space Technologies for **Food and Water Security** (2013)
- UN/Indonesia International Conference on Integrated Space Technology **Applications to Climate Change** (2013)
- UN/Morocco International Conference on the Use of Space Technology for **Water Management** (2014)
- UN/Germany International Conference on Earth Observation: Global Solutions for the **Challenges of Sustainable Development in Societies at Risk** (2015).



UNOOSA's climate change strategy

Elaborated considering ongoing efforts conducted by UN organizations, space agencies and those conducted under the umbrella of the Conference of Parties, including by WMO, GCOS and CEOS. It outlines four strategic directions:

- **To promote an effective use of space solutions** to address the challenges of climate change
- **To enhance international cooperation** in space science and technology and its applications in areas related to climate change
- **To strengthen the capacity of Member States**, especially developing countries to use the results of space research in the context of climate change
- **To provide technical advisory services** on space technology applications in climate change-related projects, upon request by Member States.



UNOOSA's climate change strategy

Activities outlined in the strategy:

- **Coordination** with existing organizations and initiatives, including those under the Conference of Parties and UNFCCC
- **Development of tools and methods** to make better use of space-based applications in the area of climate change
- **Capacity-building** efforts
- **To serve as a gateway** to space-based data and information for climate change purposes, with a particular focus on adaptation.

UNOOSA will implement its climate change strategy in **cooperation with national governments and UN agencies**, and will benefit from the advice of experts.



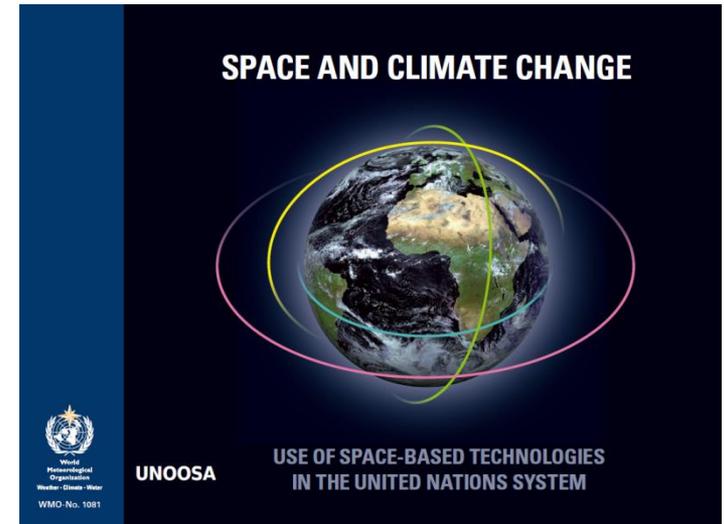
Outreach efforts

UNOOSA has participated in annual conferences and events of the Parties to the Climate Change Convention, including:

- CoPs
- Annual sessions of SBSTA
- Sessions of the Adaptation Committee
- Sessions of the Warsaw International Mechanism on Loss and Damage
- Other events organized by UNFCCC.



United Nations
Framework Convention on
Climate Change





UNITED NATIONS
Office for Outer Space Affairs

Supporting partners

UNOOSA supported the conduction of the DLR
Conference on Climate Change in April 2016:



Deutsches Zentrum
DLR für Luft- und Raumfahrt e.V.



UNITED NATIONS
Office for Outer Space Affairs

Challenges for Atmospheric Research

in collaboration with the United Nations Office for Outer Space Affairs (UNOOSA)

**DLR
CONFERENCE
ON CLIMATE
CHANGE
2016**

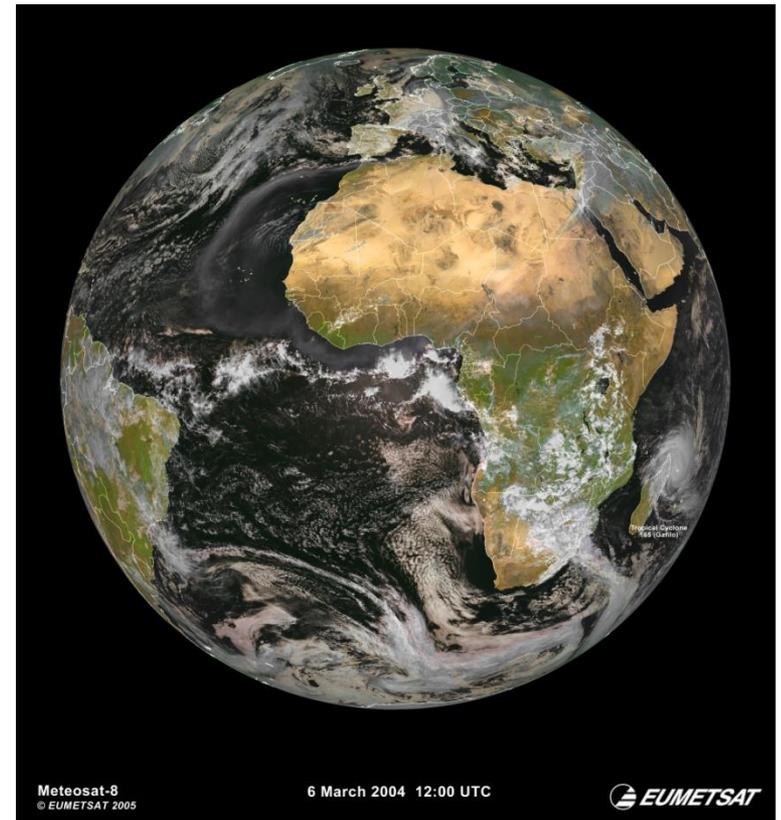
5 - 7 April 2016 | Cologne, Germany | www.ccc2016.net



The way forward

To steer efforts in the coming years, UNOOSA has:

- Established its **internal 2030 Project Team** to address - in a coordinated fashion - efforts targeting climate change, sustainable development and climate change
- Launched in 2015, with the Committee on the Peaceful Uses of Outer Space, the **UNISPACE+50 process**.





The way forward

To steer efforts in the coming years, UNOOSA has:

- Established its internal 2030 Project Team to address - in a coordinated fashion - efforts targeting climate change, sustainable development and climate change
- Liaised with experts from UNFCCC, WMO, GCOS, ESA, space agencies and other stakeholders involved in climate change
- Launched in 2015, with the Committee on the Peaceful Uses of Outer Space, the UNISPACE+50 process.





The 2030 Project Team

The 2030 Project Team will streamline the efforts of UNOOSA in the context of the 2030 Agenda for Sustainable Development, the Paris Climate Change Agreement, the Sendai Framework for Disaster Risk Reduction, and the UNISPACE+50 process:

- Compilation and analysis of the relevant documentation on these global agendas
- Compilation and analysis of the many coordination mechanisms that have been established in these global frameworks
- Identification of key topics where UNOOSA should be active; and organization of activities on these key topics
- Contribute to the efforts of UNOOSA related to the UNISPACE+50 process.



The 2030 Project Team

In the context of climate change, the PT 2030 will:

- Conduct a review of stakeholders involved in the promotion of the use of space technology applications, including those efforts conducted within the UNFCCC
- Identify how best to promote the use of space technology applications in the areas of Adaptation and Loss & Damage as a way to complement efforts conducted by a variety of stakeholders in the area of mitigation
- Promote the use of space technology applications to track efforts as a way to contribute to the Global Stocktake activities
- Plan and oversee the conduction of UN International Conferences, workshops and symposia like the UN/Austria Climate Change Symposium
- Identify synergies linking climate change, disaster risk reduction and sustainable development.



Understanding who is doing what

Climate change:

Impacts and effects of climate change

Climate Change Convention, UNFCCC

Climate change negotiations through COPs



United Nations Framework Convention on Climate Change

SBSTA



Paris climate change agreement

ipcc

INTERGOVERNMENTAL PANEL ON climate change



Parties, international and regional R&D organizations

Approaches

Space technologies



GCOS, CEOS, WMO, space agencies, etc

Systematic observations of climate through ECVs

Systematic Observations, REDD+

FAO, WFP, UNEP, WB, etc

Pilot efforts: agriculture, land-use planning in urban areas

NWP, NAPs
Adaptation Comm.

Loss and Damage 2014

Initial stages

WIM L&D Exec. Comm.

Mitigation
Late 1990s

Adaptation
2010



The future of space: towards UNISPACE+50 in June 2018

2018 marks the 50th anniversary of the first UN Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE), held in Vienna in 1968.

The **Committee on the Peaceful Uses of Outer Space (COPUS)** decided in June 2015 to use this milestone anniversary to renew and strengthen its mandate as **a unique platform for interrelationship between major space faring nations and emerging space nations**, supported by the UN Office for Outer Space Affairs (**UNOOSA**).



@UN Photo

UNISPACE+50 will articulate a long-term vision for Space: from a domain of States towards a domain of a commonly shared human experience.



2018 UNISPACE+50 will consider

- the development of **stronger space governance**, taking into account the **2030 Agenda for Sustainable Development** and the **sustainable development goals**
- **international mechanisms and frameworks**
- **mechanisms and processes for resiliency and interoperability**
- **mechanisms and platforms for space cooperation and coordination** towards stronger space governance and global partnerships.

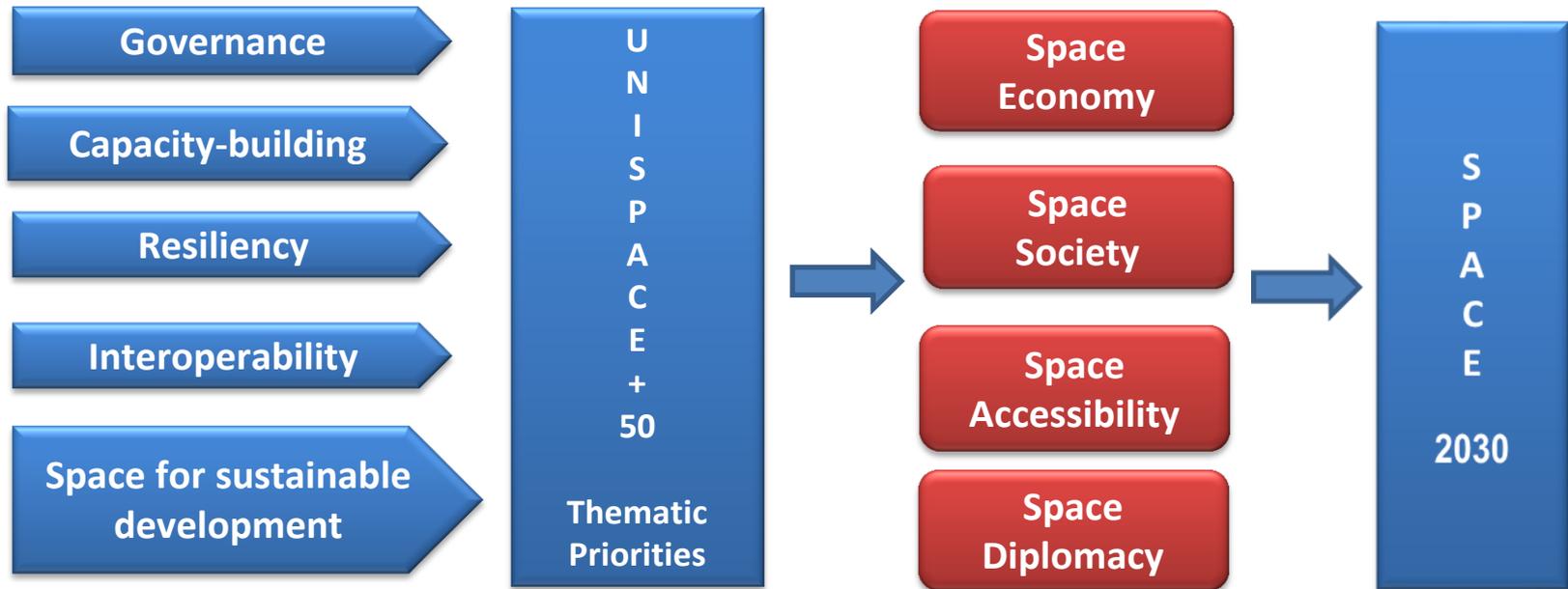


UNISPACE+50 aims to:

- Define its outputs, taking into account
 - **the evolving and complex space agenda**
 - **broader concept of space security**
 - **expanding commercial space sector**
 - **space exploration.**
- **Engage all key stakeholders in the space arena**, including governmental and non-governmental actors, commercial sector, civil society, young generation and public at large
- Build synergies with the outcomes of the key UN Summits in 2015, the **2030 Agenda for Sustainable Development**, the **Sendai Framework for Disaster Risk Reduction 2015-2030** and the outcomes of the **2015 Paris Climate Summit (COP21)**.



UNISPACE+50 Process



People



Planet



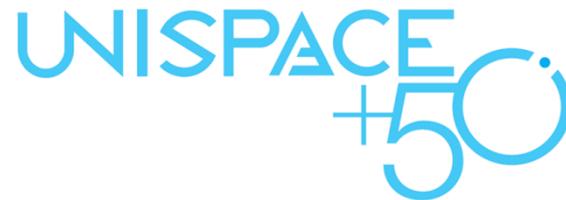
Prosperity



Peace



Partnership



7 Thematic priorities were approved by COPUOS in June 2017

- (1) Global partnership in space exploration and innovation
- (2) Legal regime of outer space and global space governance: current and future perspectives
- (3) Enhanced information exchange on space objects and events
- (4) International framework for space weather services
- (5) Strengthened space cooperation for global health
- (6) International cooperation towards low-emission and resilient societies**
- (7) Capacity-building for the 21st Century**

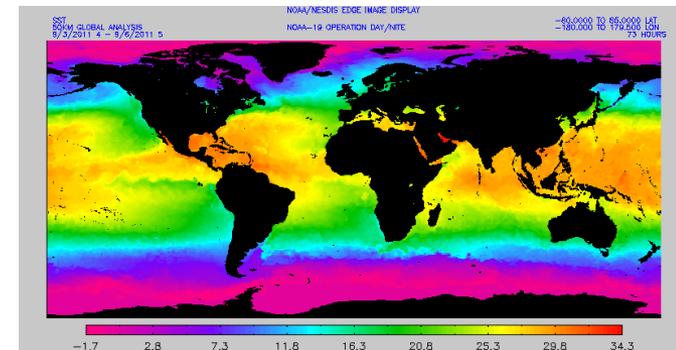
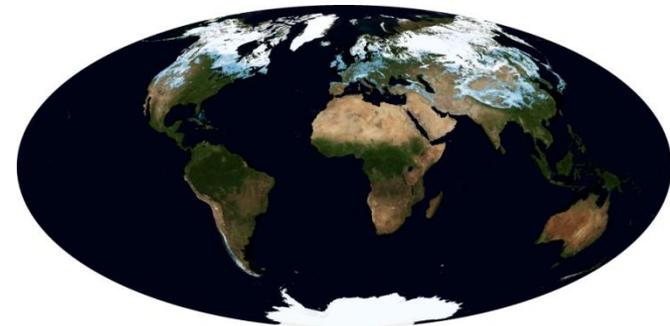


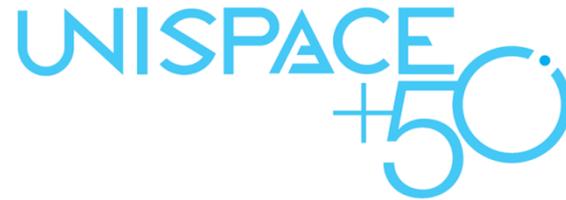
UNISPACE +50

Thematic priority 6:

International cooperation towards low-emission and resilient societies

- Define synergies between **climate change** mitigation efforts, disaster risk reduction and global development.
- Provide requirements to new developers for coverage in geographical areas not sufficiently monitored or applications that need further development. Identify governance and cooperation mechanisms to support this objective.





Thematic priority 7

Capacity-building for the twenty-first century

- Define new innovative and effective approaches to overall capacity-building and development needs as a fundamental pillar of global space governance.
- Strengthen comprehensive capacity-building and outreach activities of the Office for Outer Space Affairs.
- Develop infrastructure for cross-sectoral and integrated applications, with combined scientific, technical, legal and policy outputs.
- Enhance existing partnerships and forge new ones to strengthen and deliver targeted capacity-building and technical advisory activities based on needs assessment.
- Promote efforts to encourage science, technology, engineering and mathematics education, especially for women in developing countries.



The UN/Austria Symposium

This UN/Austria Symposium on Climate Change should allow us to:

- **Take note of recent advances** in the use of space-based technologies in different areas of climate change
- **Identify areas where UNOOSA could be involved** as a way to fill gaps and to provide momentum to particular issues
- **Forge synergies** with key partners
- **Outline a set of recommendations** ways in which space-based technologies can be used for effective climate change-related planning and management worldwide
- **Outline a set of policy-relevant recommendations** to be elevated to the **UNISPACE+50 process** regarding how the international community can work together to enhance the use of integrated space-technology applications to address those challenges posed by climate change.



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THANK YOU

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