



Terms of Reference

Preamble

The **Space Climate Observatory (SCO)**, created by the Declaration signed on June 17th, 2019, addresses the need to step up international coordination to enable accurate assessment and monitoring of the consequences of climate change based on space and in situ observations as well as numerical models. It aims at becoming an important tool for decision-making on preparedness, adaptation and resilience to the impacts of climate change at the local and regional levels.

The participants of the SCO International can be seen as a formal group of space agencies and international organizations gathering regularly to share experiences, toolkits and methods, to provide projects accelerators, and to discuss and agree projects and actions addressing the identified common goals. These goals are directly linked to international commitments taken by nations to tackle climate change issues and their impacts. The SCO International is structured as an international consortium without legal personality, with national/regional versions, depending on the good will and capabilities of SCO Partners and local actors. The SCO International will be developed in good coordination with other existing initiatives.

These Terms of Reference aim to recall the objectives of the SCO Partners and to determine the means they wish to aggregate in order to achieve them. This is a non-binding working document intended to evolve as the SCO matures through the increasing involvement of the SCO Partners, with the ultimate goal to establish a Charter to ensure a better structured coordination of SCO activities.

1. Objective

The SCO aims to provide to interested users the tools and capabilities to study, monitor and adapt to the impacts of climate change, especially at local and regional geographic scales, using satellite-based Earth-observation tools in combination with field data and models.

This objective will be grounded on four pillars:

- transparency (of its actions, of data used and provided)
- local and regional capacity building
- sharing of knowledge
- effective applications for climate change monitoring, mitigation and adaptation

A first implementation of concrete SCO actions is based on **pilot SCO projects** at local scale, providing ready-to-use applications for local communities.

SCO outputs will consist of:

- Access to data, information, products, models, algorithms, analytics, applications and services made available by SCO Partners
- Sharing of lessons learned
- Access to SCO Partners support to develop user-defined products and applications

All of the above shall be governed by the general principle of an open data policy, which could be submitted to specific restrictions formulated by a member of the consortium.

The success of the SCO depends on appropriate use of existing data infrastructure and expertise that can be mobilized for each SCO project according to its needs. **SCO project guidelines** are defined in Section 2.

The added value of SCO initiatives is to:

- initiate and accelerate projects around the world by providing knowledge and infrastructure support upon request
- disseminate results, input data, methods and tools
- ensure that each project will benefit from previous experience
- stimulate international expertise in the monitoring, mitigation and adaptation to climate change impacts
- establish cooperation with international organizations, services, programmes and initiatives to make the best use of their expertise and avoid duplications with existing initiatives dealing with climate change
- raise awareness about the importance of space observation for climate action based on examples of concrete national projects
- offer a gateway to stimulate user community interest in space technology for climate action and to potentially facilitate subsequent capacity-building

Based on fostering the use of Earth-observation satellite data, complemented by local observations and socio-economic data, the SCO International shall devise advanced methodologies to combine various types of data and provide action scenarios at local and regional scale. The SCO Initiative is not only about coordination of data and preparing pilot projects but also about the coordination of platforms (or tools) to manage these data and applications.

2. SCO project guidelines

SCO projects will be required to meet the following criteria:

- G-SCO 1.** Select case studies that specifically address the needs of users within a geographic area
- G-SCO 2.** Propose an operational and practical software
- G-SCO 3.** Make the best use of available satellite, environmental, climate, in situ and socio-economic data, at a resolution adapted to the problem
- G-SCO 4.** Build on (pre-)operational and research infrastructures, services and local data provision
- G-SCO 5.** Have a built-in potential for extension/upgrade of tools in several geographic areas (scaling up)

And, as far as possible, to the following criteria:

- OC 1.** Federate a consortium of scientists, companies and public authorities able to generate new knowledge, innovative and effective core methodologies and practical tools for decision support.

- OC 2. Promote a methodology based on the state of the art including the latest developments in artificial intelligence and related computing infrastructures.
- OC 3. Promote the use of open-source tools and move towards an open final tool.
- OC 4. Propose funding schemes for projects that involve communities in their initial phase, and define the scope of recourse to the private sector for future developments.
- OC 5. Include an analysis of the associated business model.
- OC 6. Consider international cooperation towards “least developing countries“ benefiting from development aid.

In this first phase,

- SCO projects may not be new projects but only consist in existing projects and/or services, which meet SCO objectives and which need “only” to be “transferred” or scaled up.
- Project should be selected at National level and shared at the international level

3. Organization

The SCO International is composed of the SCO partners. They gather regularly at **steering committee meetings**. The chair of the steering committee is designated by the SCO Partners on a rotating basis, and should be the representative of the SCO Partner hosting the corresponding steering committee meeting.

The SCO International is backed by a **General Secretariat** in charge of leading it and assisting the hosting chairman when preparing and organizing steering committee meetings. It also reports to the steering committee. Members of the General Secretariat are designated on a good will basis by SCO Partners and acknowledged by the Steering Committee.

The steering committee will meet at least twice a year.

Space Agencies as SCO Partner are responsible for nurturing SCO projects in their own country as well as for helping to structure their national SCO and/or regional SCO (eg. coordinate with relevant national institutions, foster cooperation between partners to set up national capacity and encourage to develop their activities on digital platforms).

The SCO International should be deployed in a 2 step process:

- 1) The first step should be the first two years that are suggested in the Declaration. These two years should not be binding and should be used to define with all the partners (Space Agencies and Non-space Agencies) the objectives and scope of the SCO. During this period, all the binding issues should be sorted out and possibly, an International Protocol Agreement (Charter) could be prepared.
- 2) Then, at the end of these two years, all Partners (Space and Non-space) would have a clear understanding of the SCO and be probably ready to sign the International Protocol Agreement (Charter) if that solution is the one chosen by the partners.

4. Resources

For the time being, each SCO Partner will contribute to the initiative on a best-effort basis and no exchange of funds is foreseen among the Partners. This will complement and extend existing initiatives, boosting them at national and local scales. The SCO programme will thus operate alongside and downstream of climate change programmes and initiatives supporting and accelerating

work already underway within our space and scientific communities, as well as actions on the ground led by international organizations like the UN (cf. OC 4).

5. Terms and Conditions

These Terms of Reference may be modified or terminated by mutual agreement of the SCO Partners. The Terms of Reference do not establish any obligation or legal requirement. These ToR shall remain in force until the adoption of a SCO Charter.

6. Annexes

6.1. DOCUMENTS AND DEFINITIONS

Applicable documents

- United Nations Framework Convention on Climate Change (UNFCCC), adopted at the Rio Summit, 1992
- 2030 Agenda for Sustainable Development, adopted in 2015 by the UN General Assembly
- Paris Agreement on Climate, signed during the COP25 conference in 2015
- UN GA Resolution 73/6, 26 October 2018: Fiftieth anniversary of the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space: space as a driver of sustainable development
- Declaration for a Space Climate Observatory, signed on 17 June 2019

Reference documents and initiatives

- UNOOSA Report: "European Global Navigation Satellite System and Copernicus: Supporting the Sustainable Development Goals. Building Blocks towards the 2030 Agenda", United Nations, January 2018
- Strategies developed by relevant organizations including the Committee on Earth Observation Satellites (CEOS), the World Meteorological Organization (WMO), the Global Climate Observing System (GCOS), the Group on Earth Observation (GEO) for which the SCO International is recognized as community activity.

Definitions:

- The **Declaration** refers to the joint Declaration of Interest for a Space Climate Observatory signed on 17 June 2019.
- The **SCO initiative** refers to the general implementation of the Declaration.
- **SCO International** refers to the international level of the SCO initiative.
- **SCO National** refers to the SCO initiative at the country level.
- **SCO Regional** refers to the SCO initiative at regional level.
- **SCO Partners** refer to the signatories of the Declaration.
- **SCO projects** refer to a concrete implementation of the SCO initiative, in accordance with the SCO project guidelines.
- The **Steering Committee** refers to the regular meetings attended by SCO Partners where general issues are discussed.
- The **General Secretariat** refers to a subgroup of SCO Partners responsible for the development of the SCO Initiative (and organization of the Steering Committees?).

6.2. PROPOSED TIMELINE

to	17 June 2019
to + 4m	22-23 October 2019 – 1 st Steering Committee meeting (Washington)
to + 7m	15 January, 2020 – 2 nd Steering Committee meeting (Abu Dhabi)
to + 11m	mid May, 2020 – e-meeting <ul style="list-style-type: none"> • Digit Com Strategy, • preparation of the 3rd Steering Committee, • preparation of the One Planet Summit
to + 12m	15-16 th June 2020 – One Planet Summit (Marseilles during UICN) <ul style="list-style-type: none"> • Launch of the new website and social media activity
to + 12m	17-26 th June 2020 – 3 rd Steering committee meeting (Vienna by UNOOSA) <ul style="list-style-type: none"> • Communication toolkit • First projects • Charter principles and draft SCO definition document
to + 17m	12-16 th October 2020 - 4 th Steering Committee meeting (Dubai, during IAC)
to + 18m	November 2020 – (during COP 26 in Glasgow) <ul style="list-style-type: none"> • Draft Charter and associated SCO definition documents • Projects • Report on the activities
to + 24m	June 2021 – 5 th Steering Committee meeting <ul style="list-style-type: none"> • Final signature of the Charter

6.3. CURRENT SIGNATORIES

Agence Gabonaise d'Etudes et d'Observations Spatiales (AGEOS)

Agência Espacial Portuguesa (AEP)

Austrian Space Agency (FFG)

Comision Nacional de Actividades Espaciales, Argentina, (CONAE)

Azercosmos, Azerbaijan

Politique scientifique fédérale belge, Belgium, (BELSPO)

Brazilian Space Agency (AEB)

Centre National d'Etudes Spatiales, France, (CNES)

China National Space Administration (CNSA)

Deutsches Zentrum für Luft- und Raumfahrt, Germany (DLR)

Geo-Informatics and Space Technology Development Agency, Thailand (GISTDA).

Ethiopian Space Science and Technology Institute, Ethiopia (ESSTI)

Hellenic Space Agency (HSA)

Ethiopian Space Science and Technology Institute (ESSTI)

Indian Space Research Organization (ISRO)

Italian Space Agency (ASI)

Israel Space Agency (ISA)

Mexican space agency (AEM)

Romanian Space Agency (ROSA)

State Space Agency of Ukraine (SSAU)

Swedish National Space Agency (SNSA)

UK Space Agency (UKSA)

United Arab Emirates Space Agency (UAESA)

Vietnam Academy of Science and Technology (VAST)

European Space Agency (ESA)

United Nations Development Programme (UNDP)

United Nations Office for Outer Space Affairs (UNOOSA)