

# GGOS

## Coordinating Office

### 2020-2022 Implementation Plan



IUGG



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GGOS  
Global Geodetic  
Observing System

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## 1 IMPLEMENTATION OVERVIEW

### 1.1 Introduction

As defined in the GGOS Terms of Reference (approved in July 2011), “The GGOS Coordinating Office (CO) performs the day-to-day activities in support of GGOS, the Executive Committee, the Coordinating Board and the Science Panel, and ensures coordination of the activities of the various components. The CO ensures information flow, maintains documentation of the GGOS activities and manages specific assistance functions that enhance the coordination across all areas of GGOS, including inter-services coordination and support for workshops. The CO in its long-term coordination role ensures that the GGOS components contribute to GGOS in a consistent and continuous manner and adhere to GGOS standards. The CO also maintains, manages and coordinates the GGOS Web presence.”

### 1.2 Goals and Objectives

The GGOS Coordinating Office ensures optimal coordination of the activities of the various GGOS components. As such, the coordinating office endeavors to support all GGOS entities to achieve all of their respective goals and supporting objectives to make their prescribed outcomes a reality. Nevertheless, as shown in Table 1.2-1, the Coordinating Office will directly handle a set of primary and secondary goals in its own right.

	Goal 1 – Geodetic Information and Expertise			Goal 2 – Global Geodetic Infrastructure		Goal 3 - Services, Standardization, and Support		Goal 4 - Communication, Education, and Outreach	
	<i>Objective 1-1 – Understand societal and scientific needs and deficiencies</i>	<i>Objective 1-2 – Position GGOS as the primary source for geodetic information and expertise</i>	<i>Objective 1-3 – Connect with the larger scientific community and integrate with other Earth observing</i>	<i>Objective 2-1 – Support and advocacy for infrastructure and associated elements</i>	<i>Objective 2-2 – Lead efforts for the integration of various ground observation networks within the GGOS network</i>	<i>Objective 3-1 – Standardization</i>	<i>Objective 3-2 – Coordination and Development of IAG Services</i>	<i>Objective 4-1 – Establish a Strong Internet/Online Presence</i>	<i>Objective 4-2 – Outreach to the Technical Community and General Society</i>
Coordinating Board	✓✓	✓✓	✓	✓	✓	✓	✓	✓	✓
Consortium	✓	✓✓	✓✓	✓	✓	✓	✓✓		✓
Coordinating Office	✓	✓	✓	✓	✓	✓	✓	✓✓	✓✓
Bureau of N&O			✓	✓✓	✓✓	✓	✓		
Bureau of P&S	✓	✓	✓	✓		✓✓	✓✓		
Science Panel	✓✓	✓	✓✓				✓		✓

**Table 1.2-1:** GGOS Coordinating Office Goals and Objectives Mapping (primary (✓✓) and secondary (✓) goals).

**Primary Goals** — The Coordinating Board looks to **Goal 4 (Communications, Education and Outreach)** and associated objectives **4.1 (Establish a strong internet/online presence)** and **4.2 (Outreach to the technical community and general society)** for primary direction in its efforts. The Coordinating Office will undertake achieving the desired outcomes associated with those primary objectives, namely (as stated in the Strategic Plan):

Outcome 4-1: The GGOS web presence is a consolidated and extensive resource – it is the primary point of engagement for the technical community, and a valuable tool for outreach to society. The GGOS website and portal are amalgamated into a single website and streamlined for both technical and general audiences. The website provides online databases of GGOS resources, including technical resources, reports issued by (and related to) GGOS, general efforts advancing the organization, student opportunities and other educational resources.

Outcome 4-2A: GGOS engages the expert population within GGOS membership; engages in outreach to related and potentially complementary groups; supports geodetic satellite missions; advocates for new stations; and engages the general technical community through sessions at workshops and conferences.

Outcome 4-2B: A component of the GGOS website is created for outreach to education and general interest audiences; educational materials are published for distribution to students of various age as well as the general public.

**Secondary Goals** — The Coordinating Office sets as its secondary objectives the rest of the GGOS objectives consistently with its charter to coordinate all activities of GGOS.

## 1.3 Coordinating Office Authority, Governance Structure, Management Structure, and Implementation Approach

### 1.3.1 Coordinating Office Authority

The Coordinating Office acts at the pleasure of the Coordinating Board, which delegates authority to the Coordinating Office to run the day-to-day activities associated with the coordination of the implementation of the different plans set forth by the GGOS bureaus and Science Panel. In this capacity, the Coordinating Office works closely with the directors of the bureaus and science panel to manage activities and ensure that plans are accomplished in a timely and efficient manner.

### 1.3.2 Governance Structure

The fundamental governing structure of GGOS, including its Coordinating Office, is dictated by the GGOS Terms of Reference (GGOS 2011). The Terms of Reference establish the position of a Director (Head) of the Coordinating Office, who is a voting ex-officio member of the Coordinating Board.

After the adoption of the **strategic plan**, the Coordinating Board oversees the generation of an **implementation plan every two years** to achieve the objectives set forth in the strategic plan. This implementation plan is made up of individual implementation plans associated with the following GGOS components: CB, BNO, BPS, CO, Science Panel. The Coordinating Board delegates responsibility for the generation of those plans — except the one belonging to the Coordinating Board — to the different entities.

The Coordination Board approves the implementation plans and delegates responsibility for the day-to-day monitoring and coordination of all plan activities to the director of the Coordinating Office.

## 1.3.3 Management Structure

The resources (positions) of the GGOS Coordinating Office are summarized in Table 1.3-1.

Position	Resource	Entity Contributing
Director of Coordinating Office	Martin Sehnal (< 0.7 FTE)	BEV (Austria)
GGOS Web and Social Media Manager	Martin Sehnal (< 0.2 FTE)	BEV (Austria)
CO Management & Engineering Support	various people (< 0.1 FTE)	BEV (Austria)
Manager of External Relation	Allison Craddock (< 0.3 FTE)	NASA (USA)
Chair of DOI Working Group	Kirsten Elger (< 0.2 FTE)	GFZ (Germany)

**Table 1.3-1:** Coordinating Office Resources.

The **Director of the GGOS Coordinating Office** is an ex-officio voting member of the Coordinating Board and coordinates and oversees the Day-to-day activities of GGOS. He then reports progress against execution plans and associated schedules to the Coordinating Board on a periodic basis. The Coordinating Board then ensures that these activities continue to be aligned with the objectives of the strategic plan and redirects the Coordinating Office as needed. A summary of all communications to manage all activities associated with the Coordinating Office is shown in Table 1.3-2. This table includes all information-gathering meetings and reporting meetings.

The **GGOS Web and Social Media Manager** is responsible for the web and social media presence. This position and the **Management & Engineering Support** Team assist the Director of GGOS CO.

All artifacts generated by GGOS, including strategic and implementation plans, as well as meeting minutes and presentations, are curated by the Coordinating Office and made accessible online via the GGOS Website/Portal.

The **Manager of External Relations** is a member of the Coordinating Office and an ex-officio voting member of the Coordinating Board. This position supports the Director of GGOS CO in outreach activities by maintain the communication to external partner organization.

The **Chair of the DOI Working Group** is the head of the “WG on DOIs for Geodetic Data Sets”, which was established in 2019 within the Coordinating Office for a period of 4 years.

Communication Type	Purpose	Medium	Frequency	Audience	Owner	Deliverables
<b>CB Chair &amp; CO Director Meeting</b>	Discussion of day-to-day activities / issues	E-Mail (or by Telecon)	Occasionally	CB Chair, CO Director	CB Chair	Outcome report in EC Telecon
<b>GGOS EC Telecon</b>	Discussion of day-to-day business	Telecon	Monthly	GGOS EC, invited Guests	CB Chair	Before: Agenda After: Minutes
<b>GGOS CB Meeting</b>	Review status, strategic issues	Face-to-Face (and by Telecon)	Twice per year (EGU, AGU)	GGOS CB, invited Guests	CB Chair	progress reports Before: Agenda After: Minutes
<b>GGOS Consortium Meeting (GGOS Days)</b>	Interactions GGOS/IAG	Face-to-Face (and by Telecon)	Annually	GGOS CB, Consortium, Guests	CB Chair	GGOS entities reports Before: Agenda After: Minutes
<b>DOI WG Telecon</b>	Discussion of WG process	Telecon	Monthly	WG Chair & members	WG Chair	progress report Before: Agenda After: Minutes

**Table 1.3-2:** Coordinating Office Communications Plan. The table identifies the communication requirements of the Coordinating Office.

### 1.3.4 Implementation Approach

The GGOS Coordinating Office relies on the partner institutions that provide the personnel who comprise the Coordinating Office (See Table 1.3-1: Coordinating Office Resources) for the execution of its functions.

The GGOS Coordinating Office also relies on the other GGOS entities, including: the GGOS Coordinating Board that provides overall direction to the Coordinating Office; the bureaus, their working groups, and the Science Panel for the execution of implementation plans.

The GGOS Coordinating Office will work very closely with the GGOS Coordinating Board and steering committees, such as the Science Panel and Consortium, to oversee the fulfillment of GGOS goals and objectives as set forth in its strategic plan.

## 1.4 Stakeholder Definition

Table 1.4-1 summarizes the advocacy strategy for the identified internal and external stakeholders of GGOS.

STAKEHOLDERS	ADVOCACY STRATEGIES
<b>INTERNAL STAKEHOLDERS</b>	
GGOS Coordinating Board	<p>The GGOS Coordinating Board is the primary oversight entity, as well as beneficiary, of Coordinating Office efforts. The two entities support and sustain one another, for the overall benefit of GGOS and the IAG.</p> <p><i>Advocacy strategies includes communication to discuss progress and issues, as well as face-to-face (or teleconference) meetings at major conferences and/or workshops (approximately two to three times per year).</i></p>
GGOS Bureaus	<p>GGOS Bureau directors work closely with the Coordinating Office to update relevant GGOS elements on bureau activities and ensure that tasks are accomplished in an efficient and timely manner.</p> <p><i>Advocacy strategies include approximately monthly meetings to discuss progress and issues.</i></p>
GGOS Science Panel	<p>The director of the GGOS Science Panel works closely with the Coordinating Office to provide progress updates, manage assigned activities, and ensure that plans relevant to the panel are accomplished in a timely and efficient manner.</p> <p><i>Advocacy strategies include frequent (monthly) meetings to discuss progress and issues.</i></p>
<b>EXTERNAL STAKEHOLDERS</b>	
CEOS	<p>As an associate member organization of CEOS, GGOS participates in the Plenary, Strategic Implementation Team, and relevant working groups. CEOS depends on its associated agencies to ensure that key activities have sufficient human resources and seamless leadership at all levels.</p> <p><i>GGOS supports the CEOS mission of “ensur[ing] international coordination of civil space-based Earth observation programs, and promot[ing] exchange of data to optimize social benefit and inform decision making for securing a prosperous and sustainable future for humankind” with a critical connection between CEOS and various space agencies, ensuring optimal cooperation between the two</i></p>

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	<p>stakeholders for the purposes of geodetic observation.</p> <p><i>Advocacy strategies include web presence and social media coordination and promotion of each other's activities.</i></p>
GEO	<p>GGOS supports the GEO vision of realizing “a future wherein decisions and actions, for the benefit of humankind, are informed by coordinated, comprehensive and sustained Earth observations and information” by providing observations relevant for several of the Societal Benefit Areas addressed by GEO, including disasters, water, climate, and weather. GGOS, through the activities of its Coordinating Board, also acts as the interface between the geodetic services and GEO.</p> <p><i>Advocacy strategies include web presence and social media coordination and promotion of each other's activities.</i></p>
Space Agencies	<p>As the primary source of all global geodetic information and expertise, GGOS provides a critical service to space agencies all over the world.</p> <p><i>Advocacy strategies will include coordination and promotion of each other's activities through GGOS Coordinating Office members employed by (or working with) space agencies, as well as joint web and social media presence.</i></p>
United Nations	<p>The Committee of Experts on Global Geospatial Information Management (UN-GGIM) is a high-level board on United Nations level.</p> <p>Advocacy strategies will include regular (semi-annual) participation of CO members in UN-GGIM meetings, as well as joint web-based promotion of each other's activities.</p>

**Table 1.4-1:** Coordinating Board Stakeholders and Advocacy Strategies



## 2.0 Coordinating Board BASELINES

The foundation of the GGOS Coordinating Office is to serve as a central point of coordination for GGOS efforts, and thus streamline the efforts of bureaus, working groups, the science panel, focus areas, and other entities in the most efficient and mutually beneficial way possible. It also ensures that coordination outside of GGOS, including work in concert with IAG Services, occurs in the best and most agreeable way possible.

### 2.1 Requirements Baseline

The requirements addressed in this baseline are those requirements of a technical nature that will require a technical verification and validation. They represent *“the high level activities that GGOS together with the IAG must ensure”* (GGOS 2020, p. 224). Other activities pursued in support of meeting objectives and their overarching goals are presented as part of Section 2.2 (Schedule Baseline). Table 2.1-1 shows only those requirements that whose oversight has been allocated to the Coordinating Office—the totality of functional and operational requirements can be found in the Coordinating Board implementation plan. It also shows the allocation of those requirements to an IAG service or other entity. (These requirements may be rewritten at a later stage to ensure they meet requirement definition standards.)

REQUIREMENT REFERENCE	REQUIREMENT AND INTERPRETATION	GGOS ALLOCATION	IAG SERVICE (OR OTHER ENTITY) ALLOCATION
Operational Specifications for GGOS			
GGOS-Ops-7	Maintain databases of observations and products.	GGOS CO	
-	Establish guidelines using DOIs for geodetic data sets.	DOI WG	All IAG Services

**Table 2.1-1:** Coordinating Board Requirement Allocation

### 2.2 Schedule Baseline

The scheduled activities of the Coordinating Office are shown in Figure 2.2-1. The activities are divided in three main categories: Coordination of GGOS activities, information-technology activities, and outreach activities.

## 2.2.1 Coordination of GGOS Activities

The GGOS Coordinating Office main activity is the coordination of all GGOS efforts as outlined in this plan and the implementation plans of the GGOS components. This coordination activity takes place during formal meetings (see Table 1.3-2: Coordinating Office Communications Plan) and informal communications via phone, email or in person.

## 2.2.2 Information-technology Activities

The planned activities in the field of information technology, which include developing a strong web/online presence for external and internal use, are grouped as follows:

- Redesign and implement a new **GGOS website** with the aim to make it more user-friendly and attractive for geodesists, geoscientists, and non-scientists (e.g. politician).
- Establishing of a secure cloud hosting system “**GGOS Cloud**” as an online digital library to provide internal and external/public documents and data.
- Develop a “**GGOS Portal**” to provide information’s and [meta] data about IAG products. It should be integrated and connected with the GGOS website. This effort includes addressing requirement GGOS-Ops-7 regarding the maintenance and access to databases of information and products (See Section 2.1 Requirements Baseline).
- Solicit **specialized web content** from GGOS components.
- Manage and extend the **social media visibility** to meet our plans for engagement with internal and external stakeholders (See Section 1.4). This includes maintenance of e.g. Twitter, Facebook, Instagram, and other social media platforms.

## 2.2.3 Outreach Activities

- Establish and coordinate a **newsletter service** with **popular articles** about geodetic- techniques, observation methods, and products to make geodesy more attractive for non-geodesists.
- Redesign and develop a new **GGOS brochure**, as well as one-page fact sheets and other pertinent media.
- Manage **external relations and engagement with stakeholder organizations** such as GEO, CEOS and ISC-WDS as well as identify opportunities to link geodesy with relevant United Nations frameworks, such as the Sendai Framework for Disaster Risk Reduction and the UN-GGIM-World Bank Integrated Geospatial Information Framework. (Manager of External Relations) Establish **Guidelines on DOIs** for geodetic data sets in the Working Group on “Digital Object Identifiers (DOIs) for Geodetic Data Sets”. It was established in 2019 and the final output should be presented at the IUGG General Assembly in 2023.

**Figure 2.2-1:** Schedule of the Coordinating Office activities.



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CB	(GGOS) Coordinating Board
CEOS	Committee on Earth Observation Satellites
CO	(GGOS) Coordinating Office
DOI	Digital Object Identifier
FTE	Full-time Equivalent
GEO	Group on Earth Observations
GFZ	Deutsches Geo Forschungs Zentrum GFZ
GIAC	GGOS Interagency Committee
GIMS	GGOS Integrated Master Schedule
GGOS	Global Geodetic Observing System
IAG	International Association of Geodesy
ICS	International Science Council
NASA	National Aeronautics and Space Administration
UN-GGIM	United Nations Committee of Experts on Global Geospatial Information Management
WDS	World Data System
WG	Working Group

## Appendix B Glossary

TERM	DEFINITION
[Term goes here]	[Definition goes here]
[Term goes here]	[Definition goes here]

**Table B-1:** Terms and Definitions

## Appendix C References

[GGOS 2020]: Global Geodetic Observing System: Meeting the Requirements of a Global Society on a Changing Planet in 2020", H.-P. Plag and M. Pearlman (editors), Springer, 2009

[GGOS ToR] Terms of Reference of the Global Geodetic Observing System (GGOS), IAG Executive Committee, IUGG XXV General Assembly, Melbourne, Australia, July 2011.