

GGOS
Coordinating Board
2015-2016 Implementation Plan

1.0 IMPLEMENTATION OVERVIEW

1.1 Introduction

As defined in the GGOS Terms of Reference, the GGOS Coordinating Board is the central oversight and decision-making body, and represents the IAG Services, Commissions, Inter-Commission Committees, and other entities.

The GGOS Coordinating Board sets the strategic direction of GGOS in consultation with the GGOS Consortium and monitors the implementation of the adopted strategic plan. As such, the Coordinating Board monitors the GGOS Coordinating Office, which is tasked to manage and coordinate day-to-day activities leading to the fulfillment of strategic objectives. The Coordinating Board reports overall progress to the GGOS Consortium.

The strategic plan prepared by the GGOS Coordinated Board is shaped to maximize the benefits of GGOS—the observation system of the International Association of Geodesy—to the scientific community and society as a whole.

1.2 Goals and Objectives

The GGOS Coordinating Board sets the strategic direction of GGOS. As such, the coordinating board endeavors to achieve all four goals and their supporting objectives, as outlined in the GGOS Strategic Plan, and make the projected outcomes a reality. In support of this overall effort, the Coordinating Board will directly respond to a set of primary and secondary objectives, as illustrated in Table 1.2-1.

Primary Goals

The Coordinating Board looks to Goal 1 for its primary objectives, specifically: Objective 1.1 (Understand societal and scientific needs and deficiencies), and Objective 1.2 (Position GGOS as the primary source for geodetic information and expertise). The Coordinating Board will work toward achieving the desired outcomes associated with these primary-level objectives, as stated in the Strategic Plan:

Outcome 1-2A: GGOS facilitates the integration of pertinent existing IAG products and services with potential additional IAG products and services, specifically addressing areas of need.

Outcome 1-2B: GGOS, as a clearinghouse for geodetic information and expertise, serves as the voice of consensus within the geodetic community.

Outcome 1-2C: GGOS engages and integrates experts in all services within the organization.

Secondary Goals

The Coordinating Board sets all remaining GGOS Strategic Plan objectives as its secondary objectives, consistent with its charter to shepherd the implementation of the strategic plan.

Table 1.2-1: GGOS Coordinating Board Goals and Objectives Mapping. The table identifies the primary (✓✓) and secondary (✓) Goals and Objectives that the GGOS Coordinating Board will be supporting to meet the outcomes stated in the GGOS strategic plan. Primary goals and objectives are those that are aligned with the charter of the GGOS Entity in question and are not likely to be realized without its involvement. Secondary goals and objectives are those that the given GGOS Entity can support as part of its charter.

	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	✓✓	✓	✓✓				✓		✓

1.3 Coordinating Board Authority, Governance Structure, Management Structure, and Implementation Approach

1.3.1 Coordinating Board Authority

The IAG, through the GGOS Terms of Reference, grants the GGOS Coordinating Board decision-making authority over all GGOS-related matters. The Coordinating Board can, at its discretion, delegate its responsibilities to other entities within GGOS in order to execute GGOS plans. However, the Coordinating Board remains accountable for any responsibilities delegated to these other entities.

The Coordinating Board may implement changes to the GGOS Terms of Reference, pending the approval of the IAG Executive Committee. The Coordinating Board is also required to consult with the IAG for any re-organizations of GGOS, including the creation of new entities, as well as to adopt a new strategic plan.

1.3.2 Governance Structure

The fundamental governing structure of GGOS, including its Coordinating Board, is dictated by the GGOS Terms of Reference (GGOS 2011) and reiterated in section 1.1.1 of this document. The Terms of Reference defines the Coordinating Board as a 23-member organizational entity with 16 voting members. The Coordinating Board includes the Executive Committee, and answers to the Consortium for all of its assigned duties.

The Executive Committee, comprised of the GGOS Chair, vice-chair, Director of the Coordinating Office, and 2 additional appointed members, sets the agenda for the Coordinating Board and brings matters to vote, as needed. This entity is responsible for the organization's strategic planning, including the generation of a strategic plan to provide long-term direction for GGOS so that it may fulfill its charter. In support of this, the Coordinating Board is accountable for the implementation of the strategic plan.

Once the strategic plan is adopted, the Coordinating Board oversees the generation of a yearly implementation plan to achieve the objectives set forth in the strategic plan. This implementation plan is made up of individual implementation plans associated with each of the relevant GGOS entities. The Coordinating Board delegates responsibility for the generation of those plans—except the one belonging to the Coordinating Board itself—to the different bureaus, science panel, and Coordinating Office, respectively. The Coordination Board reviews and approves the completed implementation plans, and delegates responsibility for the day-to-day monitoring and coordination of all plan-related activities to the director of the Coordinating Office. Because of the extensive aforementioned responsibilities, the Coordinating Board is accountable for the overall performance of GGOS.

The Coordinating Board answers to the GGOS Consortium for all of its assigned activities. The Consortium then acts as the steering committee of GGOS, as outlined in the GGOS Terms of Reference.

1.3.3 Management Structure

The resources and corresponding positions of the GGOS Coordinating Board, as well as its associated supporting entities, are summarized in Table 1.3-1 below.

The GGOS Coordinating Office oversees and coordinates the day-to-day activities of GGOS, and reports to the Coordinating Board on progress against strategic and implementation plans, as well as progress related to associated schedules, on a periodic basis. The Coordinating Board then ensures that the activities continue to be aligned with the objectives of the strategic plan, and implements alignment corrections as needed.

An activity management communications summary for all activities associated with the Coordinating Board is shown in Table 1.3-2. This table includes all information-gathering meetings as well as reporting meetings.

All artifacts generated by the GGOS Coordinating Board, including strategic and implementation plans, as well as meeting minutes and presentations, are made available on the GGOS website.

Table 1.3-1: Coordinating Board Resources.

Position	Resource	Entity Contributing
CB Chair	Hansjörg Kutterer (< 1 FTE)	BKG (Germany)
CB Vice Chair	Ruth Neilan (< 1 FTE)	NASA (USA)
Director of Coordinating Office	TBD (0.75 < 1 FTE)	TBD
Chair of the GGOS Science Panel	Richard Gross (< 1 FTE)	NASA (USA)
Director of the Bureau of Networks and Observations	Michael Pearlman (< 1 FTE)	NASA (USA)
Director of the Bureau of Products and Standards	Detlef Angermann (< 1 FTE)	DGFI (Germany)

IAG President or Designated Representative	Chris Rizos (< 1 FTE)	University of New South Wales (Australia)
IAG Service Representative (IDS)	Pascal Willis (< 1 FTE)	IPGP (France)
IAG Service Representative (IGS)	Ruth Neilan (< 1 FTE)	NASA (USA)
IAG Service Representative (ILRS)	Erricos Pavlis (< 1 FTE)	NASA (USA)
IAG Service Representative (IERS)	Tom Herring (< 1 FTE)	Massachusetts Institute of Technology (USA)
IAG Commission Representative (Commission 2: Gravity Field)	Srinivas Bettadpur (< 1 FTE)	University of Texas at Austin (USA)
IAG Commission Representative (Commission 1: Reference Frames)	Tonie Van Dam (<1 FTE)	University of Luxembourg (Luxembourg)
Member at Large	Maria Cristina Pacino (<1 FTE)	CONICET (Argentina)
Member at Large	Yoichi Fukuda (< 1 FTE)	Kyoto University (Japan)
Member at Large	Yamin Dang (< 1 FTE)	Chinese Academy of Surveying and Mapping (China)
Chair of Working Group on Satellite and Space Missions	Roland Pail (< 1 FTE)	Technical University of Munich (Germany)
Chair of Working Group on Data and Information Systems	Bernd Richter (< 1 FTE)	BKG (Germany)
Chair of Working Group on Contribution to Earth System Modeling	Maik Thomas (< 1 FTE)	GFZ (Germany)
Chair of Working Group on Outreach	TBD (<1 FTE)	TBD

Chair of Working Group on Performance Simulations and Architectural Trade-Offs (PLATO)	Daniela Thaller (< 1 FTE)	BKG (Germany)
Lead of Theme 1: Unified Height System	Michael Sideris (< 1 FTE)	University of Calgary (Canada)
Lead of Theme 2: Natural Hazards	John Labrecque (< 1 FTE)	IUGG GeoRisk Commission (USA)
Lead of Theme 3: Understanding and Forecasting Sea-Level Rise and Variability	Tilo Schöne (< 1 FTE)	GFZ (Germany)
GGOS Portal Manager	Bernd Richter (< 1 FTE)	BKG (Germany)
Immediate Past Chair of the Coordinating Board	Markus Rotacher (< 1 FTE)	ETH (Switzerland)
Representative of the GIAC	Per Erik Opseth (<1 FTE)	Norwegian Mapping Authority (Norway)

Table 1.3-2: Coordinating Board Communications Plan. The table identifies the communications requirements of the Coordinating Board

Communication Type	Purpose	Medium	Frequency	Audience	Owner	Deliverables
CB Chair-CO Director Meeting	CO Director discusses day-to-day activities and issues with CB Chair	Teleconference	Every two weeks	CB Chair CO Director	CB Chair	Before: Mutually agreed upon agenda (over e-mail) After: Notes and items to present at CB EC Meeting
Coordinating Board Executive Committee Monthly Meeting	CB Chair provides status of relevant policy issues and strategic matters CO Director provides status of implementation. CB addresses any issues brought up	Teleconference	Monthly	CB EC Past Chair CO Director Science Panel Chair IAG President	CB Chair	Before: Minutes of the previous meeting for approval and agenda of the current meeting. After: Minutes of the current meeting.
Coordinating Board Semiannual Meeting		Face-to-Face (with video-conference capability, for	Semiannual	CB	CB Chair	Before: Minutes of the previous meeting for approval and agenda of

		those unable to attend in person)				the current meeting. GGOS entities reports. After: Minutes of the current meeting.
GGOS Consortium Meeting		Face-to-Face (with video-conference capability, for those unable to attend in person)	Annual	CB Consortium Past Chair	CB Chair	Before: Minutes of the previous meeting for approval and agenda of the current meeting. GGOS entities reports. After: Minutes of the current meeting.
GIAC Semiannual Meeting	Ref: GIAC white paper	Face-to-Face (with video-conference capability, for those unable to attend in person)	As required	GIAC Committee	CB Chair	Before: Minutes of the previous meeting for approval and agenda of the current meeting. GGOS Chair Report, Agencies reports. After: Minutes of the current meeting.

1.3.4 Implementation Approach

The GGOS Coordinating Board relies on several organizational components in order to successfully execute its functions. The partner institutions (See Table 1.3-1: Coordinating Board Resources) that provide the personnel who comprise the board play a critical role. The GGOS Coordinating Board also relies on the other GGOS entities to assist with functional tasks. These entities include: the bureaus, which delegate tasks to the appropriate working groups for the execution of implementation plans; the Coordinating Office that coordinates the day-to-day activities of GGOS; the IAG Services, Commissions, and Inter-Commission Committees that GGOS leverages to execute its plans; as well as the GGOS Science Panel and the GGOS Consortium, that both provide advice and guidance for the fulfillment of GGOS goals and objectives.

The GGOS Coordinating Board works closely with the GGOS Coordinating Office and steering committees, i.e., GGOS Science Panel and Consortium, to oversee the fulfillment of GGOS goals and objectives as set forth in the 2013 GGOS Strategic Plan.

1.4 Stakeholder Definition

Through its Coordinating Board, GGOS serves as a vehicle of engagement with international governmental and non-governmental organizations, space agencies, universities, and national mapping/geodetic agencies. Developing and maintaining these relations ensures optimal use of resources for the greatest good.

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

Table 1.4-1: Coordinating Board Stakeholders and Advocacy Strategies

STAKEHOLDERS	ADVOCACY STRATEGIES
INTERNAL STAKEHOLDERS	
IAG	As the observing system of the IAG, GGOS serves a unique and critically important combination of roles centering upon advocacy, integration, and international relations. The IAG relies upon GGOS to advocate for improvements in the ground-based geodetic infrastructure of GNSS and DORIS reference stations, VLBI and SLR space geodetic stations, and gravity observatories; it also supports the development of new satellite missions for altimetry, gravity mapping, and earth observation. Overall, GGOS promotes the importance of modern geodesy for addressing the needs of science and society for stable reference frames.

	<p><i>Advocacy strategies will include meetings with the IAG President or designated representative, as well as other meetings at major conferences and/or workshops (approximately two to three times per year) to discuss progress and issues.</i></p>
IAG Services	<p>GGOS works with the IAG Services to provide the geodetic infrastructure necessary for monitoring the Earth system and for global change research. The GGOS Coordinating Board is the central oversight and decision-making body and represents the IAG Services, Commissions, Inter-Commission Committees, and other entities that comprise GGOS.</p> <p><i>Advocacy strategies will include frequent (monthly) teleconference meetings with the IAG service representatives, as well as face-to-face meetings at major conferences and/or workshops (approximately two to three times per year).</i></p>
EXTERNAL STAKEHOLDERS	
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>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 the regular participation of Coordinating Board members in CEOS activities and working groups. GGOS also provides a critical connection between CEOS and various space agencies, ensuring optimal cooperation between the two stakeholders for the purposes of geodetic observation.</p> <p><i>Advocacy strategies will include GGOS representation, by either the Vice Chair or appointed representative, at major CEOS meetings; as well as coordination and promotion of each other’s activities through web and social media presence.</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 will include GGOS representation, by either the Vice Chair or appointed representative, at major GEO meetings; as</i></p>

	<i>well as coordination and promotion of each other's activities through web and social media presence.</i>
Space Agencies	<p>GGOS promotes high-level geodetic outcomes, such as the realization of the International Terrestrial Reference Frame, through internally integrating the geometric and gravimetric aspects of geodesy – thus driving continuous improvement in the quality of geodetic products through increased investment in different geodetic techniques. 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>GGOS also ensures an optimal link between several space agencies and CEOS, as a participating associate member agency working through CEOS to lead innovative ideas and initiatives in geodetic observation in an international collaborative environment.</p> <p><i>Advocacy strategies will include coordination and promotion of each other's activities through GGOS CB members employed by (or working with) space agencies, as well as joint web and social media presence.</i></p>
United Nations	<p>The United Nations initiative on Global Geospatial Information Management (UN-GGIM) has appointed a working group on the Global Geodetic Reference Frame – GGRF.</p> <p>IAG has a representative in the UN-GGIM and it is important that the representative follows the work closely.</p>
Universities	<p>At the time of this writing, nearly one-third of the GGOS Coordinating Board is affiliated with, or working directly for, a university. Because of this, universities and technical institutes all over the world benefit from the collaborative efforts of GGOS, in their attempt to develop cutting-edge technology and research to support the understanding of critical components of the earth system, and advance geodetic knowledge as well as technology development.</p> <p><i>Advocacy strategies will include coordination and promotion of each other's activities through GGOS CB members employed by (or working with) universities and other academic institutions, as well as joint web and social media presence.</i></p>
National Mapping and Geodetic Agencies	<p>GGOS relies upon numerous resources provided by national mapping and geodetic agencies such as BKG (Germany), Kartverket (Norway), Geoscience Australia, USGS and NGS (USA), as well as many others. These agencies provide human resources, as well as geospatial and reference data, observatories, and other critical earth-observing infrastructure and services. Through GGOS, these agencies interact with other stakeholders to drive the continuous</p>

	<p>improvement in the quality of geodetic products through increased investment, both international and domestic, in different geodetic techniques.</p> <p><i>Advocacy strategies will include coordination and promotion of each other’s activities through GGOS CB members employed by (or working with) national mapping and geodetic agencies, as well as joint web and social media presence.</i></p>
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2.0 Coordinating Board BASELINES

As the decision making body of GGOS, the Coordinating Board is closely involved in the governance of the organization, coordination of bureaus and other components, as well as maintaining foundation documents including the Terms of Reference and Strategic Plan. Because of this level of responsibility, the Coordinating Board meets at least twice per year, with the Executive Council component meeting via teleconference approximately once per month, to ensure accurate and timely reporting on important issues.

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 the totality of the requirements addressing functional and operational specifications of GGOS. It also shows what entity of GGOS the Coordinating Board has been designated to oversee the requirement and 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.)

Table 2.1-1: GGOS Specification Requirements and Allocation

REQUIREMENT REFERENCE	REQUIREMENT AND INTERPRETATION	GGOS ALLOCATION	IAG SERVICE (OR OTHER ENTITY) ALLOCATION
Functional Specifications for GGOS			
Determination, maintenance, and access to the global terrestrial reference frame			
ITRF-001- DER	Provision of the reference frame through a dynamic Earth reference model — The terrestrial reference frame will be provided	Bureau of P&S	IERS

	by an operational dynamical Earth reference model which will assimilate observations of variations in the Earth's geometry (in particular, for a reference polyhedron), the shape of the ice and ocean surfaces, the gravity field, and Earth rotation. Moreover, the reference model will also assimilate auxiliary observations, in particular meteorological observations. This dynamic Earth reference model will allow the prediction of reference trajectories for any point on Earth with temporal resolution of 1 hour and a sub-kilometer spatial resolution. The stability of the model in terms of geokinematic will be that of the reference polyhedron, i.e., sub-millimeter per year.		
ITRF-002-ORI	Tie between RFO and CM—The deviation between the reference frame origin of the terrestrial reference frame and the center of mass of the Earth system will be smaller than 1 mm at any time.	Bureau of P&S	IERS
ITRF-003-PRE	Precision of reference coordinates — The precision of coordinates of the points of the reference polyhedron of the ITRF will be better than 1 mm in the horizontal and 3 mm in the vertical component at any time.	Bureau of P&S	IERS
ITRF-004-SCA	Scale of the reference frame — The scale of the reference frame will be accurate to 0.1 ppb and stable to 0.01 ppb/yr.	Bureau of P&S	IERS
Earth rotation			
ERP-001-EOP	Earth Orientation Parameter—Earth Orientation Parameters will be determined with an accuracy of 1 mm, a temporal resolution of 1 hour, and a latency of 1 week; near real-time determinations of the Earth Orientation Parameters will be determined with an accuracy of 3 mm.	Bureau of P&S	IERS
Earth's gravity field			
GRAV-001-GEOID	Accuracy of the static geoid — The static geoid will be provided with an accuracy of 1 mm, a long-term stability of 0.1 mm/yr and a spatial resolution of 10 km.	Bureau of P&S	IAG: IGeS

GRAV-002-VAR	Accuracy of the time variable gravity field — The time variable geoid will be provided with an accuracy of 1 mm, a long-term stability of 0.1 mm/yr, a spatial resolution of 50 km, a temporal resolution of 10 days, and a latency of 0.5 months.	Bureau of P&S	IAG: IGFS
Earth system monitoring: mass transport and mass redistribution			
ESM-001-SSH	Sea surface height variations—The sea surface height variations will be determined globally with an instantaneous local accuracy of 10 mm, a temporal resolution of 10 days, a spatial resolution of 10 km, a latency of 5 days, and a local secular accuracy of 0.5 mm/yr.	Bureau of P&S	IAG: PSMSL
ESM-001-GSL	Global sea surface changes — The globally average sea surface height changes will be determined with an instantaneous accuracy of 1 mm, a temporal resolution of 10 days, a latency of 10 days, and a secular accuracy of 0.1 mm/yr. 224 Gross et al.	Bureau of P&S	IAG: PSMSL
ESM-002-CRY	Cryosphere mass balance — The variations in the surface elevation for the large ice sheets will be determined with an instantaneous local accuracy of 20 mm, a temporal resolution of 10 days, a spatial resolution of 10 km, a latency of 20 days, and a local secular accuracy of 0.2 mm/yr.	Bureau of P&S	IAG: PSMSL
ESM-003-WCY	Mass transport in the global water cycle — The mass transport in atmosphere, ocean, cryosphere, and terrestrial hydrosphere will be determined to an accuracy of an equivalent of 10 mm water cover with a temporal resolution of 10 days, a spatial resolution of 400 km, and a latency of 0.5 months.	Bureau of P&S	IAG: PSMSL
Determination, maintenance, and access to the celestial reference frame			
ICRF-001-DET	Determination of the Celestial Reference Frame — The ICRF will be defined by the coordinates of a number of extragalactic radio sources distributed throughout the sky. The coordinates of the ICRF sources will be accurate to 25 microarcseconds and stable to 3 microarcseconds/yr.	Bureau of P&S	IERS
Operational Specifications for GGOS			

GGOS-Ops-1	Operate global networks of geodetic reference stations, gravimeters, and tide gauges.	Bureau of N&O	Individual GGOS affiliated networks
GGOS-Ops-2	Operate a global sub-network of core reference stations at which the techniques are co-located.	Bureau of N&O	Individual GGOS affiliated networks
GGOS-Ops-3	Determine the survey ties between the co-located techniques.	Bureau of N&O	Individual GGOS affiliated networks
GGOS-Ops-4	Process all observations with an accuracy and consistency of at least 1 ppb.	Bureau of N&O	IAG Services
GGOS-Ops-5	Operate a dynamic Earth reference model assimilating comprehensive observations of variations in Earth's geometry, gravity field and rotation.	Bureau of P&S	TBD
GGOS-Ops-6	Document the procedures, standards, and conventions used to generate the products.	Bureau of P&S	None
GGOS-Ops-7	Maintain databases of observations and products.	GGOS CO	
GGOS-Ops-8	Ensure continuity, accuracy, and consistency of observations and products as the networks and data reduction procedures evolve.	Bureau of P&S	Individual GGOS sub-networks IAG Services

2.2 Schedule Baseline

The scheduled activities of the Coordinating Board are shown in Figure 2.2-1. They include the strategic plan generation and implementation as well as its monitoring of its execution, meetings and reporting.

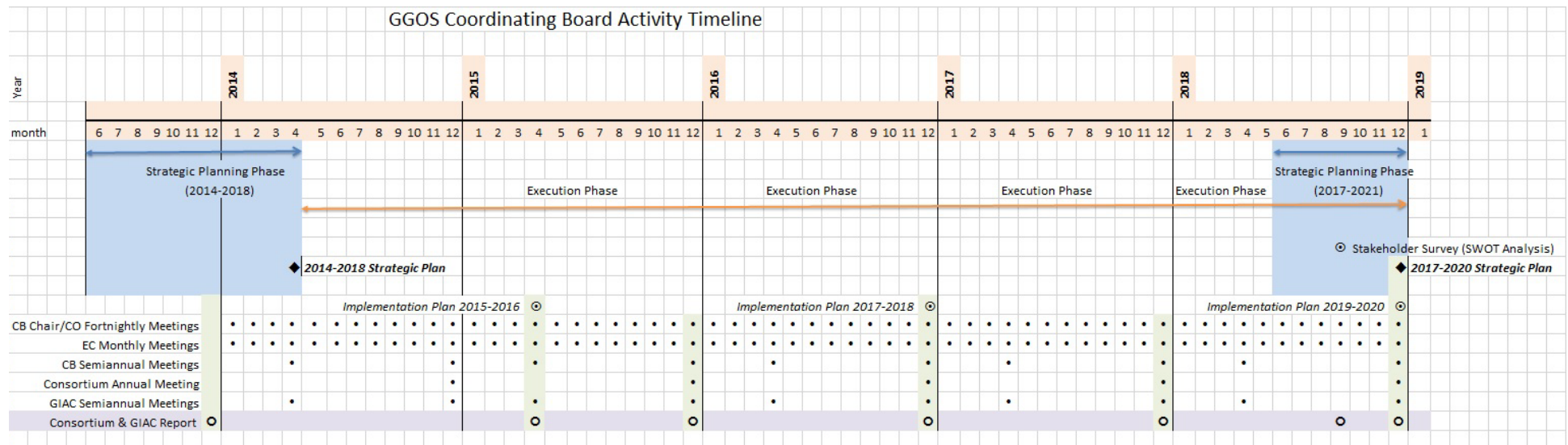


Figure 2.2-1: Schedule of the Coordinating Board activities.

2.3 Resources

The human resources needed to operate the GGOS Coordinating Board are those captured in Table 1.3-1: Coordinating Board Resources.

Material resources are provided by the institutions sponsoring the members of the board. Travel is similarly covered by the institutions sponsoring the members of the board.

Other costs, such as meeting rooms and teleconferences, are covered by the hosting institutions unless otherwise agreed upon.

3.0 CHANGE LOG

Table 3-1: Coordinating Board Implementation Plan Change Log

VERSION	RELEASE DATE	SYNOPSIS OF RELEASE
0.1	[141207]	First draft for review
0.2	[150326]	Draft submitted to CB for review

4.0 APPENDICES

Appendix A Abbreviations

BKG	Bundesamt für Kartographie und Geodäsie - <i>German Federal Agency for Cartography and Geodesy</i>
Bureau of P&S	(GGOS) Bureau of Products and Standards
Bureau of N&O	(GGOS) Bureau of Networks and Observations
CONICET	Consejo Nacional de Investigaciones Científicas y Técnicas - <i>National Scientific and Technical Research Council (Argentina)</i>
DGFI	Deutsches Geodätisches Forschungsinstitut der Technischen Universität München (DGFI-TUM) - <i>German Geodetic Research Institute at the Technical University of Munich</i>
ETH	Eidgenössische Technische Hochschule Zürich – <i>Swiss Federal Institute of Technology Zurich</i>
FTE	Full-time Equivalent
GFZ	Deutsches GeoForschungsZentrum - <i>German Research Centre for Geosciences</i>
GIAC	GGOS Inter-Agency Committee
GIMS	GGOS Integrated Master Schedule
GGOS	Global Geodetic Observing System
IAG	International Association of Geodesy

IERS	International Earth Rotation and Reference Systems Service
IGeS	International Geoid Service
IGFS	International Gravity Field Service
IGS	International GNSS Service
IPGP	Institut de Physique du Globe de Paris – <i>Institute of Geophysics in Paris (France)</i>
NASA	National Aeronautics and Space Administration (USA)
NGS	National Geodetic Survey (USA)
USGS	United States Geological Survey (USA)
PSMSL	Permanent Service for Mean Sea Level

Appendix B Glossary

Table B-1: Terms and Definitions

TERM	DEFINITION
Strategic Planning	Strategic planning is an organization's process of defining its strategy, or direction, and making decisions on allocating its resources to pursue this strategy through establishing goals and objectives, which are in turn evaluated through measurable outcomes.
Terms of Reference	Terms of reference describe the purpose and structure of a project, committee, meeting, negotiation, or any similar collection of people who have agreed to work together to accomplish a shared goal.

Appendix C References

[GGOS 2020]: Global Geodetic Observing System: Meeting the Requirements of a Global Society on an 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.