

Extracts from the 10-year Implementation Plan

1	GEOSS will facilitate the development and provision of common products such as maps of topography, bathymetry, river systems, infrastructure, and land cover and land use, and a geodetic reference frame for Earth observation. (4.1)
2	Interpretation and use of Earth observations requires information on drivers and consequences of change, including georeferenced socio-economic data and indicators. (4.1)
3	GEOSS implementation will bring a more timely dissemination of information through better coordinated systems for monitoring, predicting, risk assessment, early warning, mitigating, and responding to hazards at local, national, regional, and global levels. (4.1.1 Disasters)
4	Recognizing the important contribution GEO can make through collaboration with the International Telecommunication Union to promote, by the appropriate alerting authorities, the implementation of the international standard for all-media public warning across all disaster and emergency situations; C(ape Town Declaration relevant to 4.1.1)
5	GEOSS will improve the flow of appropriate environmental data (such as airborne, marine, and water pollution; stratospheric ozone depletion; persistent organic pollutants; nutrition; and monitoring weather-related disease vectors) and health statistics to the health community (4.1.2 Health)
6	promoting a focus on prevention (4.1.2 Health)
7	Support environmentally responsible and equitable energy management; (including) better matching of supply and demand of energy; (4.1.3 Energy)
8	Support reduction of risks to energy infrastructure; (4.1.3 Energy)
9	Support more accurate inventories of greenhouse gases and pollutants(4.1.3 Energy)
10	Support a better understanding of renewable energy potential. (4.1.3 Energy)
11	GEOSS outcomes will enhance the capacity to model, mitigate, and adapt to climate change and variability. (4.1.4 Climate)
12	GEOSS outcomes will enhance better understanding of the climate and its impacts on the Earth system, including its human and economic aspects(4.1.4 Climate)
13	GEOSS implementation will improve integrated water resource management by bringing together observations, prediction, and decision support systems and by creating better linkages to climate and other data. (Improve measurement of the following:) precipitation; soil moisture; streamflow; lake and reservoir levels; snow cover; glaciers and ice; evaporation and transpiration; groundwater; and water quality and water use. (4.1.5 Water)
14	In situ networks and the automation of data collection will be consolidated (4.1.5 Water)
15	capacity to collect and use hydrological observations will be built where it is lacking (4.1.5 Water)
16	can help fill critical gaps in the observation of—for example—wind and humidity profiles, precipitation, and data collection over ocean areas; (4.1.6 Weather)
17	extend the use of dynamic sampling methods globally; (4.1.6 Weather)

18	improve the initialization of forecasts; (4.1.6 Weather)
19	increase the capacity in developing countries to deliver essential observations and use forecast products. (4.1.6 Weather)
20	(GEOSS will provide worldwide) severe weather event information needed to mitigate loss of life and reduce property damage. (4.1.6 Weather)
21	GEOSS implementation will seek to ensure methodologies and observations are available on a global basis to detect and predict changes in ecosystem condition and to define resource potentials and limits. Ecosystem observations will be better harmonized and shared, spatial and topical gaps will be filled, and in situ data will be better integrated with space-based observations. (4.1.7 Ecosystems)
22	Continuity of observations for monitoring wild fisheries, the carbon and nitrogen cycles, canopy properties, ocean colour, and temperature will be set in place. (4.1.7 Ecosystems)
23	GEOSS implementation will address the continuity of critical data, such as high-resolution observation data from satellites (to address) crop production; livestock, aquaculture and fishery statistics; food security and drought projections; nutrient balances; farming systems; land use and land cover change; and changes in the extent and severity of land degradation and desertification (4.1.8 Agriculture)
24	(GEOSS will establish a) truly global mapping and information service, integrating spatially explicit socio-economic data with agricultural, forest, and aquaculture data will be feasible, with applications in poverty and food monitoring, international planning, and sustainable development. (4.1.8 Agriculture)
25	Implementing GEOSS will unify many disparate biodiversity observing systems and create a platform to integrate biodiversity data with other types of information. (4.1.9 Biodiversity)
26	Taxonomic and spatial gaps will be filled, and the pace of information collection and dissemination will be increased. (4.1.9 Biodiversity)
27	Engagement of users in developing countries will maximize their opportunities to derive benefits from GEOSS. (4.2 User Engagement)
28	GEO will organize regular GEOSS User Fora among and within societal benefit areas or sub-areas, making use of user communities where they exist and catalyzing the formation of new ones where they do not. The function of the User Fora will be to document and review user requirements, assess the extent to which they are being met, and make recommendations to GEO with the objective of improving the delivery of information appropriate to user needs. (4.2 User Engagement)
29	It will also create an appropriate mechanism for coordinating user requirements across societal benefit areas. (4.2 User Engagement). Within 2 years, (5.1)
30	Long-term continuity of existing observations is required. GEO will also provide a framework for securing the future continuity of necessary observations and initiating new observations. (5.1) also in Cape Town Declaration
31	In the same timescale (2 years), a collaboration mechanism to share costs and benefits will be developed for observations and infrastructures for which the defined requirements may not be met by single-party activities alone. (5.1)
32	The implementation of GEOSS will facilitate, within 2 years, the establishment and maintenance of baseline sites for global <i>in situ</i> networks. (5.1)
33	GEO will establish, within 10 years, its system of systems to provide timely data and products

	for local, national, regional, and international policy makers. (5.1)
34	The implementation of GEOSS will facilitate, within 2 years, the development and availability of shared data, metadata, and products commonly required across diverse societal benefit areas. (5.2)
37	GEOSS will encourage the adoption of existing and new standards to support broader data and information usability. (5.2)
38	GEO will advocate, within 2 years, through appropriate representations to the International Telecommunications Union, the protection of radio frequencies critical to Earth observation. (5.2)
39	The implementation of GEOSS will facilitate, within 6 years, data management approaches that encompass a broad perspective of the observation data life cycle, from input through processing, archiving, and dissemination, including reprocessing, analysis and visualization of large volumes and diverse types of data. (5.2)
40	The implementation of GEOSS will establish, within 6 years, international information sharing and dissemination drawing on existing capabilities through appropriate technologies, including, but not limited to, Internet-based services. (5.2)
41	GEO will establish, within 2 years, a process for reaching, maintaining, and upgrading GEOSS interoperability arrangements, informed by ongoing dialogue with major international programs and consortia. That process is to be sensitive to technology disparities among GEO Members and Participating Organizations. (5.3)
42	GEO Members and Participating Organizations and their contributions will be catalogued in a publicly accessible, network-distributed clearinghouse maintained collectively under GEOSS. The catalogue will itself be subject to GEOSS interoperability specifications, including the standard search service and geospatial services. (5.3) also in Cape Town Declaration
43	We support the establishment of a process with the objective to reach a consensus on the implementation of the Data Sharing Principles for GEOSS to be presented to the next GEO Ministerial Summit. (2010) Cape Town Declaration relevant to (5.4)
44	GEOSS implementation will promote research efforts that are necessary for the development of tools required in all societal benefit areas. (5.5)
45	It will also encourage and facilitate the transition from research to operations of appropriate systems and techniques. This includes facilitating partnerships between operational groups and research groups. (5.5)
46	<p>Capacity Building (5.6)</p> <p>Within 2 years GEO will:</p> <ul style="list-style-type: none"> Produce a comprehensive review and analysis of gaps and methodologies, based on existing and planned capacity building efforts; Facilitate, together with existing efforts, the maintenance and strengthening of education, training, research and communication; Facilitate, with developing countries and across all societal benefit areas, the establishment and maintenance of baseline sites for global <i>in situ</i> and remote-sensing networks that cannot always be justified on national grounds alone, in cooperation with relevant global research programs and activities to ensure that synergies in observations and understanding are achieved; Develop a network of experts involved in existing capacity building initiatives related to Earth observation, and encourage users to access this knowledge base;

	<p>Encourage, in each societal benefit area, the development of capacity building components as a requirement to any network, project, activity, or User Fora that will be a component of GEOSS.</p> <p>Facilitate access to data and models, particularly for developing countries.</p>
47	<p>Capacity Building (5.6)</p> <p>Within 6 years GEO will:</p> <p>Advocate funding of multinational projects to leverage the end-to-end value of observations including the establishment of necessary infrastructure;</p> <p>Produce monitoring and evaluation mechanisms for GEO capacity building efforts; and,</p> <p>Facilitate education and training to provide a global base of technical expertise for GEOSS.</p>
48	<p>Capacity Building (5.6)</p> <p>Within 10 years, GEO will seek to have in place a sustained capacity building strategy that will have significantly strengthened the capability of all countries, and particularly of developing countries, to:</p> <p>Use Earth observation data and products (e.g., process, integrate, model) following accepted standards;</p> <p>Contribute to, access, and retrieve data from global data systems and networks;</p> <p>Analyze and interpret data to enable development of decision-support tools and to advance understanding in the nine societal benefit areas;</p> <p>Integrate Earth observation data and products with other data and products, for a more complete view and understanding of problems and derived solutions;</p> <p>Improve infrastructure development in areas of poor observational coverage; and,</p> <p>Develop recommended priorities for new or augmented efforts in capacity building.</p>
49	<p>Within 2 years, GEO will produce and begin to implement an outreach plan directed toward key target audiences, including decision-makers and policy makers; the general public; industry and service communities; scientific and technical communities; education entities; non-governmental organizations; public interest advocacy groups; and international financial institutions and official development assistance agencies. (5.7)</p>