Group on Earth Observations – GEO-XII Plenary
Mexico city 11-12 November 2015
Statement of Armenia

Mrs. Ryan, Ladies and Gentlemen,

As a National Principal representing Armenia in the Group on Earth Observation (GEO) partnership let me express one more time my cordial gratitude to the GEO Secretariat for providing a unique opportunity to Armenia to become a member of GEO community. Now let me outline Armenia's major achievements over the period of her membership since 2014.

1. In February 2014 the Government of Armenia, who places a special emphasis on the importance of spatial data sharing and data management, adopted a resolution (Resolution N136 of Goverment of Armenia) about building a spatial data infrastructure on a national level. In late 2014 Armenia became a 94th member of GEO community. This fact proves that Armenia has a proper strategy of making her contribution to the general policy of GEO.
2. GEO membership became a good impetus to Armenia to activate contacts in governmental agencies interested in the given field. In particular, I wish to stress meetings and consultations as well as agreements on collaboration with Armenia's Ministries of Territorial Management and Emergency Situations, Agriculture and a number of other state organizations.
3. Besides, Center for Ecological-Noosphere Studies NAS (CENS) as a coordinating body of GEO national activities has already developed a number of projects for receiving a grant for development of remote sensing methods of environmental status assessment and building regional and inter-regional spatial data infrastructure involving countries of the South Caucasus and Central Asia. The projects are designed to improve a state-of-the art platform to remotely monitor and model ecological status of territories of the mentioned regions by adopting an integrated approach such as improved data management, data processing and research. Based on GEO-recommended standards, the spatial datasets and related metadata will be registered actively on the GEO portal.
4. Also, Armenia has concluded an intergovernmental agreement on building a unified information exchange system between the NIS countries for protection from biohazards. The Agreement has been approved by resolution of the NIS Permanent Commission on Agrarian Policy, Natural Resources and Ecology. The CENS coordinates activities in
    a. planning and selection of testing areas (polygons) and development of methods of synchronous observations by the kinds of biohazards,
    b. development of methods of geospatial assessment of biohazard risks,
    c. development of a data sharing strategy and creation of a geoportal.
5. Over the period of our membership we reported about GEO activities in Armenia to different international symposia such as the International Conference of IGU recently held in Moscow.

We are confident that new contacts and links built due to this outstanding event will largely contribute to our activity in the area of Earth Observation and finally to sustainable development both on the national and international level.

Thank you for your attention,

Dr. Armen Saghatelyan,
GEO Principal for Armenia
Director of Center for Ecological-Noosphere Studies
National Academy of Sciences
Republic of Armenia

Australia would firstly like to strongly endorse, formally, the GEO Strategic Plan 2015-2025 and thanks all involved in the process of preparing this important guiding document for the next ten years of GEO.
Australia particularly supports the increased focus in the strategic plan on actively facilitating the dialogue between Earth Observation providers and users, and sees that GEO has a crucial role to play in demonstrating the potential of Earth observations to directly measure a number of the UN Sustainable Development Goals, and so assist society to chart a path to a sustainable future.

Australia has been an active participant and contributor to GEO for the last decade and intends continuing this for the next ten years. In this spirit, Australia pledges to contribute $75,000 Australian dollars to the GEO trust fund for 2016. Of course, not all contributions are financial and Australia remains committed to assisting GEOs mission in a number of other ways. I will quickly mention a couple of areas where we are actively contributing.

Australia is working closely with other GEO Members through the Committee on Earth Observation Satellites (CEOS) in progressing the development of Next Generation Architectures for Earth Observation Data building on the work already demonstrated by the Australian Geoscience Data Cube. These efforts hold enormous promise in significantly lowering the technical barrier to user uptake of Earth observation information and will end up making Earth observation information truly accessible to policy makers and end-users in both the public and private sector.

Australia recognizes the critical importance of ocean observations in our region and is actively supporting the Blue Planet initiative of GEO. We hosted the Blue Planet Symposium in Cairns during May 2015 which was an important meeting to allow the oceans community to consider how to respond to the GEO transitional Work plan Australia is also active in co-chairing the GEO Global water quality community of practice,

Australia is thankful for our strong partnerships with other key GEO members in the collection and delivery of Earth observations across our Southern continent and would particularly like to thank the United States (for our longstanding partnership around the Landsat Programme), Japan for our strong engagement around Himawari 8, and most recently the growing relationship with the European Commission around the Copernicus Programme.

GEO provides an important forum for social intercourse between Members and Participating Organisations to nurture and develop these important initiatives and relationships, and Australia would like to urge that we redouble our efforts over the next ten years to Advocate for, Engage with and Deliver on the promise of Earth Observations in creating tangible benefits for our global society.

DRAFT Canada's Statement to GEO-XII Plenary:

Canada recognizes that Earth observations play a critical role in ensuring sound decision making, and in supporting Government priorities.

We are proud to highlight and reiterate our support and engagement in the development and implementation of GEO and GEOSS. In particular, I would like to underscore that it is through GEO that Canada has been able to obtain and share critical data and information to support the management of sectors highly affected by climate change. I am pleased to highlight some specifics::

Agriculture:
Canada recognizes the important contribution the GEO Global Agricultural Monitoring (GEOGLAM) initiative is making to global market transparency and food security, and will continue to provide leadership for the Research and Development component and associated Joint Experiments for Crop Assessment and Monitoring (JECAM) network.

Forest and Forest Fires:
Canadian forestry experts provide support to GEO GFOI through GOFC/GOLD. In particular, this support extends to the areas of:

- Global Early Warning Fire Systems,
- forest observation research and GFOI methods guidance document,
- integration of remote sensing and ground based observations in support of forest carbon tracking in Mexico, and
- in collaboration with the Canadian Space Agency, assessing sensor interoperability to map poorly inventoried and inaccessible northern forests.

Biodiversity:
Canada would like to highlight its support and leadership of GEO BON and their accomplishments, including the implementation of a three- year Strategic Plan and continued progress in developing the Essential Biodiversity Variables. Canada would also like to highlight GEO BON's focus and role in assisting national governments in the design and implementation of national Biodiversity Observing Networks.

Polar Issues:
The state of the Arctic continues to be of particular interest to Canada, and in particular GEO's Cold Regions Initiative. Canada has invested in advancing Canada's knowledge of the Arctic, strengthening Canadian leadership in polar science and technology, and leveraging both domestic and international partners to significantly improve observations in the Canadian Arctic to serve user needs at the local, national and international scale.

Oceans:
Canada has a long history of monitoring its oceans and continues to collect observational data from all three oceans and makes it freely available in support of GEO. The Canadian marine science community is working towards increased coordination of ocean monitoring and data sharing efforts and is also working with the United States and the European Union under the Galway Accord to coordinate international efforts in the Atlantic and Arctic Oceans. Canada will continue to work through relevant international ocean research organizations such as Blue Planet and the International Oceanographic Commission to support the objectives of GEO.

Open Data:
Canada acknowledges the potential of Open Data to deliver and measure priority issues in the global agenda, including the Sustainable Development Goals.

Space Observations:
Canada would like to highlight that its RADARSAT Constellation mission, under the leadership of the Canadian Space Agency, when operational in 2018, will contribute space-based imagery to key GEO global initiatives, such as disaster risk management, GEOGLAM and the GFOI.

AmeriGEOSS:
Canada would like to express its thanks to Mexico, Colombia, and the United States for their leadership in developing the AmeriGEOSS. This will be an important initiative for the Americas, focussing efforts on priority areas. Canada looks forward to helping to contribute to the success of AmeriGEOSS.

Conclusion:

In conclusion, Canada would like to reaffirm its strong support for the GEO and GEOSS. Over the past couple of days we have had the opportunity to review and discuss the draft *GEO Strategic Plan 2015-2025: Implementing GEOSS,* which will shape GEO over the next decade. This Plan builds on the solid foundation and principles of GEO, while proposing a more structured approach to managing activities. It emphasizes that GEO's value is found in its power to convene, and this GEO Plenary is a perfect display of this. Canada is proud to have been a strong contributor to the development of the Plan, and is encouraged to see the enthusiasm of the community as it moves forward.

Thank you.

Formal Statement to the
Twelfth Plenary Session of the Group on Earth Observations (GEO-XII)
by Dr. Alex Held, 2015 CEOS Chair Representative
Commonwealth Scientific and Industrial Research Organisation (CSIRO) of Australia

Chair, Distinguished Guests, on behalf of the Committee on Earth Observation Satellites (CEOS), it is my pleasure to provide you with the formal statement of CEOS engagement and contributions to GEO. It is an honour for me to give this statement, coming as it does at the closing of one decade of the important CEOS-GEO relationship, and the dawning of an exciting new one.

CEOS, through the major sustained investments made by its fifty-nine Member and Associate Agencies, continues to develop the space segment of the GEOSS and coordinates the availability of space-based Earth observations to GEO.

As of November 2015, CEOS Agencies had over 130 Earth observation satellites in orbit. Through CEOS, these Agencies work together to ensure sustained international coordination of these assets and the comprehensive data they produce, with the aim of delivering as much societal benefit as possible.

Through these activities, CEOS provides significant support to GEO at all levels. CEOS implements the space segment of the GEOSS and is the most prolific data provider. CEOS has been a major player in successful 'Flagship' initiatives like Blue Planet, GFOI and GEOGLAM. In 2015, CEOS led and contributed to almost 50% of the Tasks and Components of the 2012-2015 GEO Work Plan. Our contribution to the new Work Programme is also going to be significant with direct participation in 60% of the candidate initiatives likely to form the first tranche of flagships, 30% of other candidate initiatives, and community activities across diverse topics.

But as much as we often like to talk about the significant contribution we make to GEO activity, we also want to clearly express our appreciation of GEO.

CEOS relies on close partnerships with international user bodies, service providers, government and international agencies, and others, to ensure its efforts are linked with important international agendas and critical user needs. We therefore support strongly and value the convening power of GEO, providing an opportunity for efficient and effective interactions between data providers, such as space agencies, and decision makers in a single forum.

It is with pleasure that I can state that at the 29th CEOS Plenary held last week in Kyoto, the space agencies and associate members assembled expressed their strong support for the text of the *GEO Strategic Plan 2016-2025.*

CEOS Plenary highlighted two areas in the new Strategic Plan for specific mention.

Firstly, CEOS Plenary noted the emphasis now placed on the important and unique role that GEO plays in connecting and convening players along the Earth observation value chain. CEOS will be looking to GEO to significantly increase efforts in this area, and sees the coming months as key in more clearly defining and communicating the value proposition GEO offers these groups in order to foster a greater interest in partnerships.

Secondly, CEOS Plenary warmly welcomed the major emphasis GEO will place on the definition of authoritative and clearly prioritized user requirements. This will greatly support CEOS's efforts to work systematically to implement a space segment that provides sustained and comprehensive observations of all aspects of the Earth system.

CEOS Plenary further expressed CEOS's commitment to build on its significant existing contribution to the work of GEO at a practical level, and CEOS's desire to expand it over time. CEOS will take leadership on the dedicated foundational 'space task' that features in the new GEO Work Programme, and will continue to contribute on activities to promote integration of space and in-situ data. CEOS will also play a key role in the new GEO-DARMA disaster risk reduction initiative, which responds to the Sendai Framework for Disaster Risk Reduction 2015-2030; work with GEO to support implementation of monitoring frameworks for the Global Goals for Sustainable Development; and implement the CEOS strategic response to the GEO Water Strategy which was unanimously endorsed last week in Kyoto.

CEOS Plenary also affirmed CEOS's desire to embrace new opportunities to contribute to the leadership and governance of GEO. CEOS Plenary noted that the continued success of GEO in the 2016-2025 period is best served by maintaining the close coordination between CEOS and GEO demonstrated since 2005, and expressed the strong view this is best achieved through representation of CEOS on the GEO Programme Board and as an observer on the GEO Executive Committee. CEOS Plenary agreed that CEOS should formally seek to be an Observer on the Executive Committee when the time arises.

CEOS Agencies strongly believe that the next decade of GEO will build upon the significant accomplishments of GEO's last decade; and that the *GEO Strategic Plan 2016-2025* lays a strong foundation for future success. We encourage all existing, and potential, GEO participants and partners to work together to implement that Strategic Plan and make that success a reality.

We, as CEOS, as the 'space arm' of GEO, will do our part. Thank you.

GEO PLENARY
CIUDAD DE MEXICO, 12 NOV. 2015

Luciano Parodi, GEO Principal of Chile

Thank you Mr. Chairman

On behalf of the Government of Chile, I reiterate our thanks to México - for hosting this Meeting, as well as the Secretary of GEO for its dedicated work.

We welcome and congratulate all the new members of GEO.

Appreciating the achievements of GEO, we welcome its new strategic lines and the necessary transition steps to address, during the next decade, the current challenges and demands.

We welcome, the enhanced contribution and unique role that GEO can play in the international affairs, in the societal benefit areas, in which the earth observations are essential elements, while maintaining its core principles, characteristics and flexibility.

We welcome too the AmeriGEOSS initiative, as a step toward a stronger regional involvement, focusing concrete activities in the four priority areas identified by the Americas, and at the same time, with a global perspective of partnerships for implementing a System of Systems of Earth Observations.

Mr. Chairman,

The participation of Chile has been focused on few initiatives, which we think is positive, in order to have a more permanent contribution and concrete results.

Chile has participated actively in the architecture implementation pilot project (GEOSS-AIP), which has focused on capacity building, data access, search ability and connectivity and management of images, and more recently the development of disaster management applications. This multi-year pilot exercise concentrates on disaster risk reduction: earthquakes, tsunamis, volcanic activities and wild fires, in seven selected areas of major events in Chile. This working group, has incorporated gradually over the years, various Chilean services and universities, with the support of the Secretariat of GEO, experts from NASA and the

Italian Centre for Research (CNR). It has facilitated the link of the Chilean IDE/SNIT geoportal with the GEO portal.

Likewise, scientists from the University of Magellan and the Chilean Antarctic Institute contribute to the GEO initiative on mountain ecosystems (GEO-GNOME), incorporating their expertise and monitoring of Andean glaciers and the Antarctic region.

Chile has been actively present in the work of GEO-CIEHLYC, Comunidad para la Información Espacial e Hidrográfica en Latinoamérica y el Caribe / Community of Hydrologic and Spatial Information for Latin America and the Caribbean, with the participation of national experts from the water, oceans and remote sensing, governmental organizations and academia. I would emphasize the valuable collaboration among the experts and the capacity building activities.

In addition, in coming months the University of La Serena will start the operation of a GEONETCAST receiving station.

Chile will continue promoting the knowledge about GEO and GEOSS, as it did:

- last September, in Santiago, during a special session about GEOSS in the "International Seminar on Geospacial Information for the Public Management and Citizen Access", organized by the SNIT-IDE Chile.

- on October 2013, in Santiago, with a special session about GEOSS within the Latin American Remote Sensing Week (LARS 2013).

- and in 2011, organizing in Santiago the GEOSS Americas Symposium.

We know the work is not finish yet and we are willing to complete it.

Thank you Mr. Chairman

Member Statement from China

Reported by Xiaohan Liao

2015 is an important year both for GEO and China, while GEO is making the strategic plan of GEOSS implementation for the next decade, China is forming the 13th five-year plan for economic and social development, Chinese government is likely to use this chance to improve its earth observing capabilities, while contributing to GEO communities. There are lots of activities related to GEOSS, I'd like to introduce some of the most importance events.

(1) China has issued the National Medium- and Long-term Program for Civil Space Infrastructure(2015-2025) to promote the development of earth observation technology and integrated utilization of observing resources. In accord with the formation the GEO strategic plan 2016-2025, China is carrying on the strategic research on the development of China GEOSS in the next decade.

(2) China has made substantial progress on its earth observation capabilities, especially on the commercial satellites. 20 micro-satellites were successfully launched by one rocket, Beijing-2 small satellite constellation and Jilin-1 started their in-orbit mission successfully recently, Jilin satellites will grow to a constellation with 137 video satellites and 10 minutes revisit all over the world.

(3) In 2015, China continues the work of Annual Report on Remote Sensing Monitoring of global Ecosystem and Environment, including the monitoring on Supply Situation of Maize, Rice, Wheat and Soybean, Large Area Wetlands of International Importance, China-ASEAN Ecological and Environmental Conditions, and Africa Land Cover. These

datasets and products will be updated to GEO continually.

(4) In cooperation with the United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP) and India, the regional collaborative mechanism for drought disaster monitoring and early warning is implementing in two pilot countries, Mongolia and Sri Lanka, A training course mechanism has been established to improve the capability of using earth observation technology on drought monitoring for the developing countries in Asia-Pacific region.

Aiming at implementing the GEO strategic plan in the next decade, based on the development of its earth observation technology, China is willing to provide more substantial contribution to GEOSS and GEO community of the whole world.

CODATA Statement to the GEO Plenary Meeting

'Full and open access to Earth observation data, information and knowledge is crucial for humanity as it faces unprecedented social, economic and environmental challenges at global, regional, national and local levels.'

CODATA fully supports this statement from the Mexico City Ministerial Declaration.

CODATA is the Committee on Data for the International Council of Science. Our mission is closely aligned to that of GEO, and we exist to promote the accessibility and reuse of data necessary to advance all areas of research. For these reasons, CODATA as a Participating Organisation is very committed to GEO's objectives and activities.

I would like to highlight important contributions that CODATA is making to the GEO mission and call on GEO Members and Participating Organisations to redouble efforts to ensure full and open access to Earth observation data.

At the request of the GEO Secretariat, CODATA produced a White Paper on 'The Value of Data Sharing' which has been presented to the Plenary. It provides a concise yet thorough summary of the current evidence for the benefits of data sharing. It is a valuable and timely document that helps underpin the GEO mission and the Ministerial Declaration. What is more, we think it provides a useful framework for the GEO Data Sharing Working Group, and others in the community, to add case studies and examples that reinforce the evidence provided in the White Paper.

CODATA has contributed substantially to the work of the Data Sharing Working Group and the Data Management Principles Task Force and we commend the important outputs of these groups: the updated Data Sharing Principles and the Implementation Guidelines for the Data Management Principles.

Data sharing lies at the heart of the GEO mission and the updated Data Sharing Principles encapsulate the ideals by which National Members and Participating Organisations contribute to the GEO mission.

The simple sharing of data is not enough: data must be well-managed, usable and interoperable. For this reason we have the Data Management Principles and guidelines for their implementation, which will help all organisations making Earth observation data available through GEOSS.

The activities of GEO are part of a far wider movement to make various types of public, governmental and research data more available to improve science, accountability and citizen participation. I will give two important examples.

First, legal interoperability. A lot of work has been done in the GEO Data Sharing Working Group to clarify issues relating to the legal terms in which data is shared. This work has fed into a joint CODATA and Research Data Alliance Group that is preparing principles and guidelines to support the legal interoperability of research data. At one and the same time, this work owes a lot to GEO and will benefit the GEO community.

Second, Science International. Science International is a series of meetings between four major organisations representing global science. CODATA has been asked to lead on the 2015 Accord on 'Open Data in a Big Data World'. This is a topic of singular contemporary importance and one supports GEO's objectives. We believe that the Accord lays out principles and action points that the GEO community should also endorse. We also intend that this Accord will lead to an African capacity mobilizing initiative and we hope that this is something on which we can find partners and collaborators in the GEO community.

Finally, I would like to praise and thank the GEO Secretariat. The GEO activities that I described depend on support and management provided by the Secretariat. The support for the Data Sharing Working Group and the Data Management Principles Task Force is exemplary. Let us be under no illusions: this coordinating function is essential and for GEO to build on its success, this function needs to be strong and well-resourced.

CODATA Statement to the GEO Plenary Meeting

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CODATA has contributed substantially to the work of the Data Sharing Working Group and the Data Management Principles Task Force and we commend the important outputs of these groups: the updated Data Sharing Principles and the Implementation Guidelines for the Data Management Principles.

Work done in GEO has wider benefits and impact. The Data Sharing Working Group has done a lot of work to clarify issues relating to the legal terms in which data is shared. This activity has fed into a joint CODATA and Research Data Alliance Group that is preparing principles and guidelines to support the legal interoperability of research data. At one and the same time, this work owes a lot to GEO and will benefit the GEO community.

Finally, I would also like to mention Science International. Science International is a series of annual meetings convened by the International Council of Science and partner organizations to produce a statement on policy for science that has global reach. CODATA has been asked to lead on the 2015 Accord on 'Open Data in a Big Data World'. This is a topic of singular contemporary importance and one supports GEO's objectives. We believe that the Accord lays out principles and action points that the GEO community should also endorse. We also intend that this Accord will lead to an African capacity mobilizing initiative and we hope that this is something on which we can find partners and collaborators in the GEO community.

GROUP ON EARTH OBSERVATIONS

COLOMBIA'S STATEMENT
GEO-XII Plenary
Earth Observations to Address Global Challenges
Mexico City, November 13th, 2015

Dear Co-chairs, delegates and participants:

Since our entrance as member in august 2011, we had assumed the commitment of leading this initiative right across Colombia, conducting it to an operational stage within the different GEO SBAs. Since then, Colombia has strengthened its capabilities for the effective and practical use of Earth Observation information.

One of the main progresses has been the implementation and operation of the Forest Monitoring System, which generates official data of forest area, deforestation rates and emissions of greenhouse gases, all of them critical data for planning the territory. This system had GEO's continues support through GFOI's initiative, which allowed the Coordination of Satellite Data Supply as the basis of the monitoring, Capacity Building to enhance institutional capabilities, as well as Methods & Guidance Documentation to standardize our methodologies.

Within the scope of GEOBON, we also want to reiterate our interest and commitment to continue working on strengthening capacity building and implementation of robust biodiversity monitoring systems. We will continue to develop the BON in a Box initiative together with other Latin American countries and extending its application to marine areas and ecosystem services.

Colombia has also advance in the implementation of GEOGLAM and Land Cover initiatives, which are allowing us to complete the analysis of the dynamics of changes in land cover in a common and standardized way that should meet the monitoring needs, especially those related to agriculture in our country.

With the support of the CEOS (NASA and CSIRO) our country has started the development of a remote sensing Data Cube to provide a single source of "analysis ready data" to end-users, saving work

and costs to get the satellite "usable". The implementation of the Data Cube will allow Colombia to consolidate its monitoring processes.

The Americas Caucus had another meeting during this week and we have agreed the AmeriGEOSS initiative –which has been launched this morning in front of this Plenary– for coordinating GEO activities within our region with special interest in 4 SBAs which are: water, agriculture, risk disaster reduction, and ecosystems and biodiversity. AmeriGEOSS will enable joint investments for the development of regional projects related to the objectives of sustainable development in the Americas.

In Colombia, peace and sustainability are the main axes of the national agenda. Post-conflict scenarios promise unprecedented development in our country, which will be supported by Earth Observations.

Finally, I want to congratulate the Government of Mexico, GEO community and the GEO Secretariat for this successful week in Mexico City. We reiterate our engagement in continuing working with energy and enthusiasm in GEO initiatives and move forward in the consolidation of AmeriGEOSS initiative in order to become a more integrated and strengthened region in the efficient use of data from earth observation.

COSPAR STATEMENT AT GEO-XII PLENARY

COSPAR thanks the GEO-XII Plenary for the opportunity to briefly describe some selected contributions toward GEO's objectives, future collaboration, and ongoing and planned initiatives.

COSPAR, the Committee on Space Research, was established in 1958. COSPAR has actively participated in GEO since 2007 when COSPAR joined GEO. COSPAR promotes scientific research in space, with emphasis on the exchange of results, information and opinions, and provides a forum, open to all, for scientific discussions.

The President of COSPAR, Professor Lennard Fisk, and the Executive Director, Dr. Jean-Louis Fellous, are unable to be with you because, at this very moment, they are convening the COSPAR Symposium on Water and Life in the Universe in Foz do Iguacu in Brazil, where the GEO-IX Plenary took place.

Science is the core principle that drives COSPAR and COSPAR served as co-chair of the former GEO Science and Technology Committee. COSPAR, with its attention equally devoted to Earth's atmosphere, land and ocean, attracted a highly distinguished group of researchers, led by Professor Adrian Simmons, to produce the Roadmap on Observations and Integrated Earth System Science in the GEO 2016-2025 Era. The concept to produce the roadmap was announced at GEO-IX as a major contribution of COSPAR. The COSPAR roadmap is almost completed and a final draft version is available on demand. The roadmap will be published early in 2016, and its content will be largely publicized to space agencies, decision-makers and the science community at large.

Building scientific capacity is an underlying foundation of COSPAR and GEO. COSPAR has long experience in sponsoring capacity building workshops. Three examples are: (1) ocean sciences in the Indonesian Seas in January 2014 in Indonesia; (2) water cycle remote sensing in July 2014 in Russia; and (3) water resources in November 2015 in Vietnam. COSPAR advanced the concept of building scientific capacity with a Fellowship Program, which makes possible a 2-4 week visit to laboratories to conduct joint research.

An open and free data policy is critical for COSPAR to advance understanding of the global integrated Earth system. COSPAR is co-chair of the GEO Data Sharing Working Group and co-chair of the GEO Data Management Principles Task Force.

COSPAR continues to support a variety of GEO Tasks. In 2015, COSPAR has representatives on GEO Task WA-01 (Integrated Water Information), GEO Task AG-01 (Agricultural Monitoring and Warning), ID-04 (User Driven GEOSS), SB-01 (Oceans and Society), and the GEO Capacity Building Working Group.

COSPAR believes in the future development of GEO and GEOSS and, therefore, is a candidate for a position on the GEO Program Board.

In conclusion, Professor Fisk, Dr. Fellous and I invite you to participate in the next COSPAR Scientific Assembly on 30 July to 7 August 2016 in Istanbul, Turkey.

REPUBLIC OF CROATIA

Mexico City, 11th - 13th November 2015

STATEMENT OF THE REPUBLIC OF CROATIA
The Group on Earth Observation,
Ministerial Summit, Mexico City, Mexico

On the behalf of the Government of Croatia, I would like to express sincere appreciation to the Government of Mexico for the excellent hosting of the GEO XII meeting and the GEO 2015 Ministerial Summit.

Croatia is welcoming progress in the GEO and GEOSS performance, which demonstrates impressively that GEOSS has grown in a remarkable system.

Croatia recognizes the needs for the global observations on ground, ocean, air and space domains under the umbrella of the GEOSS and highly appreciates all the actions and achievements of the *2015 GEOSS Strategic Targets*.

Croatia has valuable experience trough participation in numerous intergovernmental and international organizations such as are WMO, UNEP, ICSU, IOC, UNESCO, EUROGOOS, EUMETSAT, ECMWF and EUMETNET, which are in charge or related to various global observational networks. On one hand, we could witness suitable observational performance - while on the other - there is still a need for better coordination in a wider range of observations at the global, regional and country level. Here, Croatia recognizes the World Meteorological Organization (WMO) as a vital contributor to the GEOSS community through its advanced WMO Integrated System - WIS, and the WMO Integrated Global Observing Systems - WIGOS.

Croatia is looking forward for the continuation of the GEO mission up to 2025, and beyond strongly supporting *GEO Strategic Plan 2016-2025: Implementing GEOSS* along with a *Reference Document* with understanding of the needs to explore steady GEOSS resourcing mechanism and their modifications but still preserving current nature of the partnership within the voluntary framework of GEO.

Croatia strongly supports the *Mexico City Ministerial Declaration* with a high expectation in expansion and interlinking of existing observation systems and developing new technologies, particularly related to space-based and ground-based observations, as way ahead to achieve the GEOSS vision.

Ivan Čačić
Head of Delegation authorized by the Government of Croatia
GEO Principal and Permanent Representative with WMO

ECMWF
EUROPEAN CENTRE FOR
MEDIUM-RANGE WEATHER FORECASTS

Europäisches Zentrum für mittelfristige Wettervorhersage | Centre européen pour les prévisions météorologiques à moyen terme

ECMWF Statement to GEO-XII – Mexico Ministerial

- ECMWF recognises the important role played by GEO in advancing the availability of long-term, global data and modelling information as a basis for sound decision-making for improving human welfare. Expanding further the availability of consistent and complete datasets with full and open access is crucial, as is its aim to consolidate observing networks, to improve global coverage and availability of data.
- ECMWF contributes to GEO in several ways: it carries out research on the utilisation of Earth observations for ensemble weather analysis and prediction; it provides access to global analyses and predictions of the atmosphere via maintaining open access databases; it contributes environmental information services through its involvement in the EU Copernicus Programme.
- 2015 has seen ECMWF strengthen its contribution to GEO even further, both on the research aspects, as well as through increased involvement with the European Union's Copernicus programme.
- Starting with the former, provision of The International Grand Global Ensemble (TIGGE) database has been extended for another four years, and it will continue to provide an invaluable resource for the science community, including by supporting the WMO's World Weather Research Programme projects.
- ECMWF has also launched a data portal for sub-seasonal to seasonal (S2S) weather forecasts to help researchers study predictability on time-scales of up to 60 days. It has been developed as part of the five-year S2S research project on sub-seasonal to seasonal prediction launched in November 2013 by the World Weather Research Programme (WWRP) and the World Climate Research Programme (WCRP).
- Moving to the latter, ECMWF is proud to be delivering the Copernicus Atmosphere Monitoring and the Climate Change Services on behalf of the European Union, as well as contributing to the Emergency Management Service through ECMWF providing the European Flood Awareness System's (EFAS) computational service. These services utilise the global observing system including the new Sentinel satellites.
- The Copernicus Atmosphere Monitoring Service is operational and every hour the service provides accurate analyses and forecasts, detailing the composition of the atmosphere from the ground level up to the stratosphere.

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- The Copernicus Climate Change Service is in its proof of concept phase and through its climate data store will provide:
    - ✓ global climate data re-analysis;
    - ✓ tailor-made forecasts;
    - ✓ customisable visual data to enable examination of wide range of scenarios and model the impact of changes;
    - ✓ access to all the underlying data.

  The service will build upon and complement capabilities existing at national level and will become a major contribution from the European Union to the WMO's Global Framework for Climate Services.

- The European Flood Awareness System initiative increases preparedness for riverine floods across Europe. Its sister initiative GloFAS jointly developed by the European Commission and ECMWF, applies the same methodology and principles but at global level.

End

Ambassador Leonardo Arizaga, Head of Delegation

Misión Permanente del Ecuador
ante la ONU y otros Organismos Internacionales
Ginebra - Suiza

Thankyou Mr. Chairman,

I have the honor to speak on behalf of the Government of Ecuador as a new Member of the Group on Earth Observations (GEO), thank you for your kind words welcoming us to GEO's family. I extend our thanks as well to the People and Government of Mexico for its gracious hospitality. There is no better place to begin officially our GEO membership than here, in Mexico, celebrating together with brothers and sisters of our bigger homeland, Latin America.

Two years ago, when Ecuador applied for Observer Status to GEO my country was already convinced of the relevance of this young but vital international organization. Knowledge, science, technology and innovation - as drivers of wealth- and means for equal and fair distribution of the benefits arising from it- are fundamental pillars for "Peace", the name we use for development and Good living.

Global data and information generated by comprehensive, coordinated and sustained observations of the Earth play an important role for sound decision-making, and are fundamental to design and implement policies and programs to overcome social and economic challenges and attain sustainable development.

It is also important to place a particular emphasis on dialogue between producers and users of data and promote the allocation of sufficient resources by States and international cooperation agencies in order to compile pertinent, timely and reliable information.

To that end, we have established a research university that promotes innovation in the heart of Yachay, City of Knowledge in Ecuador. Among the areas of strength of science and technological specialization of Yachay, the schools of Information Sciences and Technology and Geological Sciences and Engineering are relevant to GEO's Work Programme. We look forward to future cooperation to expand its network for interaction and open data.

Mr. Chairman,

We congratulate GEO for its first decade of remarkable work developing this unique international partnership that not only advocates for continued and expanded earth observations. It also strives to identify data needs, ensuring access to multiple sources, while promoting standards and interoperability among available data, and transforming that information into knowledge, which can be used to generate products and services for end-users.

We encourage GEO to continue its endeavor to identify critical gaps in existing observational networks with particular focus on the needs of developing countries, the need for continuity of observations, the need for increased development of in-situ networks, and the potential benefits of enhanced observing systems.

Finally, we look forward to further strength our collaboration and coordination in the four Societal Benefit Areas identified by the AmeriGEOSS iniative, mainly agriculture and food security, disaster risk reduction, water resource management, and biodiversity and ecosystem monitoring.

Thank you Mr. Chairman.

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European Environment Agency – Intervention GEO plenary Mexico November 2015. Tim Haigh

- As an independent European agency, providing information to the policy cycle and the public, EEA is in a unique position to co generate knowledge and inform stakeholders:
    - institutions and governments;
    - EU institutions: European Commission services, Parliament, Council)
    - International organisations (UNEP, UNECE, WHO, OECD).
    - Policy influencers: civil society;
    - NGOs, business, media, advisory groups, scientists, debaters;
    - The general public.

- The EEA was established in tandem with a network in countries European Environment Information and Observation Network (Eionet) which creates a robust a two-way flow of data information and knowledge, in particular with public authorities. Operating across Europe, beyond the EU 28 to include EFTFA countries, EEA has 33 member countries and six cooperating countries in West Balkans.

- Europe stands roughly halfway between the initiation of EU environmental policy in the early 1970s and the EU's 7th Environment Action Programme 2050 vision of living well within the limits of the planet, which is connected to the global goals for sustainable development. Since 1970s, Our understanding of environmental challenges has evolved. We have better understanding of the links between issues and their interplay with a wide range of economic and social trends.

- EEA's work increasingly focuses on how we manage our knowledge centres and how this can be used to illustrate pathways – or transitions as we refer to them – to a sustainable future.

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- GEO has contributed to the EEA in a variety of ways as it:
  - strengthens comparability and validity of outputs by using more broadly accepted approaches & integrating other data sources;
  - provides a forum for technical dialogue & cooperation with communities beyond Eionet (e.g Atmosphere parameters data exchange Community of Practice);
  - encourages and improve data access, (data policy related and also technical access; e.g Open data and data sharing taskforce);
  - leverages the scope and results research and development
  - provides a framework and stability for partnerships within and beyond EEA's own member network.

- GEO has brought added value though work on data sharing principles, brokering and on provenance – making it easier for the EEA to obtain and also disseminate data holdings.

- GEO is recognised for its work on earth observation – but mainly with a narrow definition of monitoring data coming from space.

- However, there is a need for GEO to be recognised much more broadly as addressing the whole landscape of data sources and also to move up the Data – Information – knowledge chain, not only about data, about integration, connecting to complementary data, information, to create new knowledge to support transition and respond more explicitly to global needs
- Some elements of GEO need to remain broad, lightweight applications and other parts of GEO need to be focussed, targeting specific issues in detail to build capacity, knowledge and competency and responding to gaps in information for policy making.

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- The GEO community is important, it is a core strength of GEO, it needs to be made more robust through self-awareness of its role in the wider information landscape and flex itself to re-orient to respond to emerging challenges by creating partnerships to helpfully share knowledge, information and data.

- The EEA is looking forward to interacting on what we can expect from GEO during the forthcoming ten year period. The planning and programming documents prepared provide a sound basis for the next ten years. Now the words need to be come actions that will not only create pretty graphics but also enable this information to support people to implement solutions to societal challenges.
- EEA would also like to highlight some other priority topics for the EEA in terms of data and potential / ongoing GEO involvement:
    - low carbon;
    - biodiversity;
    - resilient food systems.

ESA Formal Statement to the
Twelfth Plenary Session of the Group on Earth Observations (GEO-XII)

Chairman, Distinguished Guests.

ESA fully supports the strategic approach proposed in the GEO Strategic Plan 2016-2025. We recognize the unique convening power of GEO and appreciate the need to further engage user communities, including UN agencies as well as major international financial institutions. ESA has long worked in partnership with a range of International Finance Institutions and will sign an agreement with the World Bank on the occasion of COP-21. However, it is much preferable that such partnership should be multilateral rather than bilateral, and ESA supports strongly the potential participation of WB at GEO.

ESA also welcomes the ambition to define a coherent, comprehensive suite of requirements of the revised SBAs. These are all major strategic steps forward for GEO. Some aspects of GEO are unique; it is on these that we should concentrate our efforts.

Since its inception, ESA has been a substantial contributor to GEO either through the Committee on Earth Observation Satellites (CEOS) or directly as Lead of several GEO WP tasks & components.

ESA operates a fleet of satellites, the latest being Sentinel-2 that was launched on 23 June 2015, which together provide data to more than 12 thousand user projects worldwide, more than 750 Terabytes of data per year free of charge. We anticipate, enthusiastically, that this will increase substantially in the coming years.

Together with GEO partners, ESA is significantly involved in major GEO initiatives such as the Global Forest Observation Initiative and GEOGLAM; when S-3 is launched later this year over half of all GEOGLAM data will be provided through the Sentinel missions.

The Climate Change Initiative of ESA is providing high-quality products in response to the needs of the climate community, underpinning many of the GEO societal priorities.

In the area of disaster risk management, CEOS Agencies led by ESA are working with the major relevant stakeholders in implementing the new GEO-DARMA disaster risk reduction initiative in line with the top priorities identified in the Sendai Framework for Disaster Risk Reduction 2015-2030”

ESA is also an important contributor to other GEO initiatives such as the Global Carbon Strategy, the Geohazards Supersites, GEO BON and AfriGEOSS with the on-going TIGER programme that, since 2002, has involved more than 150 water authorities and research institutes from 42 African nations.

All these examples illustrate the magnitude of resources allocated by Participating Organisations related to Earth observation from space making a vital contribution to the success of GEO.

We support strongly the strategic approach of the new GEO and its revised governance which reflects much better the importance of Participating Organisations in delivering against GEO priorities.

Lastly, I would like to express my sincerest thanks to the Mexican Government and to the GEO Secretariat for the excellent organization of this very important and successful Plenary.

Thank you.

Statement from the ESIP Federation at the GEO Plenary, 11-12 November 2015, Mexico City, Mexico

Statement by Peter Fox, President of the Federation of Earth Science Information Partners (ESIP Federation)

Thank you, and good morning.

The Federation of Earth Science Information Partners, known as the ESIP Federation, seeds innovation, develops best practices and advances technologies across broad-based, distributed communities of science, data and information technology practitioners. The ESIP Federation's status as a leading United States-based collaboration network and neutral convener has made it the go-to place to forge consensus on emerging data-related topics.

The ESIP Federation was created by NASA in 1998 in response to a recommendation from the National Research Council, and it has a history of leadership and service to the international Earth observations and geospatial communities. I would like to highlight some of the recent ways in which the ESIP Federation community has contributed to the success of GEO, with a focus on climate change, disaster response and resilience, and Earth science data stewardship.

A strength of the ESIP Federation is building collaborations among those who wish to contribute their expertise to resolving common problems in Earth science data. The strongest of these collaborations is the ESIP Energy and Climate Working Group, which fosters connections, both technical and interpersonal, among policy and decision makers, climate change experts, energy data providers, decision support tool providers and end users. Their current discussions include ways to make NASA and NOAA satellite and model data and tools available to communities for planning sustainability and emergency preparedness.

The ESIP Federation is also engaged in improving response to natural disasters through the ESIP Disaster Lifecycle Cluster, which formed in 2014. This group facilitates the identification and testing of ESIP member data sets, such as those from the NOAA, NASA and U.S. Geological Survey Earth observing data centers, that may be certified as trusted data sources for agencies and organizations responding to disasters. In order to accomplish this goal, a Collaborative Common Operating Picture was established, which provides a platform for sharing vital geospatial data in a collaborative environment. This allows for connections and collaborative sessions among ESIP Federation member data providers and potential users who support disaster lifecycle and end user communities.

The ESIP Federation's Data Stewardship Committee has worked to improve data practices on a number of fronts for many years. For example, the committee developed Data Citation Guidelines, which are now referenced in the author instructions of the journals of the American Geophysical Union; their use provides credit for data producers and repositories. Most recently, through work initiated by NOAA's Data Maturity Matrix, the ESIP Data Stewardship committee is

developing a uniform metric for assessing the state of curation—access, preservation, utility for purpose, etc—that will work across all types of Earth science data repositories, providing users an easier time determining what data is suitable for their needs and repositories understand the current state of any given data set.

These are just a few examples of the valuable contributions the ESIP community has made to GEO's objectives. I look forward to continuing ESIP Federation support for GEO and congratulate GEO on its progress and the collaborative environment that GEO promotes.

Thank you.

STATEMENT FOR PLENARY

Mr Chairman, Distinguished Delegates,

Thank you for giving me the opportunity to address this meeting on behalf of EUMETSAT. EUMETSAT is a CEOS Agency and contributes to GEO through its operational satellite programmes.

In July, we launched the fourth and last satellite of the Meteosat Second Generation series, and we are now preparing for the launch of the Copernicus Sentinel-3 satellite and the Jason-3 satellite, which we will exploit in cooperation with European and US partners.

This summer, our 30 Member States approved two new programmes, the EUMETSAT Polar System of Second Generation and Jason-CS, our contribution to the development of the collaborative Sentinel-6 ocean altimetry mission.

These launches and new decisions secure the continuity of our observations of the atmosphere, ocean and land for two decades, and hence our long term contribution to GEO.

EUMETSAT welcomes the GEO Strategic Plan 2016-2025, which provides clear objectives and new governance. We are ready to contribute to its implementation in the next 10 years, in particular through the GEONETCast partnership with the Chinese Meteorological Administration, NOAA and the GEO Secretariat, considered as a Foundational Task.

GEONETCast will continue to facilitate access to Earth Observation data and information in developing countries and provide a global and efficient data access mechanism in support to all Societal Benefit Areas.

Thank you for your attention.

EC Statement GEO XII

- The European Commission continues to provide direct support for the implementation of the GEOSS through the Copernicus Programme and Horizon 2020.

- Two dedicated Copernicus satellites are already in orbit: Sentinel 1A which provides radar imagery of the Earth surface and was launched on 3 April 2014 and Sentinel 2A which provides optical imagery to monitor variability in land surface conditions and was launched on 22 June this year.

- A third Sentinel mission, Sentinel 3A, will be launched at the end of this year. Sentinel-3 will have a strong focus on the ocean, and will measure sea-surface topography, sea- and land-surface temperature and ocean- and land-surface colour with high-end accuracy and reliability.

- Sentinel satellite data and Copernicus service information is available open and free of charge through our website 'Copernicus.eu' as a European contribution to building GEOSS.

- Through Horizon 2020 we will launch in 2016 an ambitious programme in collaboration with international partners to develop an integrated observation system in the Arctic region, following the effort we are making in the Atlantic Ocean through the ATLANTOS project.

- We also have made provision in 2016 for a project in the Mediterranean Sea to move towards an integrated Mediterranean Sea Observing System.

- Finally we plan for 2017 a prominent action towards developing countries to generate Earth observation services for the monitoring of agricultural production in Africa. This topic aims to contribute to providing food supply projection and agricultural risk assessment for Africa and is closely linked to the implementation of the GEOGLAM and AFRIGEOSS initiatives.

Statement from Finland to GEO XII Plenary by Head of Delegation Mikko Strahlendorff

Finland and the European Commission will next week set up a new legal entity for European carbon and GHG observations. The Integrated Carbon Observing System European Research Infrastructure Consortia is to be adopted in Finnish parliament next week and finally gives European cooperation in carbon observations a European legal vehicle. It has taken 6 years and serves as an example of the time it can take to establish new organizations. But it also serves as an example how 14 European countries could standardize and develop from some existing stations of similar measurements a wider and better resourced network of observation stations with shared quality control and data dissemination. This was achieved both with atmosphere and ecosystem stations. Ocean observations are well on their way as well.

ICOS is also committed to continue the networking efforts to the global level in actively supporting the GEO Carbon and GHG initiative to become a flagship. In addition to global cooperation there is also the aim to partner the ground, air and ocean observations with satellite based Earth Observation. Finland is in addition to ICOS eager to help GEO in the domain of cryosphere monitoring especially global snow information. The Arctic is melting faster and faster, let's try to capture the loss as long as we can.

Future Earth Statement for GEO Plenary - Mexico

Future Earth is very thankful to the distinguished delegates for having accepted it as a Participating Organization of GEO.

We would like to ensure that all previous support provided by DIVERSITAS and IGBP to GEO in areas like biodiversity, climate and global change, will continue, and as much as possible it will be stronger by further involvement of other scientific disciplines and decision makers.

Future Earth will be looking forward to work jointly with GEO in the important topic of strengthening the valuable support that Earth Observation data can provide for the derivation of indicators to assist decision makers in their implementation of the Sustainable Development Goals.

Many thanks

Global Biodiversity Information Facility written statement for GEO-XII

The Global Biodiversity Information Facility (GBIF, http://www.gbif.org/) welcomes the *GEO Strategic Plan 2016-2025: Implementing GEOSS* and the commitment of GEO to coordinate delivery of open earth observation data to support the needs of society, notably in response to the Sustainable Development Goals. GBIF particularly welcomes GEOSS as a framework for maximizing interoperability between earth observations across SBAs.

GBIF is a partnership of national governments and international organizations that publish biodiversity data based on specimens and field observations. The data include when and where species were recorded and other associated information.

GBIF supports the development of capacity at national and regional levels for publishing and use of biodiversity data. GBIF also supports GEO BON activities which contribute to GEO's focus on capacity building, integration and user needs. These include the BON in a Box toolkit for establishing and strengthening national, regional and thematic observation networks, and the establishment of a pole-to-pole Marine Biodiversity Observation Network (MBON).

As of November 2015, the GBIF network has mobilized 500 million georeferenced data records and represents the largest single global database of primary species observations.

GBIF is the essential data infrastructure for biodiversity-related research. More than 350 peer-reviewed publications use GBIF data each year.

GBIF underpins actions to address many of the Aichi Biodiversity Targets under the Strategic Plan for Biodiversity 2011-2020, including those relating to invasive alien species, establishment of protected areas, assessing and addressing species extinction risk and resilience of agriculture through conservation of genetic diversity. The data support several of the Sustainable Development Goals in relation to terrestrial and marine biodiversity, and in informing actions relating to food security, human disease risk and adaptation to climate change.

The priorities in GBIF's next 5-year *Strategic Plan* align closely with the GEO Core Functions in relation to the Biodiversity and Ecosystem Sustainability SBA. GBIF is particularly focused on improving understanding of the data needs of significant user communities and identifying and addressing major gaps in coverage and quality in existing data.

GBIF considers GEOSS, the GEO community, and more particularly GEO BON as a key channel for integration and use of these data in earth models and sustainable development. GEO BON has a key role to play in support of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) by operationalizing the Essential Biodiversity Variables (EBV) concept as modeled data surfaces, based on evidence such as 'in situ' data mobilized and integrated through GBIF, and satellite observations.

GBIF welcomes increased engagement from all countries and GEO members to improve publication of quality assured biodiversity data through GBIF, and the use of these data in national and international biodiversity assessments. GBIF has been established as an international governmental organization for this purpose.

Statement by the Chair of the Steering Committee of the Global Climate Observing System (GCOS)

GEO Plenary XII
11-12 November 2015, Mexico City

Thank you, Chairman.

I am honoured to speak on behalf of the Steering Committee for the Global Climate Observing System (GCOS).

GCOS notes the new *GEO Strategic Plan 2016-2025* and welcomes its recognition of the cross-cutting nature of climate change across all the SBAs. GCOS itself has recognised that climate observations are needed not just for the climate community but also for issues such as disaster risk reduction and emergency preparedness, and is planning to meet these challenges.

GCOS also recognises, and values, the role of GEO as a convening body and its work in identifying user needs in the revised GEO SBA structure.

GCOS has just released its *Status Report of the Global Observing System for Climate*. This Status Report has been submitted to to the sponsoring organizations of GCOS and Parties to the UNFCCC for consideration at COP21 in Paris in December 2015 which will be important for defining future climate related observational needs. The report's main message is that while the current observing system has been very successful in identifying and characterising climate change and its drivers, the system needs to evolve to meet the new challenges posed by planning for extreme events, early warning systems, and climate change adaption and mitigation. Improvements are needed to fill monitoring gaps (especially in Africa), to develop more detailed regional observations and to improve the archiving of, and access to, climate observations.

To address these improvements, GCOS has started drafting a new Implementation Plan, that will take into account recent developments including the revised GEO Strategic Plan. The new GCOS Implementation Plan, to be published in late 2016, will be a milestone that will influence the agenda for climate observations on a global and regional scale over the coming decade.

GCOS welcomes the potential for cooperation with GEO in developing and delivering the new Implementation Plan for GCOS and, conversely, in supporting the new thinking in GEO and its future work programme.

GEO could benefit terrestrial observations by supporting coordination of data requirements between the various global observing systems and global observation initiatives. Currently overall coordination of terrestrial observation is lacking.

GCOS will hold a conference titled “The Road to the Future”, 2-4 March 2016 in Amsterdam, the Netherlands, to discuss the observing system and provide inputs into the new Implementation Plan. GCOS would like to have a wide participation at this conference and would encourage contributions from the GEO community.

GCOS would welcome a greater involvement in the development of the GEO work plan in the areas of climate observations and looks forward to identifying tasks where GEO can supplement the on-going activities of GCOS, such as facilitating access to climate datasets through GEOSS.

Finally, I would strongly encourage the GEO community to be more engaged with the GCOS expert panels on atmospheric, terrestrial and ocean observations for climate. I believe there is great potential for much improved cooperation of GEO and GCOS: such a cooperative approach would be able to serve a broader community more effectively and efficiently.

Thank you.

Germany has been a strong supporter of GEO during the past years. We have been continuously investing into the various GEO Tasks, the Trust Fund and by Secondments to the Secretariat. We also work very closely with our European partners in the various European level contributions, both by the European Commission and European Participating Organisations. Last but not least, we have contributed significant resources to the IPWG. Besides those general contributions, we would like to highlight a few recent contributions:

- The German Meteolorogical Service (Deutscher Wetterdienst) has worked intensively with a couple of GEO partners on the interoperability of GEOSS and the WMO Information System (WIS). Thanks to this cooperation with CNR from Italy, KMA from Korea and JMA from Japan, users now have access to all data from GEOSS and WIS through either portal and mechanism. DWD developed with CNR the methods for daily synchronization of WIS and GEOSS metadata and its monitoring.
- The German Federal Agency for Cartography and Geodesy (BKG) has linked several important German geodatabases with its National Geodata Infrastructure, which itself is linked to the GEOSS Common Infrastructure. In total, some 210 thousand mainly marine and atmospheric datasets are now newly available through the GEOSS.
- The German Aerospace Center (DLR) set up a funding programme for projects dealing with Remote Sensing to support international Environmental conventions. One of the requirements for proposals was to work with GEO and its international partners. A number of projects dealing with forest desertification, glaciers, biodiversity and wetlands have been selected and will start next year. We will be happy to support coordination with the respective GEO initiatives.
- Lastly, Germany is proud to support GEO-BON by financing the program office, a very important GEO initiative, that deserves more visibility.

November 12, 2015

Global Spatial Data Infrastructure Association statement to the GEO Plenary

The Global Spatial Data Infrastructure Association notes the importance of Earth observation and geospatial information in the recent UN Resolution 'Transforming our world - the 2030 Agenda for Sustainable Development' and commit to cooperate with GEO and its partners to exploit their contribution toward this plan of action for people, planet, and prosperity.

Referring to the Guidance for GEO 2025 document, the GSDI Association continues to endorse the GEO data sharing principles and apply these in our work, such as the 'Geo Legal Interoperability Map of the World ', 'Marine/Coastal SDI Best Practice'., GEO Coastal Zone Community of Practice, and participation at CoastGIS Conferences and Marine SDI Working Group of the International Hydrographic Organization.

The Association also has members actively engaged in thematic areas of the GEO 2016 Work Plan, including marine/ocean data access and integration, and disaster management. We look forward to, and support, development of the "Ocean and Society - Blue Planet" activities. Our members ITC and CIESIN also participate in the 'Water Cycle Capacity Building', 'Global Mangrove Monitoring', and 'Global Human Settlement indicators' programs.

To improve decision making from local to regional scales and across disciplines, GSDI and HUNAGI made a proposal for ESA at the CEOS WGISS Meeting in May, to launch a pilot project using a Data Cube approach for the Danube Region. The data cube concept enables both retrospective and predictive analysis based on user-ready earth observation and synchronized spatio-temporal thematic data. And consultations have begun with potential partners at several European Commission conferences.

The GSDI Association includes members from countries and organizations who are developing Spatial Data Infrastructures around the globe providing access to geospatial information and knowledge leveraged by a broad community, for improved decision making across societal benefit areas.

The GSDI vision aligns with the GEO and GEOSS objectives and we are pleased to support the GEO strategic plan and continue our engagement as a Participating Organization.

Thank you

ICIMOD Statement at GEO-XII Plenary, Mexico

The Hindu Kush Himalayan region is experiencing great changes in the recent past, with rapid population growth and high rates of out-migration, economic development, urbanization, and environment degradation. In particular, the Himalayan region have gained greater attention as hotspots of climate change. These changes pose challenges to sustainable development. At the same time, the mountains have been increasingly recognized for the ecosystem services they provide.

The International Centre for Integrated Mountain Development is a regional intergovernmental knowledge Centre serving the eight regional member countries of the Hindu Kush Himalayas (HKH) – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan.

Earth Observation (EO) has become critical in addressing mountain development challenges in the region. Through regional and international partnerships, ICIMOD continuously strives to serve as a regional center of excellence on earth observation and geospatial technologies for the Himalayan region.

ICIMOD is utilizing earth observation covering a wide range of issues - assessing impact of climate change on snow and glaciers, determining water availability scenarios in river basins, devising sustainable conservation strategy for transboundary landscapes, disaster response and recovery efforts, issuing timely flood early warning, agriculture monitoring for food security analysis, estimating carbon financing for communities to benefit from REDD+ mechanism, among others.

ICIMOD has become a participating organization of GEO in 2009 and actively participating and contributing to GEO's effort in the Himalayan region. ICIMOD closely interfaces with space agencies in our region, we host a SERVIR program supported by NASA and USAID, we are a node of JAXA, and a regional support office for UN SPIDER.

ICIMOD wishes to announce a Himalayan GEO to promote and utilize earth observation in the Himalayan region through active regional cooperation with its member states and partnerships with regional and international organizations. The focus:

- Foster regional cooperation to promote earth observation and allied technologies
- Assist with capacity development of the ICIMOD member countries
- Develop and implement innovative EO and geospatial application services of regional significance;
- A regional platform for mutual learning and sharing opportunities

ICIMOD congratulates GEO on its tremendous progress and next 10-year implementation framework, and looks forward to a continuing strong partnership. ICIMOD would also like to

thank Government of Mexico for hosting the Ministerial Summit and GEO Plenary and excellent hospitality. Thank you!

Statement from IEEE to the GEO Plenary, 12 November 2015, Mexico City, Mexico.

Statement by Prof. René Garello
President of the IEEE Oceanic Engineering Society
Institute of Electrical and Electronics Engineers - IEEE

Thank you Madam Chair, good morning to all,

IEEE is "Advancing Technology for Humanity". By bringing a technology and engineering base to GEO, IEEE supports important and transverse actions.
We are making substantial contributions to the evolution of the GEOSS Common Infrastructure including operation of the Standards, Interoperability and User Requirements Registry, which provides an important capability for interoperability and requirements.
We actively support expansion of the Blue Planet activities. For instance, we co-lead the GEO Coastal Zone Community of Practice, which is contributing to Blue Planet and we will co-host the next Blue Planet Symposium in 2017.

In the next ten years, we foresee an expansion of the services that GEO provides to the global community. IEEE will be strongly engaged in the GEO prospective activities as the new Work Program evolves.

Let me point for your consideration to a few services we support and will be supporting:

- First, in collaboration with other organizations, IEEE is leading an effort to understand how to quantify the societal benefits and impacts of Earth observation and GEO.
- Second, IEEE will support moving beyond data to a knowledge-based approach that will better engage decision makers. And IEEE is committed to contribute to this transition.
- Third, understanding the Earth and its rapidly changing environment requires a focus on 70% of the Earth's surface: the Oceans, which are a core component of Earth's life support system.
- Fourth, IEEE contributes to GEO outreach through its on-line magazine, Earthzine (www.earthzine.org).

In closing, I look forward to continuing IEEE support for GEO and GEOSS and express our appreciation for the collaborative environment that GEO creates and that **is** GEO. Thank you.

IIASA is a long-standing and active member of GEO. For those of you who do not know IIASA, it is a global think tank based just outside of Vienna. It was founded in 1972 to promote East-West scientific cooperation during the Cold War and has evolved today to address global challenges of the 21st century.

IIASA has been contributing to the activities of GEO from its inception. We first assessed the added value and the socio-economic benefits of GEOSS as part of an EU funded framework project including what benefits better global Earth Observation will bring for society. More recently, IIASA has been contributing to GEOSS with applications in the field of land cover classification and validation tools as well as improved cropland data for the activities under the flagship GEOGLAM initiative. Since 2009, IIASA has engaged in citizen science and the development of crowdsourcing tools, both for visual interpretation of satellite imagery as well as mobile apps for in-situ based data collection in the field of environmental monitoring. We have recently had success in the development of serious games for classification of imagery, an approach that holds great promise for engaging citizens while providing a plethora of new cal/val data.

IIASA fully supports GEO and welcomes the recent activities and new tasks that are being established in the field of citizen science and citizen-based environmental monitoring. Moreover, IIASA welcomes the efforts of GEO to improve monitoring in developing countries and to make data and information more openly accessible. In particular, IIASA sees GEO as having a very important role in monitoring the 17 Sustainable Development Goals. Earth Observation, both through satellite technologies as well as mobile technologies on the ground, can clearly contribute to monitoring progress towards the SDGs. We look forward to continue working with GEO and its members across multiple societal benefit areas.

INCOSE Introduction

INCOSE (International Council of Systems Engineering) has participated, as an international professional organization, in GEO for over a decade. INCOSE's extension into GEOSS activities was through our initial participation by modeling GEOSS portal performance features. In addition we participated in the GEOSS M&E (Monitoring and Evaluation) working group. At this time we are continuing our GEOSS software development by performing an extension for the PLANKTON*NET data provider. This software development effort is an ongoing effort with completion expected in 2016. INCOSE remains committed to continuing our active participation in the GEOSS software portal development and M&E efforts.

STATEMENT TO BE MADE AT THE 12TH PLENARY OF GROUP ON EARTH OBSERVATION (GEO) DURING NOVEMBER 11-12, 2015 IN MEXICO CITY

Mr Chairman, GEO Co-chairs, Heads of Delegations and Distinguished participants of the GEO 12th Plenary,

1. I, on behalf of Government of India, and specifically representing Chairman, Indian Space Research Organisation and the Indian Earth Observation user community, convey our warm greetings to each one of you. Allow me to express the gratitude of the Indian Government, to the Government of Mexico for hosting this Plenary in Mexico City.

2. India has been an active member of GEO since its inception in 2003. India has built, over the years, a strong Earth Observation programme, comprising space-borne, airborne and in-situ observation infrastructure. We have an operational Remote Sensing Programme built over the past 26 years. Currently, seven remote sensing satellites are operational in low Earth orbit and three INSAT series of meteorological satellites are operational in Geostationary orbit. Various instruments onboard these satellites provide data in varied spatial, spectral and temporal resolutions to cater to different user requirements in the country. The INSAT series of satellites, provide data for generating various parameters namely, cloud motion vectors, cloud top temperature, water vapour content, vertical profiles of temperature and humidity, facilitating weather forecasting, genesis of cyclones and their track prediction, etc.

3. With these in-orbit, satellites and the planned ones, the Indian EO system will continue to provide high quality data products and services, enabling a host of applications relevant to national development and global requirements. India's future Earth Observation Programme will ensure the continuity of the thematic series of satellites, viz., Resourcesat, Cartosat and RISAT for land and water resources and mapping applications; Oceansat for study of ocean resources; INSAT for meteorology and atmosphere with specific improvements in payloads.

4. The country has established a unique mechanism of institutionalization known as National Natural Resources Management System (NNRMS) in 1985, for enabling the integration of space technology, contemporary technologies into conventional practices. At present, there are nine theme oriented Standing Committees which are similar to GEOSS nine Societal Benefit Areas..

5. India would like to emphasize the fact, that taking the benefits of space technology to the mankind and society has been the driving force of Indian Space Programme since inception. Towards this, the space based virtual constellation would bridge the data gap and avoid redundancy of the missions. The globally acquired EO data will meet the societal needs of the global community, and, India is actively supporting this initiative of GEO.

6. Besides the various contributions from ISRO in many global earth observations missions, in the recent past, India has focused on certain key areas in realizing unique missions towards ocean, atmosphere, meteorology, and weather related studies. Ocean wind vector and Ocean colour products, derived from Oceansat-2 data are made available, free of cost to global community which is a big success in the global arena. The joint realization of Megha-Tropiques and SARAL with French Space Agency has contributed significantly to the global user community. The data from three payloads (SAPHIR, SCARAB & ROSA) of the Megha-Tropiques satellite are open to global users across the globe. Everyday data is being processed and uploaded to NRSC website in near real time.

7. ISRO's portals (Bhuvan, NNRMS Data Base and MOSDAC) are being used to provide the satellite data, geophysical and biophysical products as well as thematic information derived using EO data. Bhuvan Geoportal has entered its sixth year of operations which provides selected satellite data sets, geophysical products, and thematic layers for consumption at user end through either as Web Services or as free download. As of today, there are more than 280 thousand downloads through this portal.

8. I must also mention that IRS data is being received throughout the world, through network of international ground stations. The data provided by Indian satellites have been of immense help to the stakeholders in disaster preparedness, damage assessment, rehabilitation and mitigation.

9. India is working with other space faring nations like USA, France, Germany and Canada in building satellite with advanced Earth Observation payloads for improved estimation of vegetation, forest biomass, forest fire, soil moisture, oil slicks, surface deformation, ice-sheet dynamics, ocean surface wind vector, energy and water budget etc.

10. ISRO has augmented Cuiaba ground station in Brazil for Resourcesat-2 data reception and processing. Brazil is receiving Resourcesat-2 data since October 2014 which enhanced the monitoring of the degradation of the Amazon forest. Similarly, ISRO provided Landsat archived data of 1984-2001 of Indian region to USGS for supporting Landsat Global Archive Consolidation (LGAC) initiative.

11. India has taken up a project with the Association of South East Asian Nations (ASEAN) comprising Brunei, Cambodia, Indonesia, Laos PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Viet Nam; to establish a ground station in Viet Nam to receive, process and use data from Indian satellites for variety of applications including disaster management. IRS data would be provided to the ASEAN member countries - free of access fee with assured continuity of data from Resourcesat & Oceansat series in addition to training on space technology applications.

12. Under Regional Cooperative Mechanism of UNESCAP, India has provided technical support to Sri Lanka on agricultural drought monitoring. Similar support is being extended to Nepal, Myanmar and Cambodia through UNESCAP from India.

13. Towards improving capacity of other countries in the region, to cope with disaster mitigation, India actively supports the global disaster management efforts through International Charter and Sentinel Asia. India is also providing the required assistance to establish a network of weather stations in SAARC countries to support severe thunderstorm predictions.

14. Indian delegation is happy to inform that in view of its contribution with its satellite programmes to the WMO Global Observing System, Indian Space Research Organisation (ISRO) has been included as a new member of Coordination Group on Meteorological Satellites (CGMS).

15. Role of GEO in promoting the use of EO data for sustainable development would be incomplete without the capacity building for its use. In this domain, ISRO continues to share its facilities, expertise in the application of space science and technology through the United Nations (UN) affiliated Centre for Space Science and Technology Education in Asia and the Pacific (CSSTEAP) at Dehra Dun. As of now, CSSTEAP has benefitted more than 1500 officials from 52 countries. In addition to the regular courses, the centre has organized four special courses on disaster risk reduction and emergency management for the Asia Pacific region jointly with UNESCAP, UNSPIDER and SAARC Disaster Management Centre.

16. India actively participates in developing a Global Earth Observation System of Systems (GEOSS) and pursued its 10-year implementation (2005-2015) plan. India is shouldering the responsibilities such as supporting the G20 initiative of GEO, including Global Agricultural Monitoring initiative (GEO-GLAM), Joint Experiments on Crop Assessment and Monitoring (JECAM) initiative, Global Forest Observation Initiative and GEOSS Data CORE (Collection of Open Resources for Everyone).

17. India will strive to actively engage and contribute in various activities of GEO, including further strengthening of GEOSS and in achieving its objectives in the coming 10 year period.

Thank You,

IOC intervention at GEO-XII Plenary, Mexico City, 12 November 2015

The Intergovernmental Oceanographic Commission of UNESCO brings 147 Member States together to collaborate in ocean science, observations, and services. IOC leads the coordination of the Global Ocean Observing System GOOS, which aims to deliver the sustained observations needed to support goals in disaster risk reduction, an efficient blue economy, to sustain ocean health, and in climate (together with GCOS).

Looking forward, IOC particularly welcomes the GEO Strategic Plan's:

- Focus on building GEOSS
- Its scope building on the contributions of its Members and Participating Organizations
- Its understanding that the SBAs are underpinned by research and observations of all domains including the ocean,
- And its identification of the need for stronger relationships with complementary global Earth observing organizations.

The IOC remains committed to contributing to GEO, and convinced of the potential of GEO's "Blue Planet". GOOS will work with others, particularly with POGO and CEOS, to strengthen what has been a community activity into an engaged, managed, funded, and relevant Blue Planet initiative that will demonstrate and deliver societal benefit from ocean information. It will build on a foundation of sustained observations, both in situ and from space, and a strong element of capacity development.

When Blue Planet was presented to GEO Plenary for the first time in 2012, we as a community emphasized the cross-cutting need for ocean observations to support each of GEO's SBAs at the time. We remain convinced that ocean information remains crucial for all of GEO's revised SBAs, and not only at the coast.

In the Blue Planet context let me also highlight the European Commission's Horizon 2020 AtlantOS project, where IOC Is one of more than 60 partners working to improve and innovate Atlantic observing to obtain a more sustainable, efficient, integrated, and fit-for-purpose Atlantic Observing System. This joins another GOOS development project for the Tropical Pacific Observing System in 2020, particularly relevant in this El Niño year.

Partnerships are not always easy to negotiate, whether for GOOS, Blue Planet, or GEOSS. But the effort becomes well worth it as we add onto each other's comparative advantages, avoid duplication of effort, and work together to deliver integrated Earth Observation information for societal benefit, which is the promise of GEO.

Thank you, and a particular thank you to Mexico for the organization of this Plenary.

13 November 2015 session 3

Short Statements and Ministerial Endorsement of the Declaration

I.R.of iran

Mr. Chairman,

Your Excellencies,

Distinguished Guests,

Ladies and Gentlemen,

I seize the moment to express the gratitude of the Government of the I.R. of Iran to the government of Mexico, for hosting and the excellent preparation of the Twelfth GEO Plenary Session and the 2015 GEO Ministerial Summit. It is my pleasure to support the Declaration .

The Declaration reminds us strongly of the most essential feature of GEO that is key to its success, and that need to be preserved: its character as an international partnership and cooperation.

I.R. of Iran, firmly believes in GEO as the major international initiative for Earth Observations. It is worth mentioning here that GEO objectives can only be met thorough continued support and global cooperation among GEO members and relevant organizations and programs.

let me assure you that I.R of Iran for its part will do its best to remain a reliable partner in continuation of GEO and highly appreciates all the valuable efforts made by GEO members in improving Earth observations infrastructure, as well as increasing the availability of Earth observations data and information to a wide

range of users, including government, science, industry, and the public both through technological means and through open data policies.

I am confident that this Session is a great opportunity for all of us to assess what has already been achieved and to make plans for the future of GEO in order to optimize its initiatives.

At the end, let me emphasize that GEO is built on the commitment of all of us and needs all Members, Participating Organizations to play an active role in making it a success. Let us work together in the Group on Earth Observations to meet all its stated objectives.

Thank you

ISPRS Statement at the GEO-XII and Mexico City Ministerial Summit

(Nov.9-13, 2015, Mexico City, Mexico)

The international Society of Photogrammetry and remote Sensing (ISPRS) is pleased to see the significant progress achieved by international Earth Observation communities. We fully support the GEO Strategic Plan 2016-2025.

As a leading academic society in this filed, ISPRS has been devoted to effectively and efficiently obtaining and utilizing information from imagery since its foundation in the year 1910. Recently we have prepared and published an overarching scientific vision and research agenda for the Society with the title 'Information from imagery: ISPRS scientific vision and research agenda". You can find it from ISPRS Journal of P&RS as an in-press article via open access.

Secondly, the implementation of United Nation's 2030 Agenda requires reliable global geo-information. ISPRS is preparing a declaration calling on further multi-disciplinary and international collaboration and it will be released at the XXIII ISPRS Congress in Prague July, 2016. ISPRS hope this declaration will be endorsed by GEO and its members. During this congress, ISPRS will also co-organize a Space Agency Forum and a National Mapping Agency Forum to promote the development and application of imagery. We sincerely welcome GEO community to join us.

Israel Statement to GEO general assembly, GEO –XII meeting in Mexico City, November 12, 2015.

Israel wishes to put on the GEO's table the importance of soil and soil security from EO perspective. This statement is supported by Greece, Italy, Finland and i-BEC and we hope that by other countries and organizations as well.

Soil carries out a number of key environmental functions that are essential for human subsistence. Recognizing the importance of soil ecosystems is essential for:

- Food security
- Carbone sequestration
- Water cycle
- Timber production,
- Biodiversity conservation
- Climate change processes
- Ecosystem control

We are looking forward to work with GEO secretariat and interested countries as well as participating organizations to include soil more explicitly in key activity of GEO.

ITC statement for GEO Plenary XII

ITC acted as a knowledge hub since its inception in 1950. ITC has developed a broad global network of +20000 alumni and strategic partnerships, and it wants to continue to actively pursue and elaborate our international partnerships within our knowledge domains. In general, many partnerships have already been established in the fields of education, research and other capacity development activities – in fact ITC is an established brand name when it comes to its mandate for organizational capacity development. ITC has a mission and a mandate for capacity development issued by the Netherlands Ministry of Foreign Affairs. With some 200+ staff and 150 PhD candidates it is unique institution in size and focus worldwide.

For ITC, capacity development implies building capacity in domain-specific knowledge, skills and attitude at the individual and institutional/societal levels. ITC therefore aims with GEO to achieve both individual and collaborative capacity building. This development reflects what happens in modern societies with a strong private sector.

The ambition of ITC is to expand its reputation as a center of excellence and knowledge exchange hub in its thematic domain. This requires ITC to play an internationally recognized leading and coordinating role both globally and regionally. Our intention is to organize this together with other supra-national regional partners and within the context of GEO. Our focus will be on achieving impact in the global South. In addition, ITC will support networks of multiple universities and institutes, and foster South-South collaboration.

ITC is an active participating organization in GEO and we wish to align our activities with other main players in our field. Examples include space agencies in both the Northern world and the Southern world as well as geospatial organizations and relevant universities. To ensure greater sustainability of such collaboration networks and the continuity of activities, we will attempt to establish long-term agreements and collaborations with major funding agencies and national governments.

When it comes to more specific local capacity development and research, (public-private partnership) projects will be developed, preferably within the ministerial priority countries. ITC's aim is to contribute to context-specific spatial solutions to the wicked problems emerging in the global South. To develop our entrepreneurial core value, we intend to actively engage with the private sector and take on the role of gateway (broker) organization, matching the interests of the private sector and societal demands – "from aid to trade". We consider public- private partnerships (the so-called Dutch Diamond Approach) as the key to fruitful cooperation between government, knowledge institutes, non-governmental organizations and the private sector. Together with national agencies, we will actively explore the possibility of contributing to local and regional (small and medium) business development. The ultimate goal for earth observation the coming years should be to focus on the 'last mile'; bringing earth observation products to the end user and foster the development of local earth observation markets and business cases. ITC is committed to contribute to this.

Statement from the Japan at the GEO-XII Plenary

(Mexico City)

November 12, 2015

On behalf of the Government of Japan, I would like to introduce our contribution to GEO since the last Plenary.

Japan leads 12 tasks and has been actively tackling the challenges by utilizing earth observation data and information. Last week, Japan Aerospace Exploration Agency (JAXA) launched the new service named as “GSMaP Now” to provide global rainfall data in real-time. I hope this service can be utilized more for weather forecast and Disaster Risk Reduction in all countries.

In the framework of GEO, it is important to align with countries, regions and stakeholders who are facing actual challenges. In this regards, Japan successfully held the Working Session at the 3rd United Nation’s World Conference on Disaster Risk Reduction (WCDRR) with UN

Organizations in March and formulated the report on how earth observation can contribute to the disaster risk reduction. Furthermore, Japan held the 8th GEOSS Asia-Pacific Symposium with China and GEO Secretariat in September and deepened the discussion on GEOSS activities in the region. Japan is keen to promote GEOSS in the region from now on and will hold the 9th symposium in early 2017 in Japan.

As almost 10 years has passed since GEO's establishment, Japan has formulated its 'Implementation Policy for Earth Observations for 10 years' which has the vision of 'Solution Focused Earth Observations' and identified 8 societal challenges which earth observations can contribute to; Climate Change, Global Environment, Natural Disasters, Food Security, Water Management, Energy and Mineral Management, Healthy Life and Progress of Science. In accordance with the policy, Japan would like to actively contribute to the implementation and further development of GEOSS, by conducting space-based and in-situ observation

and by promoting the utilization of earth observation data and information to find solutions to the societal challenges.

Thank you for your attention.

Announcement for 12th Plenary

Korea, republic of

The world is facing serious environmental challenges such as climate change, sustainable development, biodiversity conservation, and disaster risk reduction. In order to tackle those complex global environmental problems and to achieve the implementation targets in each sector it is very essential to make the right decision at the right time based on the correct analysis about the real world and the scientific prediction of expected future progress.

As a member as well as Executive member, the Republic of Korea strongly advocates the objectives and strategies of GEO and we greatly empathize the importance of data sharing.

The Republic of Korea in pursue of Government 3.0 has established the legal legislation to make government data accessible to the public. Based on this, national organizations as well as central and local governments are preparing to provide access to their large volume of data. This will have a positive impact on civil society to encourage their participation in the policy making process.

Data and Information sharing will also boost job creation and spur economic growth. Government-held data in such fields as weather, transportation and health care has considerable commercial value. It will help small and medium entrepreneurs to start up a new business.

Facing the new decade of GEO, the Republic of Korea will promote Korean Group on Earth Observation to enhance the common infrastructure for data and information sharing through the innovative Research & Development in science. Particularly, there will be an intensive cooperation on earth observation data standardization among related administrations and research institutes. This will be a great contribution to enlarge the earth observation from national to regional as well as global scale.

During the last years, Korea has actively participated in GEO activities in such fields as Climate Change, Biodiversity, Agriculture, and Disaster Management. In the future, K-GEO will be expanding its involvement.

STATEMENTS

MRS NOASILALAONOMENJANAHARY Ambinintsoa Lucie

MADAGASCAR

GEO XII - plenary SESSION

Mexico- November 11th, 2015

Ladies and Gentlemen,

First of all, I wish to extend our congratulations to the host country, the Mexico government, and the GEO Secretariat of the high competence that they showed in the excellent organization and conduct of this great event - the GEO-XII plenary session and the Ministerial Summit.

Madagascar is full member of the SADC and the Indian Ocean Commission and benefited the project MESA – (Monitoring Environmental and Security for Africa).

- The project MESA –SADC offered to Madagascar 4 satellite antennas for monitoring:
    - the fire of Bush (in the Minister of the Environment, Ecology, Sea and Forest),
    - the flood and the drought in the National Office of Risk Management and Disaster Reduction,
    - the Weather in the Ministry in charge of the Meteorology
    - the seism in the Institut Observatory Geophysics of Antananarivo (IOGA).
- The project MESA – IOC monitors the temperature, the chlorophylle of the sea and the potential zone of fisheries of Madagascar.

Madagascar benefits also the project from the MASA – Maritime Security for Africa, to install the Information Fusion Center (IFC). The IFC will be installed in the Ministry of National Defense. The IFC will monitor the maritime piracy.

With the assistance of the technical and financial partners, Madagascar was able to receive these projects. Madagascar thankful the GEO Secretariat, the European Commission, the Union African, the IOC, the Project MESA-SADC, MESA-OI, MASA, the CNES, the SEAS-OI, the IRD, the ESA, the WMO, for helping Madagascar as developing country. Without your contributions, Madagascar could not carry out these activities. This partnership brings tangible results that allow us to have the data and information necessary for possible adjustment or reorientation of our policies and sectoral strategies for good environmental governance.

For perspective, Madagascar will present the MADEOS Infrastructure to the GMES for Africa.

Our futur project, about Madagascar Earth Observations Systems (MADEOS), which we research a financial support , will contribute to the implementation of GEOSS for Africa- AfriGEOSS.

Ladies and gentlemen, I thank you for your attention.

GEO-XII Plenary and Ministerial Summit
Intervention by the Partnership for Observation of the Global Oceans (POGO)

The ocean plays a crucial role in our planet's life-support system and in regulating our climate. We rely on the ocean for food, energy, transport and recreation. However, the oceans are subject to a diversity of threats, including pollution, ocean warming, loss of ice cover, reduction of biodiversity, overfishing and ocean acidification.

We urgently need to monitor, understand and predict the changes that are occurring in the ocean, both naturally and as a result of human activity. We need to be able to predict and mitigate against disasters, such as earthquakes, tsunamis, storm surges and flooding. For that, we need a globally-distributed, sustained network of observing systems that can transmit data in real-time to inform knowledge.

Oceans and Society: Blue Planet was created, under the leadership of the Partnership for Observation of the Global Oceans (POGO), to address these issues, through collaboration between the main organisations conducting and coordinating ocean observations within GEO –namely CEOS, CZCP, GODAE OceanView, GOOS and POGO. Blue Planet was created as a Task in GEO's previous Work Plan, and it is now entering a new phase as an Initiative within GEO's new Work Programme.

Some major progress has been made this year, as a result of the Blue Planet Symposium hosted by CSIRO in Australia. Sponsorship commitments have been made by both CSIRO and NOAA (USA) that will enable Secretariat and infrastructure support for Blue Planet's coordination and outreach activities. Blue Planet's mission has been re-focussed on providing products and information that are tailored to user's needs, will inform policy, and ultimately result in societal benefits. Plans are also underway for a third Symposium to be held in the United States in 2017.

Blue Planet has also been working to link more closely with other elements of the new GEO Work Programme, such as GEOBON. Blue Planet recognizes the success of the GEO BON marine ecosystems Working Group 5 in leading marine biodiversity within GEO and delivering a suite of global products this year. Blue Planet and WG5 have thus agreed to communicate regularly and coordinate their activities. GEOBON, as the first phase of its global Marine Biodiversity Observation network (MBON), has just announced a new activity called "Pole to Pole MBON in the Americas". Its vision is to consolidate a network that will connect existing observing programs along the coasts of the Americas, integrate surveys on species distribution, movement, habitat, and genetic material from multiple sources, foster an atmosphere of collaboration on science planning, capacity building, data management, help share infrastructure, and help build the framework for a global MBON. The proposed "Pole to Pole" MBON is an example of the GEO cross-cutting concept that links Blue Planet and GEO BON. It provides a framework for organizing existing observing programs sponsored by different countries into integrated marine biodiversity observation transects that help address local problems and national needs.

Blue Planet's Vision is "An informed society that recognises the oceans' crucial role in Earth's life-support system and is committed to stewardship of the oceans for a healthy, safe and prosperous future for all."

Blue Planet's Mission is "To advance and exploit synergies among the many observational programmes devoted to ocean, coastal and inland waters; to improve engagement with a variety of users for enhancing the timeliness, quality and range of services delivered; and to raise awareness of the societal benefits of ocean observations at the public and policy levels."

Working together, GEO Member States and Participating Organisations will strive to achieve this Vision. We call on all of you to contribute to this important Initiative for the benefit of society and of the blue planet on which we live.

REGIONAL CENTRE FOR TRAINING IN AEROSPACE SURVEYS (RECTAS)
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Statements at GEO-XII and Mexico City Ministerial Summit

Strengthening Capacity Building in Earth Observation

The Regional Centre for Training in Aerospace Surveys (RECTAS) wishes to express its appreciation to the Government of Mexico for hosting the 2015 Mexico City Ministerial Summit and related GEO Events and the Group on Earth Observations for their novel initiative in enhancing effective and responsible use of Earth Observations data and information in solving the numerous challenges of our modern society.

Education as major indicator of human development is very essential in the development of any nation. Since many countries and organisations are now well informed on the invaluable societal benefits of Earth Observations data and information, there is need to build capacity in Space Science and Technology, especially in core areas such as Earth Observations Systems for geo-information production and management. More importantly, in developing countries, the need to understand and make the best use of Earth Observations data and products is crucial and cannot be over-emphasised. Therefore, in the implementation of GEO Strategic plan, capacity building initiatives should be considered as substantive components. This is necessary, mainly in developing countries where challenges often occur in the acquisition, management, processing and dissemination of Earth Observations data and information for decision making.

Capacity building activities are also very essential in keeping pace with the technological development and new trends in Space Science and Technology. In most developing countries, it has been generally difficult to achieve the strengthening and coordination of the activities of existing higher education and training institutions focusing space technology.

In West-Africa in particular and Africa in general, the constraints in rapid manpower development in Earth Observation and related technologies include the following:

- Low enrolment in geospatial technology education in African institutions of learning;
- Even with the low enrolment, few institutions run geospatial technology course;
- Absence of uniform academic standard, obsolete curriculum and inadequacy of modern equipment;
- Rigid curriculum that does not give room for intake of serving personnel to undergo short term courses as part of the long duration course;
- Lack of coordination in applied research and development;
- Lack of financial resources for overseas training. Many organisations in African countries can no longer afford to send their members of staff abroad for training due to financial constraints, especially considering the number of persons to be trained and the lack of training facilities.

To overcome these challenges, professionals, opinion leaders and decision makers must be effective and change their habits through the following:

- Acquisition of knowledge and skill of what to do and how to do it;
- Coordination and integration of capacity building activities;
- Desire the motivation to act.

In order to meet the afore-mentioned space technology requisites, the following three (3) levels platform described in a report by the Japan International Cooperation Agency (JICA, 2004) is being proposed.

Proposed Capacity Building Platform:

- **Level 1. -** Individual or human capacity referring to the will and ability of an individual to set objectives and to achieve theme using one's knowledge and skills;

- **Level 2. -** Organisational capacity referring to anything that will influence an organisation's performance;

- **Level 3. -** Environment or societal capacity referring to the environment and conditions necessary for demonstrating capacity at the individual and organisational levels.

In implementing the proposed platform, the critical mass capacity development will be achieved. Efforts should be made to sensitise and involve all stakeholders (users and producers of Earth observations data and products, engineers, scientists, researchers, etc.) and ensure proper synergy and coordination of the capacity building activities.

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Statement of the Russian Federation for GEO-XII Plenary

Vasily Asmus – Head of delegation, Russian Federation
Director, SRC "PLANETA" Roshydromet

Ladies and Gentlemen!

First of all we would like to express high appreciation to the United Mexican States for hosting the Twelfth Plenary session of the Group on Earth Observations.

Russian Federation has been participating in GEO activities since its establishment. We would like to underline the progress achieved by GEO over the past ten years in observing systems integration at the global level. And we highly endorse the new 10-year GEO Strategic Plan: Implementing GEOSS.

Our national permanent Earth observation satellite constellation is being currently formed. It is going to consist of three polar-orbiting meteorological satellites and one oceanographic satellite METEOR, three geostationary meteorological satellites ELECTRO, two meteorological ARCTICA satellites on highly elliptical orbits (to provide the coverage of the whole Arctic region every 30 minutes), and also eight high resolution satellites RESURS and KANOPUS.

One geostationary, two polar-orbiting meteorological and three high resolution satellites have been already launched. The next geostationary satellite (will be placed at 77.8ºE to provide the Indian Ocean region coverage) is planned to be launched by the end of this year.

There are some other areas of Russian activity in GEO as well. These are the MITRA system project – Russian segment of the global network of satellite-based data dissemination systems GEONETCast and several other application projects (GEOGLAM program, carbon dioxide monitoring in Tiksi region and its integration with global system, development of the strategy in support of GEOSS data quality, etc.).

The Roshydromet information resources registration in GEOSS Common Infrastructure was initiated: Russian Automated System for Air Quality monitoring, the State Automated System for Monitoring Radiation Situation have been already registered. The Roscosmos Geoportal integration into the CEOS WGISS Integrated Catalog (CWIC) is on the last stage. Furthermore, the Roscosmos Geoportal catalog have already integrated in European Federated Earth Observation System (FedEO).

Russian Federation as a member of Executive Committee representing the Commonwealth of Independent States (CIS) informs the Members of CIS countries on GEO activities at the Intergovernmental Council for Hydrometeorology annually.

Thank you for your attention!

GEO Plenary XII 11-12 November 2015, Mexico City, Mexico

Statement by South Africa

Humbulani Mudau,
Head of the delegation,
Department of Science and Technology, South Africa,
@ Hilton Hotel, Mexico City, Mexico,
11-12 November 2015

The Co-Chairs,

The Director of/ and GEO Secretariat,
Representatives of Member States and Participating Organisations
Distinguished delegates/Ladies and gentleman.

It is a great honour to speak on behalf of the South African delegation at this occasion of the twelfth Plenary and appreciate the opportunity to highlight some of the achievements and activities in support of the implementation of GEOSS.

First, we would like to thank the Government of Mexico and the GEO Secretariat for organising the GEO Plenary and the Ministerial Summit.

We would like to congratulate members that have recently joined the GEO community. We believe that this will truly cultivate and improve the diversity within our membership, which is essential for the fulfilment of our vision to build an operational and functional Global Earth Observation System of Systems.

South Africa is responsible for managing an oceans space, which is greater than its land territory. An extended continental shelf claim will double the size of the ocean geographic extent, and therefore the country has embarked on the Presidential initiative called Operation Phakisa. This initiative aims to unlock the economic potential of South Africa's oceans. Earth Observation and geospatial capabilities will play a significant role in the implementation of this initiative through the provision of EO applications, products, and services.

South Africa has accepted to host the African Union Commission's Pan African University- Institute for Space Science (PAUSS). The process of establishing PAUSS is underway. PAUSS will play an important role in the development of Human Capital in Space Science and Technology on the African continent, and also in the implementation of the African Space Policy and Strategy.

The South African National Space Agency (SANSA) continues to proactively contribute to the GEO societal benefit areas through satellite data dissemination, human capital development and development of value added products. In partnership with China and Brazil, South Africa through SANSA will be contributing to the data democracy objectives of GEO by the provision of CBERS 4 data to the SADC countries and has already started receiving the CBERS 4 data at its ground receiving station. Progress has already been made in partnering with SADC MESA project to advance this initiative. SANSA will further the data democracy goal by processing and disseminating archived SPOT data older than 5 years in support of the SPOT Heritage Program announced a year ago by CNES. The space agency also continues to expand its human capital development activities through its participation in international capacity building initiatives such as CEOS Working Group on Capacity Building and Data Democracy (WG CapD) and the ESA funded TIGER program. In 2015 SANSA hosted more than 25 SADC participants at the CEOS WG CapD training workshop that was aimed at capacitating the participants on the applications of SRTM data and on the applications of remote sensing in flood modelling.

We continue our participation on the Land Cover for Africa initiative, and we have actively assembled our stakeholders to produce and launch the latest South African Land Cover map (NLC 2013/14). South Africa has also recently adopted the ISO 1944 to be SANS 1944-2-2014 Land Cover Meta Language (LCML).

South Africa is active in GEOGLAM where we provide a monthly report on the country's crop outlook dependant on prevailing weather patterns. Currently, South Africa is experiencing devastating drought conditions associated with the effects of El Nino phenomenon affecting agricultural yields and thus, threatening food security. In response, the government is implementing short, medium, and long-term strategies geared at reducing the severity of impacts of not only this but future droughts. These strategies enable government to quickly identify, prioritize, and react to severely affected communities. They include near real-time monitoring of crops as well as grazing stresses, and developing technologies, which maximize use of the little available moisture as well as diversifying operations at the farm level such as reducing production risks via drought tolerant and early maturing crops/animal varieties.

South Africa remains committed to the promotion and coordination of EO initiatives and activities on the African continent through the advancement and implementation of data sharing and data management principles underpinned by the need for human capital and sustainable technical infrastructure.

We believe that the challenge of active participation and contribution to GEOSS by the African Member States and Participating Organisations will be addressed through the empowerment, strengthening of national and regional coordination mechanisms through the AfriGEOSS initiative. We are all aware that the AfriGEOSS initiative serves as a platform to facilitate the coordination of existing and new EO initiatives on the African continent. South Africa reiterates its commitment to continue to resource the GEO Secretariat in respect of an AfriGEOSS co-ordinator and the implementation of AfriGEOSS. We would like to encourage Members to participate and partner with us in making AfriGEOSS a success.

Finally, South Africa pledges its continued support for GEO as it embarks upon its next 10 year journey. In this journey, we encourage GEO to focus on

strengthening the coordination of in-situ systems; user engagement to understanding user needs; clear articulation of the value of GEO to our political masters; and strong connection with the SDGs and the UN Organisations programmes.

I thank you, Chair.

GEO XII PLENARY / STATEMENT FROM SPAIN

Spain welcomes the new GEO Strategic Plan for the next decade and congratulates all the experts and contributors that made it possible. We would like to publicly recognize this effort, as an excellent example of GEO principles in practice.

Spain delegation truly believes that in order to be coherent with GEO principles and to be able to implement GEOSS, there is a strong and urgent need to create and develop national, or even regional, GEO groups.

These structures must be able to develop national strategies and policies, to coordinate national contributions to GEO and to act as a link between the global and the national Earth Observation communities and, not less important, between these communities and the society as a whole.

For almost a decade, since GEO was born, Spain has relied in a national GEO structure to cope with these challenges, but we think there is still room for improvement.

We have learned that in order to be successful there is a need of:

- a stable and clear organizational framework, including legal provisions empowering the national GEO group
- a comprehensive national Earth observation strategy, as a roadmap for national activities
- a set of internal communication and external outreach actions, supported by modern communication tools such as Social Media.

In this sense, GEO Spain will unveil next December a website and a social networks strategy that will help fulfill these communication and outreach goals. The tools will not only focus in a national audience but also in the Spanish language community all over the world. They will also serve as a channel to facilitate the emerging trend of citizen participation in Earth Observation, through citizen observations and citizen science.

In addition, by January 2016 GEO Spain will start the process to develop a national EO strategy and to promote an appropriate national legal framework.

With these actions Spain will demonstrate its strong, continued and hopefully increased support for GEO and GEOSS in the next decade.

Swedish Statement at GEO-XII (12-11-2015)

Chairman, Distinguished Delegates, Ladies and Gentlemen,

Today, we can look back at 10 years of unique cooperation in GEO between governments and organizations to collectively establish a shared and inclusive Global Earth Observation System of Systems, GEOSS. Many of the original arguments for our joint endeavor are still very much valid today. Although we have seen progress, the current environmental and societal situation of the world has in many ways not improved to the extent we would have wanted. Climate change is the critical issue of our time. A strong future climate agreement at COP 21 in Paris is therefore of utmost importance.

A fully-fledged and well-functioning GEOSS will be important for following up on the impacts of a new climate agreement, but it can also play an important role for many other challenges we face. During the next ten years it is essential that we closely align GEOSS with essential policy processes in order to maximize the benefit of Earth Observations in supporting decision-making. Political leadership, not least at the national level, needs to be reinforced, and implementation should be done promptly, without unnecessary delay. This is important for the credibility of the GEO co-operation, and for ensuring that results will be of practical use for political decision-making. We also need to more fully engage users outside of governments to address their needs as well.

Full, free and open access to environmental data for well-founded decision-making is at the heart of GEO. GEO will therefore play an important role when implementing the UN Post-2015 Development Agenda, not least in the follow up of the Sustainable Development Goals. Particular focus should be on developing countries, because they lack Earth Observations to greater extent and are often struck harder by natural disasters and effects of climate change.

It is important to take advantage of new benefits from the rapid development of technology for data collection, data management and data dissemination, which makes it possible to increase the pace of implementation of GEOSS. I am happy to report that since the last Summit, Sweden has made even more datasets of earth observations free and publically available. This includes reference data from the Swedish mapping, cadastral and land registration authority as well as data from the Swedish Meteorological and Hydrological Institute, and there is yet more to come in the near future. I would like to encourage my fellow GEO-members to do likewise and report progress on a regular basis at future GEO meetings as a standing obligation.

Chairman, distinguished delegates. Sweden supports the Mexico City Declaration, including the Strategic Plan, as an essential step forward on our joint path towards the Vision of GEO for 2025.

Thank you

GROUP on EARTH OBSERVATIONS
GEO XII PLENARY and MEXICO CITY MINISTERIAL SUMMIT (13 November 2015)

Statement by the United Nations Environment Programme (UNEP)

Mr Chairman, Ministers, Colleagues,

Almost two years ago at the Geneva Ministerial the UNEP Executive Director launched UNEP-Live, an innovative and open platform of environmental information designed for global, regional and national data sharing and assessment. The launch of UNEP-Live marked an important milestone for UNEP, since it has represented a first concrete and pragmatic step taken by our organization to support Countries and the international community in generating, accessing, analyzing use and communicate environmental knowledge through an open platform.

In September, more than 150 world leaders adopted the new 2030 Agenda for Sustainable Development, including the Sustainable Development Goals (SDGs). More than half of the SDGs have a direct environmental focus or address the sustainability of natural resources: poverty, health, food and agriculture, water and sanitation, human settlements, energy, climate change, sustainable consumption and production, oceans, and terrestrial ecosystems.

Now, as a final step in establishing this new global framework, the Inter-Agency Expert Group of member states is finalising the list of indicators that will set the stage for a universal programme of measurement, statistics and review. A number of these indicators will be based on remote sensing data and UNEP looks forward to working with the GEO community to ensure that countries have access to the relevant data flows to be able to undertake regular indicator based assessments and to report on progress.

UNEP is supporting policy and decision making through national to global assessment processes, such the Global Environment Outlook or GEO and the organization of biennial Regional Environmental Information Networking (REIN) conferences. UNEP Live teams are currently helping to build National Reporting Systems in more than 102 countries so that government ministries and the public can have access to key data flows coming from recognised sources, including earth observation and the wider monitoring and observing community.

These and other data on emerging issues, plus big data and unstructured information from social media, will be integrated into the UN-System Data Catalogue, supported by a new SDG Interface Ontology, which allow a full interoperability between data and information from different sources unreceptive of languages and structures. This has been launched on the UNEP Live platform together with a new web intelligence system that searches the world of unstructured data using semantic parsing for all UN languages, linking what is being said in the news, social media, scientific literature and public government documents to trends and impacts across the world.

Legislation for open access to data is a key driver in this process; to date more than half the world's countries has this in place or on its way. The roll-out of National Reporting Systems by UNEP aims at delivering open access based on the principles of SEIS (Shared

Environmental information System) that help countries avoid duplication in data collection; streamline data capture, collect data once to then use many times; maintain data at source; and put in place quality assurance. Open access will not only enable government ministries to develop more integrated sustainable development policies, but also to open up opportunities for scientific institutions to contribute to the basis upon which decisions are made. Even more crucial is making information accessible to the public - a crucial aspect of reporting on the state of the environment, such as ambient air quality, where people need to be informed for the sake of their health.

Wherever UNEP and the indeed the whole UN is working, the essential role of Earth observations and related information derived both from space, airborne, land and marine networks, is clear. Today, in recognition of the importance of this type of information that is both up-to-date and geo-located, we are launching two new data flows in UNEP Live – sea-level rise and ozone.

Ozone hole extent over the Antarctic, is primarily caused by man-made release of chlorine and bromine gases in the stratosphere. Thanks to the Montreal protocol, scientists expected that the ozone layer will recover back to 1980 levels in approximately 2070. The data used to generate this product are provided by NASA using various data sources, including remote sensing and atmospheric sounding.
Global sea level rise is induced both by dilatation of ocean and increasing water due to melting of continental ice. The satellites have measured a 7.8 cm increase since 1993. Current sea level rise is 3.3 mm per year, this value is expected to increase over the next years. Precise monitoring of changes in the mean level of the oceans, particularly through the use of altimetry satellites, is critical for narrowing down uncertainty in the understanding of climate processes and to anticipate impacts on environment and urban zones on coastal zones.

In full accordance with the GEOSS data sharing principle, UNEP is committed to disseminate and to make fully accessible data and information generated through its programme or contributed by its partners as widely as possible. UNEP Live and the National Reporting System are key components of the overall GEOSS architecture through which countries and citizens can gain simple access to Earth observations data and related information relevant for policy processes and decision-making.

UNEP is committed to working with partners in the framework of the Global Earth Observation System of Systems. A working group including staff from the Group on Earth Observations Secretariat, UNEP/GRID-Geneva and from Research Council of Italy has been recently established with a task to identify critical datasets sensed by in situ or satellite sensors, and to share them with the global community through dedicated web-services published in UNEP-Live for large dissemination.

UNEP has a long standing history as participating organization in the Group on Earth Observations and, in this capacity, is taking very seriously the commitment to advance the GEO Principles and to fully implement an open, inclusive and groundbreaking Global Earth Observation System of Systems or GEOSS.

Mr Chairman.
UNEP's active participation and contributions to the implementation of the first 10 years of the Group on Earth Observations will be renewed and strengthened in the upcoming new GEO strategic plan 2016-2025: Implementing GEOSS.

UNEP remains firmly convinced of the critical importance of GEOSS as comprehensive, coordinated and sustained mechanism for the observations of the Earth and its contribution towards a better monitoring of the state of the environment, increasing understanding of Earth processes, and enhancing predictability of Earth system behavior.

Thank you.

Statement of UNOOSA to the GEO XII Plenary
Luc St-Pierre, Coordinator UN-SPIDER

Mexico D.F., 11-12 November 2015

Dear colleagues,

The UN Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) is a programme of the United Nations Office for Outer Space Affairs (UNOOSA). UNOOSA is the Secretariat of the UN Committee on the Peaceful Uses of Outer Space (COPUOS) and a Participating Organisation of GEO since its creation. A recently signed MoU between UNOOSA and the GEO Secretariat, in part facilitated by the Government of Switzerland, now allows us to make this participation much more concrete and pro-active.

UNOOSA coordinated the creation of a global partnership for EO for DRR for the Sendai Framework for DRR 2015-2030 with about 18 key EO actors. The results include the execution of working sessions on EO and on Early Warning at the Sendai Conference and a White Paper on the benefit of EO for DRR, which we want to be a living document.

UNOOSA welcomes the GEO-DARMA initiative on DRR and looks forward contributing, amongst other aspects, to its capacity building and institutional strengthening components, primarily in developing countries.

The Global Partnership on EO for DRR of Sendai is a great opportunity to increase access and use to space-based data, products and services to reach the goals of the Sendai Framework. UNOOSA keeps working with other UN entities and other partners including GEO, CEOS, UNOSAT and UNISDR, in contributing to the work of inter-governmental bodies created to monitor the implementation of the Sendai Framework.

We encourage GEO Members involved in GEO-DARMA to understand that the two initiatives should not compete with each other, but can rather be complementary and offer joint opportunities.

Thank you.

Statement from the United States at the GEO-XII Plenary

November 12, 2015

Delivered by Suzette Kimball, Acting Director of the U.S. Geological Survey

Thank you, Mister Chair.

A core tenet of GEO is the provision of open and timely access to Earth observation data and tools to enable better decision-making. At last year's Plenary, we announced that the United States was releasing high-resolution elevation data from the Shuttle Radar Topography Mission and I am pleased to tell you that we completed the release of these datasets. Further, in partnership with the Committee on Earth Observation Satellites, we held capacity-building workshops in Africa and Mexico with more planned in other regions to accelerate global use of these data.

Marine biodiversity plays a vital role in maintaining the productivity and resiliency of ecosystems. The United States is pleased to be a part of the developing Marine Biodiversity Observation Network within GEOBON. Last year, NASA, NOAA, the Bureau of Ocean Energy Management, and commercial partner Shell Oil funded projects in the Atlantic, Pacific, and Arctic Oceans to understand ongoing changes in ocean ecosystems. Now, joined by the Smithsonian Institution, we are exploring the potential to work with partners throughout the Western Hemisphere to develop a Pole-to-Pole Biodiversity Observation Network running from Antarctica to the Arctic.

Speaking of the Arctic, the National Science Foundation and National Geospatial-Intelligence Agency announced in September a collaborative Digital Elevation Model Initiative to support the development of high-resolution topographic maps of the Arctic. These agencies will collaborate with academia and industry to develop publicly available, high-resolution, satellite-derived maps of the entire Arctic by mid-2017. They will serve as a benchmark for measuring Arctic landscape change.

The United States also assists in international development and disaster planning. In August, NASA and the U.S. Agency for International Development, in partnership with Thailand, the Netherlands, and Sweden, launched SERVIR-Mekong, a project to strengthen regional environmental monitoring in five countries in Southeast Asia. The project provides early warning of dramatic changes in regional water, food security, weather and climate.

In October, the USGS took over the rotating chair of the International Charter 'Space and Major Disasters', succeeding the Indian Space Research Organisation. USGS will be leading the Charter, an international collaboration of 15 space agencies, for six months until mid-April 2016. It has been said, the International Charter is truly a unique gift from the Space Agencies to humanity.

But as important as disaster response is, building resilience around the world by helping communities mitigate the inevitable disasters they will face is a top priority. For instance, the issue of drought has relevance to all countries in Southern South America

because of the regional importance of water resources, agricultural and energy production. NOAA is actively working with the Regional Climate Center for Southern South America on developing a drought early warning information system. Participants include Argentina, Bolivia, Brazil, Chile, Paraguay and Uruguay.

On a national level, the United States is conducting its second assessment of civil Earth observation systems to inform our National Plan for Civil Earth Observations, which we expect to complete in 2017. We welcome the GEO core function to analyze and assess user needs for Earth observations and existing gaps. Coordination at international and national levels will enable GEO members to collectively understand observation needs and optimize investments in Earth observation systems.

Our many national and international Earth observation activities underscore the strong U.S. commitment to open data and international cooperation. In the coming decade, we will strive to provide the data and tools that our communities and decision makers require to address global challenges, sustainably manage our planet's resources, and enhance societal resiliency to climate change. The work that we do at the national level and with our GEO partners will also contribute to advancing the 2030 Global Goals for Sustainable Development. The United States is convinced that we can affect greater impact when we forge synergies with other programmes and organizations whose missions also aim to deliver societal benefits. In doing so, we will safeguard human lives and advance our common prosperity.

WCRP Statement for GEO XII Plenary
(Final version)
My name is Toshio Koike and I am delivering the following statement on behalf of WCRP

The World Climate Research Programme (WCRP) is sponsored by the World Meteorological Organization (WMO), the International Council for Science (ICSU), and the Intergovernmental Oceanographic Commission (IOC) of the UNESCO. The WCRP mission is to facilitate analysis and prediction of Earth system variability and change for use in an increasing range of practical applications of direct relevance, benefit and value to society, with two overarching objectives: to determine the predictability of climate and the effect of human activities on climate.

The WCRP coordinates global climate research of all major components of the Earth System (atmosphere, oceans, land and cryosphere) and their interactions. WCRP supports these studies through the activities of its five Core Projects (CLIVAR, GEWEX, SPARC, CliC and CORDEX) and a number of working groups coordinating model intercomparison efforts such as the successful CMIP which contributed very substantially to the 5th Assessment Report of the IPCC.

In close consultation with the scientific community and stakeholders, WCRP has identified five high-priority research topics that are referred to as WCRP Grand Challenges. These are:

- clouds, circulation and climate sensitivity,
- melting ice and global consequences,
- understanding and Predicting Weather and Climate Extremes,
- regional sea-level change and coastal impacts, and
- changes in water availability.

Two new grand challenges are also currently being developed, on decadal predictions and bio-geochemistry respectively.

WCRP leads, supports and promotes the development of observing systems, data sets, reanalyses and numerical models as tools for advancing climate understanding, prediction and projections for vulnerability, impact and adaptation studies. WCRP also conducts a wide range of education, training, and capacity-development activities. WCRP leads the Research, Modeling and Prediction pillar of the Global Framework for Climate Services.

WCRP has been instrumental in promoting the development of the Earth System Grid Federation (ESGF), including its observational (resp. obs4MIPs) and reanalysis (resp. ana4MIPs) components. The ESGF is now being adopted as the pan-WCRP archiving, exchange and dissemination infrastructure of climate data. It is planned to interface EGSF with the GEO Common Infrastructure in the near future.

WCRP has been a key partner of GEO and a major contributor to the GEO “Climate” Societal Benefit Area (SBA). Numerous WCRP-affiliated scientists are engaged with GEO to mainstream climate knowledge and help using climate research outcomes to address societal needs and support decision-making. WCRP benefits strongly from the GEO high-level advocacy for sustained Earth Observations, open and free access to data, and the data interoperability.

WCRP and the Prince Albert II of Monaco Foundation are promoting jointly a Polar Challenge that will reward the first team to complete a 2000km mission with an Autonomous Underwater Vehicle (AUV) under the Arctic or Antarctic sea-ice. WCRP is grateful to GEO for supporting this initiative and welcomes additional financial contributions from interested agencies, foundations and industry.

WCRP fully supports the GEO 2025 vision, the principles and lines of further GEO development, as expressed in the Geneva declaration, and looks forward to a continuing strong collaboration with GEO on all matters of mutual interest.

Joint ICSU and WDS Statement for the GEO XII Plenary and Ministerial Summit

Mexico City, Mexico, 12 November 2015

Honorable Ministers, Distinguished Guests, Ladies and Gentlemen,

It is my great pleasure to address the GEO XII Plenary and Ministerial Summit on behalf of the World Data System (WDS) and the International Council for Science (ICSU) to give you an update on our relevant activities in support of GEO.

WDS promotes the documentation, long-term archiving and curation of observations for science. These datasets are diverse, spanning the physical, chemical, biological, economic and social sciences. The data sources range from remotely-sensed records to in-situ measurements, and cover timespans from the recent decades, the post-industrial historic record to palaeo-environmental archives. The diversity of observations needed to monitor and understand climate changes for example already pose a significant challenge; the need to integrate these observations with modelling perhaps an even greater challenge. The key to improving our ability to make reliable climate projections, well-informed estimates of climate impacts and, most importantly, information to inform management for sustainability, is integration: integration across scientific disciplines, integration across different approaches, and integration across temporal and spatial scales. A step-change in the range of services provided by data archives and data-service organizations is needed. A dialogue between practitioners, scientists and the data service providers is required to ensure optimal use of precious data resources. WDS is committed to promoting such a step-change and to supporting the data repositories and data service organizations whose existence is vital to scientific research.

Likewise, ensuring reliability and trustworthiness of data resources shared through GEOSS is an essential step to enable the use of Earth Observations for sound decision making. For this reason, the development of Implementation Guidelines is critical to transform GEO Data Management Principles into reality. We are pleased to see the Data Management Principles featured prominently in the GEO Strategic Plan 2016-2025 and that GEO will encourage their implementation as a priority mission. Excellent progress was made in developing the GEO Data Management Principles Implementation Guidelines and a first version is submitted to the 12th GEO Plenary for information. WDS was glad to

contribute directly to the development of these Implementation Guidelines and it will continue to support this important activity next year as the document will be refined and updated.

On this occasion, WDS reiterates the offer to contribute its international and operational network of trusted data repositories and data services to GEOSS, and in particular the underlying foundational certification framework. WDS certification—currently being merged with the Data Seal of Approval (DSA)—will soon be endorsed by the Research Data Alliance as an RDA recommendation and it is increasingly recognised as the universal standard for basic certification of trusted digital repositories. GEOSS could realize a significant step in the implementation of the Data Management Principles by also embracing the WDS-DSA certification framework.

The International Council for Science and WDS would like to express appreciation and sincere gratitude to the GEO Secretariat for the support and contributions to activities related to the international science conference, Our Common Future under Climate Change—a major scientific conference leading to COP-21 in Paris, France.

Finally, I would like to thank Mexico—also the host country of the ICSU Regional Office for Latin America and the Caribbean—for hosting the GEO XII Plenary and Ministerial Summit.

Statement made by Mustapha Mokrane (Head of WDS and ICSU Delegations)

Further information on ICSU at www.ICSU.org

Further information on WDS at www.ICSU-WDS.org

STATEMENT BY A NEW MEMBER (ZIMBABWE) TO GROUP ON EARTH OBSERVATIONS (GEO)

1. Salutations

2. The Government of Zimbabwe is indeed very happy to join the Community of Nations which are Members of the Group on Earth Observations (GEO). We know that our introduction to the GEO Community is welcome and that our stay in the organisation will contribute to GEO in fulfilling the need of all the nine benefit areas.

3. Many of the issues that GEO addresses including agriculture, civil protection, health, wildlife and biodiversity protection, transport, energy, water, education, disease and vector control, among others are important policy matters in Zimbabwe.

4. Zimbabwean agencies and organisations including health institutions, academic and research institutions, civil protection and emergency response units, wildlife management and protection units, government and private business entities, are prepared to contribute their skills and expertise for the success of GEO.

5. The Zimbabwean Delegation looks forward to meeting many people this week, and having more in-depth conversations about the future of GEO.

6. Thank you