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Item 3.3 of the provisional agenda*

**AN INITIATIVE OF THE GROUP ON EARTH OBSERVATIONS AND ITS BIODIVERSITY
OBSERVATION NETWORK TO ENHANCE GLOBAL BIODIVERSITY OBSERVATIONS
FOR MONITORING PROGRESS TOWARDS THE AICHI BIODIVERSITY TARGETS**

Note by the Executive Secretary

1. The Executive Secretary is pleased to circulate herewith, for information of participants in the eleventh meeting of the Conference of the Parties to the Convention on Biological Diversity, a document entitled “An initiative of the Group on Earth Observations and its Biodiversity Observation Network to enhance global biodiversity observations for monitoring progress towards the Aichi Biodiversity Targets”. This document has been prepared by the Secretariat of the Group on Earth Observations (GEO) and its Biodiversity Observation Network (GEO BON) in consultation with the Secretariat of the Convention on Biological Diversity.
2. It is envisaged that the initiative will also be presented at the forthcoming GEO-IX Plenary Session (Foz do Iguaçu, Brazil, 22-23 November 2012).
3. The document is being circulated in the form in which it was received by the Secretariat.

* UNEP/CBD/COP/11/1.

An initiative of the Group on Earth Observations and its Biodiversity Observation Network to enhance global biodiversity observations for monitoring progress towards the Aichi Biodiversity Targets

Concept Note ¹

Summary

Parties to the Convention on Biological Diversity (CBD) are committed to updating their National Biodiversity Strategies and Action Plans and, in that context, to review and assess the information they have to assess progress against the 20 Aichi Targets of the Strategic Plan for Biodiversity 2011-2020. Many countries, however, do not yet have sufficient capacity for gathering and making systematic use of biodiversity-relevant observations and applying analytical tools to use these observations to detect biodiversity change. This can limit their ability to design, implement and review the effectiveness of interventions aimed to counteract biodiversity loss, and, therefore, limit their ability to reach the 20 targets for 2020.

To address countries' needs in terms of gathering and using biodiversity observations, the Group on Earth Observations (GEO) with its Biodiversity Observation Network component (GEO BON), proposes to intensify biodiversity monitoring efforts so they can better meet the needs of Parties to the CBD. This initiative will enhance existing GEO BON activities by adding greater focus on the specific country needs and draw upon complementary work from GEO and beyond.

A key feature of this global initiative will be increased coordination of the GEO land cover-, ocean-, agriculture-, forest- and water- related Tasks with GEO BON as related to increased observation capabilities for the Aichi targets. Another key feature will be the increased interaction between governments, GEO BON, and the other Tasks of GEO, enabling GEO BON and these other Tasks to better address country needs. Widening this communication and interaction channel will allow GEO, particularly GEO BON, to help the relevant national institutions develop their observation systems and so be better able to meet their obligations under the CBD. In particular, and in collaboration with national authorities, observations, products, services and capacity building activities will be targeted.

For this intensification to be effective, political support from both the Parties to the CBD and the country Members of GEO will be needed to ensure sufficient stakeholder engagement and resource mobilization.

Key messages

It is clear that to understand and appropriately respond to the crisis of biodiversity loss, we need sufficient data to map the changes and trends. While governments at all levels have increased their efforts to monitor elements of biodiversity, there remain two agreed problems: 1. Much of the excellent work that is being done in the field is not being shared openly for second and meta-analyses, and 2. More needs to be done.

The biodiversity research community has worked tirelessly for the last 20 years to make certain that the data which is being made available can be used effectively when put into systems such as GBIF and GEO BON.

1. We strongly encourage all funders of biodiversity research to push for open access of the data.
2. We encourage countries to develop adequate observation systems, both on the ground and via remote sensing. This initiative will assist countries in making cost-effective and useful choices about which data will be most effective in understanding and predicting the state of their biodiversity.

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I. INTRODUCTION

Here, we propose an initiative for enhanced global biodiversity observations:

- 1) to intensify the contribution of GEO BON, and of its parent organisation GEO, to CBD implementation, and
- 2) to facilitate and enhance the engagement of Parties to the CBD in GEO BON and in biodiversity relevant Tasks of GEO.

This initiative will be coordinated by GEO BON, in collaboration with the leads of the other GEO Tasks and with support from the GEO Secretariat. It will increase the benefits that GEO BON and other GEO Tasks can provide to the CBD. As described later in more detail, the initiative to enhance global biodiversity observations has four components:

- Observation and information datasets, and products;
- Capacity Building on biodiversity observations, database development, analysis and reporting, and standardized protocols;
- Observation system research and development activities;
- Data access and sharing, outreach and communication.

II. THE NEED FOR THIS INITIATIVE TO ENHANCE GLOBAL BIODIVERSITY OBSERVATIONS

As part of the Strategic Plan for Biodiversity 2011-2020, Parties to the CBD have committed to setting national targets using the Aichi Biodiversity Targets as a flexible framework, and to regularly report on progress made towards those targets.

Accordingly, Parties have, or are in the process of, updating their National Biodiversity Strategies and Action Plans and in that context reviewing the information they have on status and trends of biodiversity and drivers of change. To do so, each country would ideally have datasets with geographically explicit information on the occurrence of key components of biodiversity (at genetic, species, and ecosystem levels) over time and be able to combine these with information on climate and land cover and land use, as well as a range of other attributes, including those derived from remotely sensed data. Analytical tools to use

these observations to detect biodiversity change or to assess the effectiveness of interventions are also often lacking, as is the capacity to use them.

The Group on Earth Observations Biodiversity Observation Network (GEO BON) is developing a global, scientifically-robust framework for observations designed to detect biodiversity change. GEO BON partners are addressing the problem of absent, inaccessible or incompatible data, and seek to fill observation gaps and adjust and plan datasets with a view to their compatibility, thus enabling analyses which are urgently needed to address national and global challenges.

In addition to this, and drawing on GEO BON's development plans, partnerships, and early products, there is a need to provide more specific guidance and technical support targeted at countries that are in the process of establishing national biodiversity monitoring systems in accordance with their commitments to, in particular, the CBD. Doing this will require greater direct engagement with national governments as well as increased interactions among various GEO Societal Benefit Areas. The Initiative to enhance global biodiversity observations is proposed to fill this additional need for more targeted support to CBD countries.

The initiative is specifically tuned to and targeted at CBD needs, has the support of the other GEO Tasks, and relies on greater interaction between these entities and the CBD Parties and GEO Member and Participating Organizations.

III. GEO, GEOSS, AND GEO BON

GEO and GEOSS. The Group on Earth Observations (GEO), established in 2002, is coordinating efforts to build a Global Earth Observation System of Systems (GEOSS) with a vision of a world where decisions and actions are informed by coordinated, comprehensive and sustained Earth observations. For this purpose, GEO fosters the coordinated and sustained access to Earth observations and their use for the global environment and human wellbeing.

GEO's Members include 88 governments and the European Commission plus 64 intergovernmental, international, and regional organizations. GEO is organized around nine Societal Benefit Areas (SBAs, Annex I), including biodiversity, ecosystems, agriculture, climate, health, water and also five cross-cutting areas, such as land cover, forests, and oceans. Interactions among these areas help them address complex environmental issues in a cost efficient and effective way. Recognizing the specific national and regional environmental needs, GEO has established national and regional GEOSS, such as AfriGEOSS, Pacific GEOSS, US-GEO and EuroGEOSS, in support of its global activities.

GEO BON. Biodiversity is one of the nine GEO SBAs and GEO BON is the mechanism through which it is planned and implemented. GEO BON released its Implementation Plan, approved by the GEO Plenary, and presented to SBSTTA 14 as information document². Since then it has assembled a far-reaching network of participating organisations, including many of the major players in this field, such as GBIF³, IUCN⁴, DIVERSITAS and the FUTURE EARTH programme, and UNEP-WCMC⁵, (see ANNEX II).

The vision of GEO BON is for a coordinated, global integrated observing system that gathers and shares information on biodiversity, provides tools for data integration and analysis, and contributes to improving environmental management and human well-being. GEO BON facilitates better and more efficient delivery of biodiversity observations through coordination, gap identification, cooperation and the sharing of data and resources across networks. For instance, the GEO BON community, in collaboration with the Ramsar Convention, is developing a Global Wetlands Observing System. GEO BON will also develop capacity building materials such as a methodology handbook for biodiversity observation networks, addressing

biodiversity at the levels of genes, species, and ecosystems.

Additional information is available in Annex II and on the GEO BON web site.⁶

IV. BUILDING ON INITIAL GEO BON WORK FOR THE CBD

GEO and GEO BON have identified the CBD as a key user of its deliverables. The CBD and GEO Secretariats signed a Memorandum of Understanding in 2008. Collaboration between the CBD and GEO BON has developed over the past few years as follows:

CBD-COP9 (Decision IX/9, May 2008) expressed support to GEO BON.

"Notes the initiation of a Biodiversity Observation Network, ... and the development of an implementation plan for the network, ... and invites Parties, other Governments, relevant organizations, scientists and other relevant stakeholders to support this endeavour";

CBD-COP10 (Decision X/7 Oct 2010) further engaged with GEO BON and its network:

Requests the Executive Secretary to invite GEO BON, (...) to prepare an evaluation of existing observation capabilities relevant to the targets contained in the Strategic Plan for the period 2010-2020.

In response to this request, the GEO BON community produced the report: **Adequacy of Biodiversity Observation Systems to support the CBD 2020 Targets**. This report represents a preliminary analysis of the existing observation capabilities to address the needs of the 20 Aichi targets. This analysis was offered as a contribution to the development of a framework for the assessment of individual country needs for the development of their national biodiversity monitoring systems.

CBD-SBSTTA 15 (Recommendation 15/2):

² <http://www.cbd.int/doc/meetings/sbstta/sbstta-14/information/sbstta-14-inf-13-en.doc>

³ Global Biodiversity Information Facility

⁴ International Union for Conservation of Nature

⁵ UN Environment Programme World Conservation Monitoring Centre

⁶ <http://www.earthobservations.org/geobon.shtml>

"Invites GEO BON to continue its work on the identification of Essential Biodiversity Variables and the development of associated data sets as presented in CBD/SBSTTA/15/INF/8 and report to a future meeting of SBSTTA".

In response to this invitation, GEO BON is currently developing the concept of **Essential Biodiversity Variables** (EBVs) (Pereira *et al.* in review). The idea is to produce a manageable set of variables that could be combined in different ways to provide data for the indicators that the AHTEG has suggested for the Aichi targets. EBVs are expected to contribute to the observation requirements for assessing progress to the CBD's Aichi targets much like the Global Climate Observing System's (GCOS) Essential Climate Variables (ECVs) have strengthened international efforts for coordinated observations.

The time has now come to considerably intensify the GEO BON efforts and to mobilise the entire GEO community toward addressing the observation needs of the CBD. This is the goal of the proposed Initiative to enhance global biodiversity observations.

V. MOVING FURTHER: THE INITIATIVE TO ENHANCE GLOBAL BIODIVERSITY OBSERVATIONS TO ADDRESS THE MONITORING NEEDS OF THE CBD

The GEO community recognises the challenges that countries face in developing and monitoring the implementation of their National Biodiversity Strategies and Action Plans, towards achievement of the 2020 Aichi targets. For this purpose, GEO proposes to CBD-COP11 the establishment of the Initiative to enhance global biodiversity observations, to address the monitoring needs of the CBD toward meeting the 2020 targets.

The mission of the Initiative to enhance global biodiversity observations is to assist countries in developing their national biodiversity observation systems for monitoring the status of and trends in biodiversity by:

- Continuing the development of systems to share publically accessible, through the GEO

portal⁷, data in usable formats along with new tools for data integration and analysis;

- Engaging in capacity-building to assist in the gathering, access and use these observations, specifically for biodiversity conservation and management, policy formulation and national and international reporting.

In support of these activities, the initiative to enhance global biodiversity observations will:

- support decision-makers by accelerating advances in the development of biodiversity information products, ; and
- advance understanding of, and research related to biodiversity observations for monitoring and other purposes, in order to improve their effectiveness and efficiency.

The key users are governments, particularly those agencies with responsibility for 1) biodiversity conservation 2) natural resource stewardship and 3) reporting to international biodiversity-related treaties. Non-governmental organisations, the corporate sector, and researchers and academics will also be involved and benefit from this initiative. The initiative to enhance global biodiversity observations has the following long-term objectives:

- facilitate the availability of data, and products for the achievement of the Aichi targets;
- identify gaps in observations, and human capacity which impede the fulfilment of the objective above, and promote actions to close these gaps; and
- encourage coordination across national and regional biodiversity monitoring efforts to fill the gaps identified above, toward an integrated biodiversity observing system.

VI. THE INITIATIVE TO ENHANCE GLOBAL BIODIVERSITY OBSERVATIONS: A PLATFORM FOR INTERACTION

GEO BON will play a lead role in the implementation of the Initiative to enhance global

⁷ http://www.geoportal.org/web/guest/geo_home

biodiversity observations. Several other GEO Tasks will contribute as well, further positioning biodiversity in a larger socio-economic context and providing the initiative for global biodiversity monitoring with information, and products and support to its capacity-building and stakeholders' engagement activities. Some of these main GEO Tasks include:

Thematic: The Oceans and Society: Blue Planet, Global Forest Observation Initiative (GFOI), Integrated Water Information, Global Agricultural Monitoring and Early Warning (GEO-GLAM)

Dataset and products- and capacity building- related: Global Land Cover, GEONETCast, GEOSS Common Infrastructure (GCI)

An overview of these Tasks appears in *Annex III* along with examples of the kind of contributions these Tasks could provide to the initiative for global biodiversity monitoring.

VII. THE INITIATIVE TO ENHANCE GLOBAL BIODIVERSITY OBSERVATIONS IN ACTION

Because the observation, capacity building, and outreach activities of the Initiative to enhance global biodiversity observations must be coordinated in an efficient and effective way, resources will be sought for the establishment of a project office to coordinate and facilitate its activities and ensure it meets its obligations.

Resources will also be sought to support the implementation of the following 4 main components:

1. Observation and information datasets, and products

This component aims at supporting countries to assess and fulfil their specific national needs for biodiversity observations and information, to address both national and international commitments. One focus of this component will be facilitating the sustained provision of observations, but it will also include, as needed, some or all of the chain of observation gathering, data coordination, product generation, and analysis.

In some specific cases, the Initiative to enhance global biodiversity observations will result in products such as land cover and land cover change

maps, ecosystem specific products, pre-processed data, observation tools and approaches, data structures, interoperability protocols and data sharing mechanisms.

The Initiative to enhance global biodiversity observations will facilitate the provision of support to countries based on their national needs, as assessed via collaboration with national authorities. Priority will be given to identified, agreed-upon needs, such as those reflected in treaty decisions, especially those of the CBD, and the systems and tools to fulfil them cost-effectively. Reflecting specific CBD needs and expected contributions from GEO Tasks, the initiative to enhance global biodiversity observations will be focused on seven areas: ecosystem class & extent, ecosystem function, land use, ocean use, species distribution & abundance, species & functional group traits, and genetic data.

2. Capacity Building on observation approaches, database development, analysis and reporting, and harmonisation protocols

This component includes both the regional and national activities for the building of in-country capacity required for the development of national biodiversity observation and monitoring systems and the use of the observations, information and products available from the activities in Component1.

Capacity building in the Initiative to enhance global biodiversity observations view includes both institutions and people and covers all parts of the system, from data collection to processing, analysis, and use. The approach may include:

a. National and Regional training workshops including, funding permitting, South-South cooperation;

b. development of materials such as a Biodiversity Observation Network Handbook (already started within GEO BON), Best Practices, Lessons Learned, and Guidelines, including both web-based and practical/classroom-based instruction material;

c. collaboration with existing, and supporting formation of new, regional and national GEOSS and BONs, including a) training and support; b) coordination of activities in each country and facilitating development of national networks of stakeholders, in collaboration with national authorities and the CBD.

The priority is under-serviced areas, topics and domains, which are often in the biodiversity-rich but information-poor tropics.

3. Observation System Research and Development activities

This component aims at supporting the coordination of research activities related to improving the observation system (this is not simply basic scientific research) and the identification and filling of gaps including the:

- a. development of the methods and specifications for observing Essential Biodiversity Variables (EBVs) in various habitat types and all regions of the world.
- b. assessment of the current and evolving state of biodiversity monitoring at national and global scales, identifying and prioritising the gaps and issues;
- c. supporting data observation and analysis as well as national and regional harmonisation of observation systems and information;
- d. develop new cost-efficient methods for data collection, integration and analysis; and
- e. preparing an R&D plan, in collaboration with biodiversity research organisations, including quantifying the resources required and helping to broker their acquisition.

4. Data access and sharing, outreach and communication

This component connects the Initiative to enhance global biodiversity observations activities with technical partners on one end and users on the other. It may include:

- a. development of a web platform (portal) connected to the GEOSS Common Infrastructure (GCI), including thematic databases, awareness

and capacity building/training materials and providing access to observations; and

- b. development of communication and outreach materials: datasets and tools, disseminated via web, CD/DVD, and memory stick; brochures, maps and posters.

VIII. POTENTIAL CONTRIBUTION FROM CBD PARTIES & GEO MEMBERS

The Initiative to enhance global biodiversity observations will leverage existing resources, identify synergies, and increase coordination and efficient use of limited resources. Successful and timely implementation will require the support of Parties to the CBD as well as the members of GEO, who are expected to provide political support and additional resources.

Parties to the CBD and Members and Participating Organisations of GEO (including the major space agencies) are asked to support the initiative to enhance global biodiversity observations with the engagement and the coordination of the appropriate National biodiversity institutions (Museums and herbaria, natural resource agencies, research institutions, non-governmental organizations, and citizen science communities) that are a leading source of *in-situ* data and related capacity building activities.

Parties to the CBD and the Members of GEO could particularly target gap filling of capacity and observational needs. This should be done both domestically and through development aid and cooperation agreements with countries having gaps. Investment in research and development of observational and analytical methodologies will also be needed.

IX CONCLUSION

The initiative to enhance global biodiversity observations would support existing and planned GEO BON activities, building on the work of its many partners, including countries Members of GEO, Parties to the CBD, IUCN, UNEP WCMC, GBIF, DIVERSITAS, etc.), and expanding this work

to include contribution of other relevant Tasks of GEO. A key goal is to enhance engagement of Parties to the CBD to slowing down biodiversity erosion, by helping them to address their observation needs to assess progress towards the 20 Aichi targets.

X ACKNOWLEDGEMENTS

This concept note was prepared by SC-GEO BON members and the GEO Secretariat, in collaboration with the CBD Secretariat.

ANNEX I: Group on Earth Observations (GEO) and GEOSS (Global Earth Observing System of Systems)

Group on Earth Observations (GEO) was launched in response to calls for action by the 2002 World Summit on Sustainable Development and by the G8 (Group of Eight) leading industrialized countries. These high-level meetings recognized that international collaboration is essential for exploiting the growing potential of Earth observations to support decision making in an increasingly complex and environmentally stressed world.

GEO is a voluntary partnership of 88 governments, the European Commission and 64 intergovernmental, international, and regional organizations with a mandate in Earth observation or related fields. It provides a framework within which these partners can develop new projects and coordinate their strategies and investments.

The mission of GEO is to build a Global Earth Observation System of Systems (GEOSS) to provide decision-support tools to a wide variety of users. This 'system of systems' will proactively link together existing and planned observing systems around the world and support the development of new systems where gaps currently exist. It will promote common technical standards so that data from the thousands of different instruments can be combined into coherent data sets. GEOSS is made of nine components, or sub-systems, called Societal Benefit Areas, showed in the Figure below. GEO BON is in charge of implementing the Biodiversity SBA of GEOSS. GEO BON interacts with the other relevant SBAs of GEOSS, and, in particular, with the Agriculture, Ecosystems and Water SBA.



ANNEX II: Global Biodiversity Observation Network (GEO BON)

The Vision, Mission and Goals of GEO BON

The Vision of GEO BON is for a coordinated, global network that gathers and shares information on biodiversity, provides tools for data integration and analysis, and contributes to improving environmental management and human well-being.

GEO BON has as its mission the improved delivery of biodiversity information to users, particularly decision-makers. GEO BON focuses on observing and analysing changes in biodiversity over time.

GEO BON is intended to facilitate linkages among the many countries, organisations and individuals contributing to the collection, management, sharing and analysis of observations on the status and trends of the world's biodiversity. It will also identify gaps in and between existing biodiversity observation systems and promote mechanisms to fill them.

The scope of GEO BON includes primary observations and observation-based inferences on changes in:

- Biodiversity composition, structure and function;
- At the ecosystem, species and genetic levels of biological organisation;
- Plus the associated ecosystem services;
- In the terrestrial, freshwater, coastal and open ocean marine domains;
- Worldwide;
- Particularly over the past few hundred years and into the foreseeable future

Details on GEO BON are available at the GEO BON website:

<http://www.earthobservations.org/geobon.shtml>

ANNEX III. The contribution of the other Group on Earth Observations Tasks

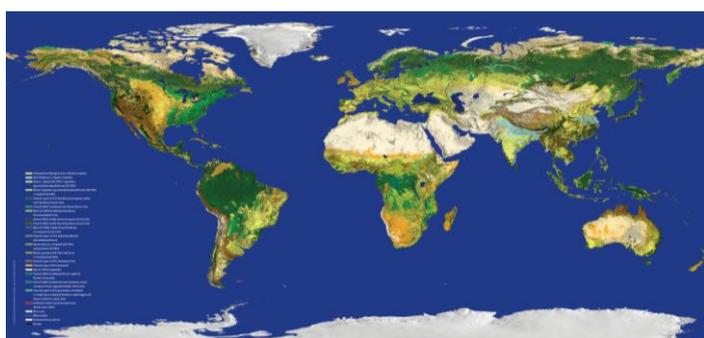
a) General (and global) datasets and products, and Capacity Building activities:

a1) Global Land Cover (SB-02 GEO) task:

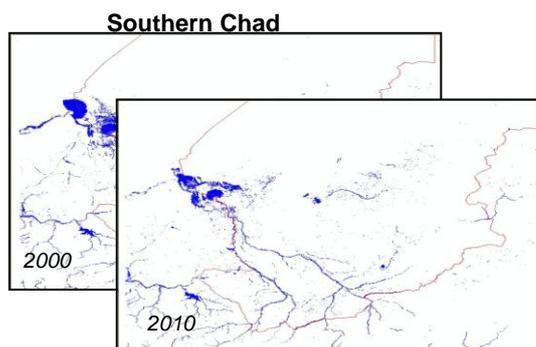
 **Observations and information:** This task team develops high-resolution (30 m) global land cover products and maps of major land cover types. The task team will also develop a web portal that will connect all the major global and local land cover websites and provide both land cover- and land cover changes-related information products. These products are essential for biodiversity monitoring, since they are required for instance for monitoring habitat loss (CBD Target 5), agriculture, forest and aquaculture monitoring (CBD Target 7), Protected areas monitoring (CBD Aichi Target 11), and Ecosystem Services (CBD Aichi Target 14)⁸.

 **Capacity building:** This task team is undertaking capacity building activities including *inter alia* the assessment and improvement of developing countries' capacity to produce regional and national land-cover products. For this purpose, the group will organize training courses and workshops to train the trainers within areas of interest and enhance South-South cooperation.

Figure 1: Example of GEO Global Land Cover tasks addressing CBD Aichi Targets 11⁹ and 14¹⁰.



GLOBAL: The Global land cover map (GlobCover) product (ESA, 2009)



SOUTHERN CHAD, Africa: Water body of the southern Chad, Africa in 30m resolution. National Geomatics Center of China (NGCC)

a2) GEO Data and products sharing- and Capacity Building-related activities:

 **Observations and information:** Several data and products related activities are developed under GEO. The most relevant ones expected to contribute to the initiative to enhance global biodiversity observations are:

GEONETCast (IN-04 Geo task) is a global network of satellite-based data dissemination systems providing environmental data to a world-wide user community. The current partners within the GEONETCast initiative include the China Meteorological Administration (CMA), the National Oceanic and Atmospheric

⁸ Please note that while the CBD 2020 Aichi Targets mentioned in this document are the main targets addressed by the GEO Tasks' activities, there are more CBD targets that are partially supported too.

⁹ CBD Aichi Target 11: By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes; and

¹⁰ CBD Aichi Target 14: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable

Administration (NOAA), the World Meteorological Organization (WMO) and EUMETSAT, as well as many prospective data providing partners.

The GEOSS Common Infrastructure (GCI) (GEO Task IN-03) allows the user of Earth observations to access, search and use the data, information, tools and products available through the Global Earth Observation System of Systems. The GCI web interface is available via the GEO Portal through which the user can access GEOSS and search for information and products; (see http://www.geoportal.org/web/guest/geo_home)

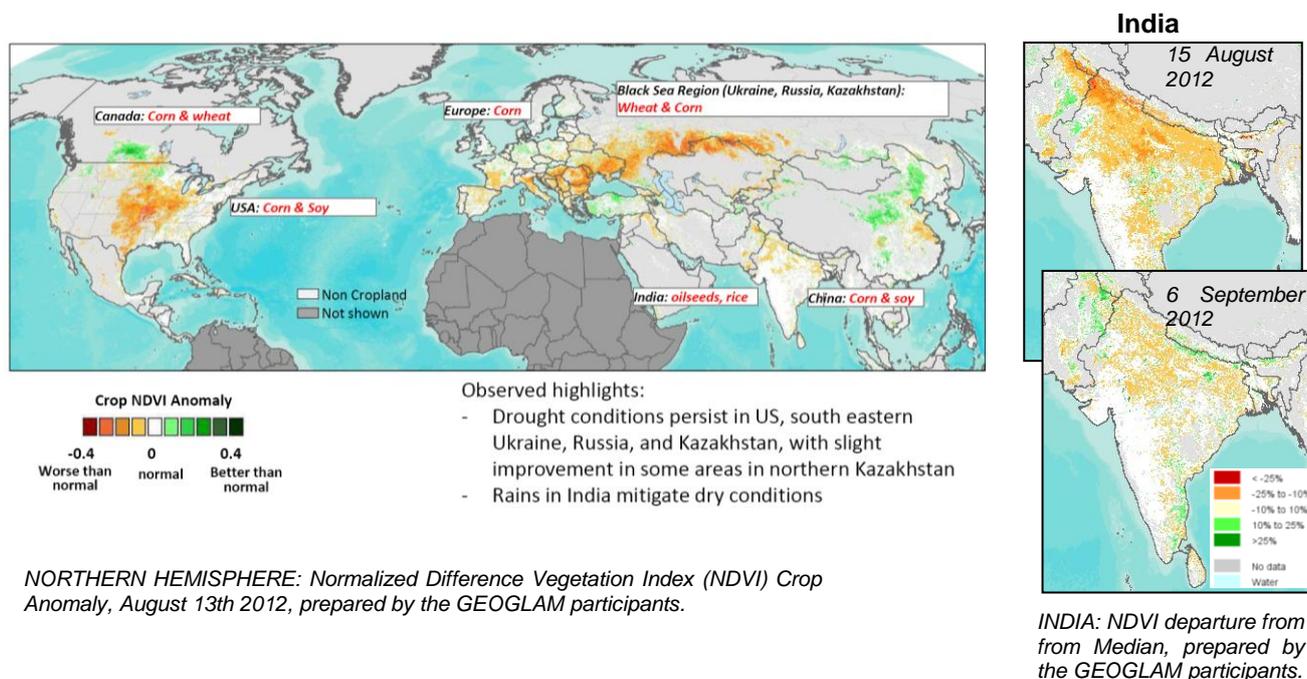
 **Capacity building:** GEO is working on the development of institutional and individual capacity (ID-02 GEO task) by enhancing the coordination of national and international related effort to produce and use Earth observations and information. These activities, focused on developing countries, enable human, technical and institutional capacity for coordinating, accessing, using and sharing environmental data, information and services. The task team develops cross-border and cross-GEO Tasks education and training-related activities.

b) Targeted Observation and information Capacity Building activities and Stakeholder Engagement:

b1) Global Agricultural Monitoring and Early Warning (GEO-GLAM) (AG-01 GEO task)

 **Observations and information, and Capacity building for Agriculture related monitoring (CBD Aichi Target 7):** The GEO-GLAM initiative, supported by the G-20, is focused on the improvement of sustainable agriculture management and food security through the increased use of earth observations and information. This includes the enhancement of the current global capabilities in agricultural monitoring, by building capacity and expanding the use of Earth observation and information for agricultural monitoring in Africa, Asia, Latin America, Central and Eastern Europe, and Small Island States.

Figure 2: Example of GEO Agriculture task addressing CBD Aichi Target 7.¹¹



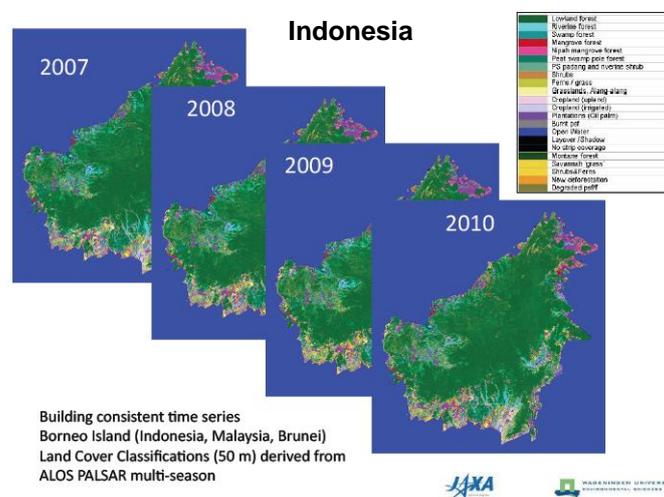
¹¹ CBD Aichi Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity

b2) Global Forest Observation Initiative (GFOI) (SB-03 GEO task)



Observations and information, Capacity building and Stakeholders Engagement for Forest related monitoring (CBD Aichi Target 7): The GFOI initiative, supported by Australia, Norway, the United States, FAO and the World Bank, aims to support developing countries in developing national forest monitoring systems. This includes the provision of satellite data and the coordination of capacity building activities. The team undertakes demonstration activities in 11 countries, including Australia, Brazil, Cameroon, Colombia, DR Congo, Guyana, Indonesia, Mexico, Nepal, Peru and Tanzania. The products and capacities developed by this task team and the focal points in the countries mentioned above could contribute to the development of national biodiversity monitoring systems.

Figure 3: Example of GEO Forest Task addressing CBD Aichi Target 7.



INDONESIA: Land Cover classification (50 m.) derived from ALOS PALSAR multi-season

b3) Oceans and Society: Blue Planet (SB-01 GEO task)



Observations and information, and Capacity building for Ocean- and Coastal- related monitoring (CBD Aichi Targets 6, 10,11): The Blue Planet initiative is focused on the provision of sustained ocean observations and information with the coordination of, gathering, processing and analysis of ocean observations. Furthermore, the task team provides advanced training in ocean observations, especially for developing countries, and raise awareness of ocean-related biodiversity issues.

b4) Integrated Water Information (WA-01 GEO task)



Observations and information, Capacity building and Stakeholder Engagement for Water-related monitoring (CBD Aichi Targets 11 and 14): This task team is working on the development of integrated and sustained information systems for the production of water products and services needed for water, disaster, agriculture, energy, and health management. For this purpose, it will maintain an operational and sustained global network of *in-situ* observation sites and satellite systems.

Furthermore, the task team organizes workshops aimed at expanding the use of Earth observations and enhancing capacity building with respect to water resource management across Asia, Africa, Latin America and the Caribbean. This contributes to the development of regional information system development and capacity building activities, such as the Integrated Water Resource Management in Latin America and Caribbean (CIEHLYC) and the African Water Cycle Coordination Initiative.

b5) The contribution of the regional GEOSS and BONS



The GEO community is addressing specific regional needs by establishing the regional GEOSS such as AfriGEOSS and the upcoming Asia-Pacific GEOSS. Especially, GEO BON has an expanding set of regional BONS, including the Asia-Pacific BON (AP-BON¹²), the Circumpolar Biodiversity Observation Program (CBMP) and European BON (EU-BON and EBONE¹³). These initiatives will contribute *inter alia* to the engagement of the appropriate stakeholders, in collaboration with the national authorities, and the coordination of regional capacity building, data collection, processing and analysis, and South-south cooperation activities.

The AfriGEOSS, for instance, will coordinate and bring together relevant stakeholders, institutions and agencies across Africa that are involved in Earth observation activities, assist in knowledge sharing and global collaborations, identify challenges, gaps and opportunities for African contributions to GEO activities, and leverage existing capacities and planned assets and resources.

¹² Asia-Pacific Biodiversity Observation Network

¹³ European Biodiversity Observation Network