

# GEO BON Structure Towards 2020: Working Groups and Biodiversity Observation Networks

Version 2.2, 26.01.2017<sup>1</sup>

## Background

The current working structure of GEO BON was conceived in 2009, and followed the idea of joining together scientists and practitioners around existing communities of practice on biodiversity observations and research. As many of the communities of practice were around ecological realms, we also created terrestrial, freshwater and marine working groups. Furthermore, we identified 3 vertical levels of biodiversity: genes, species and ecosystems, and organized specific working groups for those levels, mostly with a focus on terrestrial ecosystems. Finally, GEO BON had some integrative working groups, such as the ecosystem services and the modelling working groups.

This working group structure preceded the development of the Essential Biodiversity Variable Framework and the concept of National, Regional and Thematic Biodiversity Observation Networks, which are key approaches in today's development of GEO BON. It also preceded the new governance structure of GEO BON implemented in 2014. Therefore, the Management Committee of GEO BON proposed in early 2016 that a reorganization of the working group structure was desirable to match and align with the key development activities and governance structure of our network over the last few years.

For the GEO BON 2016 Open Science Conference and All Hands meeting (GEO BON 2016 OSC), participants were invited to submit workshops and ideas for working groups to develop an implementation plan for 2017-2019. These ideas and proposals were further discussed at the end of the meeting by the Implementation Committee, the Advisory Board, and workshop leaders. The GEO BON structure outlined below synthesizes the result of those discussions.

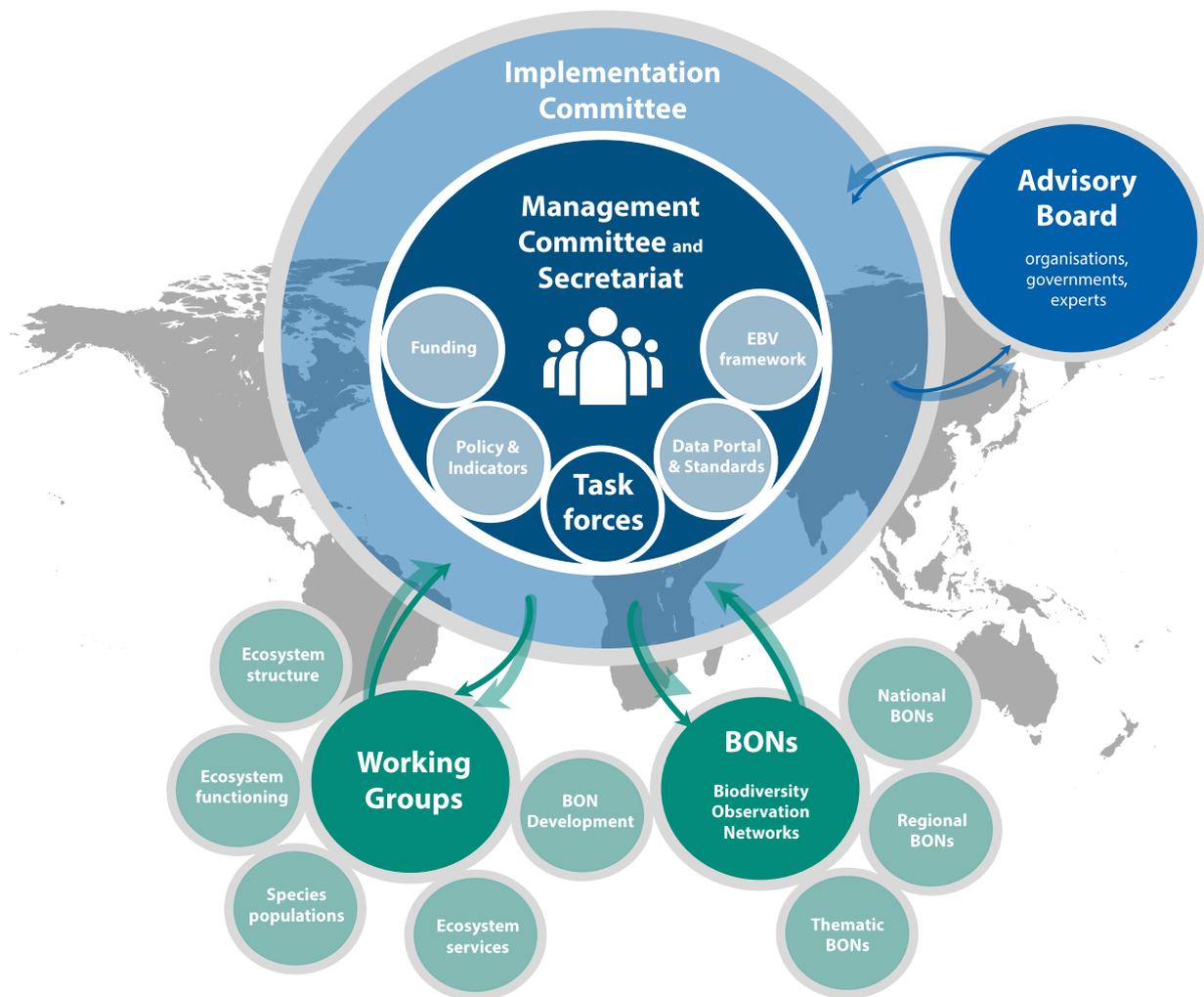
## The new GEO BON structure

GEO BON activities are structured into two main categories: (1) **Working Groups**; (2) **Biodiversity Observation Networks**. In addition, both categories are supported by **Taskforces**, built around specific issues of critical relevance for the operations of GEO BON and co-lead by members of the Management Committee and the Secretariat. The role of Working Groups is to develop the concepts, methods and tools of the global biodiversity observation system, and focus largely around the concept of Essential Biodiversity Variables. The role of the Biodiversity Observations Networks is to apply and test the concepts, methods and tools to implement and enhance operational networks collecting observations and providing data to the community and users. The Biodiversity Observation Networks in many

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<sup>1</sup> Based on "A proposal for a new Working Group Structure for GEO BON", 3 March 2016.

instances can also be seen as developers and contributors of best case methods and tools. The coordinators of the working groups and the coordinators of regional and thematic biodiversity observation networks have a seat on the **Implementation Committee** of GEO BON (Figure 1), which is the main executive body of the network and which elects a chair and vice-chair every three years. The Implementation Committee receives strategic advice from an **Advisory Board** composed of representatives of organizations, governments, and experts, with a gender and geographically balanced composition. The daily management of GEO BON is conducted by the **GEO BON Secretariat**, which includes several officers in addition to the Chairs.



**Figure 1.** The structure of GEO BON for 2016-2019

## Working Groups

Working Groups are structured around particular classes of Essential Biodiversity Variables or other integrating activities. Activities of working groups cut across multiple BONs, as WGs are developing applied and relevant methods, tools and activities that ultimately support the development of powerful, efficient and interoperable biodiversity observation networks. Working groups have one or multiple coordinators and organize their work around a finite set of 3 to 5 activities, which may have their own leads. The outputs of the working groups, and particularly the development of standard EBV and ecosystem service monitoring tools that would be deployed via BON in a Box has been identified as one of the main expectations from users for GEO BON. Activities of working groups may also include the identification of R&D gaps and needs, a list of priority R&D topics, the establishment of Technical Readiness Levels to help track progress, research papers, books, white papers, web apps, data collection and analysis (e.g. modelling) tools, or any other tool in support of GEO BON.

At the GEO BON 2016 OSC, three working groups on EBV development emerged around three major EBV classes: **Species Populations**; **Ecosystem Structure**; and **Ecosystem Functioning**. The **Species Populations WG** will develop the concepts and applied methods and tools associated with the species distribution, population abundance, and population structure candidate EBVs. The **Ecosystem Structure WG** will develop candidate EBVs and associated applied output products (e.g. methods, tools, models, etc.) such as Ecosystem Extent and Fragmentation, Habitat Structure. The **Ecosystem Functioning WG** will work on the development of EBVs such as Net Primary Productivity and Disturbance Regime, and develop the corresponding applied output products. Many of these EBVs can be monitored through Remote Sensing. However, it was agreed that we should not structure the EBV WGs around specific monitoring approaches, as EBVs should be tool-agnostic and since specific methods can be used across many EBVs.

The need to establish WGs for other EBV classes (e.g. Genetic Composition, Species Traits) is recognized as a priority to be addressed by the Secretariat. Potential interim WG leads will be approached having in mind the establishment of these groups by the end of 2016.

A fourth working group, the **Ecosystem Services WG** is not developing a specific class of EBVs *per se*, but instead using EBVs and other data to monitor ecosystem services change as well as developing a set of Essential Ecosystem Service Variables. Since the group's work plan is based on research on essential variable concepts, and tools and methods, rather than on operational monitoring, it was agreed that it fell under the definition of a working group rather than a BON. Finally, a fifth working group on **Biodiversity Observation Networks Development** (BON Development) will be responsible for creating a direct link between the EBV working groups and the Biodiversity Observation Networks (Figure 1). This working group has the goal of bringing the concepts, methods and tools being developed in the other working groups into fruition in the different BONs, using BON-in-a-Box as one of the main vehicles. It will also be responsible for sharing existing and new methods and tools employed by or created by the BONs to the Working Groups. The BON Development WG will also support the development of novel BONs, develop training and capacity building activities, and connect with citizen science initiatives.

All Working Groups will produce a work plan document that is integrated into the GEO BON Implementation Plan. Those work plans include the WG's main goal and objectives, the approach chosen for membership and the designation of the WG leads, along with a description of the WG's activities. The activities and deliverables of the Working Groups are meant to cover all realms, which should be reflected in their composition.

*Composition:* Any expert may participate in a working group, pending approval by the WG leads based on declaration of interest and submission of Curriculum Vitae. WG leads can be suggested by the MC, but ultimately are elected by the members of the WG and confirmed by the IC.

## **Biodiversity Observation Networks**

The rules of procedure to create a **Biodiversity Observation Network** under GEO BON have been described in a GEO BON white paper<sup>2</sup>. Biodiversity Observation Networks may cover a political unit such as a country (**National BON**), a region (**Regional BON**), or a specific theme (**Thematic BON**) such as a taxonomic group, ecosystem type, or even monitoring approach (e.g. site based monitoring). Examples of Regional BONs include the Asia-Pacific BON, and the Arctic BON (Circumpolar Biodiversity Monitoring Program). The thematic BONs should also have an international, and ideally, global coverage. Examples of thematic BONs include the Marine BON and the Freshwater BON. A BON aims at carrying out biodiversity monitoring and at making biodiversity data and data products publically available. It should have an operational component of collecting data and making it accessible and it should not be time bound, that is, these networks should be designed to operate in perpetuity. In practice, in many cases, emerging Biodiversity Observation Networks are communities of practice in certain regions or themes and are still working towards becoming operational. A distinction between operational BONs and emerging BONs may be warranted in the future. As it will not be possible in the future to ensure that all National BON coordinators have a seat in the Implementation Committee, it may be needed that national BONs not directly affiliated with a Regional BON elect a representative in the Implementation Committee (Figure 1).

The BONs produce a work plan document that is integrated in the GEO BON implementation plan. Those work plans must address the goals and activities of the BON, their status in regard to the endorsement process developed by GEO BON<sup>3</sup>, and, when appropriate, their approach to connect their outputs with stakeholders (e.g. policy-makers, national governments).

*Composition:* The network participants—both individuals as well as component networks, if applicable—are decided by the regional/national/thematic networks. At least one coordinator should represent the BON (Regional or Thematic) in the IC. The national networks should also have a coordinator represented in the regional networks.

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<sup>2</sup> [http://geobon.org/Downloads/Other\\_documents/Draft\\_Criteria\\_for\\_BONs.pdf](http://geobon.org/Downloads/Other_documents/Draft_Criteria_for_BONs.pdf)

<sup>3</sup> <http://geobon.org/become-a-bon/become-a-bon/>

## Taskforces

Some specific tasks were identified that may not require a fully-fledged working group but do require strong coordination and interaction from the Secretariat. Unlike the Working Groups, taskforces are specifically designed to carry on short-term activities. They will be co-led by members of the GEO BON network and by a member of the Management Committee, thus maintaining strong ties with the Secretariat. A few have already been identified: **EBV development; Data Portal and Standards; Policy and Indicators; and Funding**. The **EBV development Taskforce** will develop a conceptual framework for Essential Biodiversity Variables and a strategy for the continuing refinement and endorsement of EBVs. The **Data Portal and Data Standards Taskforce** will continue the development of the EBV website, the EBV data portal, and will link existing activities to promote data standards for EBVs. The **Policy and Indicators Taskforce** will develop a strategy to engage policy-makers and link the EBVs developed by the WGs to the indicators used to monitor global conservation and development targets. The **Funding Taskforce** will develop a funding strategy for GEO BON and engage key funders.

*Composition:* due to their nature, the task forces will be limited to fewer members than the working groups and BONs. Members will be invited by the leads of the task forces but can also be suggested by the IC.

## Integration of the Working Groups, Taskforces, and BONs

Communication between the Working Groups, the Biodiversity Observation Networks, and the Taskforces will be essential to ensure the good functioning of GEO BON and the achievement of its many targets. Three mechanisms facilitate this integration. First, the **BON Development WG** acts as a bridge between WGs and BONs. In addition, the leads of each WG and BON take part in the Implementation Committee which reunites quarterly for an online discussion, and once a year in person. The Taskforces, being co-lead by members of the Management Committee, will also have representation in the Implementation Committee. These meetings are meant to facilitate knowledge transfer and communication between the different GEO BON actors. A third mechanism for integration is a quarterly **progress report**. This short document is meant to keep the GEO BON community informed on what is being developed within the Working Groups, Taskforces and BONs, in terms of tools and EBV development and monitoring. The progress report will hence be a tool for the secretariat, as well as for all the WG and BONs leads, to connect with the GEO BON members working on topics relevant to their own activities.

## Membership and leadership

The Secretariat encourages the Working Group and BONs to be inclusive of the GEO BON community, to have open membership, and to consider the geographic and thematic distribution of its members. The connection between potential members and WG leads will be operated via communication on the GEO BON website or directly by the Secretariat. The process to determine the leadership within the WGs and BONs will be left to the discretion of the leads and members. If needed, the Secretariat can assist in the process of formal elections.

## Updating the WGs and BONs

At any time, proposals for BONs or WGs may be submitted, which follow the structure discussed here. The number of WGs will be kept small in order to avoid fragmenting the community. As a result, in some cases new proposals for WGs may be directed towards joining existing WGs or Taskforces. There is some more freedom with the number of BONs, but the secretariat will always encourage connections between related BONs.

## Responsibilities and functioning of the governance bodies (figure 1)

### Advisory Board:

*Responsibilities:* meets once a year to provide strategic direction and feedback on GEO BON and funding help.

*Composition:* Representatives of NGOs, governments, commercial companies, and experts, in a geographically balanced composition; influential individuals and with good ties to funding; 3 year terms, renewable once. It should be composed by around 15 individuals.

### Management Committee:

*Responsibilities:* daily GEO BON operations; meet at least bimonthly to discuss more technical and substantive issues regarding GEO BON implementation and coordination.

*Composition:* outlined below, includes both the employees of the GEO BON Secretariat (Executive Secretary, Secretary, Programmer, Scientists), the Chair/Vice-Chair and other Officers. The Chair and Vice-Chair are elected by the IC for 3 year terms, renewable once.

- Chair: provides overall leadership, coordination and oversight; representing GEO BON at key meetings; can be attributed a particular set of tasks for coordination<sup>4</sup>
- Vice-Chair: providing leadership; representing GEO BON at key meetings; can be attributed a particular set of tasks for coordination
- Executive Secretary: engaging WG's and activity leads, overseeing product delivery; coordinating technical development (website, etc.), fundraising, representing GEO BON at key meetings
- GEO Science Officer: manage the link between GEO BON activities and the GEO secretariat;
- GEO BON IT Officer: coordination of the Web Page and IT infrastructure
- Secretary: providing assistance with all administrative and management duties
- GEO BON Scientist(s) working at the Secretariat to provide scientific outputs and support regarding subjects directly related to GEO BON
- Other Officers and members of the GEO BON Secretariat: other officers can be proposed by the Implementation Committee or Management to serve specific tasks.

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<sup>4</sup> For the current mandate, the split of tasks between the Chair and Vice-Chair has been agreed as follows. Chair: coordination of the scientific aspects of GEO BON (e.g. development of EBVs); working directly with ES. Vice-Chair: coordination of national and regional capacity building (e.g. Bon in a Box).

### Implementation Committee

*Responsibilities:* Implement the deliverables and implementation plan of GEO BON. Approves annual budget. Elects the Chair and Vice-Chair of the Management Committee. It has an executive function, although much of the daily operation tasks are delegated to the Management Committee. Meets by phone quarterly and in person once a year. The Chair and Vice-Chair of the Management Committee are also the Chair and Vice-Chair of the Implementation Committee.

*Composition:* Those actively engaged in implementing GEO BON including all members of Management Committee, WG Leads, Task Forces leads, and National, Regional, and Thematic BON coordinators. New members should be confirmed by the peers in the Implementation Committee.