



BON Development: National Needs and Approaches

9th GEOSS AP Symposium 12.01.17 - Tokyo, Japan

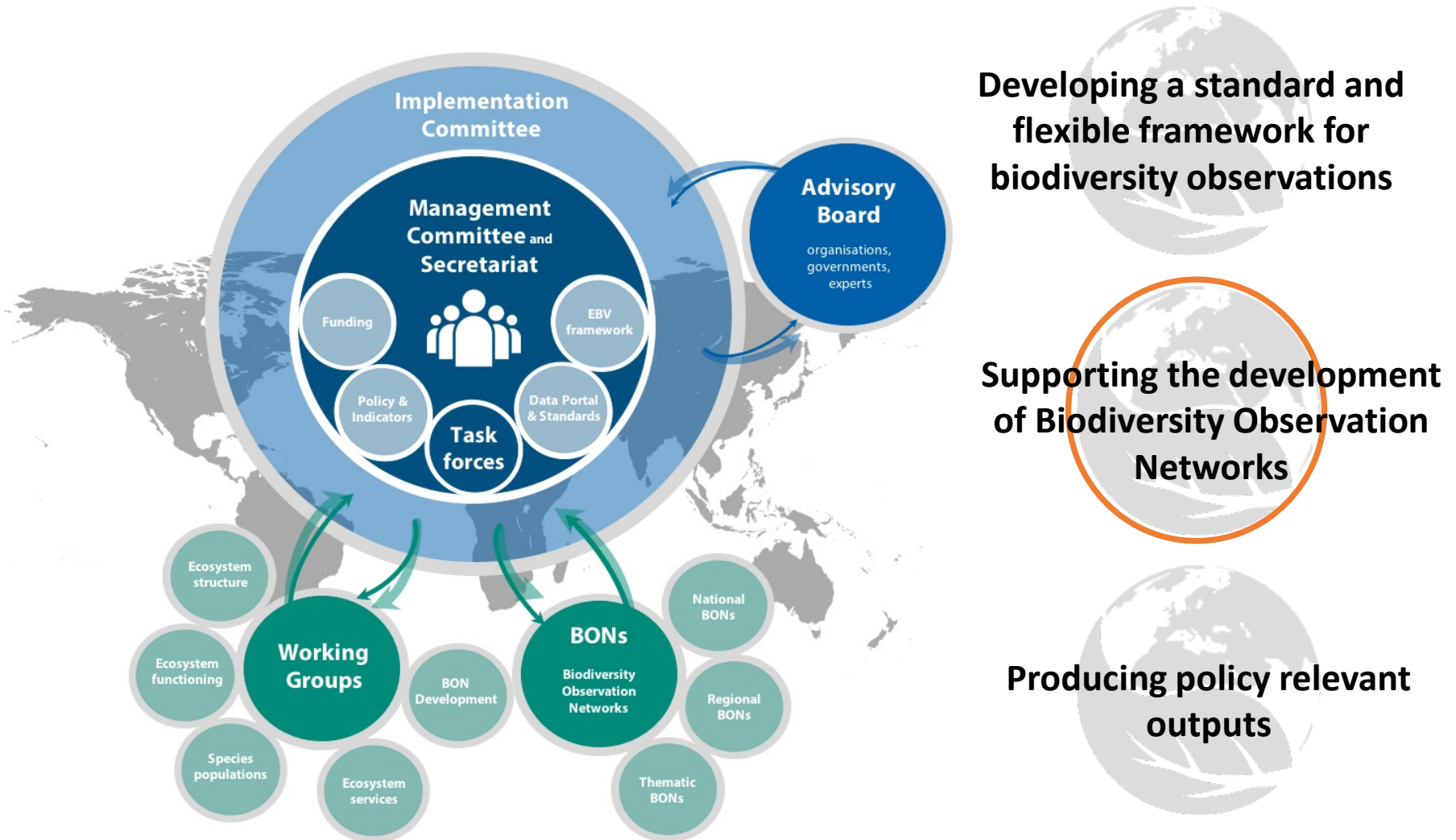


Laetitia M. Navarro, PhD

GEO BON Executive Secretary



GEO BON governance and core focus



Supporting the development of BONs

Mission: Contribute to the **collection** and **analysis** of **harmonised biodiversity observations**, the development of integrated and interoperable **biodiversity monitoring programs**, the de

BON Endorsement process



Thematic BONs
Marine BON (MBON)
Freshwater BON

GEO BON Side Event at COP 13 06.12.16, Cancun Mexico

1. China BON – Prof. Haigen Xu and Dr. Xiaoqiang Lu
2. Colombia BON – Dr. Maria Cecilia Londoño
3. Lesson learned – Dr. Mike Gill



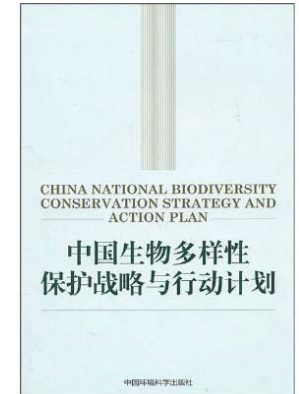
UNBIODIVERSITY
CONFERENCE
COP13-COPMOP8-COPMOP2
CANCUN, MEXICO 2016
MAINSTREAMING BIODIVERSITY FOR WELL-BEING



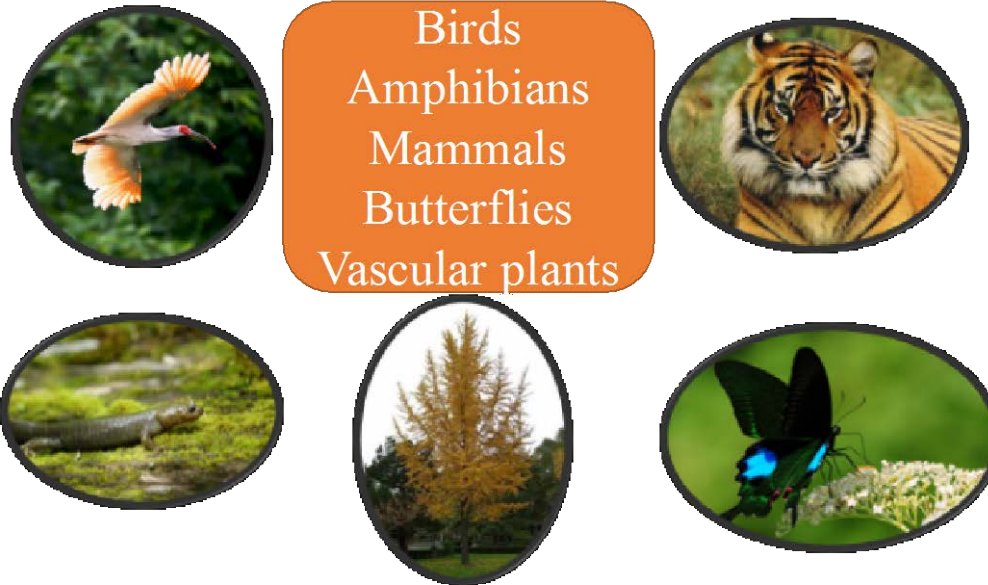
China Biodiversity Observation Network

Prof. Haigen Xu and Dr. Xiaoqiang Lu
Nanjing Institute of Environmental Sciences (NIES)

- Chinese Biodiversity Conservation Strategy and Action Plan (2011-2030)
- Establishing a National Biodiversity Observation Network



Framework:



Indicators:

Species
richness

species
abundance

Spatial
distribution

Habitats

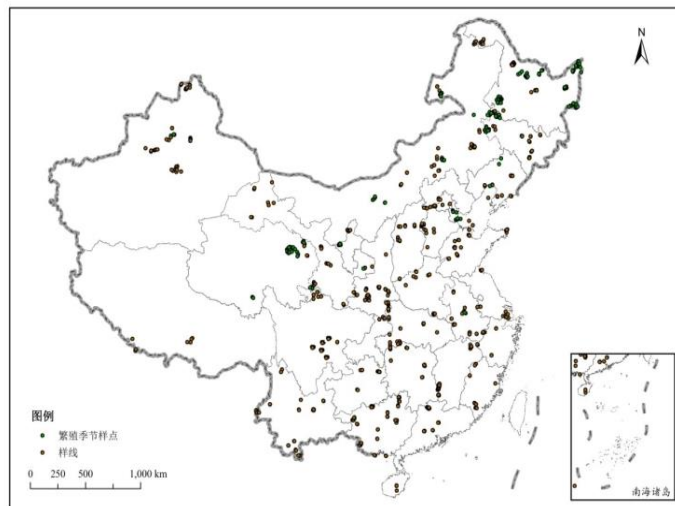
Human
disturbance

China Biodiversity Observation Network

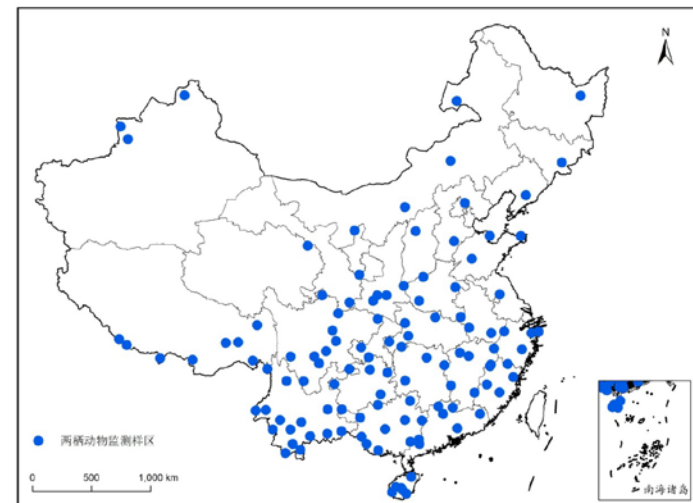
Dr. Haigen Xu and Dr. Xiaoqiang Lu

Nanjing Institute of Environmental Sciences (NIES)

Breeding bird monitoring



Amphibian Monitoring sites



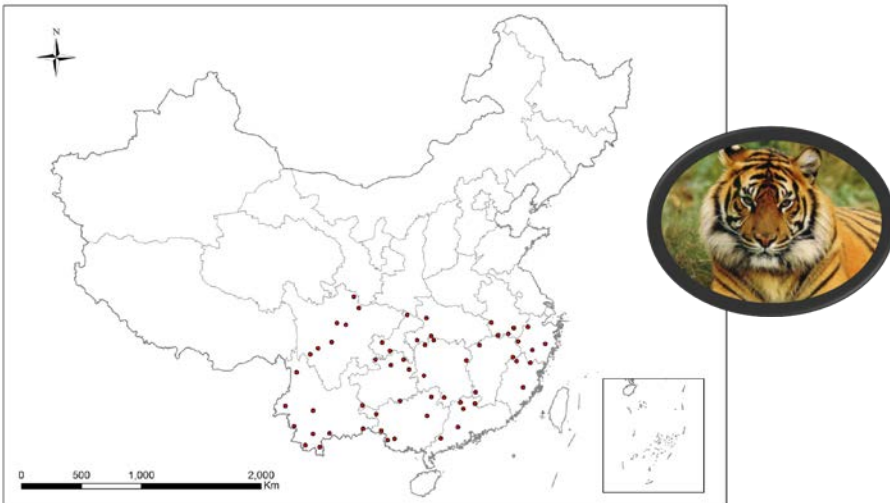
As of 2016, 348 monitoring sites with >1500 line transects and >1200 point transects

As of 2016, 117 monitoring sites. Monitoring with artificial refugia, pitfalls, line transects, quadrat sampling, artificial cover

China Biodiversity Observation Network

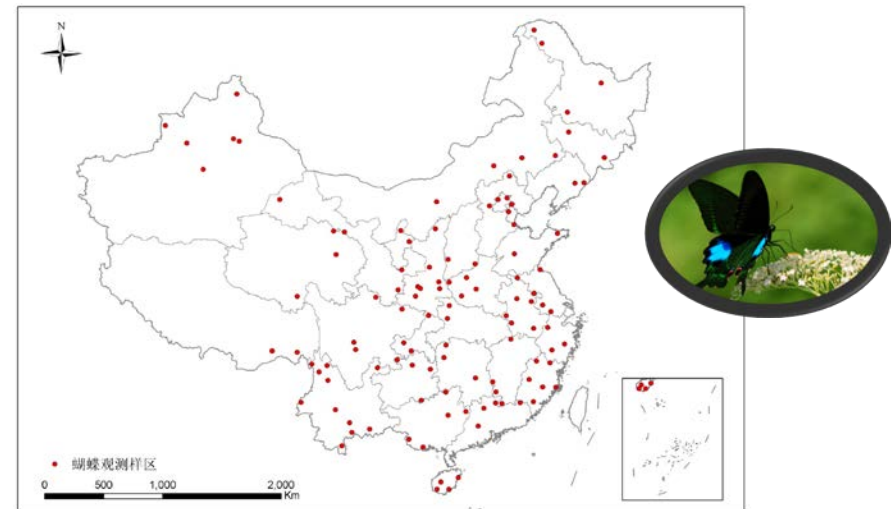
Dr. Haigen Xu and Dr. Xiaoqiang Lu
Nanjing Institute of Environmental Sciences (NIES)

Mammal monitoring



58 monitoring sites, with 60 cameras per site, totalling 3480 cameras

Butterfly Monitoring



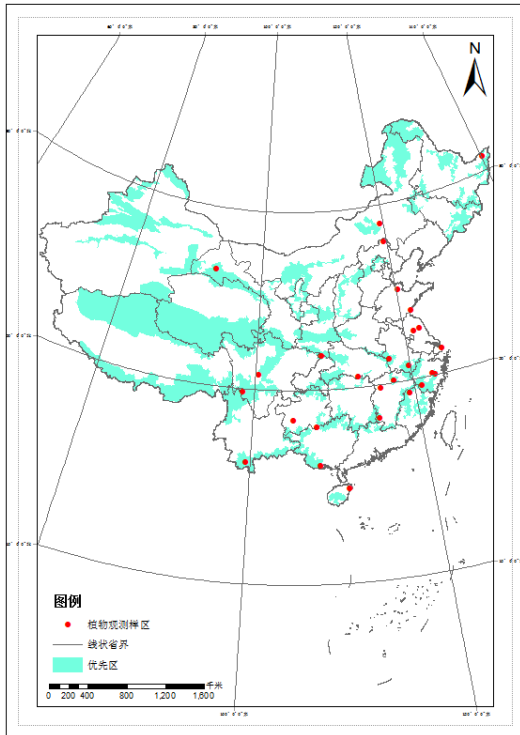
As of 2016, 130 monitoring sites, with 650 line transects, totaling 1236 km

China Biodiversity Observation Network

Dr. Haigen Xu and Dr. Xiaoqiang Lu

Nanjing Institute of Environmental Sciences (NIES)

Vascular plants



Development process of the China BON:

1. Establish a preliminary observation network covering birds, amphibians, mammals, butterflies and vascular plants.
2. Build the monitoring staff composed of scientists, students and volunteer.
3. Promulgate monitoring standards.
4. Build (and maintain) large database.

As of 2016, 27 monitoring sites,
totalling 50 plots



Colombia BON

Maria Cecilia Londoño
Alexander Von Humboldt Institute

Colombian Biodiversity Observation System.



Ministry of Sustainable Development and Environment

National, Local and subnational Environmental Authorities



National Natural Parks

Research Institutes
Humboldt, Sinchi, IDEAM, IIAP, INVEMAR



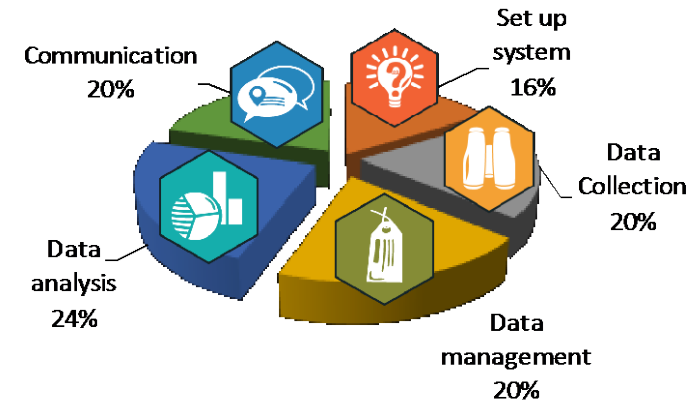


Colombia BON

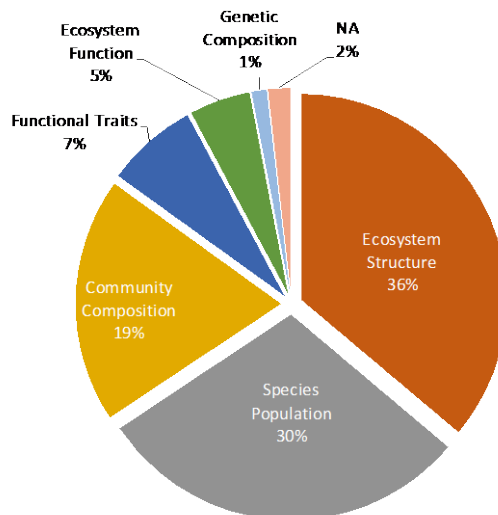
Maria Cecilia Londoño
Alexander Von Humboldt Institute

Assessment of available tools

- September to December 2015 - Inventory and Diagnosis of Biodiversity Observation Tools → 117 tools identified
- January 2017 - Addition of tools in BON in a Box



Assessment of Data availability per EBV class



Strengths

- Species population, community composition and ecosystem structure have enough information for integration into Biodiversity Observation System

Weaknesses

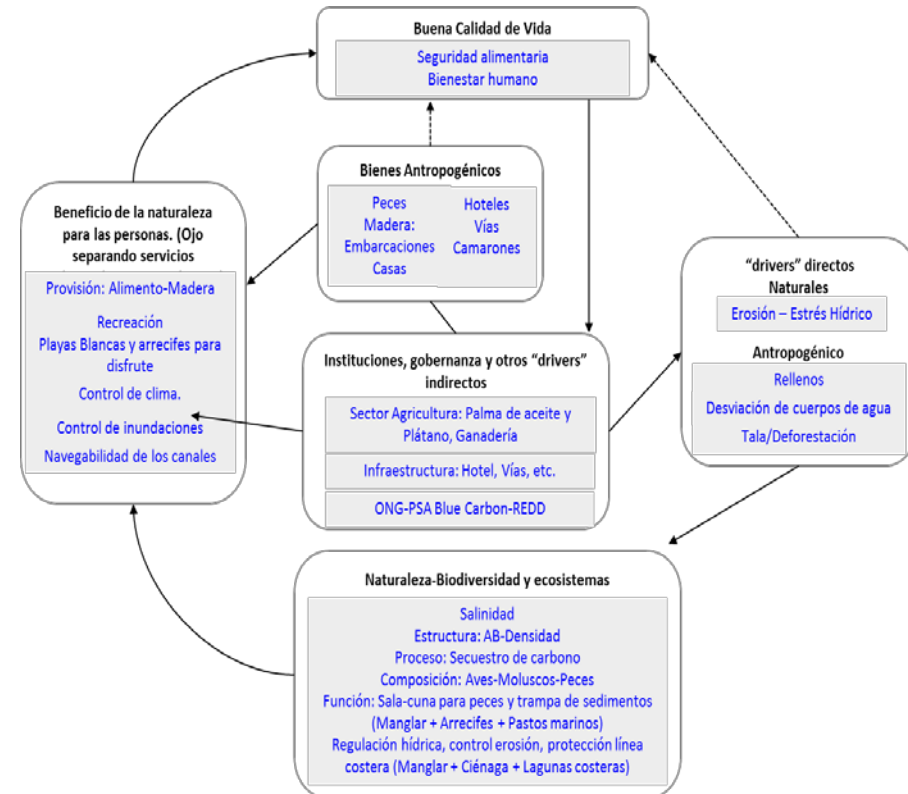
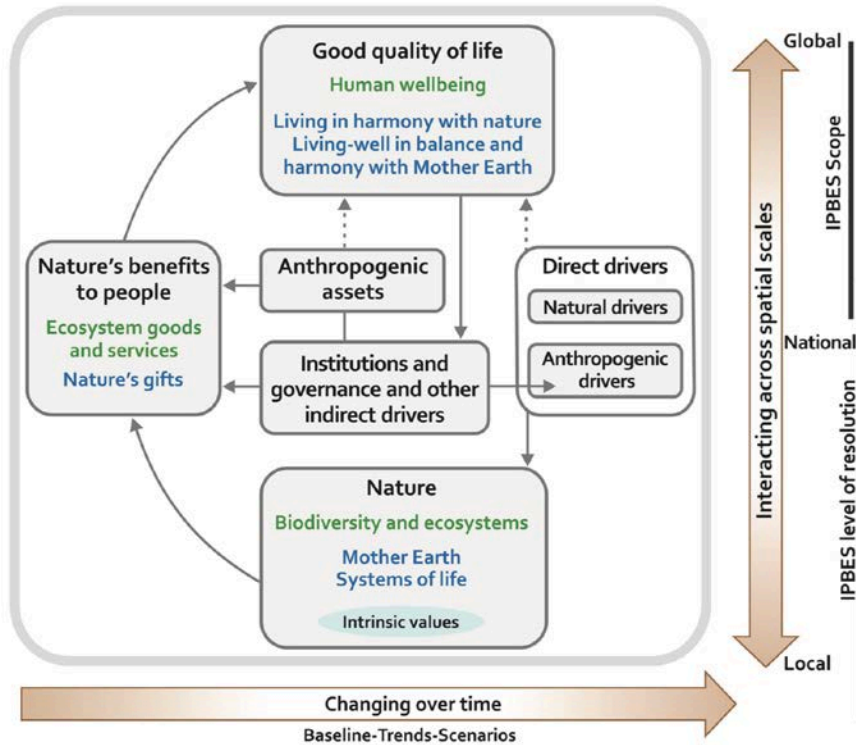
- Not enough on functional traits and ecosystem function
- Still a long way to go in genetic composition



Colombia BON

Maria Cecilia Londoño
Alexander Von Humboldt Institute

From assessments to Observation Systems





Colombia BON

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ROAD MAP of the Colombia BON

Phase	Step	Type of meeting	Participants
Commitment and Valuation	1. Authorization		National Government
	2. Establish a core team	Meeting	Core team
	3. Define the units of analysis (regions)	Workshops	Core team
	4. Formation of regional working groups	Meeting	Regional team
	5. Identification of the users' needs and development of the conceptual model	Meeting and Workshops	Regional team
Design	6. Formation of the extended working group	Workshops	Extended working group
	7. Inventory of data, tools, and monitoring platforms	Workshops	Extended working group
	8. Establish the methods for the capture of biodiversity data	Workshops	Extended working group
	9. Develop optimum sampling frames or designs	Workshops	Extended working group
	10. Define the data management, analysis and reporting	Workshops	Extended working group
Analysis	11. Develop the implementation plan	Meeting and Workshops	Extended working group
	12. Reports and Synthesis	Meeting and Workshops	Extended working group
	13. Strengthening of the process	Meeting and Workshops	Extended working group

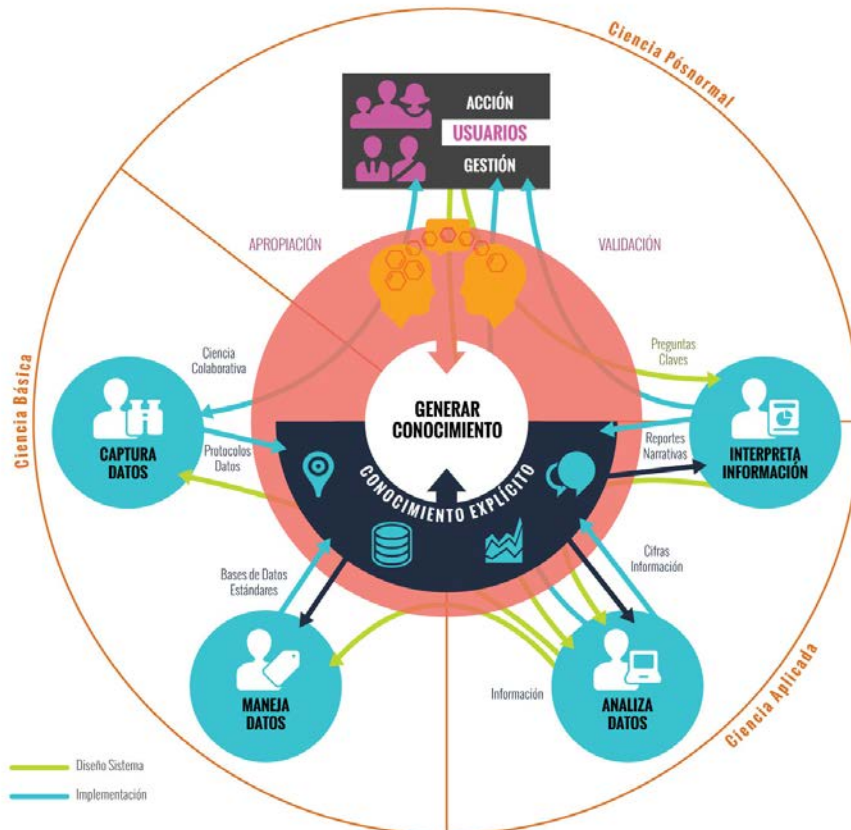


Colombia BON

Maria Cecilia Londoño
Alexander Von Humboldt Institute

The vision for the Colombia BON:

→ Build and maintain active a **Community of Practice**



The role of GEO BON?

- Identify: national needs and opportunities for addressing them.
- Connect institutions and **people**.
- Develop guidelines and tools that are missing.

Lessons Learned: Qualities of a Successful Biodiversity Observation Network

Dr Mike Gill - GEO BON Vice-Chair

1. **Mandate:** clear need and authorizing environment for the BON and clearly articulated objectives;
2. **Policy Relevant:** direct connections to decision and policy-making;
3. **Continual Results:** early, targeted, frequent and value-added outputs for scientists, policy-makers and the public;
4. **Inclusive:** involves a network of diverse and active contributors (recruit young scientists!);
5. **Realistic:** starts small and builds on existing monitoring/observation capacity and information;
6. **Focused:** maintains focus on key variables and prioritize new observation efforts;

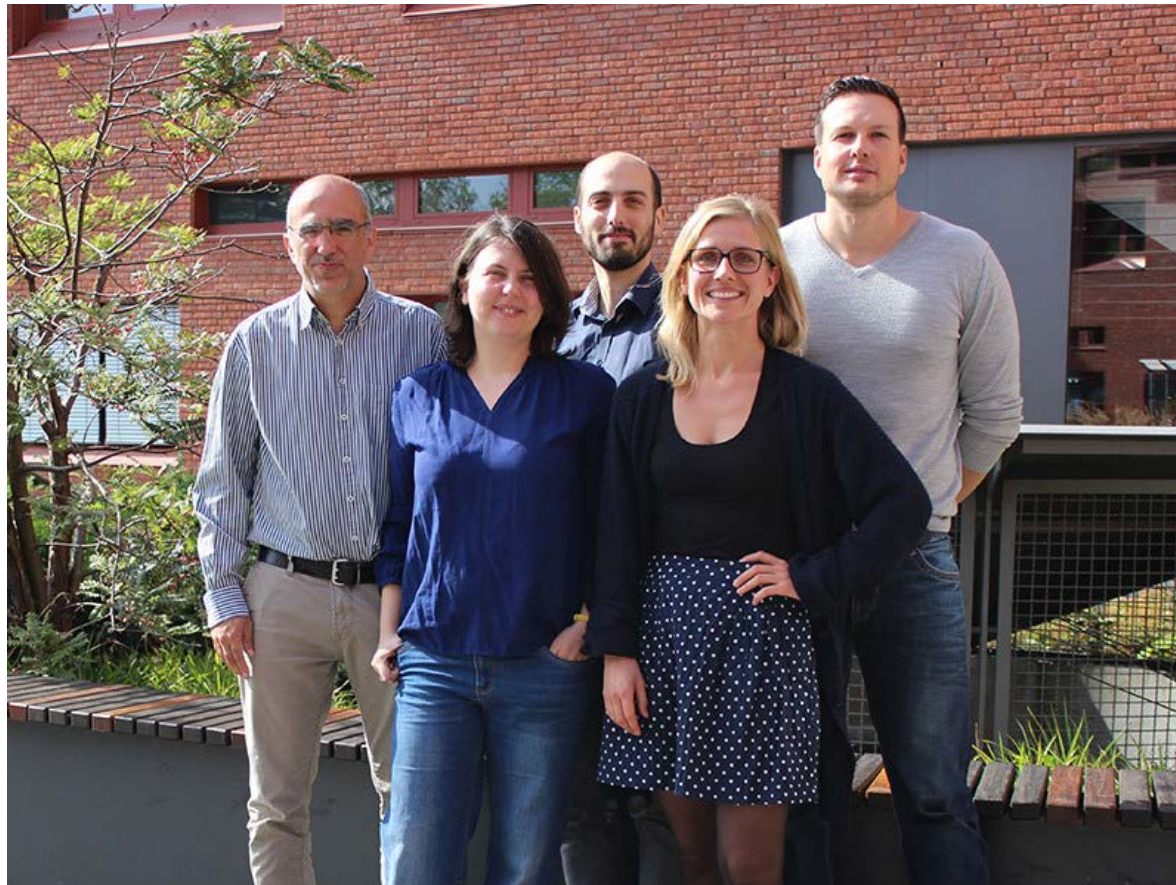


Lessons Learned: Qualities of a Successful Biodiversity Observation Network

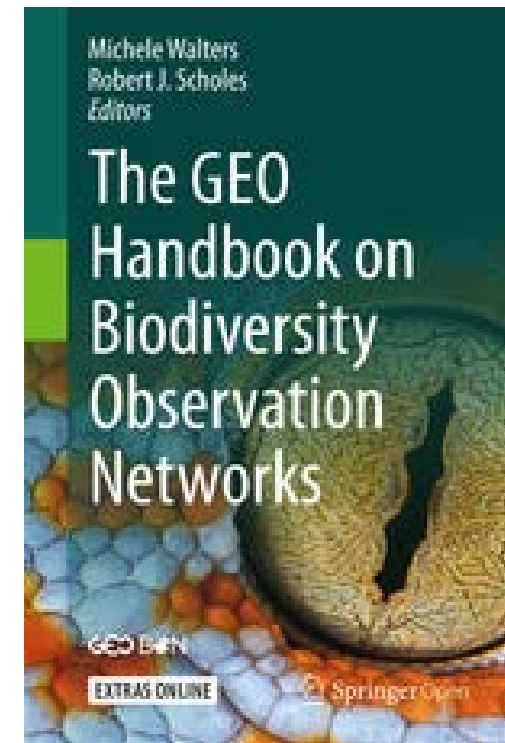
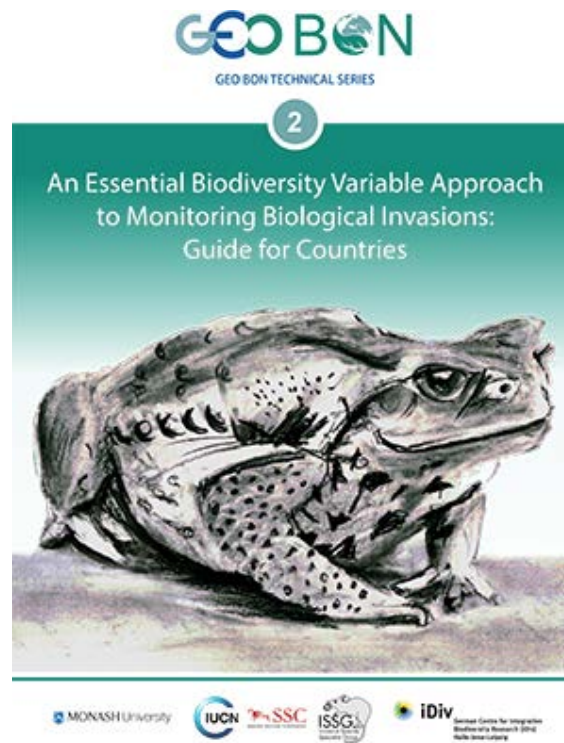
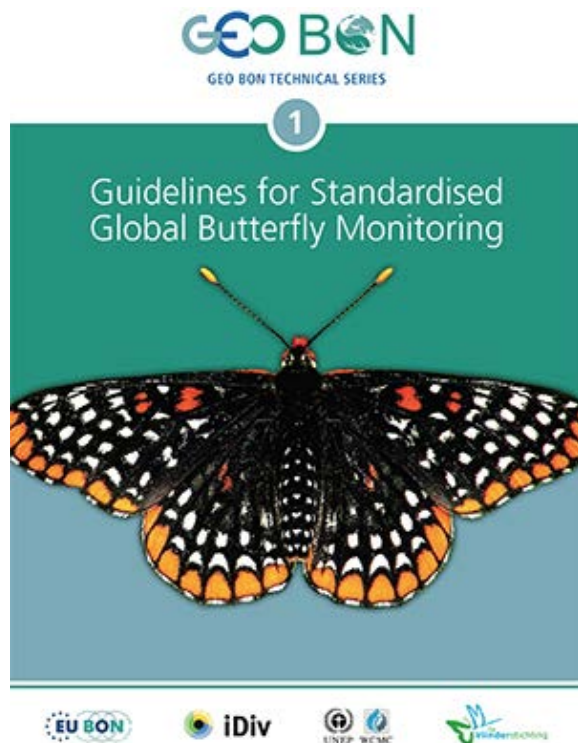
7. **Simple:** simple, efficient internal governance;
8. **Complete:** data management, analysis and reporting are built into the original design and are budgeted for;
9. **Interoperable:** utilizes common standards, collection protocols and tools;
10. **Integrated:** with research to allow for attribution (identifying drivers of biodiversity change);
11. **Flexible:** allow for the possibility of adjustments and for the network to be designed to meet locally relevant needs; and,
12. **Manage Risk:** maintains diverse and leveraged funding sources to increase the chances for sustained operation.



Further support from the GEO BON secretariat



Communication and information sharing



Online platform for sharing tools and protocols

GEO BON

BON IN A BOX Latinoamerica Region



BON IN A BOX

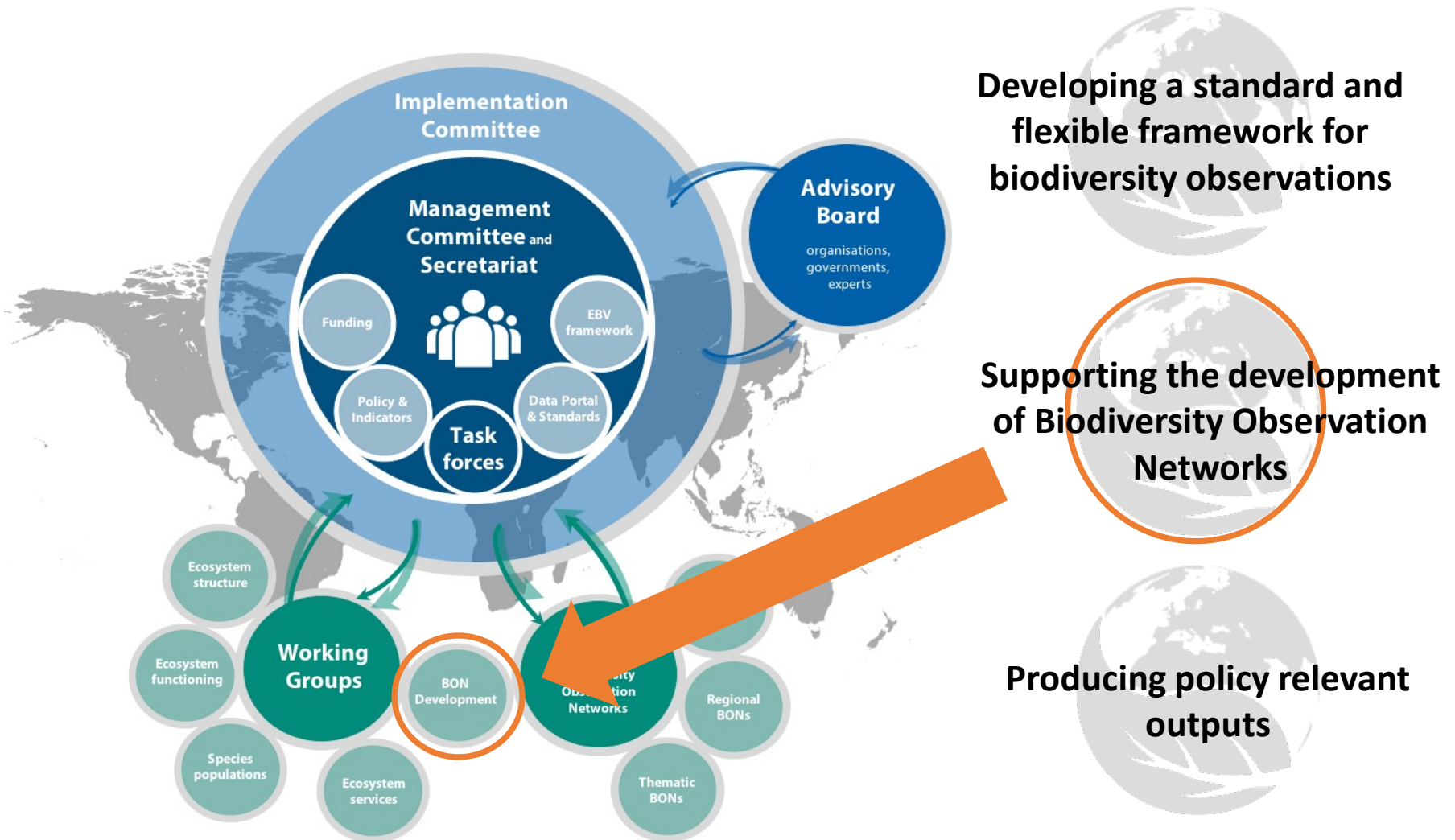


Improving
Capacity for
Biodiversity
Conservation

BON in a Box (Biodiversity Observation Network in a Box) is a customizable and continually updated toolkit. It provides access to the latest biodiversity observation design, data collection protocols, and data management, analysis and reporting tools. It serves as a technology transfer and capacity building mechanism to ensure you have access to the best and most up-to-date tools and technologies for building a biodiversity observation system.

BON in a Box connects tools users and developers to promote ongoing tool improvements and the development of new tools. The goal is to **lower the threshold for the start-up or enhancement of a biodiversity observation networks** and support more effective conservation actions through the improved supply of quality biodiversity data. BON in a Box is a Group on Earth Observations – Biodiversity Observation Network initiative and the development of this Latin American regional version was led by Colombia's Alexander von Humboldt Institute.

BON Development Working Group



Translating data into information: EBV Data Portal

GEO BON EBV DATA PORTAL *BETA testing* | Checking the pulse of the planet's biodiversity Contact us

Filter

▼ by Country

- China
- Colombia
- Russia
- Tanzania
- United States

Refresh icons

Occurrence records published by the GBIF network

Show 624.293.356 records on map

Identify and Access

GEO BON is working towards the implementation and progression of Essential Biodiversity Variables (EBVs) that could serve as the foundation for interoperable sub-national, national, regional and global monitoring initiatives. This Map Portal aims to provide a mechanism that helps communities developing EBVs discover data that is freely and openly available today.

This Map Portal helps to identify and to access datasets of interest when generating EBVs for the four EBV classes

- Species populations
- Species traits
- Ecosystem function
- Ecosystem structure

Map controls: Satellite, Map, Zoom (+, -), Search, Layers, Full Screen, Print, Home, Refresh

Results by Country: Russia

Datasets found for the four EBV classes:

- Species populations
- Species traits
- Ecosystem function
- Ecosystem structure

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Policy relevant outputs



GEO BON
Global Biodiversity Change Indicators
 Model-based integration of remote-sensing & in situ observations that enables dynamic updates and transparency at low cost

SUSTAINABLE DEVELOPMENT GOALS





Integrating health and biodiversity monitoring

The example of the Nipah virus

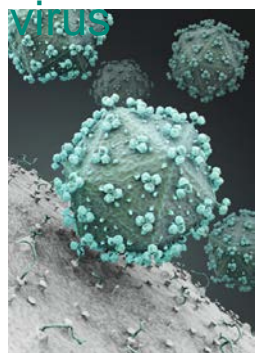
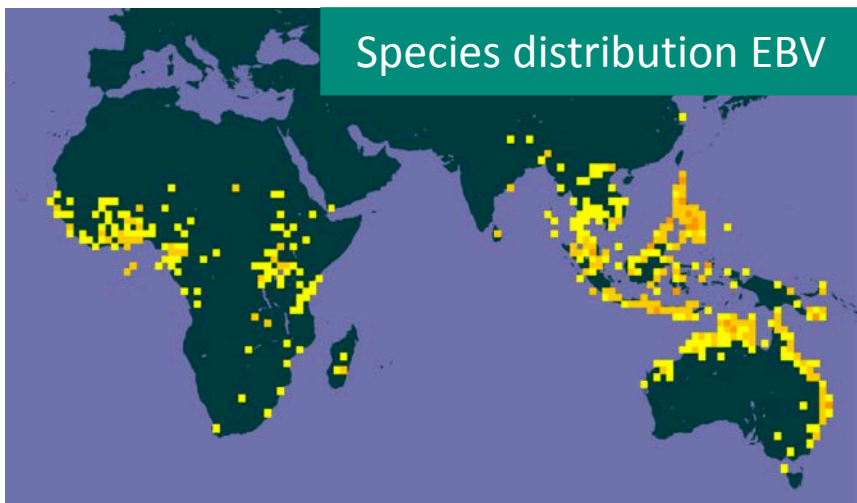


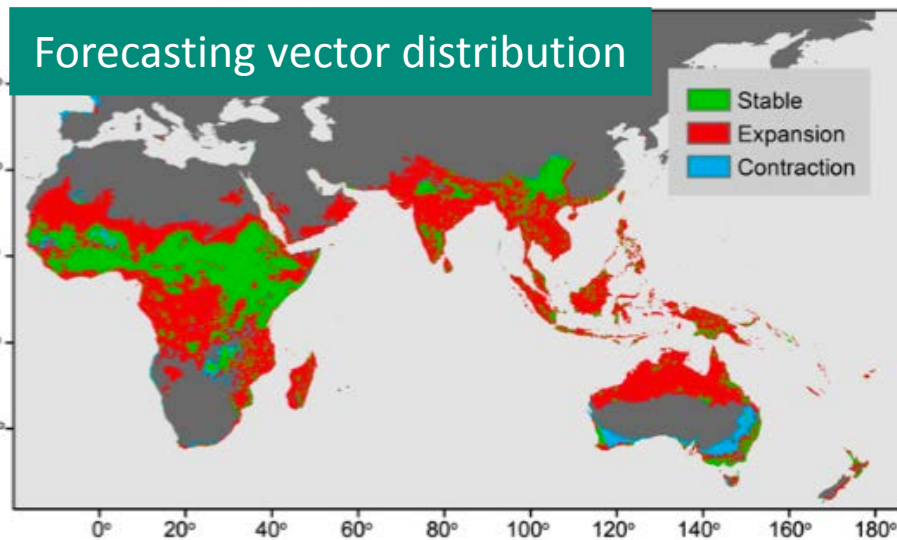
Image: Shutterstock.



Pteropus poliocephalus source: EOL



Source: Global Biodiversity Information Facility



Source: Daszak et al. 2013, PNAS



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For more information:

www.geobon.org

laetitia.navarro@idiv.de

@GEOBON_org

www.geobon.org

• GEO BON German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig, Deutscher Platz 5a,
04103 Leipzig, Germany • info@geobon.org