



## Citizen Science's contribution to GEO BON



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**iDiv**

GEO XIV, Washington DC

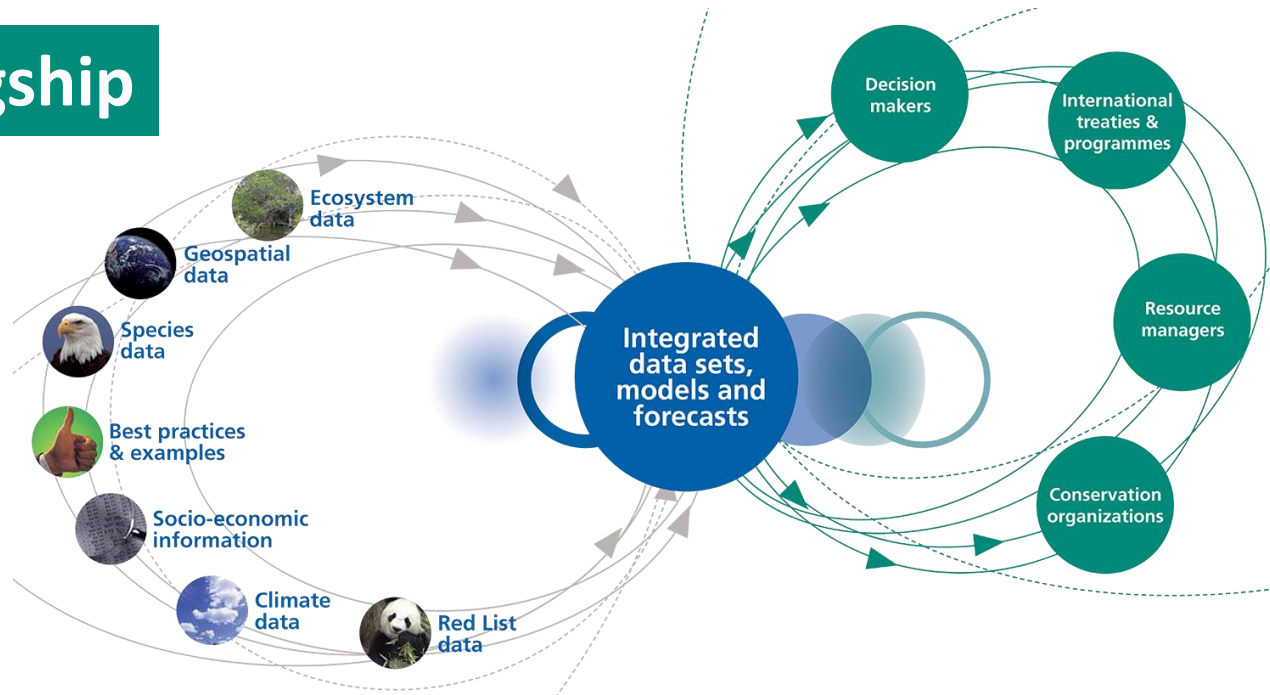
23.10.2017

# GEO BON in a nutshell

## Mission

Improve the **acquisition**, **coordination** and **delivery** of biodiversity observations and related services to users including decision makers and the scientific community

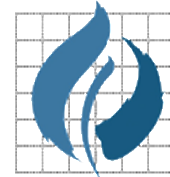
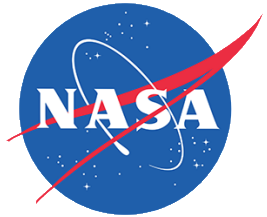
## GEO Flagship



## Vision

A **global biodiversity observation network** that contributes to effective **management policies** for the world's biodiversity and ecosystem services.

# A Global Partnership



Convention on  
Biological Diversity

UNEP

WCMC



GBIF



UNIVERSITY OF AMSTERDAM



iDiv



ITC  
UNIVERSITY  
OF TWENTE.



CIRCUMPOLAR BIODIVERSITY  
MONITORING PROGRAM



International  
Long Term  
Ecological  
Research



USGS  
*science for a changing world*



esa



Predicts



INSTITUTO  
HUMBOLDT  
COLOMBIA



MOL  
MAP OF LIFE



SASSCAL

Southern African  
Science Service Centre for  
Climate Change and  
Adaptive Land Management



ASEAN CENTRE FOR BIODIVERSITY

# GEO BON core focus



**Developing a standard and flexible framework for biodiversity observations**



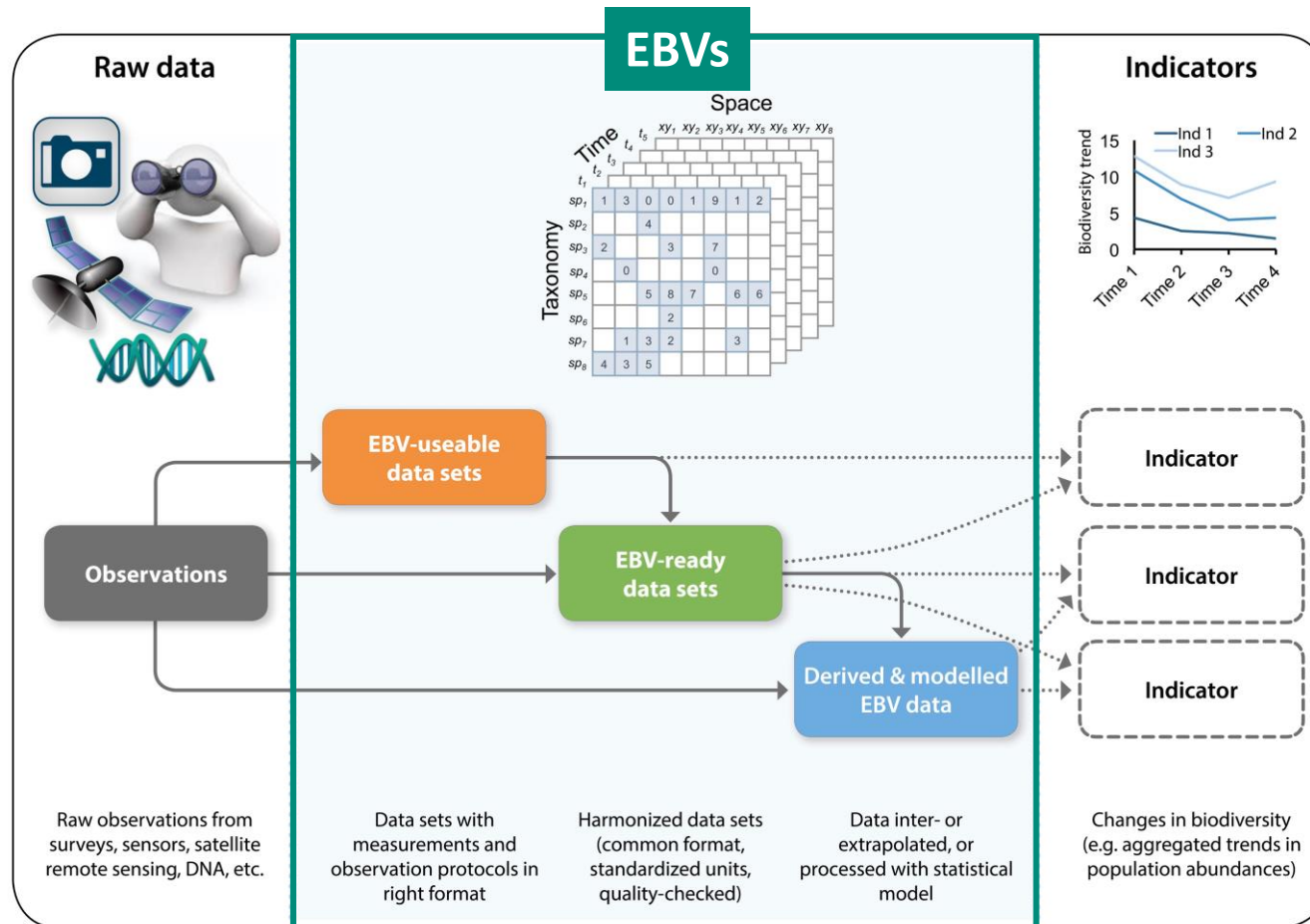
**Supporting the development of Biodiversity Observation Networks**



**Producing Policy Relevant Outputs**

# Biodiversity Observation Framework: the Essential Biodiversity Variables

**EBVs:** Minimum set of measurements, complementary to one another, that can capture major dimensions of biodiversity change.



Users

National Governments



CBD

SUSTAINABLE DEVELOPMENT GOALS

# From Citizen Science to EBVs

→ Acquisition, Mobilization of biodiversity observations

**eBird**  
Global



**Genetic Composition**  
e.g. Allelic diversity



**Species Populations**  
e.g. Species distribution



**Species Traits**  
e.g. Body size, phenology



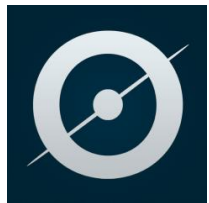
**Community Composition**  
e.g. Species interactions



**Ecosystem Structure**  
e.g. Ecosystem extent



**Ecosystem Functions**  
e.g. Disturbance



Zooniverse  
Global

# From Citizen Science to EBVs



Portugal



Global



Global



**Species Populations**  
e.g. Species distribution,  
Population abundances



Observado  
Global

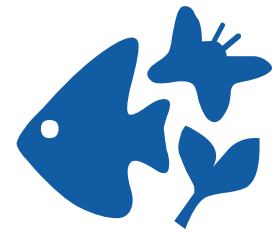


Zooniverse  
Global

# From Citizen Science to EBVs



Portugal



Community Composition  
e.g. Species interactions





# From Citizen Science to EBVs



Zooniverse  
Global



Global



France



**Species Traits**  
e.g. Body size, phenology

# Challenges: Data standards for interoperability

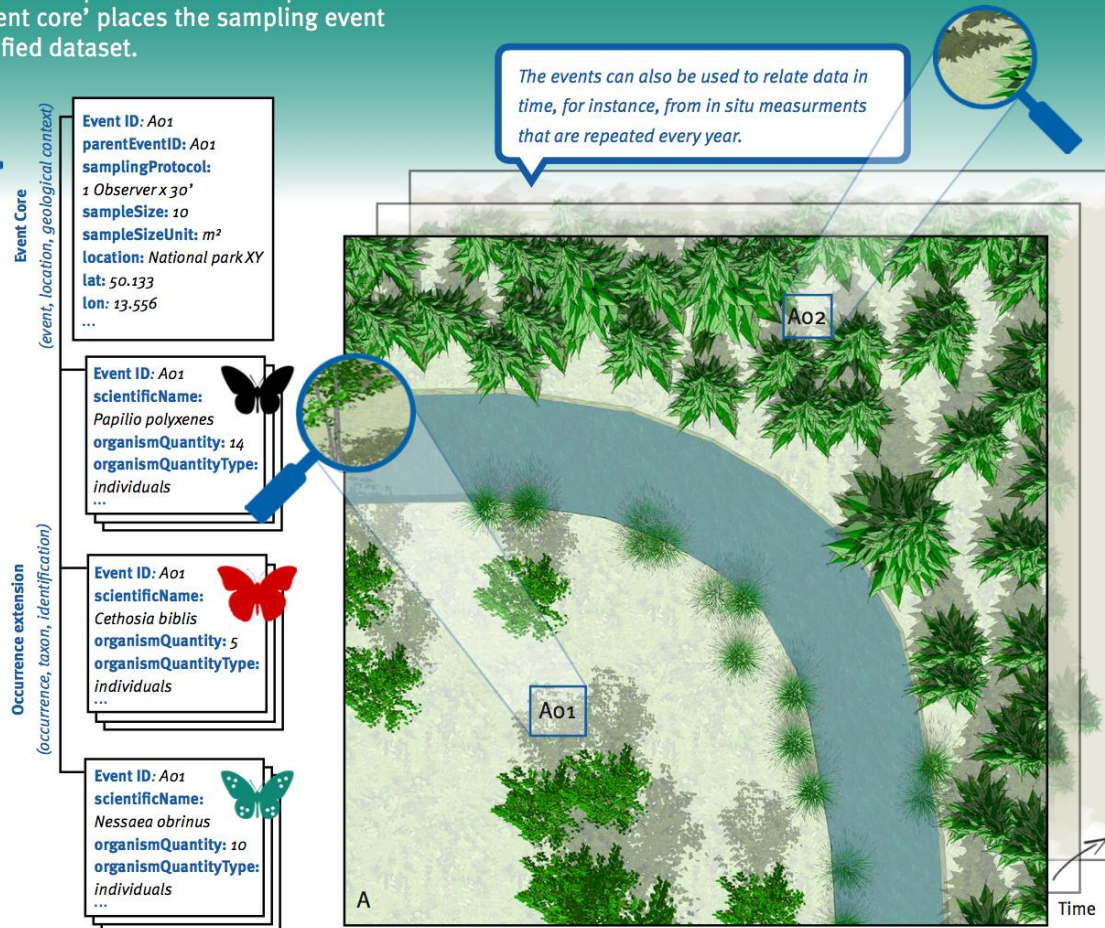


Efforts to track biodiversity change have increased the amount of species information available through monitoring programmes. Beyond 'presence-only' data, these systematically collected datasets capture richer, more complex details about species quantities and frequencies. The newly introduced 'Event core' places the sampling event at the center of the simplified dataset.

This extension will enable data holders publishing through GBIF to share population abundance data (including time series population data) or presence/absence data, while documenting the sampling protocol.

The event core allows to relate data from the same sampling area, or from an atlas, which are now connected together via their "parent" event.

“ Data providers can now inform on the sampling protocol, sample size, and organism quantity, in addition to the occurrence records, for each species found at each site.



# Opportunities: Biodiversity Observation Networks

Contribute to the **collection** and **analysis** of **harmonised biodiversity observations**, the development of integrated and interoperable **biodiversity monitoring programs**, the development of **data standards**.

## National and Regional BONs

## BON Endorsement



# Opportunities: Capacity building

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.

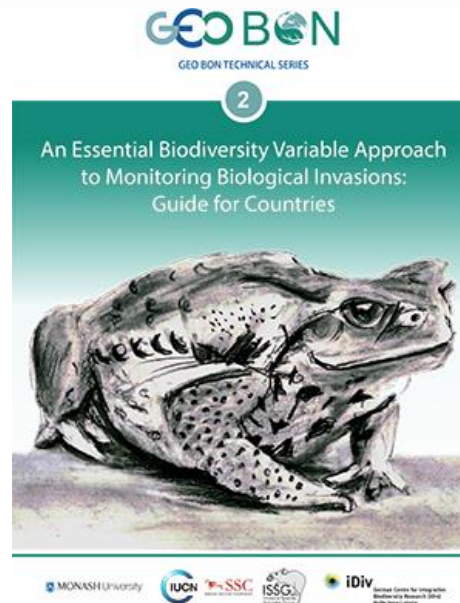
# If you want to know more

The content of this talk was largely inspired by:

## Chapter 9

### 9. Involving Citizen Scientists in biodiversity observation

Mark Chandler<sup>1\*</sup>, Linda See<sup>2</sup>, Christina D. Buesching<sup>3</sup>, Jenny A. Cousins<sup>4</sup>, Chris Gillies<sup>5</sup>, Roland W. Kays<sup>6</sup>, Chris Newman<sup>7</sup>, Henrique M. Pereira<sup>8,9,10</sup>, Patricia Tiago<sup>11</sup>



Michele Walters  
Robert J. Scholes  
*Editors*

Open Access

# The GEO Handbook on Biodiversity Observation Networks

GEO BON

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Thank you

For more information:

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