Supporting Countries to Implement the Monitoring Framework

Andrew Gonzalez
Co-Chair, GEO BON

Liber Ero Chair in Biodiversity Conservation
McGill University

CO-OP4CBD
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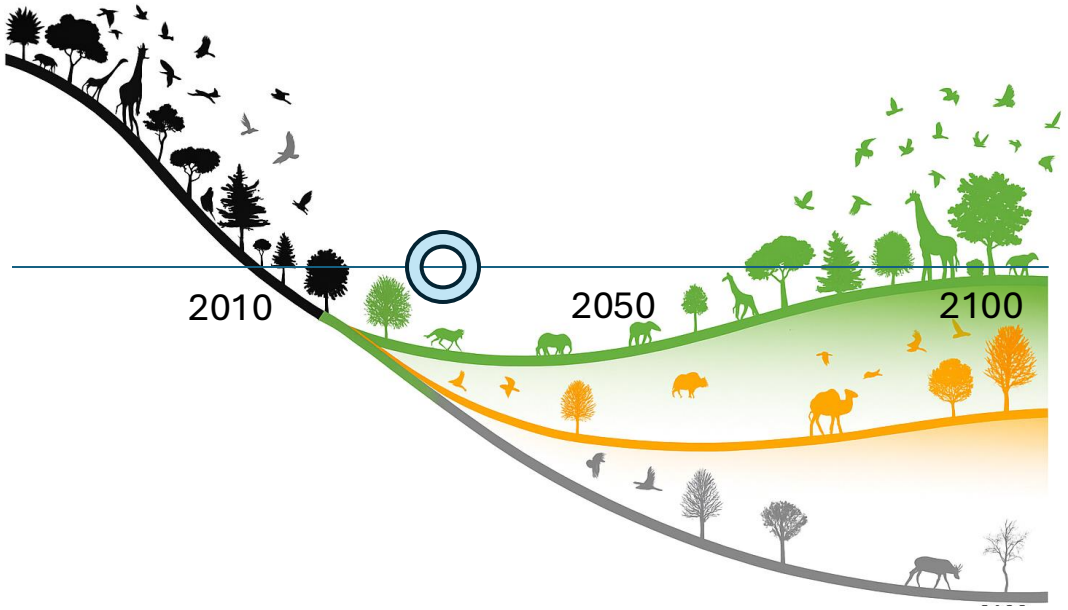
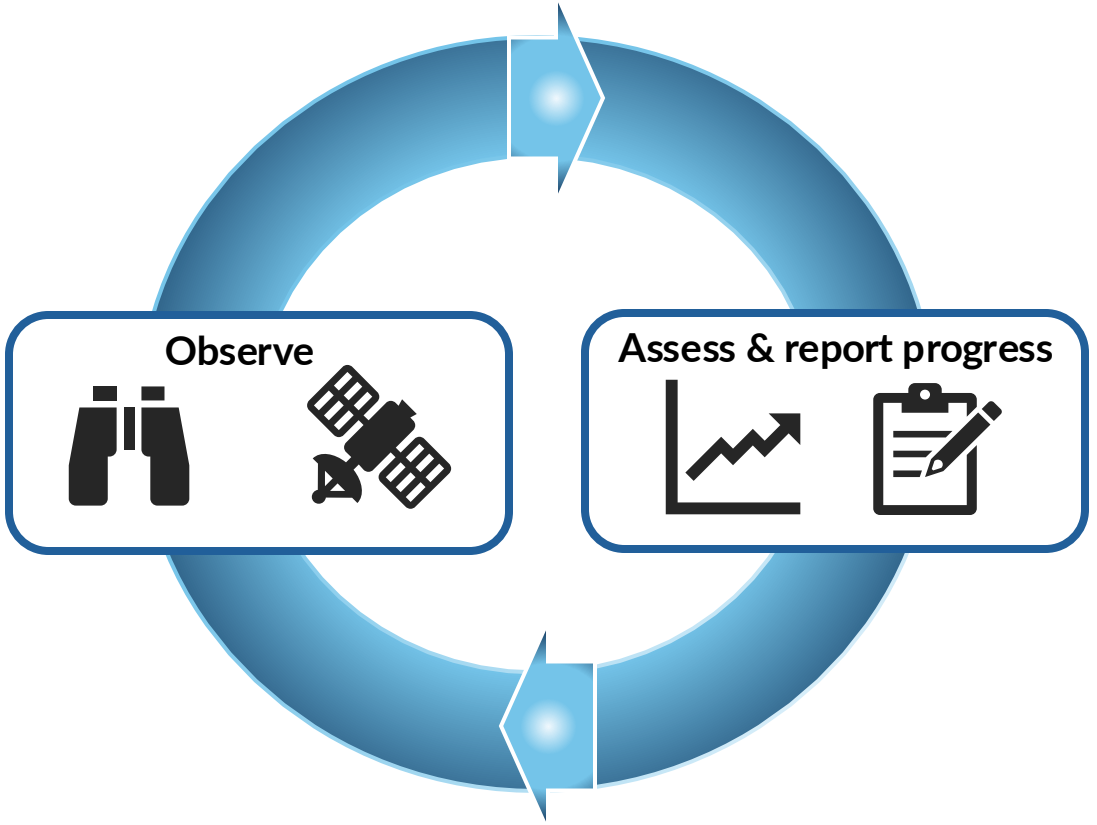
A Monitoring Framework Fit For Purpose

Detecting progress towards targets by 2030 and beyond



Monitoring framework



The biodiversity data-to-reporting chain

1

Reports

Such as KM-GBF, EU, In-country, etc.

2

Biodiversity Indicators

Policy-relevant metrics

3

Data

Big data, some standardised, often privately owned, sometimes sensitive, often in spreadsheets, often lost

4

Monitoring

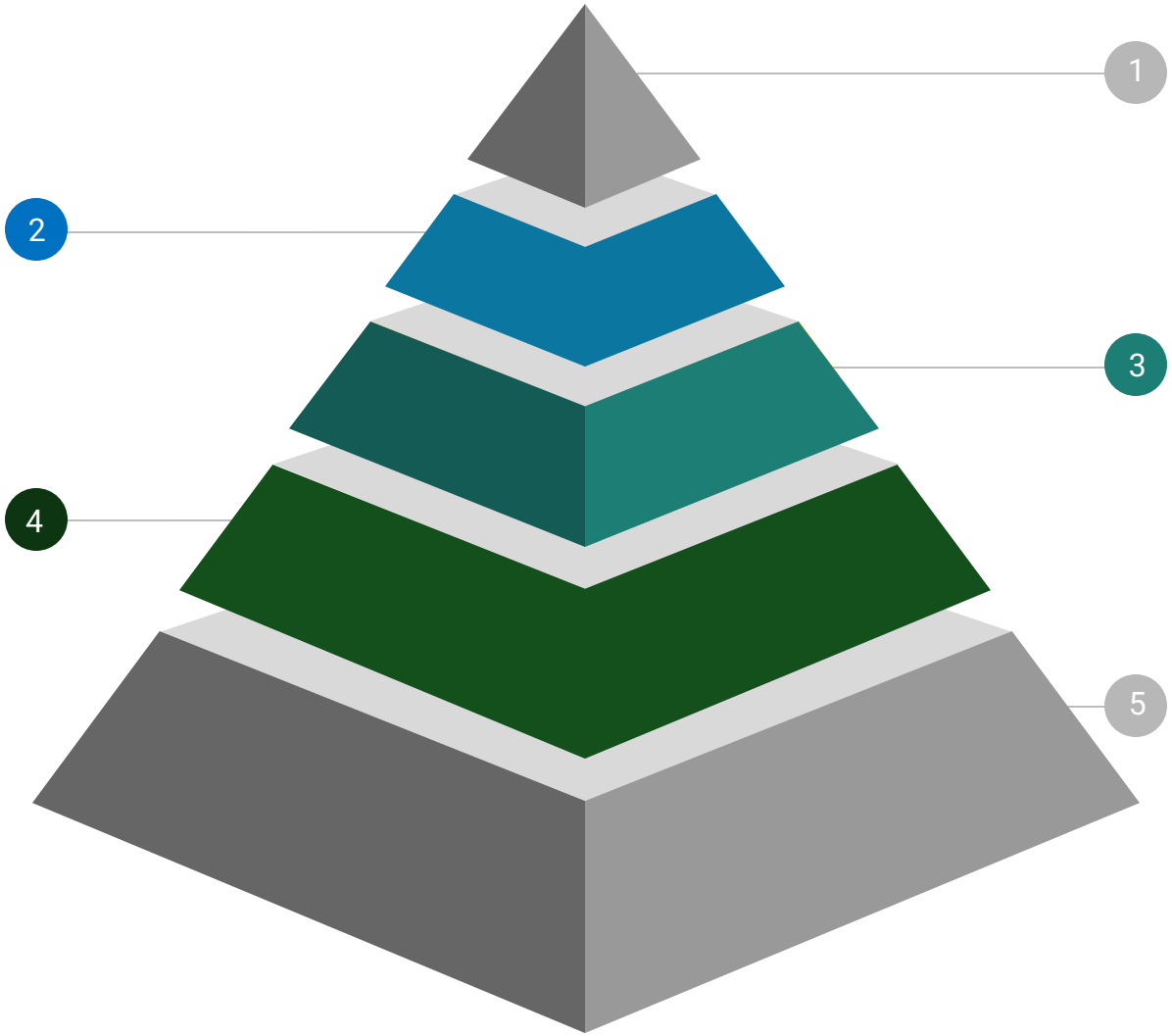
Standardized biological measurements, abstracts the data collection method.

5

Reality

Complex ecosystems, complex interactions with people, rapidly changing with human pressure.

The biodiversity data-to-reporting chain



1 **Reports**
Such as KM-GBF, EU, In-country, etc.

2 **Biodiversity Indicators**
Policy-relevant metrics

3 **Essential Biodiversity Variables**
Standardized biological measurements, abstracts the data collection method.

4 **Monitoring**
Big data, some standardised, often privately owned, sometimes sensitive, often in spreadsheets, often lost.

5 **Reality**
Complex beings, complex interactions, rapidly changing with human pressure.

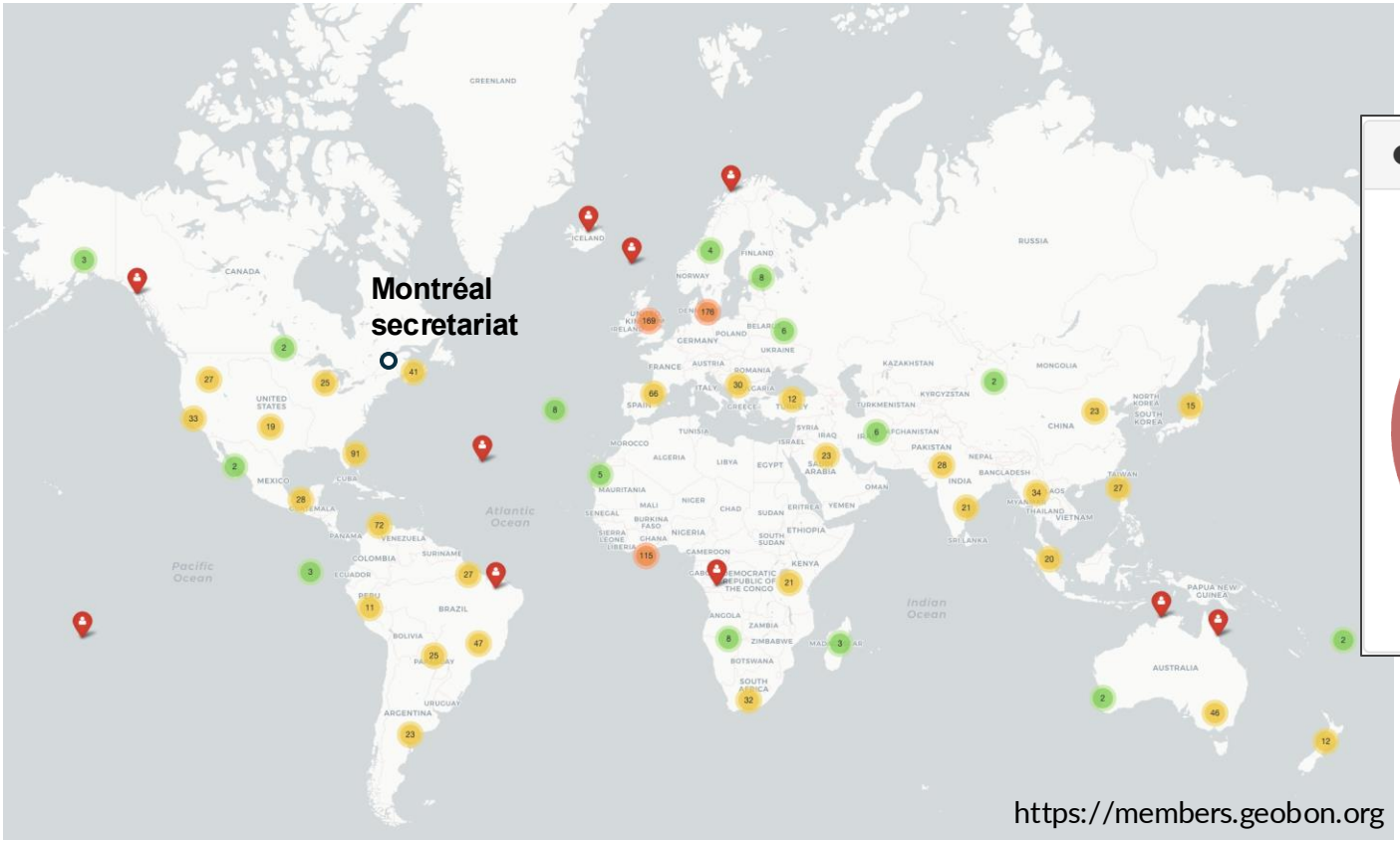
GEO BON's network is international

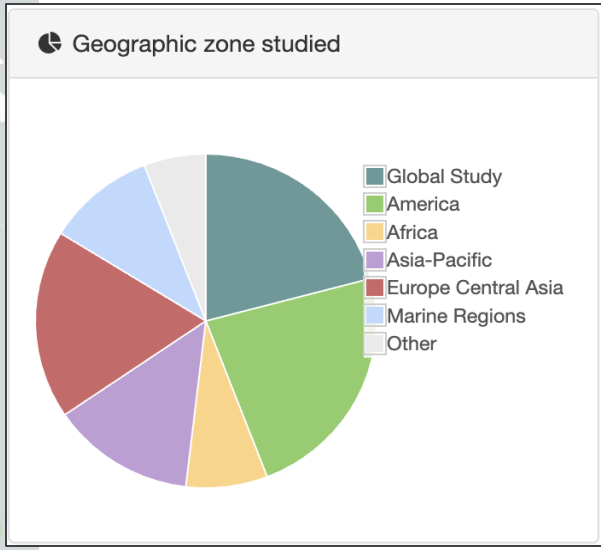
A global voluntary network: >4000 members in 158 countries

Mission

Supporting the acquisition, coordination and delivery of biodiversity observations, indicators and model-based insights to all.

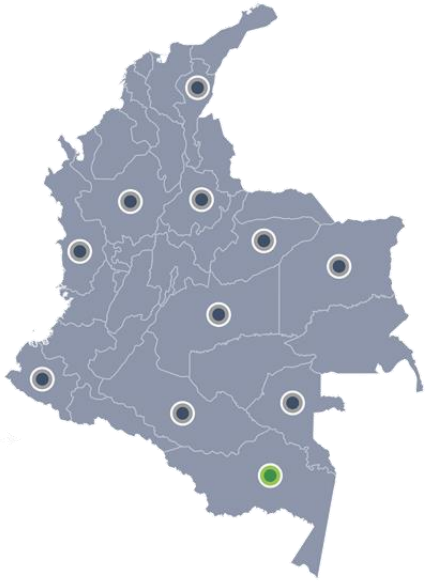
https://geobon.org/





Biodiversity Observation Network

Observations



- Specimens
- Bioacoustics
- Field measures
- In-situ observations
- Satellites

EBVs

- Genetic Composition
- Species Populations
- Species Traits
- Community Composition
- Ecosystem function
- Ecosystem structure

Indicators

- BHI — Biodiversity Habitat Index
- GDI — Genetic Diversity Indicator – Proportion of populations with Ne > 500
- GERI — Global Ecosystem Restoration Index
- LBII — Local Biodiversity Intactness Index
- PARC — Protected Area Representatives & Connectedness Indices
- IAS — Rate of Invasive Alien Species Establishment
- SHI — Species Habitat Index
- SPI — Species Protection Index
- SSII — Species Status Information Index

On EBVs: Pereira et al. 2013 Science; Proença et al. 2017 Schmeller et al. 2018 Biological Reviews

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Multiple indicators are part of a protected area planning and restoration processes

+15 ha degraded forest restored

+11.2% connectivity

+12 ha habitat restored

Improved water quality, +13% sediment retention

~150 tCO2 sequestered

BON in a Box calculates the indicators you need

Global data sources

GBIF Global Biodiversity Information Facility

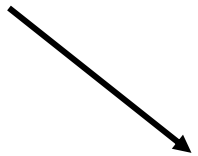
NASA • USGS LANDSAT NINE KSC • GSFC • EROS

STAC

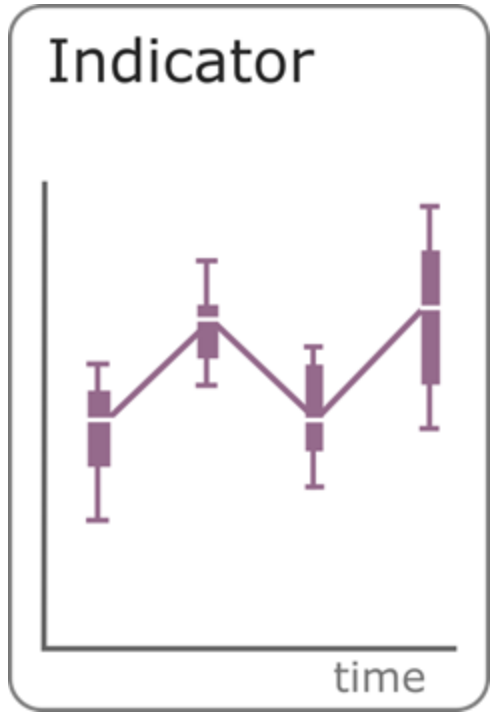
OBIS OCEAN BIODIVERSITY INFORMATION SYSTEM

Copernicus Europe's eyes on Earth

Google Earth Engine



BON IN A BOX



BON in a Box links data with models

GBIF Global Biodiversity Information Facility

NASA · USGS LANDSAT NINE KSC · GSFC · EROS

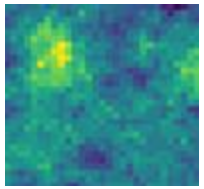
STAC

OBIS OCEAN BIODIVERSITY INFORMATION SYSTEM

Copernicus Europe's eyes on Earth

Google Earth Engine

Your data



CSV

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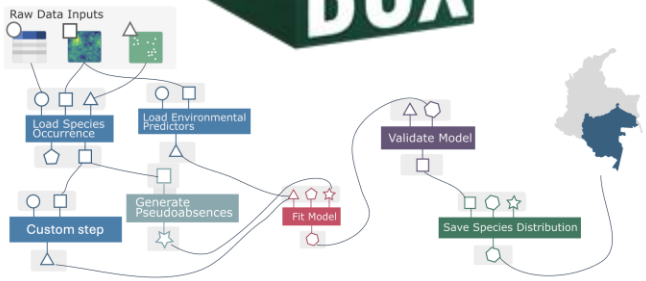
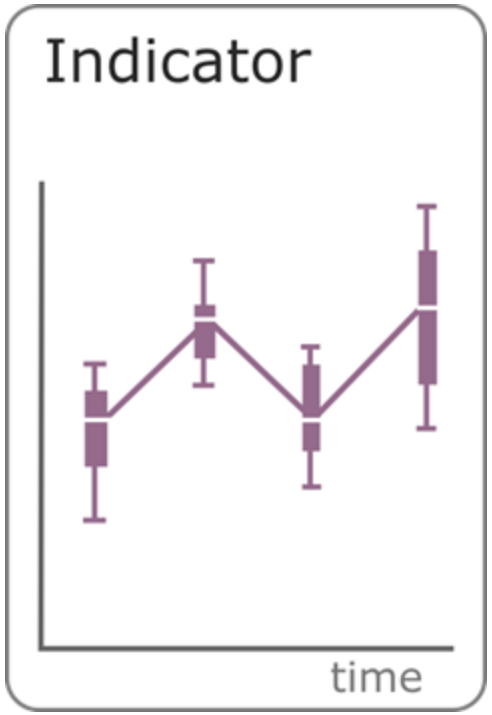
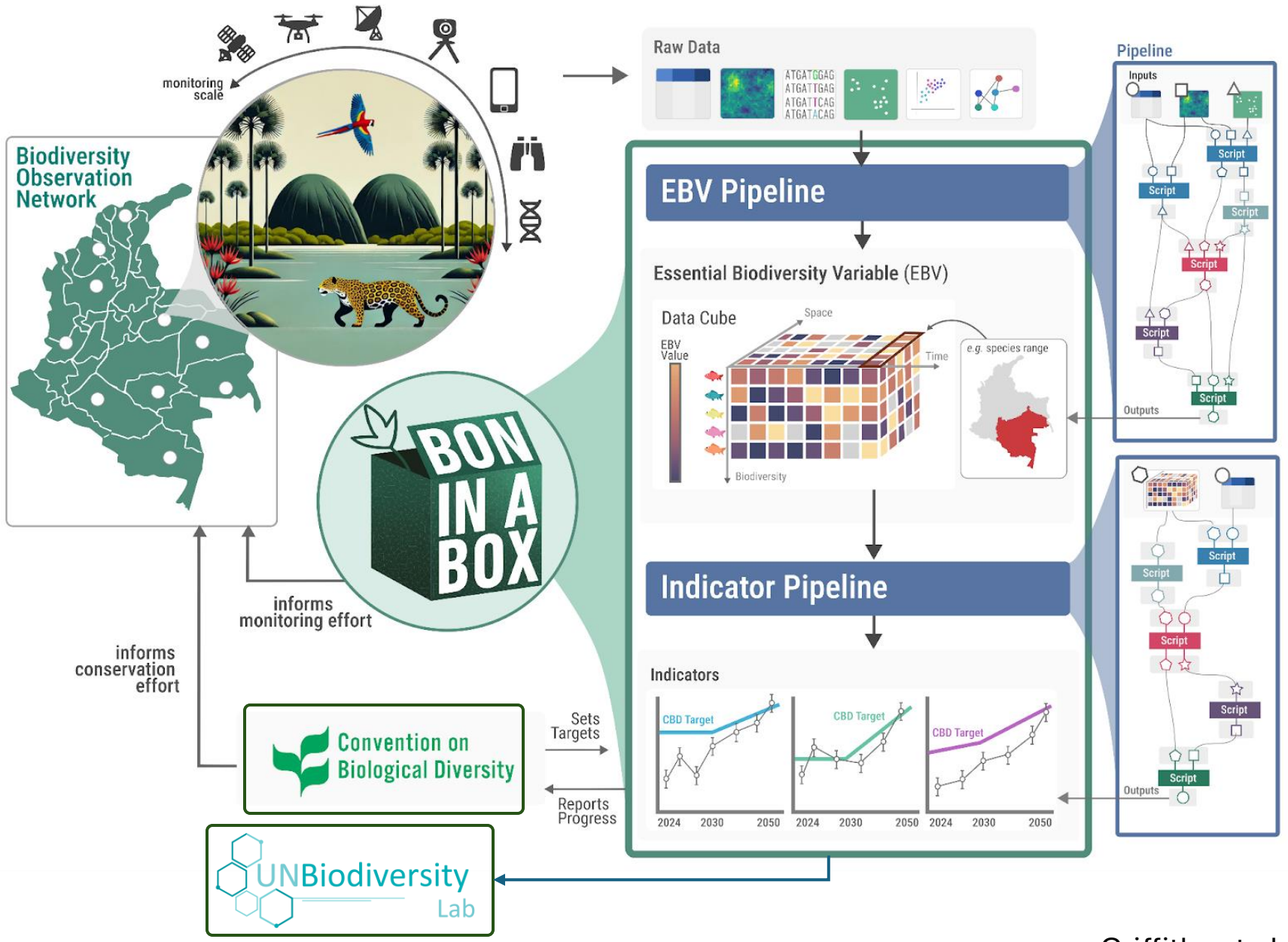




BON in a Box – work with your data to produce the indicators you need



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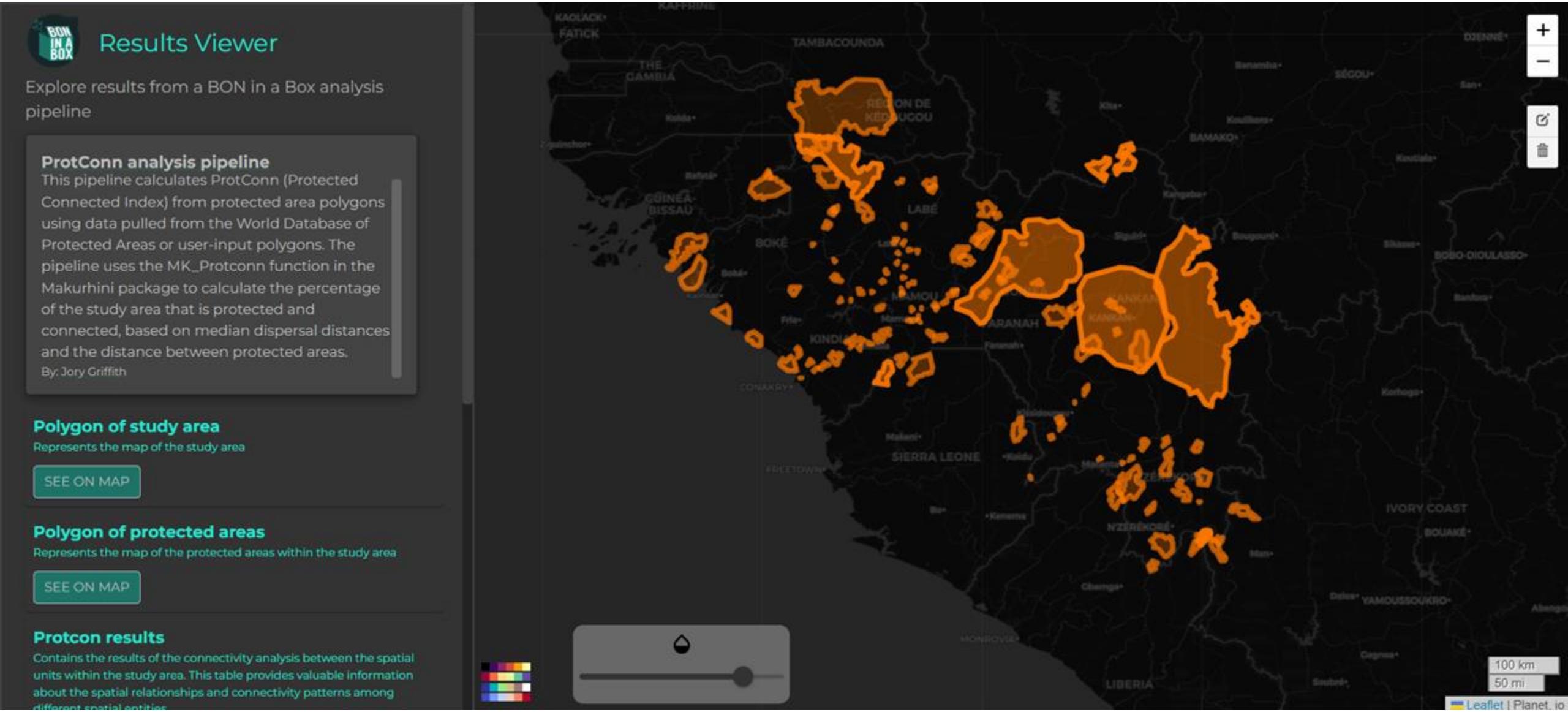
Griffiths et al. 2025 *BioScience*

ProtConn: A component indicator of the GBF.

"the percentage of a study region (e.g., a country or ecoregion) covered by protected **and connected** lands."



BON in a Box – The connectivity of Guinea's protected area network

Results Viewer

Explore results from a BON in a Box analysis pipeline

ProtConn analysis pipeline

This pipeline calculates ProtConn (Protected Connected Index) from protected area polygons using data pulled from the World Database of Protected Areas or user-input polygons. The pipeline uses the MK_Protconn function in the Makurhini package to calculate the percentage of the study area that is protected and connected, based on median dispersal distances and the distance between protected areas.

By: Jory Griffith

Polygon of study area

Represents the map of the study area

SEE ON MAP

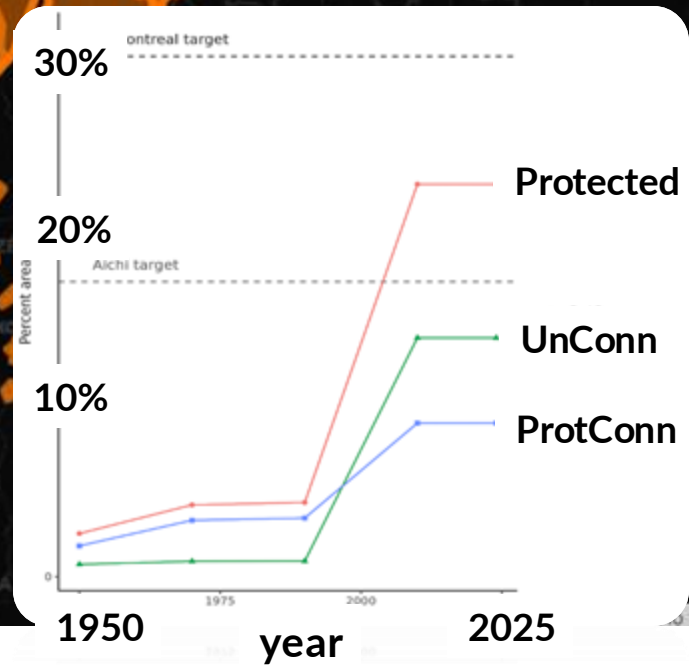
Polygon of protected areas

Represents the map of the protected areas within the study area

SEE ON MAP

Protcon results

Contains the results of the connectivity analysis between the spatial units within the study area. This table provides valuable information about the spatial relationships and connectivity patterns among different spatial entities

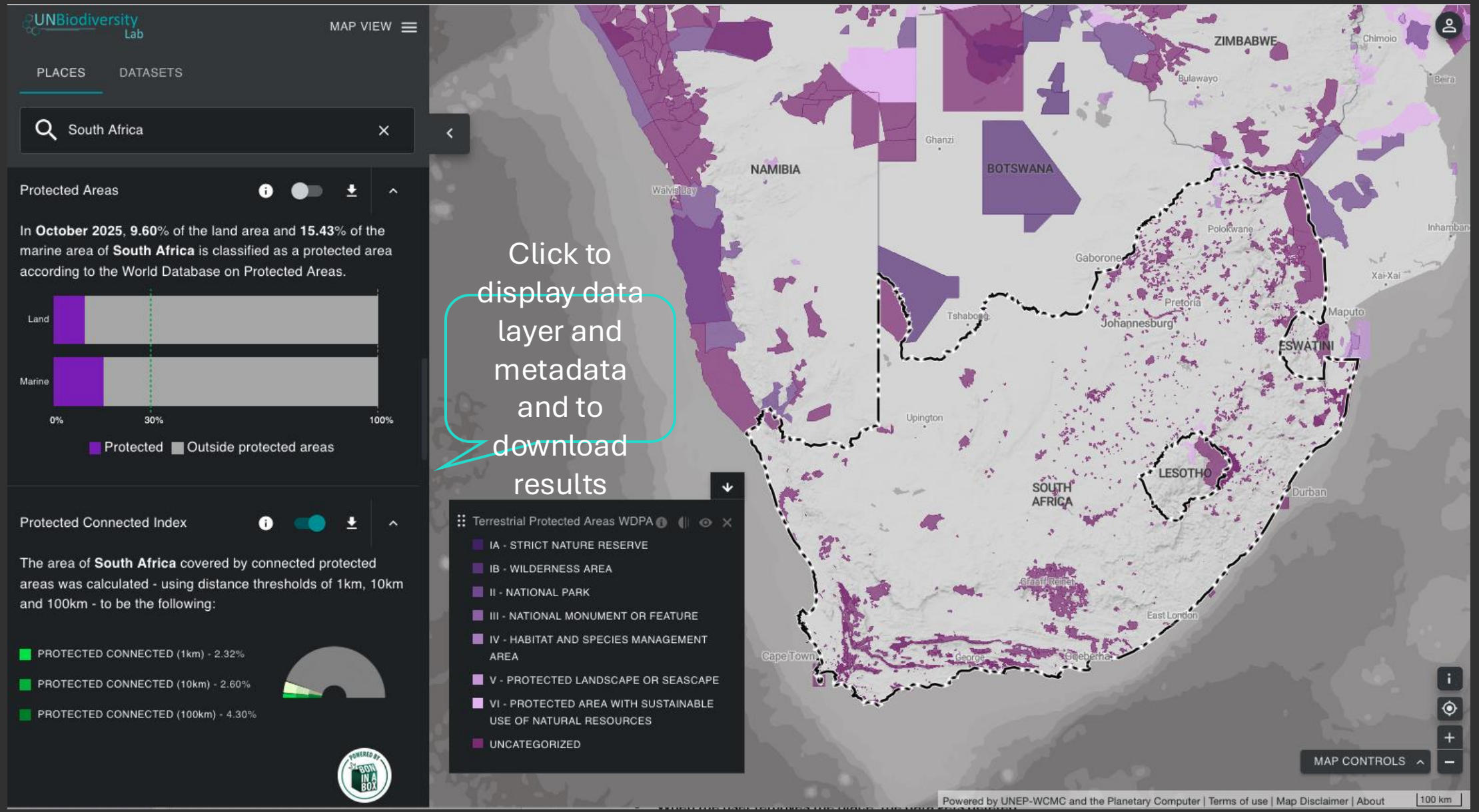


UN BIODIVERSITY LAB

PLACES tab

Country name

Results at a glance



GEO BON Services to countries

Step 1

Access to guidance documents, webinars, online training modules on GBF monitoring requirements, EBVs, and BON in a Box principles.

Helpdesk support for basic queries to GEO BON experts.

Access GEO BON experts for peer-to-peer advice (e.g., BON design)

Step 2

National Monitoring Needs Assessment & Gap Analysis

Monitoring System Design & Roadmap

"BON in a Box" Customization & Support

Capacity Building Workshops

Data Integration & Workflow Support

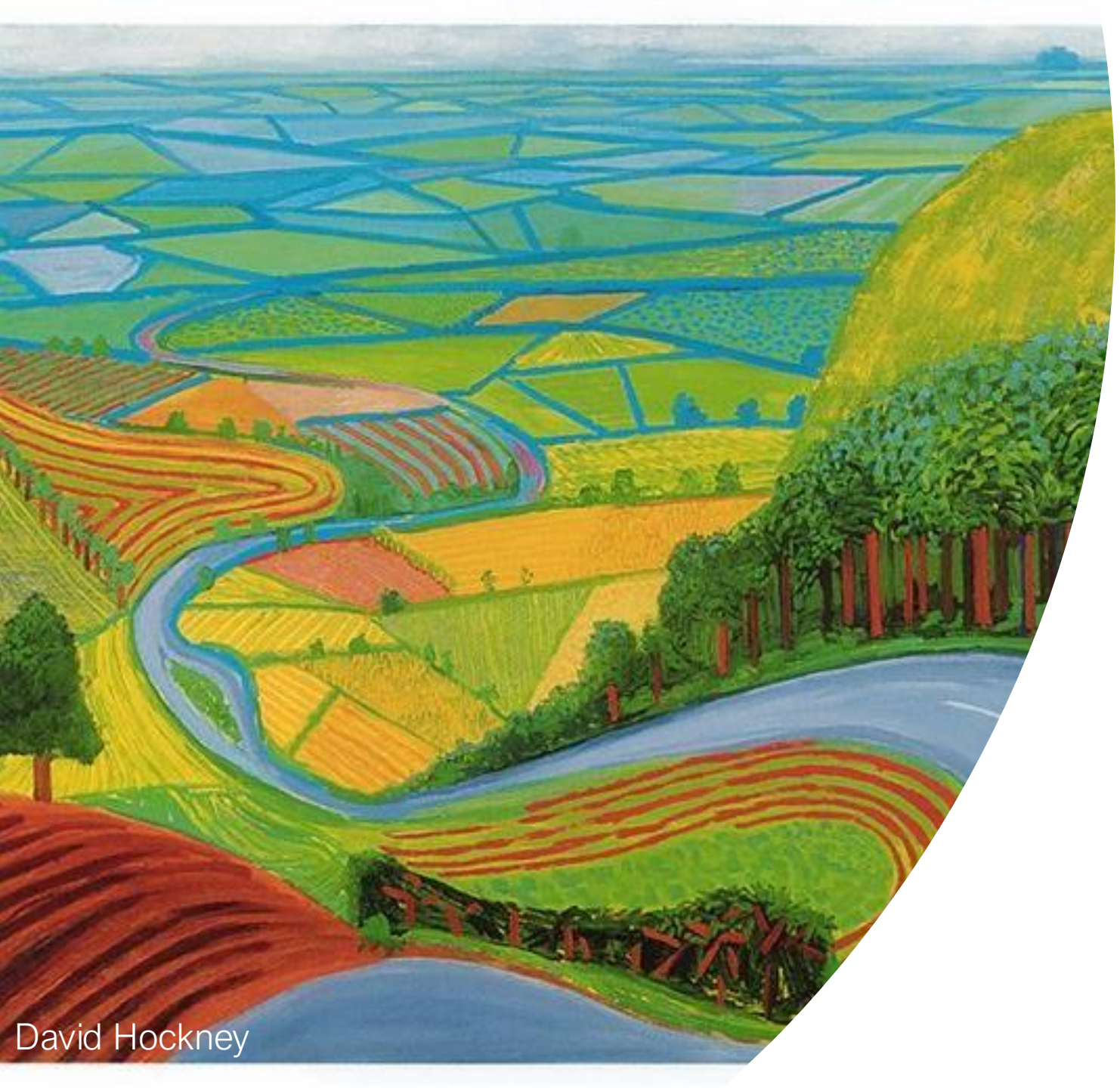
Step 3

Long-term Technical support for BON assembly

Indicator Development & Calculation

BON in a Box Platform Integration

Review & Evaluation of monitoring framework



Thank you!

Become a member

GEO BON