



# The European Biodiversity Observation Network



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ConnectinGEO and ENEON Workshop Week  
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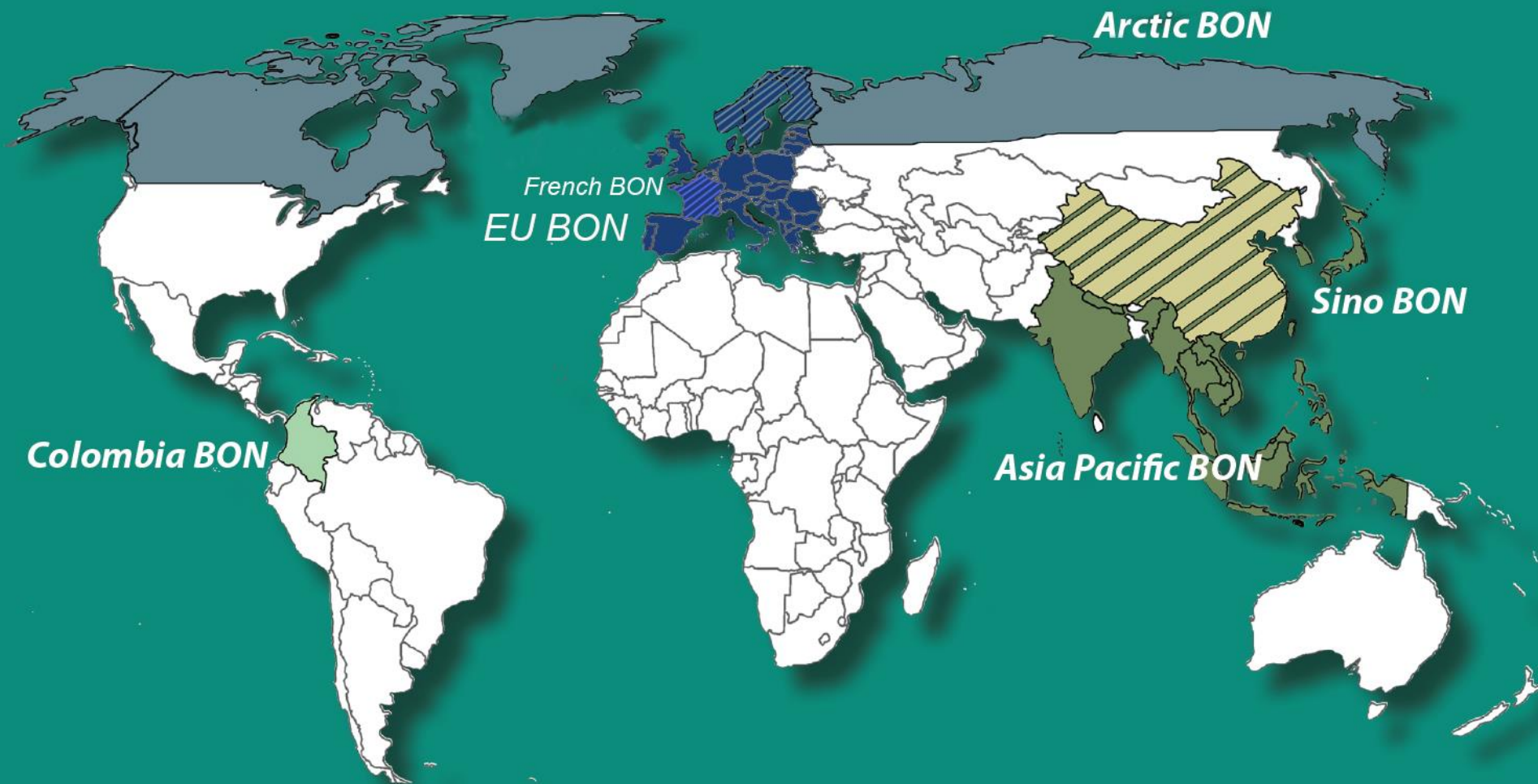
# EU BON and GEO



credits: Presentation Barbara J. Ryan, GEO Secretariat, Florian Wetzel



# The landscape of national & regional BONs



# The biodiversity-challenge: integration of *biodiversity* data

Remote  
sensing

In situ



**Specific challenges (i.p. in situ) :**

**Integration:**

- + data standards, interoperability
- + analysis, interpretation, tools  
[indicators, patterns and trends]
- + common recording & monitoring schemes
- + information dissemination
- + science policy interface(s)!

Images: Mihai Tamsila, Wanetta Ayers, Johannes Penner

**Key features of EU BON:**

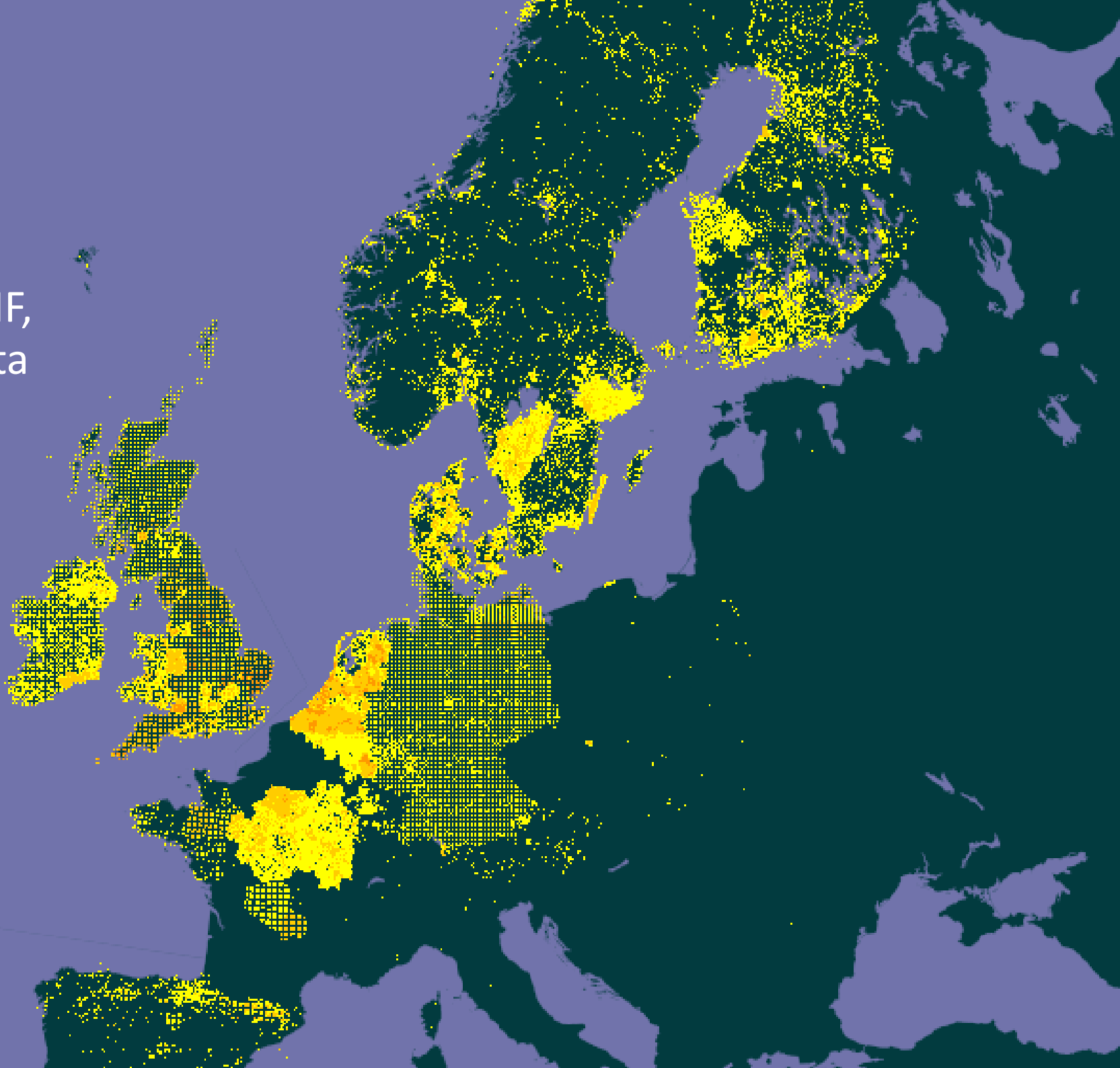
Delivery of **integrated**, near-real-time relevant **data**,  
both from **on-ground observation** and **remote sensing**,  
to various stakeholders and end users, ranging from local to global levels.

Fragmented  
data from GBIF,  
visualising data  
gaps,  
+ needs for  
common data  
recording  
standards



Picture © Ondřej Zicha, via EoL

*Achillea millefolium*







# EU BON - key information

## EU BON facts:

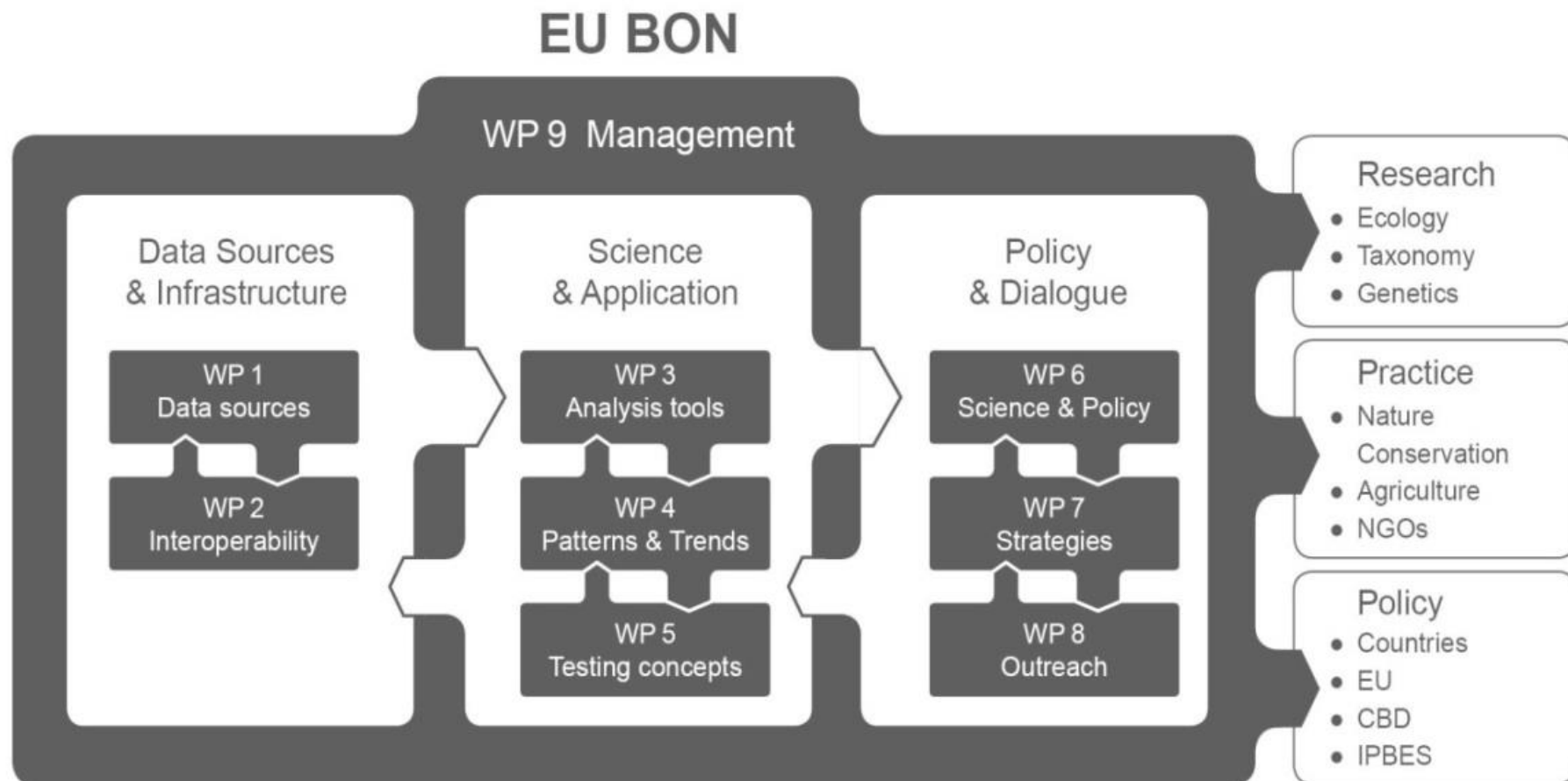
- **EU FP7** collaborative project
- **31 partners** (18 countries)
- **Coordination:** Museum für Naturkunde Berlin
- **Project duration:** 54 months; 2012-2017
- **EC contribution:** 9 mio Euro

**EC FP7 - Cooperation Theme 6 “Environment (incl. climate change)”.**

**Call ENV.2012.6.2-2: Assessing global biological resources: the European contribution to the Global Earth Observation Biodiversity Observation Network (GEO BON)**



# EU BON workflow and organization



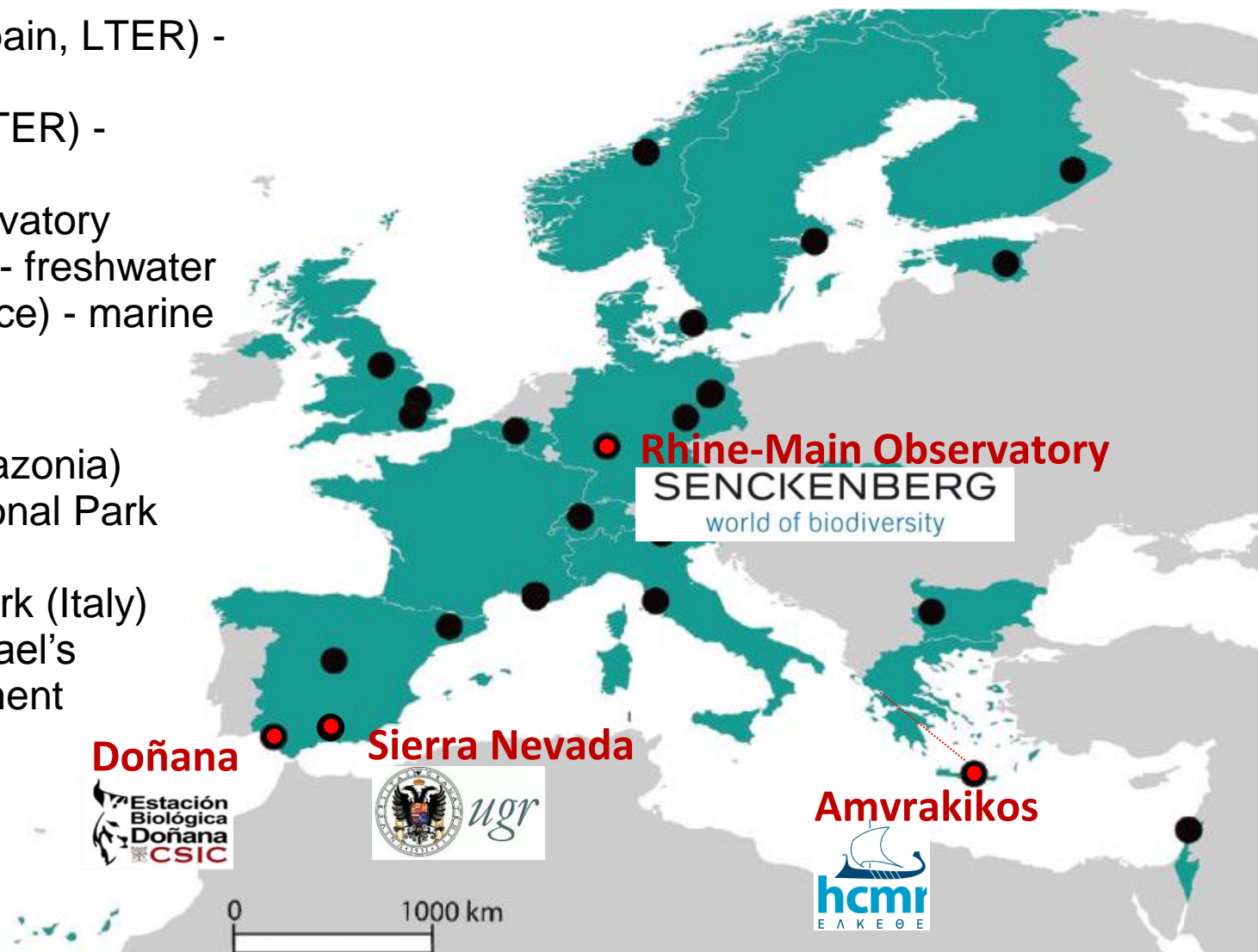
# EU BON test sites

EU BON testing & validation of concepts, tools, services

1. Sierra Nevada (Spain, LTER) - terrestrial
2. Doñana (Spain, LTER) - terrestrial
3. Rhine-Main Observatory (Germany, LTER) - freshwater
4. Amvrakikos (Greece) - marine

## Additional sites

- INPA-Brazil (Amazonia)
- Mercantour National Park (France)
- Alpi Marittime Park (Italy)
- HaMAARAG (Israel's National Assessment Program)





# EU BON Products



**Datasets**



**Data analysis**



**Tools**

Credits: Pensoft



# Work program & key outputs

**Strategies for targeted data mobilization** *in / for Europe*

**European Biodiversity Portal**  
*with new functionalities*

**Software tools & improved models**  
*for better biodiversity data recording / mapping and **analysis** / **visualization** of patterns & trends*

Results & lessons learnt from **EU BON (& other) sites**  
*for regional/global network of long term recording/monitoring sites (LTER / ILTER)*

**Recommendations for integrated national / regional biodiversity recording/monitoring schemes** and information infrastructures

Blueprint for a **global biodiversity monitoring scheme / infrastructure** (GEO BON)



# Enhance discoverability of in-situ data



europa**n biodiversity** portal

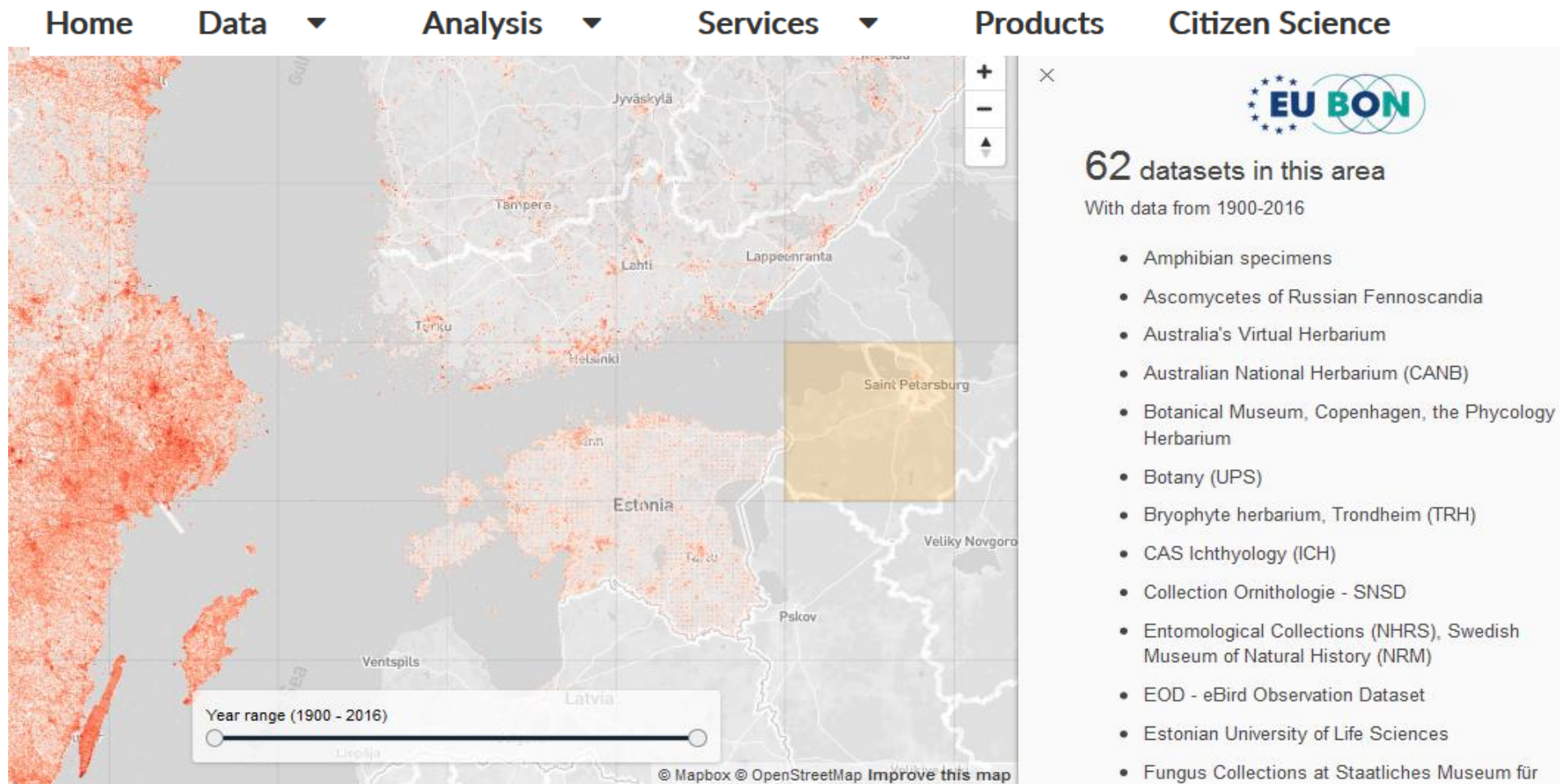
<http://beta.eubon.ebd.csic.es/home>

- offers EU BON derived products, tools and knowledge
- communication interface between biodiversity researchers, data repositories, interested communities and policy makers.
- make biodiversity data and information discoverable, accessible and digestible



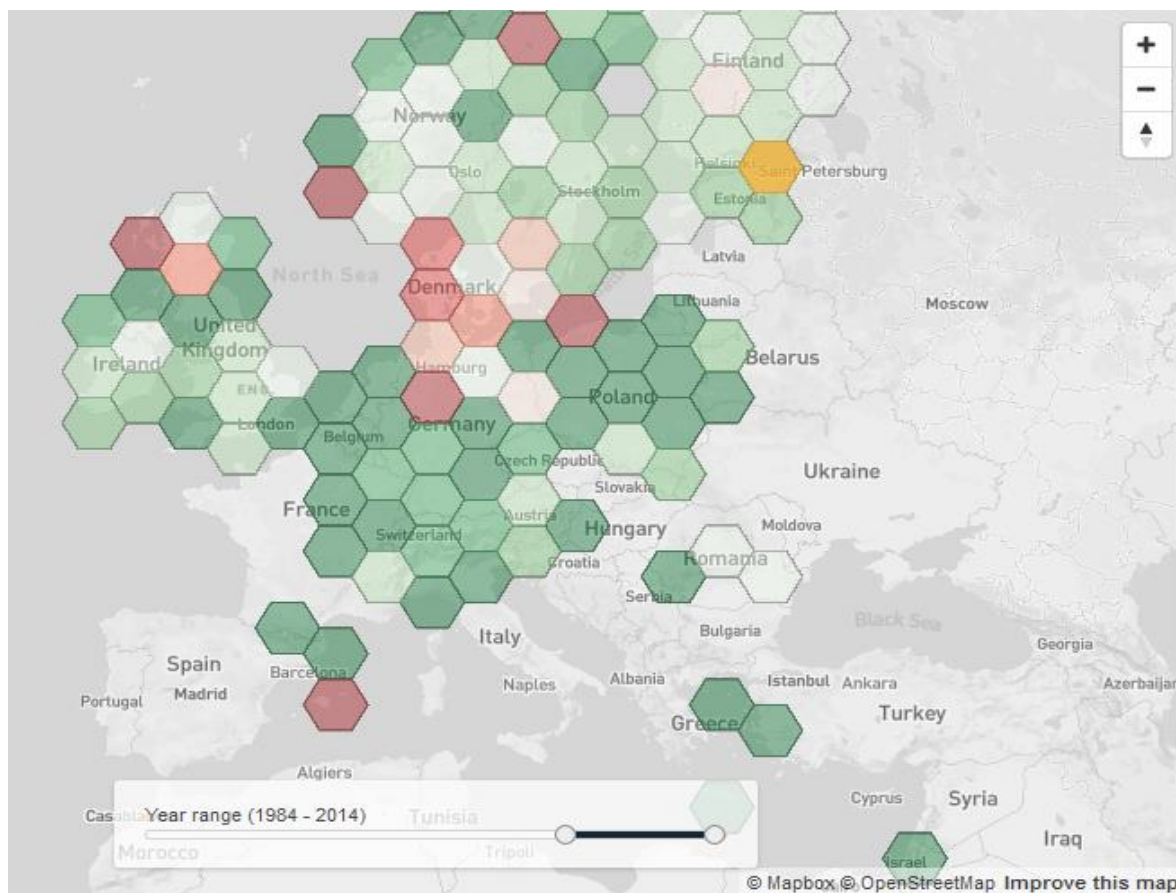


# Spatial Dataset Browser



helps to identify and access datasets of interest when generating Essential Biodiversity Variables (EBVs) for species distribution

# Species Population Trends Browser

[Home](#)
[Data ▼](#)
[Analysis ▼](#)
[Services ▼](#)
[Products](#)
[Citizen Science](#)


## Species populations trends

A pilot to explore if GBIF data supports inference of population trends. [Read full explanation](#)

1 Select a species

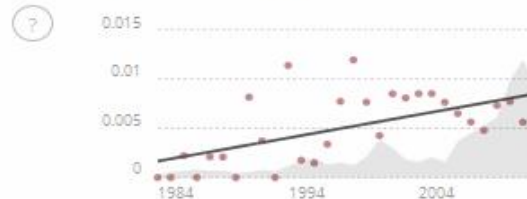
Red Admiral (*Vanessa atalanta*) ▼

Search species, e.g. *Hoplodrina ambigua*

2 Select binning Hexagons ▼ size 10 ▼

3 Select the minimum number of years of data required per location to be included:  
5 years ▼

4 Select area by clicking on the map or shift-dragging a bounding box.



helps to analyse species trends in GBIF mediated data.  
Example: the butterfly species 'Red Admiral' *Vanessa atalanta*,



# EuMon – Metadata on in-situ monitoring

EuMon [EuMon] Monitoring WP2/3

eumon.ckff.si/monitoring/

Google

**eu mon**

EU-wide monitoring methods and systems of surveillance for species and habitats of Community interest

A research project funded by the European Union

**Monitoring programs**

**Programs list** [Introduction](#)

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**Monitoring schemes available: 649 / Species: 472 / Habitats: 177**

[Click the field name to sort...](#)

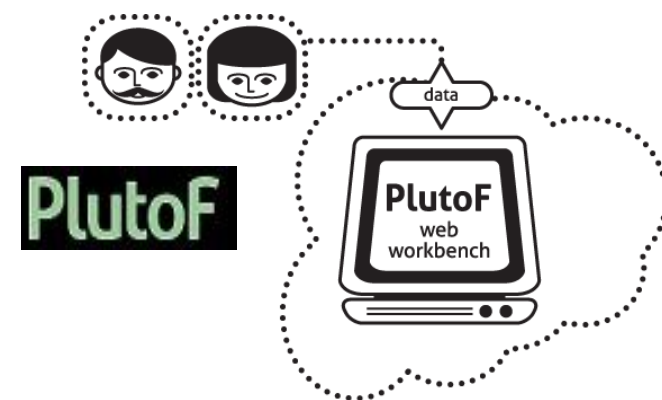
| Typed in   | Program name                                   | Coordinator              | Country     | Scheme name   |
|------------|--|--------------------------|-------------|---|
| 2014-07-04 | Global change observatory - Doñana             |                          | Spain       | Observatorio de Cambio Global - Doñana  |
| 2014-06-21 | Local Lepidoptera Monitoring                   |                          | ??          | Butterfly Transect  |
| 2014-06-21 | Local Lepidoptera Monitoring                   |                          | ??          | Biodiversity index based on light trapping  |
| 2014-05-19 | Species observation service                    | Valland Nils             | Norway      | Species occurrence mapping  |
| 2014-05-16 | European Breeding Bird Atlas 2                 | Keller Verena            | Europe wide | European Breeding Bird Atlas 2  |
| 2014-05-12 | Israel Butterflies Monitoring                  | Schwartz-Tzachor Racheli | Israel      | National Butterfly Monitoring Scheme in Israel (BMS-IL)   |
| 2013-04-26 | Lesser White-fronted Goose monitoring network  | Tolvanen Petteri         | Finland     | Monitoring of the Fennoscandian population of the Lesser White-fronted Goose (Anser erythropus) |
| 2013-04-19 | National Butterfly Recording Scheme in Finland | Saarinen Kimmo           | Finland     | National Butterfly Recording Scheme in Finland (NAFI)   |
| 2013-04-13 | Finnish Bird Nest Card Scheme                  | Lehikoinen Aleks         | Finland     | Nest card scheme  |
| 2013-04-13 | Finnish Point Counts for Landbirds             | Lehikoinen Aleks         | Finland     | Point counts of land birds  |
| 2013-04-13 | Finnish Line transect census of birds          | Lehikoinen Aleks         | Finland     | Line transect censuses  |
| 2013-04-12 | Finnish Winter Bird Censuses                   | Lehikoinen Aleks         | Finland     | Winter Bird Censuses  |
| 2013-04-12 | Finnish Winter Bird Censuses                   | Lehikoinen Aleks         | Finland     | Winter Bird Censuses  |



# In-situ data mobilisation & curation

**PlutoF** – web workbench, provides tools for the full data lifecycle in one place

- provides a module to create Citizen Science projects for biodiversity data mobilization
- it allows to manage and optimize CS workflow – for collecting, analyzing and publishing data
- data curation functionalities
- includes mobile apps for observation records
- the database is compatible with Darwin Core standards and can be published through the GBIF IPT (Integrated Publishing Toolkit)



<https://plutof.ut.ee>

Workbench for data collection and curation and to share, analyse and publish biology-related databases and projects.

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