

European Biodiversity Portal

“Develop a new portal to enable fast access to EU BON integrated data and products by researchers, decision makers and other stakeholders...”

Hannu Saarenmaa

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Cambridge, U.K.

Perspectives for data integration and interoperability

- Overall goal: “*pull together fragmented data*”, and reduce heterogeneity. How?
 - make biodiversity observations openly available,
 - following the GEOSS Data Sharing Principles,
 - under the GEOSS umbrella (network of networks)
- Bring about focus by supporting EBV data flows, and GEO BON work: Data about ***change in biodiversity***.
- Push standards: Darwin Core has been extended for monitoring data. Ensure its adoption.
- Need a hosting environment for monitoring networks’ data, services, and products.

Requirements analysis

- First specification in 2013, prototype in 2014
- Second specification March 2015
 - Under scrutiny in this meeting
- Priority functions need to be decided, including:
 - Data hosting (WP2)
 - Site-specific portal (WP5)
 - Needs of policy users (WP6/WP7)
 - How to portray EBVs
- Working with GEOSS AIP-8 on community portals
- Next prototype in November 2015
- Think now about sustainability beyond the project!



European Biodiversity Portal

Main Menu

[Home](#)

[Taxonomic](#)

[DataSet](#)

[Occurrences](#)

[Species](#)

[Admin](#)

[EUBON Portal](#)



Content

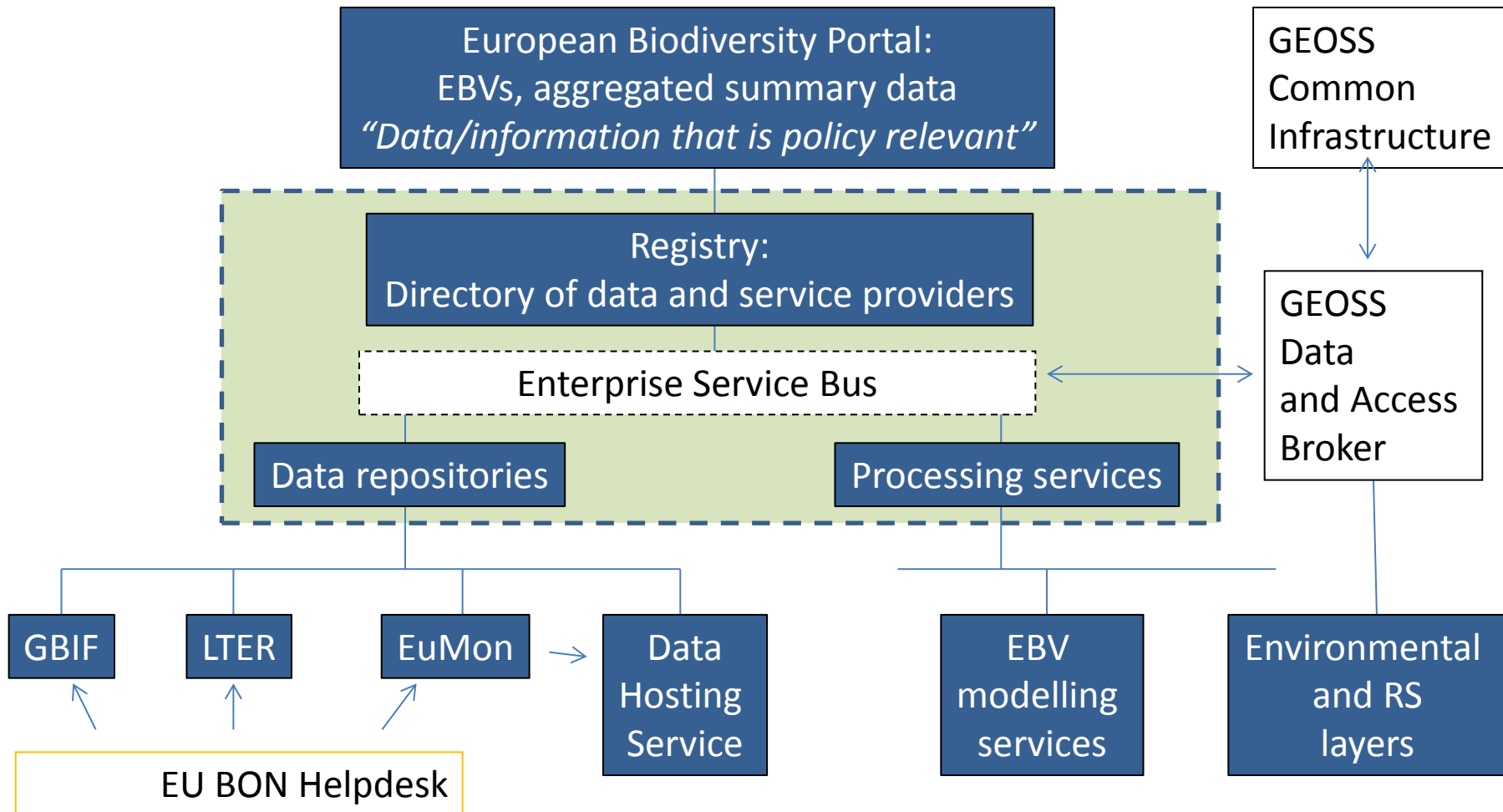
Content Filter

Category:

any



Main information system components



Registry is the key

- Based on the registry specification, 19 tasks have been distributed to Task partners
- Integrating registries of major projects (GBIF, KNB/DataONE, DEIMS, EuMon, ...)
- Connect any prioritised remotely sensed data catalogues
- Install and configure an instance of GI-cat (GEOSS data access broker)
- Explore Knowledge Organisation Networks (Biodiversity Collection Ontology, etc.)



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

Print Login

Page: 1 2 3 4 5 6 7 8 9 10 11 12 13

Search the database

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

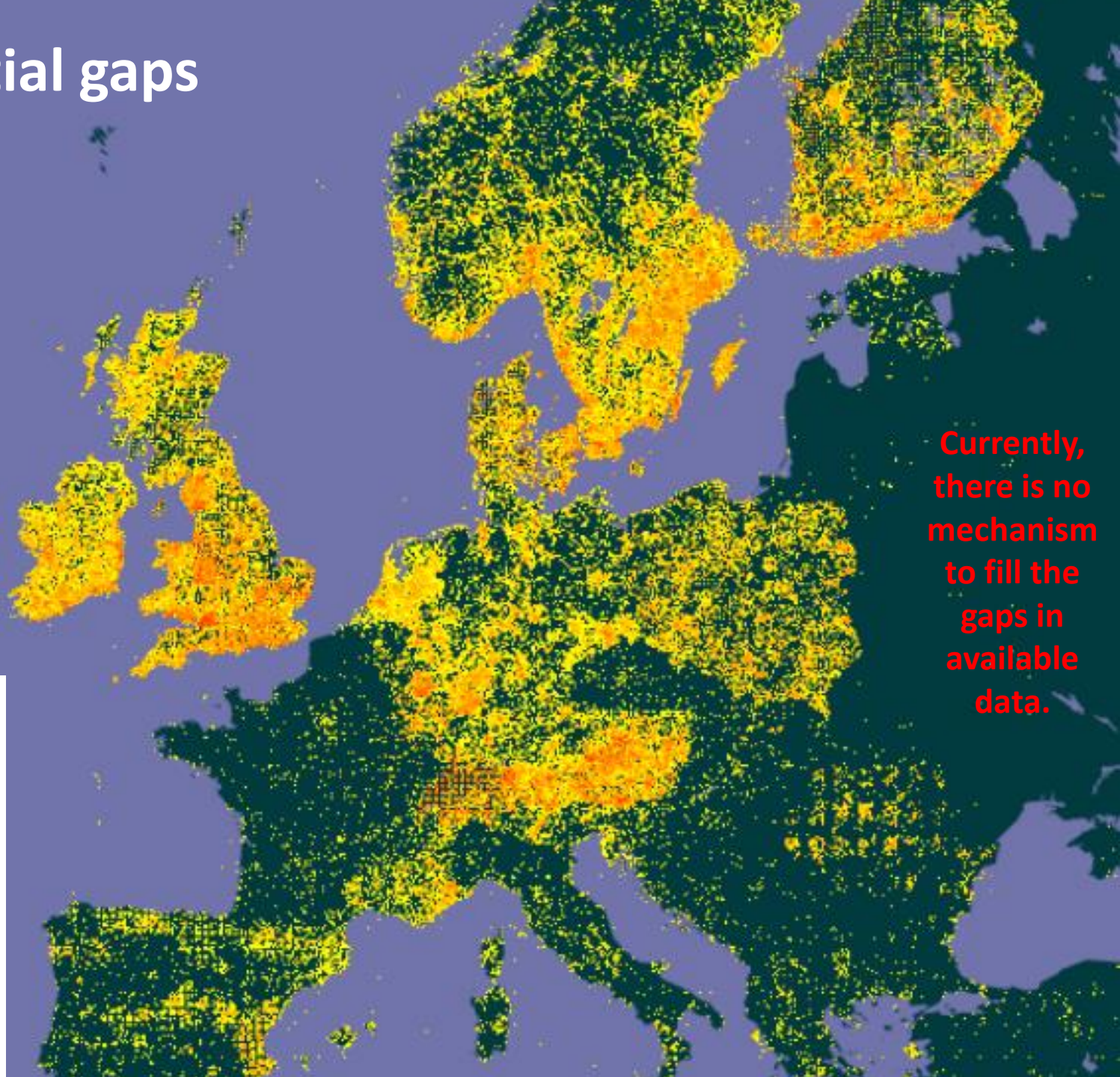
Click the field name to sort...

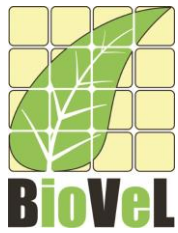
Typed in	Program name	Coordinator	Country	Scheme name
2014-07-04	Global change observatory - Doñana		Spain	Observatorio de Cambio Global - Doñana
2014-06-21	Local Lepidoptera Monitoring		??	Butterfly Transect
2014-06-21	Local Lepidoptera Monitoring		??	Biodiversity index based on light trapping
2014-05-19	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 Aleksi	Finland	Nest card scheme
2013-04-13	Finnish Point Counts for Landbirds	Lehikoinen Aleksi	Finland	Point counts of land birds
2013-04-13	Finnish Line transect census of birds	Lehikoinen Aleksi	Finland	Line transect censuses
2013-04-12	Finnish Winter Bird Censuses	Lehikoinen Aleksi	Finland	Winter Bird Censuses
2013-04-12	Finnish Winter Bird Censuses	Lehikoinen Aleksi	Finland	Winter Bird Censuses

Spatial gaps

11 million records of available data on Lepidoptera from GBIF showing gaps, errors, and differences in protocols

Currently, there is no mechanism to fill the gaps in available data.

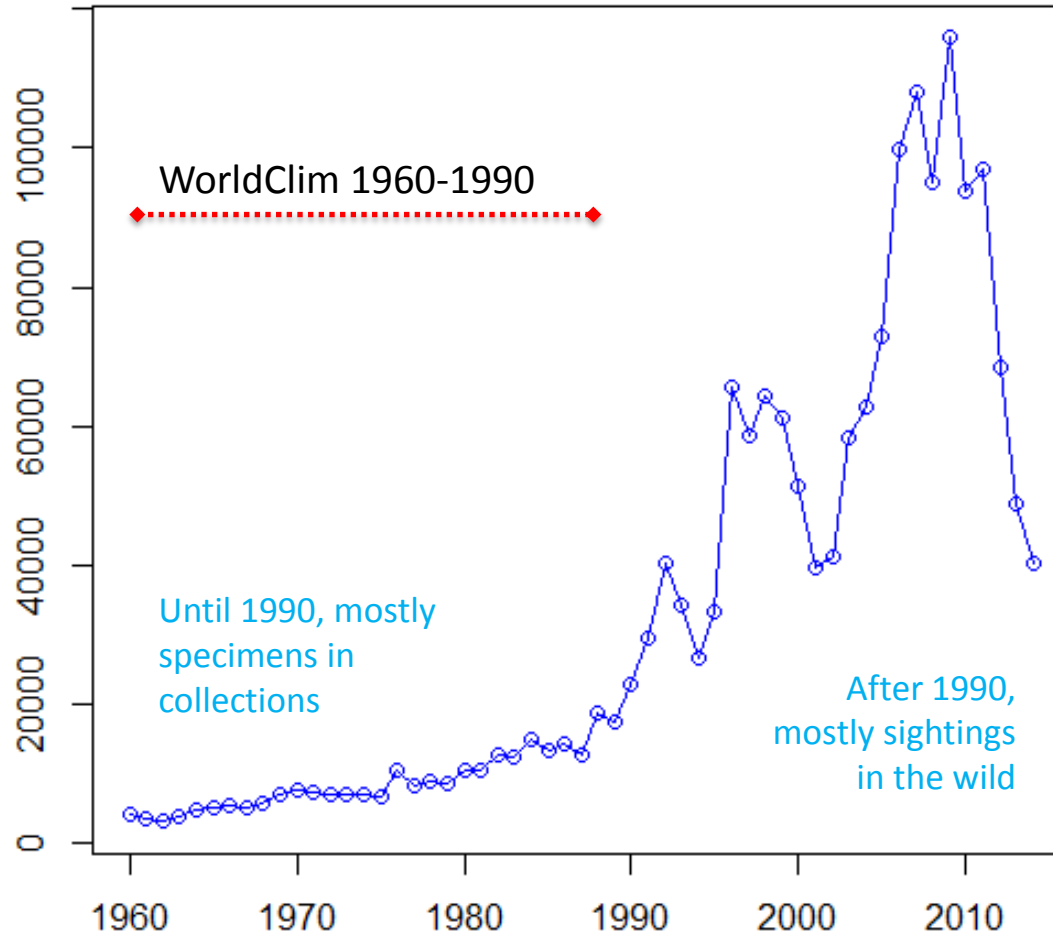




Temporal gaps

Ongoing research on how to normalize biases inherent in heterogeneous opportunistic big data, and reason abundance from occurrence.

Number of unique occurrences of all butterflies in Europe in 1960-2014



4.6 million records from



Need: Mechanism to fill the gaps in available data

- With a solid registry system behind it, the portal can provide a function no other organisation fills at the moment.
- Use metadata of monitoring schemes (~2000).
- **Data-on-demand**

[Click here to see who has this data...](#)

Example:

	Country A	Country B	Country C	...
Lepidoptera	3,000,000	500,000	250,000	
Coleoptera	0	1,000,000	100,000	
Diptera	20,000	10,000	0	
...				

Data hosting in EU BON?

- Do not build a separate network. Instead, build on GBIF network of data providers, but enable their functions for sample-based monitoring data. That means:
 1. Extend Darwin Core to cover sample-based data. **DONE**
 2. Implement the new elements in data existing data sharing tools. **DONE**
 3. Campaign to approach monitoring programmes to share their data, using standards.
 4. Invent mechanisms to fill the gaps (spatial, temporal, taxonomic coverage, EBV classes) on-demand.

Being part of GEOSS...

Access to environmental background data is critical for modelling.

GEOSS should provide this service.

Wide selection of well-documented environmental layers is wanted by users. Go beyond WorldClim 1960-1990.

Working with GEO BON, BioVeL.

The screenshot shows a web browser window with the URL `portal.biovel.eu/runs/3857`. The main heading is "Run Interaction". Below it is a "Select layers to create the model" section. A tree view shows the following structure:

- oM Server
 - layers
 - marine
 - terrestrial
 - climate
 - europe
 - eurolst
 - present
 - bioclim
 - 250m
 - global
 - worldclim
 - present
 - bioclim
 - 10arc-minutes
 - bio 01 - Annual Mean Temperature

A "Submit selected layers" button is visible at the bottom of the tree view.

The screenshot shows the website `gis.cri.fmach.it/eurolst-bioclim/`. The header includes the logo of the "FONDAZIONE EDMUND MACH" and a search bar. The main content area is titled "EuroLST BIOCLIM" and features a grid of 11 maps (BIO1 to BIO11) showing European LST maps. Below the maps is a "News" section with a post titled "Landsat 8 captures Trentino in November 2014".

BIOCLIM derived from reconstructed MODIS LST at 250m pixel resolution

BIOCLIM-like European LST maps following the "Biodim" definition (Hutchinson et al., 2009) - derived from 10 years of reconstructed MODIS LST (download to be completed) as GeoTIFF files, 250m pixel resolution, in EU LAEA projection:

- BIO1: Annual mean temperature ($^{\circ}\text{C} \cdot 10$): [eurolst_clim.bio01.zip](#) (MD5) 72MB
- BIO2: Mean diurnal range (Mean monthly (max - min tem)): [eurolst_clim.bio02.zip](#) (MD5) 72MB
- BIO3: Isothermality ($(\text{bio2}/\text{bio7}) \cdot 100$): [eurolst_clim.bio03.zip](#) (MD5) 72MB
- BIO4: Temperature seasonality (standard deviation * 100): [eurolst_clim.bio04.zip](#) (MD5) 160MB
- BIO5: Maximum temperature of the warmest month ($^{\circ}\text{C} \cdot 10$): [eurolst_clim.bio05.zip](#) (MD5) 106MB
- BIO6: Minimum temperature of the coldest month ($^{\circ}\text{C} \cdot 10$): [eurolst_clim.bio06.zip](#) (MD5) 104MB
- BIO7: Temperature annual range ($\text{bio5} - \text{bio6}$) ($^{\circ}\text{C} \cdot 10$): [eurolst_clim.bio07.zip](#) (MD5) 132MB
- BIO10: Mean temperature of the warmest quarter ($^{\circ}\text{C} \cdot 10$): [eurolst_clim.bio10.zip](#) (MD5) 77MB
- BIO11: Mean temperature of the coldest quarter ($^{\circ}\text{C} \cdot 10$): [eurolst_clim.bio11.zip](#) (MD5) 78MB

Each ZIP file contains the respective GeoTIFF file (for cell value units, see below), the color table as separate ASCII file and a README.txt with details.

WMS/WCS Server

Using this URL, you can read the EuroLST BIOCLIM data directly via OGC WMS and WCS protocol:

`http://geodati.fmach.it/production/ows_europe_lst`

Join GEO BON in building BON in a Box

Your toolbox for successful biodiversity monitoring.



www.geobon.org

► What is BON in a Box?

GEO BON helps you to build the biodiversity monitoring system needed for your CBD and national reporting.

BON in a Box is a regionally customizable and continually updated online toolkit. It facilitates the start-up or enhancement of your biodiversity observation systems.

BON in a Box will give governments a common and scientifically sound set of biodiversity variables, monitoring methods and guidelines, mapping software, and data management, analysis and reporting tools and platforms. The development of **BON in a Box** represents a partnership of the world's major international biodiversity organizations.



Contributions needed

- The Portal is now at critical stage of development.
- User involvement in prioritising the next set of requirements (for the next prototype release in November).
- Come hear more details of the portal, and let us know what you think
 - “Modules” 4,5,8 this afternoon