Introduction to EU BON
- objectives and challenges -

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SEVENTH FRAMEWORK
PROGRAMME

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EU BON - Building the European Biodiversity Observation Network

– general overview -

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SEVENTH FRAMEWORK PROGRAMME

EU BON - key information

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)

- **Project start:** 1st December, 2012
- **Duration:** 54 months (until May 2017)
- **Project coordination:** MfN
- **Consortium:** 30 partners (18 countries)
- **Budget:** 11,6 mio Euro, <9 mio Euro EC contribution

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EU BON Partners

Map: Johannes Penner

EU BON characteristics

Key feature of EU BON:

Delivery of **integrated**, near-real-time **relevant data** – both from **on-ground** observation (terrestrial, freshwater, marine) and **remote sensing** – to the various stakeholders and end users ranging from local to global levels.
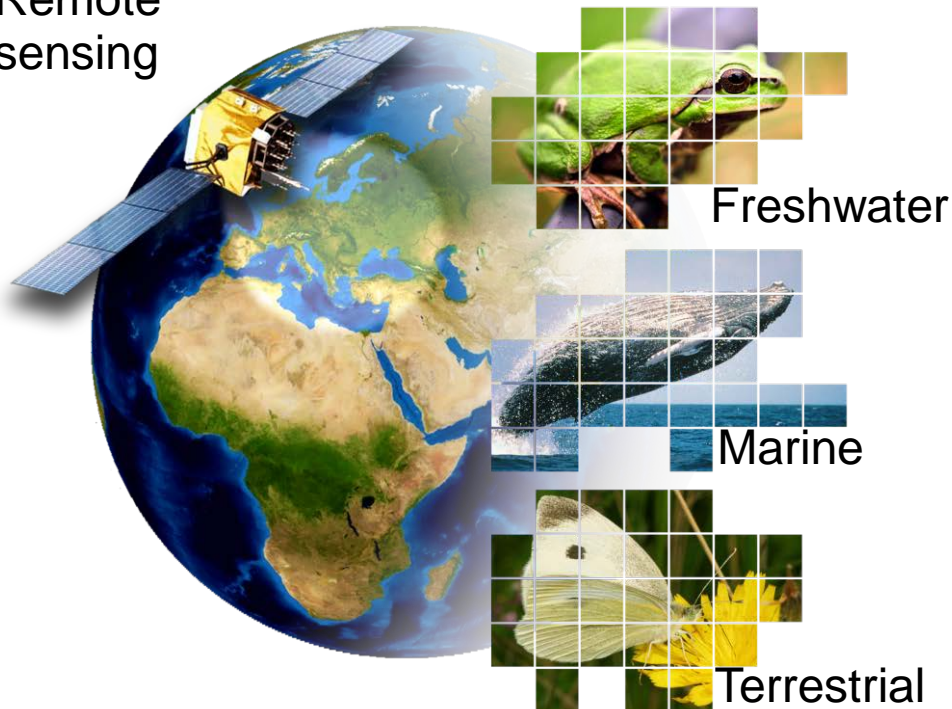
Main objective of EU BON:

Build a **substantial part of** the **Group on Earth Observation's Biodiversity Observation Network** (GEO BON),

also in light of the new Intergovernmental science-policy Platform on Biodiversity and Ecosystem Services (**IPBES**).

The Challenge:
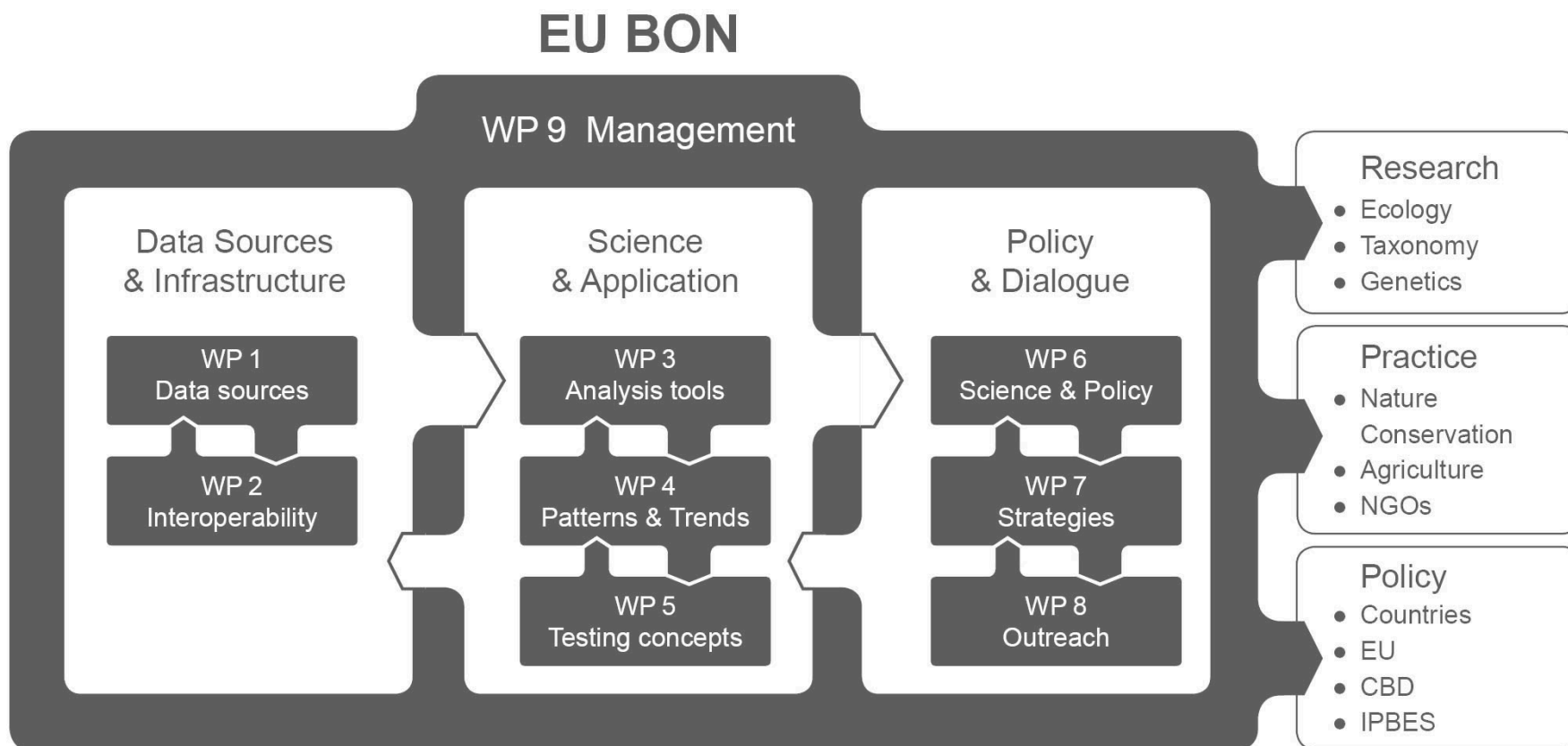# Integration of Biodiversity Information

Remote sensing

Freshwater

Marine

Terrestrial

Further Challenges:

+ **Data Standards, Data Interoperability**
+ **Analysis Tools, Patterns and Trends**
+ **Common Monitoring Schemes**
+ **Testing Concepts**
+ **Science Policy Interface**
+ **Dissemination**

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EU BON Workflow und Organization

EU BON Work Packages

WP1: **Data sources**: requirements, gap analysis & data mobilization
[University Tartu];

WP2: **Data integration** & **interoperability** *[Univ Eastern Finland - Digitarium]*;

WP3: Improving **tools** and **methods** for data analysis & interface *[Univ Leeds]*;

WP4: Link environment to biodiversity: **analyses** of patterns, processes & trends *[UFZ]*;

WP5: EU BON **testing** and **validation** of concepts, tools, and services *[CSIC]*;

WP6: **Stakeholder** engagement & science-policy dialogue *[Univ Cambridge]*;

WP7: Implementation of GEO BON: **strategies** & solutions at European (& global) levels *[CNRS: IMBE]*;

WP8: **Dissemination** and outreach *[Pensoft]*;

WP9: Consortium **management** & organization *[MfN]*.

EU BON output and products (1)

➢ **Gap analysis** for available data layers

➢ **Strategies** for targeted **data mobilization**

➢ **Data standards** for advancing **interoperability**

➢ New **European Biodiversity Portal**

➢ **Software tools** for improved recording / mapping of habitats, species distributions and patterns

➢ Improved **models** for impacts of different drivers on abundance & distribution

➢ **Guidelines** for integrated **monitoring schemes**

➢ Results & lessons learnt from operating **EU BON test sites:** for global network of GEO BON sites

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EU BON output and products (2)

➢ **Review of policy & (other) stakeholder requirements** for use of integrated biodiversity data

➢ Improved **visualization and public interface software**

➢ Recommendations for future integrated **national / regional biodiversity information infrastructures** (BIFS / BONS), including business plan

➢ Blueprint for a **global biodiversity monitoring scheme / infrastructure**

➢ Contribution to **IPBES** (information) needs at European and national levels

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Linkage to projects and processes

EU BON – LTER linkages

1. Services/support by LTER-Europe

What/how specific services/support should LTER-Europe provide in helping EU BON to achieve it's targets?

• **Lessons learnt** from the LTER-approach (proposing/implementing: monitoring efforts/standards, technical infrastructure, establishing of a functioning network of testing sites, sustainability challenges/issues)

• **(Ecological / Ecosystem) standards & indicators** that LTER could provide
  – how are they harmonized across LTER sites?

• **LTER (sites) as data provider(s) within GEO / EU BON**
– what (pre-) requisites are needed for seemless/full integration in EU BON portal?

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2. Key products of LTER-Europe

What/how products should be the key products of LTER-Europe as a multifunctional network?

• **Central Metadatabase** on ecological / environmental information, including open access for research and modeling (indicators, trends in populations /ecosystem services, etc).

• LTER as an **important data provider,** especially for long term datasets (LTER sites), also as a European network for early warning function (by first/early detecting / signaling new and important trends or changes in biodiversity)

• Open questions: How is data integration within LTER achieved?
How could LTER data be more effectively linked to larger / international scale biodiversity information schemes (GBIF, GEOSS)?

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3. Functional niche LTER-Europe

What/how functional niche do we see for LTER-Europe in the mid- to long-term in the European research area?

• **Central network of sites** that should be expanded, reference points for biodiversity information & monitoring(!) in order to obtain long-term datasets.

• Data could be used to **back up existing data on larger scales**. Data may therefore be integrated for indicators via EU BON, which should be valid for larger scales.

• LTER-Europe should also provide **experience and recommendations on how (long term) standardized biodiversity monitoring could take place** in Europe for the biodiversity 2020 targets.

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4. Interfaces/cooperations with LTER-Europe

What/how interfaces/co-operations with LTER-Europe should be improved or established (and how)?

• Further **cooperation with the EU BON testing sites** – data sharing, common technical solutions (data upload, storage and dissemination, e.g. EU BON testing sites already using LTER tools to upload metadata), using and improving common monitoring standards.

• LTER-Europe could participate in tasks foreseen in **WP3 and 4 of EU BON**, and data should be brought in for **WP1 and 2**.

• A connection would need to be established that allows **easy transfer or exchange of ideas in the EU BON project**. The exchange may allow LTER to develop towards a scientifically oriented global network, with strong data connections of biotic and abiotic data sets, something which is missing in most biodiversity monitoring programs.

5. Division of tasks LTER-Europe / EU BON

What division of tasks between LTER-Europe and EU BON would be ideal?

• **EU BON testing sites** (division of task is already planned)
=>LTER provides platform, standards and tools to upload/transform metadata
=>Testing sites adapting data to standards and uploading information

• **Online services for biodiversity data**
=>EU BON delivers the technological infrastructure (data portal)
=>in close cooperation with LTER-Europe developing an "ecology" module/ standard (+ indicators/EBVs ..?)

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Ideas/suggestions for future cooperation

- **Integration of databases** to make them useful for pan-European Studies; curation + sustainability of databases

- **Dedicated data mobilization**. Analysis of current gaps of knowledge, determining recommendations for closing the gaps (= EU BON **WP1**).

- **EU BON WP2** and the further development of the Thesaurus (EnvThes) to identify common targets among study sites and for monitoring.

- **Use data sources** from **LTER sites** with their long-term biodiversity datasets (+ environmental variables) to model / evaluate trends in species distribution and global change processes, part. at different scales (= EU BON **WPs 3 +4**)

- Integrating LTER sites and EU BON testing sites (**WP5**)

- **Testing of EU BON products & services** at/for specific LTER sites

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Thank you very much for your attention!

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