GEO EUROPEAN PROJECTS' WORKSHOP-7

Barcelona
15-16 April 2013

GROUP ON EARTH OBSERVATIONS

EU BON

EU BON - Integration of biodiversity data for Europe

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museum für naturkunde

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Global challenges:

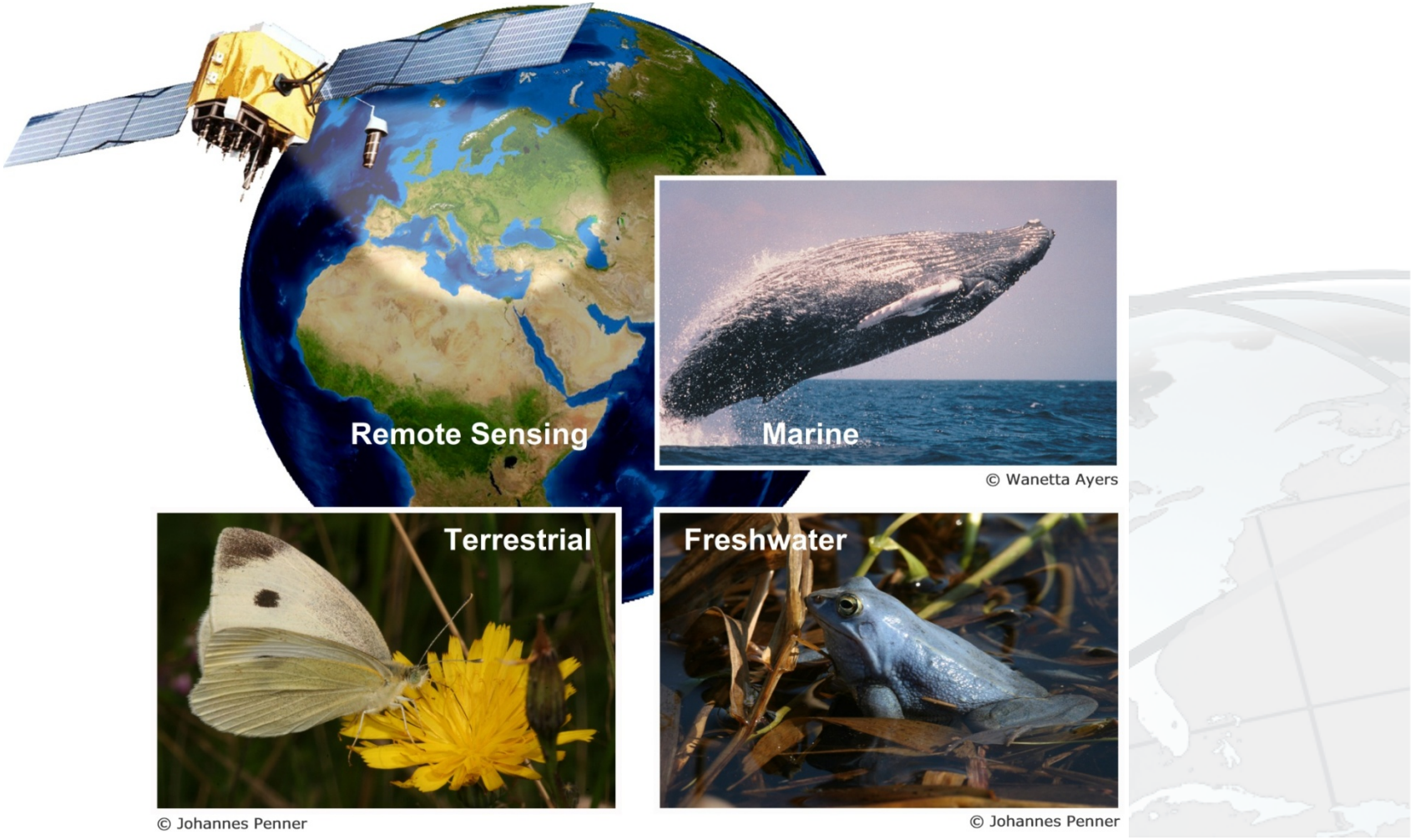
- The **big** issues:
  - Biodiversity,
  - Climate,
  - Water & Food,
  - Poverty.

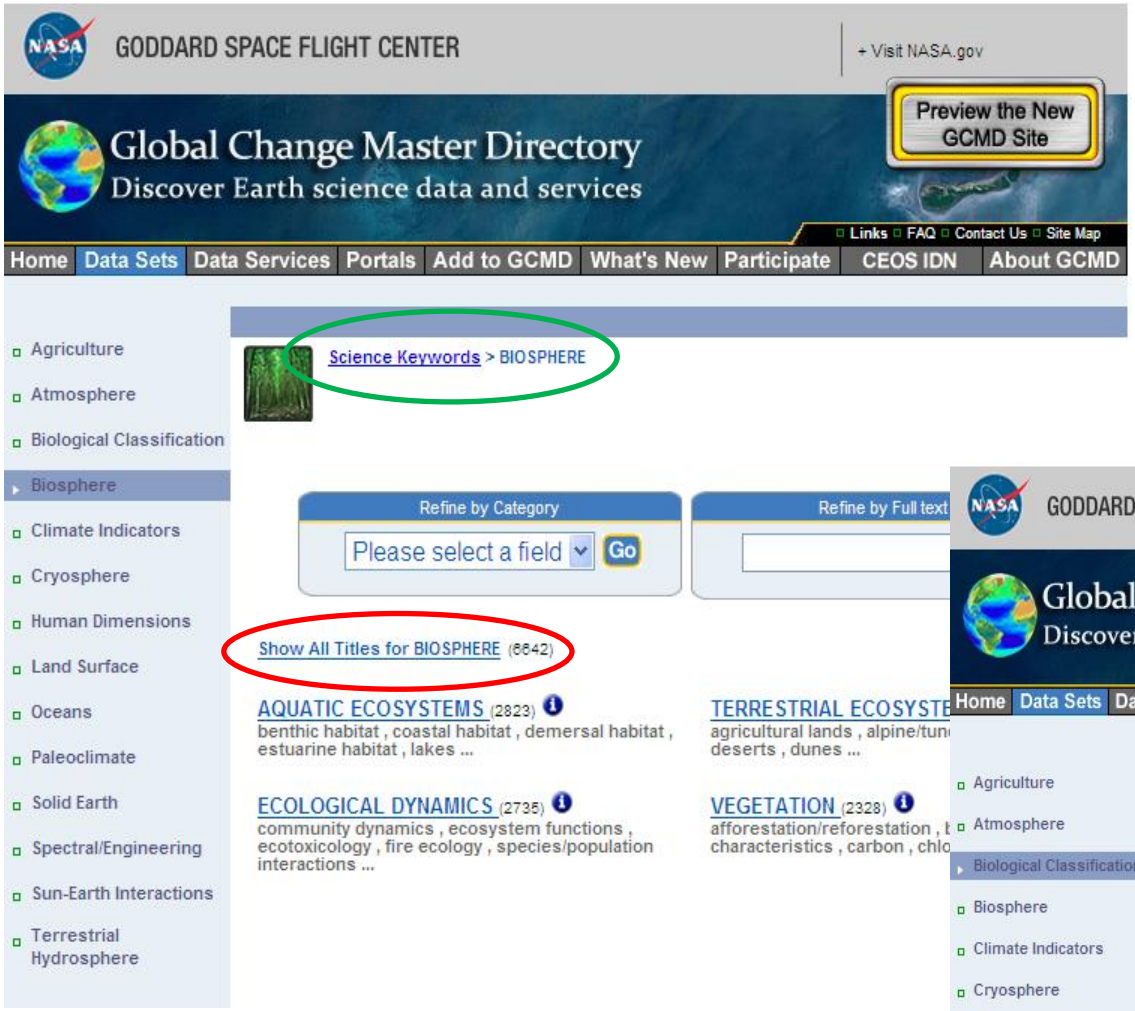
- The *Knowledge Society* is based on science and technology,
- i.e., the availability of sound & reliable scientific data, analysis and tools

The *real* threat: biodiversity loss

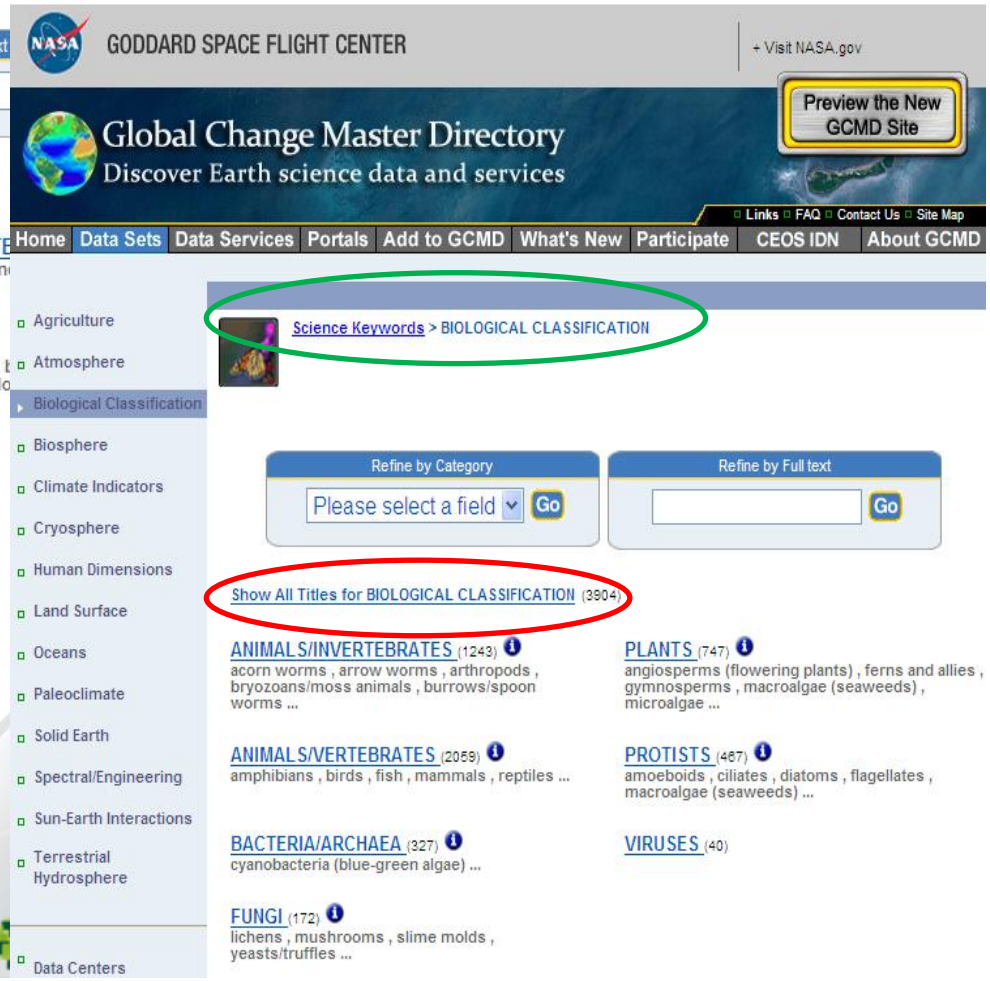
- **Mammals:** [IUCN „red lists“ - www.iucnredlist.org]
  - (1990): threatened + endangered: 647 spp.
  - (2008): threatened (CR, EN, VU): 1141 spp.
  - (2012): threatened (CR, EN, VU): 1139 spp.
  - **(= 23% of all mammal species known)!**
- **Reptiles:**
  - (1990) : threatened (+ endangered): 207 spp.
  - (2003) : threatened: 293 spp.
  - (2008) : threatened: 423 spp.
  - (2012) : threatened: 807 spp.
- **Increases from: 2000 - 2003 - 2008**
  - plants: 5,611 : 6,774 : 8,457 spp.
  - vertebrates: 3,507 : 3,524 : 5,966 spp.
  - invertebrates: 1,928 : 1,959 : 2,496 spp.
- n.b.: **insects** (= 950,000 spp.): only 0.02% of all insect species could yet be evaluated!!

The challenge: diversity & fragmentation of bio*diversity* data





NASA GC directory:
http://gcmd.nasa.gov



For „biosphere“ & „biol. classifications“
>10.000 online data sources /
systems listed in this registry !!

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EU BON project – key information

EC *FP7 - Cooperation Theme 6: Environment (incl. climate change)* (*ENV.2012.6.2-2):* *Assessing global biological resources: the European contribution to GEO BON*

EC funding mechanism: Collaborative Project
Project start: 1st December, 2012
Duration: 54 months (48 + 6)
Consortium: 30 partners (18 countries)
Budget: 11,6 mio Euro, <9 mio Euro EC contribution

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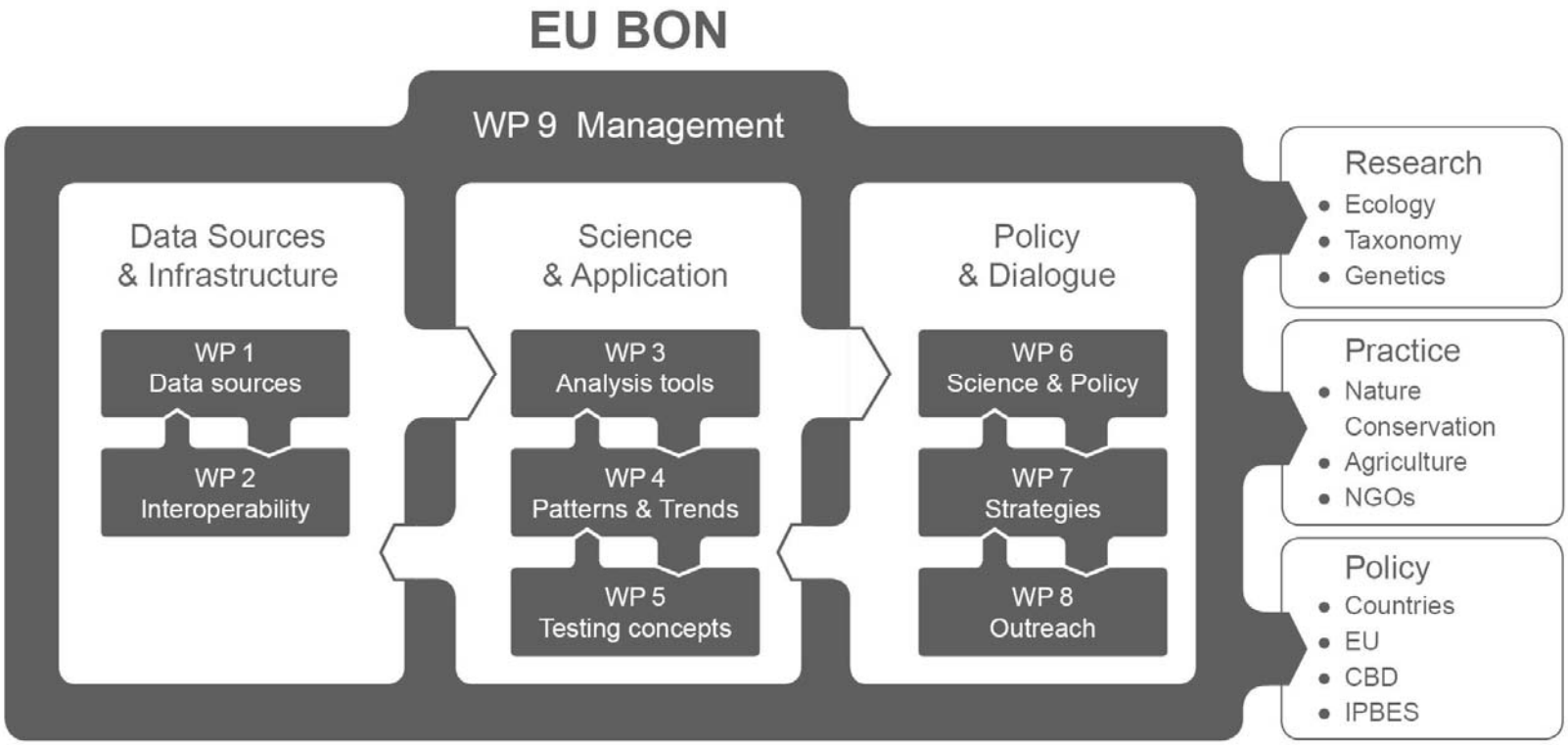
EU BON consortium partners

- Museum für Naturkunde, Berlin (MfN) – Germany
- University of Tartu (UTARTU) – Estonia
- University of Eastern Finland (UEF) – Finland
- Global Biodiversity Information Facility Secretariat, Copenhagen (GBIF) – Denmark
- University of Leeds (UnivLeeds) – UK
- Helmholtz Centre for Environmental Research, Leipzig / Halle (UFZ) - Germany
- The Spanish National Research Council: MNCN, Madrid (CSIC) – Spain
- University of Cambridge (UCAM) – UK
- Centre National de la Recherche Scientifique (CNRS: IMBE) – France
- Pensoft Publishers, Sofia – Bulgaria
- Senckenberg Research Institute and Natural History Museum, Frankfurt (SGN) - Germany
- Vizzuality, Madrid – Spain
- FishBase Information and Research Group (FIN), Los Banos – Philippines
- Hellenic Centre for Marine Research, Iraklion (HCMR) – Greece
- The Natural History Museum, London (NHML) – UK
- Freie Universität Berlin (FUB: BGBM) – Germany
- University of Copenhagen (UCPH) – Denmark
- Royal Museum for Central Africa, Tervuren (MRAC) – Belgium
- Plazi, Bern – Switzerland
- GlueCAD Ltd. , Haifa – Israel
- Institute for European Environmental Policy (IEEP) – UK
- Instituto Nacional de Pesquisas da Amazônia (INPA), Manaus – Brazil
- Swedish Museum of Natural History (NRM), Stockholm – Sweden
- Institute of Botany, Slovak Academy of Sciences (IBSAS), Bratislava - Slovak Republic
- European Bird Census Council (EBCC) – Spain
- Norwegian Biodiversity Information Centre (NBIC) – Norway
- Edmund Mach Foundation (FEM)– Italy
- TerraData environmetrics – Italy
- European Academy of Bolzano (EURAC) – Italy
- UNEP World Conservation Monitoring Centre (WCMC) , Cambridge – UK

EU BON work packages (8 + 1)

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 workflow / organization



EU BON characteristics

- A key feature of EU BON will be the delivery of integrated, near-real-time relevant data – both from on-ground observation and remote sensing – to the various stakeholders and end users ranging from local to global levels.

This will require:

- (1) the establishment and adoption of new data standards and integration techniques,
- (2) harmonized data collection and management,
- (3) the development of new approaches and strategies for future biodiversity monitoring and assessment,
- (4) providing practical indicators and interpretation tools for end-users - from, e.g., agriculture to nature conservation.

Overall goals of EU BON

- Enabling greater interoperability of data layers & systems
- Advancing data integration
- Increasing data mobilization (from science and society)
- Harmonizing and mainstreaming biodiversity recording and monitoring schemes
- Improving analytical tools and services
- Supporting (biodiversity) science policy interfaces
- Linking integrated information to relevant stakeholders
- Strengthening European capacities and infrastructures for environmental information management

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Main *objective* of EU BON
=> building a *European* contribution to ***GEO BON***

The main objective of EU BON is to 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**).

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Expected **EU BON** contributions to **GEO WP** / tasks:

IN-01 Earth Observing Systems (C1)
IN-02 Earth Data Sets
IN-03 GEOSS Common Infrastructure

ID-01 Advancing GEOSS Data Sharing Principles
ID-02 Developing Institutional and Individual Capacity (C1, C2)
ID-03 Science and Technology in GEOSS

SB-01 Oceans and Society: Blue Planet (C1, C2)
EC-01 Global Ecosystem Monitoring
BI-01 Global Biodiversity Observation (GEO BON)

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Possible **EU BON** contributions to **GEO BON** detailed implementation plan:

WG1 [Genetic & phylog. diversity]: **EU BON WP**s 1, **3, 4,** 5

WG2 [Terrestrial species]: **EU BON WP**s 1, **4, 5, 7**

WG3 [Terrestrial ecosystems]: **EU BON WP**s 1, **3**, **4,** 5

WG4 [Freshwater ecosytems]: EU BON WPs 1, 5

WG5 [Marine ecosystems]: **EU BON WP**s 1, **3, 5**

WG6 [Ecosystem services]: EU BON WPs 4, 5, 7

WG7 [Integr. of *in situ* & remote]: **EU BON WP**s **1, 2**, 5, **7**

WG8 [Data interoperability]: **EU BON WP2** + WPs 1, 5, 8

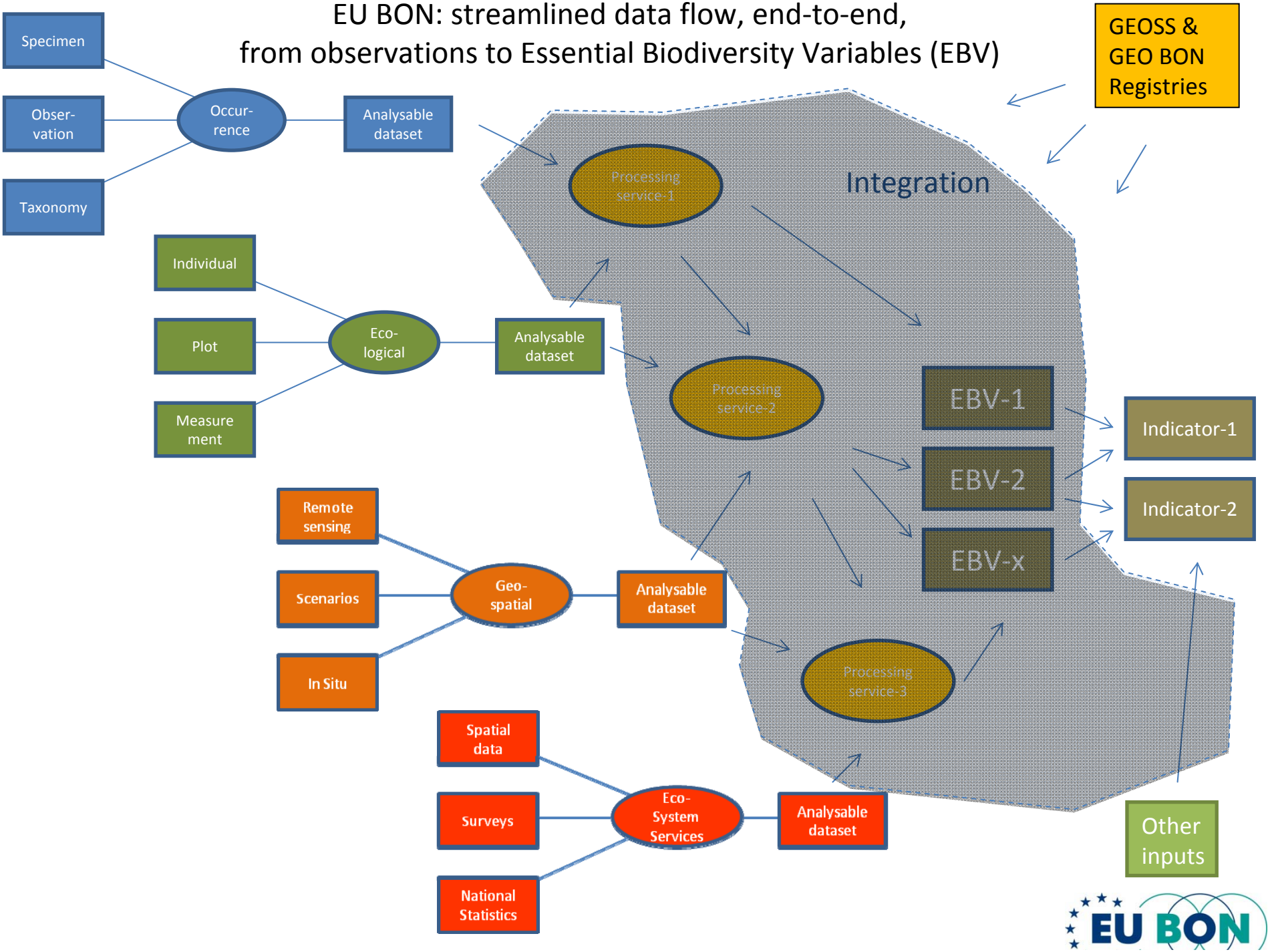
EU BON outputs and products (1)

- **gap analysis** for available data layers at different scales, mainly in/for Europe (WP1)
- **strategies** for targeted **data mobilization** (WP1)
- new and improved **data standards** for advancing **interoperability** (WP2)
- new, scalable/customized **European Biodiversity Portal** (WP2 / WP8)
- **software tools** for improved recording / mapping of **habitats, species distributions** and **patterns** (WP3)
- Improved **models** for impacts of different drivers on abundance & distribution, applicable at different scales (WP4)
- **guidelines** for improved, integrated **monitoring schemes** at different scales / levels (WP4)

EU BON outputs and products (2)

- results & lessons from **operating EU BON** test **sites:** template and recommendations for **global network** of **GEO BON sites** (WP5)
- **review of policy & (other) stakeholder requirements** for use of integrated biodiversity data (WP6)
- develop & provide improved **visualization and public interface software** (WP6)
- recommendations for future integrated **national / regional biodiversity information infrastructures** (BIFS / BONS), including business plan (all, WP7)
- blueprint for a **global biodiversity monitoring scheme / infrastructure** (all, WP7)
- contribute to **IPBES** (information) needs at European and national levels (WP6 / WP7)

EU BON: streamlined data flow, end-to-end, from observations to Essential Biodiversity Variables (EBV)



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Symposium and EU BON KickOff meeting

Berlin, February 11-15

Symposium : “Nature and Governance: Biodiversity Data, Science, and the Policy Interface“

Topics (16 invited speakers, >120 participants)

- Which data does policy need?
- The future of biodiversity information: new ways for generating, managing, and integrating biodiversity data
- How new approaches can link scales and disciplines
- Broadening the base: new ways to engage the public and stakeholders in biodiversity monitoring and assessments

WP8 Dissemination and outreach

- EU BON website, online libraries and Internal Communication Platform established
- EU BON introductory leaflet
- EU BON logo and templates
- 3 EU BON related press releases
- EU BON poster and partner posters
- Poster about Data Papers as Incentives for Opening Biodiversity Data
- 18 news and 28 events announced on the website

First WP5 Meeting at the EU BON test site Doñana

2-4 April 2013

Goal:

- Sharing data resolution and format among testing sites
- Build a draft on principles and guidelines for establishing and operating EU BON test sites

Participants:

- 23 people from 10 institutions (6 countries) met in the field station of the CSIC, Doñana Biological Station, Spain

EU BON Task Groups are getting established

Informatics and Data Standards Task Force (ITF)
1st Meeting: ***29-31 May 2013***, Trondheim (Norway)
Coordination by WP2 (Data Integration & Interoperability; Lead: Hannu Saarenmaa)

- Getting to know GEOSS and GEO BON
- Detailed discussion and group work on the EU BON WP2 tasks
  - Architectural design – how to integrate with GCI, LifeWatch, and other networks
  - EU BON portal
  - Review and guidelines for using data standards
  - Data sharing tools – how to cover more data types and implement wider standards
  - Gap analysis and priorities for filling identified gaps in data coverage and quality – WP1
  - Registry and metadata catalogue
  - Helpdesk and training programme

Policy/Stakeholder Round Table
1st Stakeholder Round Table: ***17-18 June 2013***, Brussels (Belgium)
Coordinated by WP6 (Stakeholder Engagement & Science-policy Dialogue; Rob Doubleday)

- Expectations from the EC
- Gap-analysis with regard to the European Biodiversity Strategy and its indicators
- The contribution of EU BON to support the EC with regard to IPBES
- Perspectives for citizen science

Thanks very much for your attention

and

to all EU BON partners & supporters !!

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