



NEWSLETTER

Issue 5



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Table of contents:

Welcoming words by the EU BON coordinator	2
Hot from the project	3
EU BON at international meetings	5
Our new friends	6
EU BON publications	8
Future events of interest	11
EU BON website and contacts	12



Welcoming words by the EU BON coordinator

Dear Friends,

August is the month for vacations, so at its end it seems quite the right time to give an update of what we have achieved in EU BON so far, and set sail to another period of hard work beginning with September.

The last six months have been an intensive period of work for our project and we are happy to share a good amount of news about project meetings, new partners and latest publications.

We had our General Meeting taking place from 1 to 4 June 2015, in Cambridge, UK. This successful meeting was marked by discussions about the future development of the project. Among a large number of task meetings held, one workshop was paving the way towards the Data Publishing & Dissemination Toolbox, as one of the project's outcomes.

During this period our family has also grown with two new official project partners – the University of Granada (UGR), Spain, and Simbiotica, Spain. We also signed Memoranda of Understanding with four additional associated partners – the Institute of Geosciences and Earth Resources of the National Research Council of Italy (IGG-CNR), German Federation for Biological Data (GFBio), and two new EU projects: ECOPOTENTIAL – Improving Future Ecosystem Benefits through Earth Observations and GLOBIS-B – GLOBal Infrastructures for Supporting Biodiversity research.

With the advancement of scientific research, our project has also experienced a boom of publications, both in the scientific and public fields. EU BON was featured in the Commission's Success Stories. The project has been also published in the Parliament Magazine with an infographic called "*What may happen to bony fishes in the North Sea?*". A number of EU BON journal papers were also released during the last six months.

We are now looking forward to the next period to build on our existing work and exchange new ideas with colleagues and the public. Important events such as the third EU BON Stakeholder Roundtable in autumn 2015 and the 10th GEO European Projects Workshop 2016 in Berlin will be among the activities planned for EU BON in the near future.

You can find more information about these topics and many more in this 5th issue of our newsletter.

Enjoy the reading!

With best wishes,

Christoph Häuser & Anke Hoffmann

EU BON website: www.eubon.eu





Hot from the project

EU BON General Meeting 2015: Working towards building the European Biodiversity Observation Network

The third EU BON General Meeting was successfully held from 1 to 4 June 2015 at Clare College Conferencing, Cambridge, United Kingdom.

The meeting was attended by a total of 85 participants with various organisational background and relation to EU BON. Among these were almost all EU BON partners alongside representatives of eight associate partners and many guests.

One of the highlights of the meeting was its very start with three inspiring keynote speakers.

Among these, Bill Sutherland from the University of Cambridge started off to give an interesting speech about the progress and future plans on combining biodiversity science and policy. Second was Gary Geller from the GEO secretariat who talked about GEO, GEOSS and GEO BON, its vision and goals. Later on, Johannes Peterseil from LTER-Europe shared some interesting thoughts about linking ecosystem research and earth observation through the cooperation between LTER-Europe and EU BON.



Participants at the EU BON General Meeting, 2015. Credit: Dirk Schmeller

During the meeting other relevant projects were also introduced to all participants. These were DataOne and Species 2000/Catalogue of Life and two new EU projects ECOPotential and GLOBIS-B.

The General Meeting included six thematic sessions on highly relevant EU BON topics, followed

by many cross-task modules which led to better co-operation and communication between work packages and tasks. The exchange of experience gave new input to all work packages and set the milestones for the work ahead.

Find all presentations from the meeting [here](#).



Selection of pictures from the meeting. Credit: Anke Hoffmann

EU BON meets JRC

A team representing the EU BON project travelled to the Joint Research Centre (JRC; Ispra, Italy) on 23 & 24 April 2015 to meet with representatives of various JRC Units dealing with biodiversity.

Working as a Directorate-General of the European Commission, the JRC's mission is to provide EU policies with independent, evidence-based scientific and technical support, throughout the whole policy cycle. Gregoire Dubois (JRC), who seats the

Advisory Board of the EU BON project, chaired the two-day meeting intended to establish concrete links between EU BON and JRC.





The objectives of the meeting were hence to become familiar with JRC's biodiversity work, to present the EU BON project to JRC, and above all to identify overlapping interests, so as to develop cooperation between the EU BON project and JRC. Stimulated by a number of presentations from both sides, long discussions took place, mainly centred around how can JRC and EU BON work together to ensure the long-term presence of EU BON and its products.

The EU BON Workshop in Manaus, Brazil

A EU BON workshop took place on 20-24 July in Manaus, Brazil for a targeted group of representatives of the different EU BON WPs or task forces.

Among the topics discussed at the workshop were issues of designing and running biodiversity monitoring observatories (i.e. optimization and guidelines for planning biodiversity monitoring), analyses of biodiversity data to be addressed for assessing changes and patterns, linkage of (meta-) data of INPA to the EU BON portal, and adjusting applica-

tions developed for monitoring for the purposes of monitoring in Brazil.

The Third EU BON Stakeholder Roundtable coming soon

Save the date: the 3rd EU BON Stakeholder Roundtable is coming soon. The 3rd EU BON Roundtable "Workflow from data mobilisation to practice" will be held in autumn 2015 in Granada, Spain. The roundtable will focus on EU BON test sites and takes place at the EU BON test site Sierra Nevada. Aim of the roundtable is to discuss data mobilisation at the site level, workflows of data/information and the further usage for policy reporting and political processes, e.g. CBD and IPBES. Current state, gaps and barriers as well as best practice examples will be discussed with partners from EU BON and related European biodiversity projects.

Contacts: Katrin.vohland@mfn-berlin.de
Florian.wetzel@mfn-berlin.de

EU BON at international meetings

EU BON was presented in a special biodiversity and ecosystems session during the 9th GEO European Projects Workshop

The 9th GEO European Projects Workshop took place on 15 & 16 June 2015, in Copenhagen, Denmark. A special session dedicated to biodiversity and ecosystems was held as a part of the meeting, where EU BON and other topic relevant projects were presented.

EU BON was presented at the meeting by the project coordinator Christoph Häuser, who outlined the core elements for an integrated biodiversity information system. He stressed, that there is the challenge to provide a sound framework to overcome the fragmentation of available biodiversity information.

One of the major outcomes of the session was the agreement that further follow-ups of the discussions are needed and that the projects should have further exchange among each other.

The full story is available on EU BON [website](#).



Northern lights and solar eclipse celebrate new data standards for biodiversity observation

EU BON and CETAF informatics groups had an astronomically successful meeting at Digitalium in Joensuu, Finland, from 17 to 20 March 2015. The event coincided with a solar eclipse and the strongest show of the northern lights in a decade.

Major progress in data standards for information exchange took place during the week when the Biodiver-

sity Information Standards TDWG organisation announced ratification of five new terms for quantitative biodiversity data, which had been proposed by the EU BON project one year earlier. The new terms include, in particular, [organismQuantity](#) and [sampleSizeValue](#). This allows for exchange of ecological data in much wider scale than what has been possible until now. The participants of the meeting applauded for this occasion.

Read more [here](#).



Participants at the EU BON and CETAF meeting. Credit: Juho Prokki

Our new friends

Four new Associated Partners joined the EU BON family

Our family of Associated Partners has grown with four new members that joined us during the last six-month period.

EU BON has recently signed Memorandums of Understanding with the [GLOBal Infrastructures for Supporting Biodiversity research](#) (GLOBIS-B), the In-

stitute of Geosciences and Earth Resources of the National Research Council of Italy (IGG-CNR) and ECOPOTENTIAL: [Improving Future Ecosystem Benefits through Earth Observations](#). The hand over of the MoUs took place during the 9th GEO European Projects Workshop in Copenhagen (15 & 16 June 2015).

Earlier in the year, in April 2015, the project has signed a Memorandum of Understanding with the [German Federation for Biological Data](#) (GFBio).



Left: EU BON coordinator Christoph Häuser and Anke Hoffmann handing over the MoUs to our partners from IGG-CNR and ECO POTENTIAL Antonello Provenzale, Carl Beierkuhnlein and Palma Blonda; Right: Handing over the MoU to Daniel Kissling - scientific coordinator of GLOBIS-B; Credits: Anke Hoffmann



The **GLOBIS-B** project is a new H2020 project aiming to bring together biodiversity scientists with research infrastructure operators and legal interoperability experts to address the research needs and infrastructure services required to calculate Essential Biodiversity Variables (EBV) at a global scale.



ECO POTENTIAL makes significant progress beyond the state-of-the-art and creates a unified framework for ecosystem studies and management of protected areas (PA). ECO POTENTIAL focuses on internationally recognized PAs in Europe and beyond in a wide range of biogeographic regions, and it includes UNESCO, Natura2000 and LTER sites and Large Marine Ecosystems. Best use of Earth Observation (EO) and monitoring data is enabled by new EO open-access Ecosystem Data Service for Copernicus (ECOPERNICUS).



Istituto di Geoscienze e Georisorse
Consiglio Nazionale delle Ricerche

IGG-CNR conducts studies based on mineralogy, petrology, geochemistry, geodynamics and geophysics, aimed at understanding the processes occurring both in the interior and at the surface of the Earth, and providing the fundamental knowledge for the applications (technological use of geomaterials, mitigation of the natural risks and correct management of the Earth resources for a sustainable development).



GFBio is a project that brings together national key players providing environmentally related biological data and services to develop the 'German Federation for Biological Data'. The overall goal is to provide a sustainable, service oriented, national data infrastructure facilitating data sharing and stimulating data intensive science in the fields of biological and environmental research.



EU BON publications

Earth observation as a tool for tracking progress towards the Aichi Biodiversity Targets.

A new EU BON derived open access paper looking into Earth Observations (EO) and the Aichi Biodiversity Targets (ABT) was recently published in the journal [Remote Sensing in Ecology and Conservation](#).

The paper reviews the ABTs and EBVs against direct and indirect, operational and emerging, EO data products. The review was conducted by consulting expert opinion and categorically rating the Targets based on the adequacy of currently available EO technology to build indicators per target. The potential remote sensing – EBVs were also matched with their respective EO data products.

Original source:

O'Connor B et al. (2015) Earth observation as a tool for tracking progress towards the Aichi Biodiversity Targets. *Remote Sensing in Ecology and Conservation*.

DOI: [10.1002/rse2.4](https://doi.org/10.1002/rse2.4)

Earth Observation for Ecosystems Monitoring in Space and Time: A Special Issue in Remote Sensing

A new EU BON acknowledging special issue „Earth Observation for Ecosystems Monitoring in Space and Time: A Special Issue in Remote Sensing“ published in the open access journal [Remote Sensing](#) provides a collection of important researches in the field, as well as the most challenging aspects of the application of remote sensing to study ecosystems.

The special issue represents a stimulating discussion concerning innovative techniques/approaches that are based on remote sensing data, which are used for the study of ecosystems at different spatial and temporal scales. Research scientists and other subject matter experts submitted innovative and challenging papers that showed advances in several topics:

Original source:

Rocchini D (2015) Earth observation for ecosystems monitoring in space and time: a special issue in Remote Sensing. *Remote Sensing*.

DOI: [10.3390/rs70608102](https://doi.org/10.3390/rs70608102)

The full collection of papers can be found here: http://www.mdpi.com/journal/remotesensing/special_issues/ecosystemsmonitoring

Climate Change & Biodiversity: What may happen to bony fishes in the North Sea?

EU BON partners [FishBase Information and Research Group](#) (FIN), the [Museum für Naturkunde Berlin](#) (MfN), and the [UNEP World Conservation Monitoring Centre](#) (UNEP-WCMC) collaborated to produce an infographic titled ‘Climate Change & Biodiversity: What may happen to bony fishes in the North Sea?’. This infographic explains the economic and ecological importance of bony fishes in the context of the North Sea. It also visualises potential changes to species diversity and composition over time, using habitat suitability and climate change predictions. These changes have been projected to the year 2100 based on modelled environmental conditions under the Intergovernmental Panel on Climate Change’s A2 emissions scenarios. The projections have direct policy relevance to Aichi Biodiversity Target 10 of the Convention on Biological Diversity, which seeks to understand trends in climatic impacts on community composition in ecosystems, and to thereby minimize these impacts.

CLIMATE CHANGE & BIODIVERSITY

What may happen to bony fishes in the North Sea?

Climate change is predicted to change the distribution, number and composition of species of bony fishes around the world during the upcoming century. In the North Sea, these changes have been projected to 2100 based on modelled environmental conditions under the Intergovernmental Panel on Climate Change's A2 emissions scenarios. This is of relevance to Aichi Biodiversity Target 10 (Convention on Biological Diversity), showing potential climatic impacts on community composition in ecosystems.



The EU BON project seeks to build a European Biodiversity Observation Network that facilitates access to biodiversity information of relevance to policy.

www.eubon.eu

ECONOMIC VALUE

€620.5 MILLION

Annual total value of landings for 2006, comprising over 67% of total fisheries landings revenue in the North Sea.



€238.2 million
Cod, haddock, etc.



€167.4 million
Flatfishes



€91.3 million
Herring, mackerel, etc.

REFERENCES

- * Time frame based on data obtained from Kaschner et al. (2013).
 - ** All species counts based on modelled predictions.
 - 1 Obtained from the Sea Around Us project (www.seaaroundus.org) at the University of British Columbia, Canada.
 - 2 Atlantic mackerel graphic produced by Lauren Weatherdon at UNEP-WCMC.
 - 3 Kaschner, K., J. Rius-Barile, K. Kesner-Reyes, C. Garilao, S.O. Kullander, T. Rees, and R. Froese. 2013. AquaMaps: Predicted range maps for aquatic species. World wide web electronic publication, www.aquamaps.org, Version 08/2013.
 - 4 Aboriginal Mapping Network's Icon Collection for Use and Occupancy Maps (version 1.1, March 2012; www.native-maps.org; CC BY 3.0).
- Infographic produced by Lauren Weatherdon (UNEP-WCMC).



museum für naturkunde berlin

Contact Details

Museum für Naturkunde Berlin, Germany and EU BON Project Coordination: Dr. Christoph Häuser (christoph.haeuser@mfn-berlin.de)

Bony fishes include a broad range of fishes with bony skeletons. In the North Sea, these include commercially important species such as Atlantic salmon, Atlantic herring, European anchovies, Atlantic cod, haddock, and Atlantic mackerel. Bony fishes form an important part of the North Sea food web and contribute to local economies and international food security through fisheries.

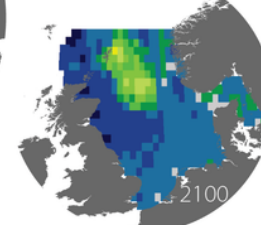
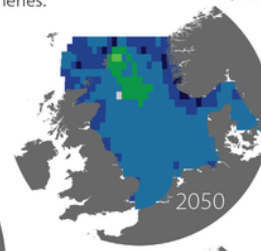
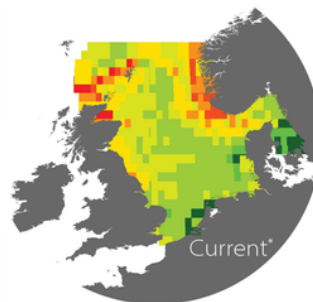
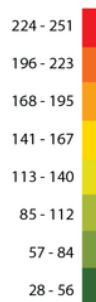


Atlantic mackerel (*Scomber scombrus*)

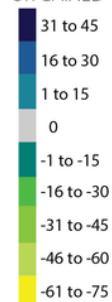
2

SPECIES DIVERSITY

NUMBER OF SPECIES PER GRID CELL



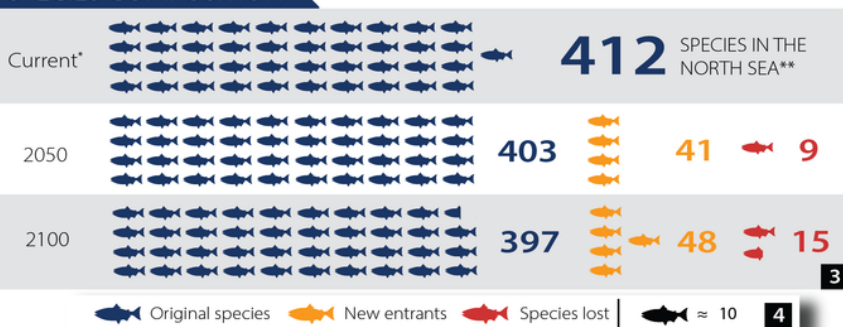
NUMBER LOST OR GAINED



SPECIES COMPOSITION

AquaMaps methodology available at <http://aquamaps.org/am.pdf>.

3



3

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The infographic was published on 1st June 2015 on page 26 of *The Parliament Magazine's* 'Green Week' edition (Issue 413), which is distributed to all members of European Parliament, the European Commission, Presidency Office, Party political groups, and various other EU institutions, with over 50,000 readers worldwide.



New life for old data: Integrating and visualizing primary biodiversity data from prospective and legacy taxonomic literature

XML markup of taxonomic research and specimen data is a valuable tool for structuring the incessantly accumulating biodiversity knowledge. It allows for the opportunity to collectively use the currently fragmented information for more detailed analysis.

A new research paper, published in the [Biodiversity Data Journal](#), demonstrates how XML markup using GoldenGATE can address the challenges presented by unstructured legacy data, like those presented in the widely used PDF format. The paper demonstrates how structured primary biodiversity data can be extracted from such legacy sources and aggregated with and jointly queried with data from other Darwin Core-compatible sources, to present a visualization of these data that can communicate key information contained in biodiversity literature.

Original source:

Miller J et al. (2015) Integrating and visualizing primary data from prospective and legacy taxonomic literature. *Biodiversity Data Journal*.

DOI: [10.3897/BDJ.3.e5063](#)

Read the official press release [here](#).

Bridging the gap between biodiversity data and policy reporting needs: An EBV perspective

Reporting under policy instruments to inform on the trends in biodiversity requires information from a range of different elements of biodiversity, from genetically viable populations to the structure of ecosys-

tems. A new research looks into the Essential Biodiversity Variables as an analytic framework to identify ways in which gaps between biodiversity data and policy reporting needs could be bridged. The study was published in the [Journal of Applied Ecology](#).

In the recently published study, supported by the EU BON project, scientists used the identified EBVs as a framework to analyse the gaps between the biodiversity objectives stated in international policy instruments, the indicators used to develop the related policy reports and the data that is actually available to quantify indicators and proxies.

Original source:

Geijzendorffer IR et al. (2015) Bridging the gap between biodiversity data and policy reporting needs: An Essential Biodiversity Variables perspective. *Journal of Applied Ecology*.

DOI: [10.1111/1365-2664.12417](#)

More information in the official [press release](#).

The need for a more open attitude towards invasive alien species data

New research, published with the support of EU BON and the Alien Challenge COST action, reveals the importance of open data in the study and control of invasive alien species. The study was published online in the open access journal [Management of Biological Invasions](#).

Original source:

Groom QJ, Desmet P, Vanderhoeven S, Adriaens T (2015) The importance of open data for invasive alien species research, policy and management. *Management of Biological Invasions*.

DOI: [10.3391/mbi.2015.6.2.02](#)



EU BON acknowledged paper is classified as the fourth hottest article in Ecological Informatics

A recent paper by Duccio Rocchini et al. (2015) has been classified as the fourth hottest article in Ecological Informatics. The paper is part of the EU BON project, and discusses from a conceptual point of view, the potential of remote sensing in estimating

biodiversity using various diversity indices, including alpha- and beta-diversity measurements.

Original source:

Rocchini D et al. (2015) Advancing species diversity estimate by remotely sensed proxies: a conceptual review. Ecological Informatics.

DOI: [10.1016/j.ecoinf.2014.10.006](https://doi.org/10.1016/j.ecoinf.2014.10.006)

Future events of interest

TDWG 2015 Annual Conference

The 2015 Biodiversity Informatics TDWG Annual Conference will be held from 28 September to 3 October 2015 in Nairobi, Kenya. The theme of the conference is Applications, Standards and Capacity Building for Sustaining Global Biodiversity. Subprograms will include: Digitization, Semantic Technologies, Phyloinformatics, Outreach and Collaboration, ePublications, Trait Data, and Conservation informatics.

For more information about the conference, how to register, programme and call for papers, please visit the official [event webpage](#).

Eye on Earth Summit 2015

The Eye on Earth Summit 2015 is the foremost gathering of global thought leaders from government, the private sector, academia and civil society, all committed to filling the economic, social and environmental data gap to inform and improve decision-making for sustainable development. The event will take place from 6 to 8 October 2015 in Abu Dhabi, UAE.

For more information on the event and registration, please click [here](#).

GEO XII and Ministerial Summit Mexico City November 2015

The GEO-XII Plenary and the Ministerial Summit, as well as all the associated meetings and events will be hosted by the Mexican Government and will take place at the Hotel Hilton Reforma and at the Ministry of Foreign Affairs in Mexico City from 9 to 13 November 2015.

More information is available on the official [event website](#).

IPBES Fourth Plenary

The fourth session of the IPBES Plenary is now set to be held from 22 to 28 February 2016 in Kuala Lumpur, Malaysia.

The deadline for registration has been set for 15 September 2015.

Find more information [here](#).



EU BON website & contacts:

For more information on the project, please visit the EU BON website at:
<http://www.eubon.eu>

Contacts:

Dr. Christoph Häuser



Project Coordinator

Museum für Naturkunde

Leibniz Institute for Research on Evolution and
Biodiversity

Invalidenstrasse 43

10115 Berlin

Germany

Tel.: +49 (0)30 2093 8479

Fax: +49 (0)30 2093 8561

E-mail: christoph.haeuser@mfn-berlin.de

Dr. Anke Hoffmann



Project Manager

Museum für Naturkunde

Leibniz Institute for Research on Evolution and
Biodiversity

Invalidenstrasse 43

10115 Berlin

Germany

Tel.: +49 (0)30 2093 8950

Fax: +49 (0)30 2093 8323

E-mail: anke.hoffmann@mfn-berlin.de

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