



# NEWSLETTER

## Issue 6



Credit: Pensoft



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## Welcoming words by the EU BON coordinator

### Towards expanding the EU BON network!

Dear Colleagues and Friends,

At the beginning of this year it is again time to give an update of what we have achieved in EU BON in the last half-year. This newsletter will inform you about the project's progress, our activities, important project meetings, new partners, latest publications and the oncoming work and events in 2016.

Following the completion of its second 18 months funding period in autumn 2015, the project has now successfully delivered its second scientific periodic report in February to the European Commission. We also would like to take the opportunity to point to two of our recently published deliverables, which are called "Optimization guidelines for improving existing monitoring schemes" and "Data sharing tools". They are now available on the EU BON website. Furthermore, several interesting EU BON papers have been published during the last months, among them the exciting publication from Wetzel et al. (2015): "The roles and contributions of Biodiversity Observation Networks (BONs) in better tracking progress to 2020 biodiversity targets: a European case study".

Within this period EU BON was featured as a success story by the European Commission, which was an honor for the whole EU BON team. In my role as project leader I was interviewed by the DG Research & Innovation communications team resulting in a great article about EU BON, which is available on the website of the European Commission. The article focuses on EU BON's efforts to bring together biodiversity and Earth observation data, which are accumulated from data sources ranging from the individual citizen scientist, researchers to the most technologically advanced satellites in one EU-wide initiative.

In November 2015 EU BON was taking part in the GEO XII Plenary and Ministerial Summit in Mexico City, where GEO members from all over the world discussed the latest developments in Earth Observation technologies and applications. Hannu Saarenmaa, leader of work package 2, and myself had the opportunity to represent EU BON at the European Commission's stand with a poster and a short video clip. This was a great success considering that the European Commissioner for Research, Science and Innovation, Carlos Moedas, himself spent some time with us and showed great interest in the project.

Another highlight was our third stakeholder roundtable focusing on the "Workflow from data mobilization to practice" in December 2015. The roundtable took place in Sierra Nevada, one of our EU BON test sites, and led to several valuable recommendations regarding the user-friendliness of the projects outcomes.

To find more about these and other topics take a closer look at our 6th newsletter.

We hope you enjoy the reading!

With best wishes from the entire EU BON team,

Christoph Häuser & Anke Hoffmann

EU BON website: [www.eubon.eu](http://www.eubon.eu)





## Hot from the project

### 3rd EU BON stakeholder roundtable: Workflow from data mobilisation to practice

The 3rd EU BON stakeholder roundtable took place from 10 to 11 December 2015 in Granada, Spain. The meeting brought together participants from global, European and

regional projects, institutions, governmental organizations and universities to discuss biodiversity data workflows across different scales. Other important issues to discuss were current limitations of workflows but also tools and products from EU BON and other projects that may help to improve data collection, analysis and use in policy and practice.

The roundtable focused on EU BON test sites, workflows of data/information and the further usage for policy reporting and political processes. These issues were discussed with



Images from the workshop showing participants and group discussions; Credit: Dirk Schmeller/Florian Wetzel

partners from EU BON, related biodiversity initiatives (LTER, GEO BON, LifeWatch, Ecoscope) and stakeholders of biodiversity data (regional biodiversity networks: the environmental information network of Andalusia (Rediam), the Center for Monitoring and Assessment of Global Change (CAESCG), the Life project ADAPTAMED) as well as local scientists.

As outcomes of the discussions at the roundtable, several recommendations were drafted, for example, to prioritise

developed EU BON tools for further usage in the project and through the portal. This will help to better address the user groups on different levels and provide a detailed and specific description for the tools. There are several biodiversity data workflows existing at the EU BON test sites, that could be improved by additional/existing tools, guidelines and standards from projects such as EU BON and by an enhanced communication between local sites, regional networks (as "middle-ware") and European networks.





## Interview: Dr. Mark Frenzel on LTER-Europe, ecological research and co-working with EU BON



**Q:** The LTER-Europe network looks at conceptualizing Long-Term Ecosystem Research (LTER) as an essential component of world-wide efforts to better understand ecosystems. How is the network planning to achieve this?

M: This is/will be achieved mainly by funded project work. Actually the H2020 eLTER project is the most important backbone, an ESFRI eLTER initiative is running too. In terms of content there are several challenges which need to be addressed: (1) harmonisation in terms of what and how is being measured at LTER sites, (2) collection and representation of metadata about sites, actors and data sets within the web tool DEIMS, (3) open access of data and DOI registration of data sets, (4) considering the human component as a major driver for changes in ecosystems by including socio-economy and socio-ecology in the LTER approach.

### Q: How would EU BON and its planned European Biodiversity Portal be beneficial to LTER-Europe and its aims in the next years?

M: Biodiversity is not the only, but an important focus within LTER. It depends on the services and benefits connected with this portal and its long-term perspective. The most important added value I would see in an elaborated framework-based agreement on the set of "essential biodiversity variables" which will be a compromise between importance and feasibility. This selection process should be well tuned with the relevant players in this field.

### Q: According to you what are the next three most urgent steps in order to achieve better understanding of ecosystem services and their benefits for policy, economics and society?

M: (1) reliable data and suitable scale of data, (2) understanding the effect of scale on ecosystem services, (3) make use of large networks to approach this issue, bring the results down to a scale understandable for the layman.

**Find the full interview [here](#).**

## Interview: Clint Alibrandi from REDIAM on the benefits of an European Biodiversity Portal

**Q:** Where do you see the cross section between REDIAM's work and EU BON - what are the products from EU BON and other European projects that would be helpful for the work that you are doing?

C: The REDIAM has great interest in the following issues and we believe that EU BON would be up to the task of providing solutions and/or guidelines on how to be able to proceed to solve them:

- The elaboration of a common tool for the description and localization of species throughout the European Territory. This can prove a very useful service for Environmental Impact Assessments by providing a more complete view on different species distribution on determined areas.
- Defining a standardized list of species which contains the taxonomically correct name for each one of them. EU BON could serve as a base reference to set guidelines for standardizing the taxonomical classification of species.
- Support and guidance in defining specific biodiversity indicators as proposed by EUROSTAT, a methodological and assessment guide of some sort.

### Q: In your opinion what are the three greatest benefits of a European level biodiversity portal?

C: 1) Offering an opportunity of standardizing and harmonizing biodiversity related information. We all speak the same "language" when referring to biodiversity, but it is necessary that we all be able to follow the same "rules" as well. This is the first and most important pillar we believe that a European level biodiversity portal can bring into play.  
 2) It would allow for and facilitate a widespread exchange of information amongst stakeholders throughout the whole European territory.  
 3) And finally, it would allow a common analysis on a European level which would provide a general assessment on how different efforts and policies are effective, value which is the real status of biodiversity and/or specific species independently from the limit of administrative or country borders.

**The full interview can be found [here](#).**



## Shaping the EU BON Biodiversity Portal: An interview with Hannu Saarenmaa and Juan José Negro

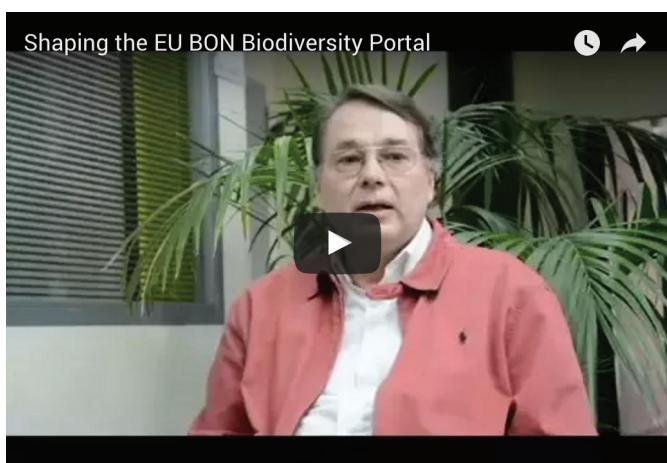
From 26 to 28 January 2016, EU BON hosted its first Biodiversity Portal Hackathon in Seville, Spain. The event marked an important milestone for the project, paving the way towards one of the most important EU BON products – the European Biodiversity Portal.



Credit: Pensoft

The ultimate goal of EU BON is to create an European Biodiversity Portal which will collect and present biodiversity data from across Europe in a consistent and re-usable way. The portal will then feed into a global equivalent developed by the [Group on Earth Observation's Biodiversity Observation Network \(GEO BON\)](#).

But what are the benefits from and what are the challenges in front of such an ambitious project? Following the Biodiversity Data Portal Hackathon, Dr. Hannu Saarenmaa and Juan José Negro, answer these questions and gives us an insight of first plans and results.



[Find out more here.](#)

## Joint WP2/3/4/6/7 Workshop

A joint WP2/3/4/6/7 workshop took place on 23-24 November 2015 in Cambridge, UK. The overall goal of the workshop was to identify synergies and overlapping objectives across WP3/4 and 6/7 and beyond and to thereby identify applications of EU BON's tools to decision-making, including the policy level.



Credit: UNEP-WCMC

The idea for this small, focused workshop emerged as a result of the popularity and outreach achieved by the [Aquamaps North-Sea fisheries infographic](#), developed under WP6. This infographic has demonstrated how the AquaMaps modelling tool can help answer a clear policy or question relevant to decision-making.

[Read the full story here.](#)

## EU BON meets LTER Europe

From 9 to 10 December 2015 in Granada, Spain EU BON met representatives of LTER-Europe. The aim of the meeting was to see where working programmes overlap and whether potential joint products can be identified. In addition the meeting was attended by GEO BON colleagues and included a vision of the upcoming GSEO initiative. The first day was used to get to know each other and to present first ideas for joint developments. On the second day smaller groups concentrated on three possible joint working areas for the near future:

- 1) Extended test phase and application of WP3 tools and others;
- 2) Technical/IT aspects, besides others, the use of DEIMS, PlutoF, datasets;
- 3) Development of a manual/best practice for site-based long-term biodiversity observation and monitoring programme.

Three working groups have been established and started their work immediately.



## EU BON at international meetings

### Europe for GEOSS: EU BON attracts high level attention at the GEO XII Plenary in Mexico City

The GEO-XII Plenary and Ministerial Summit, as well as many associated meetings and events, were hosted by the Mexican Government and took place in Mexico City from 9 to 13 November 2015.



Credit: Helmut Staudenrausch

EU BON participated at GEO-XII and was represented at the European Commission Stand "Europe for GEOSS" with a poster and a short video clip. A real highlight was the visit by the European Commissioner for Research, Science and Innovation, Carlos Moedas. During his short visit, the Commissioner took specific interest in the EU BON project and spent some time discussing EU BON's relevance with the coordinator and his staff.

**More information on our website.**

### EU BON at the BACI Workshop "Remote sensing applications related to land use/change"

From 9 to 11 November in Vienna, Austria, the EU H2020 project **Detecting changes in essential ecosystem and biodiversity properties – towards a Biosphere Atmosphere Change Index: BACI** has organised a special workshop titled "Remote sensing applications related to land use/change". EU BON project partner Duccio Rocchini from FONDAZIONE EDMUND MACH (Italy) was among the invited lecturers at the event. His

talk was called "Like in a Rubik's cube: Recomposing Biodiversity Information".

**Read more [here](#).**

### EC GEO European Projects Special Biodiversity Workshop



Credit: Anke Hoffman

The EC GEO European Projects Special Biodiversity Workshop took place on 20 & 21 January 2016 in Brussels. The meeting was attended by EU BON alongside Ecopotential, Globis-B, SWOS, GEO BON, EEA, JRC and GEO BON representatives to discuss future project plans and possibilities for specific project-project relationships

## Our new friends

### EU BON welcomes a new Associated Partner - MUSE (Museo delle Scienze)



**MUSE** is involved in biodiversity monitoring both locally in Trento Province, southeastern Alps, and globally. In particular, its Tropical Biodiversity Section runs a long-term biodiversity research and monitoring programme in the Udzungwa Mountains of Tanzania, an outstanding site for biological diversity and endemism. In 2009, this site became the first in Africa to enter the TEAM Network, a global programme for the standardized monitoring of biodiversity across the tropical moist forests.



Started in 2002 by Conservation International (CI), the Tropical Ecology Assessment and Monitoring (TEAM) Network (<http://www.teamnetwork.org/>) – grew to a coalition in 2009 that includes CI, the Smithsonian Tropical Research Institute and the Wildlife Conservation Society. TEAM has collected and made publicly available more than 2.5 million photos from camera traps in tropical forests across the planet. With support from Hewlett Packard Enterprise, formerly Hewlett Packard Company, the TEAM Network is now able to analyze this global data set in near real-time and provide data-driven insights for improving natural resource management.



MUSE camera trap in Tanzania; Credit: MUSE – Science Museum

## Latest addition to our Associated Partners family – BACI



The latest addition to the EU BON associated partners family is the H2020 project “Detecting changes in essential ecosystem and biodiversity properties- towards a Biosphere Atmosphere Change Index: **BACI**”.

BACI’s endeavor is bringing together trans-disciplinary experts on optical and radar remote sensing, ground data on ecosystem state and functioning, biodiversity assessments, and machine learning. The overarching objectives are firstly, to translate space data to new essential ecosystem variables (not directly observable from space), secondly, to detect changes in ecosystem and biodiversity properties early one, and thirdly, to attribute critical transitions in ecosystems to societal transformations and impacts.

## EU BON publications

### Connecting the dots: Integrated biodiversity data could be the key to a sustainable future

Biodiversity Observation Networks (BONs) have recently become a hot topic on the scene of natural sciences. But what is their role in advancing our knowledge of biodiversity and associated ecosystem services?

A new paper in the **Biodiversity** journal uses the **European Biodiversity Observation Network** (EU BON) as an example, to explain how they can fill in gaps and address existing barriers in knowledge through implementing an integrated biodiversity information framework.

“For advancing with the biodiversity challenge and the Aichi Targets globally, regional BONs are needed, and this is where EU BON attempts to make a difference for Europe” adds Dr. Christoph L. Häuser, EU BON coordinator and Deputy Director General at MfN, Berlin.

#### Original Source:

F.T. Wetzel et al. (2015) The roles and contributions of Biodiversity Observation Networks (BONs) in better tracking progress to 2020 biodiversity targets: a European case study. **Biodiversity**. doi: [10.1080/14888386.2015.1075902](https://doi.org/10.1080/14888386.2015.1075902)

#### Find out more in this article.

### Monitoring farmland biodiversity across Europe: It could cost less than you think

How can we monitor Europe-wide farmland biodiversity so that it makes sense to farmers, is ecologically credible and scientifically sound and can be implemented for a reasonable price? Two new studies answer these questions.

Researchers from the FP7 funded EU projects Biodiversity Indicators for European Farming Systems (BioBio) and Building the European Biodiversity Observation Network (EU BON), developed cost estimates for nine scenarios to conclude that a continent-wide farmland biodiversity



monitoring scheme would require only a modest share of the Common Agricultural Policy (CAP) budget.

#### **Original Source:**

I.R. Geijzendorffer et al. (2015) How much would it cost to monitor farmland biodiversity in Europe? *Journal of Applied Ecology*. doi: [10.1111/1365-2664.12552](https://doi.org/10.1111/1365-2664.12552)

[Read more here.](#)

### **Butterfly monitoring: an important biodiversity loss indicator made easier to measure**



Credit: Marcio Uehara-Prado

Butterfly monitoring at local, national, regional, and global levels is the topic of the first [GEO BON Technical Series](#) reports produced to provide stakeholders with practical guidance for biodiversity conservation.

The report is jointly produced by GEO BON, EU BON, UNEP-WCMC, the German Centre for Integrative Biodiversity Research (iDiv) and the Dutch Butterfly Conservation, as a follow up of a joint [workshop](#), which took place in December 2014, to catalyse the process for the development of global butterfly monitoring guidelines and the creation of a new specialist butterfly monitoring group.

The report titled “[Guidelines for Standardised Global Butterfly Monitoring](#)” provides a suite of standard field protocols that can measure butterfly population change over various spatial and temporal scales, and can be applied in any part of the world.

#### **Original Source:**

C. Van Swaay (2015). Guidelines for Standardised Global Butterfly Monitoring. Group on Earth Observations Biodiversity Observation Network, Leipzig, Germany. [GEO BON Technical Series 1](#), 32pp.

[More information here.](#)

### **Investing in European success – A Decade of Success in Earth Observation Research and Innovation**

The European Commission has recently released publication focused on Earth Observation Research and EU BON is one of the successful projects featured in it.

The publication titled “Investing in European success – A Decade of Success in Earth Observation Research and Innovation” looks at the benefits that Earth Observation brings to studying and protecting the environment.

**Find the full publication [here](#), EU BON can be found featured on pages 26 - 27.**

### **New EU BON Policy Brief on Open Data**

The fifth EU BON Policy Brief focuses on the need for open data in biodiversity monitoring. The Group on Earth Observation’s Biodiversity Observation Network, of which EU BON is a part, has a vision to better monitor and manage the global biosphere for our common good. This creates research challenges that require use of all appropriate data. Yet, access to data is impaired because, traditionally, few data are released, they are often locked up in traditional scientific literature, or because of concerns over intellectual property rights.

[Download the Fifth Policy Brief.](#)



**POLICY BRIEF 5**

EU BON explains why it needs access to open data.

Unavailable for legal reasons

The need for a more open attitude towards invasive alien species data  
New research published with the support of the FP7 large-scale informatics project Building the European Biodiversity Observation Network (EU BON) and the Alien Challenge COST action reveals the importance of specimen data in the study and control of invasive alien species. [READ MORE](#)

## EU BON POLICY BRIEF ON OPEN DATA

### EU BON and OPEN ACCESS

The Group on Earth Observation's Biodiversity Observation Network, of which EU BON is a part, has a vision to better monitor and manage the global biosphere for our common good. This creates research challenges that require use of all appropriate data. Yet, access to data is impaired because, traditionally, few data are released, they are often locked up in traditional scientific literature, or because of concerns over intellectual property rights.

These limitations concern us. Alternative approaches are available. Major data repositories, such as GBIF for observational data and NSDC involving EMBL and Genbank for molecular data are so widely used that their absence would cripple research efforts in, for example, evolutionary research.

Because of this, EU BON endorses the free and open exchange of data and knowledge in accordance

with the "Joint Declaration on Open Science for the 21<sup>st</sup> Century", especially in regard to scientific information produced in Europe as outlined by the European Commission.

### Intellectual property rights on biodiversity data?

The inappropriate application of Intellectual Property rights (copyright) impedes access to scientific data. Copyright applies only to works that have an original, creative form of presentation. It does not cover ideas, nor content. Scientists increasingly use standardised formats for data, and because of their factual nature and non-creative form, scientific data and metadata do not qualify for copyright.

Copyright protection can apply to collections of biodiversity data under rare circumstances, but the more systematic and consistent with agreed standards that a data collection is, the less likely copyright considerations will apply.

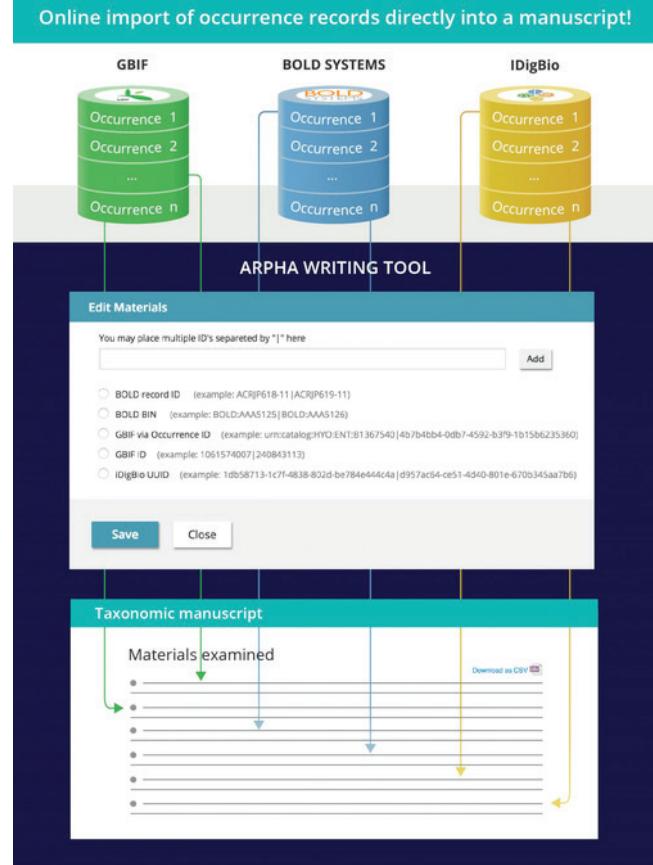
**GEO** GROUP ON EARTH OBSERVATIONS

See the full collection of EU BON Policy Briefs.

## EU BON Supported Pilots

### Streamlined import of specimen & occurrence records into taxonomic manuscripts

A substantial amount of documented occurrence records is awaiting publication stored in repositories and data indexing platforms, such as the **Global Biodiversity Information Facility (GBIF)**, **Barcode of Life Data Systems (BOLD Systems)**, or **Integrated Digitized Biocollections (iDigBio)**. In order to streamline the authoring process, save taxonomists time, and provide a workflow for peer-review and quality checks, Pensoft has introduced an innovative feature that makes it possible to easily import occurrence records into a taxonomic manuscript.



Only available in  
<http://bdj.pensoft.net>

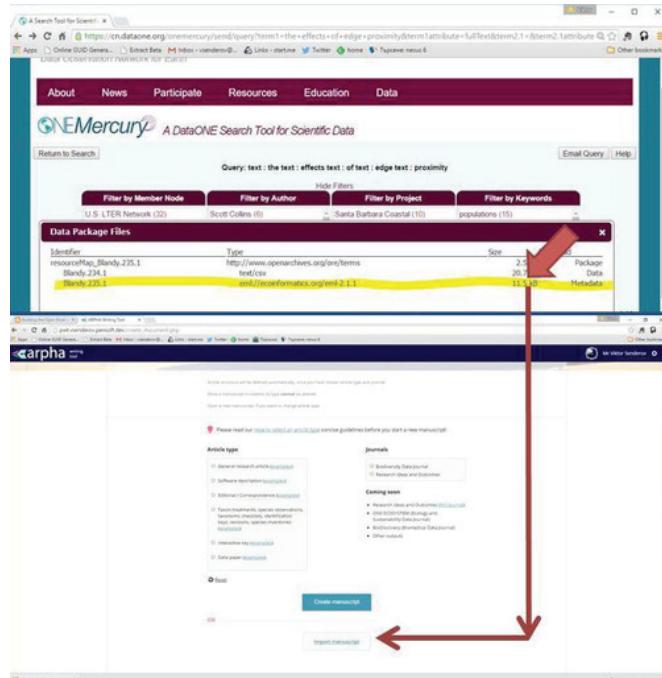


Biodiversity  
Data Journal  
A peer-reviewed open-access journal  
Making your data count!

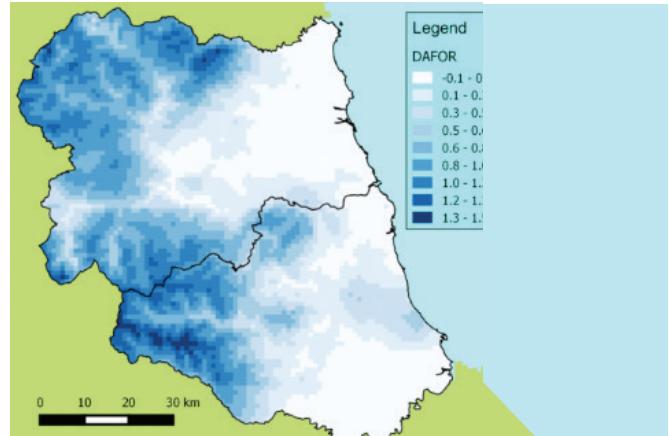
Find out more.

### Manuscript at the click of a button: Streamlined conversion of metadata for GBIF and DataONE into scholarly manuscripts

Data collection and analysis are at the core of modern research, and often take months or even years during which researchers remain uncredited for their contribution. A new plugin to a workflow previously developed by the Global Biodiversity Information Facility (**GBIF**) and **Pensoft**, and tested with datasets shared through GBIF and **DataONE**, now makes it possible to convert metadata into a manuscript for scholarly publications, with a click of a button.



[More on the topic here.](#)



Interpolated abundance estimates of *Calluna vulgaris* in South Northumberland and Durham

### Original Source:

Q. Groom et al. (2015) A benchmark survey of the common plants of South Northumberland and Durham, United Kingdom. *Biodiversity Data Journal* 3: e7318. doi: [10.3897/BDJ.3.e7318](https://doi.org/10.3897/BDJ.3.e7318)

## Benchmark survey of the common plants in the North-east of England to help biodiversity change monitoring

A recently completed benchmark survey of common plants provides a comprehensive dataset of vascular plant diversity and abundance in South Northumberland and Durham, contributing an additional 35,000 observations to the 200,000 observations collected by local recorders since the turn of the millennium. Apart from contributing an updated inventory of vascular plant diversity, the survey is intended to be used as a reference point with which to identify change in the countryside and study the drivers of biodiversity change in the North-east of England.

This survey is also among the first one to make use of the **Integrated Publishing Toolkit** (IPT) functionality, jointly developed by **EU BON** and **GBIF**, that allows the easy export and exposure of datasets to maximize their discoverability and reuse. The survey was published in the **Biodiversity Data Journal**, providing easy and streamlined publication of GBIF data via a variety of newly introduced plugins.

## Future events of interest

### Save the date for the EU BON biodiversity data sharing and data publishing workshop

Are you in Eastern Europe and actively involved in



Credit: Pensoft

monitoring and managing biodiversity data? Then the EU BON "Biodiversity data sharing and data publishing workshop" might just be the right event for you. The event will take place on 22-23 March 2016 in Sofia,



Bulgaria, with focus on publishing of biodiversity data, in particular species occurrences, sample-based and citizen science data. The training will include a practical session during which participants will be assisted by experienced trainers from the EU BON project.

**To register and for more information, [click here](#).**

## **Global Biodiversity Assessment and Monitoring: Science, Data and Infrastructure Needs for IPBES and Beyond**

"Global Biodiversity Assessment and Monitoring: Science, Data and Infrastructure Needs for IPBES and Beyond" is a joint symposium of the Future Earth Clusters "Global Biodiversity Assessment and Monitoring, Prediction and Reporting" and "Support for IPBES", which will take place from 6 to 10 March 2016 in Monte Verita, Ascona, Switzerland.

**Further information on the event is available in the official announcement [here](#).**

## **GEO European Projects Workshop 2016**

The GEO European Projects Workshop 2016 will take place from 31 May to 2 June in Berlin, Germany. The event will be co-organized by the German Federal Ministry for Transport and Digital Infrastructure, the Museum für Naturkunde - Leibniz Institute for Evolution and Biodiversity Science, and the European Commission.

**More information [here](#).**

## **2016 GEO BON Open Science Conference**

The 2016 GEO BON Open Science Conference: "Biodiversity and ecosystem Services Monitoring for the 2020 Targets and beyond. Building on observations for

user needs" will take place from 4 to 9 July 2016 in Leipzig, Germany.

Biodiversity Science is facing enormous challenges as the pressures upon the earth's biotic systems are rapidly intensifying and we are unlikely to reach the CBD 2020 Aichi Targets. But how far or close are we to reach the targets? The GEO BON Open Science Conference on "Biodiversity and Ecosystem Services Monitoring for the 2020 Targets and beyond" will assess this question.

**For more information please visit the official event's [webpage](#).**

## **10<sup>th</sup> International Conference on Ecological Informatics "Facing Global Change by Sharing Data and Models"**

The 10th International Conference on Ecological Informatics "Facing Global Change by Sharing Data and Models" will take place on 24-28 October 2016 in Dubrovnik, Croatia.

### **Keynote speakers:**

- Duccio Rocchini, Trento, Italy "Recent developments in biogeography"
- Marie A. Roch, San Diego State University, USA "Managing bioacoustics data"

**More information is available [here](#).**

## **GEO-XIII Plenary**

The GEO XIII Plenary is planned to take place on 9 & 10 November 2016 in St. Petersburg, Russia.

**More information about the plenary will follow [here](#).**



## EU BON Website & Contacts:

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

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