



NEWSLETTER

Issue 4



Participants at the 2nd EU BON Stakeholder Roundtable. Credits: Florian Wetzel, Carola Radke



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Welcoming words by the EU BON coordinator

Dear colleagues and friends,

we are delighted to present you with our fourth EU BON Newsletter today. The period covered in this issue was a very dynamic one for the project, marked with a number of challenges, new developments and achievements, and we are impatient to share our news with you.

Following the completion of its first 18 months funding period in summer 2014, the project was scrutinized last autumn during its first full size technical and financial review from which it successfully emerged with good to excellent marks. From the review we received a lot of positive feedback but also many suggestions and new ideas for further improvements, which we are taking on board and are already in the process of implementing, including new features and products for the EU BON website and upcoming portal.

During this period we also had the chance to closely interact with our stakeholders during the second EU BON Stakeholder Roundtable. The meeting which took place in Berlin was dedicated to the topic of Citizen Science exploring ways in which EU BON can support and integrate better CS activities in the realm of biodiversity information.

We are now planning ahead for the next EU BON General Meeting, which is scheduled to take place from 1 to 4 June 2015 at the Clare College Conferencing in Cambridge, United Kingdom. Mark those dates in your diary, and meet with EU BON for a week of inspiring talks, workshops, and intense cross-task discussion groups!

Among other news, in this issue you will have the chance to read about a new EU BON paper discussing the importance of open access for controlling invasive species; a number of data publishing pilots developed with the support of EU BON; our new associate partners; and many more topics. We do hope you find this newsletter informative and stimulating, and also enjoy the reading!

With best regards from the entire EU BON team,

Christoph Häuser & Anke Hoffmann

EU BON website: www.eubon.eu





Hot from the project

2nd EU BON Stakeholder Roundtable: Citizen Science in the spotlight

The second EU BON Roundtable took place on 27 November 2014 at the Museum für Naturkunde in

Berlin, Germany. The workshop was dedicated to explore ways in which EU BON can support citizen science (CS) activities. EU BON is building a large integrated biodiversity information infrastructure in order to serve science, policy and administration as well as citizen scientists. Citizen scientists are important stakeholders, as they support the increase of knowledge in various aspects, they may debate research questions, most often they collect data, and



Jose-Miguel Rubio-Iglesias gave a talk on improving the science-society-policy bridge by Citizen Science. Credit: Carola Radke

they may interpret data and publish their results. Many partners and interested stakeholders participated, coming from different European research institutions, Natural History Museums and SMEs. Furthermore representatives from European Institutions like European Commission DG Research & Innovation, the European Environmental Agency or the JRC and EU-funded Citizen Science projects took part.

As a representative from DG Research and Innovation from the European Commission, Jose-Miguel Rubio-Iglesias showed the possibilities of Citizen Science as one option to improve the science-society bridge. Lucy Robinson (ECSA/NHM London) focused on citizen science in Europe, its impact and development.

Read the full review of the meeting, including links to all presentations [here](#).



INTERVIEW with Jose-Miguel Rubio-Iglesias:

Policy Officer (Spanish National Centre for Geographic Information, on secondment to the European Commission)

Where do you see the place of citizen science in the future of European research and innovation efforts?

I see a brilliant future of Citizen Science as a driver for research and innovation activities, especially in its shape of "Citizens' Observatories". The vertiginous increase in the use of mobile technologies, with a pervasive Internet accessible to everyone and social media usage at its peak, offers a world of opportunities for research and innovation in the domain of environmental monitoring technologies where citizens have a key role to play. Citizen science can also foster advancement in social innovation as these are normally collective actions carried out by citizens, sometimes in partnership with NGOs, researchers and public organisations, which are bringing benefits for the whole society. Furthermore, the European Union's Framework Programme for Research and Innovation, Horizon 2020, is already offering a framework to mainstream public engagement in science and research, from programming to implementation and evaluation, being citizen science one of the key instruments to realise this objective. Data and information gathering, results interpretation and co-creation are examples of activities in which citizens can be involved, leading to different kinds of innovation, including social innovation.

What are the success factors for citizen science? What are the challenges for Citizen Science on a European scale?

In my opinion there is no magic formula to achieve success in a citizen science activity, nor any plug-and-play solution. There are many variables that have to be considered, such as the thematic, spatial or temporal scope of the activity. But a common element that seems to be an ingredient for success is to plan carefully not only the process of engagement but the feedback mechanisms, so citizens realise their actions and the outcomes of what they have done are really being useful. Working on creating a

strong perception of ownership is always a success factor on a voluntary initiative.

I see a number of challenges for Citizen Science at a European scale, especially, the need for a better coordination of the local and regional activities. This can avoid duplication of initiatives, foster best practices across activities and help position better citizen science vis-à-vis the EU and national and local governments, so citizen science can be higher up on their agendas. In this sense, I think the role of associations such as ECSA (European Citizen Science Association) is key in achieving this coordination.

How can EU projects on biodiversity information like EU BON facilitate the process?

EU BON, like other EU projects which have biodiversity information as a focus, has an important role to make visible the knowledge treasured by citizen science groups. The European Biodiversity Portal, one of the EU BON main achievements, is a fantastic opportunity to open up the wealth of biodiversity data which has been collected by citizens throughout Europe, making it available for a better informed decision making in those areas in which biodiversity has a role.

Where do you see the place of large European Earth observation projects such as EU BON in the global context?

The biodiversity information system resulting from EU BON is one of the main European contributions to GEO BON (GEO Biodiversity Observation Network), which is a flagship initiative of GEO (Group on Earth Observation). GEO BON is joining forces at international level to coordinate the activities relating to the Societal Benefit Area on Biodiversity of the Global Earth Observation System of Systems (GEOSS). Its main goals are to organize and improve terrestrial, freshwater and marine biodiversity observations globally and make their biodiversity data, information and forecasts more readily accessible to policymakers, managers, experts and other users. As EU BON is creating a stable and open-access platform for sharing biodiversity tools and data, taking stock of existing components such as LifeWatch or GBIF, this is clearly a step forward towards the fulfilment of the objectives of GEO BON.

NOTE: The views expressed in this interview are only of the speaker and do not necessarily reflect the official opinion of the European Commission.



2nd meeting on 'Linking environment to biodiversity'

A second WP4 (Link environment to biodiversity: analyses of patterns, processes and trends) meeting was held on 8 – 9 December 2014 in Brussels, to discuss progress towards objectives and set plans for future development.

Hot topics during the meeting were: GBIF data: who will use them, and how; development and use of methodology; collaboration between WP4 and the relevant WP3 (Improving tools and methods for data analysis and interface) and WP5 (EU BON testing and validation of concepts, tools, and services); as well as ways to translate WP4 results for the use of policy and practice.



Participants at the meeting. Credit: Dirk Schmeller

DINA Technical workshop in Stockholm

An EU BON Workshop focusing on the [DINA](#) (Digital Information system for NATural history data) - "Alpha version of mobilization system – the DINA-system" - was hosted the 16 – 18 September 2014 by the Swedish Museum of Natural History in Stockholm.

Target group: programmers, developers and system engineers, but the workshop was open to anybody who was interested to learn more about the DINA-system.

Content included:

- Presentations from all DINA-partners
- APIs, service oriented architecture and road map for distributed development, guidelines and principles on how to build a module and join the DINA-system
- Case studies
- Delivery options: creating installations from hosted environment, virtual machines down to source code

For programme, list of participants, presentations etc. please visit the [DINA wiki](#).

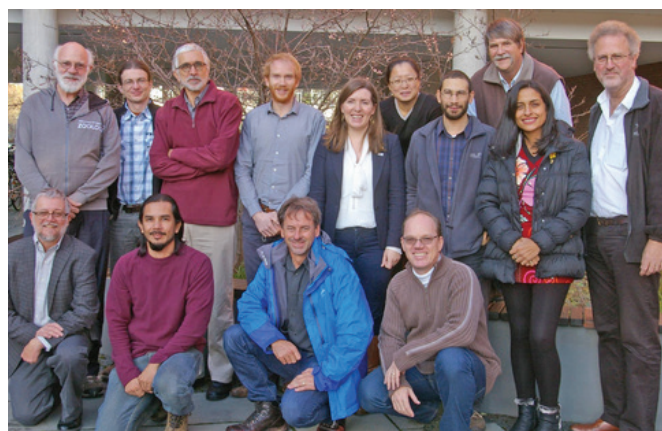


Towards a Global Butterfly Indicator: A Joint UNEP-WCMC - EU BON Workshop

UNEP-WCMC, Dutch Butterfly Conservation, and EU BON recently convened a workshop of 14 global experts from the field of butterfly monitoring, specifically the tropics and subtropics. The workshop has catalysed the process for the development of global butterfly monitoring guidelines and the creation of a new specialist butterfly monitoring group.

Hosted by GEO BON (Group on Earth Biodiversity Observation Network) at the offices of the German Centre for Integrative Biodiversity Research (iDiv) in Leipzig, Germany, the meeting took place on 8 – 9 December 2014. The global experts attending the meeting shared their significant experience and knowledge from the tropics, sub-tropics and deserts; including countries such as Papua New Guinea, Belize, Brazil, Colombia, USA, South Africa, Malaysia, and Liberia

This workshop has catalysed the development of a number of products, including: global butterfly monitoring guidelines; the development of a Global



*Participants of the butterfly monitoring experts meeting at iDiv, Leipzig, Germany, December 2014.
Credit: Eugenie Regan*

Butterfly Indicator; and a suite of scientific journal articles on butterfly monitoring in different regions of the world. The development of an Essential Biodiversity Variable (EBV) 'butterfly population abundance' that will facilitate the harmonisation of butterfly monitoring data from different habitat types and regions is also being developed. A new butterfly monitoring specialist group has also been established to provide support for practitioners working in the field of butterfly monitoring and to continue momentum from this workshop.

Steps towards functioning EBVs

Recently, two workshops on "Essential Biodiversity Variables" (EBVs) took place at the German Centre for Integrative Biodiversity Research (iDiv) in Leipzig, Germany. At the end of September 2014 a workshop jointly organized by EU BON and GEO BON advanced the discussion around EBVs by specifying data standards, data flows and first potential data sets. Furthermore, a roadmap was developed to calculate first concrete EBVs. In January 2015 another workshop (RS4EBV) looked into possibilities how EBVs can be generated with the help of remote sensing. The EU BONs "remote sensing task force" was invited.

Read more [here](#).



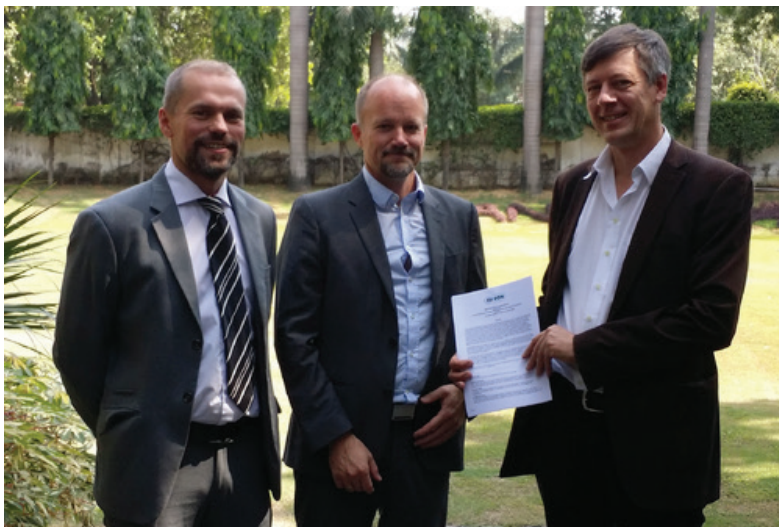
Participants at the RS4EBV workshop. Credit: Jörg Freyhof



Our new friends

New Memoranda of Understanding signed

New associated partners joined our project, including the Norwegian Institute for Nature Research (NINA), the Muséum national d'histoire naturelle (MNHN), Long-Term Ecosystem Research for Europe (LTER- Europe), and the Society as e-Infrastructure through technology, innovation and creativity, (Socientize).



At the handover: EU BON co-ordinator Christoph Häuser and Roald Vang (Head of Department on Information technology) and Frank Hanssen from NINA, 16 – 18 Sep 2014, New Delhi, India.
Credit: NINA team



Signing the MoU (left) Christoph Häuser, EU BON and (right) Fermin Serrano Sanz, Socientize. 27 Nov 2014, Berlin, Germany
Credit: Florian Wetzel



**Muséum
national
d'Histoire
naturelle**

The Muséum national d'histoire naturelle ([MNHN](#)) is the national natural history museum of France. It was founded in 1793 during the French Revolution, but was established earlier in 1635. The museum now comprises 14 sites throughout France, with four in Paris, including the original location at the royal botanical garden, the Jardin des Plantes.



Long-Term Ecosystem Research (LTER) is an essential component of world-wide efforts to better understand ecosystems. [LTER-Europe](#) focuses on the integration of natural sciences and ecosystem research approaches, including the human dimension. LTER-Europe was heavily involved in conceptualizing socio-ecological research.



The Norwegian Institute for Nature Research ([NINA](#)) is Norway's leading institution for applied ecological research, with broad-based expertise on the genetic, population, species, ecosystem and landscape level, in terrestrial, freshwater and coastal marine environments. The core activities encompass strategic ecological research integrated with long-term monitoring, as well as a variety of environmental assessments and development of methodologies.



Society as e-Infrastructure through technology, innovation and creativity ([Socientize](#)) is a Citizen Science Project that was funded by the European Union. The project aims to coordinate agents involved in the citizen science process and to foster and promote the usage of citizen science infrastructures.



EU BON Papers

The importance of open data for invasive alien species research, policy and management

Abstract:

Rapidly changing environmental conditions and the increasing establishment of invasive alien species present many challenges for policymakers, managers and researchers. The traditional policies for data management, or lack thereof, are obstructing an adequate response to invasive alien species, which requires accurate and up-to-date information. This information can only be provided if data regarding invasive alien species are available and useable by all, irrespective of country, status or purpose. The best way forward is for researchers to publish their data openly, by making use of repositories in which the data are licenced in a permissive manner, while making sure they are credited by the adequate provision of citation. Reducing the barriers to data sharing will improve our ability to respond to the growing issue of biological invasions.

Original Source:

Groom QJ, Desmet P, Vanderhoeven S, Adriaens T (2014) The importance of open data for invasive alien species research, policy and management. *Management of Biological Invasions* (in press)

Advancing species diversity estimate by remotely sensed proxies: A conceptual review

A new EU BON acknowledged paper "Advancing species diversity estimate by remotely sensed proxies: A conceptual review" has been recently published in the journal *Ecological Informatics*.

Abstract:

Many geospatial tools have been advocated in spatial ecology to estimate biodiversity and its changes

over space and time. Such information is essential in designing effective strategies for biodiversity conservation and management. Remote sensing is one of the most powerful approaches to identify biodiversity hotspots and predict changes in species composition in reduced time and costs. This is because, with respect to field-based methods, it allows to derive complete spatial coverages of the Earth surface under study in a short period of time. Furthermore, remote sensing provides repeated coverages of field locations, thus making studies of temporal changes in biodiversity possible. In this paper we discuss, 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, Hernández-Stefanoni JL, He KS (2014) 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)

All EU BON papers available [here](#).

Data Publishing: Success Stories

From Barcode of Life Data Systems to scholarly publishing systems: A case study with ten Nearctic species of Microgastrinae

An innovative workflow reveals new research potential of the Barcode of Life Data Systems (BOLD). A recently published article in the *Biodiversity Data Journal* (BDJ) used specimen records downloaded from BOLD in tabular format and imported these into a human-readable text developed in manuscript within the Pensoft Writing Tool (PWT). Data were used to study the species distributions of ten Nearctic species of braconid wasps from the Microgastrinae subfamily.



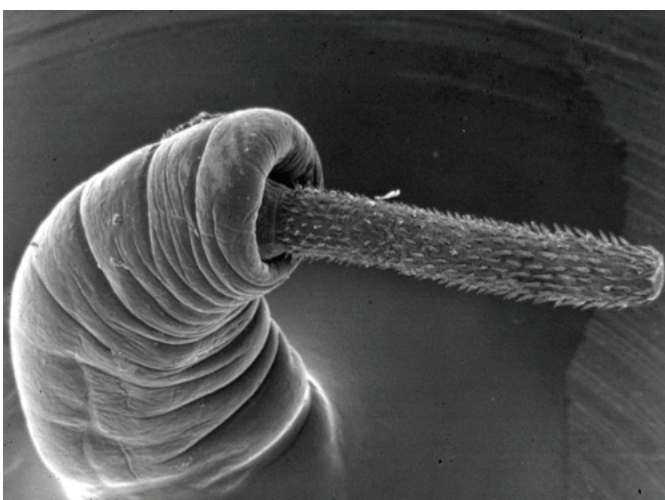
Original Source:

Fernandez-Triana J, Penev L, Ratnasingham S, Smith M, Sones J, Telfer A, deWaard J, Hebert P (2014) Streamlining the use of BOLD specimen data to record species distributions: a case study with ten Nearctic species of Microgastrinae (Hymenoptera: Braconidae). *Biodiversity Data Journal* 2: e4153. doi: [10.3897/BDJ.2.e4153](https://doi.org/10.3897/BDJ.2.e4153)

Read more [here](#).

Contributions on Fauna Europaea: Data papers as innovative model on expert involvement

Fauna Europaea started in 2000 as an EC-FP5 four-year project, delivering its first release in 2004. After 14 years of steady progress and successful participations in several EC projects, as a part of the EC-FP7 European Biodiversity Observation Network project (EU BON), to increase the general awareness of the work done by the contributors and to extend the general dissemination of the Fauna Europaea results, the Biodiversity Data Journal has applied its novel e-Publishing tools to prepare data papers for all 56 major taxonomic groups.



Echinorhynchid acanthocephalan. Credit: Fauna Europaea

Original Sources:

de Jong Y, Verbeek M, Michelsen V, Bjørn P, Los W, Steeman F, Bailly N, Basire C, Chylarecki P, Stloukal E, Hagedorn G, Wetzel F, Glöckler F, Kroupa A, Korb G, Hoffmann A, Häuser C, Kohlbecker A, Müller A, Güntsch A, Stoev P, Penev L (2014) Fauna Europaea – all European animal species on the web. *Biodiversity Data Journal* 2: e4034. doi: [10.3897/BDJ.2.e4034](https://doi.org/10.3897/BDJ.2.e4034)

Read more in the [full story](#).

Re-publication of 'Flora of Northumberland and Durham' (1831):

The classical treatise "Flora of Northumberland and Durham" by Nathaniel John Winch is re-published through the innovative Advanced Books platform as an example of combining modern information technology together with historical scholarship to create a new sort of resource and data re-use. This publication will be supporting ongoing research on the botany of the region, which can be seen as a model for other regions in Europe.

The online semantically enriched republication marries the meticulous detail of old books with the interconnectedness of the internet bringing advantages of the digitization and markup efforts such as data extraction and collation, distribution and re-use of content, archiving of different data elements in relevant repositories and so on.

Original Source:

Winch N (2014) Flora of Northumberland and Durham. *Advanced Books*: e4002. doi: [10.3897/ab.e4002](https://doi.org/10.3897/ab.e4002)

The full article is available on our [website](#).



EU BON policy briefs

POLICY BRIEF 3

Use cases of the EBV concept

As an attempt to fill existing gaps in available biodiversity information and frame the current challenges of biodiversity monitoring, the concept of Essential Biodiversity Variables (EBVs) has been proposed to identify those biodiversity measures required for surveying the most essential components of biodiversity. To date, the suites of proposed EBVs are clustered into 6 EBV classes: Genetic Composition (GC), Species Populations (SP), Species Traits (ST), Community Composition (CC), Ecosystem Structure (ES), and Ecosystem Function (EF). The conceptual EBV framework is still under development and has not yet been translated into direct actions. However, EBVs may provide a critical step forward for revising strategic goals for the coordination of large-scale integrative biodiversity monitoring by helping formalize a unified framework common across the different ecological fields.

In the EU-project EU BON a taskforce with experts covering data management, ecological modelling, biodiversity monitoring and other relevant topics has been created. The work of the EBV taskforce is to develop a series of use cases to elucidate the applicability of the EBV concept to the current biodiversity information structures and to show where improvements are needed to call on the full potential of EBVs

Use case 1

GEO GROUP ON EARTH OBSERVATIONS

POLICY BRIEF 1

EBVs can improve biodiversity reporting

Introduction

Globally, biodiversity continues to be lost and, due to its importance for human well-being, an increasing number of political commitments aim to halt this loss of biodiversity. This has resulted in the "greening" of existing policy instruments (e.g., in the case of the European Common Agricultural Policy), the establishment of new collaborative platforms (e.g., the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)) and the continuation of existing efforts for global biodiversity conservation (e.g., the convention on the Conservation of Migratory Species of Wild Animals (CMS)). In line with this trend, the Parties to the Convention on Biological Diversity (CBD) adopted the Strategic Plan for Biodiversity 2011-2020, which includes a shared mission and 20 targets, collectively known as the Aichi Biodiversity Targets (CBD 2010). Reporting on biodiversity changes is required for tracking and evaluating the progress of biodiversity oriented policy instruments, as well as informing decision makers of possible positive or negative side effects of other policy decisions, such as those resulting from urbanisation, land abandonment, bio-energy production or the industrialization of marine fisheries. All biodiversity-related assessments face similar challenges regarding indicator selection and data availability, leading to a gap between the information that would ideally be used to assess biodiversity trends, and the biodiversity information which actually is used.

GEO GROUP ON EARTH OBSERVATIONS

Download from the project [media centre](#).

Future events of interest

EU BON events

EU BON and CETAF joint informatics workshop

The EU BON – CETAF joint informatics workshop will take place from 17 to 20 March 2015 in Joensuu, Finland.

The event will be organised by UEF and Digitalium, EU BON consortium member and work package leader (WP2), in collaboration with CETAF ISTC and other EU BON work packages.

Purpose of this meeting is to launch several EU BON products, give a related training workshop, work on

upcoming deliverables, and gain synergies by working with CETAF. Registration for the workshop is now open.

More information is available [here](#).

The 2nd EU BON training on data sharing tools

The 2nd EU BON training on data sharing tools will take place on 19 March 2015 in Joensuu, Finland, side by side to CETAF/EU BON informatics workshops.

Find out more about the training on the event's dedicated [webpage](#).



EU BON General Meeting

The next EU BON General Meeting will take place from 1 to 4 June 2015 at the Clare College, Cambridge, UK.

The programme is planned to include: Kickoff symposium, EU BON thematic sessions, cross-task modules, trainings, workshops and the General Assembly and Board meetings.

To register and find more information about the event, go to: <http://symposium.eubon.eu>.

Other

SETAC Europe 25th Annual Meeting

The SETAC Europe 25th Annual Meeting "Environmental protection in a multi-stressed world: challenges for science, industry and regulators" will be held in Barcelona, Catalonia, Spain, from 3-7 May 2015.

The innovative use of chemicals and nanomaterials in new technologies, industry and agriculture challenges many aspects of the ecosystem functioning of the global environment. However, these new technologies and materials also offer opportunities to remediate or minimise these anthropogenic insults. Finding innovative solutions to environmental problems is ever more important in the current economic scenario. The international conference brings together experts from government, industry, consultancy and academia to meet this challenge.

Read more on the official event's [page](#).

GEO Workplan Symposium

The GEO Workplan Symposium 2015 is planned to take place on 5-7 May 2015 in Geneva, Switzerland

For more information, please consult the [GEO meetings list](#).

The 36th International Symposium on Remote Sensing of Environment (ISRSE)

The 36th International Symposium on Remote Sensing of Environment (ISRSE) will take place on 11-15 May 2015 in Berlin, Germany.

This 36th Symposium will represent a major event in the long series of internationally recognized ISRSE meetings. The overall theme of the symposium is the use of Earth Observation systems and related Remote Sensing techniques for understanding and managing the Earth environment and resources.

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

9th GEO European Projects Workshop

The 9th GEO European Projects Workshop will take place on 15 -16 June 2015 in Copenhagen, Denmark. The event is co-organised with the Danish Meteorological Institute, the European Commission and the European Environment Agency.

The objective of the GEO European Projects Workshop is to bring together European players interested in and actively contributing to the Global Earth Observations System of Systems (GEOSS). The aim is to enable participants to present their work and discuss how Europe can contribute to this international effort. Its timing has been set to maximise early insight and awareness of the new Implementation plan for the next decade of GEO as well as input to and awareness of Horizon 2020 work programme for 2016 and 2017.

Find out more [here](#).

ICCB-ECCB 2015

The Society for Conservation Biology (SCB) teams up with Agropolis international and the French Foundation for Research on Biodiversity (FRB) to host the 27th International Congress for Conservation Biology (ICCB) and the 4th European Congress for Conservation Biology (ECCB) to be held on August 2-6, 2015 in Montpellier, France.

The joint meeting brings together our international community of conservation professionals to address conservation challenges and present new findings, initiatives, methods, tools and opportunities in conservation science and practice.

More about this event can be read [here](#).

Find out more events in the [EU BON calendar](#).



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

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