

free and open access to biodiversity data

GBIF Ebbe Nielsen Challenge



Ebbe Nielsen Challenge site

With the aim of inspiring scientists, informaticians, data modelers, cartographers and other experts to develop innovative uses of open-access biodiversity data, the Secretariat launched the [GBIF Ebbe Nielsen Challenge](#) on 2 December.

Named after one of GBIF's principal founders, who tragically died just before the network came into being, the Challenge recasts the [Ebbe Nielsen Prize](#) as an incentive competition aimed at encouraging new advances in biodiversity informatics.

On the GBIF Ebbe Nielsen Challenge site, prospective participants can find complete competition details, register for updates, find potential collaborators, and post submissions ahead of the Round One deadline of 2 March 2015.

An expert jury will judge the initial entries and select three to six finalists to receive €1,000 each while competing for a €20,000 First Prize later in 2015.

▶ **READ MORE**

[Challenge announcement](#)

[GBIF Ebbe Nielsen Challenge](#)

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GBIF COMMUNITY

Indo-Norwegian capacity-building pilot yields new guide on camera trapping camera

A new guide that helps generate data for conservation policy using camera trap images is one of the major products of a three-year capacity-building project involving GBIF and partners in India and Norway.



Photo: courtesy of Wildlife Institute of India

Seeking to demonstrate collaboration on capacity-building for the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), the multinational team has published a final report that details its outcomes while aiming to break down barriers to the mobilization and use of biodiversity data for decision-making.

“We hope this collaborative effort will help practitioners in many parts of the world work through the basic steps needed to generate useful data from camera traps”, said the Secretariat’s Alberto González-Talaván, one of the guide’s editors.

▶ **READ MORE**

[News release](#)

[Publishing Camera Trap Data: A Best Practice Guide](#)

2014 TDWG Conference

The Biodiversity Information Standards (TDWG) 2014 conference held from 27-30 October in Jönköping, Sweden, focused on biodiversity-related applications and data standards. Several staff from the GBIF Secretariat participated in

presentations, meetings and discussions about citizen science, Darwin Core, academic community needs and a proposed biodiversity informatics training curriculum. During the Conference, GBIF co-chaired a symposium with EU BON on [Standards for mobilizing and integrating sample-based data](#), which featured a [presentation](#) by the Secretariat’s Éamonn Ó Tuama on extending the Darwin Core archive to support sample data.

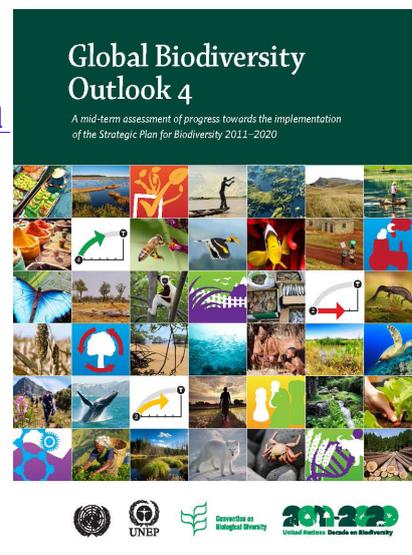
▶ **READ MORE**

[Symposium: Standards for mobilizing and integrating sample-based data](#)

[Slides: Publishing sample-based data using Darwin Core Archives](#)

COP-12 and GBO-4

The twelfth meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD COP-12), held in Pyeongchang, Republic of Korea, from 6-17 October, agreed a set of decisions [collectively known as the Pyeongchang Roadmap](#) aimed at accelerating progress towards the Aichi Biodiversity Targets. It included publication of the [Fourth Global Biodiversity Outlook \(GBO4\)](#) which concluded that while progress had been made towards meeting many of the targets, in most cases this was not sufficient to meet the goals set under the Strategic Plan for Biodiversity 2011-2020.



Global Biodiversity Outlook 4

Among the priority actions recommended by GBO4, and endorsed by governments at COP-12, was further mobilization of and access to primary biodiversity data. GBO-4 and the [latest update of the Biodiversity Indicators Partnership](#) singled out [data mobilized through GBIF](#) as an indicator of progress towards Aichi Target 19 on sharing of information and knowledge about biodiversity.



The meeting in Korea also saw the launch of the [Global Invasive Species Information Partnership Gateway](#), a collaboration between GBIF and several partners to bring together information from various sources to support decision-makers in tackling the threat posed by invasive species in their countries.



The GIASIP gateway

► **READ MORE**

[Download the Fourth Global Biodiversity Outlook \(GBO4\)](#)

[Global Invasive Species Information Partnership Gateway](#)

EU BON Citizen Science Stakeholder Roundtable

The ‘Citizen Science Stakeholder Roundtable: How can EU BON support Citizen Science?’ was held on 27 November in Berlin. The roundtable’s presentations and discussions focused on the increasing importance of citizen science as a source of biodiversity data. Attendees made recommendations to harmonize the quality of data generated by citizen science, and to encourage citizen scientists to continue their work and make their data available.



Asilidae Latreille. Photo recorded by by Thomas Walsh and published by [iNaturalist.org](#) in GBIF.org at <http://www.gbif.org/occurrence/1038314930>

Siro Masinde, the Secretariat’s programme officer for content mobilization, presented a preliminary analysis on citizen science contributions to GBIF-mediated data, which presently accounts for about one-third of the more than 500 million occurrences—a percentage that is only expected to increase in the future. Current sources include citizen science networks like [eBird](#) and [iNaturalist](#), records from [national node Bioblitzes](#), and crowd-sourced digitization efforts like the [Australian Volunteer Portal](#) and [les herbonautes](#).

IOC UNESCO

A new collaboration between GBIF and the [Intergovernmental Oceanographic Commission of UNESCO](#) (IOC) aims to improve the volume and quality of information available to policy makers for conservation and sustainable use of the ocean’s biological resources. The two institutions have signed a Letter of Agreement which recognizes IOC-UNESCO as a GBIF Affiliate. The focus of the agreement is on improved technical collaboration between GBIF and the Ocean Biogeographic Information System (OBIS), an activity under the IOC’s International Oceanographic Data and Information Exchange (IODE) programme. The agreement also recognizes GBIF as an Associate Data Unit in IODE.

► **READ MORE**

[News release](#)
[OBIS website](#)

Updated English, French, Spanish and Portuguese brochures

Secretariat staff have revised a compact six-panel pamphlet providing a clear, concise overview of what GBIF is and does in three languages. In addition to short descriptions of the various areas of GBIF’s work, the brochure guides people to links for further information.

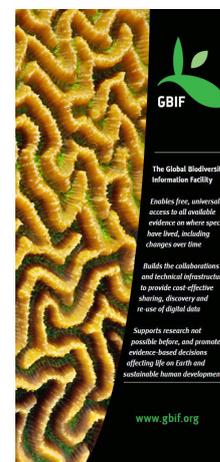
► **DOWNLOAD**

[English brochure](#)

[French brochure](#)

[Spanish brochure](#)

[Portuguese brochure](#)



GBIF brochure

CAPACITY ENHANCEMENT

2015 Capacity Enhancement call

The GBIF Capacity Enhancement Support Programme provides co-funding to GBIF Participants for collaborative projects targeting capacity enhancement and exchange through mentoring, training and advocacy activities, and the production or adaptation of documentation and guidance material. Representatives of GBIF Participants interested in applying for the 2015 Capacity Enhancement call will be invited to submit short concept notes from 10 February to 3 March 2015. Full information about 2015 call will be made available on GBIF.org in the New Year.

DATA PUBLISHING

GBIF.org adds 'data trends' charts and richer national information

New visualizations now available on GBIF.org offer fresh insights into [global](#) and national trends in data mobilization and the ways in which national partners organize their biodiversity information networks.

These 'data trends' charts analyse the volume and content of the species occurrence information shared through the GBIF network, both at global and national levels (as in [this example from Japan](#)). Initially developed through a gap analysis for [EU BON](#), countries can use the visualizations to track the data its institutions publish, to spot data gaps, and to guide future data publishing and quality priorities.

Visitors to GBIF.org can also learn more about GBIF's national nodes, with the information added to the Participation section of each country page (as in this example [from Andorra](#)). This enhanced section explains the history and structure of the national networks involved in GBIF activity, describes their respective missions and funding sources, and shares web and social media links that enable GBIF.org users to connect directly with these building blocks of the GBIF community.

► **READ MORE**

[News release](#)

Decommissioning old data and communications portals

The GBIF Secretariat plans to retire its former websites and associated web services, which are presently located at <http://data.gbif.org> and <http://www-old.gbif.org>. Pending the imminent release of a new resource library on GBIF.org, links to the older resources will be redirected to GBIF.org on or about 31 January 2015.

GBIF community members can help us identify and alert partners still using these services that they will end on 31 January 2015.

► **READ MORE**

[Complete announcement on upcoming decommissioning](#)

NEW DATA

BELGIUM

The [Belgium Biodiversity Information Facility](#) (BeBIF) has worked with new publisher [Botanic Garden Meise](#) to publish 24,121 specimen records of [endemic plants from the Congo](#) basin countries of Burundi, Rwanda and the Democratic Republic of the Congo dating from 1890 to 2014.



Leptoderris congolensis (De Wild.) Dunn (FABACEAE) - Photo CC BY-NC-2.0 <https://www.flickr.com/photos/36517976@No6/3710999962>

[Watervogels - Wintering waterbirds in Flanders, Belgium](#), contains '23 winters of waterbird counts', as Peter Desmet from [Research Institute for Nature and Forest](#) (INBO) describes in [this blog post](#). The product of a long-term effort to assess and monitor the size, distribution and trends of the region's wintering waterbird populations, the dataset comprises nearly 640,000 observations of 170 species from 1991 to the present.

BRAZIL

Two major institutes specializing in the biodiversity of the Brazilian Amazon region have published datasets through GBIF, associated with the launch of the [new data portal from GBIF's national node in Brazil](#) (see New Portals below). The [National Institute for Amazon Research](#) (INPA), based in Manaus, shared [more than 250,000 plant records from its herbarium](#) dating between 1846 and 2008. The [Goeldi Museum of Pará](#), based in Belém, published over [25,000 records of Amazon fish specimens](#), [23,000 reptile records](#), and [20,000 records from its bird collection](#) as well as several collections of invertebrates.



Basileuterus flaveolus - Photo CC BY-SA-2.0 - <https://www.flickr.com/photos/dariosanches/4301809987>

CHINA

The [Chinese Academy of Sciences](#) has published new botanical datasets from five Chinese herbaria in [Lushan](#), [Wuhan](#), [Chengdu](#), [Guangxi](#), and [Jiangsu](#), adding more than 360,000 plant records and significantly increasing the geographic coverage of data from China.

DENMARK

[DanBIF](#) led the digitization and publication of a unique dataset from the [Natural History Museum of Denmark](#) of [birds fallen at Danish lighthouses between 1883 and 1939](#). The 1,200 occurrences [digitized](#) thus far include both published observations and specimens collected at the Lodbjerg and Hanstholm lighthouses on the Jutland peninsula in western Denmark.

GERMANY

[POLLICHA](#), the Palatinate Society for Natural History and Landscape Conservation, working with [GBIF Germany](#), has published more than 180,000 occurrences from [ArtenFinder](#). This dataset draws

from an environmental protection project that relies on citizen observations of the Rhineland-Pfalz region's local flora and fauna.

PORTUGAL

[GBIF Portugal](#) has endorsed two new datasets. The first includes more than 30,000 records from the [Insect Collection](#) of the [National Museum of Natural History and Science of the University of Lisbon](#). Meanwhile, the first botanical collection from the [Museu de História Natural, Universidade do Porto](#) comprises more than 7,500 occurrences of mosses, liverworts and hornworts—a collection gathered by 61 different individuals dating back to 1837.

► READ MORE

[GBIF-PT release on Universidade do Porto dataset](#)

[GBIF-PT release on University of Lisbon dataset](#)

UNITED STATES

[VertNet](#) has assisted the Denver Botanic Gardens in publishing two new datasets from the Southern Rocky Mountains. 10,000 records come from preserved and documented mycological specimens in the [Sam Mitchel Herbarium of Fungi](#), while the Kathryn Kalmbach Herbarium adds a [collection of over 56,000 vascular plant specimens](#).

VertNet also helped another first-time publisher, Ohio University, publish more than 2,200 occurrences drawn from its Invertebrate Paleontology Collection, which contains Late Ordovician-era fossils from formerly shallow marine habitats near Cincinnati.



Astragalus bisulcatus - Photo CC BY-SA-2.0 - https://www.flickr.com/photos/plant_diversity/4001370498

AROUND THE NETWORK

Ibero-American data quality workshop, Colombia



Photo courtesy of SIB Colombia

Twenty-five participants from six Ibero-American countries attended the data quality workshop held from 18-21 November at the Andes University in Bogotá, Colombia. During this workshop, diverse presentations and practical sessions covered data quality conceptual issues, georeferencing and point-radius method as well as the use of taxonomic and geographical validation tools and other software.

“For Uruguay, the workshop provided a deeply rich experience for sharing and learning about biodiversity data quality tools and methods,” said Andrés Carvajales, Ministerio de Vivienda, Ordenamiento Territorial y Medio Ambiente de Uruguay, after the workshop. “Getting to know how other countries have met their needs in terms of biodiversity information and data quality will most surely be helpful in designing and putting together our country’s national Biodiversity Information System.” Uruguay [recently rejoined GBIF](#) as a Voting Participant country.

Co-funded through GBIF’s 2014 capacity enhancement support programme, the workshop is expected to lead to the creation of an interest group for data quality that will support the integration of the Latin American region, and will closely follow the global discussion on data quality led by GBIF and TDWG.

National node for Brazil launched a new data portal

The GBIF national node for Brazil, [SiBBr](#), launched a new data and information portal on 24 November. The portal was developed through a mentoring project, supported by GBIF core funds, between SiBBr and its partner organization in Colombia, SiB Colombia. It included collaboration with Canadensys, a GBIF Associate Participant, which supported Brazil in re-using the tools behind its [data explorer](#) providing digital access to Canada’s natural history collections.

The SiBBr portal enables users to explore data both from collections published by Brazilian institutions (see Data Publishing above) and data about Brazilian biodiversity published by institutions from other countries and ‘repatriated’ through the GBIF global infrastructure.

The launch in Brasilia was associated with a [workshop on best practices in managing and digitizing biological collections](#), with presentations from, among others, [iDigBio](#), [Digitarium \(Finland\)](#) and GBIF Secretariat

New national biodiversity portal released by GBIF Spain

GBIF Spain released its new national biodiversity data portal on 28 November during an event at Real Jardín Botánico-CSIC in Madrid. The [new site](#) provides free access to more than 10 million



PORTAL DE DATOS DE BIODIVERSIDAD
Nodo Nacional de Información en Biodiversidad

REGISTROS: 10.851.966
JUEGOS DE DATOS: 170
INSTITUCIONES: 75

Información de todas las entidades españolas que publican datos en GBIF

Información de los juegos de datos de las instituciones y proyectos participantes en GBIF, detalles de los registros, licencias de

Mapa de los registros con coordenadas. Filtro, visualiza y descarga los datos por nombre científico, grupo taxonómico, área

GBIF Spain new national biodiversity data portal

biodiversity records from 69 Spanish institutions and projects as well as nearly another million



records of biodiversity in Spain published by institutions abroad.

The new GBIF Spain site builds on an open-source system originally developed by the Atlas of Living Australia (ALA), and represents the first of several results expected from this year's collaborations across the GBIF network.

► **READ MORE**

[New GBIF-ES data portal](#)

[News release](#)

GBIF executive secretary at iDigBio

Executive secretary Donald Hobern offered remarks on improving data quality and data citation in October at the iDigBio Summit IV.

► **WATCH**

[Video: Donald Hobern at iDigBio Summit](#)

GBIF DATA IN USE

The Secretariat maintains a programme to monitor use of GBIF-mediated data in scientific literature. The following peer-reviewed articles represent some recent highlights.

Burkhardt, U., et al. 2014. [The Edaphobase project of GBIF-Germany – New online soil-zoological data warehouse](#). Applied Soil Ecology.

Introduction of the Edaphobase, a non-commercial data warehouse on soil organisms integrated in the GBIF network. The Edaphobase combines data on taxonomy, zoogeography and ecology. It currently focuses on Germany.



Brown centipede (*Chilopoda: Lithobius spec.*). Photo CC BY-SA 2.0 <https://www.flickr.com/photos/qbohne/7272889354>

Ivanova, N. V., et al. 2014. [Approaches to Development of Common Information Resource on Species Biodiversity](#). Mathematical Biology and Bioinformatics.

Researchers describe GBIF and how community standards promoted through the GBIF network could be used to support the development of a national Russian Biodiversity Database that would aggregate and unify biodiversity data at a national level.

Jones, T. M., et al. 2014. [Trends in access of plant biodiversity data revealed by Google Analytics](#). Biodiversity Data Journal.

Using Google Analytics, the authors analyzed the digital presence of plant biodiversity data provided by 15 different sites, among which GBIF.org. The knowledge drawn from this analysis provides metrics about usability, design, and possible future development within biodiversity informatics Biodiversity Data Journal.

Li G. Q., et al. 2014. [Mapping the Global Potential Geographical Distribution of Black Locust \(*Robinia Pseudoacacia* L.\) Using Herbarium Data and a Maximum Entropy Model](#). Forests.



Black Locust (*Robinia pseudoacacia*) - Photo CC BY-NC-ND 2.0 <https://www.flickr.com/photos/laurentbreillat/4641237419>

Researchers used over 30,000 GBIF-mediated occurrence records and records from Chinese Virtual Herbarium to predict the potential distribution of Black Locust (*Robinia pseudoacacia*), a tree species that is both of high economic value and highly invasive.

Meseguer, A. et al. 2014. [Integrating Fossils, Phylogenies, and Niche Models into Biogeography to reveal ancient evolutionary history: the Case of *Hypericum* \(*Hypericaceae*\)](#). Systematic Biology.

The authors introduce a new approach to historical biogeography that incorporates temporal, spatial, and environmental information provided by the fossil record. To illustrate the effectiveness of this new biogeographic model, they reconstructed the biogeographic history of *Hypericum* using

distribution data provided by GBIF.org among other sources.

Pappalardo, P., et al. 2014. [The Location, strength, and mechanisms behind marine biogeographic boundaries of the east coast of North America](#). *Ecography*.

Using almost 1,800 GBIF-mediated occurrences of benthic species, the authors compiled a database with geographic ranges of benthic marine invertebrates along the east coast of North America. They identified sites with high frequencies of range boundaries and identified possible factors that could explain their narrow geographical areas.

Savage, J. et al. 2014. [Elevational shifts, biotic homogenization and time lags in vegetation change during 40 years of climate warming](#). *Ecography*.



Wildflowers, southern Quebec - Photo CC BY-ND 2.0
<https://www.flickr.com/photos/off-the-road/14799808620>

Are distribution shifts of species towards higher elevations climate-driven? To test the impact of global warming on species distribution, the authors used a repeat survey of semi-permanent vegetation plots in montane protected area in southern Québec, Canada, and overlaid climate data and GBIF-mediated occurrence records in eastern North America. It appears that elevational distribution shifts, biodiversity change, and biotic homogenization over the past four decades have been consistent with predictions based on climate warming, although the relatively slow rate of change suggests time lags in biotic response to climate change.

Silva, D.P., et al. 2014. [Using Ecological Niche Models and Niche Analyses to Understand Speciation Patterns: The Case of Sister Neotropical Orchid Bees](#). *PLoS ONE*.



Eulaema polycroma - Photo CC BY-NC-SA 2.0
<https://www.flickr.com/photos/adrian-afonso/3357270387>

The authors tested the role of ecological niche differentiation on the divergence between orchid-bees (*Eulaema* and *Eufriesea*) from the Amazon and Atlantic forests using distributional data accessed through GBIF and other sources. Their findings confirm the current taxonomic treatment of these species as distinct valid species, and identify new areas in need of future surveys.

Van Erp, M. et al. 2014. [Georeferencing Animal Specimen Dataset](#). *Transaction in GIS*.

Using domain knowledge about species geographical distribution from GBIF.org, researchers developed an automatic georeferencing approach. In this article, they demonstrate how the addition of external domain knowledge increases the accuracy of the georeferencing process over methods that solely focus on the analysis of geographical information. This new approach has been realized in a prototype tested at Naturalis.

EVENTS

Meetings and conferences

[Third Plenary meeting of the Intergovernmental Platform on Biodiversity and Ecosystem Services](#)
 12 January 2015, Bonn, Germany

[Data Sharing, Data Standards, and Demystifying the IPT](#)
 13 January 2015, Gainesville, Fla., USA, and Ottawa, Canada

AAAS 2015 Annual Meeting – Innovations, Information, and Imaging
 12-16 February 2015, San Jose, Calif., USA



Black Listing Meeting

1-4 March 2015, Leipzig, Germany

RDA/US 5th Research Data Alliance Plenary

9-11 March 2015, San Diego, Calif., USA

EU BON and CETAF joint informatics meeting

17-20 March 2015, Joensuu, Finland

[Africa Rising: Mobilising Biodiversity Data for Sustainable Development](#)

24-26 March 2015, Cape Town, South Africa



GBIF VISION *A world in which biodiversity information is freely and universally available for science, society, and a sustainable future.*

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