



## **GBIF science awards target novel research on climate, ecology and evolution**

This year's €30,000 Ebbe Nielsen Prize should contribute to better understanding of how plants respond to climate change, following the selection of Nathan Swenson from the United States to receive the prestigious annual award funded by GBIF.

The decision was made by the GBIF Science Committee, which also chose a PhD student from Argentina and a master's student from Colombia to receive the 2012 Young Researchers Award, for promising work on biogeography and species distributions.

The [Ebbe Nielsen Prize](#), named in memory of the Danish scientist whose work helped to inspire GBIF and who died shortly before its establishment in 2001, is awarded annually to researchers in early stages of their career, who combine biosystematics and biodiversity informatics research in novel ways.

The 2012 winner, Nathan Swenson, is associate professor at the Department of Plant Biology, Michigan State University. His work demonstrates how occurrence data such as those available through GBIF can help understand the impact of climate on species distributions.

Swenson proposes to use the award towards a project that uses data published through GBIF, and data from the [iPlant Tree of Life programme](#), for a large-scale analysis to study the evolution of climatic niches in plants. The analysis will be carried out jointly with the Ecoinformatics and Biodiversity Group at the Department of Bioscience, Aarhus University, Denmark.

In a statement submitted during his nomination, Swenson says: "We could quantify for the first time how quickly or slowly climatic niches evolve in seed plants. The findings would have direct implications for our understanding of how plants may or may not respond to temporal changes in global climate."

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GBIC 2012, Global Biodiversity Informatics Conference

The two winners of the 2012 [Young Researchers Award](#), each receiving €4,000 each, are:

- Salvador Arias, a PhD student at the Universidad Nacional de Tucumán in Argentina. He has developed the Vicariance Inference Programme (VIP), which uses georeferenced data to explore the splitting of the geographical ranges of groups of organisms because of barriers to gene flow or species' movement.
- Elkin Tenorio Moreno, a master's student at the Department of Biological Sciences, Universidad de los Andes in Colombia. He plans to use the award to analyse dispersal patterns of Amazonian and Andean birds across climatic and geographic barriers, using GBIF-mediated data.
- An additional seed grant has been awarded to a Tanzanian master's student, Bujiku Kipondya, for research using data published through GBIF to determine the distribution of dung beetle species along the Pare Mountains in northeast Tanzania.

[Read full story...](#)

## SCIENCE AND POLICY

### New global science-policy platform established

Governments have formally agreed to establish the new Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services (IPBES), with a secretariat based in Bonn, Germany.

The decision was made at the second plenary session on the platform, held from 16-21 April in Panama City, Panama.

The meeting was principally about establishing rules and procedures for the new platform, and detailed decisions on its work programme have yet to be made. However, the role of existing institutions in contributing to the work of IPBES was discussed at a side event jointly hosted by the GBIF Secretariat, IUCN and the UNEP-World Conservation Monitoring Centre.

At the side event, GBIF Executive Secretary Donald Hobern emphasized the complementary role between the two institutions. He said that while IPBES would operate at the science-policy interface, GBIF's unique global mandate was to provide a well-organized and robust data-science interface.

Hobern added that GBIF was well placed to deliver datasets aligned with the needs of the assessments IPBES will carry out, and that he expected IPBES to play an important role in identifying priorities for biodiversity data activities.

### CBD Executive Secretary calls for urgent improvement in biodiversity monitoring

The new Executive Secretary of the Convention on Biological Diversity (CBD), Braulio Dias, has called for urgent steps to improve the collection of data and monitoring of biodiversity to help meet global targets.

Dias was opening the latest meeting of the CBD's subsidiary body on scientific, technical and technological advice (SBSTTA), in Montreal, Canada.

He observed that each time a new biodiversity report was produced, it seemed we had to look afresh for comparable sources of information and data, with the result that conclusions tended to be qualitative with little precise data on important issues.

"We must urgently put in place a continuous monitoring system for the Aichi Biodiversity Targets," Dias observed.

"It will require making observations relevant to biodiversity on a systematic basis and with the necessary frequency and resolution, managing this information so that it can be used for assessments and for deriving indicators, improving our models and for making better projections."

Dias concluded: "I strongly believe that unless we are able to monitor biodiversity in an adequate way, we will not be able to manage our biodiversity in a satisfactory manner and we will fail to achieve the Aichi Biodiversity Targets."

Among the formal recommendations made during the SBSTTA meeting were several recognizing GBIF's role in providing biodiversity information, including as a contributor to the fourth Global Biodiversity Outlook document, due to be completed in 2014.

### Second GBits Science Supplement published

GBits subscribers are invited to view the second edition of the supplement giving details of the uses of GBIF-mediated data in scientific literature over the past two months. Among nearly forty papers listed are studies of the impacts of large-scale water transfers on freshwater fish diversity, a visualization of the species potentially put at risk by the 2010 Gulf of Mexico oil spill, and a review of methods to assess the conservation status of all known plants.

You can access the Science Supplement [here...](#)

### GBIF Annual Report 2011 now available

The Annual Report on GBIF's worldwide activities for last year has a special focus on the uses in scientific research and policy tools of data published through the GBIF network. Marking the tenth anniversary



year of the organization, the report looks at its achievements to date measured against the original vision of the OECD science forum in 1999 which recommended setting up GBIF. The Annual Report also reviews significant progress during 2011 on informatics tools, data publishing, training and capacity programmes around the network.

The report can be accessed online [here](#) and printed copies are available on request from [info@gbif.org](mailto:info@gbif.org).

## DATA PUBLISHING

### Guide on managing biodiversity data from local government

Local governments around the world have a new tool to help share and use vast amounts of biodiversity knowledge collected in the course of their work.

A [best practice guide](#) published by GBIF, and [ICLEI - Local Governments for Sustainability](#), with the support of the [Convention on Biological Diversity](#) (CBD), details the simple steps needed to preserve data and make them accessible via the Internet.



The intention is to increase awareness of the tools and protocols available to publish biodiversity data collected as part of local government planning processes, which are often lost after completion of reports or collected in inconsistent formats that cannot be easily archived or shared. A [concise version](#) of the guide is also available for local government practitioners.

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

### GBIF guide for citing biodiversity data

New citation guidelines should increase incentives to make biodiversity data universally available online via the GBIF network. The recommendations enable due recognition to be given to all those involved in the data publication chain, from the collector in the field to curators and programmers.

The new document, [Recommended practices for citation of data published through the GBIF network](#) describes a set of styles which data publishers should use to create citations when compiling metadata, or data about datasets.

It follows the recommendations of a GBIF task group, which called for consistent mechanisms for 'deep data citation', enabling all relevant information about a dataset to be included in a single citation.

### GBIF data index jumps 13% in April-May

The latest 'rollovers' of data in the GBIF index – the regular refreshing of data made available by publishers – saw a very steep increase in the number of records. More than 40m records were added, taking the total to over 367m accessible through the data portal at the end of May. A large proportion of this increase was accounted for by amateur bird observations published via eBird and by new records from Australia (see next section).

## NEW DATA

### Australia

[Birdlife Australia](#) (previously known as Birds Australia) has published 2.71 million records from its First Bird Atlas database (<http://data.gbif.org/datasets/resource/14103>), which includes bird observation data collected between 1977 and 1981. Nearly 750,000 records were also published from the Historical Bird Atlas, which contains data from museum collections, personal notebooks, and published and unpublished literature ranging from 1629 to 1976. (<http://data.gbif.org/datasets/resource/14107>).

The [Atlas of Living Australia](#) has published 2,845 records from its [citizen science portal](#), which invites the public to submit sightings (<http://data.gbif.org/datasets/resource/14119>).

### United States

[eBird](#), an online bird checklist programme developed by the [Cornell Lab of Ornithology](#) and [Audubon](#), has published more than 31 million additional observation records in its latest update, nearly doubling the records previously accessible through GBIF. eBird has also taken steps to ensure that data have been validated by expert reviewers, thus enhancing quality. The primary goal of eBird is to increase access to the vast numbers of bird observation data gathered by citizens around the world each year, acting as a source of information on bird abundance and distribution at various spatial and temporal scales. <http://data.gbif.org/datasets/resource/43/>

The [California Academy of Sciences](#) published more than 140,000 records from its invertebrate zoology collection, including a large number of marine invertebrates from the Bering Straits and Aleutian Islands, and freshwater crustaceans collected from the Irrawaddy Basin in Myanmar (Burma) (<http://data.gbif.org/datasets/resource/14137>).

The [New Mexico Museum of Natural History and Science](#) published over 6,000 records of small mammals primarily from southwestern United States and Mexico (<http://data.gbif.org/datasets/resource/14136>).



American pika (*Ochotona princeps*)

The [University of Texas-Arlington](#) has published over 100,000 records from its amphibian and reptile research centre. The collection currently holds the world's largest assemblage of reptiles and amphibians from Guatemala as well as significant holdings from Texas, Bolivia, Cameroon, Colombia, Costa Rica, Guyana, Honduras and Mexico (<http://data.gbif.org/datasets/resource/14139>).

## Denmark

[DanBIF](#), the Danish biodiversity information facility, has published more than half a million records from Aarhus University's palm transect database. The data come from transects measuring 500m by 5m, set in the tropical forests of central and South America, to record individual palm trees and their growth status from seedlings to adults.

<http://data.gbif.org/datasets/resource/14087>

## Ireland

The [National Biodiversity Data Centre](#), which hosts the GBIF node in Ireland, has published a number of datasets totalling over 300,000 records. They include more than 2,000 taxa recorded during [Ireland's Bioblitz 2011](#), (<http://data.gbif.org/datasets/resource/14093>) an annual event in which volunteers

compete to identify the maximum number of species at selected sites around the country. Other new datasets from Ireland record bats (<http://data.gbif.org/datasets/resource/14089>, <http://data.gbif.org/datasets/resource/14090>), birds sighted during European Seabirds at Sea (ESAS) surveys in the northeast Atlantic from 1980 to 2003 (<http://data.gbif.org/datasets/resource/14091>), bugs (<http://data.gbif.org/datasets/resource/14092>), marine turtles in Irish territorial waters up to 2005 (<http://data.gbif.org/datasets/resource/14094>), and vascular plants (<http://data.gbif.org/datasets/resource/14095>).

## NEW PUBLISHERS

### Australia

There have been a number of new publishers from Australia. They include:

- The [Queensland Department of Environment and Resource Management](#) with over 60,000 records of survey and nesting data for coastal and seabirds throughout Queensland (<http://data.gbif.org/datasets/resource/14105>)
- The [Australian Institute of Marine Science](#) published more than 6,000 records of sea corals (<http://data.gbif.org/datasets/resource/14108>)
- The [European Molecular Biology Laboratory Australia](#) published over 100,000 DNA records of 1,136 taxa (<http://data.gbif.org/datasets/resource/14109>)
- The [Department of Environment and Conservation, Western Australia](#), shared nearly 10,000 records of orchids (<http://data.gbif.org/datasets/resource/14110>) and over 23,000 records of the flora from the Swan coastal plain in southern Australia
- The [Canberra Ornithologists Group](#) published 1.26 million records from their annual garden surveys, which have been held since 1981 (<http://data.gbif.org/datasets/resource/14115>).

### Canada

Three new publishers based in Canada have shared a total of more than 200,000 records through the [Canadensys](#) data network, an initiative to help provide better access to biodiversity information held in biological collections. The additional collections now publishing through the GBIF Integrated Publishing Toolkit (IPTv2) installed by Canadensys are:

- The [TRTE Herbarium](#), located at the University of Toronto at Mississauga publishing nearly 11,000 records from its collection. Although the herbarium focuses on vascular plant specimens from Ontario, it also houses important collections



## Repository for Antarctic genomic data under development

The [Antarctic Biodiversity Information Facility](#) (AntaBIF), funded by the [Belgian Science Policy Office](#) (BELSPO), is developing an information system for sharing data on the region's microbial diversity. The [Microbial Antarctic Resource System](#) (MARS) will allow the publishing and discovery of these molecular and metagenomic resources through the [AntaBIF data portal](#). Through the portal, scientists will have a single access point to raw and processed microbial diversity information, including next generation sequencing data.

A workshop organized by AntaBIF from 7-11 May brought together microbiologists, IT specialists and experts in biodiversity informatics to understand what would be needed from the MARS system, and to design an initial workflow and development plan. To avoid duplication of efforts, discussions at the workshop built on the informatics standards developed at the [GBIF-led workshop in Oxford](#) for recording gene-sequence descriptions, held in February 2012.

A white paper on MARS will be circulated in the near future.

AntaBIF has also published a [data paper](#) on Antarctic starfish (Echinodermata, Asteroidea) from the ANDEEP3 expedition (see <http://www.pensoft.net/journals/zookeys/article/3078/antarctic-starfish-echinodermata-asteroidea-from-the-andeep3-expedition>).

## First ever Costa Rican BioBlitz organized

The [National Biodiversity Institute](#) (INBio), which hosts the GBIF node in Costa Rica, organized the first ever BioBlitz in the country on 26 and 27 May. The BioBlitz was held at the INBioparque, created by INBio in 2000 to help citizens learn about Costa Rica's nature.

Among 206 species reported during the event was a Long-tailed Manakin (*Chiroxiphia linearis*), not sighted in the area before. INBio experts are also investigating a find of an umbrella-shaped mushroom of the Tricholomataceae family as a possible new fungal species for Costa Rica.

A new citizen science portal, [Bioexplorador](#), was launched in conjunction with the BioBlitz. The portal was funded by the Costa Rican National Council for Science and Technology (CONICIT), and uses open-source software provided by [iNaturalist](#), whose citizen science observations are published through GBIF.

## Portal on Chilean biodiversity created

GBIF Chile has developed a portal on the country's biodiversity, currently providing access to more than 19,000 records published by Chilean institutions via the GBIF network. Among the main data publishers are the National Museum of Natural History and the University of La Serena.

The development of the portal was a result of a mentoring project between GBIF Chile and INBio in Costa Rica.

The portal can be accessed at <http://gbif-chile.mma.gob.cl/portal/welcome.htm>.

## Inventory of Ireland's biodiversity launched

Ireland's [National Biodiversity Data Centre](#) (NBDC), host of the national GBIF node, has launched the first full inventory of Ireland's biodiversity.

*State of Knowledge, Ireland's Biodiversity 2010* found that there were over 31,000 known species in Ireland, some 60% of them invertebrates and just 10% accounted for by plants and vertebrate species combined. In the report, scientists also estimated that there are at least 7,000 species of algae and fungi that are yet to be discovered in Ireland. Key knowledge gaps identified in the report have been highlighted by the NBDC as priorities for research over the next two years.

The full report is available at <http://biodiversity.biodiversityireland.ie/>

## GBIF PARTNERS

### EOL reaches one million species pages milestone

GBIF partner [Encyclopedia of Life](#) (EOL), launched in 2007, now has over a million pages of content. The latest information published on the site comes from the Smithsonian Institution's [National Museum of Natural History](#) (NMNH).

### New project manager at OBIS

The [Ocean Biogeographic Information System](#) (OBIS), one of the largest data publishers through GBIF, has a new manager, Ward Appeltans. "Continued collaboration with GBIF remains one of our priorities," Appeltans commented following his appointment.

OBIS is now part of the Intergovernmental Oceanographic Commission (IOC) of UNESCO, under its International Oceanographic Data and Information Exchange (IODE) programme.



## GBIF APPLICATIONS

### Map of Life launches demo site

A demonstration version of the Map of Life, an interactive site that provides information on species distributions, was launched in May. The site currently enables users to generate species lists for vertebrates in any land area, based on some 150 million occurrence records published through GBIF, as well as expert range maps from the International Union for the Conservation of Nature (IUCN) and regional checklists from the Worldwide Fund for Nature (WWF).

The eventual aim of the project, partially funded by the National Science Foundation, is to be a platform for species distribution map development, providing a set of tools for querying, accessing, downloading and summarizing them.

The Map of Life can be accessed at <http://www.mappinglife.org/>

### Phone app for wildlife sightings uses GBIF-mediated data

A smartphone application, which derives information from the GBIF portal and enables users to identify and report wildlife sightings now has over 40,000 registered users. The *anymals<sup>+plants</sup>* app for Android was launched late last year with support from the German Federal Ministry of Education and Research.

The application allows users to record observations worldwide and submit accurate locations by using the smartphone's GPS/GSM device. The records can be accessed on the website <http://www.anymals.org/> and in the future will be published through the GBIF network.

About 5,200 sightings have been uploaded to the web database since the launch of the application in November 2011. Every day, over 500 users download lists of species in a given set of coordinates, and more than 1,000 searches are initiated. Submitted sightings are vetted on the website by registered users.

The *anymals<sup>+plants</sup>* application is available in English and German, and it is expected to be available in Portuguese and Spanish in the near future.

The app can be downloaded from [https://play.google.com/store/apps/details?id=org.anymals.anyallog&feature=search\\_result](https://play.google.com/store/apps/details?id=org.anymals.anyallog&feature=search_result)

*Anymals<sup>+plants</sup>* can be tested at the [Flora's treasures exhibition](#), which runs until February 2013 at the Botanical Garden and Botanical Museum in Berlin, one of the eight GBIF nodes in Germany.

For more information, see <http://www.anymals.org/> or contact Daniel Zitterbart ([daniel.p.zitterbart@physik.uni-erlangen.de](mailto:daniel.p.zitterbart@physik.uni-erlangen.de)).

## TRAINING AND CAPACITY BUILDING

### New training videos available

A set of 17 videos from the [training course on persistent identifiers](#), held in February this year, is now available on GBIF Spain's website at [http://www.gbif.es/videos/videos\\_in.php](http://www.gbif.es/videos/videos_in.php).

Also available online are 12 training videos, produced by the GBIF Secretariat, that introduce biodiversity data publishers to issues of quality and fitness for use. Trainers Laura Russell from VertNet and Meherzad Romer from NatureServe Canada present topics such as producing metadata, the quality of taxonomic and spatial data, and methods of managing data quality. The videos can be accessed via Vimeo at [vimeo.com/album/1904479](http://vimeo.com/album/1904479).

### Tanzanian capacity building project comes to a close

Achievements of the multi-year pilot project to build in-country capacity in accessing and using Tanzanian biodiversity data were showcased at a closing ceremony, held in Dar es Salaam on 22 May, the International Day for Biological Diversity. The Danish government financed the project through the GBIF Capacity Enhancement Programme for Developing Countries (CEPDEC).

Outputs presented at the event included the portal of the [Tanzanian Biodiversity Information Facility](#) (TanBIF), a decision-making tool based on the open-source Quantum-GIS software, and a checklist of Tanzanian species.



The Vice President of Tanzania, Mohammed Gharib Bilal (pictured above), and the Minister for Communication, Science and Technology, Makame Mnyaa Mbarawa were among the guests at the closing ceremony.

In association with the closing ceremony, experts held a workshop to verify data for catalogues of priority species, and the TanBIF Governing Board met.

## OPPORTUNITIES

### Call for proposals for digitization projects

GBIF France is calling for proposals for digitization of natural history collections, creation of taxonomic lists or similar projects to capture data to be published through the GBIF network. Projects on analysis and use of GBIF-mediated data can also be submitted. A total of €40,000 is available, and projects will be financed up to a maximum of €5,000 each.

For 2012, priority will be given to projects related to freshwater biodiversity, contributing to the EU-funded [BioFresh](#) project; and to multimedia biodiversity data, contributing to the EU-funded [OpenUp](#) project.

The call is open to all French institutions. The deadline for application is 22 June. Selected projects will receive funding in July.

Proposals may be sent to [appel2012\\_gbif@gbif.fr](mailto:appel2012_gbif@gbif.fr).

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## UPCOMING EVENTS

### 2012 Biodiversity Information Management Forum

*Cape Town, South Africa, 11-15 June 2012*  
The [South African National Biodiversity Institute](#) (SANBI), host of the GBIF national node, is organizing the 2012 Biodiversity Information Management Forum (BIMF) from 11 to 15 June at Kirstenbosch in Cape Town.

The two core forum days are on 12 and 13 June with associated workshops, training and field trips throughout the week.

[More information and registration documents...](#)

### Rio+20, United Nations Conference on Sustainable Development

*Rio de Janeiro, Brazil, 20-22 June 2012*  
[More information....](#)

### GBIC 2012, Global Biodiversity Informatics Conference

*Copenhagen, Denmark, 2-4 July 2012*  
[More information....](#)

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

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*MISSION OF GBIF: To be the foremost global resource for biodiversity information, and engender smart solutions for environmental and human well-being.*

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