

HOTSPOT 28/13

BIODIVERSITÄT MESSEN | LA MESURE DE LA BIODIVERSITÉ

Global Biodiversity related data collections

With links to selected online databases (not complete!)

Global projects, data and taxonomic standards

Global Biodiversity Informatics Outlook (GBIO)

<http://www.biodiversityinformatics.org>

Gives the most actual overview on global digital biodiversity information projects and developments in biodiversity informatics. Many of the examples below were taken from the GBIO report.

Global Biodiversity Information Facility (GBIF)

<http://data.gbif.org>

An intergovernmental scientific infrastructure aimed at providing free and open access to biodiversity data, via the Internet. GBIF offers a single online access point to over 400 million biodiversity records from over 10,000 datasets published by nearly 500 institutions, ranging from museum specimens collected from the earliest days of natural history exploration, to current observations by 'citizen scientists' and monitoring from research expeditions.

Encyclopedia of Life

<http://eol.org>

An initiative to bring together information on species into a single database, accessed via an online portal. Data contributions to EOL come from individuals and organizations, and are reviewed by a community of voluntary curators who help improve the quality of content on the website. EOL has created three levels of curators, based on each person's expertise and experience. Each curator's work is displayed on their profile page, and community members can assess each other's contributions.

Catalogue of Life

www.catalogueoflife.org

A global index of species with information on their names, relationships and distributions. The Catalogue compiles data from 115 peer-reviewed taxonomic databases maintained by specialist institutions, and helps provide a taxonomic backbone for other data portals on biodiversity. The list for 2013 included more than 1.4 million species.

Integrated Taxonomic Information System (ITIS)

<http://www.itis.gov>

ITIS provides authoritative taxonomic information on plants, animals, fungi, and microbes of North America and the world. Provides taxonomic information to GBIF, Encyclopedia of Life and Catalogue of Life.

International Plant Names Index

<http://www.ipni.org>

The International Plant Names Index (IPNI) is a database of the names and associated basic bibliographical details of seed plants, ferns and lycophytes.

Darwin Core Archive

<http://rs.tdwg.org/dwc>

A biodiversity informatics data standard which uses terms from the Darwin Core body of standards to produce datasets for species occurrence or checklist data, as well as accompanying metadata. It helps provide a stable, standard reference for sharing information on biological diversity.

GenBank

www.ncbi.nlm.nih.gov/genbank

An open access, annotated collection of all publicly available DNA sequences. GenBank is part of the International Nucleotide Sequence Database Collaboration, which also comprises the DNA DataBank of Japan and the European Molecular Biology Laboratory. Data sharing between these three organizations occurs daily. In addition, most journals require DNA sequences cited in articles be submitted to a public sequence repository, such as GenBank.

Movebank

www.movebank.org

An online database which allows the sharing, managing and archiving of animal tracking data. The information helps us understand how individuals and populations move within local areas, migrate across oceans and continents and evolve through millennia. Researchers who contribute data retain full ownership and control over the level of access to their data. Movebank also provides tools for making basic edits to the data.

Morphobank

www.morphobank.org

An online database which allows researchers to upload morphological images and data about organisms, and use these for the study of evolutionary relationships. The Morphobank web application provides a virtual platform for scientists to collaborate and build phylogenetic matrices with image data.

Mountain Biodiversity Portal

www.mountainbiodiversity.org

The GMBA Mountain Portal provides access to GBIF data for mountain regions and different mountain life zones.

Atlas of Living Australia

www.ala.org.au

The ALA aims to create a national database of all of Australia's flora and fauna, accessed through a single, easy-to-use website. It engages the public through a number of innovations such as the Volunteer Portal, encouraging users to help digitize information from specimen labels, field notes and survey sheets from various Australian museums. ALA also produces software tools to help capture field data.

AmphibiaWeb<http://amphibiaweb.org>

AmphibiaWeb provides information on amphibian declines, natural history, conservation, and taxonomy (species names, photos, videos, sound files, and literature references).

eBIRD<http://ebird.org>

An online checklist on bird abundance and distribution and one of the largest and fastest growing biodiversity data resources, based on bird observations reported by recreational and professional bird watchers.

iNaturalistwww.inaturalist.org

Shared species observations: data records may include images and geographical coordinates, and can be annotated by the community. Data with confirmed identifications are published through the Global Biodiversity Information Facility (GBIF).

Species distribution and modeling projects

Map of Lifewww.mappinglife.org

A global knowledge base about the distribution of species. Map of Life acts as a platform for developing maps on the distribution of species, and provides tools for querying, accessing, downloading and summarizing available data.

Red lists<http://www.iucnredlist.org>

The IUCN Red List of Threatened Species™ is the most comprehensive, objective global approach for evaluating the conservation status of plant and animal species.

Lifemapper<http://www.lifemapper.org>

Lifemapper predicts where an individual species could exist based on where it is documented to live. It uses all online geospatial species occurrence data to create distribution maps, and combines species occurrence data with global climate, terrain and land cover information, to identify environmental correlates of species ranges.

Aquamaps<http://www.aquamaps.org>

Standardized distribution maps for over 17,300 species of fishes, marine mammals and invertebrates.

Atlas of Living Australia ALA<http://spatial-dev.ala.org.au>

The ALA aims to create a national database of all of Australia's flora and fauna, accessed through a single, easy-to-use website. It engages the public through a number of innovations such as the Volunteer Portal, encouraging users to help digitize information from specimen labels, field notes and survey sheets from various Australian museums. ALA also produces software tools to help capture field data.

Gap Analysis

<http://gapanalysis.usgs.gov>

The USGS Gap Analysis Program stands out for a comprehensive habitat-model approach, using remote sensing, modelling and expert opinion.

Swiss national data centers

National Flora Data Centre

Nationales Daten- und Informationszentrum der Schweizer Flora
Centre national de données et d'informations sur la flore de Suisse
www.infoflora.ch

National Fauna Data Centre

Schweizer Zentrum für die Kartografie der Fauna
Centre Suisse pour la Cartographie de la Faune CSCF
www.cscf.ch, www.karch.ch

Swiss Ornithological Institute Sempach

Station ornithologique Sempach
Vogelwarte Sempach
www.vogelwarte.ch

National Bryophyte Data Centre

Nationales Inventar der Schweizer Moosflora
Centre Suisse de Cartographie de la Bryologie
www.nism.uzh.ch

National Fungi Data Centre swissfungi

Verbreitungsatlas der Pilze der Schweiz
Atlas de repartition des champignons de Suisse
www.swissfungi.ch

National Lichen Data Centre SwissLichens

Nationales Daten- und Informationszentrum der Schweizer Flechten
www.swisslichens.ch

Swiss node of the Global Biodiversity Information Facility

www.gbif.ch