

I give many of my IB Biology resources away, for the benefit of students and teachers around the world. If you've found the materials helpful, please consider making a contribution of any amount to this [Earthwatch Expedition Fund](https://www.earthwatch.org/).

Did I forget something? Know of a mistake? Have a suggestion? Broken link?
Let me know by [emailing me here](mailto:info@biologyforlife.com). Cheers!

Databases Relevant to IB Biology IA

If you elect to do a database analysis for your IA, be sure you are analyzing and manipulating the data in some way. You can not simply report on what data is available and/or has been collected by someone else. You will have to have data tables, graphs and statistics of your own - but you are getting the data from a database.

General

- Google maps: <https://www.google.com/maps>
- Integrated Digitized Biocollections: <https://www.idigbio.org/>
- Our World in Data: <https://ourworldindata.org/> (datasets for each graph can be downloaded)
- Various databases per country, including cause of death, agriculture, economics, education, climate change, economics, aid, health and nutrition <https://data.worldbank.org/indicator/>
- Gapminder: [Gapminder Tools](https://www.gapminder.org/)
- [Data.gov](https://data.gov/) Open Federal, state and local data from the United States government.
- Provides collaborative tools for researchers to upload images and morphological data, and use that information to produce, edit, illustrate and annotate phylogenetic matrices. Also a repository for data associated with peer-reviewed publications. <https://morphobank.org/index.php>

Ecological

- National Wildlife Health Center: http://www.nwhc.usgs.gov/publications/publications_data/
- Digital coyote: https://wikieducator.org/Digital_Coyote
- Many zoos and wildlife areas offer live webcams from which ethology data can be collected
- Catalog of Life. Single integrated species checklist and taxonomic hierarchy. The Catalogue holds essential information on the names, relationships and distributions of over 1.6 million species. <http://www.catalogueoflife.org/>
- Data Basin. Provides free access to biological, physical and socioeconomic geospatial data and maps,

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along with tools to create custom visualizations, drawings and analyses. <https://databasin.org/>

- Global Biodiversity Information Facility (GBIF). GBIF facilitates free and open access to biodiversity data, enabling anyone to discover, use or publish data about all types of life on Earth. <https://www.gbif.org/>
- Integrated Taxonomic Information System (ITIS). Authoritative taxonomic information on plants, animals, fungi and microbes of North America and the world. Full database or specific taxonomic group data available for download. <https://www.itis.gov/>
- Knowledge Network for Biocomplexity (KNB). International repository for ecological and environmental data. Data originate from field stations, laboratories, research sites and individual researchers around the world. <https://knb.ecoinformatics.org/#>
- The Long Term Ecological Research (LTER) Network is a collaborative of researchers and graduate students who focus on long-term ecological processes at 26 LTER sites around the United States, Antarctica, and islands in the Caribbean and Pacific. The LTER Data Portal contains ecological data packages contributed by past and present LTER sites. <https://portal.lternet.edu/nis/home.jsp>
- NASA Climate Change: <http://climate.jpl.nasa.gov>
- National Wildlife Health Center: http://www.nwhc.usgs.gov/publications/publications_data/
- Audubon Christmas Bird Count: <http://netapp.audubon.org/cbcobservation/>
- Gorongosa Wild Cam: <https://www.wildcamgorongosa.org/#/>
- Vert Net: <http://www.vertnet.org>
- Arctos: <https://arctos.database.museum/>
- Project Noah: <https://www.projectnoah.org/>
- eBird: <https://ebird.org/science/download-ebird-data-products>
- EDDMaps (invasive species): <https://www.eddmaps.org/>
- Nature Atlas: <http://www.natureatlas.org/all/earth/>
- iMapInvasives (invasive species): <https://www.imapinvasives.org/>
- Reefbase: http://www.reefbase.org/global_database/ coral reef data
- Lots of options available through Science on a Sphere: <https://sos.noaa.gov/Datasets/>

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- Lots of great options available through Zooniverse:
<https://www.zooniverse.org/projects?discipline=biology&page=2&status=live>
 - USA outdoor air quality: <https://www.epa.gov/outdoor-air-quality-data>
 - Databases pertaining to data (corals, terrestrial) collected during the Operation Wallacea expeditions.
<http://wallaceresourcelibrary.com/>
 - [Multivariate Analyses of Small Theropod Dinosaur Teeth and Implications for Paleoeological Turnover through Time](#) Andrew Farke: "This paper includes a massive dataset of measurements for over 1,000 teeth of small carnivorous dinosaur"
 - Biodiversity mapping: <https://biodiversitymapping.org/wordpress/index.php/home/>
 - Marine plastics: https://figshare.com/articles/Data_from/1043987
 - Avian Knowledge Network (AKN). Partnership of people, institutions and government agencies that supports the conservation of birds and their habitats by improving access to and use of data and tools. Data available on bird-monitoring, banding and citizen-based bird-surveillance.
<http://avianknowledge.net/>
 - Paleo Climate: <https://www.ncdc.noaa.gov/paleo-search/?dataTypeId=7>
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Human Health and Disease

- Brain-Map.org: <https://portal.brain-map.org/> click link on top menu for atlases and data
- Glioblastoma tumor database: <https://glioblastoma.alleninstitute.org/ish>
- DA nutrient database: <http://ndb.nal.usda.gov/ndb/search/list> (contains a complete nutrition profile for various food and drink items)
- Human Development Index: <http://hdr.undp.org/en/data>
- USA Centers for Disease Control: <https://data.cdc.gov/>
- Allergen protein database: <http://www.allergenonline.org/>
- World Health Organization Data base <https://www.who.int/gho/database/en/>
- Global burden of disease: <http://ghdx.healthdata.org/gbd-2016/data-input-sources>
- Health map: <https://www.healthmap.org/en/>
- PHI-base: pathogen-host interaction database. It links gene information to phenotypic information from microbial pathogens on their hosts. <http://www.phi-base.org/>

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- **Human NIH Data Sharing Repositories.** List of NIH-supported data repositories and resources that aggregate information about biomedical data. Each entry has a brief description of the repository and links to data submission and access policies.
https://www.nlm.nih.gov/NIHbmic/domain_specific_repositories.html
 - Immunological Databases <https://www.hslls.pitt.edu/obrc/index.php?page=immunology>
 - OECD Health Statistics <https://www.oecd.org/els/health-systems/health-data.htm>
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Nucleic Acid

- 1000 Genomes: <http://www.internationalgenome.org/data> The genomes of more than a thousand anonymous participants from a number of different ethnic groups were analyzed and made publicly available.
 - BioServers: <http://www.bioservers.org/bioserver/> (Easy to use interface for DNA database searches)
 - GenBank: <http://www.ncbi.nlm.nih.gov/genbank/>
 - AIFred: <https://alfred.med.yale.edu/> (allele frequency)
 - DNA Data Bank of Japan <https://www.ddbj.nig.ac.jp/index-e.html>
 - EMBL (European Bioinformatics Institute) <https://www.ebi.ac.uk/ena>
 - HapMap <https://www.ncbi.nlm.nih.gov/probe/docs/projhapmap/>
 - OMIM (Online Mendelian Inheritance in Man): inherited diseases <https://www.ncbi.nlm.nih.gov/omim>
 - EggNOG Database: a hierarchical, functionally and phylogenetically annotated orthology resource based on 5090 organisms and 2502 viruses. It provides multiple sequence alignments and maximum-likelihood trees, as well as broad functional annotations <http://eggnog5.embl.de/#/app/home>
 - Ensembl: provides automatic annotation databases for human, mouse, other vertebrate and eukaryotic genomes <https://uswest.ensembl.org/index.html>
 - FlyBase: genome of the model organism Drosophila melanogaster <https://flybase.org/>
 - Personal Genome Project: human genomes of 100,000 volunteers from around the world
<https://pgp.med.harvard.edu/>
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Proteins

- RCSB Protein Data Bank: <http://pdb101.rcsb.org/>
- Human Protein Atlas (HPA): a public database with expression profiles of human protein coding genes

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both on mRNA and protein level in tissues, cells, subcellular compartments, and cancer tumors.
<https://www.proteinatlas.org/>

- Database of Interacting Proteins (Univ. of California) <https://dip.doe-mbi.ucla.edu/dip/Main.cgi>
 - InterPro: classifies proteins into families and predicts the presence of domains and sites
<https://www.ebi.ac.uk/interpro/>
 - MobiDB: database of intrinsic protein disorder annotation <https://mobidb.bio.unipd.it/>
 - Pfam: protein families database of alignments <https://pfam.xfam.org/>
 - PROSITE: database of protein families and domains <https://prosite.expasy.org/>
 - NCBI: protein sequence and knowledgebase (National Center for Biotechnology Information)
<https://www.ncbi.nlm.nih.gov/protein/>
 - Structural Classification of Proteins (SCOP) <http://scop.mrc-lmb.cam.ac.uk/>
 - Universal Protein Resource (UniProt), a collaboration between the European Bioinformatics Institute, the SIB Swiss Institute of Bioinformatics and Protein Information Resource, provides high-quality, freely accessible protein sequence and functional information. <https://www.uniprot.org/>
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Cells

- [Allen cell feature explorer data](#)
 - [Databases for microbiologists](#)
 - [Plant histology](#)
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Evolution

- TreeBASE. Repository of phylogenetic information, specifically user-submitted trees and the data used to generate them. Data in TreeBASE are available to the public if they have been used in a peer-reviewed publication. <https://treebase.org/treebase-web/home.html>
 - Paleobiology database: <https://paleobiodb.org/#/>
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