

NBII international activities extend to our membership in a range of organizations that share insights on scientific and technical information management and technology development. Examples include the International Council for Scientific and Technical Information (offers a unique forum for interaction among organizations that create, disseminate, and use scientific and technical information), the NATO Research and Technology Agency's Information Management Committee (provides advice and expertise in applied information management to the NATO Research and Technology Organization), the International Organization for Plant Information or IOPI (IOPI, as a Commission of the International Union of Biological Sciences, manages a series of cooperative international projects that aim to create databases of plant taxonomic information), and others.

For More Information

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NBII International Programs



A Global Network

Today more than ever, the need for biological information extends across international borders. That's why the National Biological Information Infrastructure (NBII) <www.nbii.gov> emphasizes participation in wide-ranging programs designed to make information housed in any one part of the world available to researchers, managers, and policy makers worldwide. The NBII is a Web-based system, coordinated by the U.S. Geological Survey, that provides access to data and information on biological resources.

The NBII's International Biological Informatics Program has evolved through a series of partnerships with other separate but complementary programs and initiatives, in accordance with international agreements that encourage the sharing of biological information. Each of these programs answers a need for scientific cooperation and data-sharing across a particular geographic region: spreading from North America to the entire globe.

While varying in scope and administrative origin, these international initiatives are united by a common set of principles. All seek to make biodiversity data freely and quickly available to a broad population of users around the world. To achieve this, all participate in the development of common standards to ensure that the retrieval and exchange of information can take place across political, linguistic, and institutional boundaries. Finally, all emphasize respect for intellectual property rights. A fundamental requirement for participation in these international networks of information-sharing is that ownership of the data remains with its source.

The Programs

NABIN

Closest to home, the North American Biodiversity Information Network (NABIN) <www.cec.org/nabin/> focuses on the ecological connectedness and common biological heritage of Canada, the United States, and Mexico. Administered by the North American Commission for Environmental Cooperation (NACEC), NABIN provides a framework for collaboration in the standardization and sharing of data

among the nations of North America in such key areas as biodiversity protection and invasive species management.

One important project originating under NABIN has been the development of *Species Analyst*, a software tool that allows simultaneous searching of key museum and biological collection databases throughout North America. Linked mapping applications permit users to analyze data on species distributions and migratory patterns, and to pinpoint key habitat areas for rare or poorly known species. Species Analyst is now available online, and its search capacity is expanding as more databases are added. A current NABIN objective is to integrate the use of Species Analyst with other NACEC projects, such as the North American Bird Conservation Initiative.



IABIN

The Inter-American Biodiversity Information Network (IABIN) <www.iabin-us.org> is an initiative of the Summit of the Americas, supported by more than 30 national governments and non-governmental organizations and the Organization of American States. IABIN extends the principles of standardization and cooperation in the management of

biological information to a hemispheric scale. The NBII serves as the U. S. node of IABIN and directs this country's participation in

the initiative.

IABIN participants are united in the belief that many current environmental problems—such as invasive species, amphibian declines, and the spread of emergent infectious diseases—can be effectively addressed through the establishment of a common, shared pool of knowledge. Such sharing reduces the duplication of research efforts, and informs managers and policy makers about what measures have and have not worked.

IABIN is moving forward with a series of projects designed to demonstrate the practical value of an inter-American network of biodiversity information. One of these, the Invasive Species in the Americas Project, is a Web-based clearinghouse of information that will give researchers and managers easy access to the latest data pertaining to the spread of non-native plants and animals. IABIN is also compiling a directory of institutions, organizations, and individuals in Latin America and the Caribbean with expertise in the biology and control of invasive species.

GBIF

At the global level, the NBII is assisting in the development and implementation of the Global Biodiversity Information Facility (GBIF) <www.gbif.org>. The United States is a charter member of this ambitious international effort dedicated to the standardization and global dissemination of the world's biodiversity data.

GBIF was launched as an independent entity in 2001 under the governance of over 20 participating countries. While global in scope, GBIF is essentially a large network of affiliated national and regional databases and informatics initiatives, with all participants retaining rights and control over their own data. NBII, NABIN, and IABIN are all GBIF participants.

While focused initially on species- and specimen-level data, GBIF will eventually form a linked information network spanning all levels of biological organization, from genes to ecosystems. The GBIF network is anchored around the Catalog of Life, a standardized electronic index providing uniform taxonomy and nomenclature for all known living organisms. Through this index, users of the GBIF portal will gain access to the millions of records located in databases of the world's natural history museums, herbaria, and microorganism repositories.

CHM

The Clearing-House Mechanism (CHM) <www.biodiv.org/chm> of the 1992 Convention on Biological Diversity is a second major initiative designed to facilitate worldwide scientific cooperation and information exchange on biological diversity. Although not a party to the Convention, the United States supports many of its goals and is providing technical assistance to the CHM through related initiatives including the NBII and IABIN.

The CHM seeks to link, consolidate, and synergize the contributions of various global programs—including GBIF—dedicated to the conservation and sustainable use of biological diversity. As an overarching network of global cooperation on these issues, the CHM strongly promotes the international sharing of technology, information, and expertise. Such sharing can speed research and bring about more cost-effective decision-making, and facilitate implementation of conservation and biodiversity management initiatives.

Other Partnerships

In many countries, scientists and engineers are participating in the development of new software tools and information standards that will facilitate the storage and exchange of biological data. As a leading player in the creation of the new global infrastructure for biological information, the NBII maintains partnerships with, and provides training and technical expertise to, database facilities in Canada, Mexico, and elsewhere. Major international partners include Agriculture and Agri-Food Canada, Environment Canada, and the Commission Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO). The NBII also supports the Canada/Mexico/U. S. Trilateral Committee for Wildlife and Ecosystem Conservation and Management, the U.S.-Colombia Alliance for the Environment, and the Central America—U.S. Joint Accord (CONCAUSA) by participating in the biodiversity information networking activities of those agreements.



NBII Online

The recently redesigned NBII Web site offers information and links regarding NBII international programs. Information available includes a full list and description of international partners and initiatives <www.nbii.gov/about/partner/world.html>. A new feature of the NBII site, Geographic Perspectives, includes a link to International Resources <www.nbii.gov/geographic/international/>

—an annotated gateway to hundreds of foreign and international biological organizations. The geographic organization of its resource links allows easy access to information on biodiversity-related issues and activities around the world. Future plans include enabling a search-by-topic function of the international biological organizations.