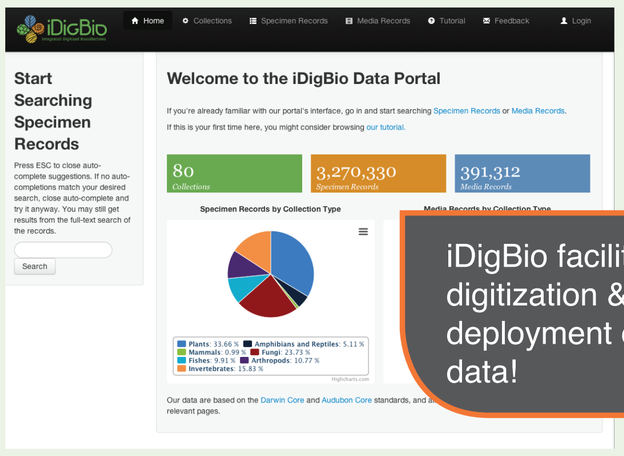
iDigBio as a Resource for the Digitization of a Billion Biodiversity Research Specimens

Out of an estimated 1 billion United States specimens, only about 10% have data accessible online.

What is iDigBio?

The US NSF's Advancing Digitization of Biological Collections (ADBC) program is a collaboration between the Biological Sciences and Geosciences Directorates to fund the digitization efforts of Thematic Collections Networks (TCNs) centered on research questions and a national hub to facilitate the digitization activities and the online deployment of the data (iDigBio).

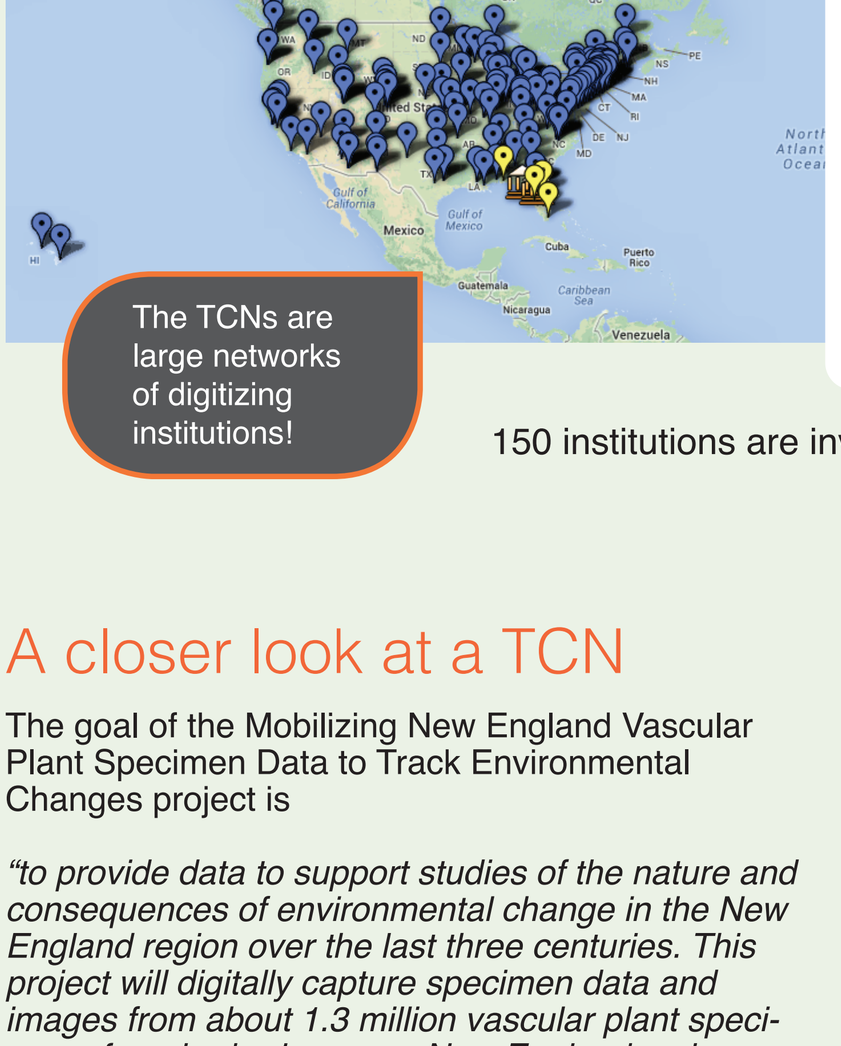


iDigBio facilitates digitization & deployment of data!

Among its many activities since its beginning in 2011, iDigBio has organized many workshops and symposia, including the "2nd Train-the-Trainers Georeferencing Workshop" in August 2013 (left). iDigBio also supports a web portal (right) for specimen data and media registered in the iDigBio cloud.

TCNs: Who, What, Where

New TCNs are funded each year. There are currently 10 TCNs:



The TCNs are large networks of digitizing institutions!

InvertNet—An Integrative Platform for Research on Environmental Change, Species Discovery and Identification
(Lead PI: Christopher Dietrich, University of Illinois, Urbana-Champaign)

North American **Lichens and Bryophytes**: Sensitive Indicators of Environmental Quality and Change
(Lead PI: Corinna Gries, University of Wisconsin, Madison)

Plants, Herbivores, and Parasitoids: A Model System for the Study of Tri-Trophic Associations
(Lead PI: Randall T. Schuh, American Museum of Natural History)

Southwest Collections of **Arthropods** Network (SCAN): A Model for Collections Digitization to Promote Taxonomic and Ecological Research
(Lead PI: Neil S. Cobb, Northern Arizona University)

The **Macrofungi** Collection Consortium: Unlocking a Biodiversity Resource for Understanding Biotic Interactions, Nutrient Cycling and Human Affairs
(Lead PI: Barbara Thiers, New York Botanical Gardens)

Mobilizing New England **Vascular Plant** Specimen Data to Track Environmental Changes
(Lead PI: Patrick Sweeney, Yale University)

Digitizing **Fossils** to Enable New Syntheses in Biogeography—Creating a PALEONICHES
(Lead PI: Bruce Lieberman, University of Kansas)

Fossil Insect Collaborative: A Deep-Time Approach to Studying Diversification and Response to Environmental Change
(Lead PI: Dena Smith, University of Colorado at Boulder)

Developing a Centralized Digital Archive of **Vouchered Animal Communication Signals**
(Lead PI: Michael Webster, Cornell University)

The Macroalgal Herbarium Consortium: Accessing 150 Years of Specimen Data to Understand Changes in the **Marine/Aquatic** Environment
(Lead PI: Christopher Neefus, University of New Hampshire)

150 institutions are involved in the 10 TCNs.

A closer look at a TCN

The goal of the Mobilizing New England Vascular Plant Specimen Data to Track Environmental Changes project is

"to provide data to support studies of the nature and consequences of environmental change in the New England region over the last three centuries. This project will digitally capture specimen data and images from about 1.3 million vascular plant specimens from herbaria across New England, enhancing the data with georeferencing, habitat, and phenological information."

(Sweeney et al., NSF Award 1209149 Abstract)

This one is studying environmental change!

Workshops and Symposia

The following are some iDigBio-sponsored (or cosponsored) workshops and symposia, past and future:

Wet Collection Digitization Workshop
Lawrence, KS at the U. of Kansas

Pinned Insects Digitization Workshop
Chicago, IL at the Field Museum

Broadening Participation - Recruiting and Retaining Outstanding Scientists in the Botanical Sciences
July 2013 at Botany 2013 in New Orleans, LA.

Georeferencing: Train the Trainers Workshop
August 2013 in Gainesville, FL.

Paleo Digitization Workshop
September 2013 in New Haven, CT at Yale U.

Digitizing Small Herbaria Workshop
December 2013 in Tallahassee, FL.

Education and Outreach in Digitization Workshop
January 2014 in Gainesville, FL

Broadening Diversity in the Biological Sciences Workshop
January 2014 in Florida

Digitization Process Workshop
March 2014 in Honolulu, HI at the Bishop Museum

Join upcoming workshops via AdobeConnect!

Topics for other workshop and symposia for 2014 include Biodiversity Informatics, Digitization of Original Source Materials, and Public Participation and Citizen Science.

Working Groups

- Public Participation in Digitization
- Augmenting Optical Character Recognition
- Biodiversity Informatics Management
- Developing Robust Object to Image to Data Workflows (DROID) 1: Flat Sheets and Packets
- DROID2: Pinned Specimens in Trays and Drawers
- DROID3: 3D Objects and Things in Spirits
- Education and Outreach
- Cyberinfrastructure
- Georeferencing
- Minimum Information Standards, Authority Files, & Semantics
- Paleontology
- Strategic Communication

Always looking for complementary expertise!

How can you participate?

Visit www.idigbio.org for more info.

- Submit a TCN or Partners to Existing Networks proposal to NSF (due each October).
- Register your specimen and media data in the iDigBio cloud (any US institution can do so!)
- Participate in an upcoming iDigBio workshop or propose a workshop.
- Participate in an iDigBio working group or propose a working group.
- Join the iDigBio listserv.
- Watch the iDigBio Blog, Wiki, and Forums at **www.idigbio.org**.

Scan the 2-D barcode and watch the video to learn more!

Authors of this poster are Deb Paul, Austin Mast, Greg Riccardi, and Gil Nelson, with design work by Jeremy Spinks (Florida State University). iDigBio is a collaboration between FSU and University of Florida. Larry Page (UF) is lead PI. This material is based upon work supported by the National Science Foundation under Grant No. 1115210. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.