

Biodiversity Information Serving Our Nation (BISON), the Integrated Taxonomic Information System (ITIS) and the Federal Ecosystem of Biodiversity Data

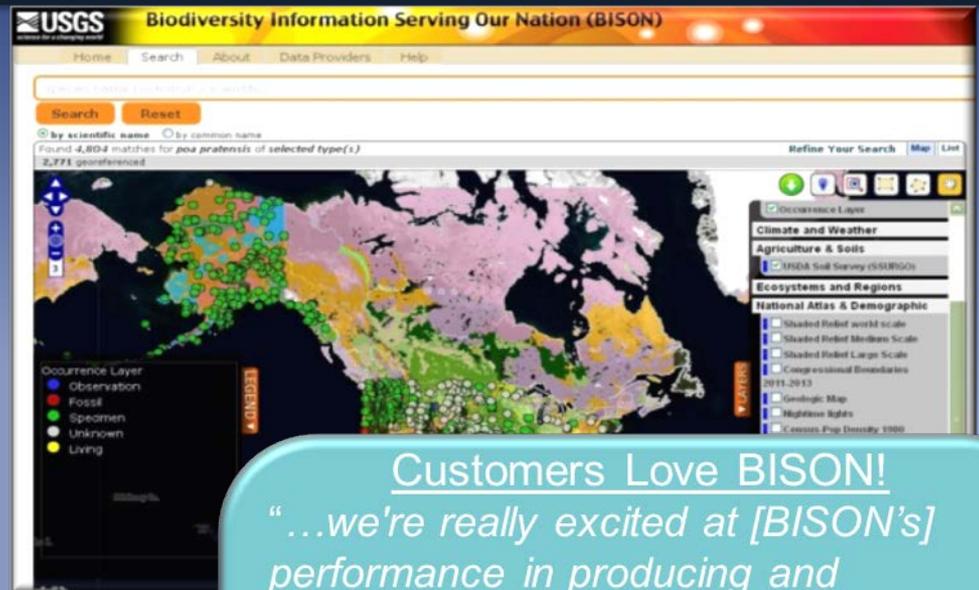


Gerald F. Guala, Ph.D.

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Biodiversity Information Serving Our Nation - (bison.usgs.gov)

- National Clearinghouse
- US Node of GBIF
- 243+ million records & growing
- Nearly all species
- Every state and county
- 55 environmental layers
- Who, what, when, where for every record.
- 1456 data sets from 332 global providers across Federal, State, and local Gov'ts, NGOs and Academia.
- A million citizen and professional scientists' data.



Customers Love BISON!

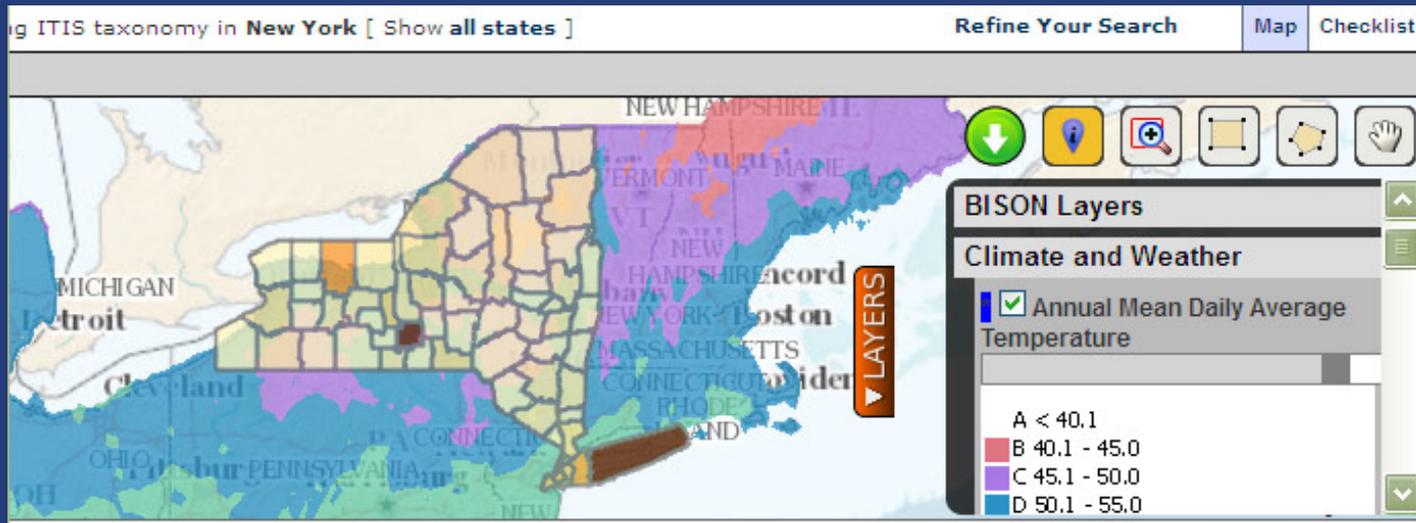
"...we're really excited at [BISON's] performance in producing and mapping extremely large search-result sets (I generated one with 1.8 million hits in a matter of seconds)."

Scott L. Cross, Ph.D. NOAA National Oceanographic Data Center/National Coastal Data Development Center, Charleston, SC.

April, 22, 2013



Custom Maps & Checklists



For Any
Area
Including
Polygons

Found 9,070,998 matches for *all species* using ITIS taxonomy in New York [Show all states]

9,070,998 georeferenced

Kingdom	Count
Animalia	7974656
Chromista	10808
Fungi	2651
Plantae	454729
ITIS Scientific Name	Count
Abies balsamea	12807
Abies balsamea balsamea	28
Abies homolepis	2
Abies magnifica	1
Abies procera	1
Abietinella abietina	5
Abutilon theophrasti	39
Acacia baileyana	1
Acacia cultriformis	1
Acacia ligulata	1



Search & Refine

Basis of Record
Provider
State/County

Higher taxa
Year range
Centroids

Biodiversity Inform: x

bison.usgs.ornl.gov/#home

USGS
science for a changing world

USGS Home
Contact USGS
Search USGS

Biodiversity Information Serving Our Nation (BISON) - U.S. species occurrence data & maps

Home About Data Providers Statistics API Examples Blog Help

ITIS Enabled Search by Scientific Name

Found **168,063,755** matches for *all species* using ITIS taxonomy [Refine Your Search](#) [Map](#) [Checklist](#)

Basis of Record	Provider	State/Territory
<input checked="" type="checkbox"/> fossil (1178885) <input checked="" type="checkbox"/> literature (352344) <input checked="" type="checkbox"/> living (26867) <input checked="" type="checkbox"/> observation (138838408) <input checked="" type="checkbox"/> specimen (22799334) <input checked="" type="checkbox"/> unknown (4867917)	<input checked="" type="checkbox"/> Academy of Natural Sciences (186225) <input checked="" type="checkbox"/> Herpetology (15227) <input checked="" type="checkbox"/> MAL (138773) <input checked="" type="checkbox"/> ORN (32225) <input checked="" type="checkbox"/> Acadia University (210) <input checked="" type="checkbox"/> E. C. Smith Herbarium (1012) (1012)	<input type="checkbox"/> Alabama (1901591) <input type="checkbox"/> Alaska (1822498) <input type="checkbox"/> American Samoa (4815) <input type="checkbox"/> Arizona (3855581) <input type="checkbox"/> Arkansas (1729089) <input type="checkbox"/> California (18273849) <input type="checkbox"/> Colorado (2922860) <input type="checkbox"/> Commonwealth of the North Mariana Islands (10217)

[[Check All](#) | [Uncheck All](#)]

[[Check All](#) | [Uncheck All](#)]

[[Check All](#) | [Uncheck All](#)]

The Power of ITIS



[Go to Print Version](#)

***Rubus flagellaris* Willd.**

Taxonomic Serial No.: 24921

[Download data](#) ([Download Help](#)) *Rubus flagellaris* TSN 24921

Taxonomy and Nomenclature

Kingdom:	Plantae
Taxonomic Rank:	Species
Synonym(s):	Rubus scambens L.H. Bailey Rubus aboriginum Rydb. Rubus apogaeus L.H. Bailey Rubus aptatus L.H. Bailey Rubus arenicolus Blanch. Rubus arizonensis Focke Rubus arundelanus Blanch. Rubus ashei L.H. Bailey Rubus baileyanus Britton Rubus cacaponensis H.A. Davis & T. Davis Rubus celer L.H. Bailey Rubus centralis L.H. Bailey Rubus clarus L.H. Bailey Rubus curtipes L.H. Bailey Rubus deamii L.H. Bailey Rubus decor L.H. Bailey Rubus depavitus L.H. Bailey Rubus ensenii Tratt. Rubus exsularis L.H. Bailey Rubus fecundus L.H. Bailey Rubus felix L.H. Bailey Rubus grimesii L.H. Bailey Rubus hancinianus L.H. Bailey Rubus injunctus L.H. Bailey Rubus invisus (L.H. Bailey) Britton Rubus ithacanus L.H. Bailey Rubus kentuckiensis L.H. Bailey Rubus leviculus L.H. Bailey Rubus meracus L.H. Bailey Rubus michiganensis (Card ex L.H. Bailey) L.H. B Rubus multifer L.H. Bailey Rubus mundus L.H. Bailey

[Rubus mundus](#) L.H. Bailey
[Rubus nefrens](#) L.H. Bailey
[Rubus obsessus](#) L.H. Bailey
[Rubus particeps](#) L.H. Bailey
[Rubus plicatifolius](#) Blanch.
[Rubus profusiflorus](#) L.H. Bailey
[Rubus pronus](#) L.H. Bailey
[Rubus roribaccus](#) (L.H. Bailey) Rydb.
[Rubus russeus](#) L.H. Bailey
[Rubus sailori](#) L.H. Bailey
[Rubus schoolcraftianus](#) L.H. Bailey
[Rubus steelei](#) L.H. Bailey
[Rubus temerarius](#) L.H. Bailey
[Rubus uvidus](#) L.H. Bailey
[Rubus vixalacer](#) L.H. Bailey
[Rubus whartoniae](#) L.H. Bailey
[Rubus arenicola](#) Blanch.
[Rubus iniens](#) L.H. Bailey
[Rubus obvius](#) L.H. Bailey
[Rubus pernaegaeus](#) Fernald
[Rubus plexus](#) Fernald
[Rubus sewardianus](#) Fernald
[Rubus alacer](#) L.H. Bailey
[Rubus alius](#) L.H. Bailey
[Rubus almus](#) (L.H. Bailey) L.H. Bailey
[Rubus armatus](#) (Fernald) L.H. Bailey
[Rubus austrinus](#) L.H. Bailey
[Rubus bollianus](#) L.H. Bailey
[Rubus bonus](#) L.H. Bailey
[Rubus botruosus](#) L.H. Bailey
[Rubus bretonis](#) L.H. Bailey
[Rubus camurus](#) L.H. Bailey
[Rubus canaanensis](#) H.A. Davis & T. Davis
[Rubus cathartium](#) Fernald
[Rubus census](#) L.H. Bailey
[Rubus clandestinus](#) L.H. Bailey
[Rubus coloniatus](#) L.H. Bailey
[Rubus complex](#) L.H. Bailey
[Rubus conabilis](#) L.H. Bailey
[Rubus connixus](#) L.H. Bailey
[Rubus cordialis](#) L.H. Bailey
[Rubus cordifrons](#) (L.H. Bailey) L.H. Bailey
[Rubus currulis](#) L.H. Bailey
[Rubus dives](#) L.H. Bailey

[Rubus eflagellaris](#) L.H. Bailey
[Rubus exemptus](#) L.H. Bailey
[Rubus exutus](#) L.H. Bailey
[Rubus fandus](#) L.H. Bailey
[Rubus florenceae](#) L.H. Bailey
[Rubus foliaceus](#) L.H. Bailey
[Rubus folioflorus](#) L.H. Bailey
[Rubus frustratus](#) L.H. Bailey
[Rubus fuscus](#) Weihe & Nees ex Bluff & Fing
[Rubus geophilus](#) Blanch.
[Rubus gordonii](#) L.H. Bailey ex Core
[Rubus housei](#) L.H. Bailey
[Rubus ignarus](#) L.H. Bailey
[Rubus imperiorum](#) Fernald
[Rubus indianensis](#) L.H. Bailey
[Rubus inobvius](#) L.H. Bailey
[Rubus jactus](#) L.H. Bailey
[Rubus jaysmithii](#) L.H. Bailey
[Rubus lassus](#) L.H. Bailey
[Rubus longipes](#) Fernald
[Rubus lundelliorum](#) L.H. Bailey
[Rubus macdanielisii](#) L.H. Bailey
[Rubus mainensis](#) L.H. Bailey
[Rubus maltei](#) L.H. Bailey
[Rubus masseyi](#) L.H. Bailey
[Rubus minnesotanus](#) L.H. Bailey
[Rubus neonefrens](#) L.H. Bailey
[Rubus occidualis](#) (L.H. Bailey) L.H. Bailey
[Rubus occultus](#) L.H. Bailey
[Rubus pauper](#) L.H. Bailey
[Rubus peracer](#) L.H. Bailey
[Rubus pityophilus](#) S.J. Sm.
[Rubus pohlii](#) L.H. Bailey
[Rubus potulus](#) L.H. Bailey
[Rubus polybotrys](#) L.H. Bailey
[Rubus prior](#) L.H. Bailey
[Rubus problematicus](#) L.H. Bailey
[Rubus redundans](#) L.H. Bailey
[Rubus rhodinsulanus](#) L.H. Bailey
[Rubus ricei](#) L.H. Bailey
[Rubus rosagnetis](#) L.H. Bailey
[Rubus sanfordii](#) L.H. Bailey
[Rubus saxis](#) L.H. Bailey
[Rubus semierectus](#) Blanch.

[Rubus serenus](#) L.H. Bailey
[Rubus subinnoxius](#) Fernald
[Rubus subuniflorus](#) Rydb.
[Rubus tantulus](#) L.H. Bailey
[Rubus tenuicaulis](#) L.H. Bailey
[Rubus terraltanus](#) L.H. Bailey
[Rubus tetricus](#) L.H. Bailey
[Rubus tracyi](#) L.H. Bailey
[Rubus uncus](#) L.H. Bailey
[Rubus uniflorus](#) L.H. Bailey
[Rubus urbanianus](#) L.H. Bailey
[Rubus usus](#) L.H. Bailey
[Rubus arundelanus var. jeckylanus](#) (Blanch.)
[Rubus flagellaris var. almus](#) L.H. Bailey
[Rubus flagellaris var. humifusus](#) (Torr. & A. G
[Rubus flagellaris var. occidualis](#) L.H. Bailey
[Rubus jaysmithii var. angustus](#) L.H. Bailey
[Rubus obsessus var. unilaris](#) L.H. Bailey
[Rubus recurvicaulis var. armatus](#) Fernald
[Rubus villosus](#) Aiton
[Rubus procumbens](#) Muhl.
[Rubus brevipedalis](#) L.H. Bailey
[Rubus clairbrownii](#) L.H. Bailey

Recent ITIS World Updates

Aloe

Archaea

Bacteria

Booidea

Chiroptera

Dipodidae

Gliridae

Lampyridae

Muroidea

Parulidae

Primates

Strepsiptera

Turtles

*97% of all occurrences in BISON are covered by ITIS

Documentation with a Click & Download



Biodiversity Information Serving Our Nation (BISON) - Explore & download U.S. species occurrence data & maps

Home About Data Providers Statistics API Examples Blog Help

ITIS Enabled Search by Scientific Name

Found 9,884 matches for *Ailanthus altissima* using ITIS taxonomy from the specified provider(s)

Refine Your Search

9,883 georeferenced

Record Details generated with ITIS taxonomy.

- Summary Details

Processed Scientific Name: *Ailanthus altissima*

Name:

ITIS Common Name: copal tree; tree of heaven; tree-of-heaven

ITIS TSN: 28827

Basis of Record: specimen

Occurrence Date: 7-16-2011

Provider: BISON

Resource: [Towson University - Midatlantic - Ailanthus altissima - 2011](#)

- Taxonomic/Occurrence Details

Collector: Matthew S. Hansen and Roland P. Roberts

Collector Number: MSH405

Valid/Accepted Scientific Name: *Ailanthus altissima*

Valid/Accepted ITIS TSN: 28827

As Provided Scientific Name: *Ailanthus altissima* (Mill.) Swingle

- Spatial Details

Latitude/Longitude: 37.12995/-78.51189

Calculated County or Equivalent/State: Prince Edward County/Virginia

Calculated FIPS: 51147

- Associated Media:



twsnalth_hansen_and_roberts_2011_417.jpg

9

General Comments: GPS Unit: GPSmap76CSx; Individuals sampled: 688; Photo vouchers taken: 683; collector_number = Unique DNA sample identifier

For more information, or to make comments on this occurrence, please contact the provider.

Location Records: 17

1. *Ailanthus altissima*

Processed Scientific Name: *Ailanthus altissima*

ITIS Common Name: copal tree; tree of heaven; tree-of-heaven

ITIS TSN: 28827

Basis of Record: Specimen

Occurrence Date: 7-16-2011

Provider: BISON

Resource: Towson Ailanthus

Downloading Options

1 *Ailanthus altissima* occurrences

File Type:

- Comma Separated Values (.CSV file)
- Google Earth KML file (.KML file)
- Zipped Shapefile bundle (.ZIP file)

Basemap Layers

BISON Layers

- State Heatmap
- County Heatmap
- Points Layer

Climate and Weather

Agriculture & Soils

Ecosystems and Regions

National Atlas & Demographic

HUCs, Catchments, Land Cover

Protected Areas

- Protected Areas of the US Database - Owner
- Protected Areas of the US Database - Status

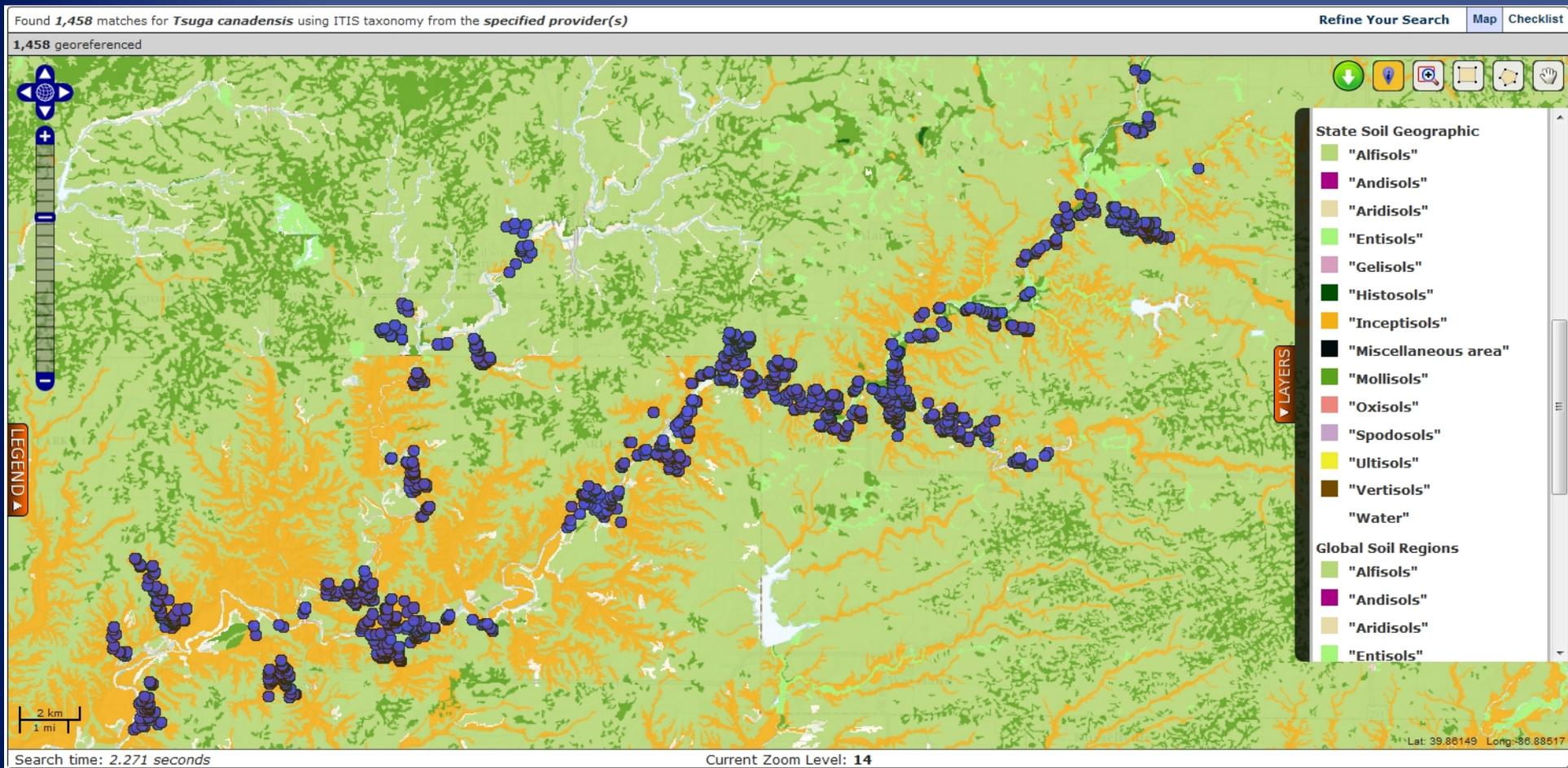
Search time: 3.338 seconds

Current Zoom Level: 6

Lat: 38.54078 Long: -74.59815

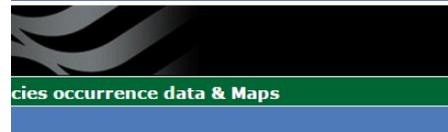
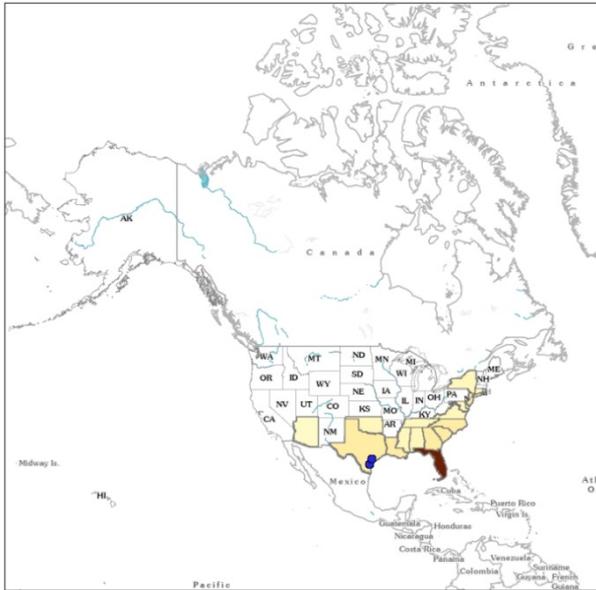


Multiple Environmental Data Layers & New Data Sources



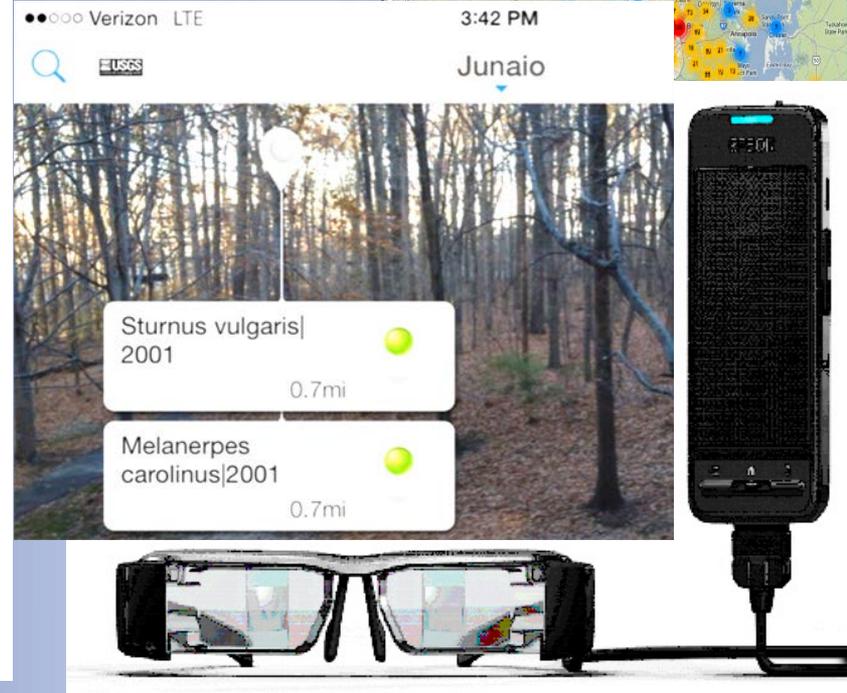
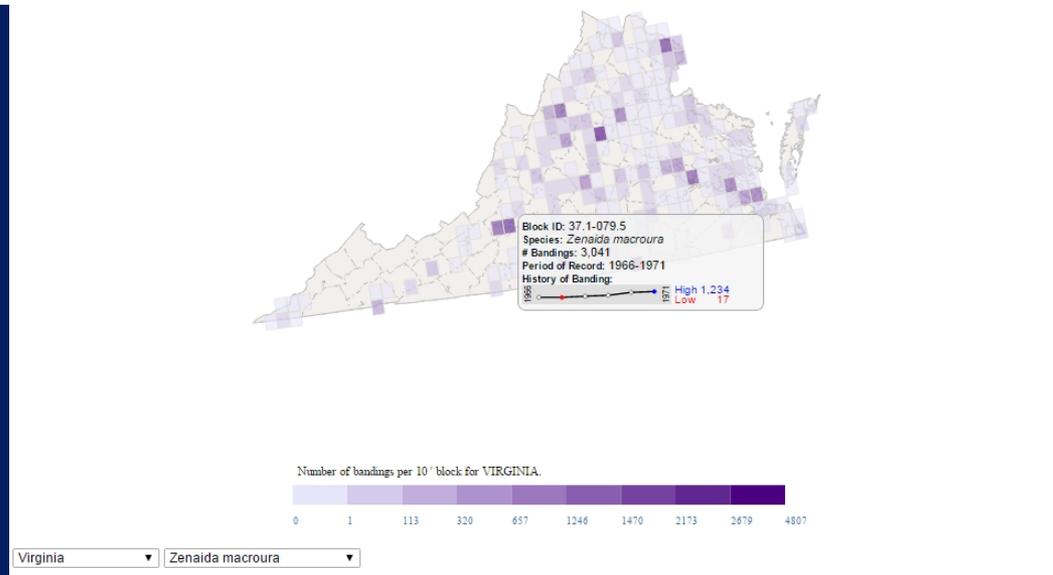
Points for Avian Pox in *Quiscalus major*
over the full range (states) of *Quiscalus major* in BISON

Note that if there are no points shown then the disease is not documented for this species in BISON.

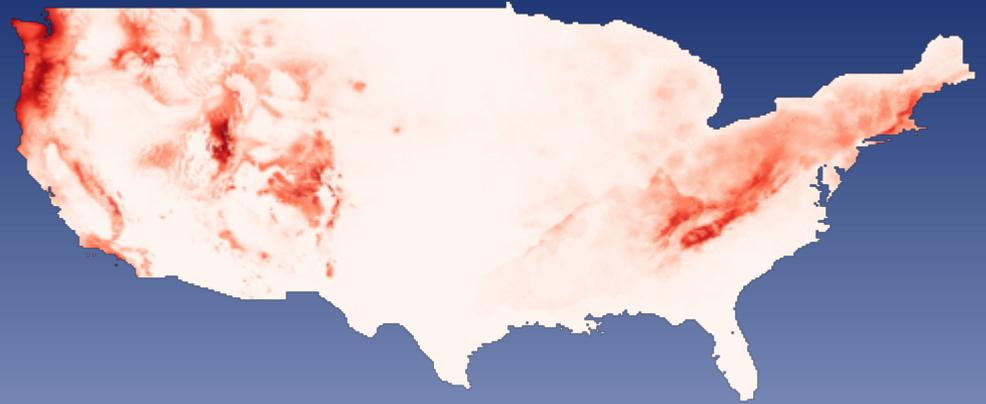


Spinoff Applications

- Paired Data (pathogen or pollinator /host)
- Bird Banding Lab Custom Viewer
- Mobile & Augmented Reality

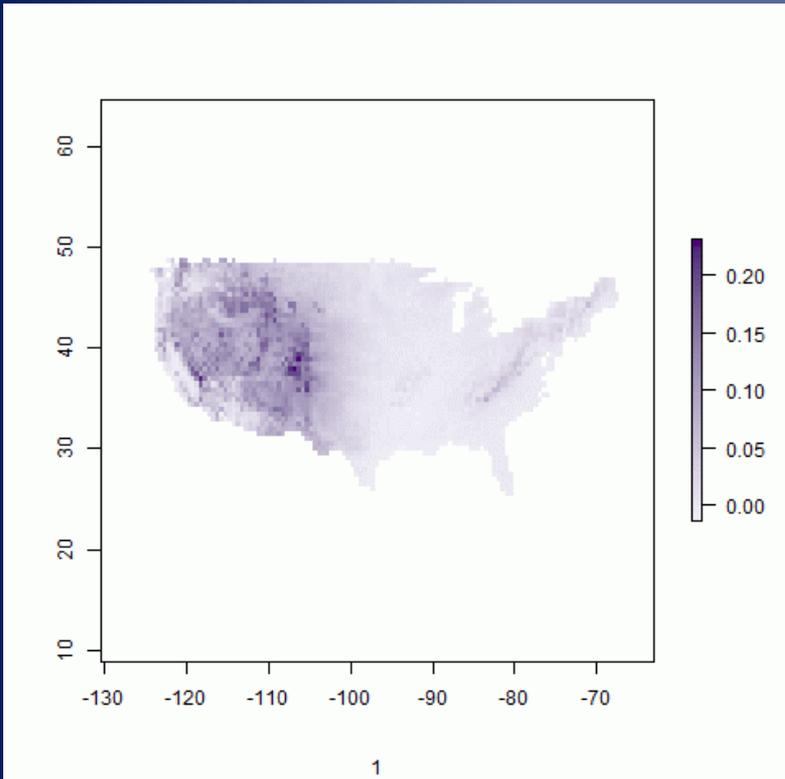


Models



Predicted Potential Distribution Under Climate Change - in collaboration with LifeMapper: Aimee Stewart, CJ Grady & Jim Beach

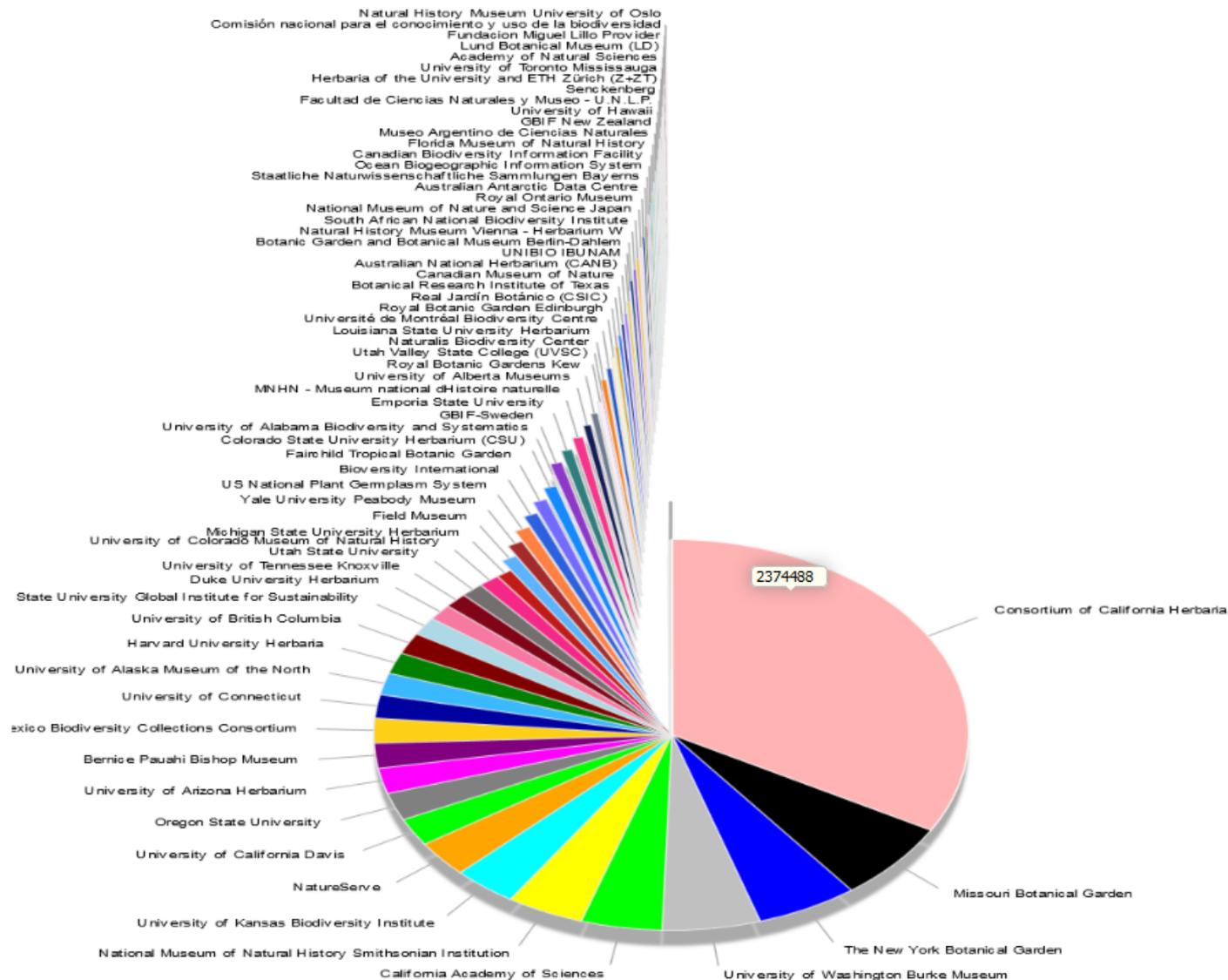
Predicted Daily Distribution Using Historical Subsets – in collaboration with Patuxent Wildlife Research Center. Yassine Kodand & Kevin Laurent



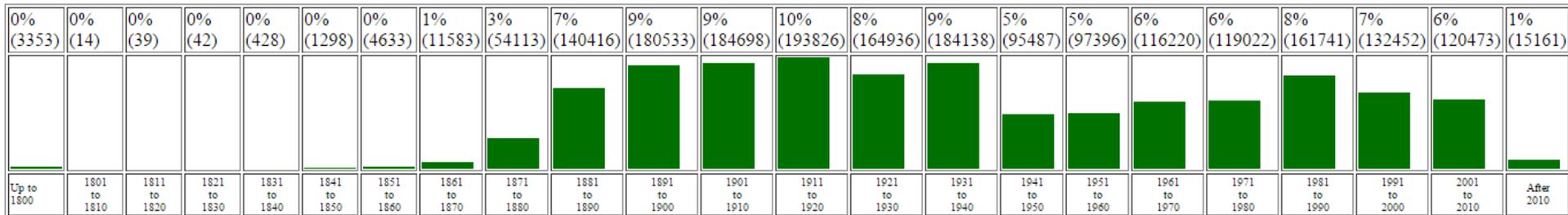
Dynamically Generated and Interactive 3D Pie Chart of the Relative Representation of Providers of Plant Specimen Records in BISON

Total Plant Specimens: 7168180

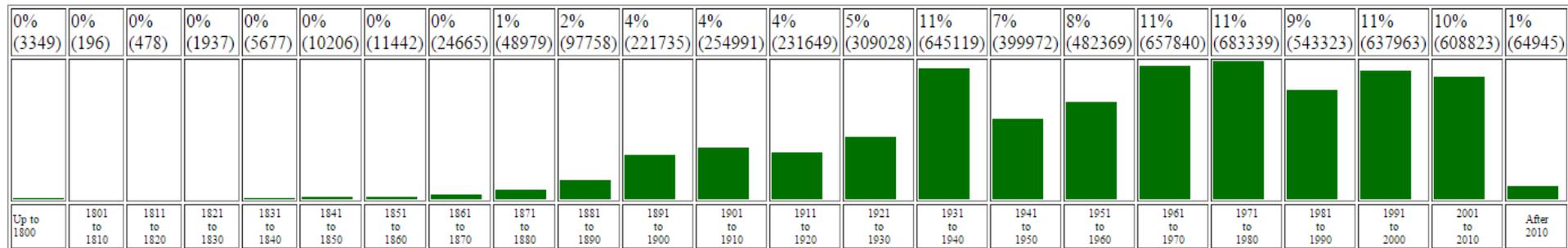
Click on a wedge to show the number of records from an individual provider.



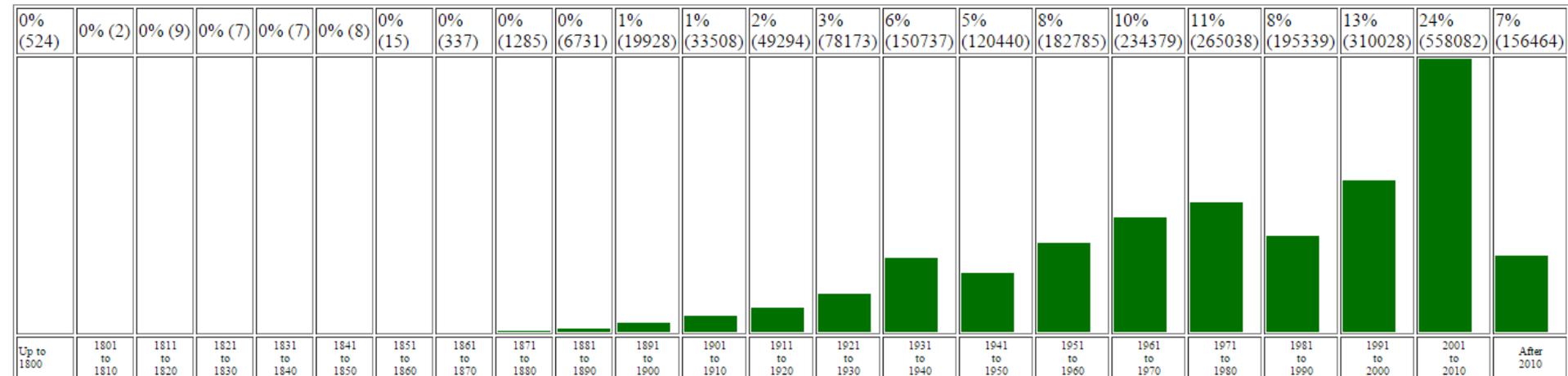
Specimen Collections by Decade for *Aves* in BISON (N = 1982002)



Specimen Collections by Decade for *Plantae* in BISON (N = 5945783)



Specimen Collections by Decade for *Insecta* in BISON (N = 2363120)



This application will look at all scientific names in the data set of a specific provider and compare them to the ITIS accepted names for those organisms in BISON. Conflicts will be listed. You will need to enter the three digit [BISON Provider ID number](#) which is listed in brackets after the provider name [HERE](#).

Enter a [BISON Provider ID](#):

224 Conflicts Found

Provider 281 = *Acacia farnesiana* vs ITIS = *Vachellia farnesiana farnesiana*
 Provider 281 = *Acer barbatum* vs ITIS = *Acer saccharum saccharum*
 Provider 281 = *Acmella oppositifolia repens* vs ITIS = *Acmella repens*
 Provider 281 = *Ageratina aromatica aromatica* vs ITIS = *Ageratina aromatica*
 Provider 281 = *Aira elegans* vs ITIS = *Aira elegantissima;Molmeriella laevis*
 Provider 281 = *Alopecurus alpinus* vs ITIS = *Alopecurus magellanicus*
 Provider 281 = *Amsinckia menziesii intermedia* vs ITIS = *Amsinckia intermedia*
 Provider 281 = *Andropogon capillipes* vs ITIS = *Andropogon virginicus glaucus*
 Provider 281 = *Andropogon mohrii* vs ITIS = *Andropogon liebmannii pungensis*
 Provider 281 = *Arisaema triphyllum quinatum* vs ITIS = *Arisaema triphyllum*
 Provider 281 = *Aristida longispica* vs ITIS = *Aristida longespica*
 Provider 281 = *Aristida longispica geniculata* vs ITIS = *Aristida longespica geniculata*
 Provider 281 = *Aristida longispica longispica* vs ITIS = *Aristida longispica longespica*
 Provider 281 = *Arnica chamissonis foliosa* vs ITIS = *Arnica chamissonis*
 Provider 281 = *Artemisia arctica* vs ITIS = *Artemisia norvegica saxatilis*
 Provider 281 = *Artemisia campestris borealis* vs ITIS = *Artemisia borealis*
 Provider 281 = *Baptisia bracteata laevicaulis* vs ITIS = *Baptisia leucophaea*
 Provider 281 = *Baptisia bracteata leucophaea* vs ITIS = *Baptisia leucophaea*
 Provider 281 = *Caltha palustris radicans* vs ITIS = *Caltha palustris*

This application checks the [Provided County](#) against the [County as calculated by BISON from the Provided Lat/Lon](#) for a given provider in BISON.

Enter a three digit [BISON Provider ID](#):

FINISHED: 998 Conflicts Found

Catalog Number: Calculated County vs Provided County and [Latitude, Longitude]

99140: Franklin County vs Worcester County [42.544, -72.329]
 99141: Franklin County vs Worcester County [42.544, -72.329]
 99139: Franklin County vs Worcester County [42.544, -72.329]
 63548: Orleans County vs Orange County [44.824, -72.491]
 87860: Orleans County vs Orange County [44.824, -72.491]
 89475: Orleans County vs Orange County [44.824, -72.491]
 85204: Penobscot County vs Piscataquis County [45.801, -68.765]
 85401: Penobscot County vs Piscataquis County [45.801, -68.765]
 83162: Penobscot County vs Piscataquis County [45.8, -68.765]
 114538: Chittenden County vs Washington County [44.32083, -72.92083]
 20208: Terrebonne Parish vs Plaquemines Parish [29.416, -90.7]
 20790: Terrebonne Parish vs Plaquemines Parish [29.233, -90.7]
 44655: Terrebonne Parish vs Plaquemines Parish [29.25, -90.7]
 104918: Hardee County vs Putnam County [27.36, -81.575]
 76089: Nueces County vs San Patricio County [27.85, -97.16667]
 77193: Aransas County vs San Patricio County [28.06667, -97.11667]
 82510: Frio County vs Medina County [29.067, -98.933]
 86586: McMinn County vs Macon County [35.317, -84.625]
 86730: McMinn County vs Macon County [35.317, -84.625]

Statistics Type: [All Statistics](#)

	Today	This Week	This Month	This Year
Academy of Natural Sciences				
Herpetology	487	5484	27547	204605
MAL	525	5970	30401	227011
ORN	511	6111	30058	232358
Acadia University				
E. C. Smith Herbarium (ACAD)	461	5533	29002	209263
Alabama Museum of Natural History				
Herp Specimens	483	5613	28099	205261
Alaska Ocean Observing System				
Arctic Ocean Diversity	480	4812	26735	198360
American Museum of Natural History				
Birds	515	6285	31334	244293
Herps	488	5974	30923	223654
Mammals	540	6623	32172	241678
Antarctic Biodiversity Information Facility (ANTABIF)				
Antarctic Marine Species Sequence Data	243	1973	16184	71861
In situ observations of <i>Stygiomedusa gigantea</i>	243	1973	16184	71859
Tagged Seal Location Data from SOGLOBEC	243	1973	16183	106221
Arctos				
Bird tissues, Division of Genomic Resources, UNM, Albuquerque, NM	486	5431	26894	213349
Fish tissues, Division of Genomic Resources, UNM, Albuquerque, NM	480	5018	26265	201459
Harold W. Manter Laboratory of Parasitology Collection	482	5050	26359	200863
KNWR Entomology Collection	557	4953	27653	201027
KNWR Herbarium Collection	459	4675	26398	196477
Kenelm W. Philip lepidoptera collection	283	2428	18102	78711
Mammal tissues, Division of Genomic Resources, UNM, Albuquerque, NM	521	6016	28771	219540
STAMP seabird egg collection	480	4494	25856	193604
U. S. National Parasite Collection's holdings from Robert L. Rausch	482	5257	27711	203651
Arizona State University, Global Institute for Sustainability				
Arizona State University Amphibian and Reptile Collection	483	5311	27915	215266
Arizona State University Bird Collection	481	4761	25575	194659
Arizona State University Lichen Collection	243	1973	16184	113043
Arizona State University Vascular Plant Herbarium	528	6972	30527	226139
Arizona State University, International Institute for Species Exploration				

ECOSYSTEMS

[EcoINFORMA](#) [Data Hubs](#) [Data Catalog](#) [Map Viewer](#) [Related Communities](#)


Discover and explore data resources on ecosystems and biodiversity, including ecosystem components, functions, and services.

HIGHLIGHTS

Biodiversity Resource Hub



[Biodiversity Information
Serving Our Nation](#)

Ecosystem Services
Resource Hub

[EnviroAtlas](#)

Land Cover Dynamics
Resource Hub

[Multi-Resolution Land
Characteristics Consortium](#)

[More Highlights](#)

UPDATES

[Formal Release of EcoINFORMA, Ecosystems.data.gov, and Two New Themes of Climate.data.gov](#)

On December 9th, the secretary of the U.S. Department of the Interior, Sally Jewell, formally announced during the plenary session of A Community on Ecosystem Services (ACES) 2014 conference the launch of the U.S. Ecoinformatics-based Open Resources and Machine Accessibility ... [Continued](#)

[Ecosystems.data.gov and EcoINFORMA](#)

The Ecosystems Community (Ecosystems.data.gov) is now publicly available in Data.gov and provides access to ecosystem and biodiversity-related data. This community is the central web portal of the U.S. Ecoinformatics-based Open Resources and Machine Accessibility (EcoINFORMA) initiative. Visit the EcoINFORMA section ... [Continued](#)

ECOSYSTEMS

EcoINFORMA Data Hubs Data Catalog Map Viewer Related Communities

EcoINFORMA Map Viewer

View maps and overlays of spatial data related to ecosystems, including the living (biotic) and non-living (abiotic) components that make up ecosystems, and factors that impact ecosystems. The EcoINFORMA Map Viewer is provided by the [GeoPlatform](#).



Go to EcoINFORMA Map Viewer



Watching a severe thunderstorm passing over populations of rare salamanders in real time. NEXRAD radar from NOAA with One-Toed Amphiuma points from USGS BISON

