

EcoINFORMA

(ecosystems.data.gov *Under Construction)



ITIS

Integrated Taxonomic
Information System
(www.itis.gov)

BISON

*Biodiversity
Information Serving
Our Nation
(bison.usgs.ornl.gov)*

Dr. Gerald "Stinger" Guala,
Chief, Eco-Science Synthesis Branch
Core Science Analytics and Synthesis
Core Science Systems
United States Geological Survey

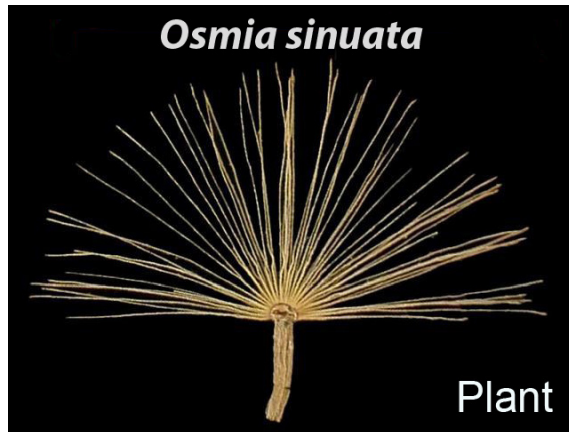




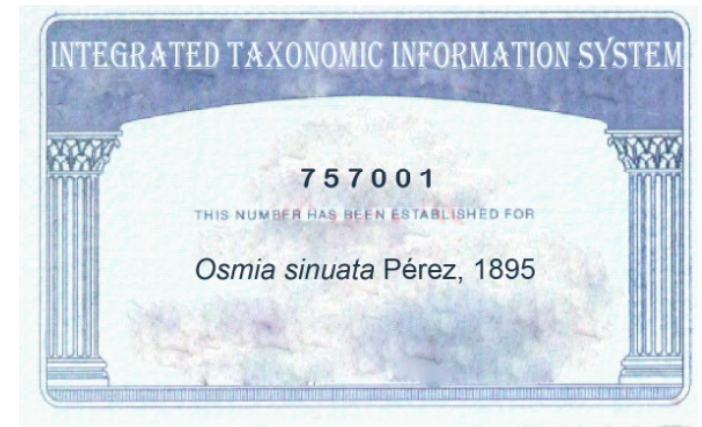
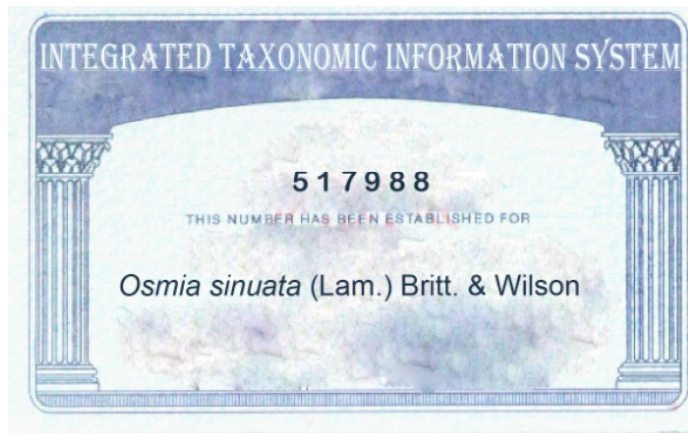
*MISSION: TO BUILD AND MAINTAIN A
SCIENTIFICALLY CREDIBLE AND PUBLICLY
ACCESSIBLE DATABASE OF TAXONOMIC DATA AND
INFORMATION ON THE WORLD'S BIOTA, PLACING
PRIORITY ON THE TAXA OF NORTH AMERICA.*

Currently
623,782 Scientific Names
117,231 Common Names





ITIS Taxonomic Serial Numbers are Social Security Numbers
for Species Names

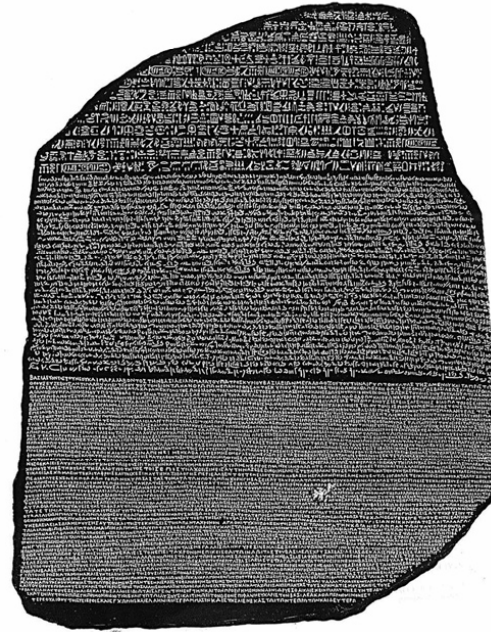




Google scholar

Marginaria polypodioides

15 Articles



ITIS is the Rosetta Stone
for Species Names



Google scholar

Marginaria polypodioides

With ITIS synonymy

Pleopeltis polypodioides
Polypodium polypodioides

814 Articles



USGS

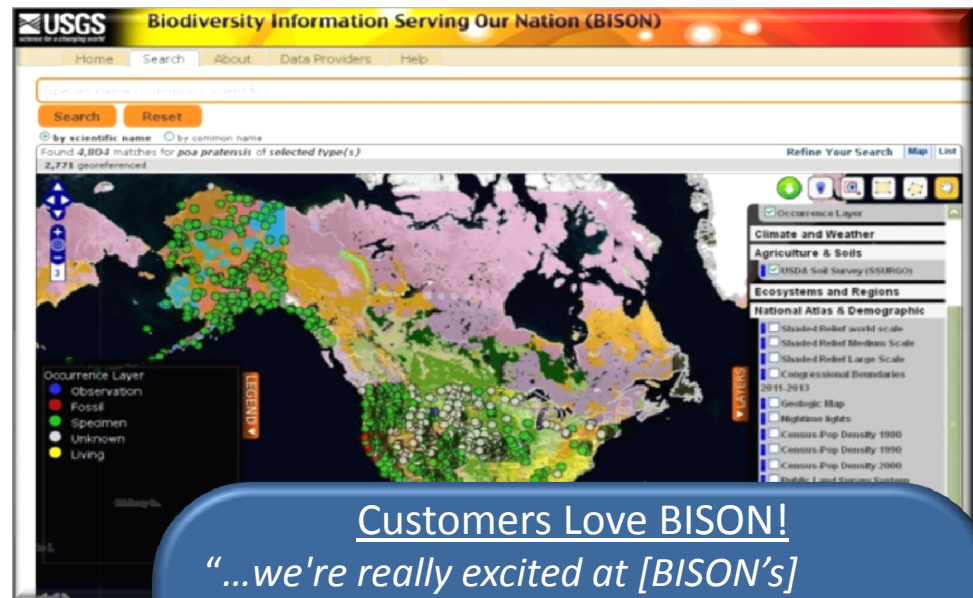
BISON

*The US national unified
resource and community
focal point for discovery,
linkage and re-use of
organismal occurrence data*



Biodiversity Information Serving Our Nation (BISON.USGS.ORNL.GOV)

- National resource for US federal and non-federal biological occurrence data
- >110M records and 60 environmental layers
- 253 data providers – 9 federal agencies & all 50 states
- ~750,000 citizen and professional scientists
- Serves as the US node of the Global Biodiversity Information Facility (GBIF)



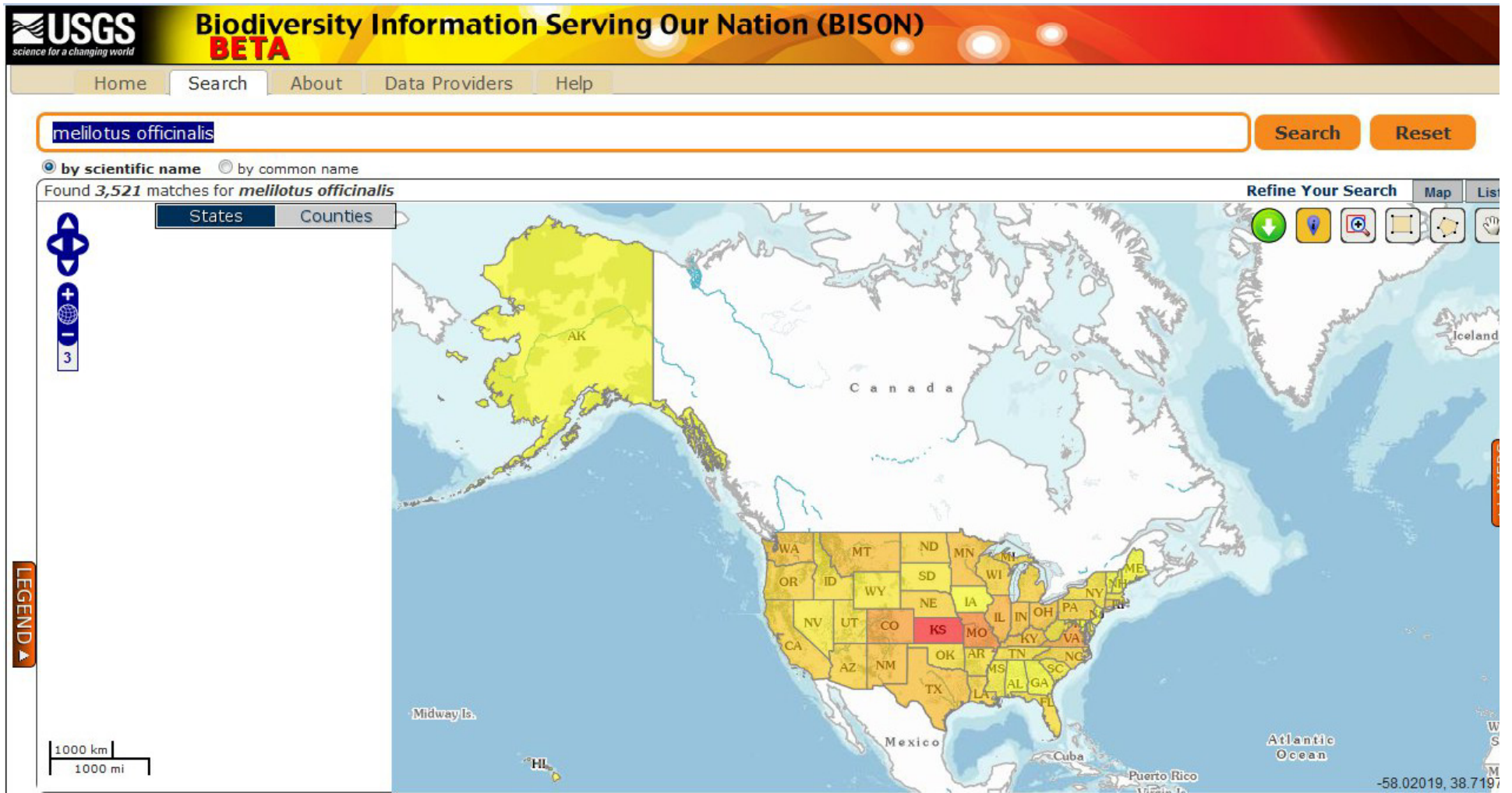
Customers Love BISON!

"...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

State Heat Map



Click on a State and Show the Counties

USGS science for a changing world **Biodiversity Information Serving Our Nation (BISON) BETA**

Home Search About Data Providers Help

species name (common / scientific)

☒ by scientific name ☐ by common name

Found **81,254,399** matches for *all species*
72,504,266 georeferenced

Refine Your Search

States Counties

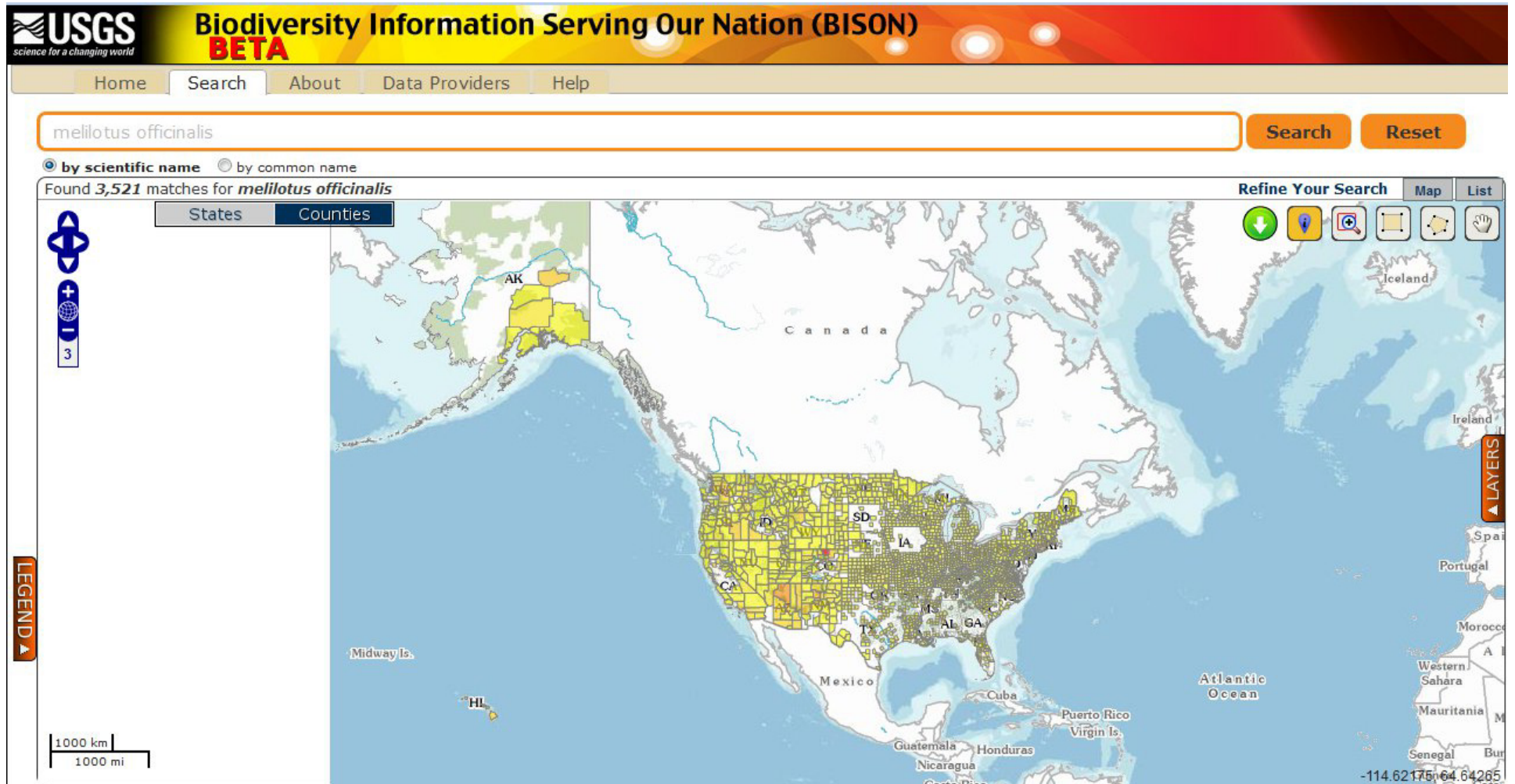
Oneida County
Occurrences: 97,788
[Show Occurrences](#) | [Download](#)

New York
Occurrences: 4,435,789
[Show Counties](#) | [Download](#)

The screenshot displays the USGS BISON BETA web application interface. At the top, the USGS logo and the title 'Biodiversity Information Serving Our Nation (BISON) BETA' are visible. Below the title is a navigation bar with links: Home, Search, About, Data Providers, and Help. A search bar is present with the placeholder text 'species name (common / scientific)' and buttons for 'Search' and 'Reset'. Below the search bar, there are radio buttons for 'by scientific name' (selected) and 'by common name'. The results section shows 'Found 81,254,399 matches for all species' and '72,504,266 georeferenced'. On the right, there are links for 'Refine Your Search', 'Map', and 'List'. The main map area shows a map of the United States with state boundaries. A blue box highlights the New York state map, and a red box highlights the Oneida County map. The interface includes a search bar, navigation tools, and a legend.

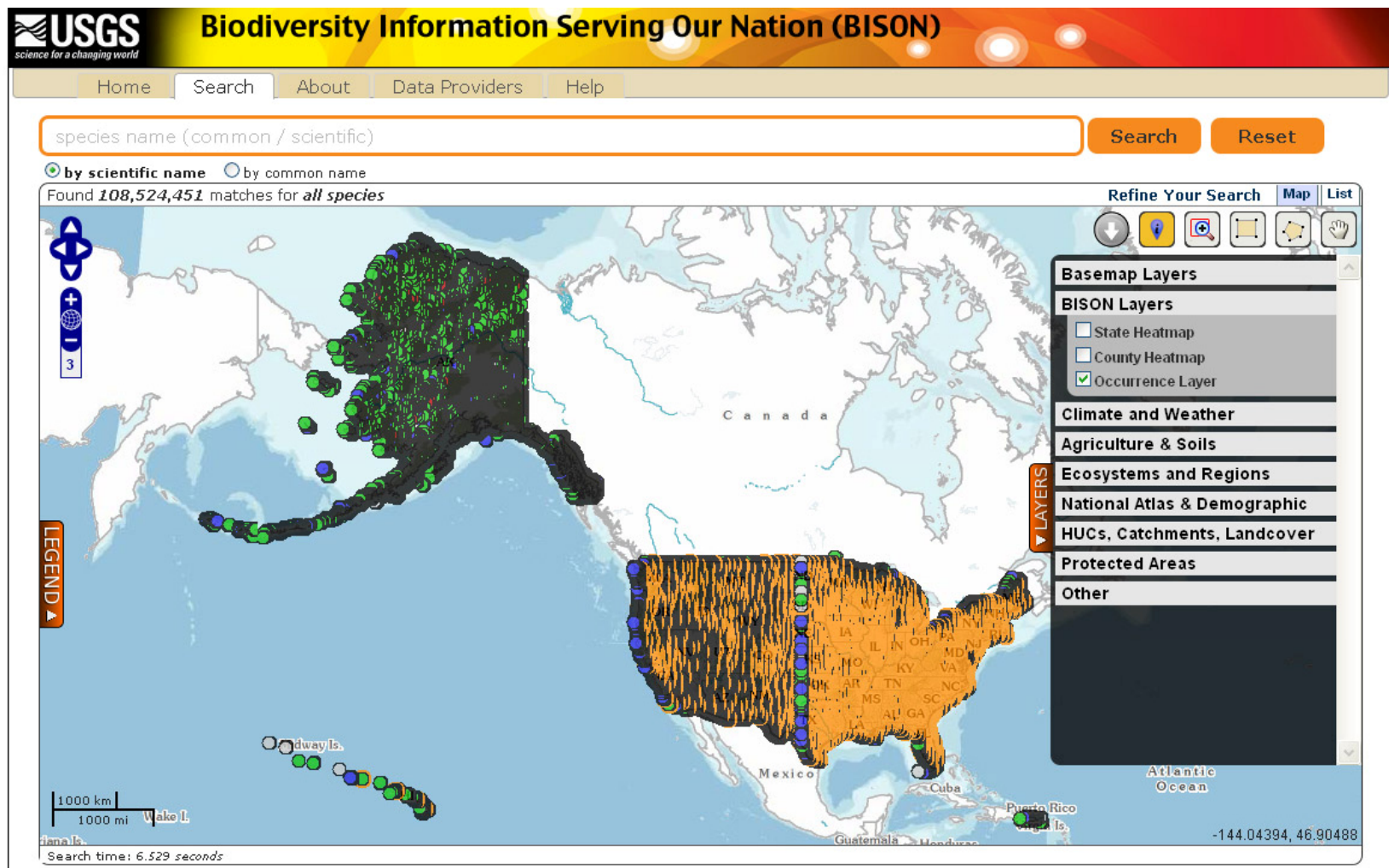


County Heat Map



All of the points

(even when the scale doesn't make sense)



Lists

(Especially useful for non-geocoded data)


Biodiversity Information Serving Our Nation (BISON)
BETA

[Home](#)
[Search](#)
[About](#)
[Data Providers](#)
[Help](#)

☒ by scientific name
 ☐ by common name
 [Advanced Search](#)

Found **7,428** matches for *all species* in **Del Norte County, California** [[Show all counties](#) | [all states](#)]

[Refine Your Search](#)

Scientific Name	Common Name(S)	Type	Geo	Provider
<i>Alosa sapidissima</i>	[Atlantic shad, common shad, sábalo americano, white shad]	Observation	Yes	United States Geological Survey
<i>Pomoxis annularis</i>	[white crappie]	Observation	Yes	United States Geological Survey
<i>Salmo salar</i>	[saumon, saumon Atlantique, Atlantic Salmon, Salmon]	Observation	Yes	United States Geological Survey
<i>Potamopyrgus antipodarum</i>	[New Zealand mud snail]	Observation	Yes	United States Geological Survey
<i>Anacolia menziesii</i>		Specimen	Yes	University of Connecticut
<i>Claopodium bolanderi</i>		Specimen	Yes	University of Connecticut
<i>Marah</i>	[manroot]	Specimen	Yes	University of Connecticut
<i>Racomitrium aciculare</i>		Specimen	Yes	University of Connecticut
<i>Hypogymnia occidentalis</i>	[western tube lichen]	Specimen	Yes	Arizona State University, International Institute for Species Exploration
<i>Lecanora pacifica</i>	[Pacific rim lichen]	Specimen	Yes	Arizona State University, International Institute for Species Exploration
<i>Parmelia sulcata</i>	[shield lichen]	Specimen	Yes	Arizona State University, International Institute for Species Exploration

Displaying 351 - 375 of 7428

[« First](#)
[< Prev](#)
[Next >](#)
[» Last](#)



Refined Search

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Home Search About Data Providers Help

melilotus officinalis Search Reset

☒ by scientific name ☐ by common name

Found 3,521 matches for *melilotus officinalis*

Basis of Record	Data Provider	State	Year Range
☐ Fossil (14)	☐ University of Connecticut (53)	☐ Indiana (78)	From 1910
☐ Literature (2024)	☒ University of Kansas Biodiversity Research Center (355)	☐ Iowa (14)	To 2010
☐ Observation (23)	☐ University of Tennessee, Knoxville (17)	☒ Kansas (260)	
☒ Specimen (962)	☐ University of Washington Burke Museum (102)	☐ Kentucky (83)	
☐ Unknown (498)	☐ Université de Montréal Biodiversity Centre (1)	☐ Louisiana (53)	
[Check All Uncheck All]		☐ Maine (12)	
		☐ Maryland (6)	
		☐ Massachusetts (22)	
		☐ Michigan (60)	
		[Check All Uncheck All]	

Hide Search Details Update Search Results

LEGEND

1000 km 1000 mi

Midway Is. HI Mexico Cuba Puerto Rico Atlantic Ocean West Sah Mau

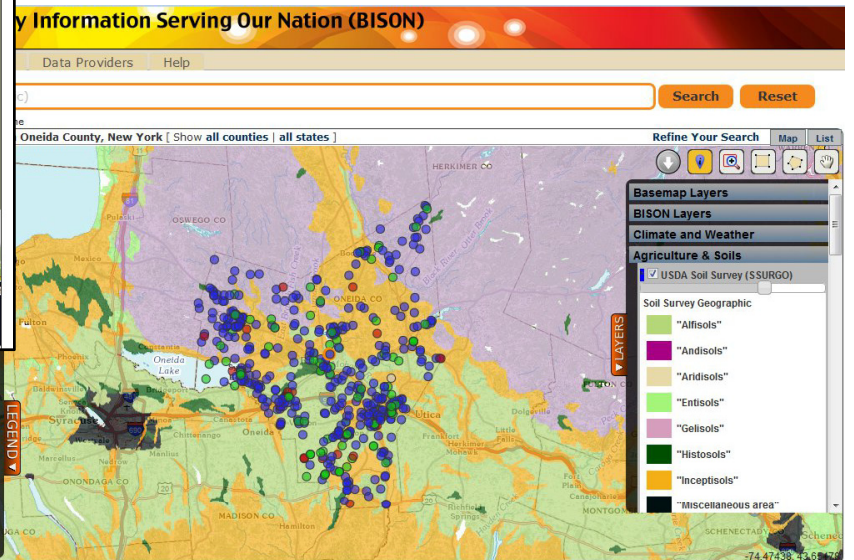
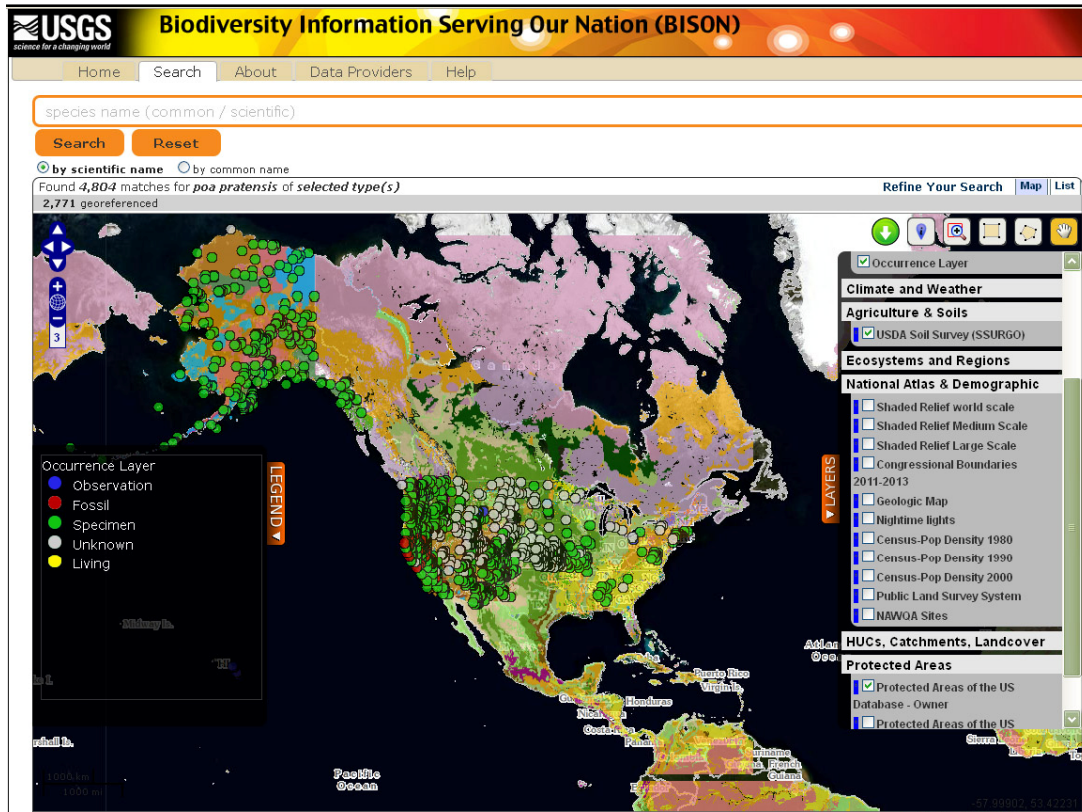
-23.21550, 51.86284

Map List

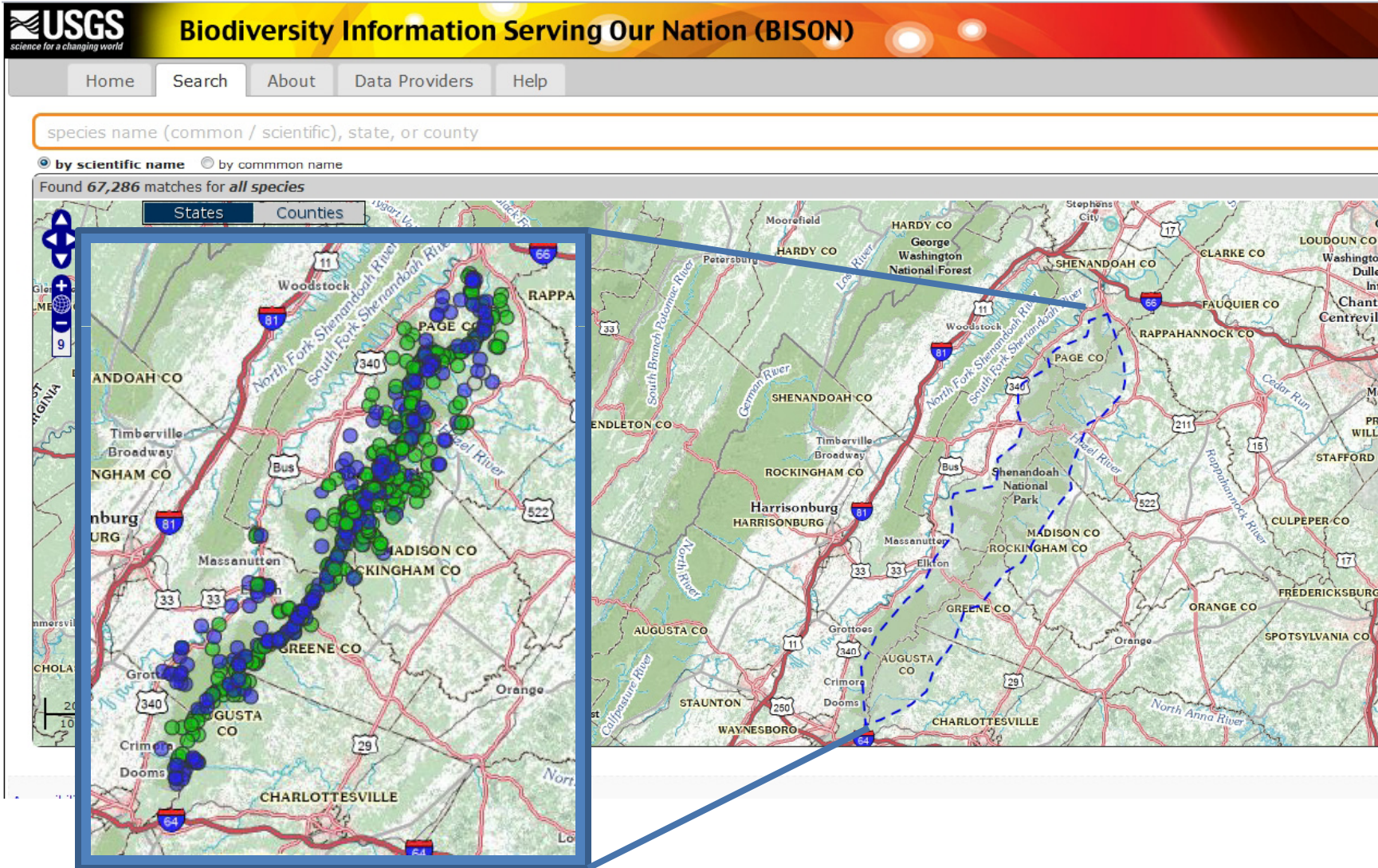
LAYERS



Any of 60 environmental layers, Symbology for points



Define your own polygon



Documentation with a Click & Download

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Biodiversity Information Serving Our Nation (BISON) BETA

Home Search About Data Providers Help

species name (common / scientific) Search

☒ by scientific name ☐ by common name

Found 35,048 matches for *all species* from the *specified providers* in **Pima County, Arizona** [Show all counties | all states]

Refine Your Search Map List

[Print](#)

Record Details

Resource: UA Herbarium

Basis of Record: specimen

Scientific Name: *Galium proliferum*

Common Names: [limestone bedstraw]

State: Arizona

County: Pima

Country_code: US

Provider: University of Arizona Herbarium

Provider URL: <http://ag.arizona.edu/herbarium/index.php>

Collector: C.E. Jenkins

Latitude: 32.0765

Longitude: -111.918

Precision: N/A

Year: 1979

Location Records: 10
[Download All](#)

1. *Galium proliferum*
Basis Type: Specimen
Occurrence Date: undefined
Provider: University of Arizona Herbarium
Resource: UA Herbarium
[Show Details](#) | [Download](#)

2. *Galium proliferum*
Basis Type: Specimen
Occurrence Date: undefined
Provider: University of Arizona Herbarium

Downloading Options

File Type:

☒ CSV
☐ KML
☐ SHP

Individual Stats

Welcome to Stinger's Place x Biodiversity Information S x Inbox (959) - gguala@usgs x

bison.usgs.ornl.gov/#

USGS
science for a changing world

USGS Home
Contact USGS
Search USGS

Biodiversity Information Serving Our Nation (BISON)

[Home](#) [Search](#) [About](#) [Data Providers](#) [Help](#) [Statistics](#)

	Today		This Week		This Month	
	Searches	Downloads	Searches	Downloads	Searches	Downloads
Academy of Natural Sciences						
Herpetology	149	3	792	56	386	23
MAL	137	0	797	46	361	5
ORN	133	1	810	26	336	4
Acadia University						
E. C. Smith Herbarium (ACAD)	136	0	681	29	308	4
Alabama Museum of Natural History						
Herp Specimens	139	3	751	55	353	17
Alaska Ocean Observing System						
Arctic Ocean Diversity	135	1	662	23	304	5
American Museum of Natural History						
Birds	146	1	839	30	364	5
Herps	148	3	814	55	395	25
Mammals	165	1	991	29	418	8
Arboretum, University of Copenhagen						
University of Copenhagen's Arboretum	127	1	661	22	290	4
Arctos						

U.S. Department of the Interior | U.S. Geological Survey
 URL: <http://bison.usgs.ornl.gov/>
 Page Contact Information: [Ask USGS](#)
 Page Last Modified: Wednesday, April 17, 2013

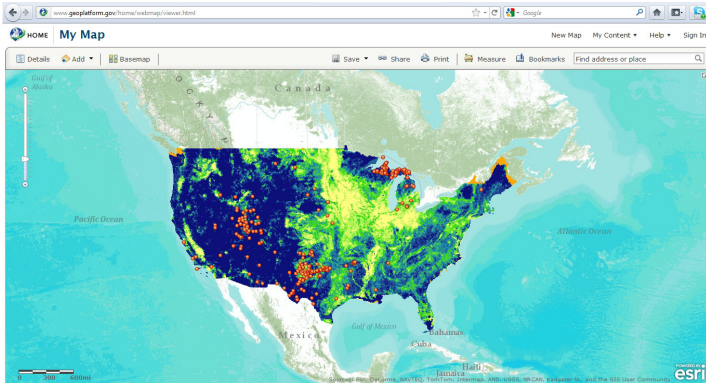
Symantec Endpoint Protection
 Traffic has been blocked from this application:
 (ntoskrnl.exe)

12:16 PM



Mashability & Extended Web Services

(BISON.USGS.ORNL.GOV)

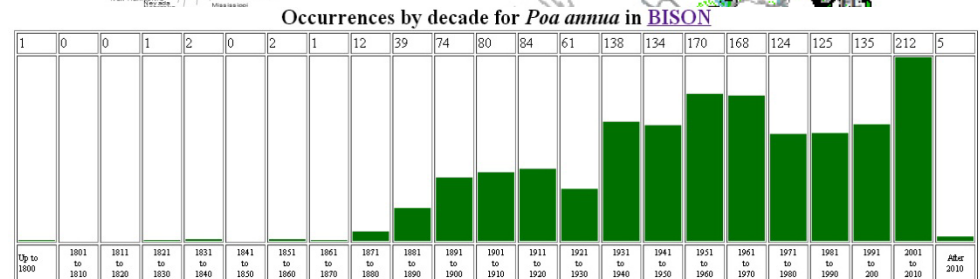
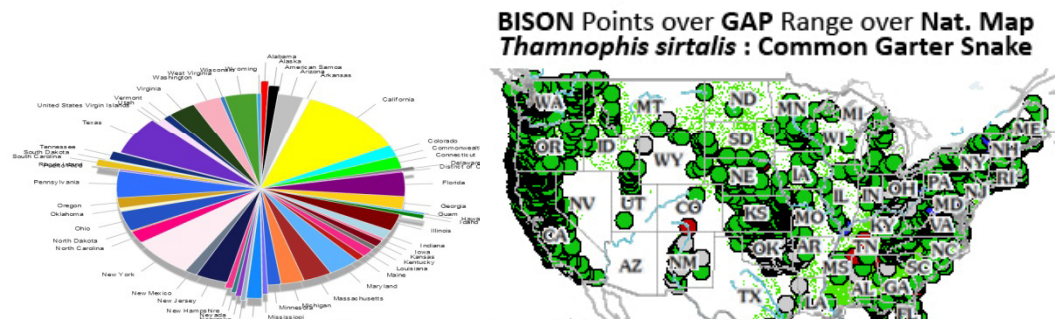
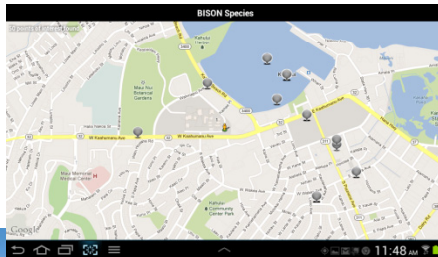


Wolves (BISON), %
Natural Cover
(EnviroAtlas) &
Topography Base (in
Geoplatform.gov)

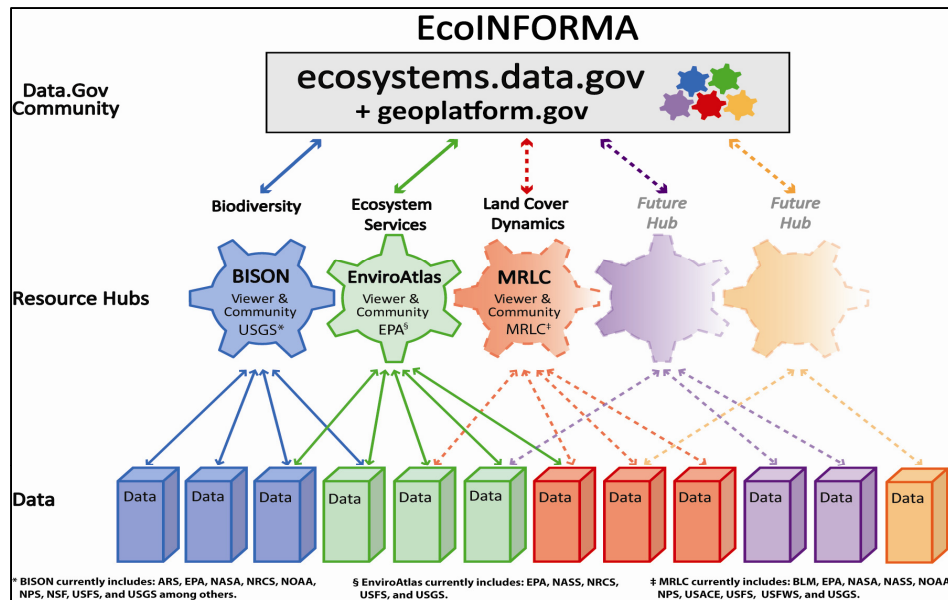
Output Formats
(Direct Solr & API)
JSON, JSONP, XML
SHP, CSV
+ **WMS services**

Other User Applications

Mobile Apps
Augmented
Reality &
Points in
Vicinity



EcoINFORMA



Hubs

- Large enough to...
 - lead a community.
 - leverage scale for IT, standardization and outreach.
- Small enough to...
 - be invested in and led by a single agency.
 - be a focused center of excellence.

- Metadata and pointers to the data sit at Data.gov.
- Geoplatform.gov provides the top level geospatial discovery and mashup.
- The Hubs coordinate the communities and provide sophisticated tools.
- BioEco provides the forum for inter-hub/inter-agency communication.
- Impediments are identified and addressed as appropriate up the NSTC chain.

