

Overview of Why & How to Use iNaturalist

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November 18, 2025



- Why Use and Contribute Data with iNaturalist
- How To Use iNaturalist – Basics
- How to Use iNaturalist - Advanced
- How Data is Used by Natural Resource Managers

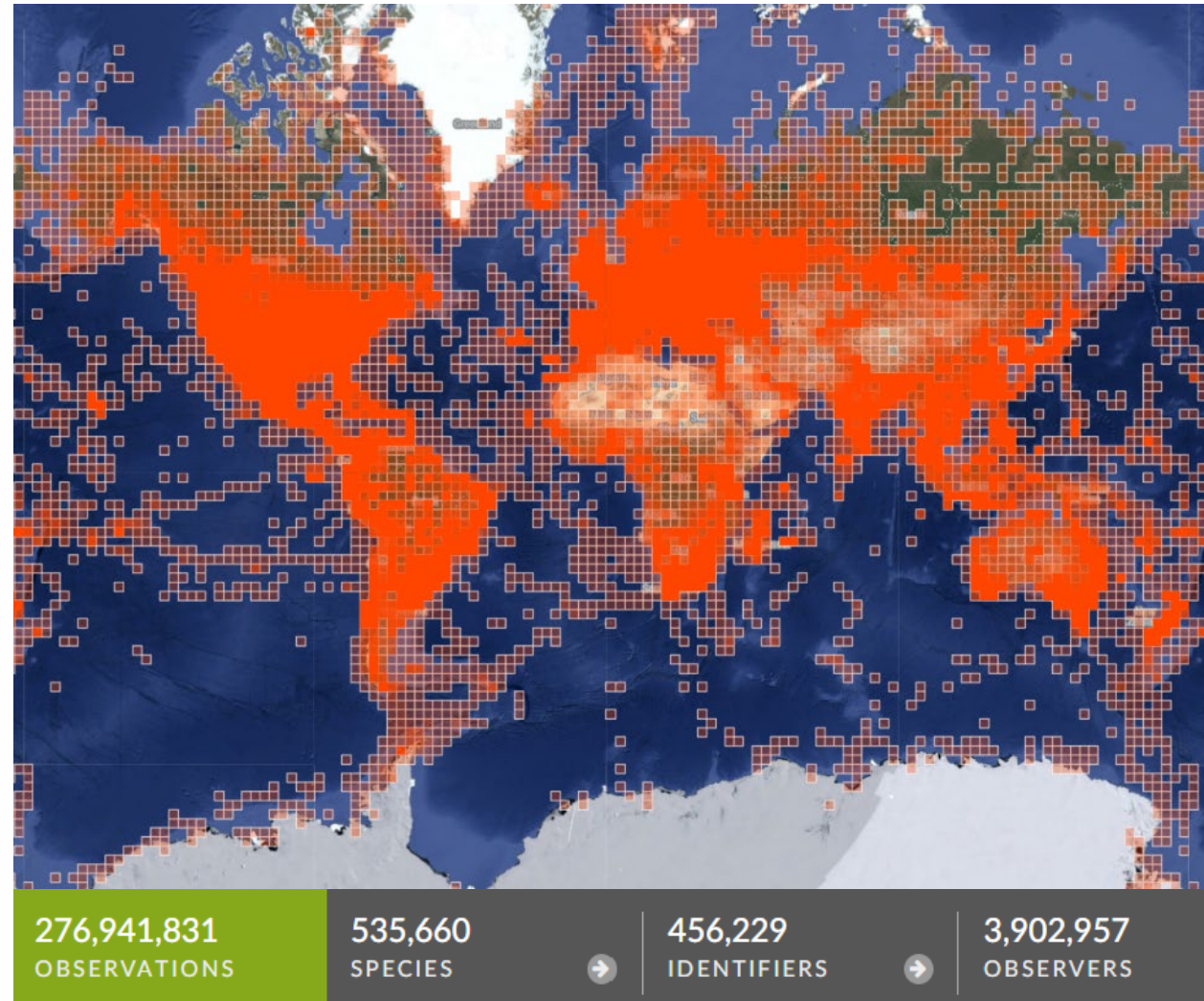
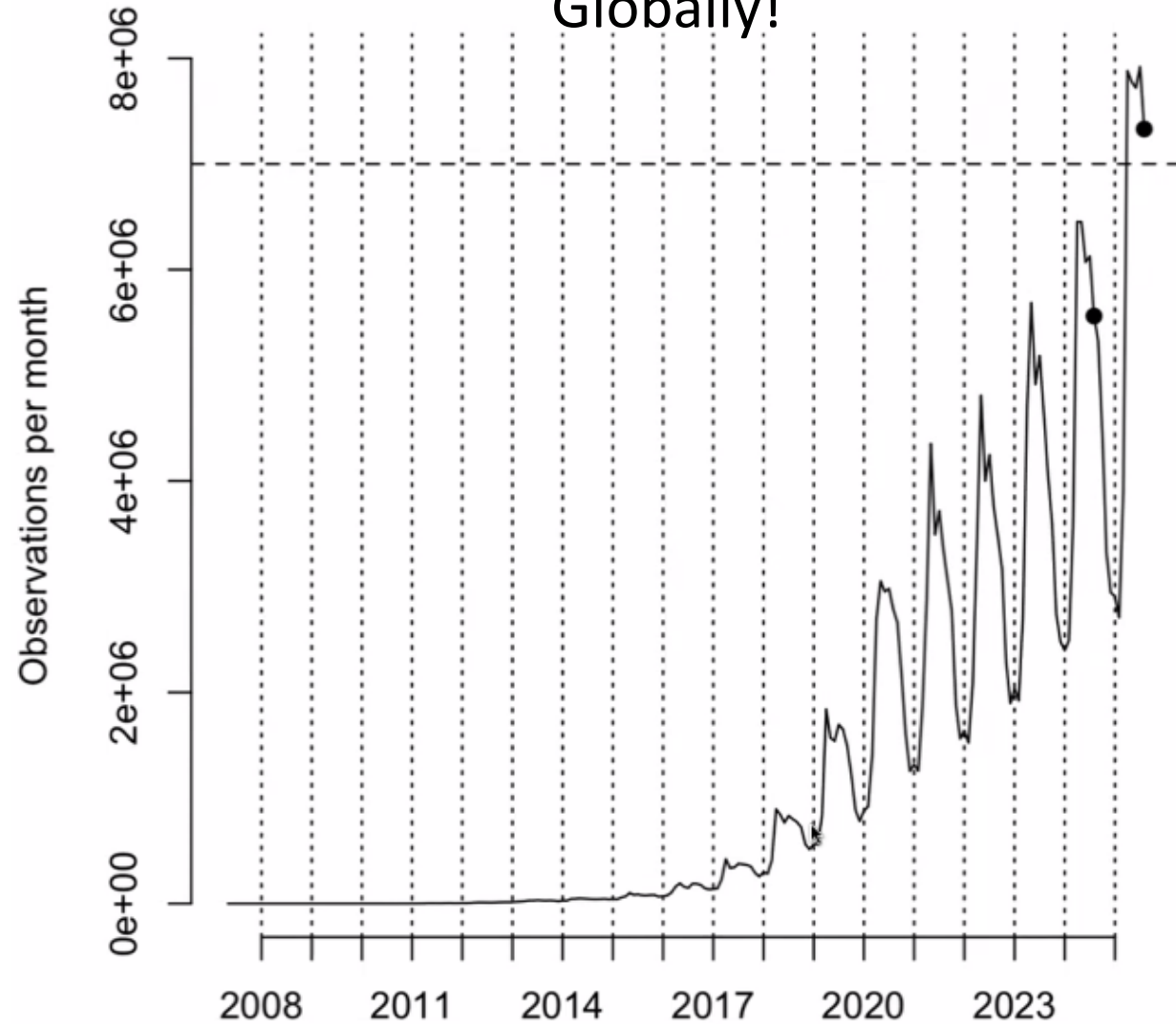


How-To
iNaturalist Resources



Why Use and Contribute Data with iNaturalist?

Globally!

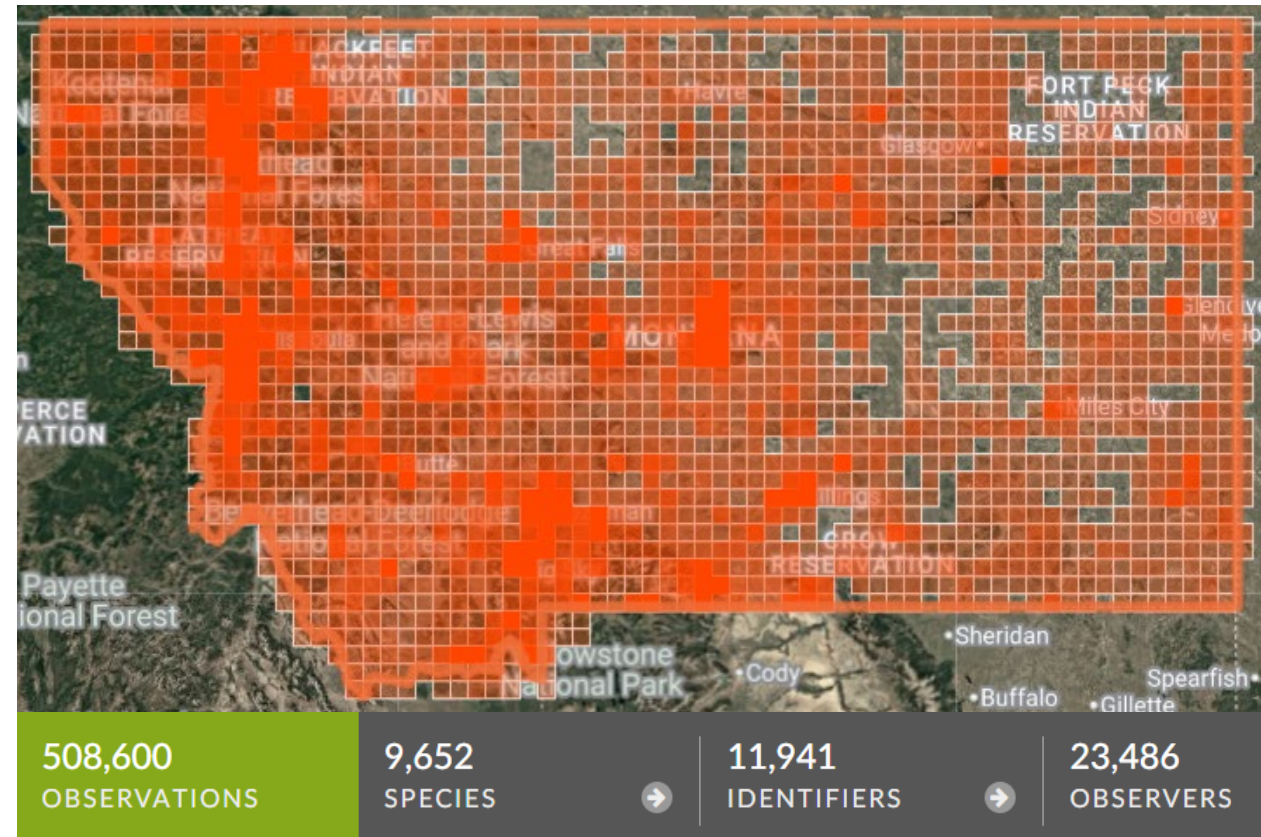


Lots of Data Informs Conservation Decisions!

Why Use and Contribute Data with iNaturalist?

State/Province	No. <u>Obs</u>	No. Spp.	No. Identifier	No. Observer
Alaska	676,766	10,061	13,037	19,919
Alberta	1,377,160	11,788	17,852	30,150
Arizona	2,546,934	18,036	23,716	67,412
British Columbia	5,644,802	22,998	32,888	70,900
California	20,415,906	38,258	76,188	360,862
Colorado	2,303,271	16,541	24,681	79,762
Idaho	635,249	10,518	13,637	24,175
Montana	508,600	9,652	11,941	23,486
Nevada	651,981	9,718	12,846	25,437
New Mexico	1,242,805	14,917	16,832	34,164
Northwest Territories	156,472	4,961	5,756	3,494
Oregon	2,760,658	18,816	28,362	74,168
Saskatchewan	317,269	7,441	8,917	9,100
Texas	13,546,282	30,367	57,663	207,766
Utah	1,096,433	12,483	17,718	45,059
Washington	3,365,453	19,570	32,434	93,839
Wyoming	424,364	7,862	11,446	24,143
Yukon Territory	189,520	4,892	5,295	2,818

In Montana and the West!

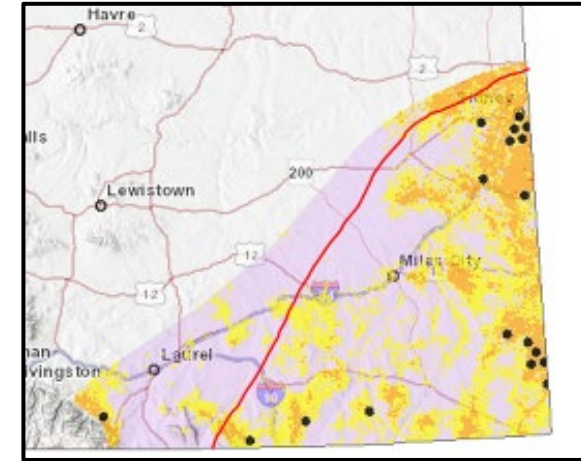


Lots of observers and identifiers!

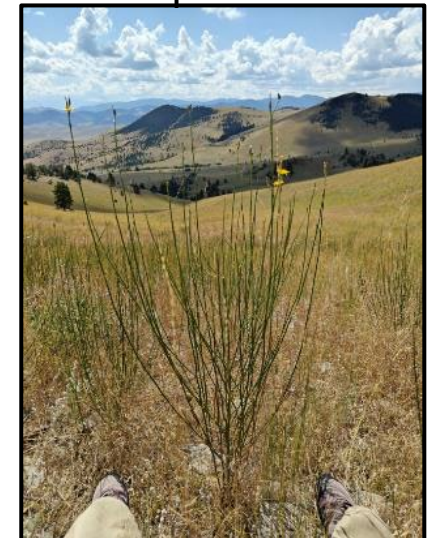
Why Use and Contribute Data with iNaturalist?

- Well developed application - easy to collect photos or sound files
- Well developed algorithms to identify species from photos
- Global community of observers
 - New species, Rarely Reported Species, Document Invasive Species
- Global community of identifiers → ensure high data quality
 - Used by taxonomic experts and dedicated individuals
- Well developed workflows allow natural resource managers to use data
- Great tool for learning about species where you live and where you play
- Subscribe to species of interest to get alerts of reports in areas of interest
- Connect with other people interested in the same species
- iNat data has been used in >6,000 science publications (1,000+ in 2024)
- Contribute to conservation outcomes!

Meadow Jumping Mouse
Range Extension!



Rush Skeletonweed
Invasive Species Control!



How To Use iNaturalist - Basics



How-To iNaturalist Resources



How does iNaturalist work?



1. Take a photo (or record a sound) of an organism using the app.



2. You will get a suggested identification.

The app automatically records the date/time and location.



3. The uploaded observation is visible to the iNaturalist community, who can confirm and correct identifications.

Observations with consensus on the ID are shared with other databases used for science and conservation.

Setting up an iNaturalist Account

1. On your phone - Download the iNaturalist app from your favorite app store



2. On your phone or on a desktop computer, create an iNaturalist account under the Sign Up link at the upper right of the page <https://www.inaturalist.org/>
3. Maintaining the default check on the upper box on licensing of photos, sounds, and observations will allow your information to be used with a creative commons non-commercial attribution license so that it can be readily used by natural resource managers
4. Under the account menu at the upper right (while logged in), click on Account Settings and create an account **Profile**, and establish **Content and Display** settings, **Notification** settings, and linked **Applications** (e.g., Flickr, Google) for photo importing

Join the largest group of naturalists in the world!

Email

Username

Password

Password confirmation

☐ I'm not a robot
reCAPTCHA is changing its terms of service. [Take action.](#) 
reCAPTCHA Privacy - Terms

☒ Yes, license my photos, sounds, and observations so scientists can use my data (recommended). [Learn More](#)

☐ I consent to allow iNaturalist to store and process limited kinds of personal information about me in order to manage my account [Learn More](#)

☐ I consent to allow my personal information to be transferred to the United States of America [Learn More](#)

☐ I agree to the [Terms of Use](#) and [Privacy Policy](#), and I have reviewed the [Community Guidelines](#).

Recommended “Account Settings” – personal menu at upper right

Content and Display

- **Project – “Any”**
- **Taxonomic – “Automatically Update my content for taxon changes”**
- **Community Moderation**
 - **Accept Community Identifications**
 - **“Anyone” can add observation fields to my observations**
- **Licensing**
 - **Default observation license – (CCO) or No Copyright. This allows data to be freely used by data managers and natural resource managers even if a data fee is required in permitting processes.**
 - **Default photo license – (CCbyNC) or Attribution-NonCommercial. This allows your photos to be used by others in non-commercial purposes, but you must be credited for their use.**
 - **Default sound license – (CCbyNC) or Attribution-NonCommercial. This allows your sound files to be used by others in non-commercial purposes, but you must be credited for their use.**

Notifications

- **This really depends on your interest in or tolerance for notifications, but in general it probably makes sense to be notified if someone mentions your @username**

Tips for Taking Photos

1. **Get close and fill the frame** with the organism you are observing for your first or main photo (right)
2. Take a photo of the **general setting** in a secondary photo (left)



Take multiple shots to capture distinguishing features!



Tips for Taking Photos of moving organisms

1. For insects and other animals that are moving around, **take a photo as soon as you have the animal in the frame** (left)
2. Take additional photos as you have time and ability to do so. **Keep clearer and in focus photos** (right) and delete poorer photos before submitting the observation.



Key iNaturalist Resources

Tag the following taxonomic experts in Montana for help with identification...in the comments of an observation say “@bmaxell can you please help me identify this tadpole”

Scott Mincemoyer (**vascular plants**): @scott_mt

Peter Achuff (**vascular plants**): @plachuff

Kenda Herman (**vascular plants**): @kendarae

Dan Bachen (**general resource, vertebrates**): @dbachen

Bryce Maxell (**general resource, vertebrates**): @bmaxell

Zach Shattuck (**fish**): @pantosteus

Alexis McEwan (**amphibians, reptiles**): @lex_13

Bo Crees (**birds**): @bocreess

Frank Etzler (**invertebrates**): @frank_e_etzler

Ian Foley (**invertebrates**): @ian26

Noah Siegel (**fungi**): @noah_siegel

Ryan Patrick (**fungi**): @biglaughinggym

Craig McLane (**aquatic invasive species**): @cmclane

- **iNaturalist Resources**

<https://www.inaturalist.org/pages/resources>

- **iNaturalist Help and Knowledge Base**

<https://help.inaturalist.org/en/support/home>

- **iNaturalist Educators Guide**

<https://help.inaturalist.org/en/support/solutions/articles/151000170805>

- **iNaturalist Ambassador Program...if you do a lot of iNaturalist outreach**

<https://www.inaturalist.org/pages/ambassadors>

How To Use iNaturalist - Advanced



How-To iNaturalist Resources



General Terms of Potential Interest - 1



- **Account Settings of Particular Interest**
 - **Content & Display** = set licensing of observations, images, and sound files and which projects can add your obs. Generally encourage Attribution (CC) for observations and Attribution (CC) or Attribution-NonCommercial (CC BY-NC) for images and sound files.
 - **Notifications** = if doing a lot of identifications, use to reduce notifications on confirming IDs
 - **Relationships** = follow, mute, or entirely block other iNat users
- **Dashboard** = your iNaturalist home page where you can subscribe to taxa, edit your profile, edit/add observations, create and join Projects, see the latest posts on the iNaturalist forum,
- **Projects** = a project groups a set of observations for certain goals and has a page to communicate to project members. **Collection Projects** are essentially a saved filter for taxa, place, users, dates, data quality, etc. that can be used for encouraging data collection and identifications. **Traditional Projects** are more complex and can be used as data repositories for observations not identified to species. Users must join these projects and then add their observations to them. If a user has Obscured an observation, project managers can see precise coordinates if the user has also joined the Collection or Traditional project and submitted the observation to the project. **Umbrella Projects** allow up to 500 Collection or Traditional Projects to be collated, compared, or promoted on a single landing page.

General Terms of Potential Interest - 2 iNaturalist

- **Site Curator** = iNaturalist users who volunteer to help keep taxonomic data up-to-date and deal with Taxon Curation Flags.
- **Taxon Curation Flag** = On individual taxon pages, the Curation button to the bottom right of the taxon photo allows concerns over taxonomy or taxon geoprivacy to be “Flagged for Curation”. This can be used to request that taxon geoprivacy be set to Open because there are no concerns of exploitation or Obscured because there are concerns of exploitation if precise location coordinates are shared for the taxon.
- **Subscriptions** = On your dashboard you can subscribe to a Taxon globally or a **Place** to receive a morning email of reports for a taxon records reported for a place/jurisdiction of interest.
- **Expert Identifier** = A curated list of iNaturalist users that have either general or specific expertise with identification of a taxonomic group AND, perhaps more importantly, the confidence and knowledge to say they can’t identify something to species when the evidence does not support it or their skill level or experience does not allow for certain identification. Expertise is evaluated only for taxonomic groups and not geographic areas. Access and update the master Expert Identifier list for the United States and Canada at: <https://forms.office.com/g/QXF787VWwQ>

Observation Terms of Potential Interest iNaturalist

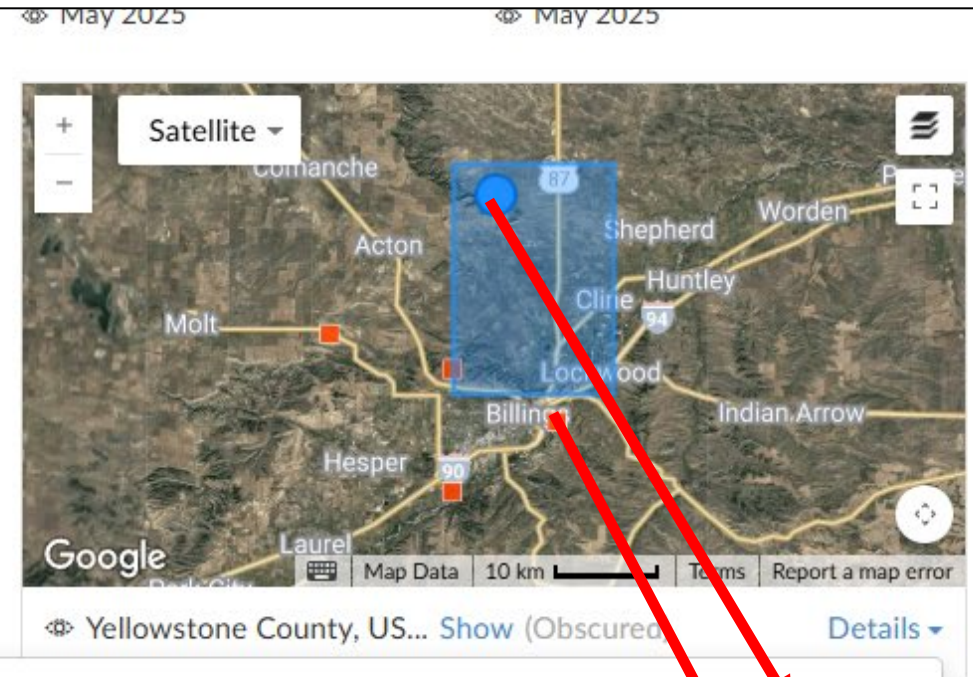
- **Open versus Obscure** = Open records display precise location coordinates. Obscure records do not display precise location coordinates and are displayed as a random point within rectangles that are 0.2 degrees latitude x 0.2 degrees of longitude. Records can be obscured for an entire taxon (taxon geoprivacy) because of exploitation concerns and iNaturalist defaults to obscure records for taxa that are S1, S2, or S3 in a jurisdiction. A Taxon Flag can be submitted to Obscure or Open all records for a taxon within a jurisdiction. A user can also Obscure any record at the time of submission if they have concerns about precise locations being made available (personal geoprivacy); if they do this but also join a Project and submit the observation to the Project, project managers can see the precise location coordinates.
- **Research Grade** = Two-thirds of identifiers agree on taxa identification...this could include the original submitter who didn't identify to species agreeing with another user's identification!
- **Tags** = Short text that can be added only by the observer for future searching/filtering.
- **Observation Fields** = Classifications of the observation that are controlled and populated by any iNaturalist user unless the observer has opted out.
- **Annotations** = Classifications of the observation that are controlled by iNaturalist staff, but populated by anyone. Annotations include Life Stage, Sex, Flowers and Fruits, Leaves, Alive or Dead, Evidence of Presence, and Established. These can be useful for filtering for particular research projects (e.g., phenology or taxonomy).

Obscured vs Open

Western Milksnake (*Lampropeltis gentilis*) EN Research Grade



We encourage you to report precise coordinates or leave the geoprivacy as “Open” vs. “Obscured” or “Private” unless private property or other interests are concerned!



Lat/Lon: 45.97320, -108.54551 Accuracy: 27.1km Geoprivacy: Obscured

Lat/Lon: 45.77605, -108.47127 Accuracy: 102m Geoprivacy: Open

Research Grade

* A record achieves “Research Grade” when two-thirds of 3 or more identifiers agree on the taxonomic identification. For many species, identification by a species expert is preferable.

Yellowstone County, MT, USA

Details ▾

☆ kookamongus, man4nature, and 1 other faved this observation

Activity

astevens suggested an ID

Improving 6y ▾



Western Milksnake
Lampropeltis gentilis

Compare

bobbyfingers suggested an ID

6y ▾



Western Milksnake
Lampropeltis gentilis

Community Taxon

What's this?

Western Milksnake (*Lampropeltis gentilis*)

EN 

Cumulative IDs: 13 of 13

0

2/3rds

13

✓ Agree

Compare

About

About community taxa

The community taxon (or community identification) represents what taxon the iNaturalist community thinks is depicted in an observation. If you're interested in how we choose the community taxon, see the notes on the algorithm below, but in general, we try to **choose a taxon that more than 2/3 of the identifiers agree with**. Sometimes this means choosing a higher level taxon that contains a number of disagreeing taxa (e.g. you think it's a kingsnake and I think it's rattlesnake, so iNat chooses suborder Serpentes which contains all snakes). The algorithm also slightly favors dissent, because we've found that dissenters are often correct.

A research grade observation must have (among other criteria) a community taxon. If an observation has only one identification, it won't have a community taxon. All observations with at least one identification will also have an observation taxon. The observation taxon is the taxon we use when sharing observations with data partners, linking observations of the same taxon on the site, updating your life list, etc. In most cases the observation taxon will eventually be set to the community taxon, but sometimes they will differ especially before the community has settled on an identification. For example, if you think it's a snake (suborder Serpentes) and I think it's a kingsnake (genus *Lampropeltis*) the observation taxon will be at kingsnake (supported by my identification only) but the community taxon will be at serpentes (supported by at least two identifications). If for some reason you don't agree with the community taxon, you can reject it on your own observations, which means that observation taxon will never be set to the community taxon (rather your own ID). It also means your observation can only become research grade when the community agrees with you. If you don't like the whole idea of community taxa, you can opt out of them entirely by [editing your settings](#).

The algorithm: for all identified taxa and the taxa that contain them (e.g. genus *Homo* contains *Homo sapiens*), score each as the ratio between the number of 'agreements' - cumulative IDs for that taxon over the sum of the cumulative IDs, 'disagreements' - the number of IDs that are completely different (i.e. IDs of taxa that do not contain the taxon being scored), and 'ancestor disagreements' - the number of more conservative IDs that disagree with the finer taxon. For the identified taxa that have a score over 2/3 and at least 2 identifications, choose the lowest ranked taxon.

Algorithm Summary

Taxon	Identification Count	Cumulative Count	Disagreement Count	Ancestor Disagreements	Score
life	0	13	0	0	13 / (13+0+0=13) = 1
Animals (Kingdom Animalia)	0	13	0	0	13 / (13+0+0=13) = 1
Chordates (Phylum Chordata)	0	13	0	0	13 / (13+0+0=13) = 1

Activity

bmaxell suggested an ID

ID Withdrawn 3mo ▾



Subtribe Hordeinae
a member of Grasses (Family Poaceae)

euderma suggested an ID

ID Withdrawn 3mo ▾



Great Basin Wildrye
Leymus cinereus

My best guess. Perhaps a grass expert will prove me wrong.

scott_mt suggested an ID*

Improving 3mo ▾



Russian Wildrye
Psathyrostachys juncea

Compare

I was provided a specimen of this grass yesterday. Short glumes about 6mm long. Short, truncate ligule about 1mm long.

* scott_mt disagrees this is Great Basin Wildrye (*Leymus cinereus*)

scott_mt commented

3mo ▾

@euderma Yes, very similar to Great Basin Wildrye, which is why I was given a specimen to examine.

Community Taxon

What's this?

Russian Wildrye (*Psathyrostachys juncea*)

Cumulative IDs: 3 of 3

0

2/3rds

3

✓ Agree

Compare

About

Annotations

Attribute	Value	Agree	Disagree
Flowers and Fruits	Select ▾		
Leaves	Select ▾		
Sex	Select ▾		

Projects (1)

Add to a Project

 Biodiversity of Montana

Tags

Add Tag

731 Taxonomic Experts for the U.S. and Canada

<https://forms.office.com/g/QXF787VWwQ>

Access List and Submit Updates!

Name	iNaturalist_username	iNaturalist_name	iNaturalist_id	Taxonomic Expertise	Expertise LU
Alexandre Ancil	a_ancil		1381960	Vertebrates Birds	A%
Andrea Benville	a_b	Andrea Benville	35013		
Alison Smith	a_smith	Alison Smith	1340454		
Aaron Liston	aaronliston	Aaron Liston	266181	Vascular Plants, partical	P%
Aaron Marcus	aaronmarcus	Aaron Marcus	682499	Vascular Non-vascular	P% NB%
Ben Rostron	ab_orchid		3304841	Orchidaceae	PMORC%
Robin Abernethy	aber_r16	Robin Abernethy	2528838		
Andrew Smith	abtsmith	Andrew Smith	1327158	Insects Coleoptera	II%
Andrew Christensen	achr2	Andrew Christensen	7072130	Vascular Plants	P%
Amanda Veinotte	acveinotte	Amanda Veinotte	1122139		
Adam Durocher	adamdurocher		1387541		
Alex Dohman	adohman	Alex Dohman	1297292		
Adam Martin	ady_m	Adam Martin	11864	Vascular Plants Mammals	P% AM%
Ansel Fiddaman	afid		1254600	Orchidaceae	PMORC%
Alain Belliveau	agbelliveau		533332	Vascular Plants Lichens	P% NL%
Andrew Grosse	agrosse		3596662	Amphibia Reptilia	AA% AR%
Alejandro Huereca Delgado	ahuereca	Alejandro Huereca Delgado	683372	Lichens and Lichenicolous	NL%
Arturo Santos	aispinsects	Arturo Santos	604948	Diptera, particularly Ant	IIDIP% IIORT%
Amy Jewitt	ajewitt	Amy Jewitt	16288	Invasive species	P% A% I%
Allan Trently	ajtrently	Trently, Allan J	29618		
Alex Wright	ajwright	Alex Wright	205278	Vascular Plants	P%
Alec Kaisand	akaisand	Alec Kaisand	1067639		
Alan Rockefeller	alan_rockefeller	Alan Rockefeller	25945	Fungi	NF% NL%
Alan Liang	alanliang	Alan Liang	2650187	Lepidoptera	IIILE%
Dirk C. Albach	albach		726060	Veronica	PDSCR%
Alex Abair	alex_abair	Alex Abair	434305	Lamiaceae (mints)	PDLAM%
Alex Harman	alex_cicindela_guy	Alex Harman	579740	Coleoptera Orthoptera	IICOL% IIORT% IIILEP%
Alexandre Bergeron	alexandre_bergeron	Alexandre Bergeron	4366607	Vascular Plants	P%
Ali Chaney	alichaney	Ali Chaney	1659821		

High Quality Data

- 5,103,746 Observations
- 35,418,643 Identifications

Subscribing to a Place or Taxon

1. Navigate to Account Dashboard
2. Look for the “Subscriptions” box. Note that you may need to scroll down. Its dynamic and can usually be found on the right or bottom
3. To subscribe to updates from anywhere across the species range select “Subscribe to a Taxon” to limit your subscription to Montana or a discrete geographic area select “Subscribe to a place”
4. In the popup window choose the appropriate place and taxon. Note that if Taxon is left blank all observations from that place will be included.
5. You will receive a daily email of records submitted for taxa you have subscribed to.

The screenshot displays the iNaturalist website interface. At the top, the navigation bar includes 'Explore', 'Your Observations', 'Community', 'Identify', and 'More'. The user profile 'dbachen' is visible. A dropdown menu is open, showing options like 'Dashboard', 'Edit Observations', 'Calendar', 'Identifications', 'Lists', 'Journal', 'Favorites', 'Projects', 'Profile', 'Account Settings', and 'Sign Out'. A red circle with the number '1' highlights the 'Dashboard' option.

The main content area shows a post by 'dallonw' about a 'Columbia Spotted Frog (*Rana luteiventris*)' in 'Missoula County, US-MT, US'. A 'Subscribe to a Place' popup window is open, showing a form with 'Place' and 'Taxon' dropdowns. A red circle with the number '4' highlights the 'Place' dropdown. The 'Place' dropdown is set to 'Choose a place' and the 'Taxon' dropdown is set to 'Choose a taxon (optional)'. A red circle with the number '2' highlights the 'Subscriptions' link in the right sidebar. A red circle with the number '3' highlights the 'Subscribe to a Place' button in the 'Places' section.

The right sidebar contains a 'Forum' section with various posts and a 'Subscriptions' section with a 'Subscribe to a Place' button. A red circle with the number '5' highlights the 'iNaturalist' logo in the bottom right corner.

Identifying Records

1. Click on the Identify tab.
2. Select the species and place of interest
3. Open the Filters menu and select the review criteria you want...selections shown will show all records...then click Update Search at lower left
4. If you only want to see records you have not already reviewed, turn off the Reviewed checkbox
5. Click on individual records and review details of location, date, accuracy, and image or sound file. Put cursor in "Suggest an Identification" line to see iNaturalist AI suggestions. Click Agree with previous identification or enter your identification.
6. Take identifications as far as you can taxonomically to allow those identifications to be seen by the filters of others.

The screenshot shows the iNaturalist 'Identify' interface. At the top, the 'Identify' tab is highlighted with a red '1'. Below the search bar, the species 'Long-toed Salamander' and location 'Montana, US' are entered, with a red '2' next to the location. The 'Go' button is to the right. A 'Filters' button with a red '3' is next to it. A 'Reviewed' checkbox is checked, with a red '4' next to it. A large filter menu is open, showing options for 'Quality Grade' (Casual, Needs ID, Research Grade), 'Show' (Captive, Threatened, Introduced, Popular, Has Sounds, Has Photos, Your Observations), 'Description / Tags' (blue, butterfly, etc.), 'Categories' (various animal icons), 'Rank' (High, Low), 'Sort By' (Date Added, Descending), 'Date Observed' (Any, Exact Date, Range, Months), 'Photo Licensing' (All), and 'Reviewed' (Any, Yes, No). A red '3' is next to the 'More Filters' link. At the bottom, the 'Update Search' button is highlighted with a red '5'. The results show four records of Long-toed Salamanders (*Ambystoma macrodactylum*).

Adding Entered Observations to a Project

***This is only necessary for “obscured” observations so that Project and resource managers can see the precise location of the observation.**

Activity



bmaxell suggested an ID 🏆 Improving 3mo



Bumble Bees
Genus *Bombus*

Compare



johnascher suggested an ID 🌱 Leading 2mo



Half-black Bumble Bee
Bombus vagans

Compare

Agree

Community Taxon Reject? • What's this?

Bumble Bees (Genus *Bombus*) 

Cumulative IDs: 2 of 2

0 2/3rds 2

Agree Compare About

Annotations

On Desktop Computer

1. Go to Projects under your profile and add project of interest if you do not already belong to it.
2. Go to the observation of interest
3. Below and to the right of the activity list of identifications click Projects
4. Select the project of interest

On phone app:

1. Click on Projects folder and add project if you do not already belong to it.
2. Go to observation of interest and click on Edit
3. Open Projects folder
4. Select project

Projects (1)

Add to a Project



Montana Natural Heritage Observations

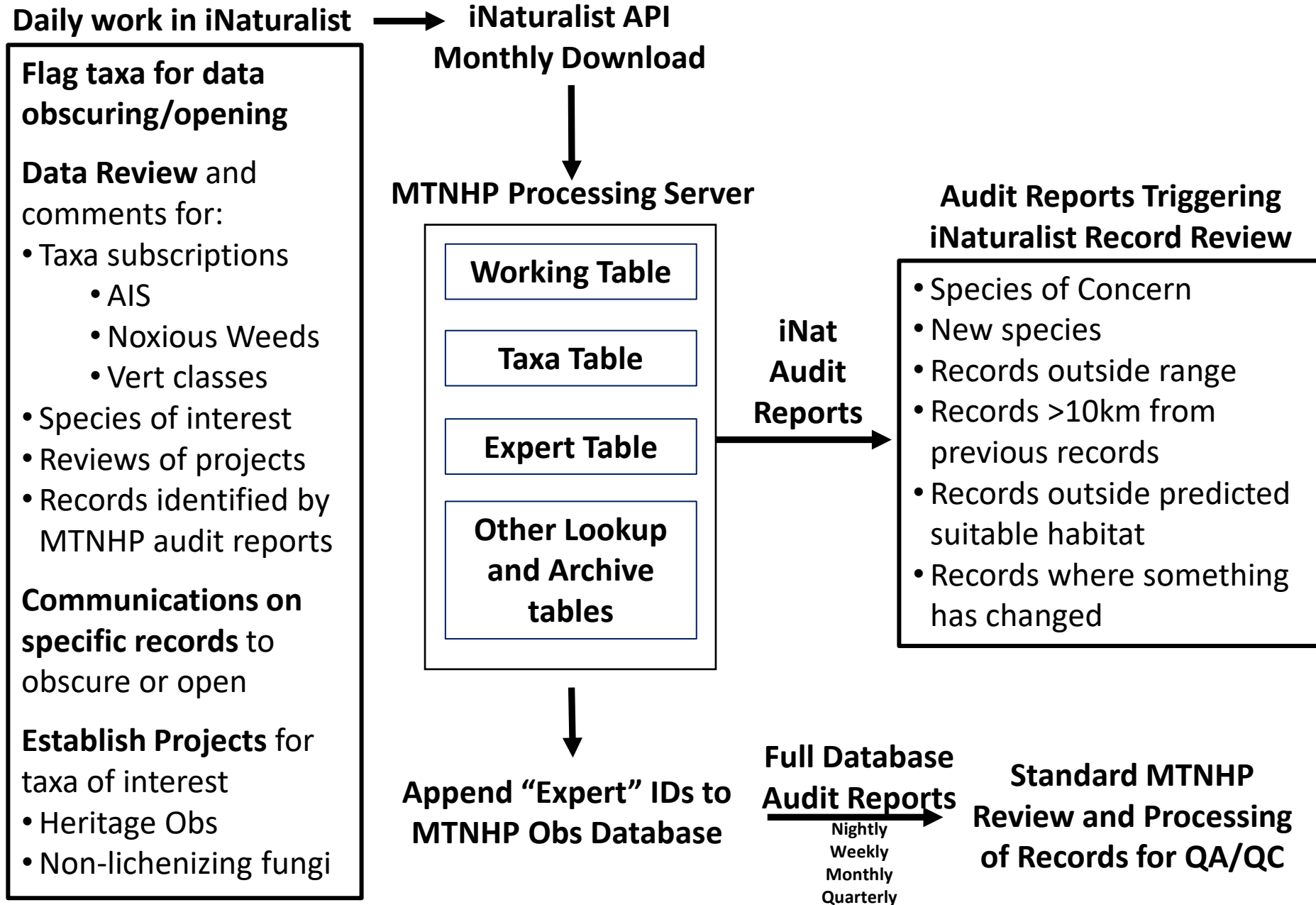
Other Tips and Tricks

1. For maximizing identification productivity, the following URL code can be used to search for or exclude particular identifiers:
To include iNaturalist usernames “plachuff”, “scott_mt”, “Lysandra”, and “mattlavin”
https://www.inaturalist.org/observations/identify?quality_grade=needs_id%2Cresearch&taxon_id=76214&place_id=16&ident_user_id=plachuff,scott_mt,lysandra,mattlavin
To Exclude iNaturalist usernames “plachuff”, “scott_mt”, “Lysandra”, and “mattlavin”
https://www.inaturalist.org/observations/identify?quality_grade=needs_id%2Cresearch&taxon_id=76214&place_id=16&without_ident_user_id=plachuff,scott_mt,lysandra,mattlavin
2. Access and update the master Expert Identifier list for the United States and Canada at: <https://forms.office.com/g/QXF787VWwQ>
3. Examples of standard comments used in iNaturalist when interacting with users/curators:
 - **Taxon Flag:** Representatives from the Montana Natural Heritage Program, Montana Fish, Wildlife, and Parks, Region 1 of the U.S. Forest Service, the Montana/Dakotas State Office of the Bureau of Land Management, the Ecological Services Office of the U.S. Fish and Wildlife Service, and the Montana Office of the Natural Resources Conservation Service have reviewed all vertebrate and vascular plant taxa in Montana for geoprivacy opening/obscuring policy and find no need to obscure records for *Ursus arctos horribilis* in Montana as the species is wide-ranging and risks of sharing locations beyond critical denning habitat should not represent a threat/risk of harm to the species.
 - **Contribute Obscured Record to Project:** Please consider submitting this observation to the Montana Natural Heritage Observation Project so that natural resource managers can have access to precise coordinates in their planning efforts. You can do that by: (1) going to <https://www.inaturalist.org/projects/montana-natural-heritage-observations>; (2) click on Join at the upper right; (3) click on the “Yes, I want to join” button; (4) on an individual observation you can now type/select the “Montana Natural Heritage Observations” project under the Projects dropdown to the right of the identifications/comments.
 - **Editing location coordinates and accuracy:** You can edit the mapping of this and other records by: (1) Click on your profile in the upper right; (2) Click on "Edit Observations"; (3) Click on the observation to edit; (4) Click the blue "Edit" button at the upper right; (5) Zoom in on the map and move the marker pin to the correct location; (6) Click on the Edit link at the upper right of the map and type in a new accuracy value (Acc m); (7) Click on blue "Save Observation" button at the bottom left

How iNaturalist Data is Used by Natural Resource Managers in Montana



Montana Natural Heritage Program Workflow for iNaturalist Data in Montana



Scheduled Run

(File referenced for running monthly)

 iNat_Data_Acquisition.bat

Type: Windows Batch File

Reference Material

(Includes date of last download)

 initDetectData.json

Type: JSON File

 lastdownload.json

Type: JSON File

Error Tracking

 log.txt

Primary Workflow



Main script made up of 6 subscripts

- 1  Data_Download.py
- Type: Python File
- 2  Data_toWorking.py
- Type: Python File
- 3  Data_speciesChk.py
- Type: Python File
- 4  Data_preAudit.py
- Type: Python File
- 5  Data_toPRD.py
- Type: Python File
- 6  Data_currentPRD.py
- Type: Python File

Pre-Append Checks

(details follow)

- 1  ExpertdReviewedRecords.sql
- Type: Microsoft SQL Server Query File
- 2  3ConcurringIdentifications.sql
- Type: Microsoft SQL Server Query File
- 3  Range_Intersection_Check.sql
- Type: Microsoft SQL Server Query File
- 4  PRD_Intersection_Check.sql
- Type: Microsoft SQL Server Query File
- 5  Duplicate_Submission_Check.sql
- Type: Microsoft SQL Server Query File
- 6  Valid_Import_Check.sql
- Type: Microsoft SQL Server Query File

Initial audits are ran before final append

Post Append Audit Reports

-  Audit - Animal Observations with no Model Support.sql
-  Audit - Introduced Species Monthly Report.sql
-  Audit - Isolated Invertebrate Animal Record Check.sql
-  Audit - Isolated Nonvascular Plant Record Check.sql
-  Audit - Isolated Vascular Plant Record Check.sql
-  Audit - Isolated Vertebrate Animal Record Check.sql
-  Audit - New Species Records.sql
-  Audit - New Species.sql
-  Audit - Obscuring Changes.sql
-  Audit - PRD Observation Updates.sql
- Audit - Range Intersection check for Animals.sql
- Audit - Range Intersection check for Plants.sql
- Audit - Species of Concern.sql

Final audits are ran after append

Tables Referenced

-  NHPSpecies
-  dbo.Species
-  dbo.Species_Alt_Com_Name
-  dbo.Species_Alt_Sci_Name
-  NHPZoology
-  dbo.Observations
-  NHPBotany
-  dbo.Observations
-  inat.Identifications
-  inat.LUT_Experts
-  inat.LUT_Places
-  inat.LUT_Taxa
-  inat.PRD_DataEntered
-  nhpo.inat_Working

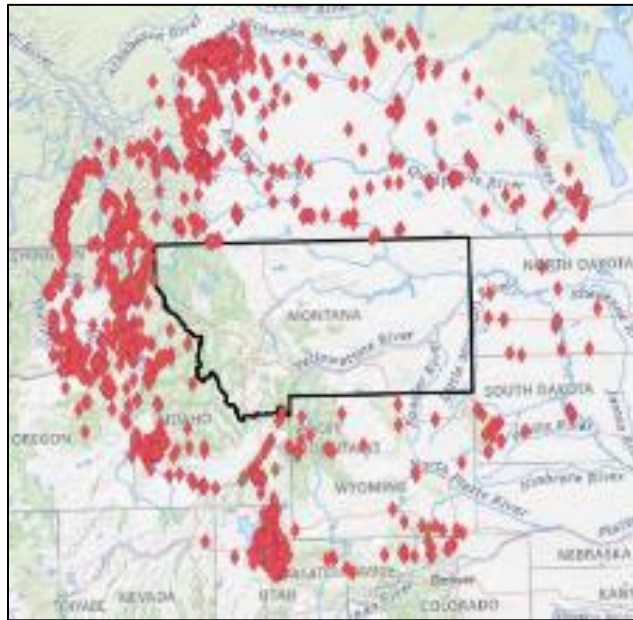
Error occurred

Successful append



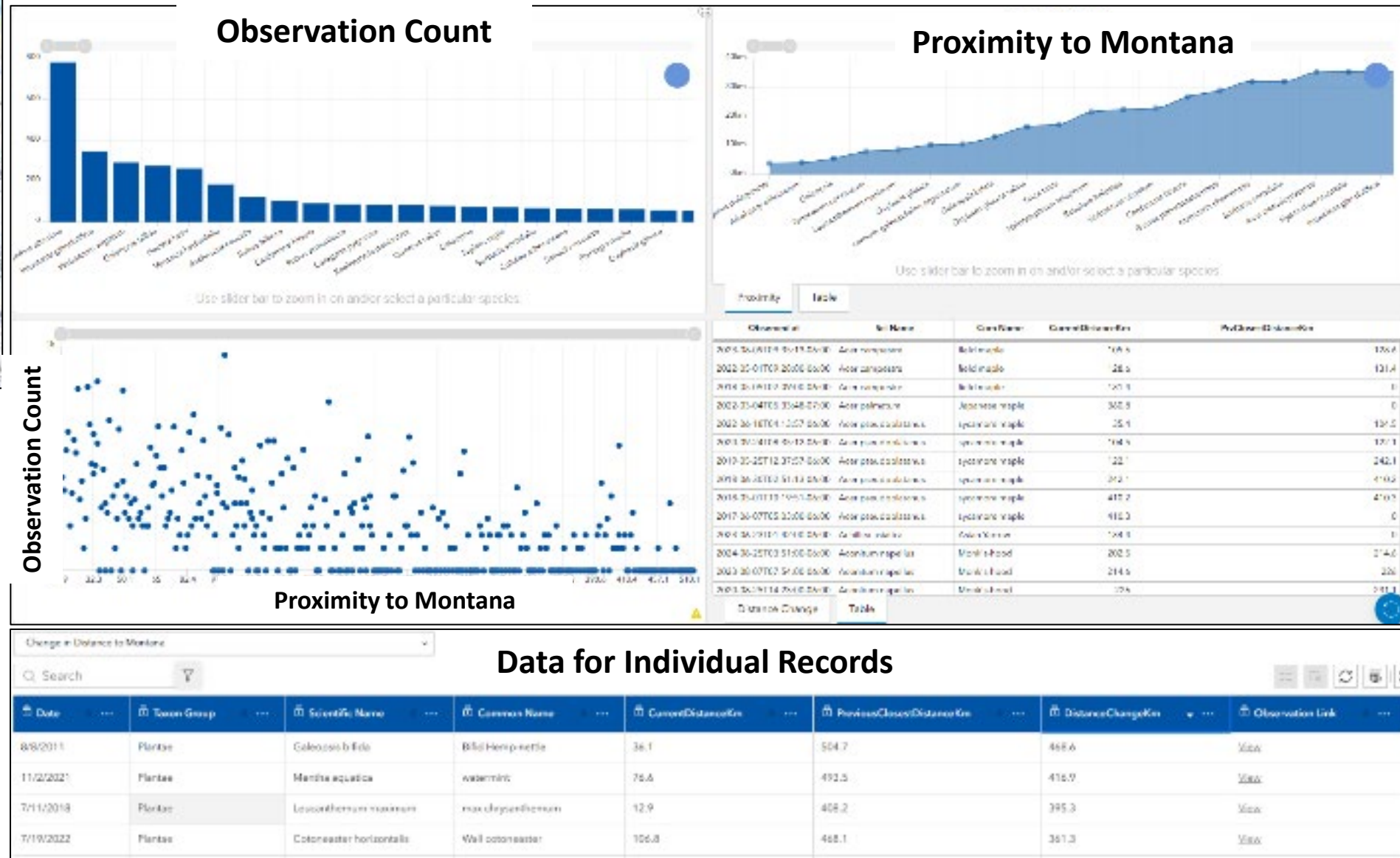
iNaturalist Non-native Species Watchlist

<https://tinyurl.com/5n8sn6az>



Non-native records
outside Montana within
800-km radius of center
of Montana

What species are likely
to invade Montana
Next!



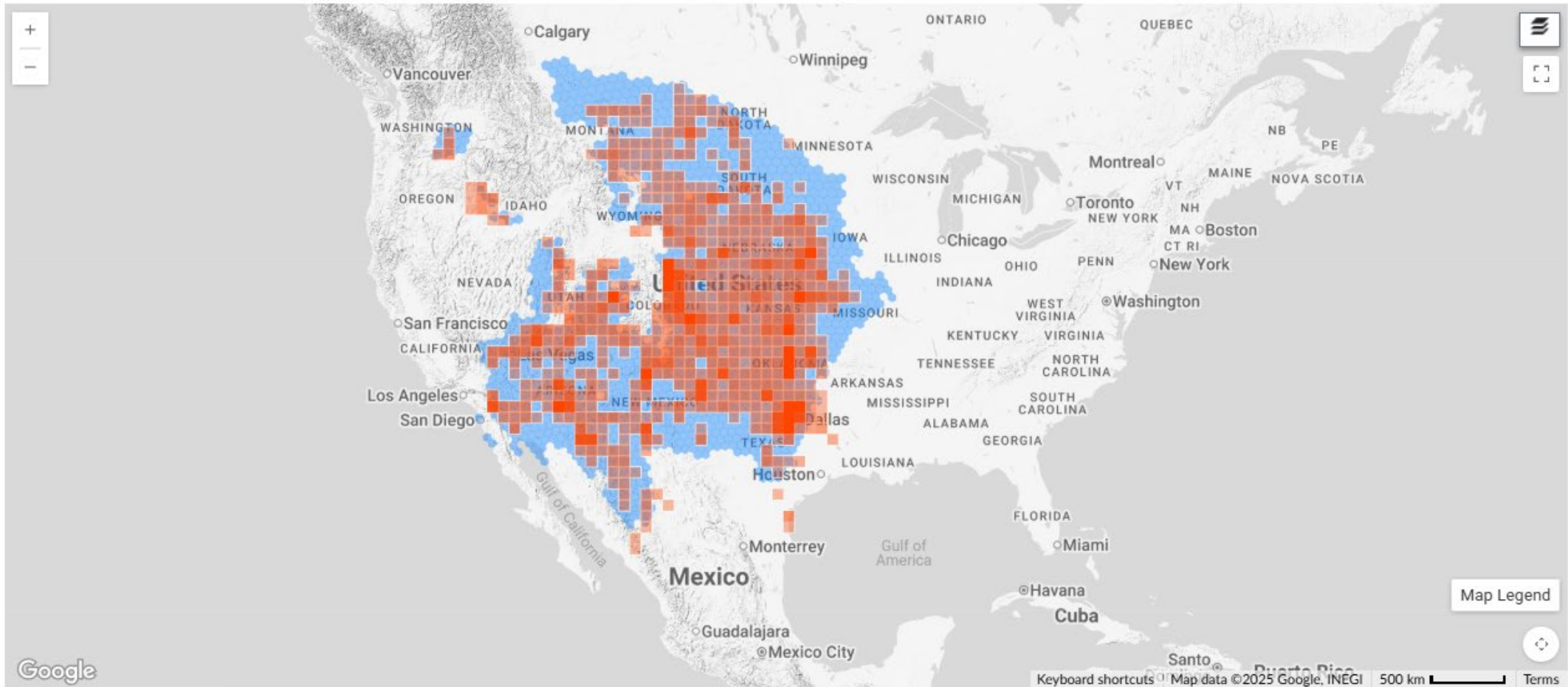
Geomodels Help Document Species' Range

Geomodel Predictions of Woodhouse's Toad (*Anaxyrus woodhousii*)

The Geomodel makes predictions about where species occur and where they are absent. We use the Geomodel to apply the "Expected Nearby" label alongside suggestions and to weight these suggestions based on the location of the observation.

https://www.inaturalist.org/geo_model/64989/explain

Like the Computer Vision Model, the Geomodel is trained on iNaturalist observations for the same set of species with roughly more than 100 photos. The Geomodel does not make perfect predictions. You can read more about how the Geomodel is made [here](#).



Expected Nearby Map

Unthresholded Map

Expected Nearby vs Taxon Range

[Download Expected Nearby Map as GeoJSON](#)