

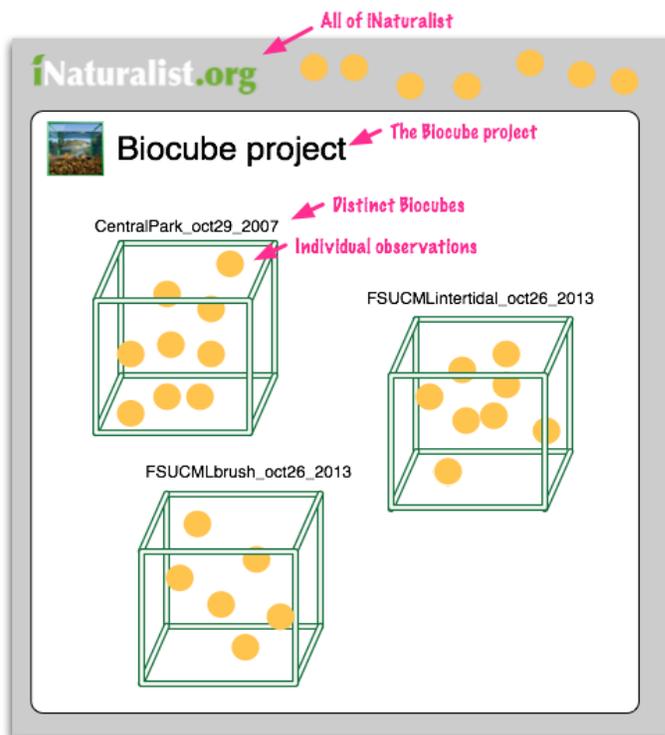


How to record your biocube data using iNaturalist

This document will explain how to record your Biocube data using [iNaturalist](#). iNaturalist is a social network where participants share observations of living things from nature in order to help identify them and to create high quality data for science. Please follow these linked tutorials to learn how to create an iNaturalist account and understand the basics of how to [post](#) and [identify](#) observations.

We have two suggestions to make your iNaturalist experience as smooth as possible. (1) We recommend that you use the desktop interface to enter your data. You can find the iNaturalist app for free at [iTunes](#) and on [Google Play](#). but for several reasons, we think that the desktop interface is easier to use and more appropriate for this project. (2) Although multiple students may be photographing and documenting organisms from the cube, we suggest that one user compile and upload all of your biocube data to iNaturalist at the end of the exercise. This will allow you to easily find all of your observations, view the summary statistics and manage privacy concerns. If multiple users are contributing images, these tasks become much more difficult or impossible.

A Biocube is an effort to document all living things found within a single cubic foot. Using iNaturalist, you'll strive to record an separate observation for each kind of living thing observed. Each observation will be accompanied by a photo as evidence, a location, date, an identification, and a count for the number of specimens of that kind observed. If you take good photos, the iNaturalist community will be able to help you refine your identifications.



Within iNaturalist, all observations from Biocubes are first grouped within a single umbrella 'Biocubes project'. Within this project, observations from the same distinct Biocube are further grouped using a unique 'Biocube ID' (e.g. CentralPark_oct29_2007). Each distinct Biocube has an accompanying 'Journal post' describing the sampling event with the Biocube ID as its title.

This document is organized into 4 parts:

[Part 1: Join the Biocubes project](#)

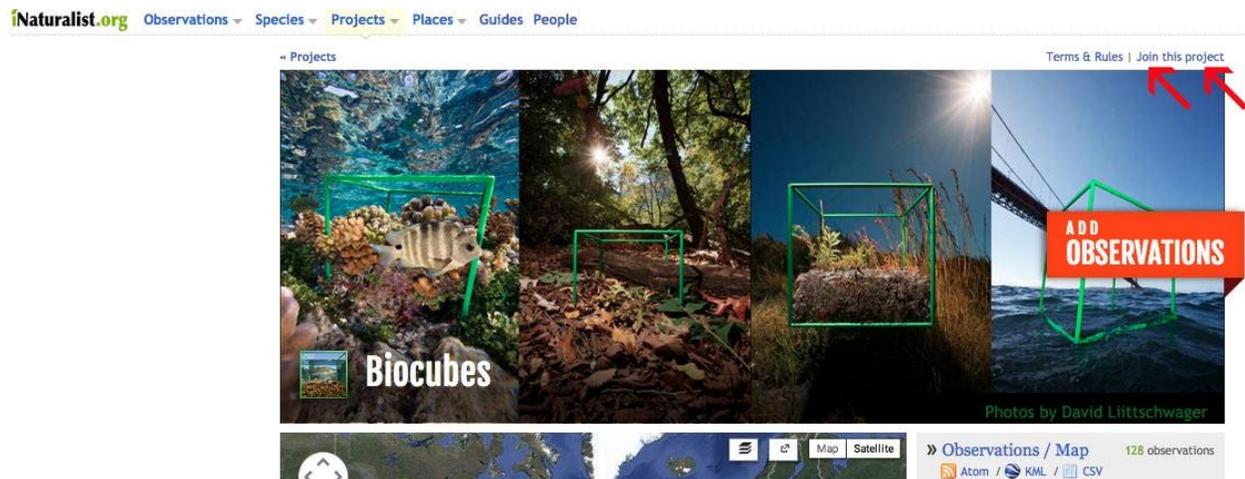
[Part 2: Add observations from computer](#)

[Part 3: Create a Journal Post for your Biocube](#)

[Part 4: Review your Biocube data](#)

Part 1: Join the Biocubes project

Once you've created an iNaturalist account and are familiar with basics of posting and identifying observations, join the [Biocubes project](#).



Next, send our biocubes admin, [Jen](#), a message to let her know you'll be executing a biocube. Tell her a bit about your biocube team and your planned location. She'll create a biocube ID for your project, which you'll need when you enter your data. If you have any trouble setting up, you can also message her for that.

When you've selected your biocube site, start entering information about the location, habitat and conditions in the online [biocube description](#) form. Check out the [master list of biocube descriptions](#); yours will be added there.

Now you're ready to post your biocube observations, either from your computer (see part 2) or from your phone or tablet (see part 3)

Part 2: Add observations from your computer

From the [Biocubes project](#), click 'Add observations to this project'

The screenshot shows the iNaturalist.org website interface for the Biocubes project. At the top, the navigation menu includes 'Observations', 'Species', 'Projects', 'Places', 'Guides', and 'People'. The main content area is titled 'Projects' and features a large image gallery with four photos of nature scenes, each with a green rectangular frame overlaid. A red button with the text 'ADD OBSERVATIONS' and two red arrows pointing to the right is positioned over the rightmost photo. Below the gallery is a map of the United States and surrounding regions, with a small square indicating the project's location. To the right of the map is a sidebar with the following sections: 'Observations / Map' (127 observations), 'Checklist' (55 taxa observed), 'Journal', 'Members' (7 members), and 'Stats'. The sidebar also includes links for 'Atom', 'KML', 'CSV', and 'All CSV'.

Create one observation for each kind of organism observed. You can have an observation for your six big black ants, and another one for your 11 little red ants, for instance. Upload a photo (or several) for your first observation (your first kind of organism) from your computer using the “choose file” button. Add your initial identification in the “What did you see” box.

iNaturalist.org Observations Species Projects Places Guides People

Add an observation to **Biocubes** Add: Batch · From list · Import · From photos

What did you see? ID Please? **Lookup**

Species unknown ↗

Was it captive / cultivated? ↗

When did you see it? ↗

(GMT-05:00) Eastern Time (US & C. ↕)
e.g. "2015-01-20 14:14:35", yesterday at 4pm

Description

Where were you? **Name of the place you made the observation** ↗

Lat: Lon: Edit
Acc (m): Src:

 Map Satellite

Add media Add photos Add sounds

Source: ↕

Select one or more photos

↗

Sync observations with photo metadata? clear

Tags *Comma-separated, please* ↗

Change geoprivacy ↕ ↗

Add an observation to  Biocubes

Add: Batch · From list · Import · From photos

What did you see? ID Please? [Lookup](#)

Species unknown

Was it captive / cultivated?

When did you see it? [Edit](#)

(GMT-05:00) Eastern Time (US & C.
e.g. "2015-01-20 14:14:35", yesterday at 4pm

Description

Tags Comma-separated, please

Where were you? [Edit](#)

Lat: Lon:
Acc (m): Src:



Change geoprivacy

Add media

Source:

Select one or more photos No file chosen

Sync obs. w/ photo metadata?

Add taxonomic tags to selected Flickr photos -

If you have dates and locations on your photos as metadata already (this is likely if you took them with a mobile device), the Photo Uploader should detect and properly fill in the fields. But double check to make sure you upload the location for your cube collection and **not** for the room where you processed your samples. You can also add that information in this form directly.

If there is important information you would like to add (eg: this worm was 4 cm long) do that in the Description field. You can enter or edit your biocube location by clicking on the provided map. Pinpoint your location as precisely as possible by zooming in and adjusting the diameter of the circle, by clicking on it and dragging the handles that pop up; use the finish time of collection of your biocube in the date/time box.

Scroll down. There are two more fields to consider. “Number of specimens” should be included if your specimens are countable. You can estimate it, if you had about a hundred and fifty tiny spider mites in your biocube. If you had a patch of lichen, or part of a plant, like a leaf, then number of specimens is less appropriate.

Biocube ID is a required field. Find the name Jen assigned to your biocube in the dropdown menu.

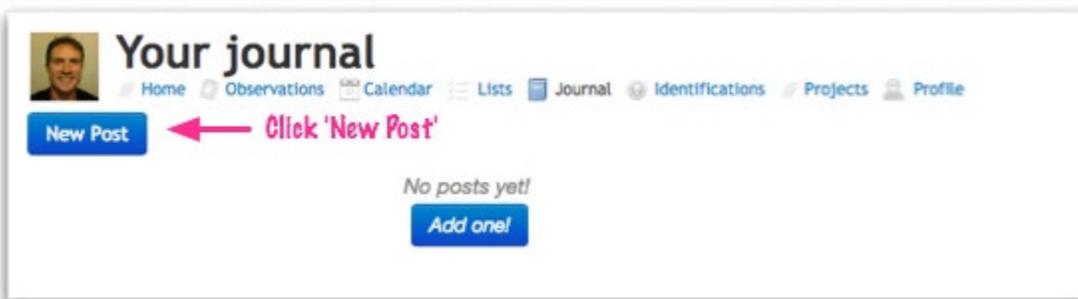
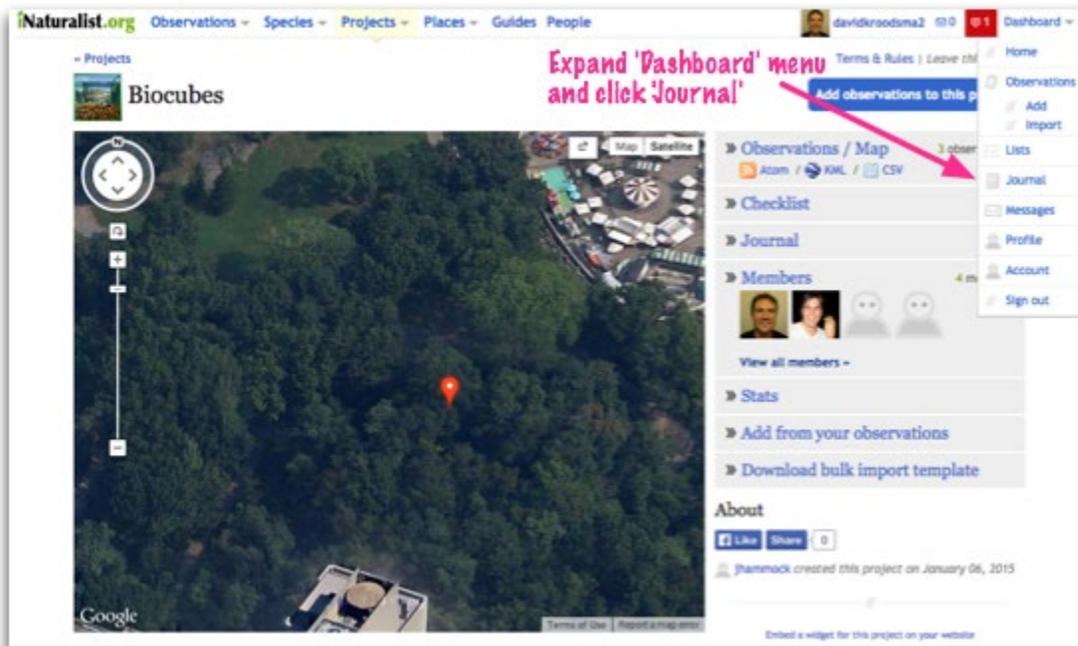
You’re done! Select “Save”, or “Save and add another” if you have another observation ready to go. Using “Save and add another” is recommended, as it will re-populate most of your fields, so it preserves the precision and accuracy of your biocube location and also saves you from re-entering some information.

The screenshot shows the iNaturalist observation form. At the top right is a map of South America. Below the map is a 'Change geoprivacy' dropdown set to 'open'. The 'Fields for Biocubes' section contains a 'Number of Specimens' text input field with a red arrow pointing to it, and a 'Biocube ID' dropdown menu with 'Practice_biocube' selected and a red arrow pointing to it. Below these fields is a '* required' label. The 'More fields' section has an 'Add a field' dropdown, a 'Create a new field' button, and a 'View all fields' link. At the bottom are three buttons: 'Save observation' (highlighted in blue with a red arrow), 'Save and add another', and 'Cancel'. On the far right, there is a 'Share on' section with a Facebook icon and a '(beta)' label.

You should make sure that each observation has the proper location, date, and at least a coarse identification. If your photos are high quality enough, it is okay to use coarse identifications like ‘Spiders (Order Araneae)’ and rely on the iNaturalist community for help refining these IDs.

Part 3: Create a Journal Post for your Biocube

You can also use the Biocube ID to create a Journal post where you can describe the distinct Biocube in more detail and group the relevant observations onto a single page.



Feel free to write anything you'd like in the post about particular Biocube. You can embed photos posted elsewhere on the internet using HTML tags. It is a good idea to include a photo of the Biocube itself here. Make sure you associate all the relevant Biocube observations with the journal post by checking them on the right hand side. When you are ready, publish your journal post.

The screenshot shows a web interface for editing a journal post. The title is "CentralPark_oct29_2007". The body contains a description and an embedded image URL. On the right, there is a list of observations with checkboxes. At the bottom, there are buttons for "Save", "Unpublish", "Preview", and "Delete". Red arrows and text annotations highlight key actions: "Use Biocube ID as the Title" points to the title field, "Write a description of the particular Biocube. You can link to photos posted on the internet by embedding their URLs in 'img' tags" points to the body text, "Select the relevant observations from the Biocube" points to the observation list, and "Publish the post" points to the "Save" button.

Editing "CentralPark_oct29_2007"
Post from your Journal

Title
CentralPark_oct29_2007

Body
The first one cubic foot was done in Central Park...

Observations
You can choose observations to associate with this journal post.

	Species	Date	Location
<input checked="" type="checkbox"/>	Leopard Slug <i>Limax maximus</i>	October 29, 2007 08:57 PM UTC	Central Park, New York, New York, United States (Google, OSM)
<input checked="" type="checkbox"/>	Tufted Titmouse <i>Baeolophus bicolor</i>	October 29, 2007	Central Park, New York, New York, United States (Google, OSM)
<input checked="" type="checkbox"/>	Sciurus carolinensis	October 29, 2007	Central Park, New York, New York, United States (Google, OSM)

Allowed HTML: a, abbr, acronym, b, blockquote, br, cite, code, dl, dt, em, embed, h1, h2, h3, h4, h5, h6, hr, i, iframe, img, li, object, ol, p, param, pre, small, strong, sub, sup, table, ul

Save Unpublish Preview Delete

You might receive comments on the journal post from the iNaturalist community, feel free to email a link to the post to all of the participants so they can explore what was found.

Post published!

Your Journal / CentralPark_oct29_2007

CentralPark_oct29_2007

[Edit](#)

Summary

Description

Observations

Comments

The first one cubic foot was done in Central Park...



Posted by [@DavidBroodman2](#), January 08, 2015 01:11 AM

Observations

[Grid](#) [List](#) [Map](#)



Part 4: Review your Biocube data

Once you've finished uploading your Biocube data, you should be able to see your observations on the Biocube project page. Here you can export your observations alongside observations from other Biocubes for analysis. You can also drill down to explore individual observations.

The screenshot displays the Biocubes interface. At the top left is the Biocubes logo. A blue button at the top right says "Add observations to this project". The main area features a satellite map of Central Park with a red location pin and a blue location pin. A pink arrow points from the text "Export Biocube data as a CSV" to the "Checklist" menu item. Another pink arrow points from the text "Click on specific observations" to the "Something..." observation entry in the "Recent observations" section. The "Recent observations" section lists an observation by "davidkroodma2" on "January 11, 2009 08:07 AM UTC" at "Central Park, New York, New York, United States (Google, OSM)". The right sidebar contains a menu with items: "Observations / Map" (3 observations), "Checklist", "Journal", "Members", "Stats", "Invite observations", "Add from your observations", and "Download bulk import template". Below the menu is an "About" section with "Like" and "Share" buttons, and a note that "Jhammock created this project on January 06, 2015".

Export Biocube data as a CSV

Click on specific observations

Recent observations [View all](#)

- Something...**
Observer: davidkroodma2
Date: January 11, 2009 08:07 AM UTC
Place: Central Park, New York, New York, United States (Google, OSM)
[View](#)

About
Like Share
Jhammock created this project on January 06, 2015

If you've followed the steps in this document, each observation should include a taxon name (i.e. identification), a date, a location, and additional fields for the Biocube ID and the Number of Specimens (How many individuals of that species did you find?) as well as membership in the umbrella Biocube project, and membership in your Journal Post for the distinct Biocube.

The screenshot shows an iNaturalist observation page for *Sciurus carolinensis* observed by davidkroodsm2 on October 29, 2007. The page includes a photo of a squirrel, a map of Central Park, New York, and various identification and project details. Red arrows point to the following elements:

- Taxon name:** *Sciurus carolinensis*
- Date:** October 29, 2007
- Photo:** A photograph of an Eastern Gray Squirrel.
- Location:** Central Park, New York, New York, United States (Google, OSM)
- Fields for 'Biocube ID' and 'Number of Specimens' properly filled out:** Biocube ID: CentralPark_oct29_2007; Number of Specimens: 1
- Added to the 'Biocubes' project:** The 'Biocubes' project is listed under the 'Projects' section.
- Added to the proper Journal post:** The observation is linked to a journal post titled 'Ok, how the heck did you get that shot?' from 2015-01-08.

You're likely to get feedback from the iNaturalist community in the form of comments and identifications on your observations. This community feedback is an important part of teaching other naturalists about what you found and creating high quality, independently vetted scientific data. Please be responsive, polite, and a good steward of your Biocube data!