Citizen Science Featurettes

Humanitarian OpenStreetMap

Schedule

Thurs., Sept. 16, 2-4 pm ET.

See event on [LibCal](#).

Description

"[Humanitarian OpenStreetMap Team (HOT)](#) is an international team dedicated to humanitarian action and community development through open mapping. We work together to provide map data which revolutionises disaster management, reduces risks, and contributes to achievement of the Sustainable Development Goals."

Links

1. Homepage: https://www.hotosm.org/
2. Instructional resources: https://courses.hotosm.org/; https://teachosm.org/
3. OpenStreetMap Wiki: https://wiki.openstreetmap.org/wiki/Main_Page

Agenda

00:00	Introduction	About Citizen Science About Humanitarian OpenStreetMap Learning Objectives
00:15	Setup	Create HOT account
00:20	Orientation to Project	Overview of features Training in methodology
00:30	Mapping Exercise	Mapping Save and upload edits
1:30	Debrief and Discussion	Aggregation of results Analysis of performance Next steps / Additional Links and Resources
02:00	Finish	

Introduction

About Citizen Science

Video: [The Awesome Power of Citizen Science](#) (SciShow, 9 ½ minutes)

About Humanitarian OpenStreetMaps

In this activity, students will learn about the power of citizen science and crowdsourcing through mapping a small subset of areas where OpenStreetMap geodata is lacking. Featured areas are often prioritized because of some special humanitarian need, as in the case of the 2010 earthquake in Haiti. Students will be able to export their contributions to the broader OpenStreetMap geodatabase for continual preservation and upkeep. At the end of the activity the class will come back together as a group to discuss crowdsourcing, its benefits and shortcomings, and when students may utilize crowdsourced data to inform decisions as part of their daily lives.

Humanitarian OpenStreetMap builds on top of OpenStreetMap, "a collaborative project to create a free editable geographic database of the world" ([Wikipedia](#)). All contributions made in the HOT environment automatically carry over to the OpenStreetMap geodatabase.

Projects are created by users for a variety of reasons. These creators define the goals, tasks, and timeline for completion.

Note to instructor: When selecting a project for this workshop, be sure to choose a project that will be active at the time your workshop is scheduled. When doing this, be sure to consider both the project timeline as well as the percentage of completion. As a general rule of thumb, try to select projects that are less than 50% complete.

Learning Objectives

By the end of this activity students will:

1. Acquire basic familiarity with GIS fundamentals such as reading and interpreting maps; navigating and interacting with map-based interfaces; creating, editing, and exporting shapefile features (polygons, vectors, etc.); and adding relevant metadata
2. Learn about the humanitarian applications and impacts of mapping and contribute to an active, real-world project
3. Explain how crowdsourcing is a valid tool that can be used to help humanitarian organizations complete complex tasks more efficiently
4. Apply their understanding of crowdsourcing to other broader contexts where they use crowdsourced data to inform decisions in their daily lives

Setup

1. Navigate to the [Humanitarian OpenStreetMap (HOT) website](#).
2. Use the links at the top right corner to sign in or register a new account. (Signing in allows you to participate in discussions, allows us to give you credit for your work, and helps the Humanitarian OpenStreetMap team make the best use of the data you provide.)

Orientation to Project

Overview of Features

● Searchable project library
● Filter by difficulty, region, task, etc.
● My Contributions tab with personal user stats
● Mapping task work window with viewer and editing tools

Demo of methodology

1. [Two MInutes Tutorial: Adding a building to OSM](#) (~2 min.)
2. Alternative: [Select a Task and Mapping Buildings](#) (6 min.)
3. Optional: [Mapping roads](#) (~2 min.)

Mapping Exercise

Choose a project

1. Click the [Explore Projects](#) tab at the top of the page.
2. For Difficulty Level, select "Beginner mapper".
3. For Projects to Map, select "Projects to Map."
4. For Sort By, select "Urgent projects." The gray bar represents the percentage of areas that have been mapped but not yet validated. The red bar represents the percentage of areas that have been both mapped and validated.
5. Select the project titled "Adamawa State-Numan LGA-Citizen Science Mapathon For Flood Vulnerable Communities in Nigeria-Numan Town." You will be taken to the project dashboard (Fig. 1).
6. Read the project description to understand the goals of the project and what specific mapping tasks it involves (indicated by the icons at the bottom left)

Figure. 1. Project Dashboard

Complete a mapping task

7. In the viewing window on the right, click Zoom to Tasks. You should now see a full-extent view of the area to be mapped.
8. Click the red Contribute button in the bottom right corner to begin editing the map.

9. Review the Legend (Fig. 2). Click on a square that is coded as "Available for mapping" (transparent square) to select it. Next, click the red Map Selected Task button in the bottom right corner.

Figure 2. Legend
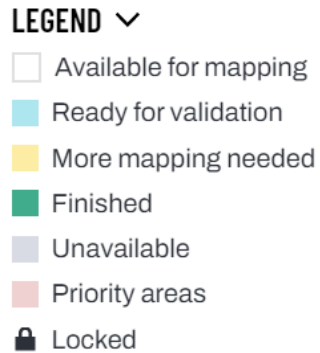
10. Review the instructions in the Instructions tab in the menu to the right. **Tip:** Always read the instructions carefully before starting a mapping task! Often the instructions will specify that only certain features should be mapped or will ask for features to be mapped in a particular way.
11. Use the tools in the toolbar at the top to complete the mapping task. Be sure to only map within the pink boundary (Fig. 3). If you don't see the pink square, reload the page. **Note:** You may have to zoom in to locate the features that need to be mapped.

Figure 3. Task boundary (only map within the pink square)
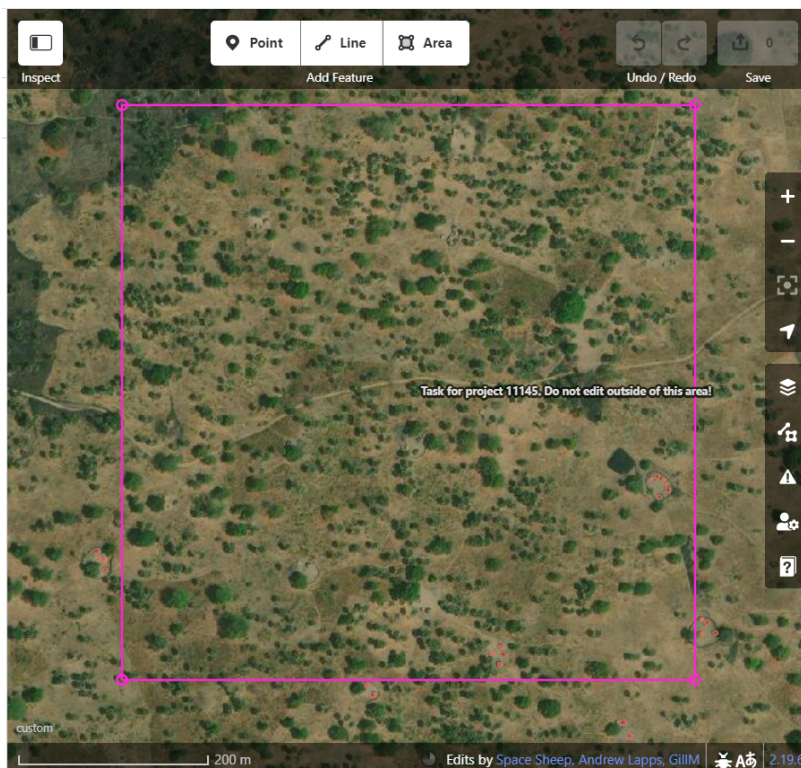
Save and upload your edits

12. Save your edits by clicking the save button in the top right corner. Your **Note:** The save button should appear yellow. If it's colored red, you may have edited outside the map area. In order to reactivate the save option, you may need to undo or delete all of the edits outside of the task boundary.
13. In the left margin, the metadata will autopopulate with tags identifying the edits with this project. Ignore the box asking if you'd like for others to review your edits; your work will always be reviewed by default. Click upload.
14. Once your edits have been uploaded, indicate whether you have completed the task in the window to the right, add any comments you think could be helpful, and click "Submit task." You will be returned to the task map.

Review your edits

15. Click the "My Contributions" tab at the top of the page.
16. Explore the different tabs in your personal profile to review your personal stats (Fig. 4).

Figure 4. Personal profile page
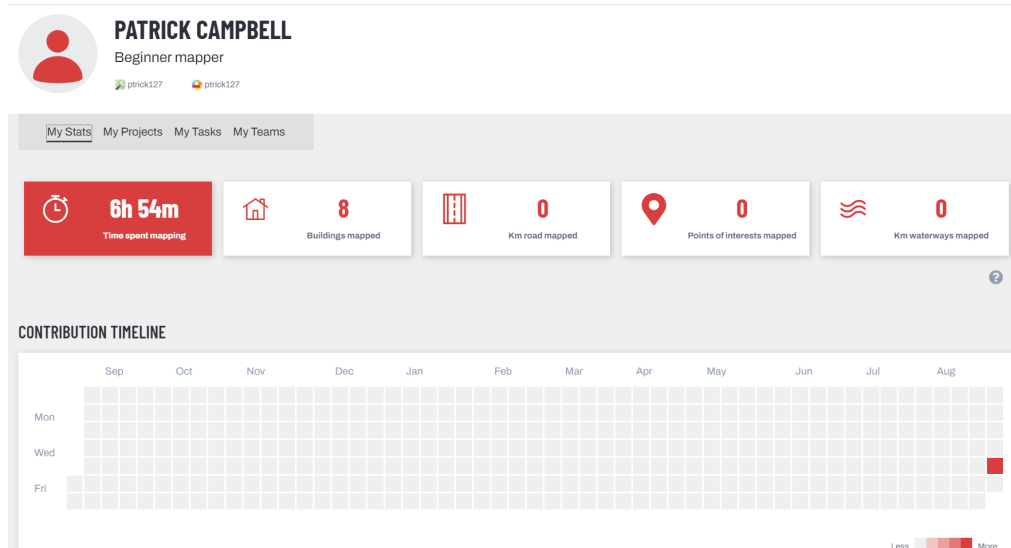
See your edits in OpenStreetMap (Optional)

17. Navigate to OpenStreetMap and login using your HOT username and password.
18. Use the search bar or map window to zoom to your mapping task. Your edits will appear as new polygons or vector feature classes in the map (Fig. 6). **Hint:** If you have difficulty locating your edits, scroll through the newsfeed on the left to find a mention of your HOT project. Click the item to zoom to the project area (Fig. 6).

Figure 6. New edits in OpenStreetMap
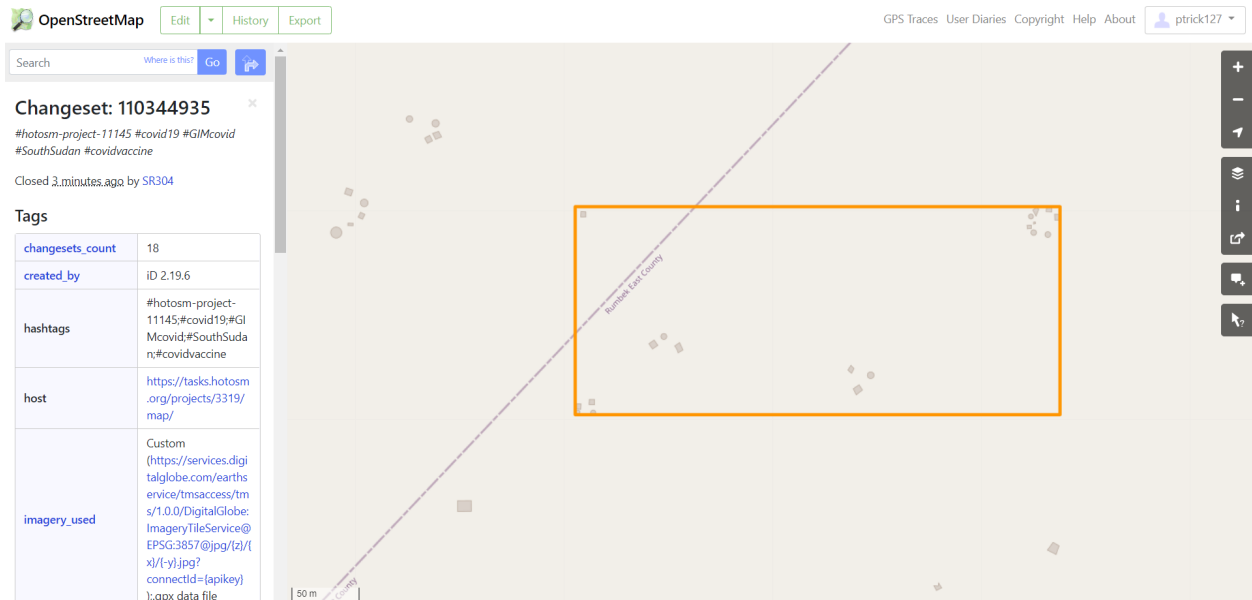
19. Click on your user name in the top right corner and select "My profile."
20. Click on "My Edits" in the top menu under your username. Zoom to the boxed areas to see your contributions to the map.

Debrief and Discussion

1. What were the biggest challenges?
2. Were there certain tasks that were easier to execute than others?
3. What are the advantages and disadvantages of having a single individual or organization complete an entire project on their own.
4. What are the advantages and disadvantages of having members of the public do the same task online.
5. Can you think of any other aspects of your life where you encounter (or participate in) crowdsourced data?

Next Steps

Below are a few suggestions for continuing your journey into the world of humanitarian mapping.

Level Up as a HOT Contributor

There's a lot more to discover within the HOT community. Below, we've provided a few ways you can level up as a HOT contributor and gain access to some of the other features and opportunities found there.

1. Set up your [user profile](#)
2. Read through the [HOT Learning Materials](#)
3. Join the [HOT Slack channel](#)
4. Connect with other mappers in your area or form/join a team
5. Host or attend a HOT/OSM [mapping party](#) (or "[mapathon](#)") in your area.
6. Contribute to the [OSM Wiki](#).

Check out other crisis and humanitarian mapping projects and opportunities

The world of humanitarian mapping extends far beyond the borders of this project. One especially active corner of this field is "crisis mapping," a term used to describe "the real-time gathering, display and analysis of data during a crisis, usually a natural disaster or social/political conflict (violence, elections, etc.)" ([PrepareCenter.org](#)). A small sampling of these projects is provided below:

1. CrisisMappers. https://crisismapping.ning.com/.
2. Operation Fistula. https://wiki.openstreetmap.org/wiki/Organised_Editing/Activities/Operation_Fistula_Madagascar_Mapping. (Experienced mappers only)
3. Healthy Gulf and Cartoscope Land Loss Lookout: Shoreline Erosion project. https://cartosco.pe/kioskProject.html#/kioskStart/D1Y4k21Xb9NL?trialId=kiosk_landloss_cairns-e-40-60.

Learn more about citizen science by checking out these media links

Finally, check out the links below to hear some of the leading voices from the field of humanitarian mapping talking about the projects and events that got them started.

1. Patrick Meier, "Changing the World, One Map at a Time." TED. https://www.youtube.com/watch?v=pVCC2CB281M .
2. Digital Humanitarians. http://www.digital-humanitarians.com/.
3. "Putting People on the Map: Connecting Communities through Visibility." Panel discussion (recording). https://zoom.us/rec/play/00vhh8VWXKuv3f-7Q_dOI6HFMVWw36KU4NNNBky_7NopsKs-uj_jWLXRMIGJAT4ktPy-5fHdO_YV610.ySc7g4UzECxPEObd.
4. TED Radio Hour. "Citizen Science." https://www.npr.org/programs/ted-radio-hour/551030943/citizen-science
5. "The Awesome Power of Citizen Science." SciShow. https://www.youtube.com/watch?v=SZwJzB-yMrU.