
Introduction to OpenStreetMap & Humanitarian Mapping

Mia Partlow & Erica Hayes
NC State University Libraries
Spring 2019

Humanitarian Mapping Workshop Setup

1. Login to:

[Openstreetmap.org](https://www.openstreetmap.org)

[Mapbox.com](https://www.mapbox.com)

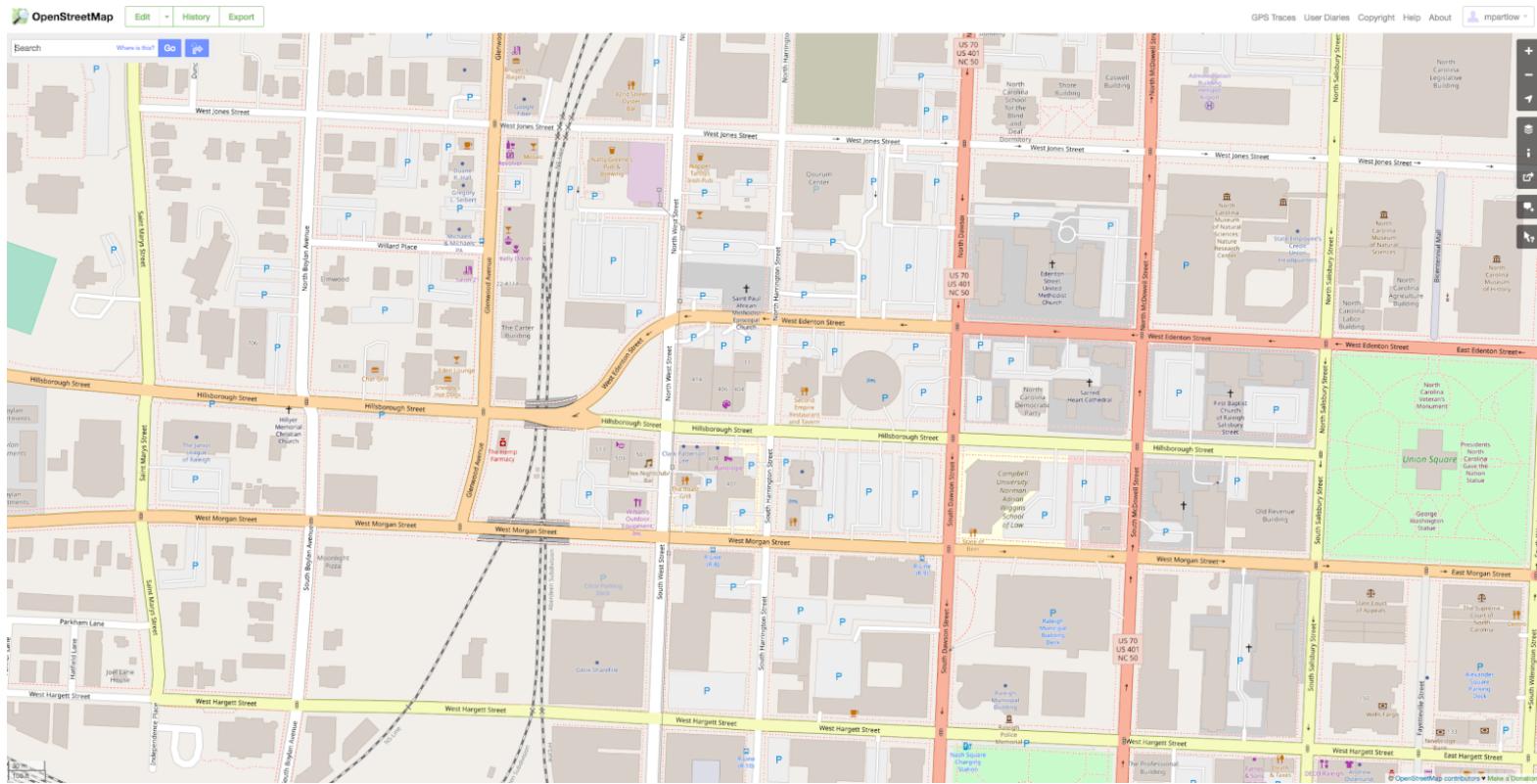
1. Access workshop materials:

go.ncsu.edu/osm-workshop

Today's Agenda

- Learn about OpenStreetMap and the humanitarian mapping community around the world
- Hands-on activity: add data to OpenStreetMap, and map Moissala, a health district of Chad, for Doctors without Borders.
 - <https://tasks.hotosm.org/project/5798?task=180>
 - <https://tasks.hotosm.org/project/5800?task=224>

The Map



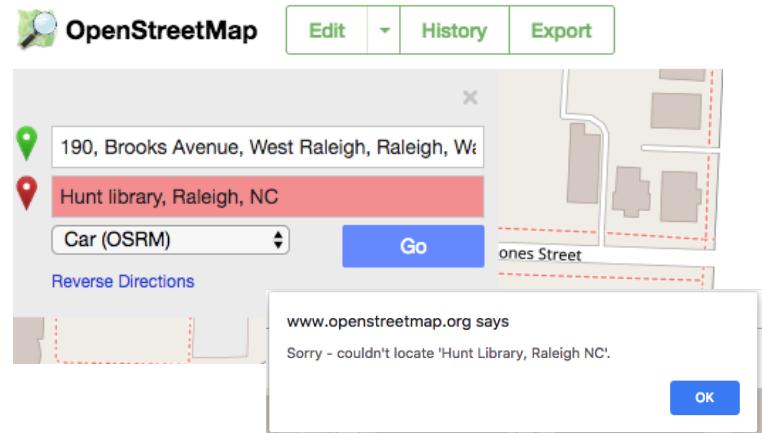
OSM: The Wikipedia of Maps

- OpenStreetMap is a free, editable map of the whole world that is being built by volunteers largely from scratch and released with an open-content license.
- **Why?** “Most maps you think of as free actually have legal or technical restrictions on their use, holding back people from using them in creative, productive, or unexpected ways.”
- OpenStreetMap data comes from individual contributors (like you!) as well as some national mapping agencies

Source: https://wiki.openstreetmap.org/wiki/Main_Page

Using OpenStreetMap

- Best when leveraged by other applications; search is not as powerful as Google Maps
- Sites and applications using OpenStreetMap data:
 - Snapchat
 - Weather.com
 - TripAdvisor
 - Craigslist



Using OpenStreetMap

- Download and retrieve OSM data
 - Export from OSM directly (small areas)
 - Regional datasets
 - <https://planet.openstreetmap.org/> for Complete OSM database
 - API
- Use OSM as an offline map
 - Designed for areas with unreliable or unavailable Internet
 - Field Papers tool allows you to conduct field surveys with print maps and bring the data into OSM

Field Papers

MAKE
an atlas to print

UPLOAD
pages you've marked

WATCH
recent activity

EXTEND
with advanced tools

LOG IN
or create an account

Welcome to Field Papers

Make yourself an atlas
Print out anywhere in the world.

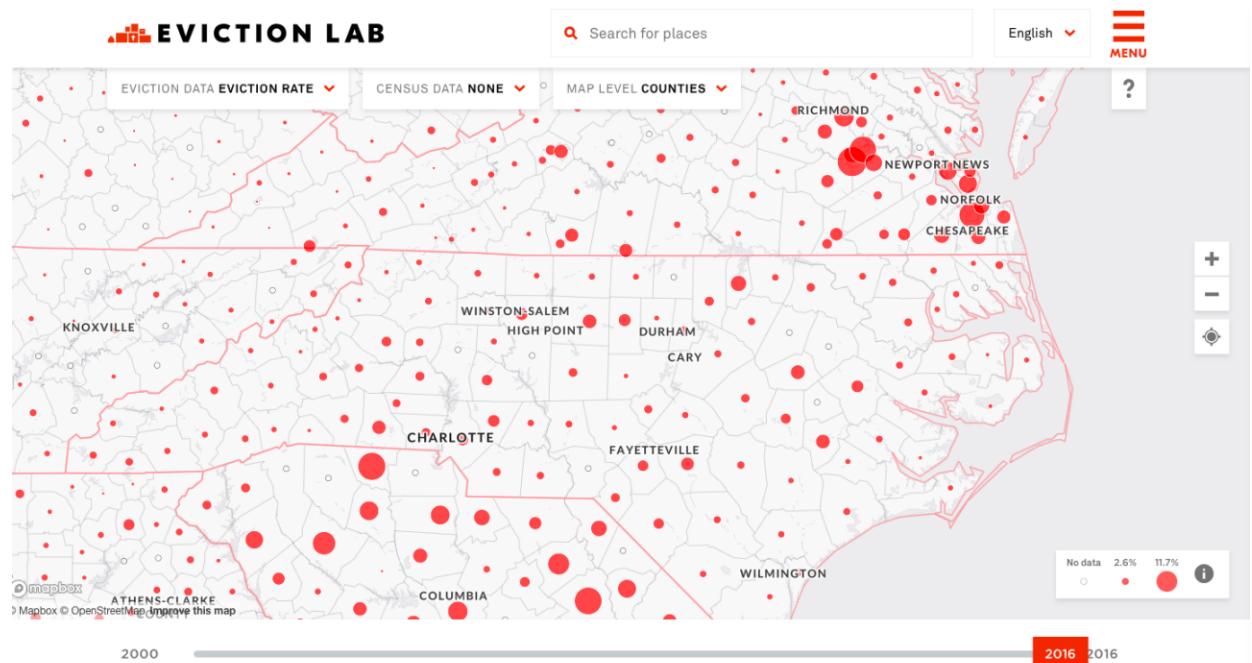
Take it into the field
Make your notes and observations.

Capture your notes
Upload pages you've photographed.

Eviction Lab

A project to create,
publish and visualize the
first-ever dataset of
evictions in the U.S.

<https://evictionlab.org>





An app seeking to provide trip planning on pedestrian ways for those with mobility differences.

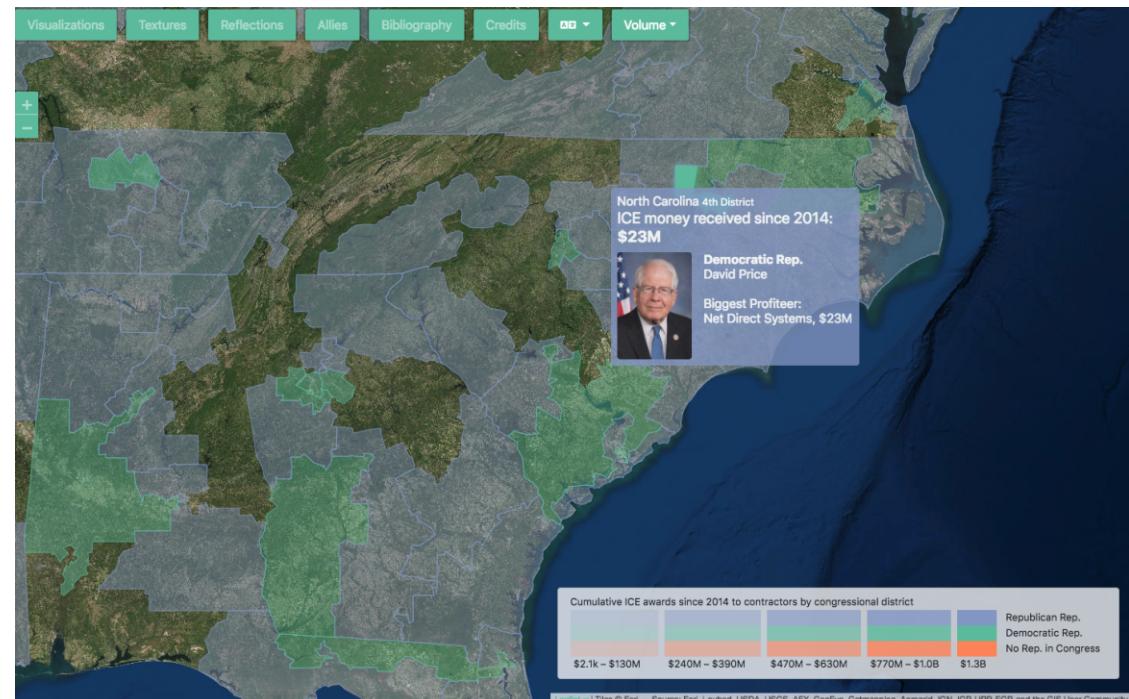
Mapping Durham sidewalks:

<https://tasks.openstreetmap.us/project/92>

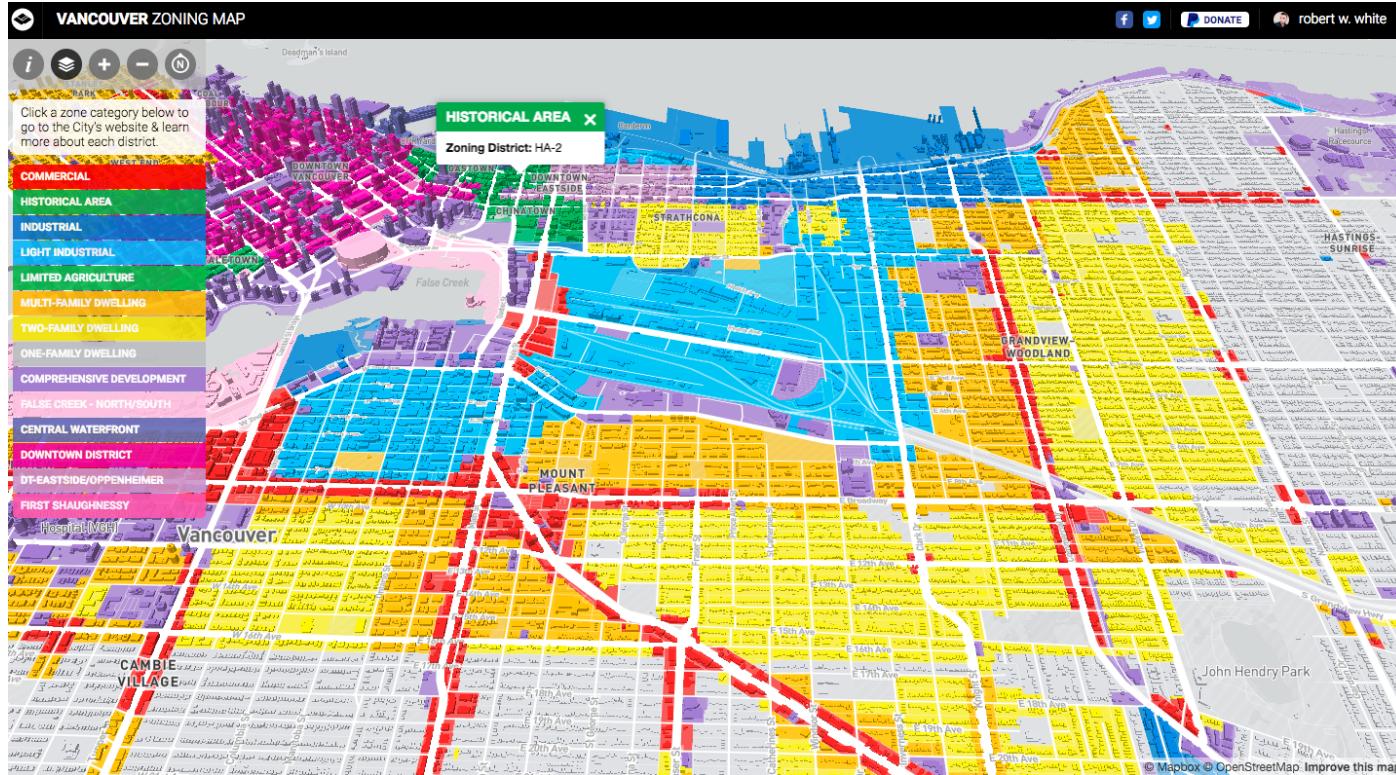
A screenshot of the OpenStreetMap Tasking Manager interface. At the top, there are tabs for "Instructions", "Map", "Validate", and "Questions and Comments". Below the tabs, the "Instructions" section contains a "Changeset Comment" field with the text "#osmstasks-92". A note states: "This project seeks to add sidewalk data for Durham to be used by AccessMap for accessible trip planning." Another note says: "To learn more about this project and how to correctly map sidewalks, please see this presentation." A "Ready to get started?" box with the sub-instruction "Contribute by mapping or validating work that has already been done." has two orange buttons: "MAP" and "VALIDATE". To the right is a map of Durham, North Carolina, showing a large area outlined in yellow, indicating where sidewalks are ready to be mapped. A legend on the left side of the map defines colors for different mapping status: white for Ready, yellow for Mapped, dark grey for Bad imagery, green for Validated, red for Invalidated, blue for Locked, and light blue for Locked by you. A scale bar shows 5 km. In the bottom right corner of the map, it says "© OpenStreetMap contributors".

Torn Apart/Separados

A project to “look at the territory and infrastructure of ICE’s financial regime in the USA. This data & visualization intervention peels back layers of culpability behind the humanitarian crisis of 2018.”



Vancouver Zoning Map



OSM's Data Model

Features are represented using tags to describe them.

In other GIS platforms, tags would be called attributes.

For example:

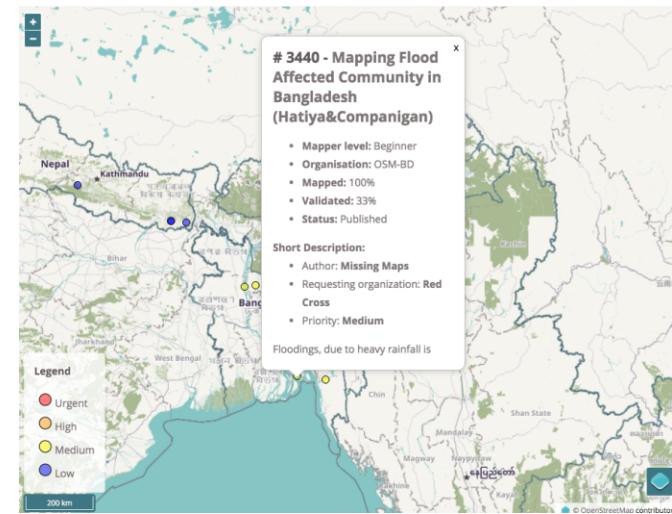
- Building = house
- Address = 1234 Dawson St
- Amenity = theater
- Name = Kennedy Theater

Humanitarian Mapping

The Humanitarian OpenStreetMap Team works with local communities, NGOs, and government agencies to provide open map data for disaster management, risk reduction, and community development.

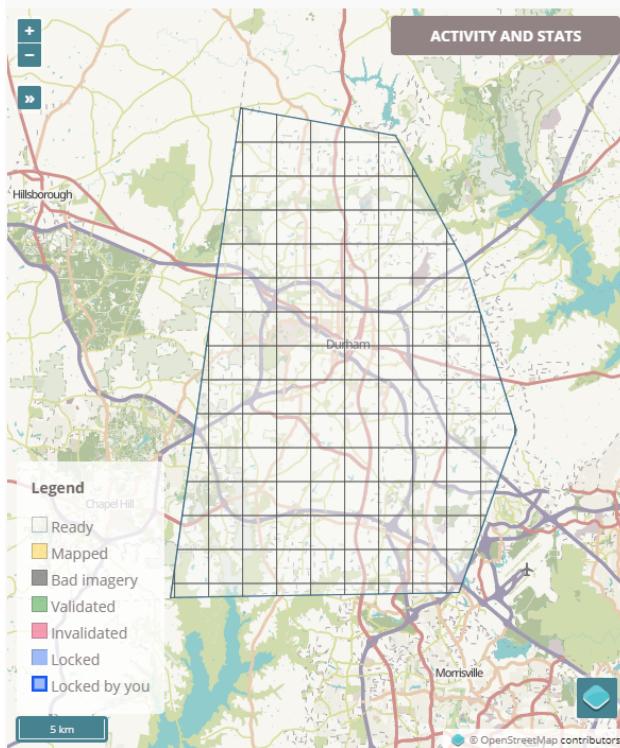
Examples:

- [Missing Maps & Doctors Without Borders](#)
- [Disaster Response](#)
- [US-based mapping](#)

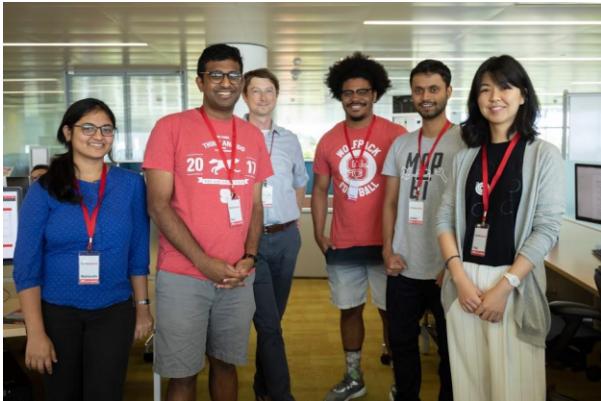


Tasking Manager

- Used for collaborative/remote mapping efforts
- Divides up the area to be mapped into small squares
- Tracks project progress and prevents duplicate work
- Creates 2-step process of mapping and validation



Hunt Dataspace & Hill Data Point



Hardware and software for data-intensive work
Drop-in assistance

- Statistics
- SAS, Stata
- Visualization design
- Tableau
- MATLAB
- SQL
- Python
- R
- Java
- GIS

<http://www.lib.ncsu.edu/spaces/dataspace>

Contact Us!

Data & Visualization Services
go.ncsu.edu/dvs-request

Library GIS resources:
lib.ncsu.edu/gis



The NCSU Libraries website header features a red bar at the top with the library's logo and name. Below it is a search bar with a magnifying glass icon and a link to "Ask Us". To the right are links for "FIND", "GET HELP", and "SEARCH".

[◀ Back to Data & Visualization](#)

NEED HELP?

[Contact Us →](#)



Jeff Essic



Erica Hayes



Mia Partlow

Geographic Information Systems (GIS)

Getting GIS Data

We provide access to data resources and assist researchers with identifying and using geospatial and tabular data with mapping software.

GIS DATA SEARCH

Keyword Search

No Limit - Search All

Major data acquisitions will be announced on twitter [#ncsulibgis](#) and [#ncsulibresearch](#), and the [GIS-ANNOUNCE](#) email list.

Feedback!

go.ncsu.edu/libeval

Further Resources

[OpenStreetMap Wiki](#)

[OSM Wiki Kerb tag information](#) for tagging curbs at street crossings

[Mapbox javascript library](#) (for Leaflet)