



Humanitarian  
OpenStreetMap  
Team

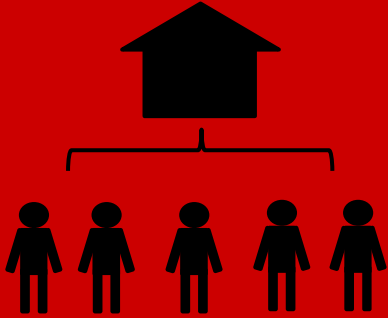
[ramya.ragupathy@hotosm.org](mailto:ramya.ragupathy@hotosm.org)

# What is the Humanitarian OpenStreetMap Team?

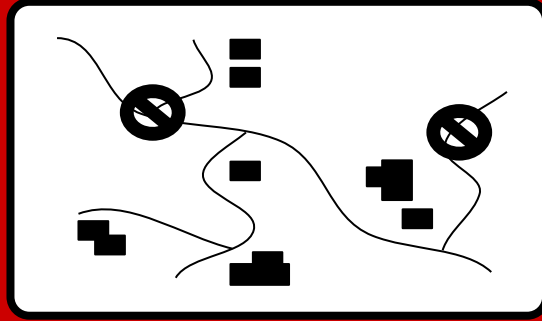


During a crisis, disaster or epidemic, maps are crucial to help responders

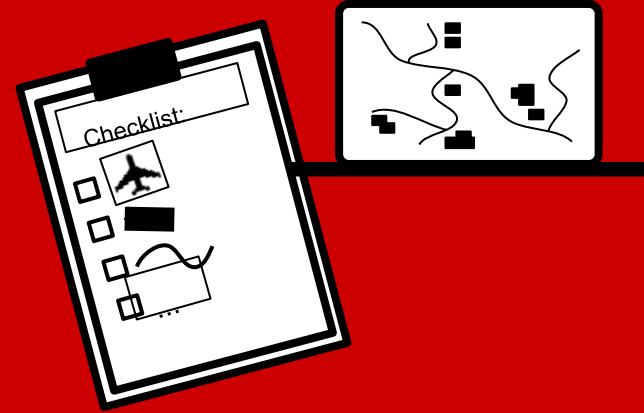
# Maps Help



Identify areas of high  
population  
(building density)



Navigate access routes and  
safe roads in affected areas



Locate suitable areas for  
response command posts, shelter  
and aid provision

Gbarnga, Liberia

GBARNGA

Google



Not Everywhere is Mapped  
- or has Accessible Maps

The Humanitarian OpenStreetMap Team helps solve this problem by coordinating public efforts

- to map and label areas affected by disasters



OpenStreetMap

Edit

History

Export

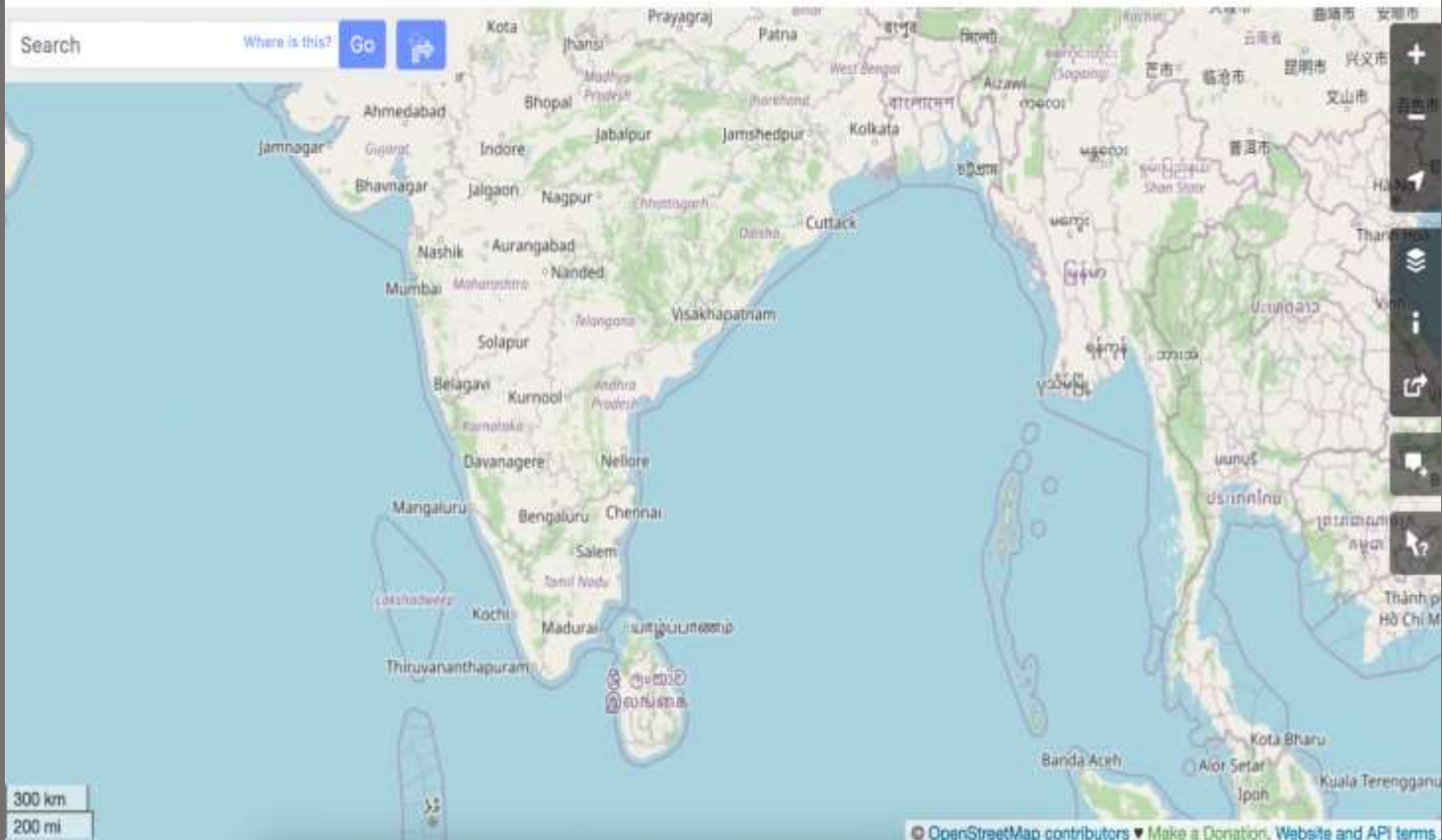
GPS Traces User Diaries Copyright Help About



ramyaragupathy

Search

Where is this?



300 km

200 mi

© OpenStreetMap contributors Make a Donation Website and API terms

# OpenStreetMap

is a collaborative project to create a free editable world map



# OpenStreetMap



This collective mapping - or the 'crowdsourcing' of geographic information began in 2004

# Created by people for the people - Wikipedia of Maps!



Open Data Commons Open Database License (ODbL)

Can be used in apps, online maps, and printable maps for free - as long as the contributors are credited



## OSM WORKS THROUGH

Local knowledge  
Community organization



## DATA IS

Built by a community of mappers that contribute and maintain data



**anyone can add to the map**





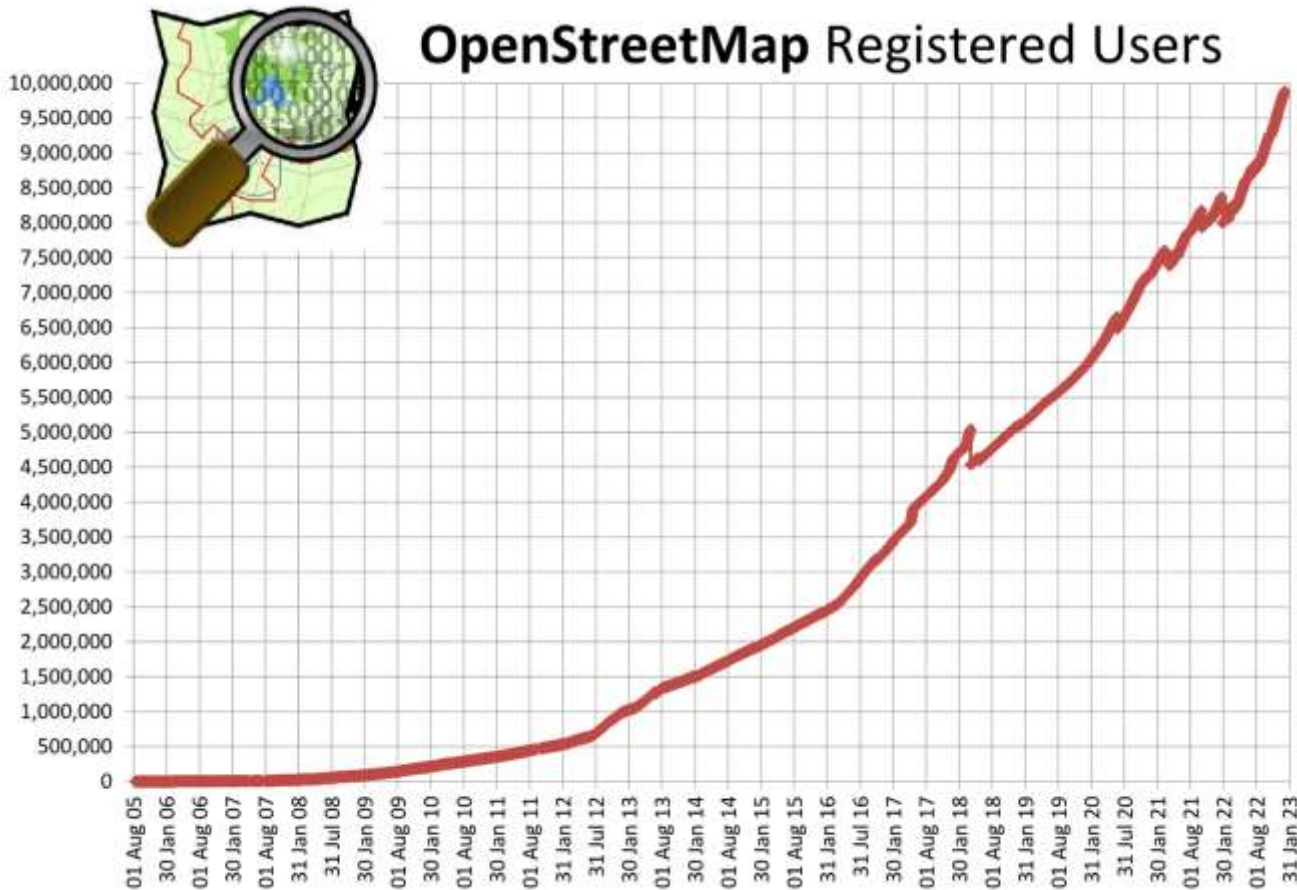
**improve it with local knowledge**

**and use it for any purpose**





## OpenStreetMap Registered Users



OSM now has  
over **10 million**  
registered users

# HOT responses predominantly require mappers to digitise satellite imagery

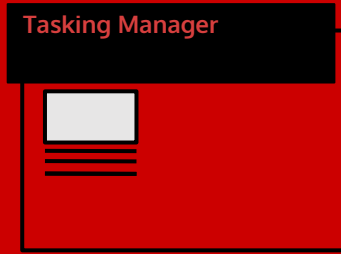


Obtain up-to-date  
satellite imagery for the  
area

Digitise roads, tracks, paths,  
building, open areas,  
waterways, etc

Upload the data and  
see the changes

# HOT harnesses the OSM volunteer community and coordinates the mapping of affected areas



Disaster occurs!

HOT asks OSM  
community to help map  
affected area

Across the globe the HOT-  
OSM community map





**Mapathon**



## **HOT Tech Tools**

# Tasking Manager

Tool for coordination of volunteers and organization of groups to map on OpenStreetMap.

<https://tasks.hotosm.org>

Widely used within humanitarian organizations, local communities and for mapping teams of large companies.

Free and Open Source Software.

Mapping our world together

Tasking Manager

EXPLORE PROJECTS MY CONTRIBUTIONS MANAGE LEARN ABOUT SUPPORT US

Join a global community that is mapping the places most vulnerable to disaster and poverty in order to support humanitarian aid and sustainable development across the world.

Start mapping

146.3M	3M	188.4M	444K	44
Buildings Mapped	Mapped Roads (Kil)	Total Map Edits	Total Mappers	Mappers Online





Tasking Manager  
15K mapping projects  
150+ countries  
200+ organisations

Mapping our world together hotsm.org

**Tasking Manager** EXPLORE PROJECTS MY CONTRIBUTIONS MANAGE LEARN ABOUT SUPPORT

Difficulty level Any project More filters Sort by  Show map

showing 14 of 2,183 projects

 #14233 <b>M7.8 Earthquake Türkiye, Osmaniye Dörtüyl İskenderun...</b> On 6 February 2023, a powerful earthquake (7.8 Mw) struck southern... 1638 total contributors Moderate	 #54391 <b>Dire District 1 Borena Zone Drought Mapping</b> This project is a volunteer-driven mapping initiative that is aimed at helping the peop... 653 total contributors Easy	 #14393 <b>Dhas District 1 Borena Zone Drought Mapping</b> This project is a volunteer-driven mapping initiative that is aimed at helping the peop... 317 total contributors Easy	 #14394 <b>Dhas District 2 Borena Zone Drought Mapping</b> This project is a volunteer-driven mapping initiative that is aimed at helping the peop... 200 total contributors Easy	 #14455 <b>EQUADOR - Isla Puná</b> O Mapeamento na Ilha de Puná - Equador para atender a demanda de ajuda... 538 total contributors Challenging	 #14533 <b>Chikwawa District Mapping - Cyclone Freddy - Malawi Red...</b> Southern Malawi is frequently being affected by large scale flooding. Recently... 1290 total contributors Easy
 #14678 <b>Dilo District Borena Zone Drought Mapping</b> This project is a volunteer-driven mapping initiative that is aimed at helping the peop... 372 total contributors Easy	 #54703 <b>Mapping For Landslides and Flood Disaster Response in Rwanda</b> On May 2, 2023, heavy rainfall caused severe landslides and flooding in the... 138 total contributors Moderate	 #14705 <b>Missing Maps: roads in North Darfur, Sudan (2)</b> This project is a private project - please do not communicate externally about it. Due... 6 total contributors Moderate	 #14766 <b>Elwaya District 1 Borena Zone Drought Mapping</b> This project is a volunteer-driven mapping initiative that is aimed at helping the peop... 89 total contributors Easy	 #14758 <b>Miyu District 1 Borena Zone Drought Mapping</b> This project is a volunteer-driven mapping initiative that is aimed at helping the peop... 26 total contributors Easy	 #14755 <b>Miyu District 2 Borena Zone Drought Mapping</b> This project is a volunteer-driven mapping initiative that is aimed at helping the peop... 23 total contributors Easy



#8722 | OSM India

Maxar

## CYCLONE AMPHAN - SAGAR ISLANDS, WEST BENGAL

OSMGeoWeek · Disaster Response · Cyclone Amphan Support · India

TASKS INSTRUCTIONS CONTRIBUTIONS

### Imagery

- Please use **Maxar imagery** to trace the buildings.
- If you find a huge offset with the existing data, please do not try to move all the data. See [LearnOSM](#) for detailed instructions on handling imagery offset, or [Aerial Imagery & Alignment](#) for adjusting in the ID editor.

### Buildings

- Two-minute Tutorial: [Buildings](#)
- Please find the building rooftop and add the building.
- After drawing the outline and tagging as a building, use the 'Q' key in the ID B JOSM editors to "square" the corners. We suggest using the **Buildings plug-in** in JOSM to make building tracing more efficient and fast (use B- for shortcut).
- Try to avoid the overlapped building and glued to each other.
- In ID editor, holding down the "alt" key will keep nodes from "snapping" to each other and accidentally connecting.
- Do not delete any data.

Changeset comment: #hotosm-project-8722 #cycloneAmphan



TYPES OF MAPPING



IMAGERY

Any available source

EDITOR

ID Editor

Validate a task

HOT

Cyclone Amphan

55K buildings

969 kms of roads

679 mappers



### Cyclone Amphan

115K buildings

15K kms of roads

380 mappers

Mapping our world together

Tasking Manager

EXPLORE PROJECTS MY CONTRIBUTIONS MANAGE LEARN ABOUT SUPPORT

ramyarguapathy

#13404 | Open Mapping Hub Asia-Pacific LOW

## [DISASTER RESPONSE] - PAKISTAN FLOOD 2022, NASIRABAD DISTRICT, BALOCHISTAN

Pakistan: Floods, Monsoon Season 2022 · Pakistan

TASKS INSTRUCTIONS CONTRIBUTIONS

Statistics · Changesets

All users All levels

adiatmad ★	299	8	307
jwalseth ★	0	186	186
Kathyaus ★	36	125	161
Frans S ★	7	131	138
Kraan46 ★	21	93	114
LikiCarolina ★	9	97	106

LEGEND

- Available for mapping
- Ready for validation
- More mapping needed
- Finished
- Unavailable
- Priority areas
- Locked

© Mapbox © OpenStreetMap

TYPES OF MAPPING

IMAGERY **Maxar Premium**

EDITOR ID Editor

Select another project

Search features

Search



#13404 | Open Mapping Hub Asia-Pacific

## [DISASTER RESPONSE] - PAKISTAN FLOOD 2022, NASIRABAD DISTRICT, BALOCHISTAN · #154

27/04/2022

COMPLETION INSTRUCTIONS HISTORY

Please check the history tab for relevant comments.

TASK STATUS

Is this task completely mapped?

- Yes
- No
- The imagery is bad

COMMENT

Submit task

Split task

Select another task

RELOAD EDITOR

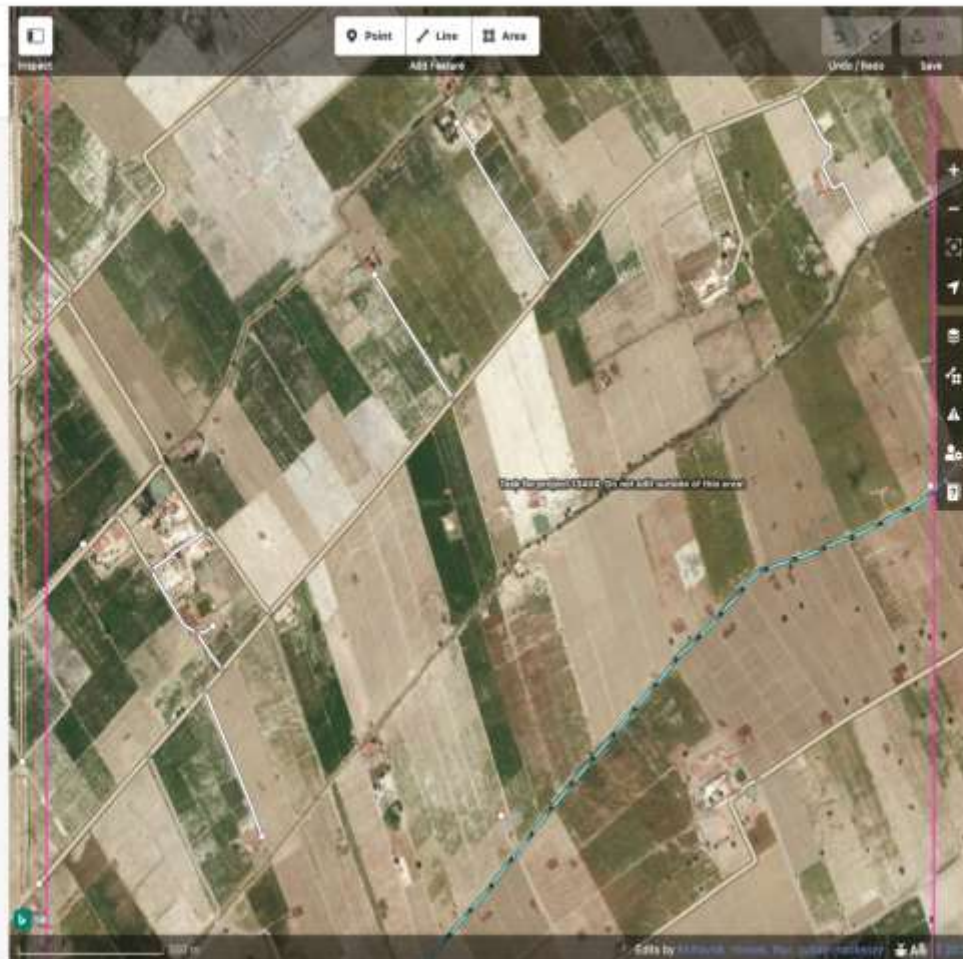
Editor

Tasks map



Search features

Search



#13404 | Open Mapping Hub Asia-Pacific

## [DISASTER RESPONSE] - PAKISTAN FLOOD 2022, NASIRABAD DISTRICT, BALOCHISTAN - #62

Download

[COMPLETION](#) [INSTRUCTIONS](#) [HISTORY](#) [RESOURCES](#)

TASK STATUS

Is this task well mapped?

#62  Yes  No [+ Comment](#)[Submit task](#)[Stop validation](#)

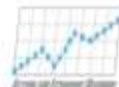
RELOAD EDITOR

ID Editor

Tasks map

MANAGE ORGANIZATIONS + NEW

My Organizations



## ACTION FOR ECONOMIC REFORMS

ADMINISTRATORS



AGEOS

## AFRICAN ASSOCIATION FOR GEOSPATIAL DEVELOPMENT (AGEOS)

ADMINISTRATORS



## AMARA HUB

ADMINISTRATORS



Bridges to Prosperity

## BRIDGES TO PROSPERITY

ADMINISTRATORS



Bytexperience

## BYTEXPERIENCE

ADMINISTRATORS



CANOA de TOLDA

## CANOA DE TOLDA

ADMINISTRATORS



## ADF HAITI

ADMINISTRATORS



## AKROS

ADMINISTRATORS



## AMERICAN RED CROSS

ADMINISTRATORS



## BRITISH RED CROSS

ADMINISTRATORS



## CANADIAN RED CROSS

ADMINISTRATORS



## CARTONG

ADMINISTRATORS



Once areas are mapped, data is used by organisations to respond



HOT-OSM community  
map areas

Map data is held in  
the OSM database

Organisations use OSM data to  
plan and coordinate their  
response efforts

# How do we get the data out of OpenStreetMap?



HOT-OSM community  
map areas

Map data is held in  
the OSM database

Organisations use OSM  
data to plan and  
coordinate their response  
efforts

# OpenStreetMap Tools



Overpass  
Turbo



JOSM

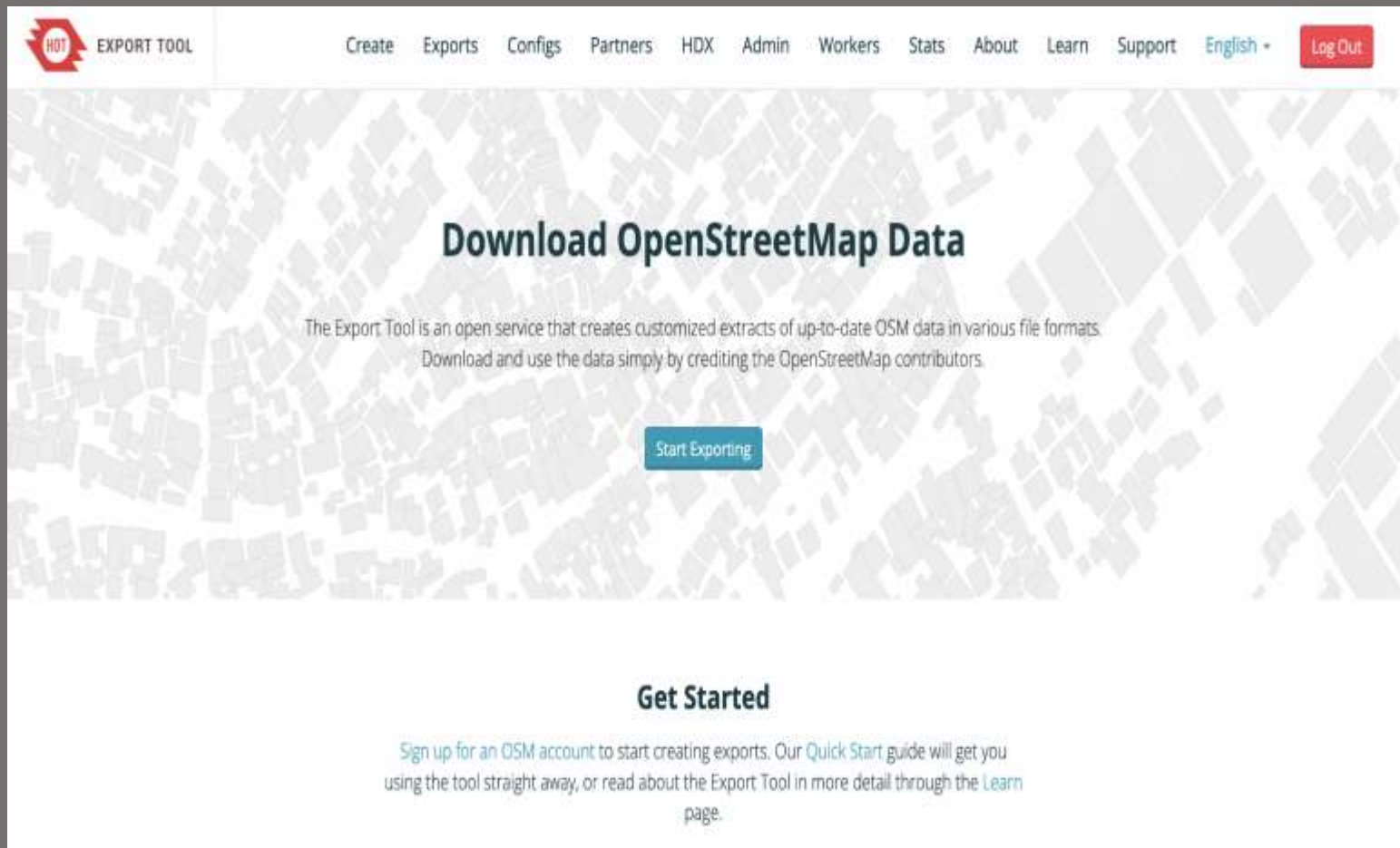


QGIS



## Export Tool

Custom OSM Extracts

A screenshot of the HOT Export Tool website. The page has a white background with a faint, light gray map of a city grid in the background. At the top left is the HOT logo and the text 'EXPORT TOOL'. To the right is a navigation menu with links: 'Create', 'Exports', 'Configs', 'Partners', 'HDX', 'Admin', 'Workers', 'Stats', 'About', 'Learn', 'Support', 'English', and a 'Log Out' button. The main heading is 'Download OpenStreetMap Data'. Below it is a paragraph: 'The Export Tool is an open service that creates customized extracts of up-to-date OSM data in various file formats. Download and use the data simply by crediting the OpenStreetMap contributors.' A blue button labeled 'Start Exporting' is centered below the text. Further down, the heading 'Get Started' is followed by a paragraph: 'Sign up for an OSM account to start creating exports. Our Quick Start guide will get you using the tool straight away, or read about the Export Tool in more detail through the Learn page.'

# Export Tool

The application allows anyone to create custom extracts of OSM based on the area and the type of data to be accessed.

Access up-to-date geospatial information from OpenStreetMap's 10 million users

<https://export.hotosm.org/>

The screenshot displays the HOT Export Tool interface. The top navigation bar includes links for About, Learn, Create, Exports, Configs, HDX, English, and a Log Out button. The main content area is divided into two columns. The left column shows project details for 'Export #18d7a2a9-c286-4e74-a86c-e6f6f3dbd4e9', including a description, project name, area (29 sq km), creation date (Tuesday, April 10th 2018, 1:44 pm), creator (nsmith), and published status (Yes). It lists export formats: Shapefile (.shp), OSM (.osm), GeoPackage (.gpk), and POSM bundle. The right column shows details for 'Run #426dcb0c-bc56-4807-920c-cf4254cd5983', with a status of 'COMPLETED', started and finished on Tuesday, April 10th 2018, 1:44 pm, and a duration of a few seconds. It lists the generated files: Shapefile (.shp) gaborone\_shp.zip (171 kB), OSM (.osm) gaborone\_export\_osm.zip (84.6 kB), GeoPackage (.gpk) gaborone\_export\_gpk.zip (374 kB), and POSM bundle gaborone-bundle.tar.gz (954 kB). A map on the right shows the location of Gaborone, Botswana. The footer includes 'Contact Us', 'Made with ❤️ by HOT and friends', and 'Fork the Code'.



1 Describe 2 Formats 3 Data 4 Summary

**Name**

Name this export

**Description**

**Project**

Which project activation this export relates to

[Next](#)

OpenStreetMap database last updated 3 hours ago

Search for a location or enter a bounding box as 'minX, minY, maxX, maxY'



SEARCH

Tools

BOX

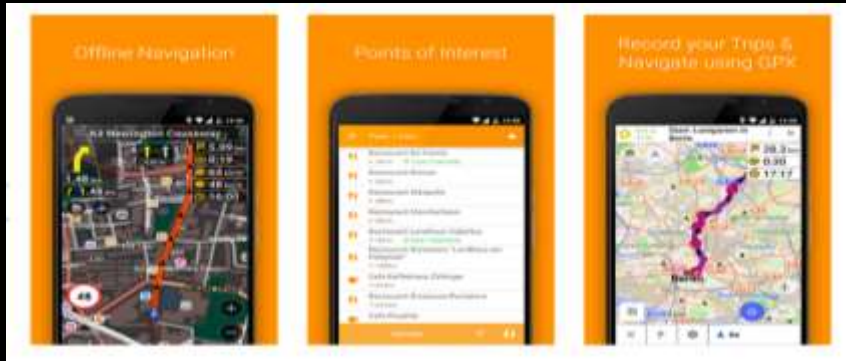
DRAW

THIS VIEW

IMPORT

5000 km

OSM OpenStreetMap contributors



OSM data in different file formats

HT EXPORT TOOL

Create Exports Configs Partners HDX Admin Workers Stats About Learn Support English + Log Out

1 Describe 2 Formats 3 Data 4 Summary

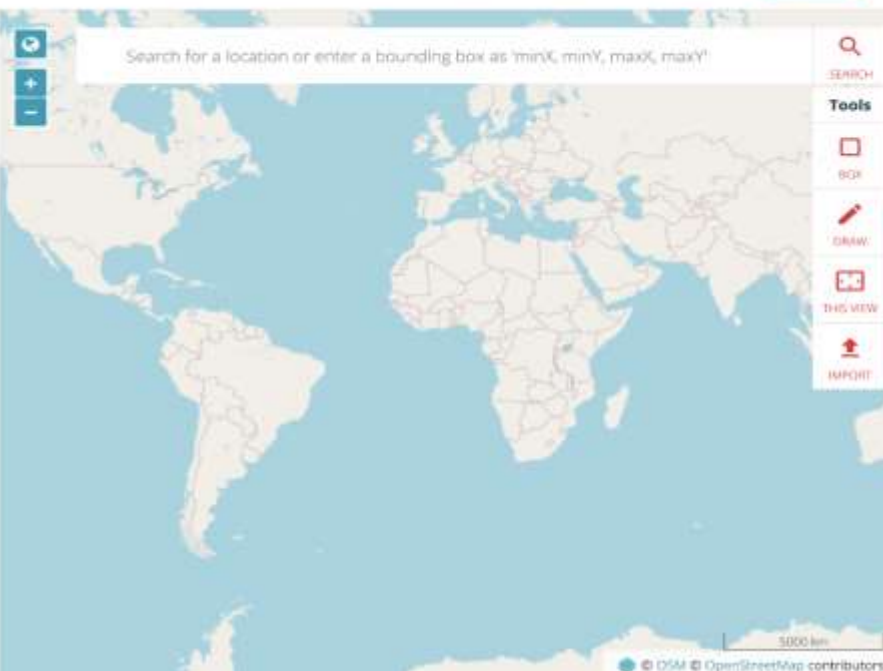
**File Formats** See [Learn \(Export Formats\)](#) for details on each file format.

- Geojson [.geojson](#)
- GeoPackage [.gpkg](#)
- Shapefile [.shp](#)
- Garmin [.img](#)
- Google Earth [.kml](#)
- OSM [.pbf](#)
- MAPS.ME [.mml](#)
- OsmAnd [.obf](#)
- MBTiles [.mbtiles](#)

Next

OpenStreetMap database last updated 3 hours ago

Search for a location or enter a bounding box as 'minX, minY, maxX, maxY'



Tools

- SEARCH
- BOX
- DRAW
- THIS VIEW
- IMPORT

5000 km

DSM OpenStreetMap contributors

OSM data in different file formats

[1 Describe](#)[2 Formats](#)[3 Data](#)[4 Summary](#)[Tag Tree](#)[Configs](#)[YAML](#)

Search for a feature type...

Clear

 Buildings

- Building Names and Geometries
- Addresses
- Materials and Condition

 Administrative Boundaries

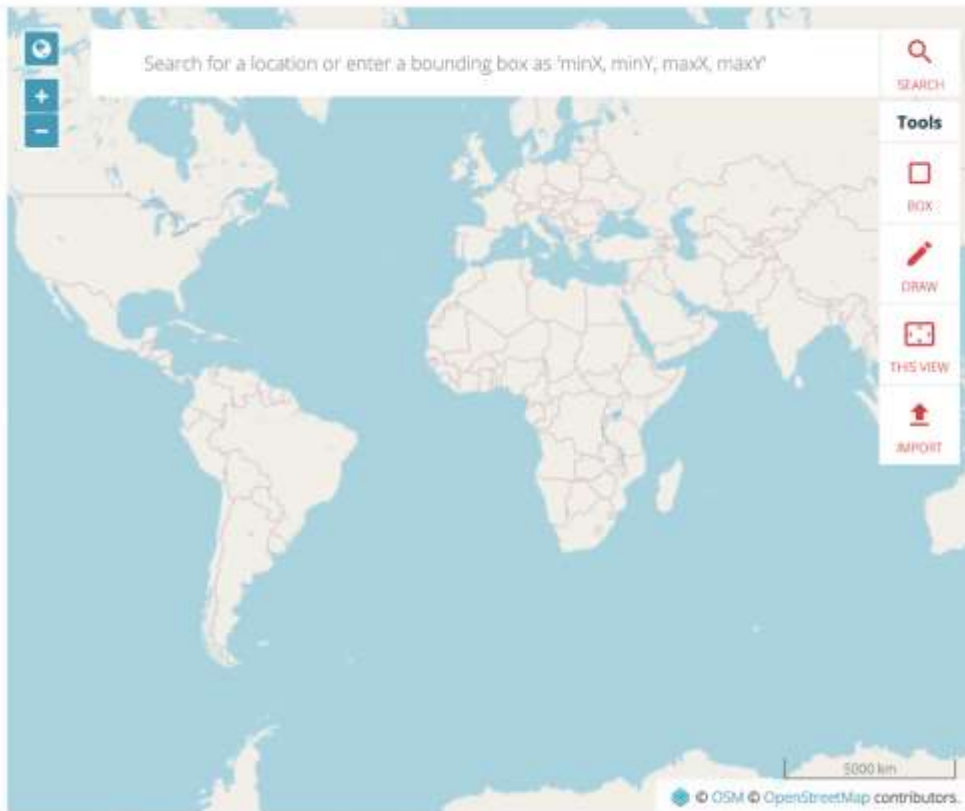
- Boundaries

 Commercial

- Shop
- Supermarket
- Restaurant
- Tourism
- Accommodation

 Communication**Administrative Boundaries****Geometry types:** polygon**Keys:**

- name

**Where:** boundary='administrative'

### South India Boundaries

Description:

**Id:** 32a0267c-b224-4607-8310-c2973a47e4ef

**Project:**

**Area:** 6095 sq km

**Created at:** Wednesday, August 3rd 2022, 9:17 pm

**Created by:** ramiyargupathy

**Published:** Yes

**Export formats:** Geojson `.geojson`

**OSM Analytics:** [View this area](#)

Features Re-Run Clone Delete

Wednesday, August 3rd 2022, 9:17 pm

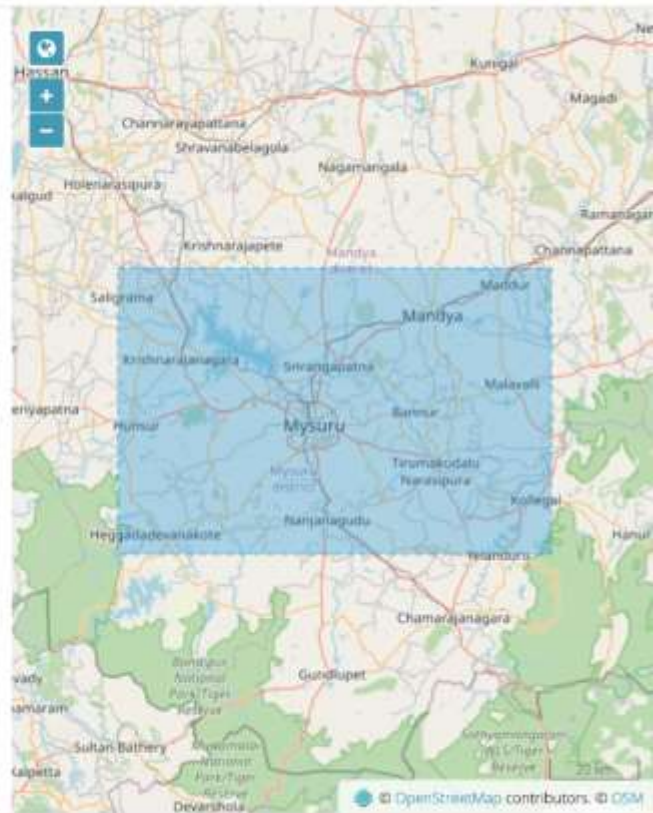
**Status:** COMPLETED

**ID:** c6477568-0599-42ac-9e1f-bd269562d5bb

**Finished:** Wednesday, August 3rd 2022, 9:17 pm

**Duration:** a few seconds

**Geojson** `South-India-Boundaries_GeoJSON.zip` (0 B)



## Exports

Date Range:  Show all Exports

NAME	DESCRIPTION	PROJECT	CREATED	OWNER	
<a href="#">South India Boundaries</a>			8/3/2022 9:17 PM	ramyaragupathy	<input type="button" value="🗖"/>
<a href="#">AugDeployment</a>			8/3/2022 5:08 PM	ramyaragupathy	<input type="button" value="🗖"/>
<a href="#">Kathmandu_Buildings</a>			6/10/2022 10:04 AM	ramyaragupathy	<input type="button" value="🗖"/>
<a href="#">BLR-Education</a>			6/6/2022 6:47 PM	ramyaragupathy	<input type="button" value="🗖"/>
<a href="#">BLR_Buildings</a>			5/31/2022 9:29 PM	ramyaragupathy	<input type="button" value="🗖"/>

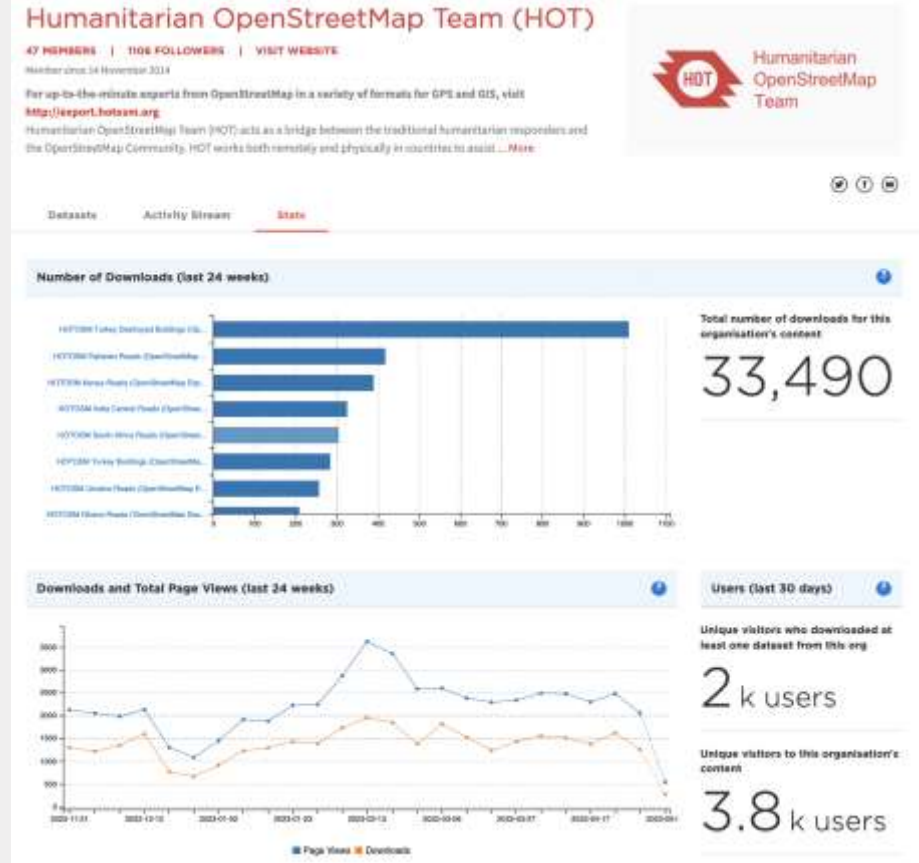




# Export Tool

[HDX](#) is a product of the [United Nations Office for the Coordination of Humanitarian Affairs](#) (OCHA)

Export Tool updates **500+ data exports** on a weekly basis for the HDX platform







## OpenAerialMap

Create capacity for  
damage assessments  
and up to date maps



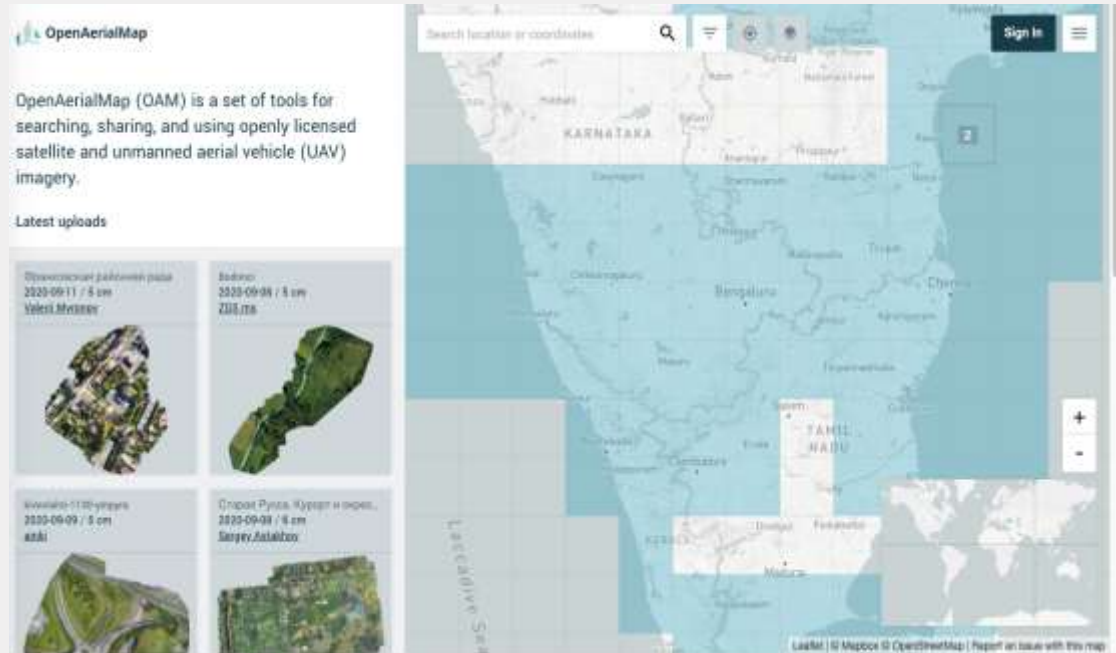
# OpenAerialMap (OAM)

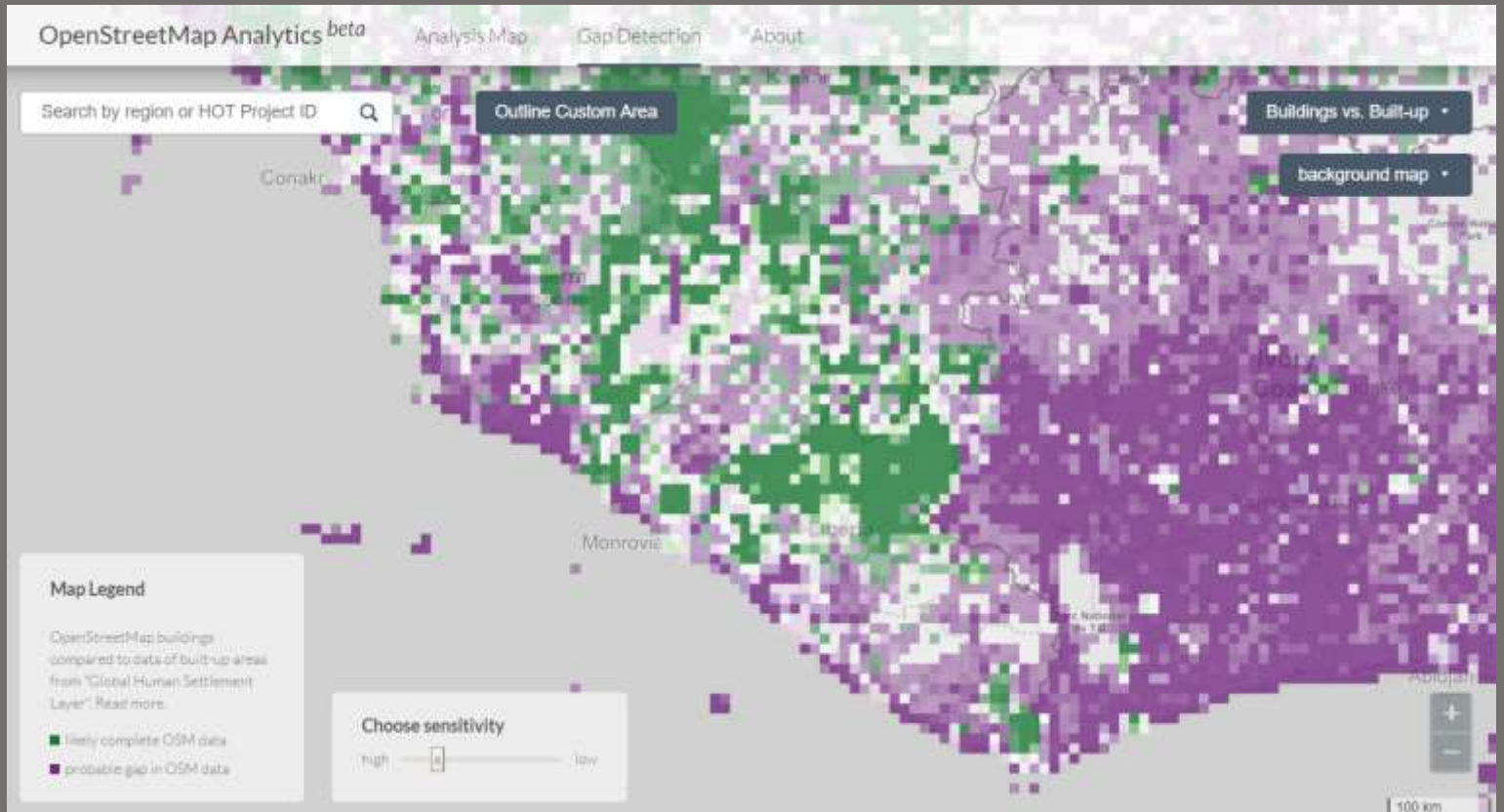
OAM is distributed catalogue and hosting service of imagery.

<https://openaerialmap.org/>

A user will be able to go to OAM and search to see what free imagery is available in the area they are interested in.

Imagery in this case means georeferenced photos from satellites, UAVs or other aircraft.





## OSM Analytics

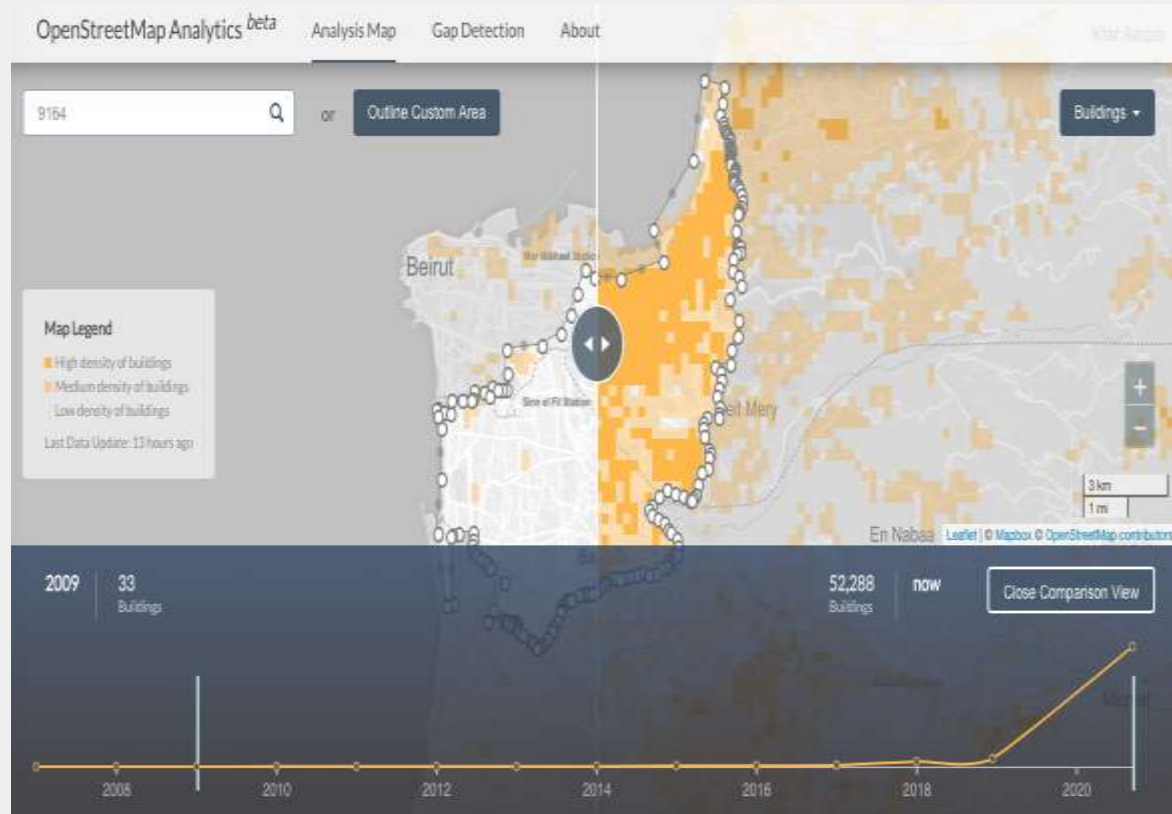
Coverage & Gap  
Detection

# OSM Analytics

An online platform for real time analysis and visualization of the OSM database.

Lets you explore the entire OSM, from global to local scale and understand how the data was created over a time period.

<https://osm-analytics.org/>







## Open Source

All our code is open on  
GitHub

Why GitHub? Team Enterprise Explore Marketplace Pricing Search Sign in Sign up

# Humanitarian OpenStreetMap Team

An international team dedicated to humanitarian action and community development through open mapping.

Global <http://www.hotosm.org> @hotosm info@hotosm.org

Repositories 138 Packages People 36 Projects

### Pinned repositories

**tech**

Resources and issue tracking for Technical Working Group and all things Tech within HOT. Start here to get more information about how to get involved in HOT.

☆ 49 🍴 11

**tasking-manager**

Tasking Manager - The tool to team up for mapping in OpenStreetMap

JavaScript ☆ 291 🍴 167

**osm-export-tool**

Web service to download customised OSM data in various file formats

JavaScript ☆ 87 🍴 33

**OpenAerialMap**

OpenAerialMap is an open service to provide access to a commons of openly licensed imagery and map layer services.

☆ 171 🍴 20

**learnosm**

LearnOSM.org content, Jekyll layouts & issue tracking. This repository is dedicated to helping people learn how to map in OpenStreetMap (OSM) and use many of the software and tools in the OSM commu...

CSS ☆ 194 🍴 181

**osm-analytics**

OSM Analytics lets you interactively analyze how specific OpenStreetMap features are mapped in a specific region.

JavaScript ☆ 80 🍴 30





## Diversity

Internship programs



Google Summer of Code

Reach out to us

**tech@hotosm.org**