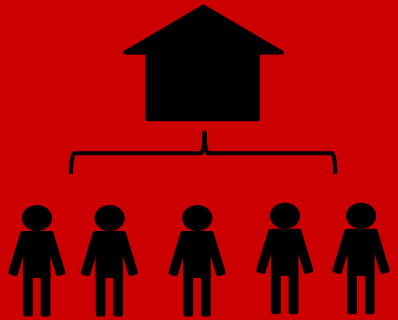
Humanitarian OpenStreetMap Team

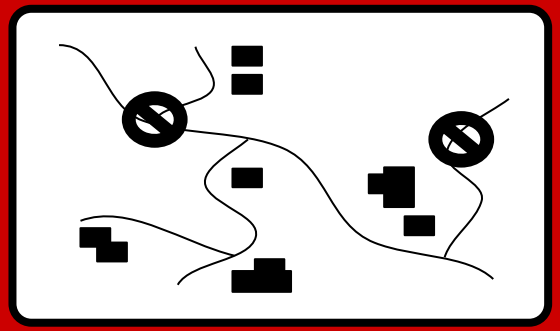
ramya.ragupathy@hotosm.org

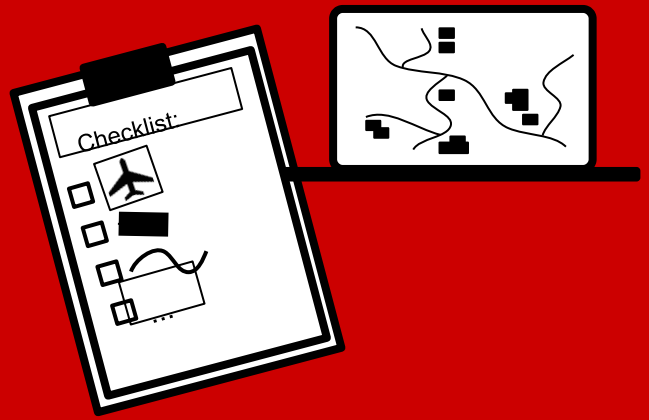
What is the Humanitarian OpenStreetMap Team?

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

Maps Help





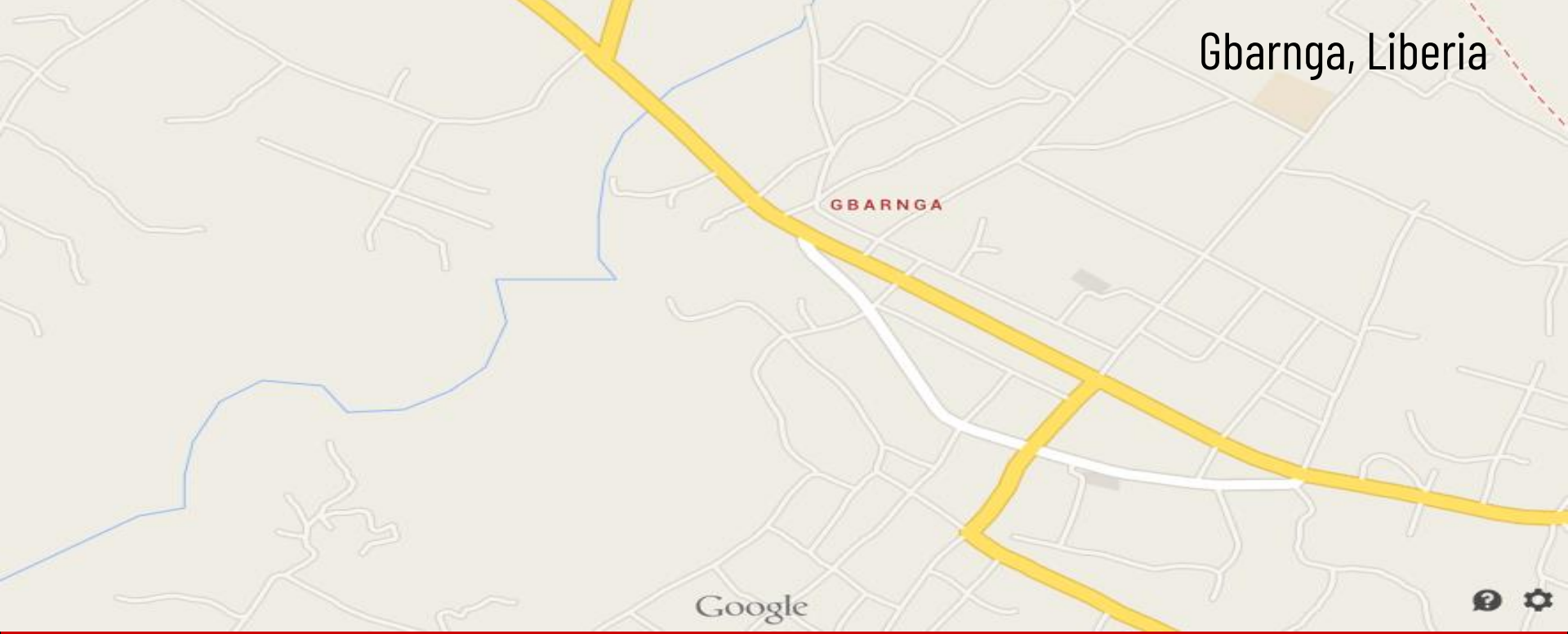


Identify areas of high population

(building density)

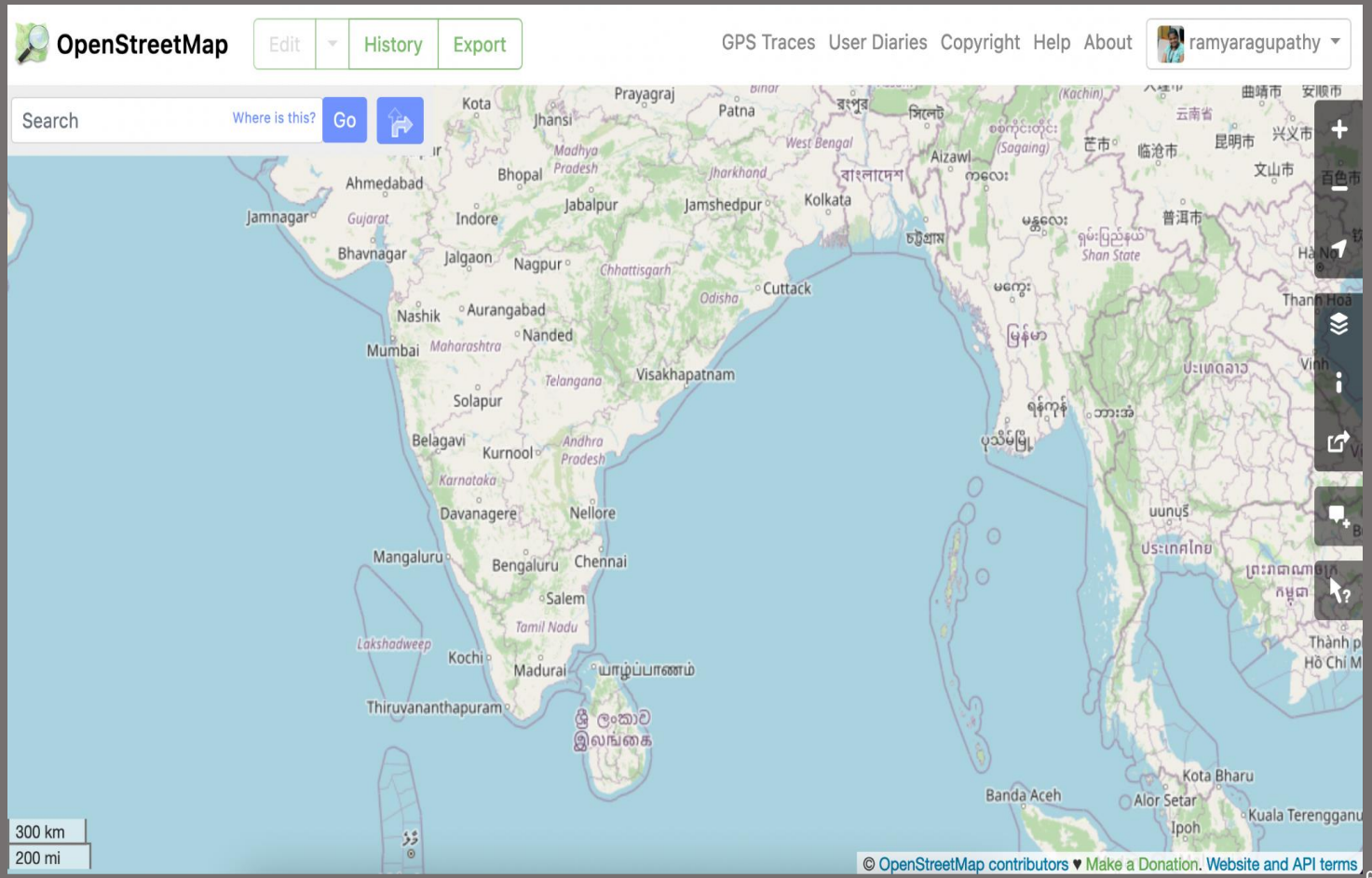
Navigate access routes and safe roads in affected areas

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



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

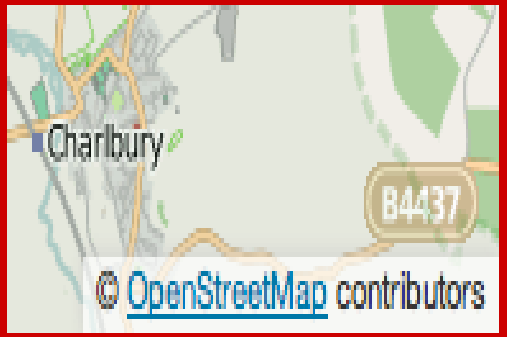


OpenStreetMap
is a collaborative project to create a free editable world map

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

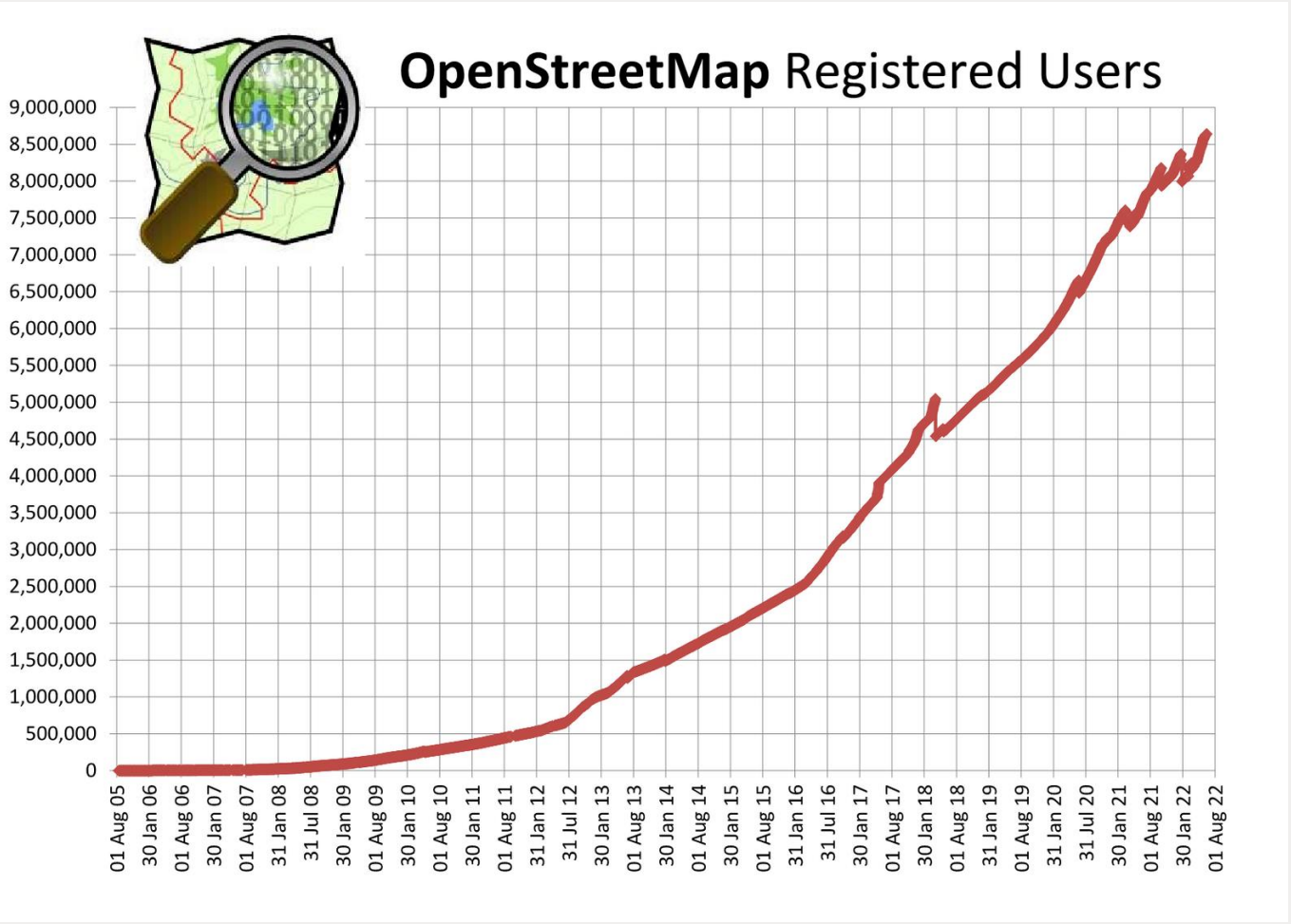
DATA IS

Built by a community of mappers that contribute and maintain data

anyone can add to the map

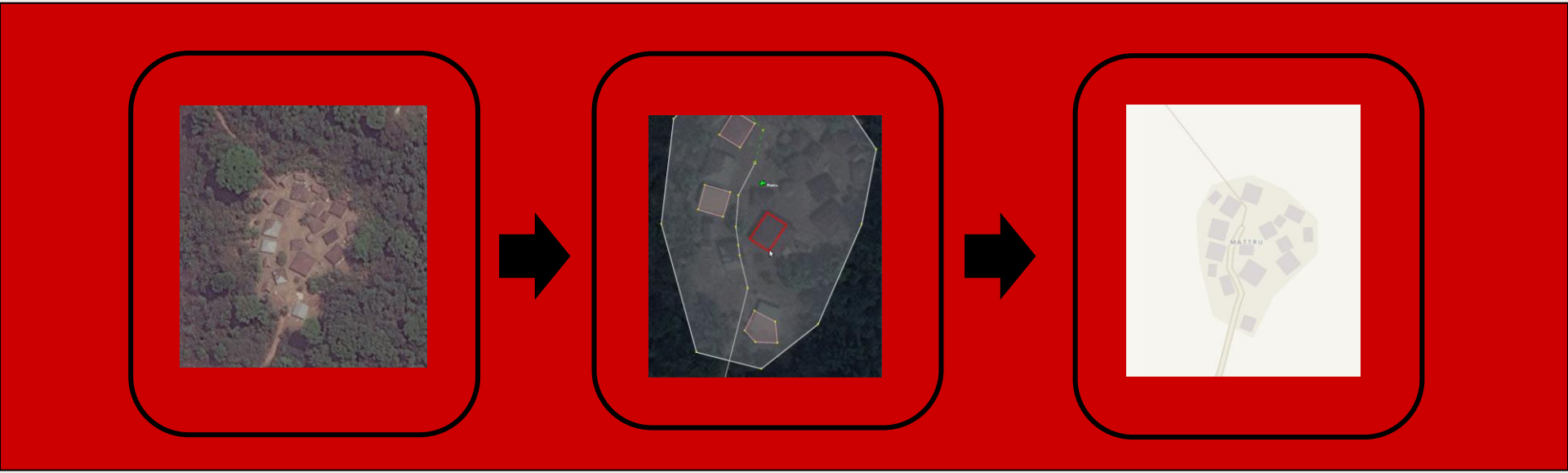
improve it with local knowledge

and use it for any purpose



OSM now has over **8.5 million** registered users

HOT responses predominantly require mappers to digitise satellite imagery

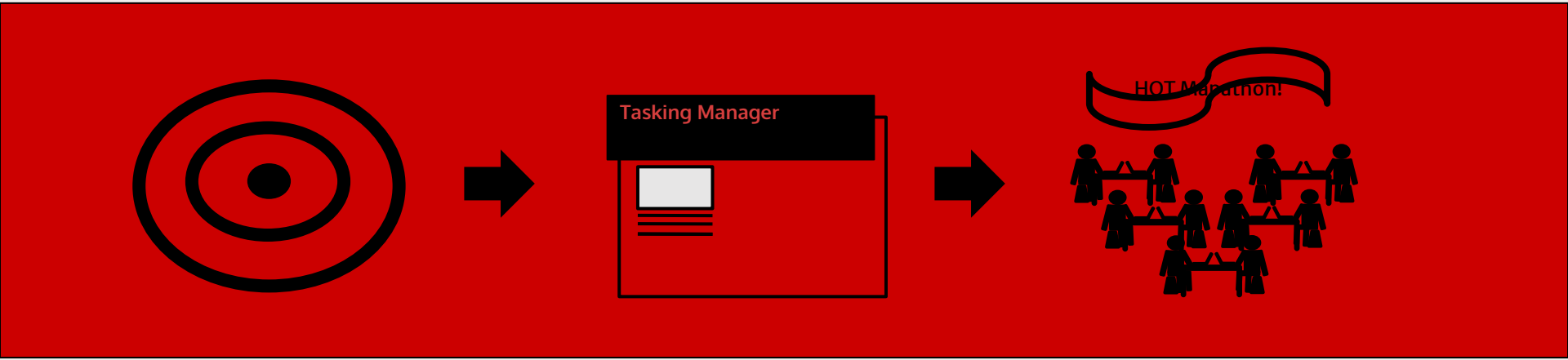


Obtain up-to-date satellite imagery for the area

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

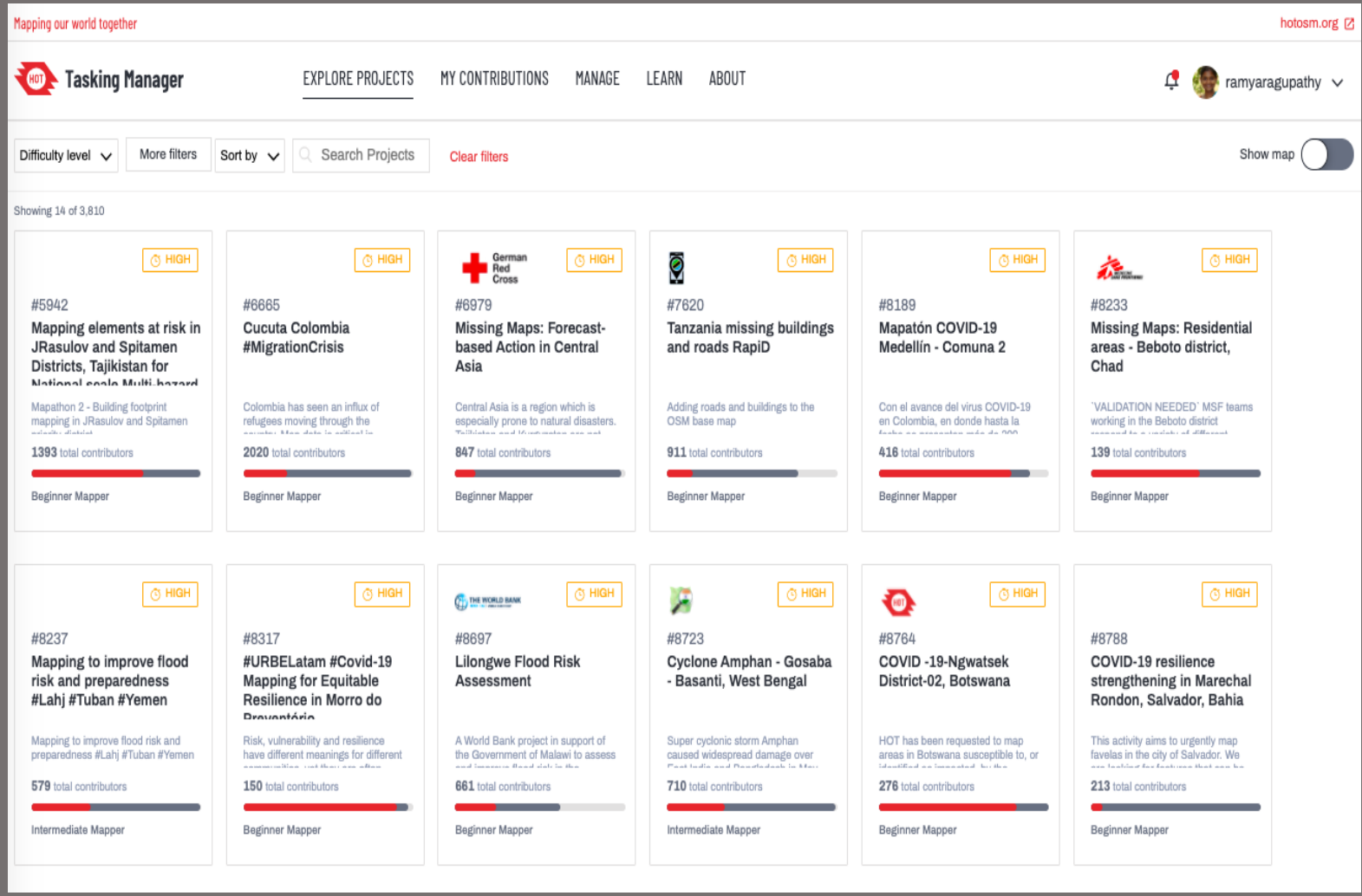
Across the globe the HOT-OSM community map

Mapathon

HOT Tech Tools

Tasking Manager

Crowdsourced OSM mapping



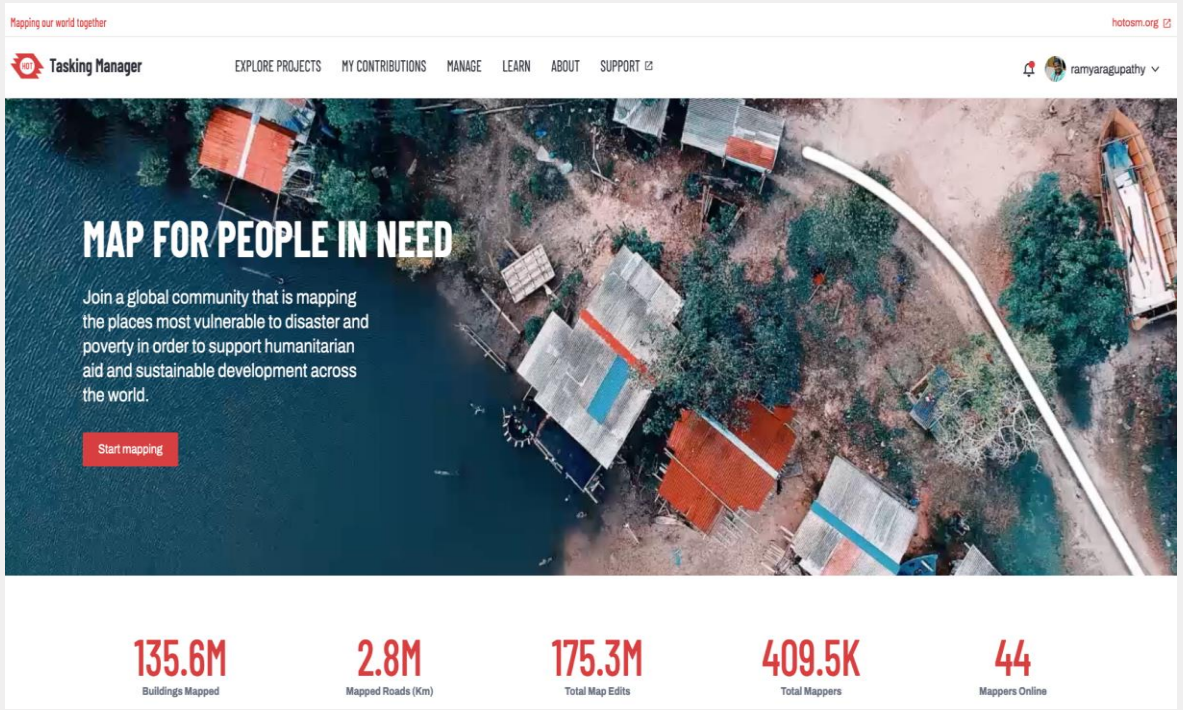
Tasking Manager

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.



#13404 | Open Mapping Hub Asia-Pacific

URGENT

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

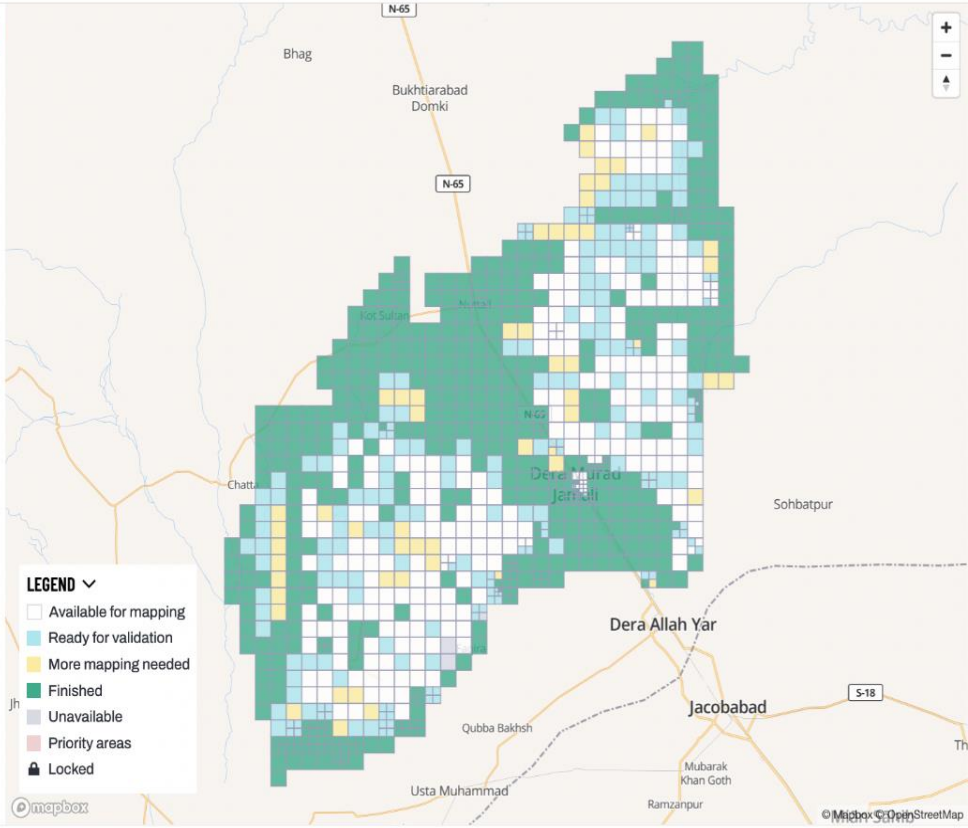
Pakistan: Floods, Monsoon Season 2022 · Pakistan

TASKS INSTRUCTIONS CONTRIBUTIONS

Filter tasks by id or username | All | Most recently updated

Task #104 · Last updated by **IsabelleFarley** 2 hours ago	Available for mapping	
Task #82 · Last updated by **Knihovnik** 4 hours ago	Available for mapping	
Task #62 · Last updated by **Knihovnik** 4 hours ago	Ready for validation	
Task #295 · Last updated by **martien-176** 5 hours ago	Available for mapping	
Task #488 · Last updated by **thpr** 6 hours ago	Available for mapping	
Task #467 · Last updated by **thpr** 6 hours ago	Available for mapping	

1 2 3 ... 171



TYPES OF MAPPING

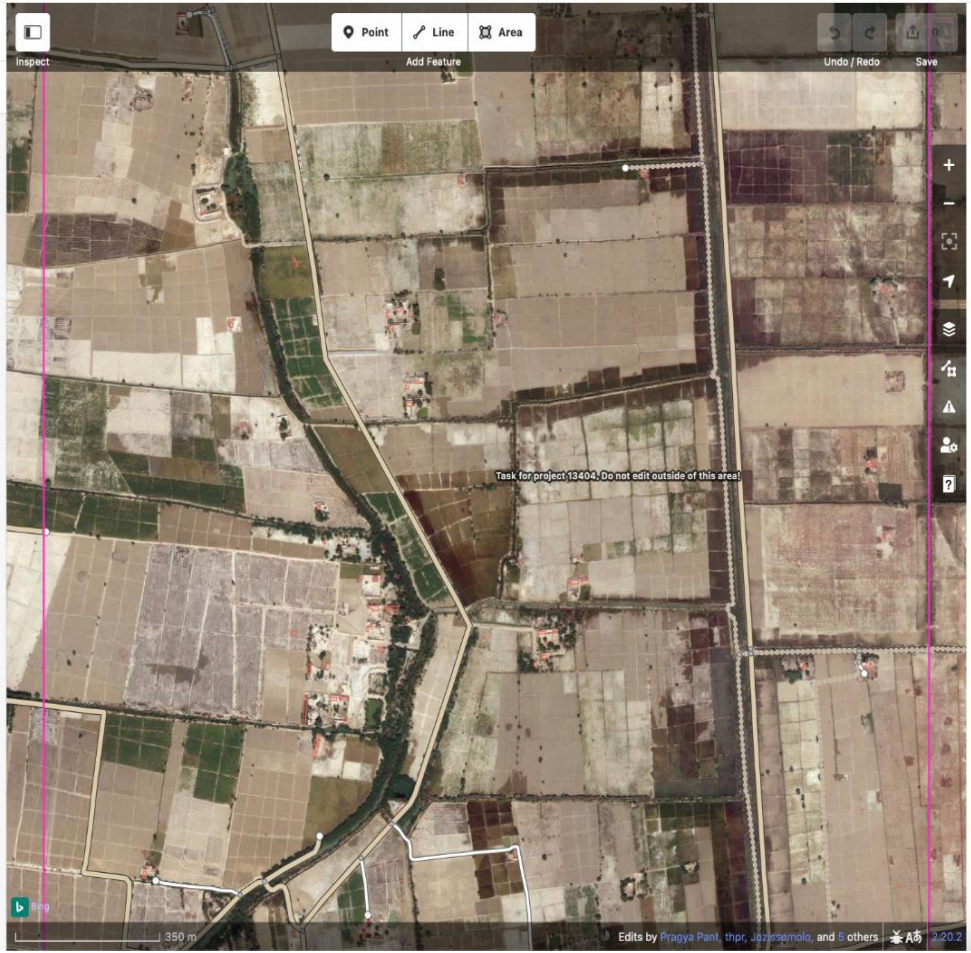
IMAGERY
Any available source

EDITOR
iD Editor

Map a task

Search features

Search



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

2 hours left

COMPLETION INSTRUCTIONS HISTORY 7

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

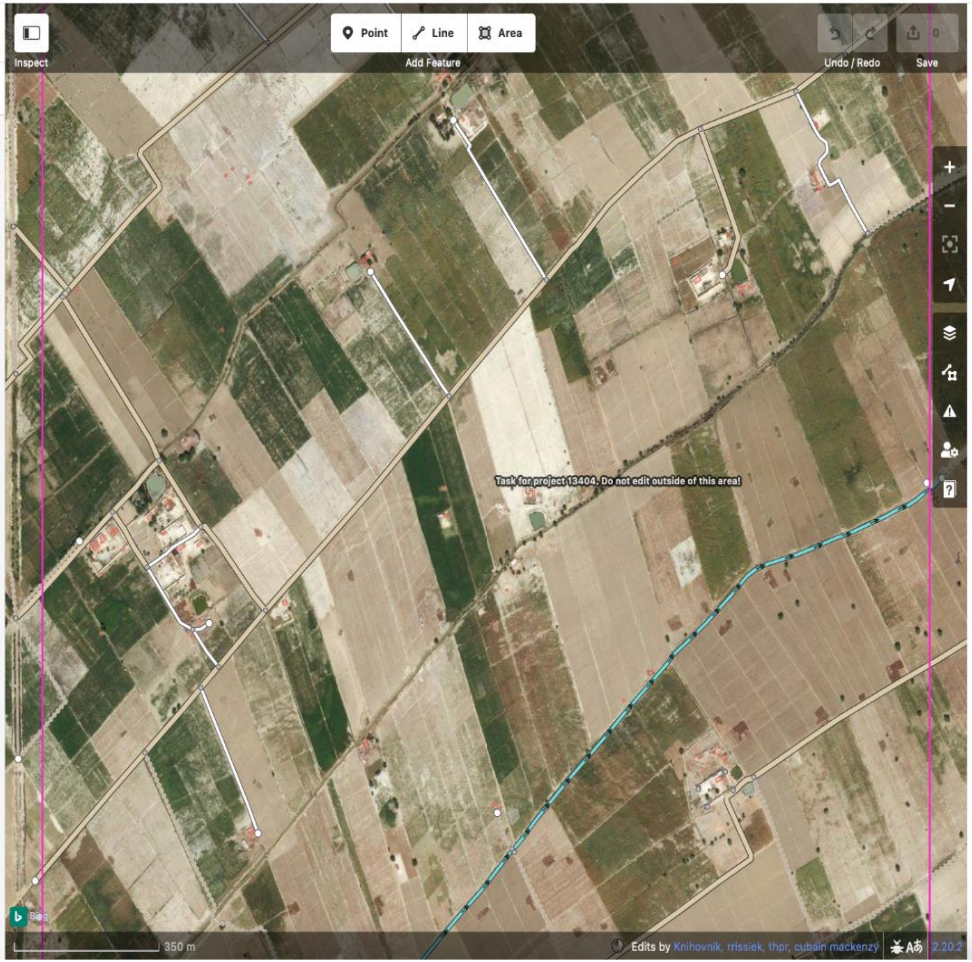
RELOAD EDITOR

iD Editor

Tasks map

Search features

Search



#13404 | Open Mapping Hub Asia-Pacific

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

2 hours left

COMPLETION INSTRUCTIONS HISTORY 1 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

All My Organizations

ACTION FOR ECONOMIC REFORMS
ADMINISTRATORS

ADF HAITI
ADMINISTRATORS

AFRICAN ASSOCIATION FOR GEOSPATIAL DEVELOPMENT (AGEOS)
ADMINISTRATORS

AKROS
ADMINISTRATORS

AMARA HUB
ADMINISTRATORS

AMERICAN RED CROSS
ADMINISTRATORS

BRIDGES TO PROSPERITY
ADMINISTRATORS

BRITISH RED CROSS
ADMINISTRATORS

BYTEXPERIENCE
ADMINISTRATORS

CANADIAN RED CROSS
ADMINISTRATORS

CANOA DE TOLDA
ADMINISTRATORS

CARTONG
ADMINISTRATORS

Projects

Search projects...

Add Project

Filter Projects

Title: Energy Infrastructure

Subtitle:

Author: Betsy Smalley **Date posted:** Jan 14, 2020

This is an inquiry activity to introduce OpenStreetMap users to energy generation and transmission using OpenInfraMap.

Tags: Environmental | Industrialization and Economic D...

Title: Creating Compelling Mapping Projects

Subtitle: How to create mapping projects that engage your students

Author: Steven Johnson **Date posted:** Mar 10, 2020

One of the compelling features of open mapping is being able to connect geographic learning with projects that have immediate and tangible impact. Humanitarian mapping

Tags: mapath... | how... | service learn... | spatial citizens... | open mapp...

Title: Downloading and Mapping Data from OpenStreetMap using QGIS

Subtitle: Special Topics in Geography

Author: Eugene Chong **Date posted:** Aug 20, 2020

This tutorial is an introduction to downloading and mapping data from OpenStreetMap using QGIS. OpenStreetMap, or OSM, is a free, editable map of the world created and edited

Tags: Cities and Urban Land Use

Title: OpenStreetMap Mapathon Pre-Event Instructions

Subtitle: Getting Started with OpenStreetMap

Author: TeachOSM **Date posted:** Sep 18, 2020

For those of you who are new to OpenStreetMap, here are a few steps to take before joining a mapping event. This project walks you through creating an OpenStreetMap editing

Tags: beginner | account | mapathon

GETTING STARTED WITH OPENSTREETMAP

Title: Module 1: Getting to Know OpenStreetMap

Subtitle: Getting Started with OpenStreetMap

Author: TeachOSM Contributors **Date posted:** Aug 13, 2021

This module introduces both the instructor and students to the OpenStreetMap interface. Each of these activities entails the use of a tool, or utility on the OpenStreetMap website.

Tags:

GETTING STARTED WITH OPENSTREETMAP

Title: Module 2: Adding to the Map

Subtitle: Getting Started with OpenStreetMap

Author: TeachOSM Contributors **Date posted:** Aug 13, 2021

This module organizes basic OSM contributing resources for teachers to introduce to students to the concept of students making contributions to the OSM project. In this module, students will be fully prepared to contribute to the OSM project. Students will familiarize themselves with these mapping-ready resources and answer open-ended questions on important points of the three resources.

Tags:

GETTING STARTED WITH OPENSTREETMAP

Title: Module 3: Making Your First Edits in OpenStreetMap

Subtitle: Getting Started With OpenStreetMap

Author: TeachOSM Contributors **Date posted:** Sep 03, 2021

By now your students should have an OpenStreetMap account, be familiar with the OpenStreetMap interface, have located an area of interest, and are ready to map. In this

Tags: iD editor

GETTING STARTED WITH OPENSTREETMAP

Title: Module 4: Using a Tasking Manager

Subtitle: Getting Started With OpenStreetMap

Author: TeachOSM Contributors **Date posted:** Sep 21, 2021

The Tasking Manager is a key tool in the OpenStreetMap ecosystem because it helps organize a group of mappers working in the same place at the same time. It divides the mapping task into small, manageable chunks and prevents overlapping mapping efforts. The Tasking Manager is often the start and finish of a mapping task making it a critical tool to learn and use. The tool allows groups and organizations to highlight which areas of the

Tags:

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

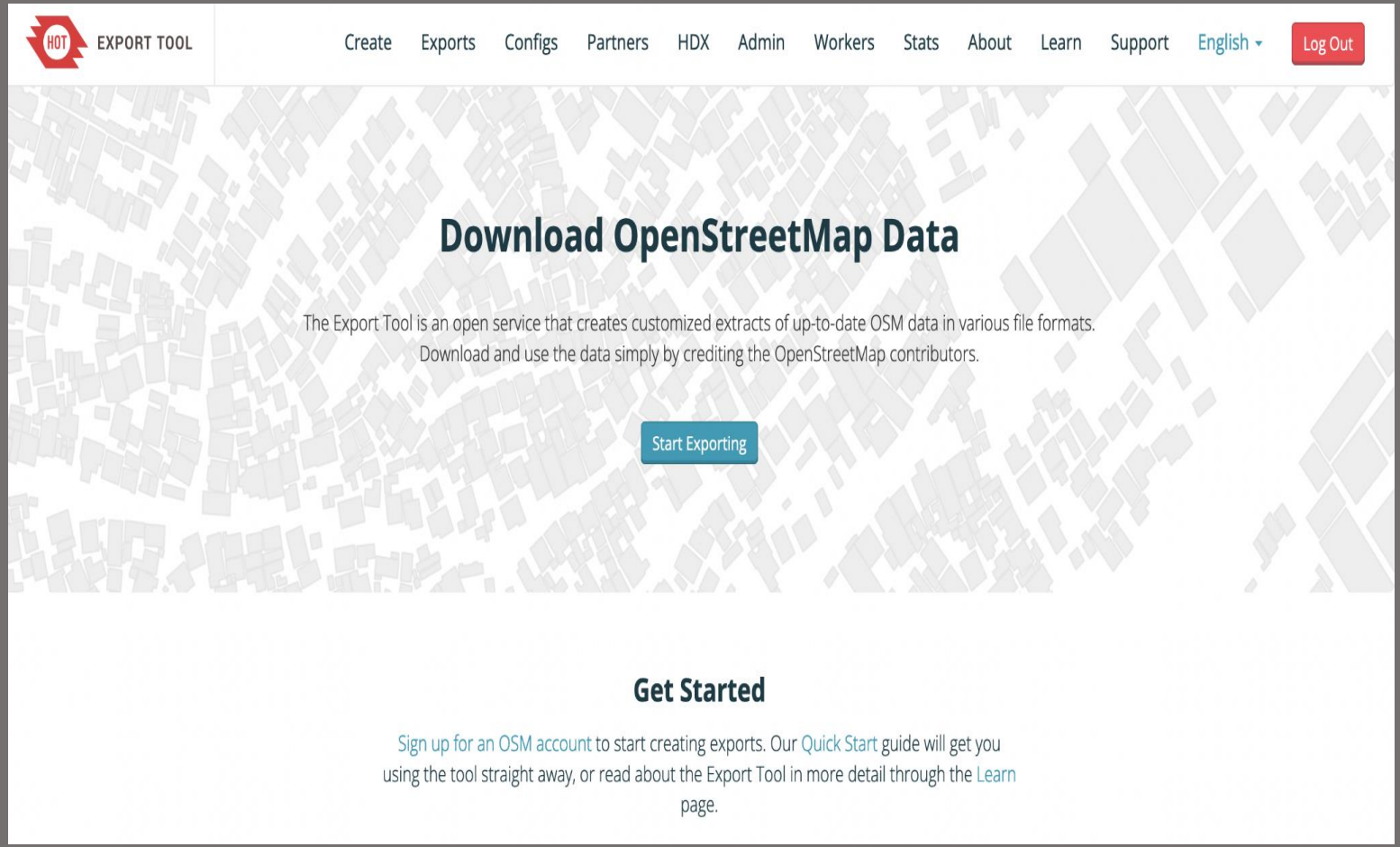
Overpass Turbo

JOSM

QGIS

Export Tool

Custom OSM Extracts

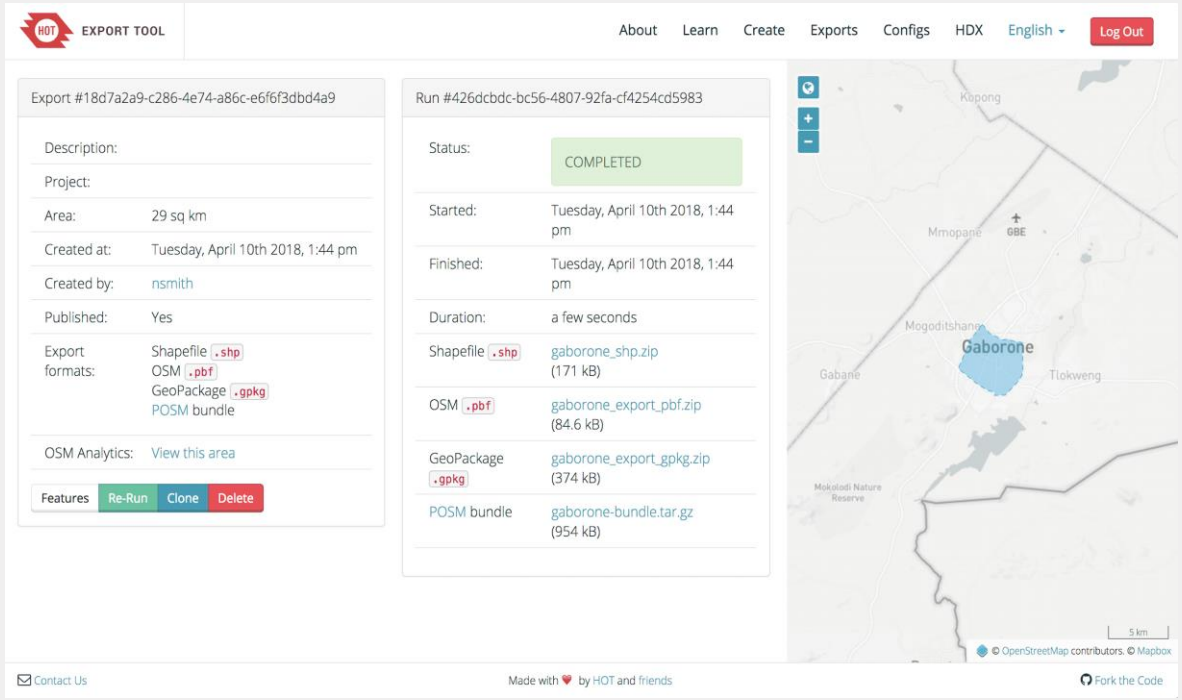


Export Tool

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 8.5 million users

https://export.hotosm.org/



1 Describe 2 Formats 3 Data 4 Summary

Name

Name this export

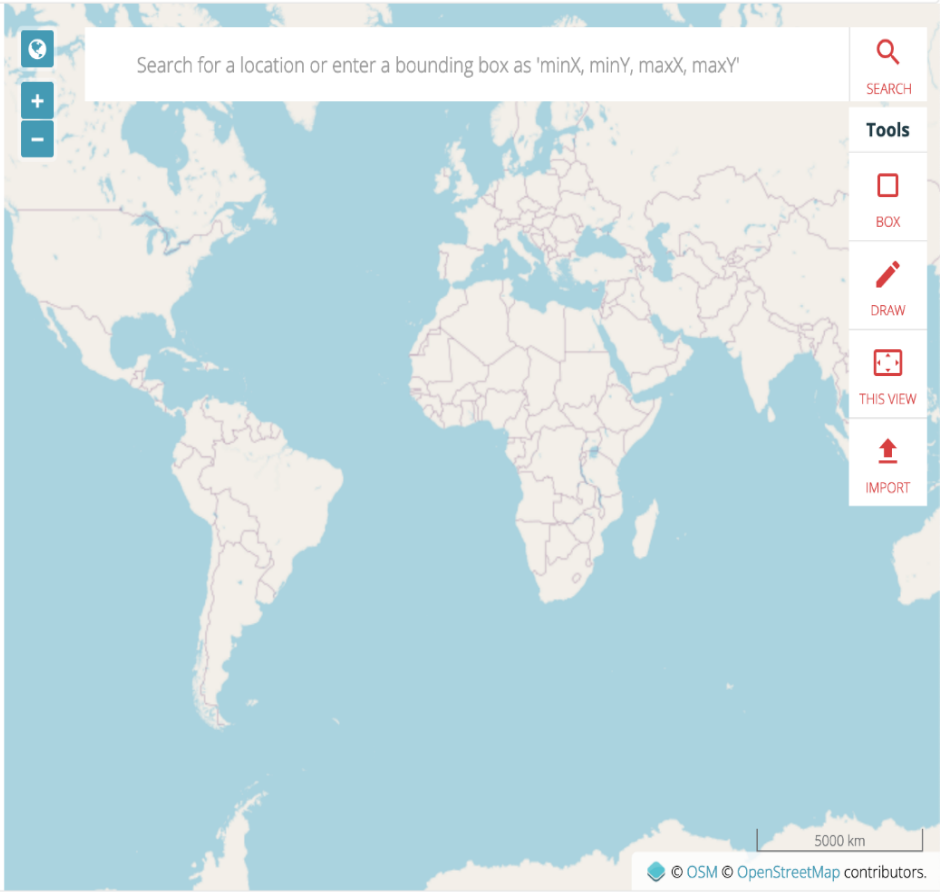
Description

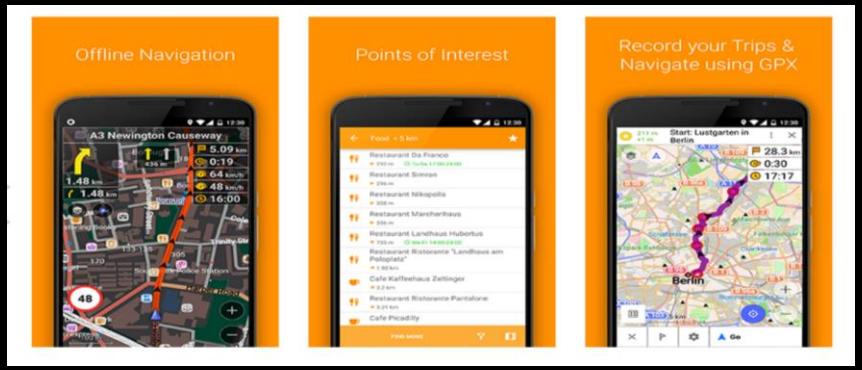
Project

Which project activation this export relates to

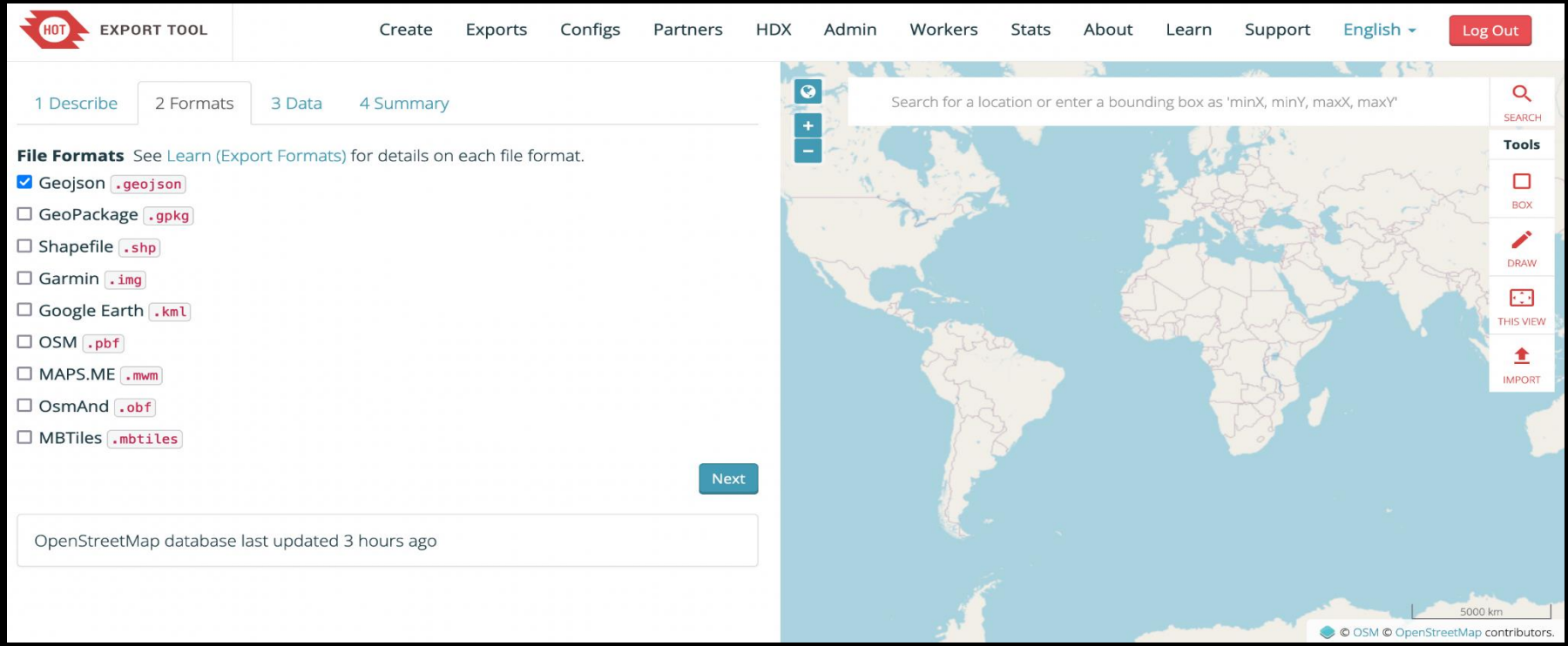
Next

OpenStreetMap database last updated 3 hours ago

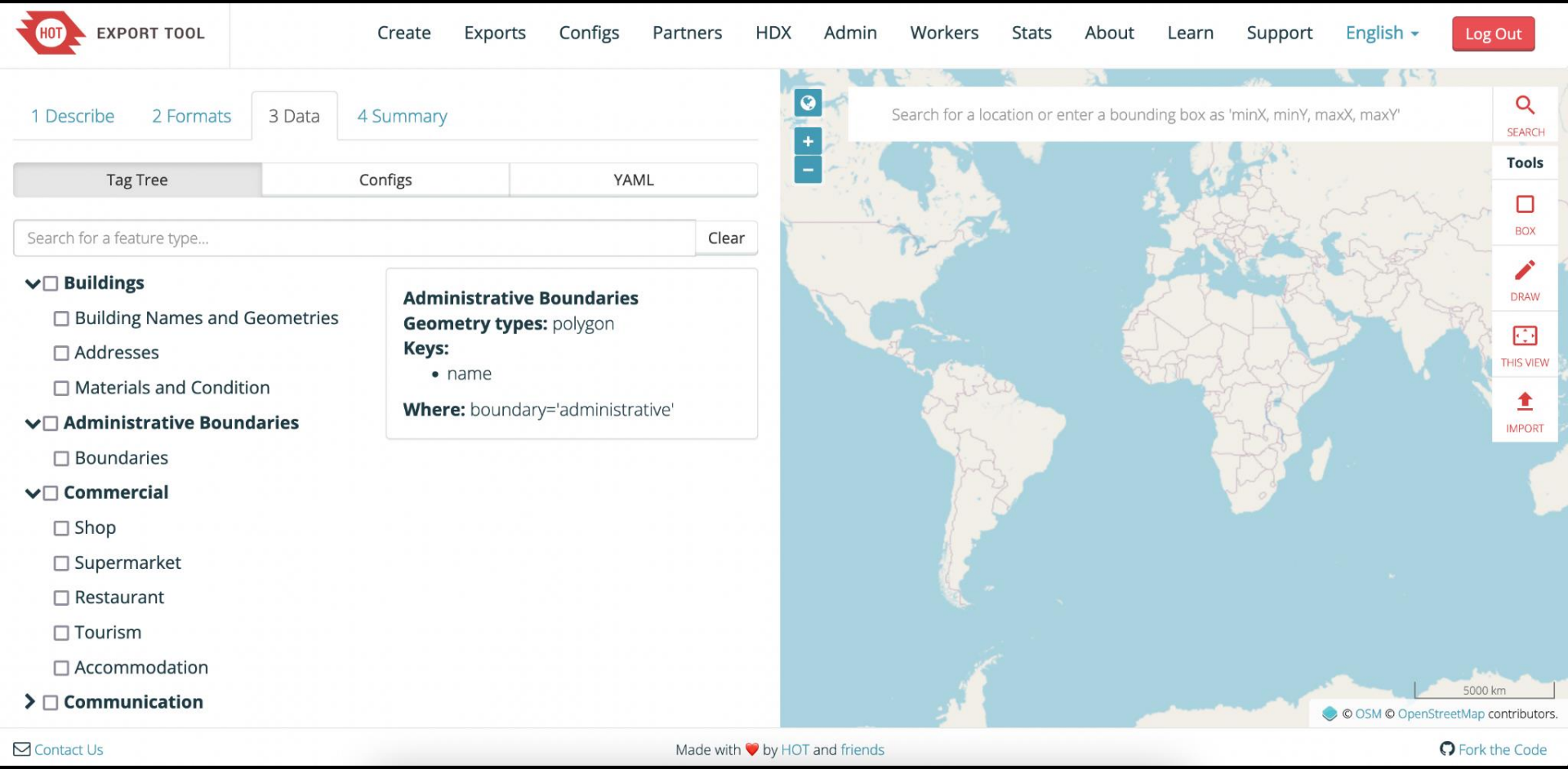




OSM data in different file formats



OSM data in different file formats


EXPORT TOOL
Create
Exports
Configs
Partners
HDX
Admin
Workers
Stats
About
Learn
Support
English
Log Out
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'
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.
Contact Us
Made with ❤ by HOT and friends
Fork the Code

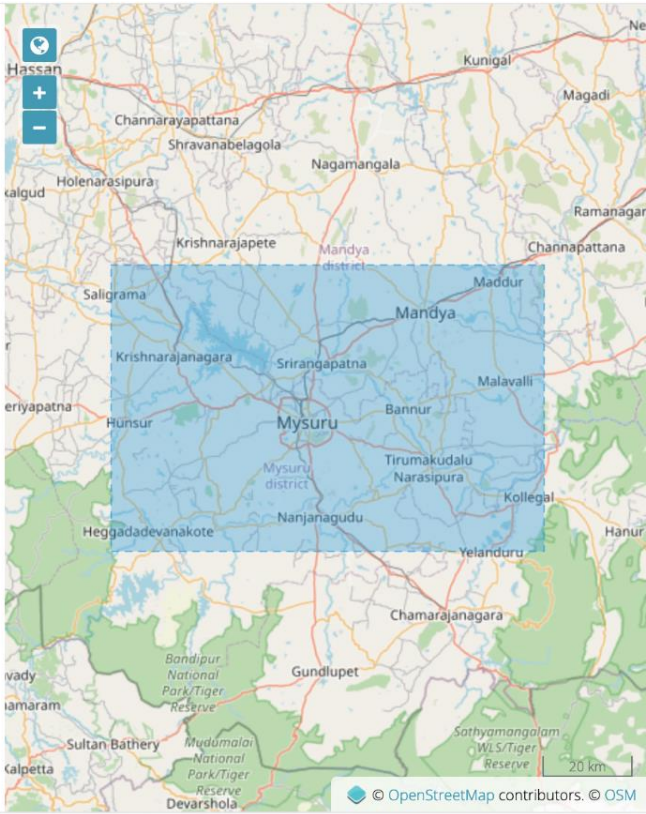
South India Boundaries

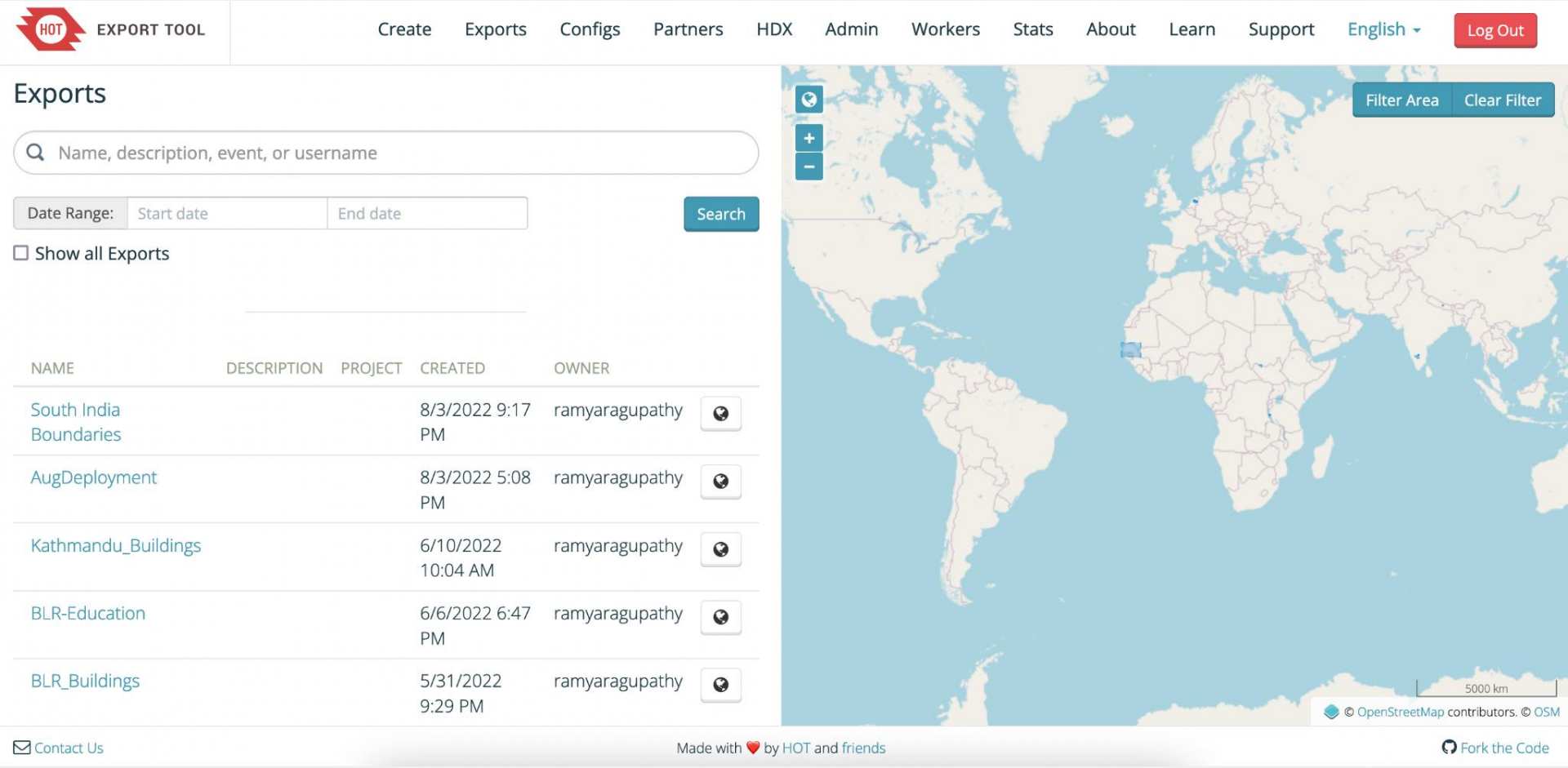
Description:	
Id:	32a0267c-b224-4607-8310-c2973a47e4ef
Project:	
Area:	6095 sq km
Created at:	Wednesday, August 3rd 2022, 9:17 pm
Created by:	ramyaragupathy
Published:	Yes
Export formats:	Geojson `.geojson`
OSM Analytics:	View this area

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 `.geojson`	South-India-Boundaries_GeoJSON.zip (0 B)




EXPORT TOOL
Create
Exports
Configs
Partners
HDX
Admin
Workers
Stats
About
Learn
Support
English
Log Out
Exports
Name, description, event, or username
Date Range:
Start date
End date
Search
Show all Exports
NAME
DESCRIPTION
PROJECT
CREATED
OWNER
South India Boundaries
8/3/2022 9:17 PM
ramyaragupathy
AugDeployment
8/3/2022 5:08 PM
ramyaragupathy
Kathmandu_Buildings
6/10/2022 10:04 AM
ramyaragupathy
BLR-Education
6/6/2022 6:47 PM
ramyaragupathy
BLR_Buildings
5/31/2022 9:29 PM
ramyaragupathy
Filter Area
Clear Filter
5000 km
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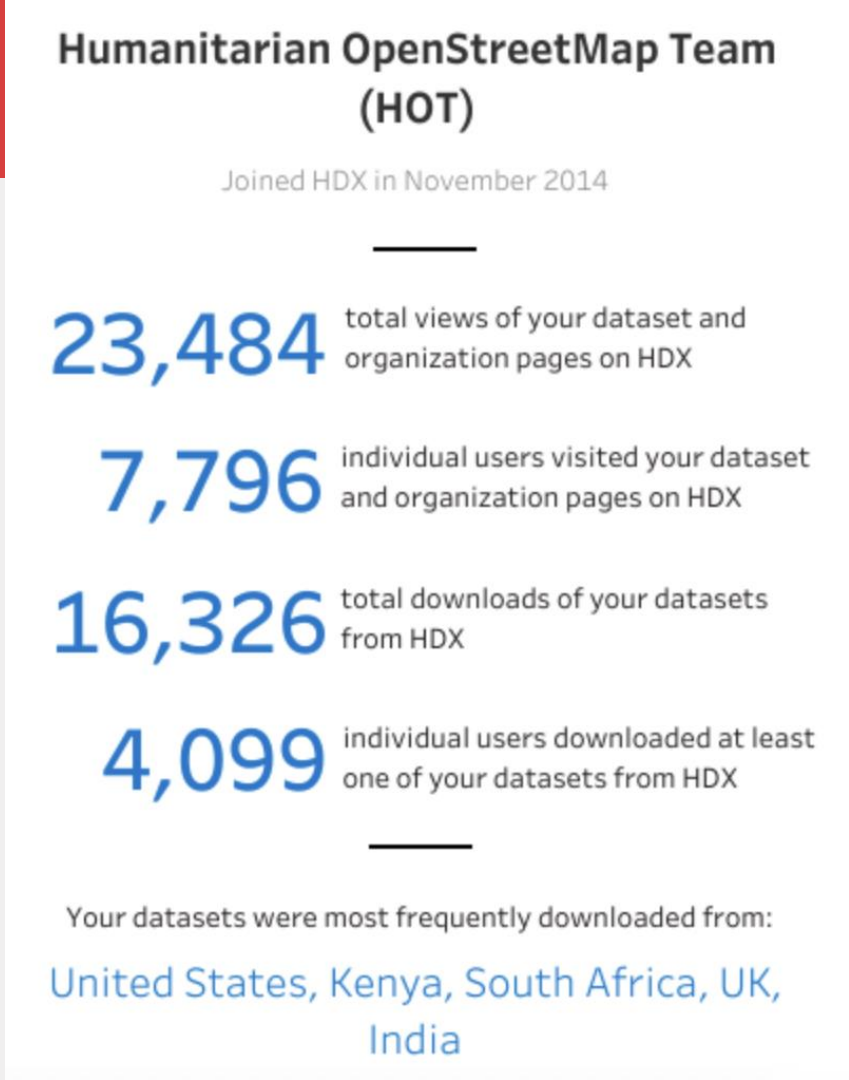
Contact Us
Made with ❤ by HOT and friends
Fork the Code

Export Tool & HDX

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

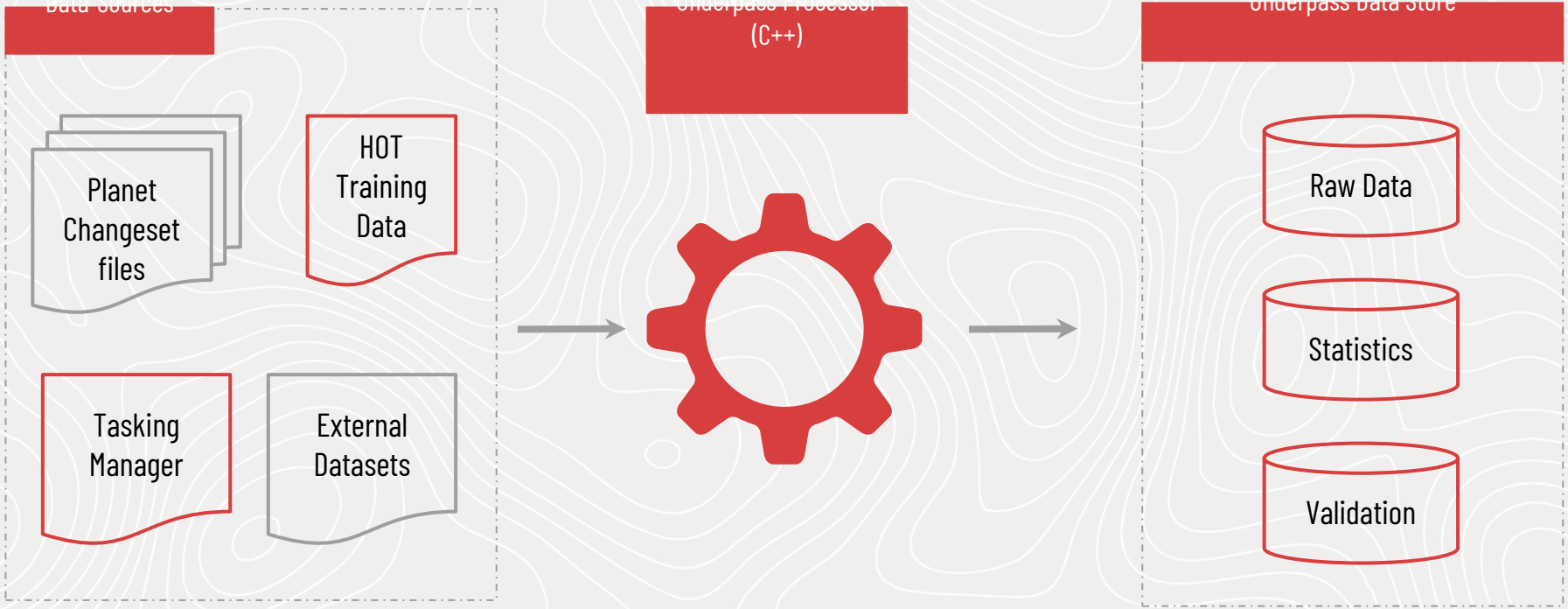


Underpass

Underpass is a C++ processing script that helps in maintaining a custom OSM copy.

https://github.com/hotosm/underpass

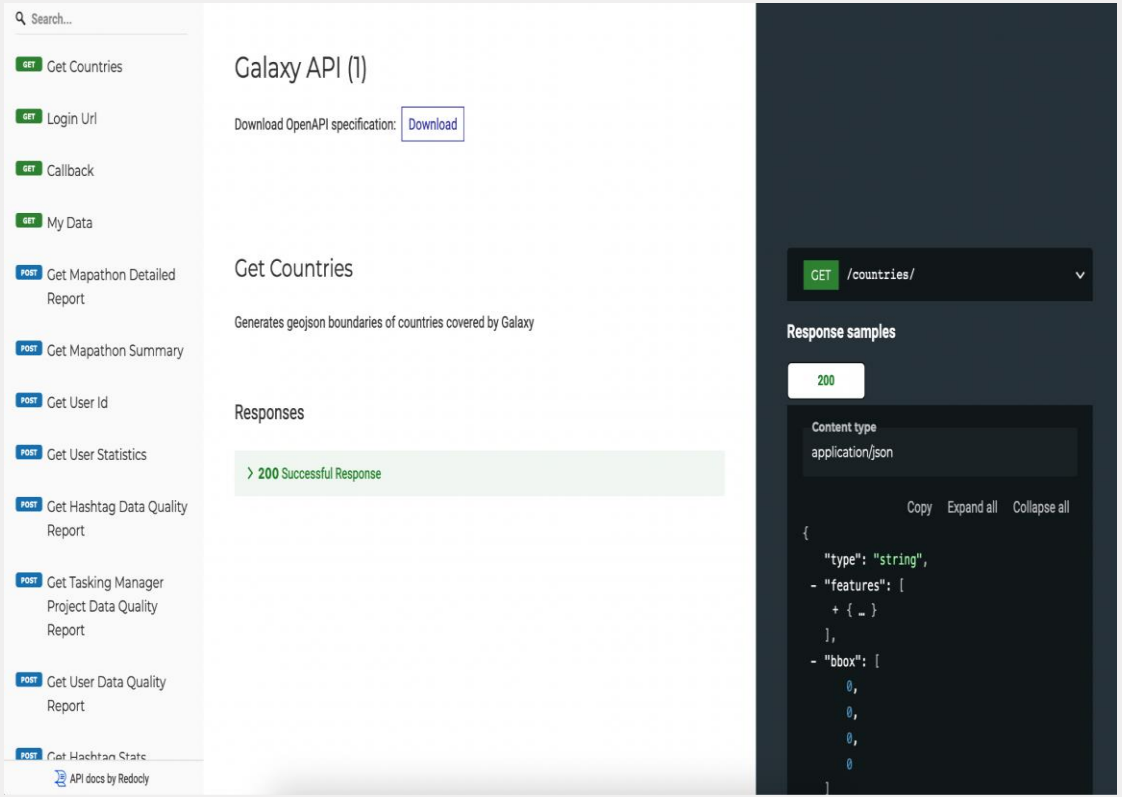
Underpass


Data Sources
Planet Changeset files
HOT Training Data
Tasking Manager
External Datasets
Underpass Processor (C++)
Underpass Data Store
Raw Data
Statistics
Validation

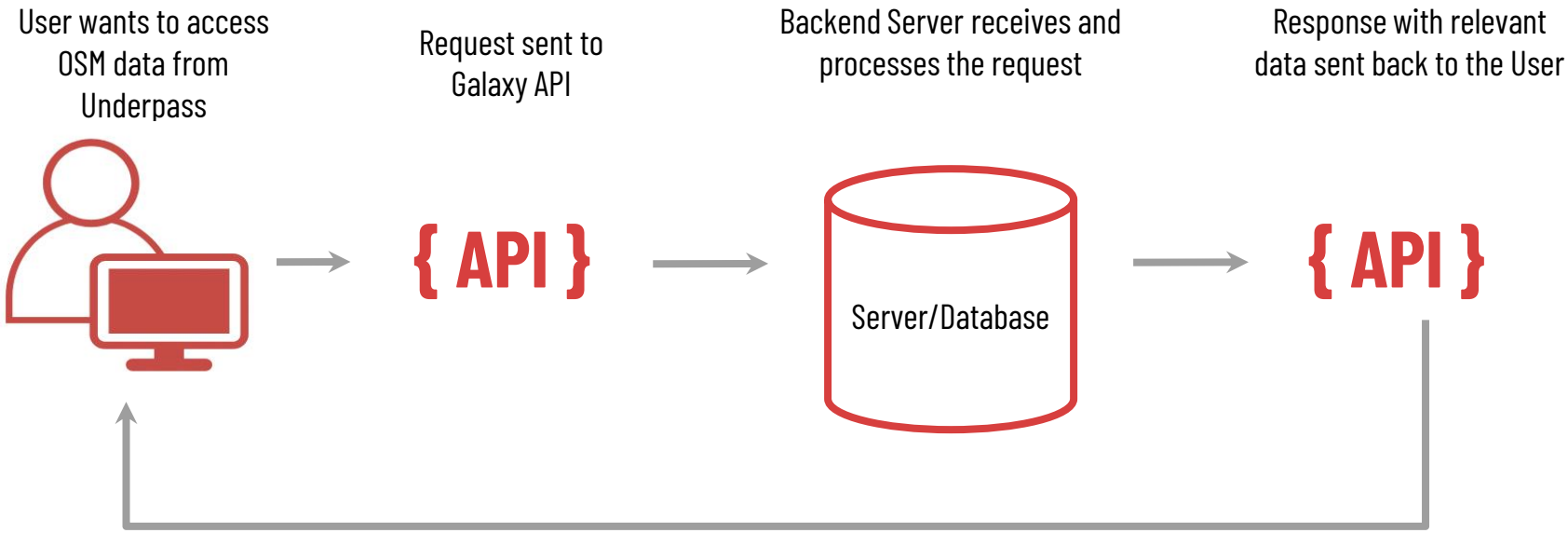
Galaxy API

Galaxy API helps in data retrieval from Underpass data source

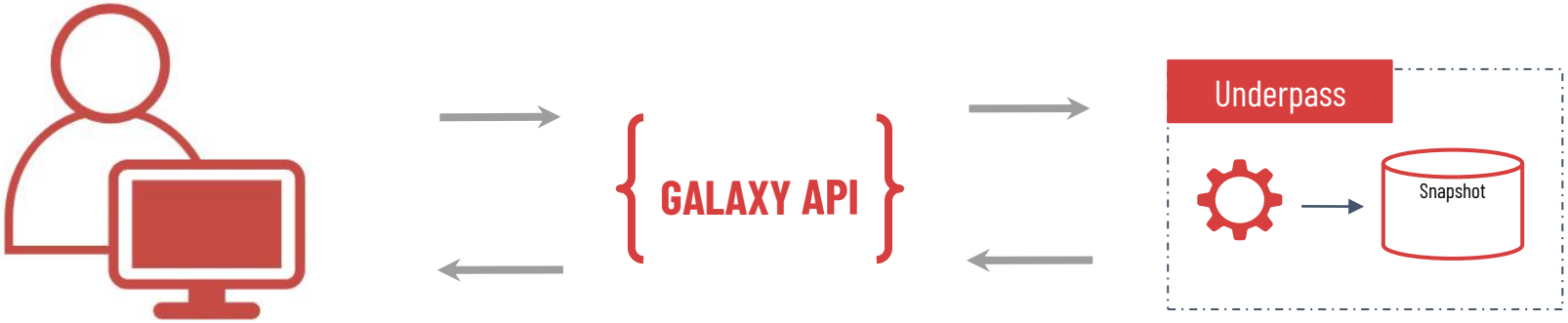
https://github.com/hotosm/galaxy-api

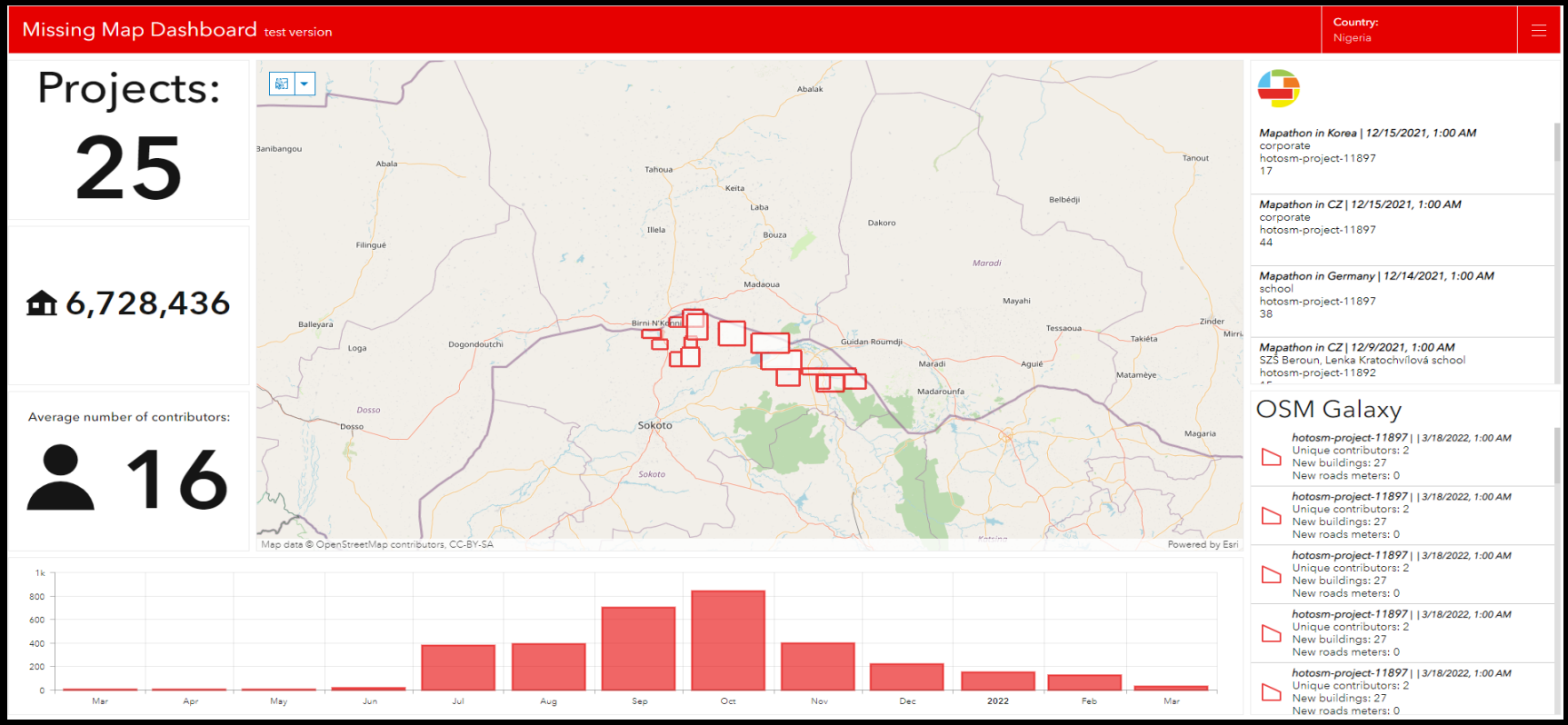


Application Programming Interface (API)



Visualising Data with Galaxy API





MSF Visualising Underpass data with Galaxy API

OpenAerialMap

Create capacity for damage assessments and up to date maps

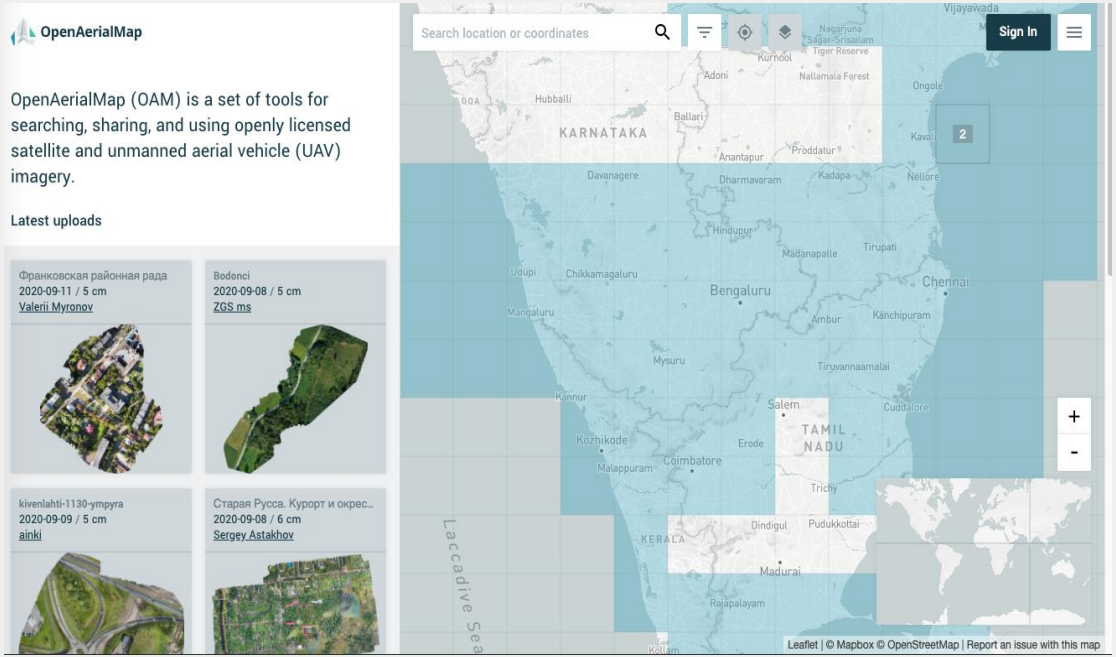
OpenAerialMap (OAM)

OAM is distributed catalogue and hosting service of imagery.

https://openaerialmap.org/

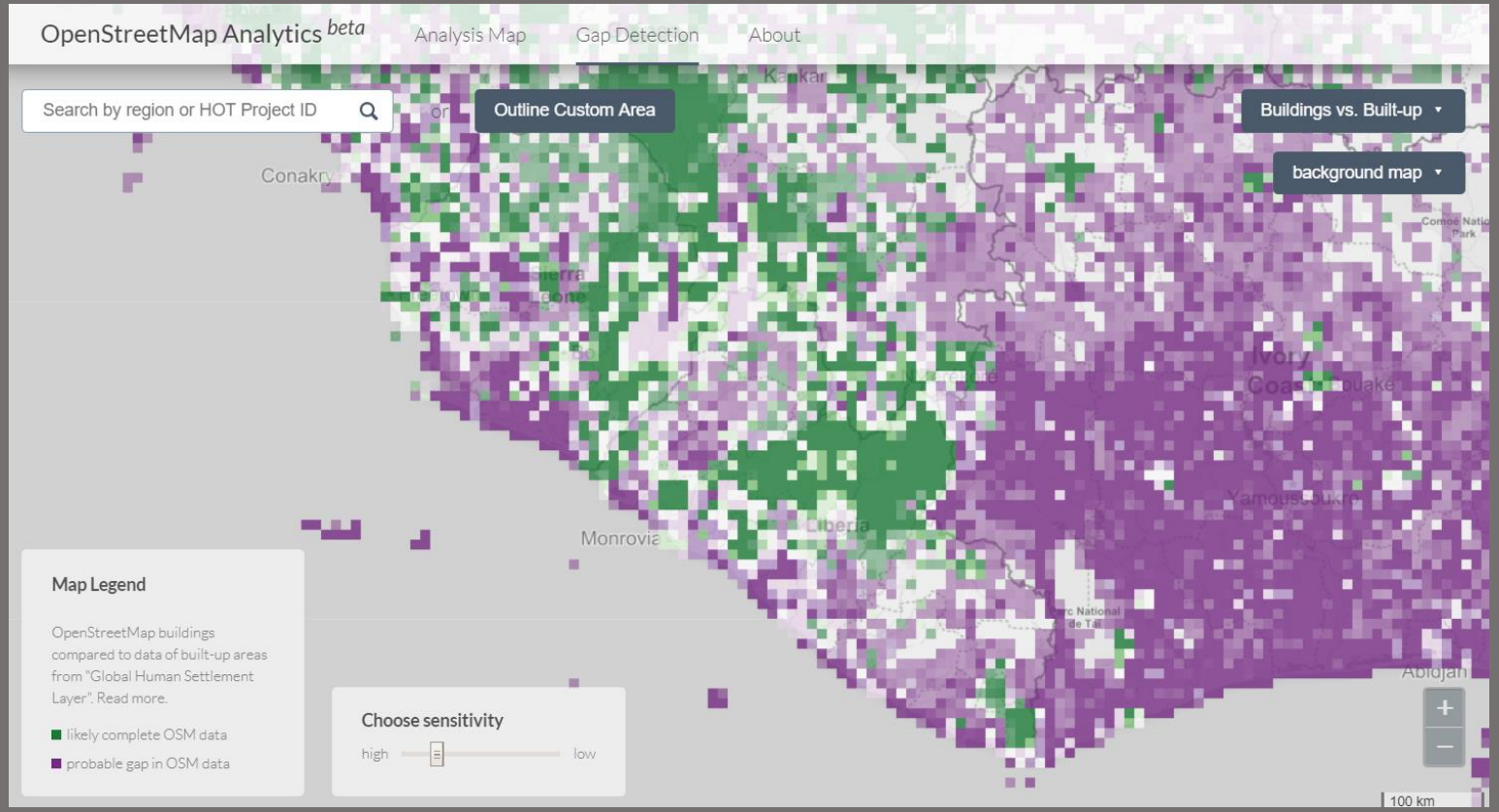
A user will be able to go to OAM and search to see what free imagery is available in the area they are interested in.

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



OSM Analytics

Coverage & Gap Detection

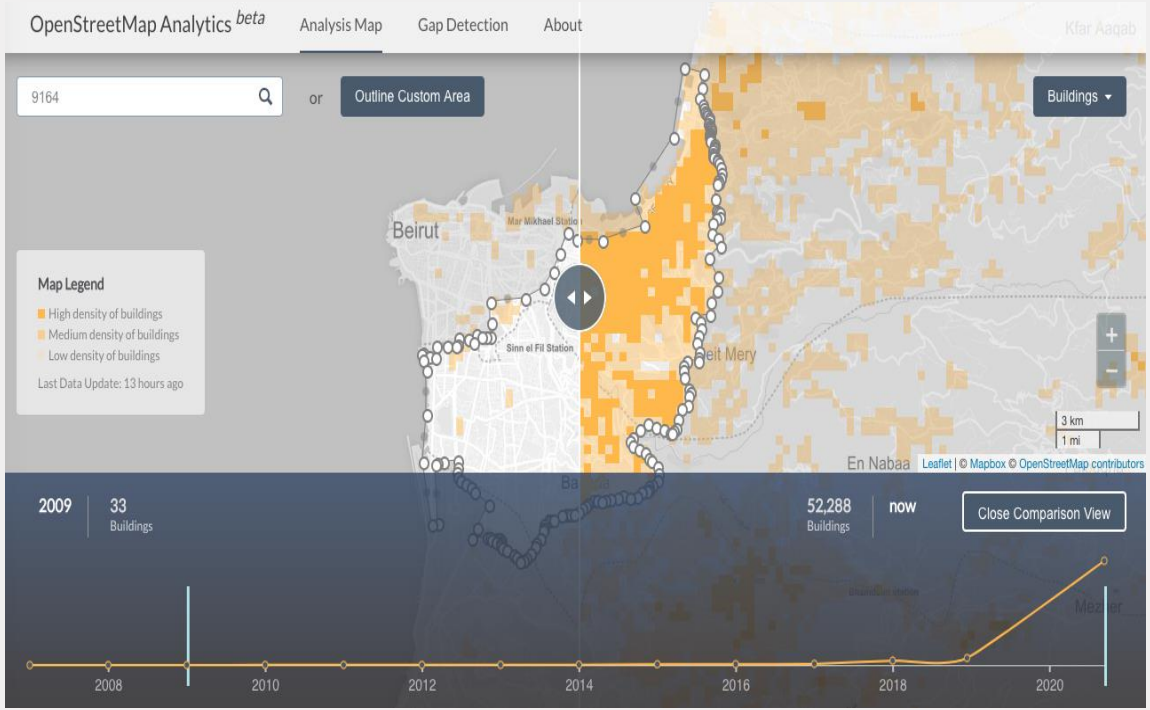


OSM Analytics

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

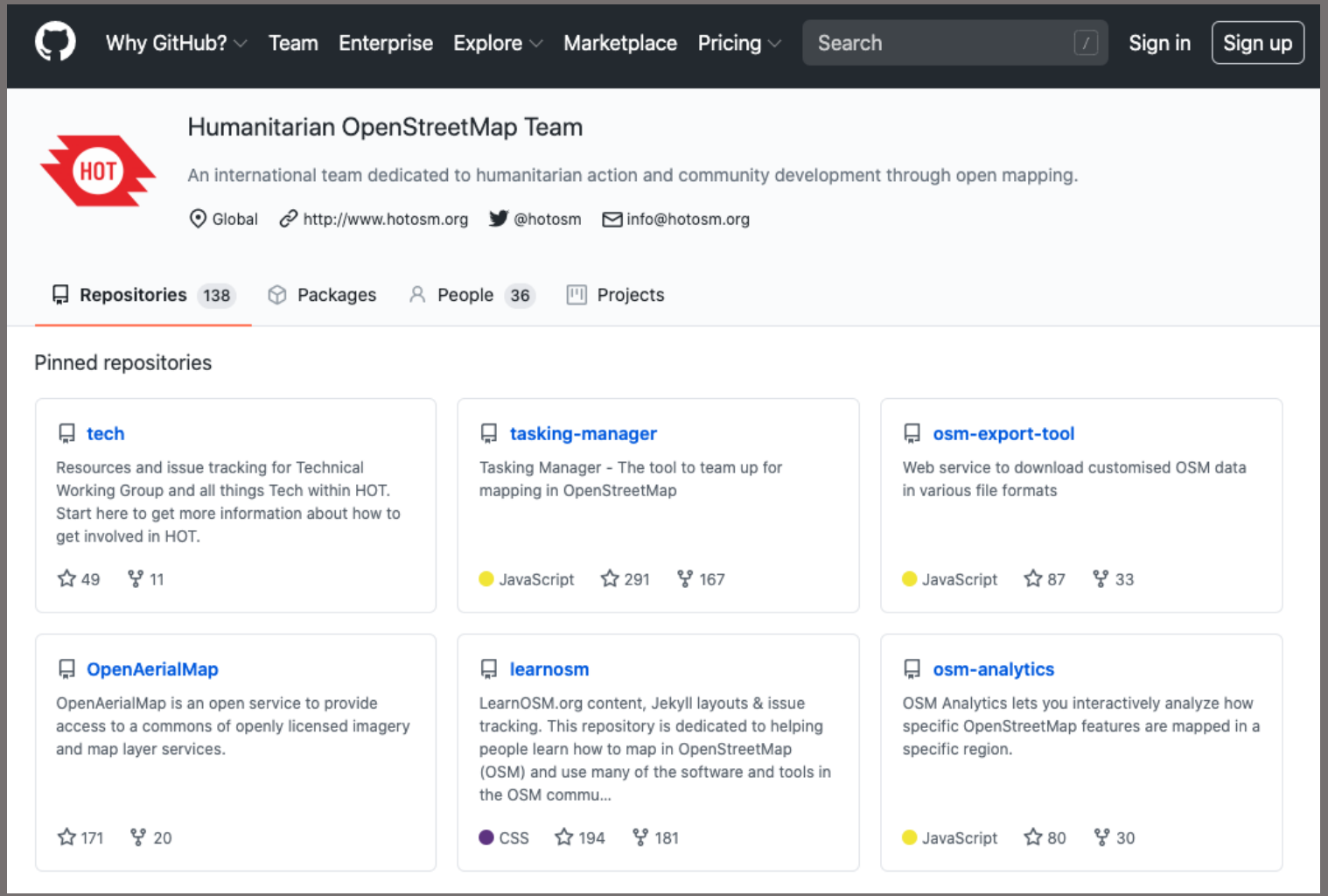
Lets you explore the entire OSM, from global to local scale and understand how the data was created over a time period.

https://osm-analytics.org/



Open Source

All our code is open on GitHub



Diversity

Internship programs

Reach out to us

tech@hotosm.org