



# OpenAerialMap Tools and Community





Humanitarian  
OpenStreetMap  
Team



developmentSEED



azavea

**Stamen**



What is OAM?

Why does it matter?

Demo !



















HARD TO STORE  
HARD TO PUBLISH  
HARD TO FIND









## The open collection of aerial imagery.

OpenAerialMap is an open service to provide access to a commons of openly licensed imagery and map layer services. Download or contribute imagery to the growing commons of openly licensed imagery.

[Start Exploring](#)

**2,895**

Images

**14**

Sensors

**19**

Providers





# OpenAerialMap

**A distributed commons for sharing aerial imagery.**

OpenAerialMap is a set of tools for searching, sharing, and using open satellite and drone imagery.

**[www.openaerialmap.org](http://www.openaerialmap.org)**



**Browse**

Search and Find



**API**

Access the Data



**Upload**

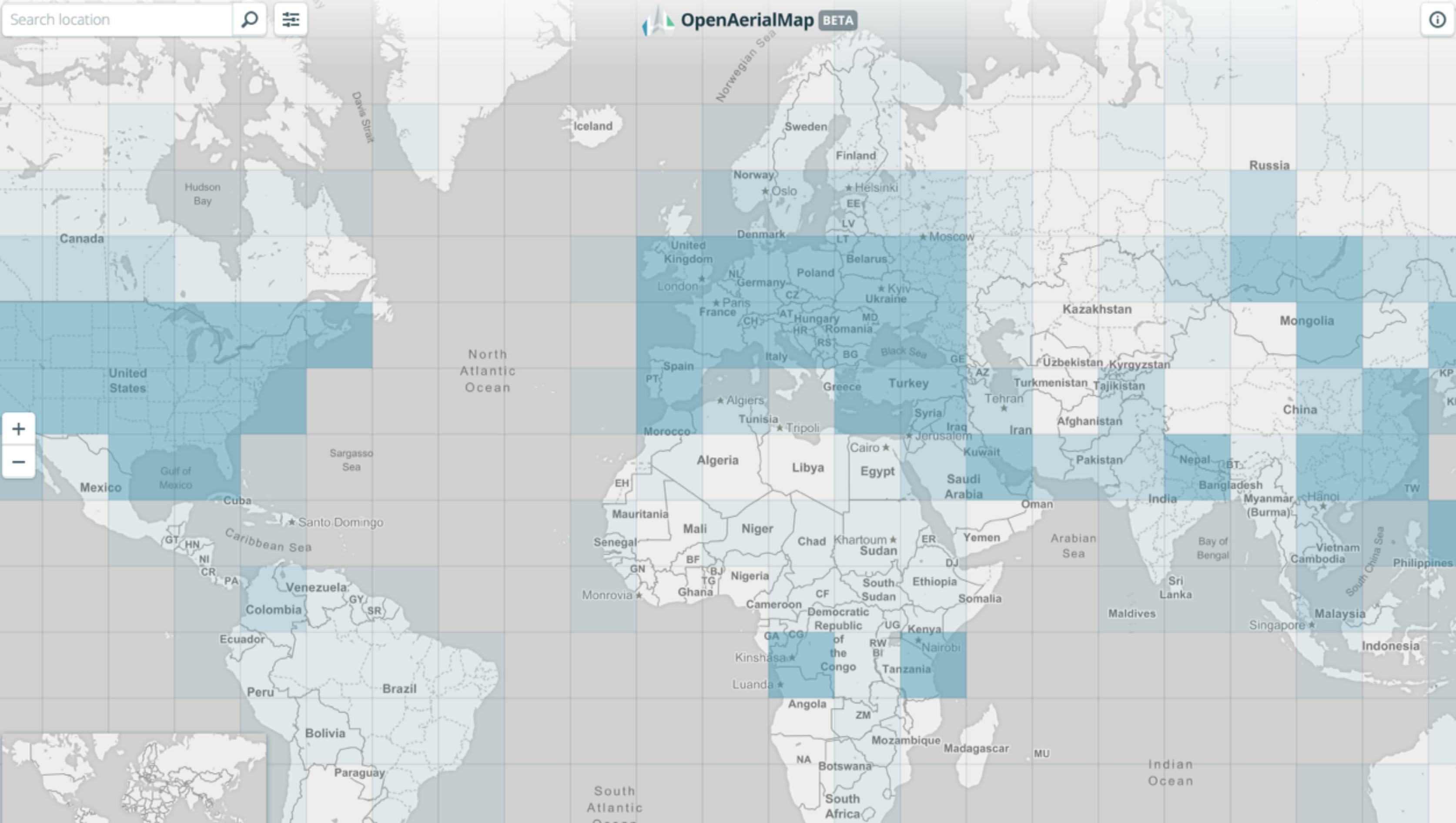
Contribute imagery





# THE BROWSER





Search location



OpenAerialMap BETA





Search location



TIME

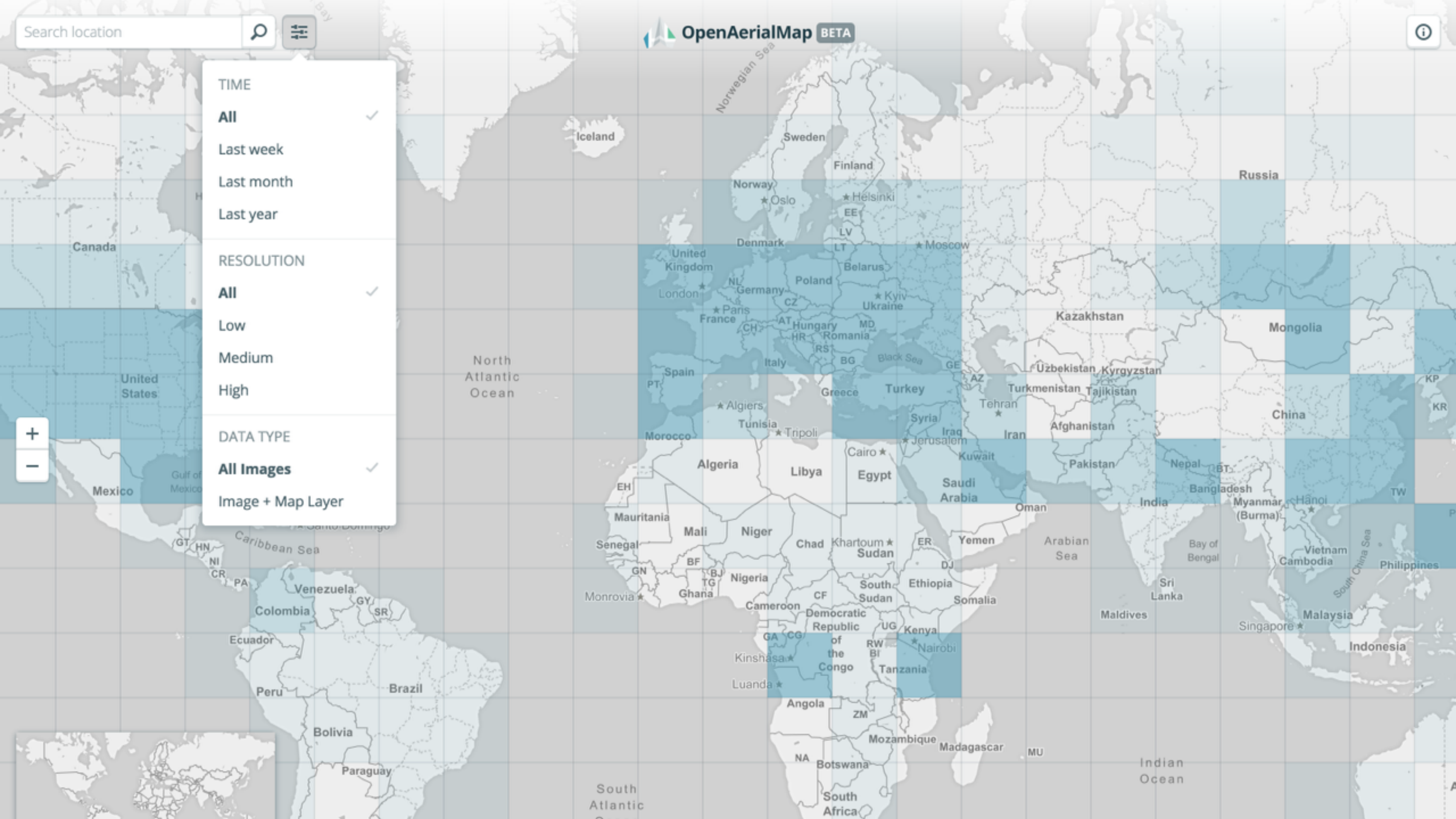
- All ✓
- Last week
- Last month
- Last year

RESOLUTION

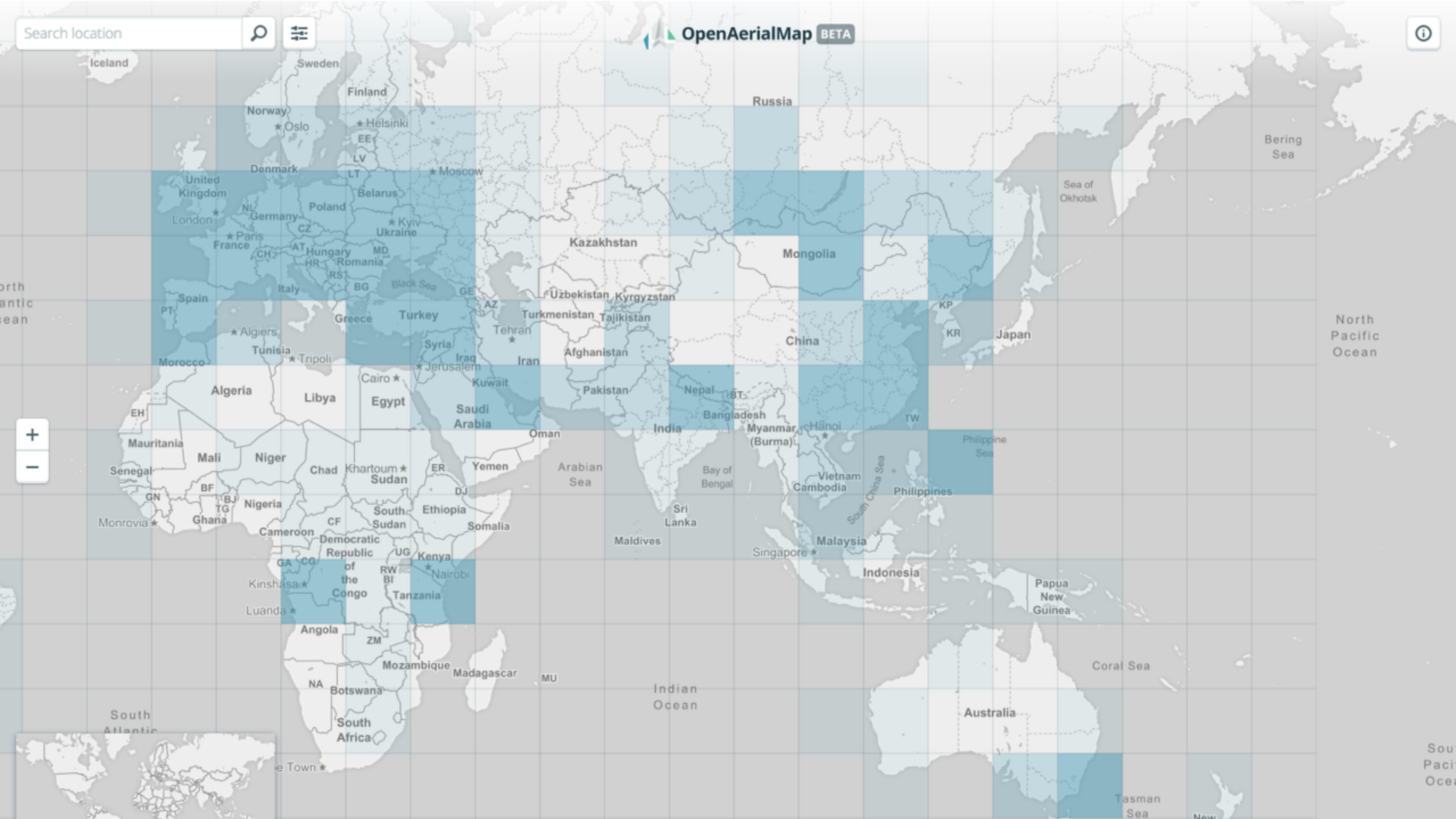
- All ✓
- Low
- Medium
- High

DATA TYPE

- All Images ✓
- Image + Map Layer

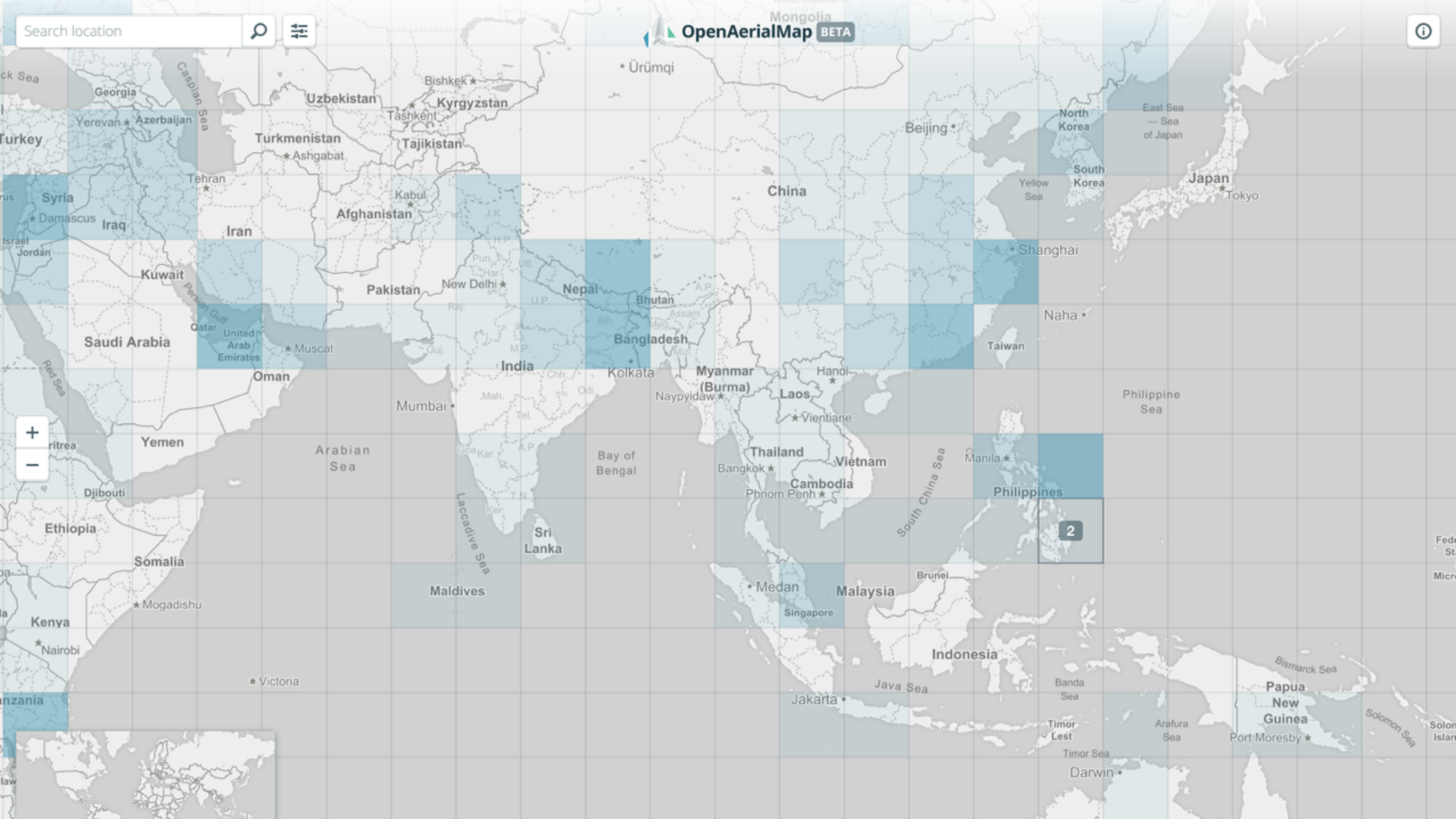








Search location

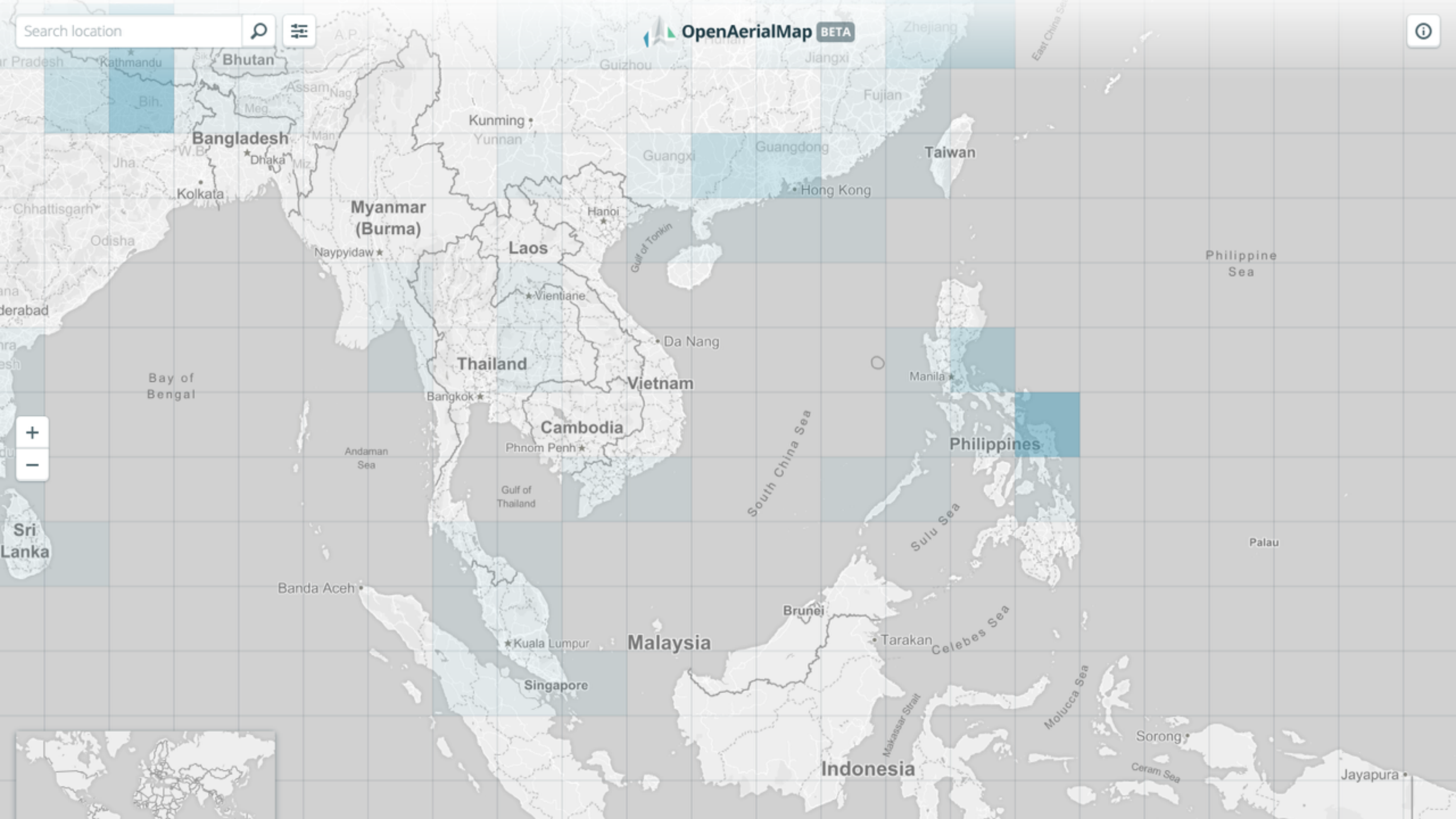




Search location

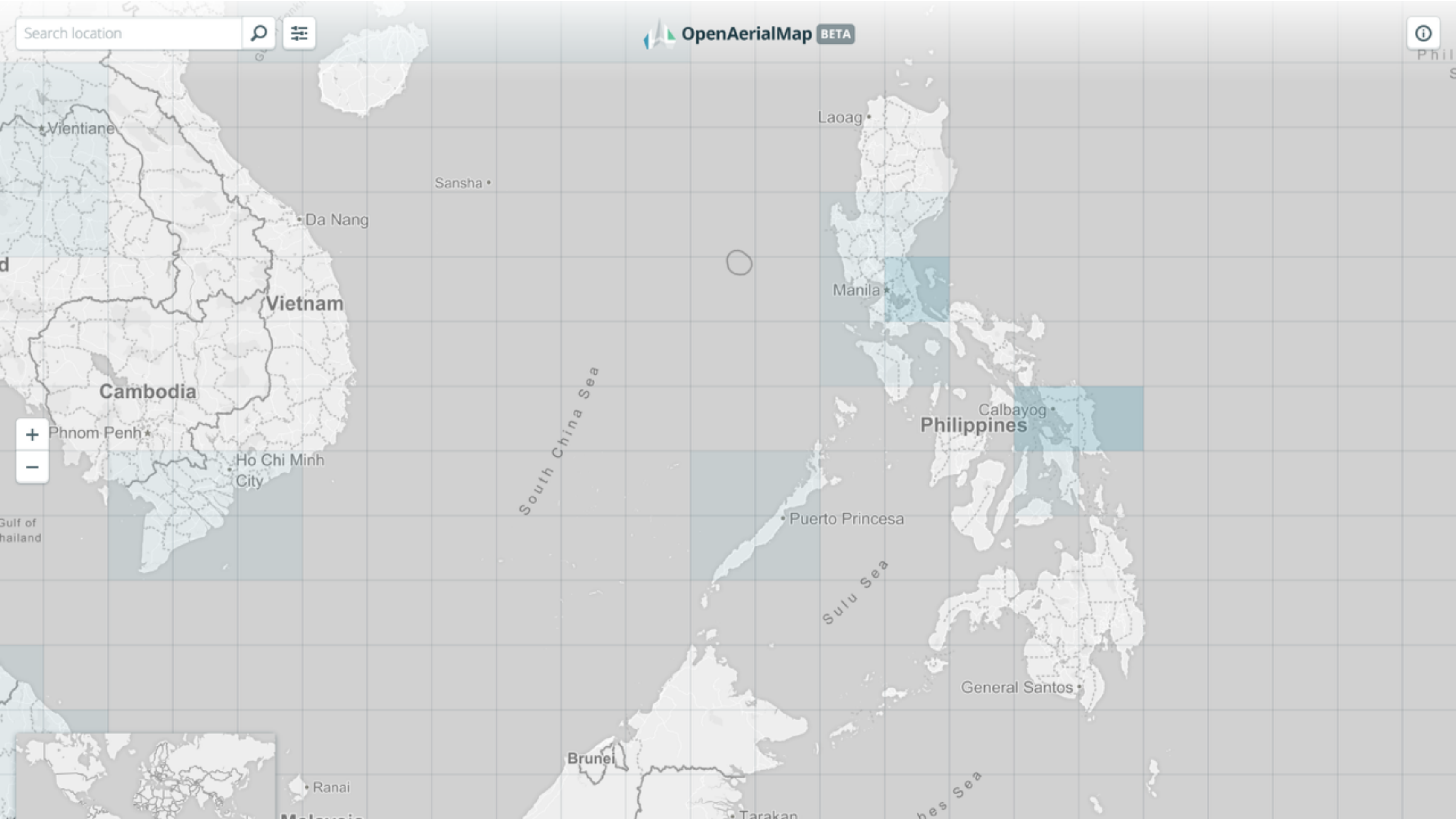


OpenAerialMap BETA





Search location



Gulf of Thailand



Ranai  
Malaysia

South China Sea

Sulu Sea

Celebes Sea



Search location



Manila

Mt. Iglit-Baco National Park

Legazpi

Calbayog

Borongan

Philippines

Malampaya Sound Protected Landscape and Seascape

Puerto Princesa

Siargao Island Protected Landscape and Seascape

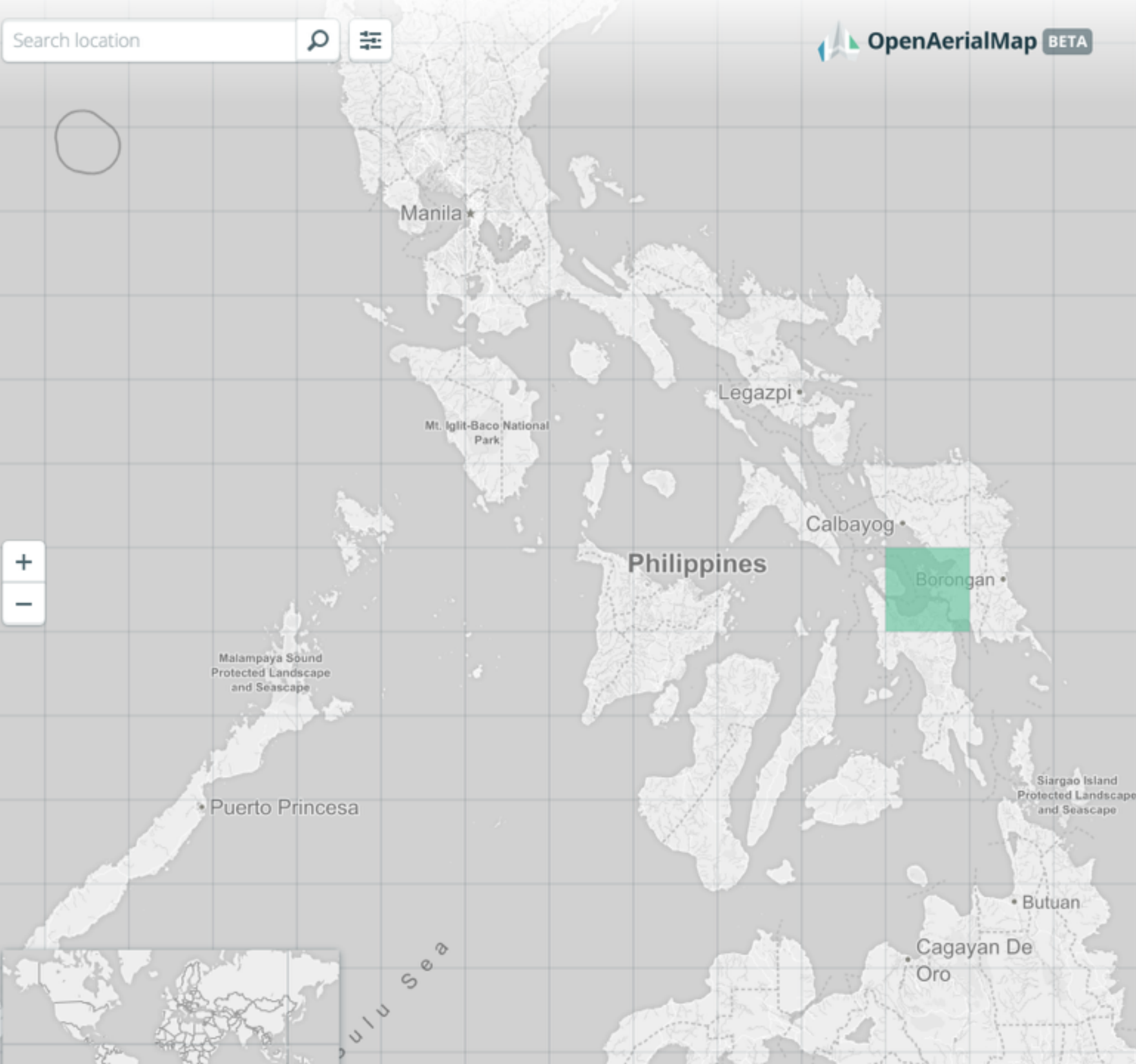
Butuan

Cagayan De Oro

Sulu Sea



Search location



### Available Imagery



9 results



TYPE Image  
DATE 2013-11-15  
RES 0 cm



TYPE Image  
DATE 2013-11-15  
RES 0 cm



TYPE Image  
DATE 2013-11-15  
RES 0 cm



TYPE Image  
DATE 2013-11-15  
RES 0 cm



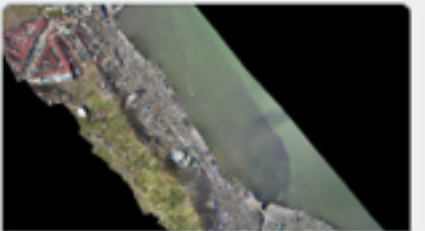
TYPE Image  
DATE 2013-11-15  
RES 0 cm



TYPE Image  
DATE 2013-11-15  
RES 0 cm



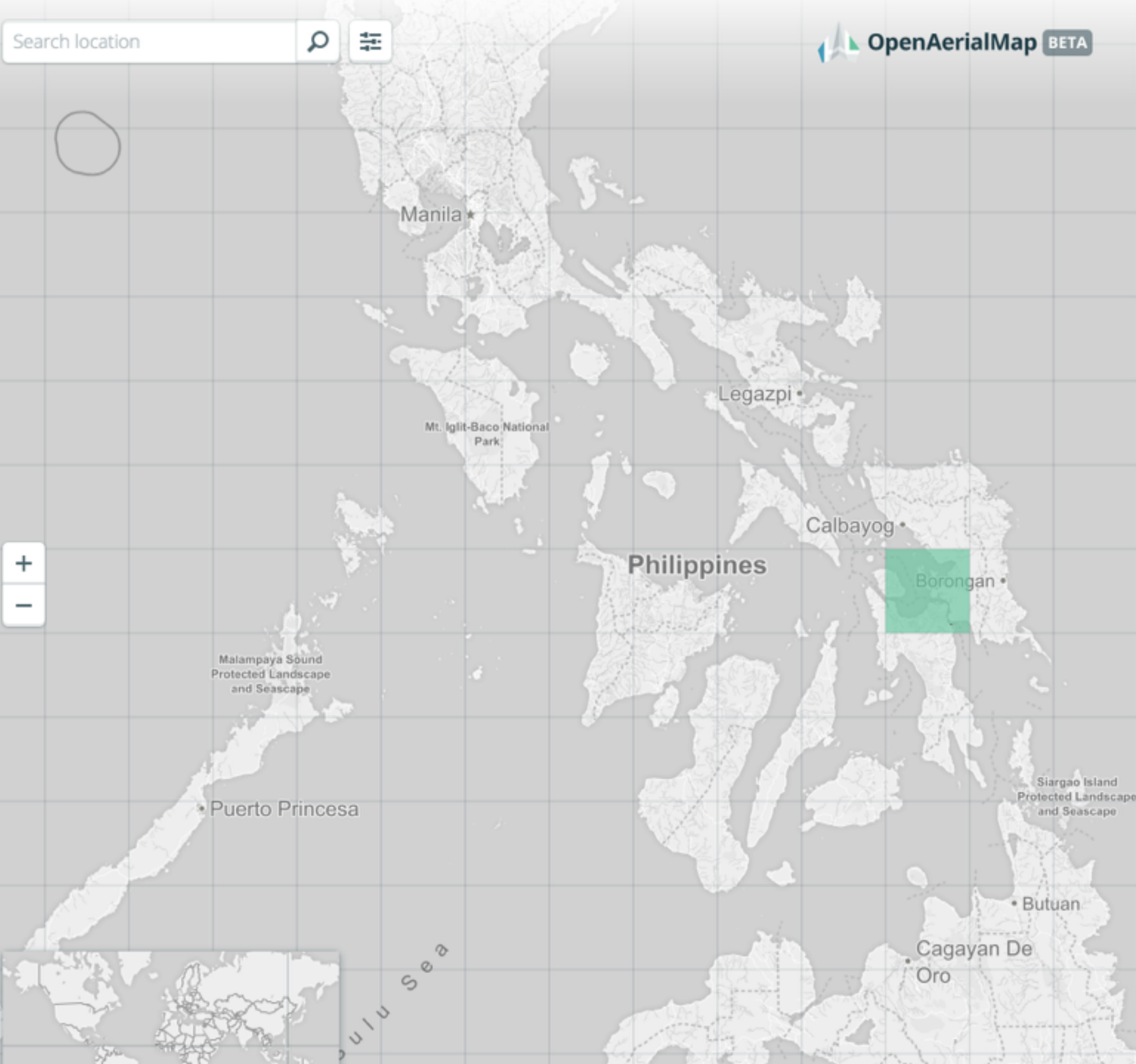
TYPE Image  
DATE 2013-11-15  
RES 0 cm



TYPE Image  
DATE 2013-11-15  
RES 0 cm



Search location



### tacloban\_part\_2



1 of 9 results



Download

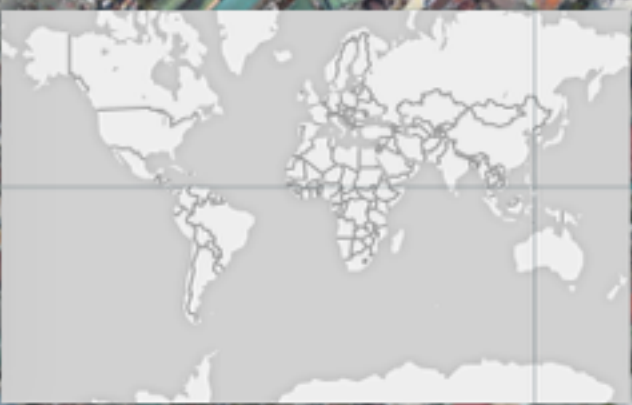
DATE	2013-11-15
RESOLUTION	0 cm
TYPE	Image
IMAGE SIZE	381.99 MB
PLATFORM	UAV
SENSOR	Not Available
PROVIDER	COREPHIL Data Services



Search location



OpenAerialMap BETA



## tacloban\_part\_2



1 of 5 results



 Download

DATE	2013-11-15
RESOLUTION	0 cm
TYPE	Image
IMAGE SIZE	381.99 MB
PLATFORM	UAV
SENSOR	Not Available
PROVIDER	COREPHIL Data Services

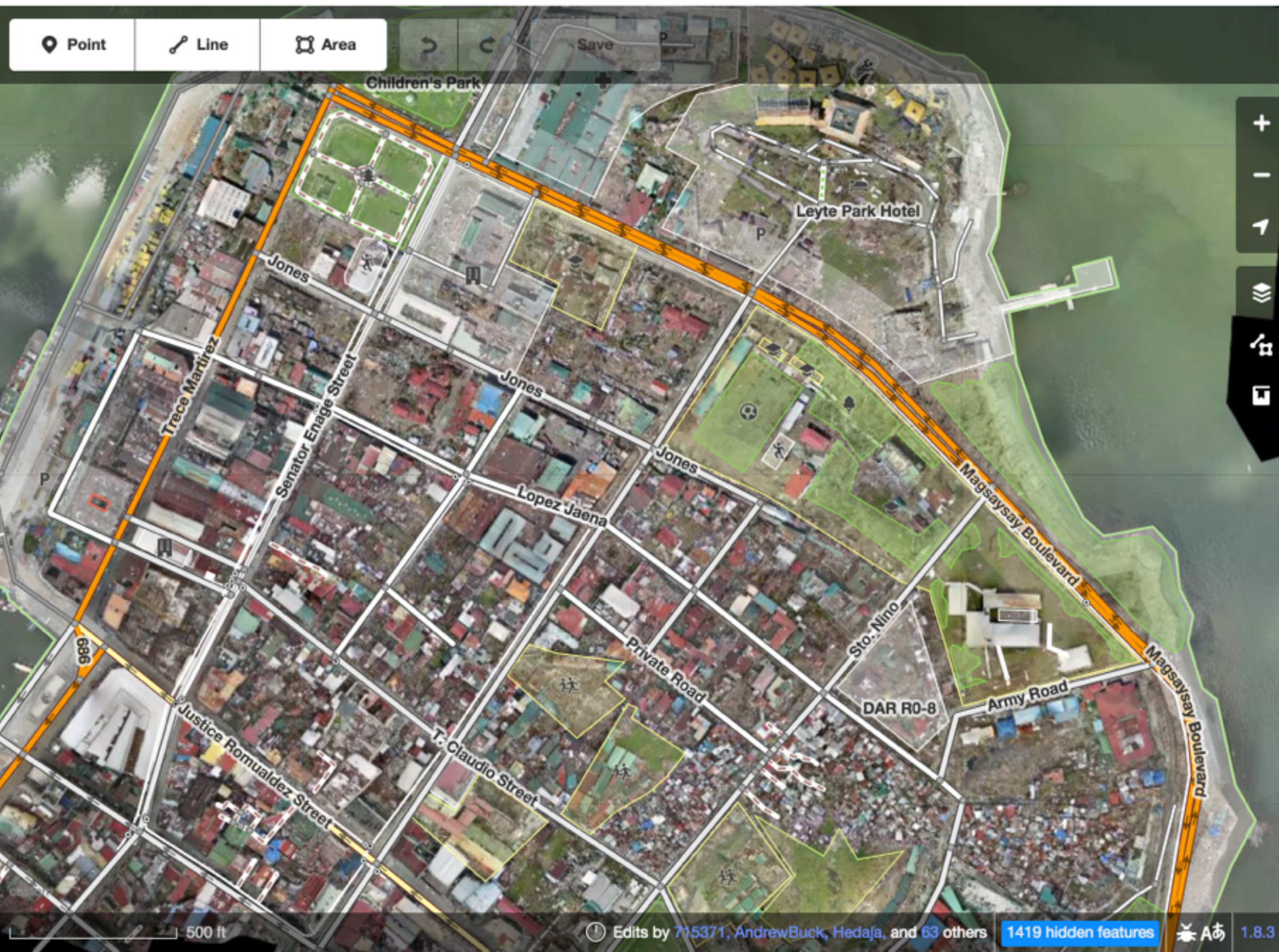






Search features

Search



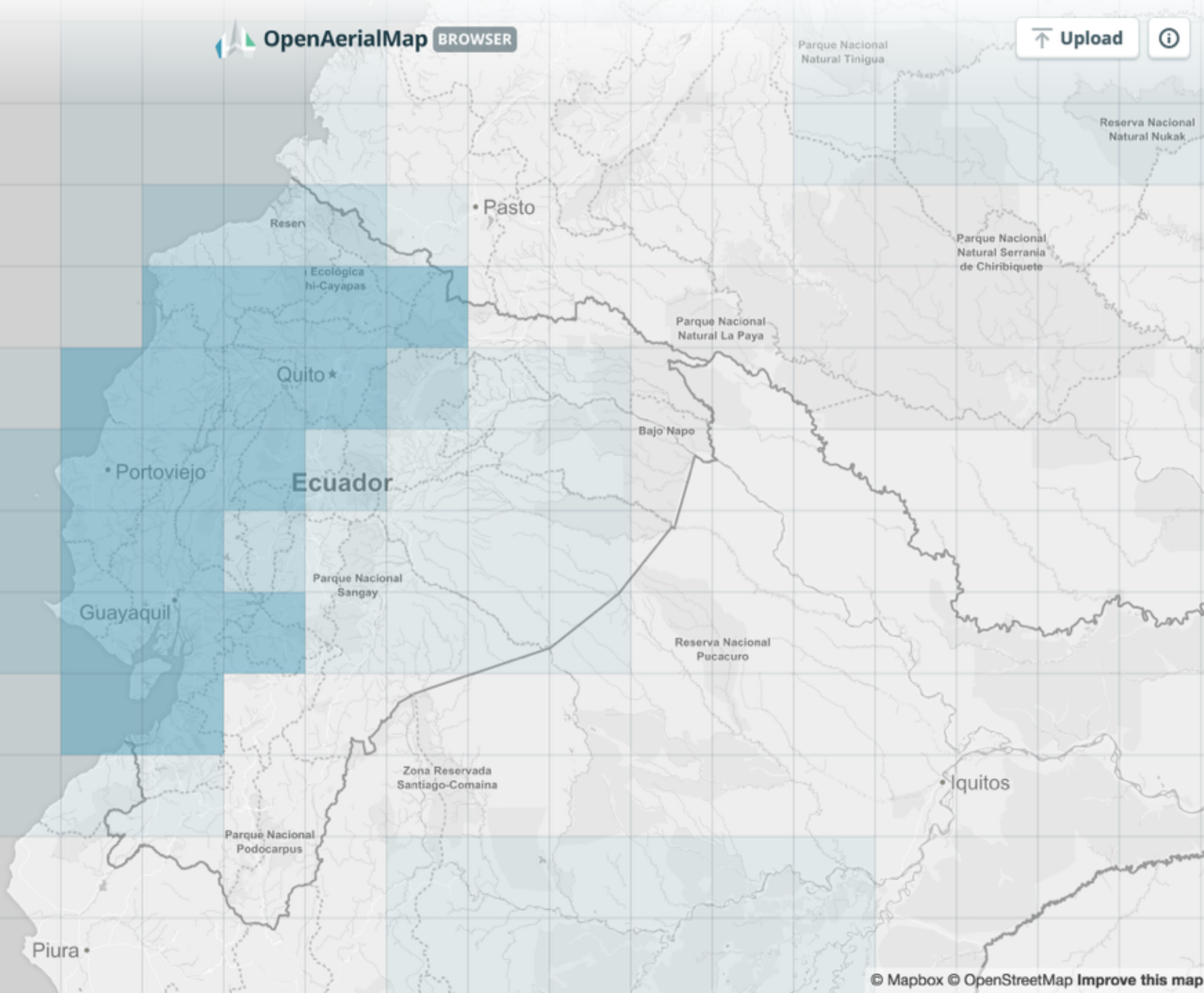


Search location



OpenAerialMap BROWSER

Upload





Search location



OpenAerialMap

BROWSER

Reserva Ecológica  
Cotacachi-Cayapas



Upload



Parque Nacional  
Natural La Paya

• Nueva Loja

Reserva Ecológica  
Cayambe-Coca

Quito ★

Parque Nacional  
Cotopaxi

• Tena

Bajo Napo

Parque Nacional  
Yasuni

• Portoviejo

Riobamba •

Parque Nacional  
Sangay

Reserva de Producción  
de Fauna Puntilla  
de Santa Elena

Guayaquil

Reserva Nacional  
Pucacuro

Cuenca •





Search location



OpenAerialMap

BROWSER



Upload



Quito

Cantón Santo Domingo de los Colorados

Parque Nacional Cotopaxi

Latacunga

Quevedo

Portoviejo

Manta

Parque Nacional Machalilla

Abras de Mantequilla

Reserva de Producción Faunística Chimborazo

Caluma

Riobamba





Search location



OpenAerialMap BROWSER

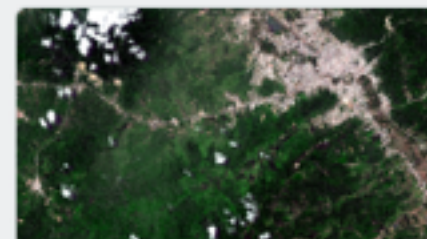
Upload



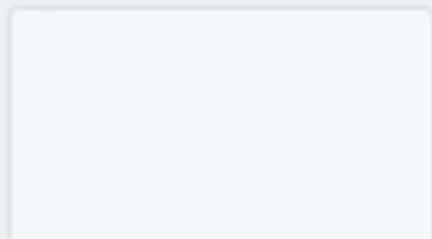
## Available Imagery



12 results



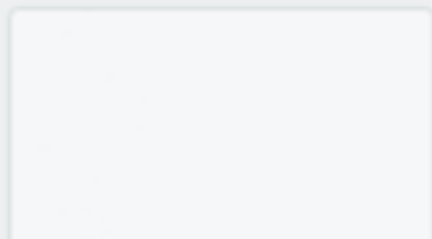
TYPE Image + Map Layer  
DATE 2016-04-19  
RES 0 cm



TYPE Image  
DATE 2016-04-19  
RES 0 cm



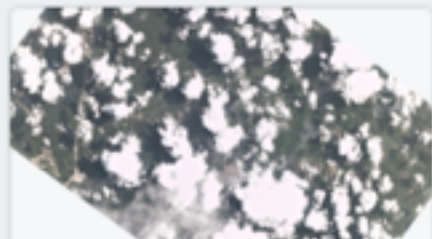
TYPE Image + Map Layer  
DATE 2016-04-19  
RES 0 cm



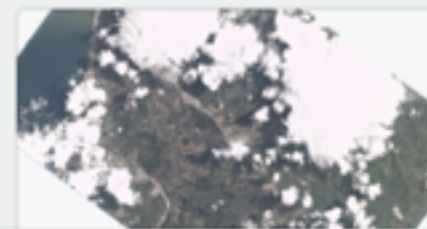
TYPE Image  
DATE 2016-04-19  
RES 0 cm



TYPE Image  
DATE 2016-04-18  
RES 3 m



TYPE Image  
DATE 2016-04-18  
RES 3 m





Search location



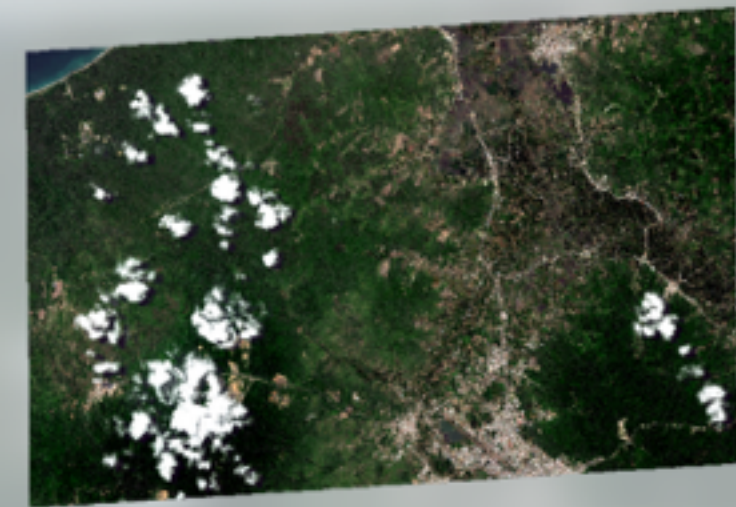
OpenAerialMap BROWSER

Upload



16APR19153535-PS8b-055228871010\_01... X

3 of 12 results



<http://oam-tiles.s3.amazonaws.com>



Download

DATE 2016-04-19

RESOLUTION 0 cm

TYPE Image + Map Layer

IMAGE SIZE 2.62 GB

PLATFORM Satellite

SENSOR GE-01

PROVIDER DigitalGlobe





# THE API



## GETTING STARTED

### META

[Add an image metadata](#)

[Get an image's metadata](#)

[List all images' metadata](#)

### TMS

[Add a TMS](#)

[List all TMS endpoints](#)

### ANALYTICS

[Platform metadata](#)

# OpenAerialMap Catalog API

## Getting Started

OpenAerialMap Catalog is an application programming interface (API) that serves metadata about available images and map layers. The API provides access to all imagery metadata information. The API provides endpoints for lists of images available, map layer services available, as well as simple analytics.

More information on [installation and running a stand-alone instance](#) of the API can be found on Github.

See [status.openaerialmap.org](https://status.openaerialmap.org) for more information on system status.

## Meta

### Meta - Add an image metadata

Add an image to the catalog. **This is an authenticated endpoint.**

#### POST

```
https://oam-catalog.herokuapp.com/meta
```

#### Parameter

Field		Type	Description
uuid	optional	string	Location of image.
footprint	optional	string	GeoJSON footprint of image.
bbox	optional	string	Bounding box of image

Success 200



```

{
  - meta: {
    provided_by: "OpenAerialMap",
    license: "CC-BY 4.0",
    website: "http://beta.openaerialmap.org",
    page: 1,
    limit: 100,
    found: 1108
  },
  - results: [
    - {
      _id: "55c3c39a2b67227a79b4f4e2",
      uuid: "http://hotosm-oam.s3.amazonaws.com/tacloban_part_2.tif",
      - geojson: {
        type: "Polygon",
        - coordinates: [
          + [...]
        ],
        - bbox: [
          124.99486944444445,
          11.240333333333332,
          125.01255555555555,
          11.250847222222223
        ]
      },
      meta_uri: "http://hotosm-oam.s3.amazonaws.com/tacloban_part_2.tif_meta.json",
      - properties: {
        thumbnail: "http://hotosm-oam.s3.amazonaws.com/tacloban_part_2.tif.thumb.jpg"
      },
      contact: "Jeremy Heesu Sohn - jeremyheesu@gmail.com",
      provider: "COREPHIL Data Services",
      platform: "UAV",
      acquisition_end: "2013-11-16T00:00:00.000Z",
      acquisition_start: "2013-11-15T00:00:00.000Z",
      file_size: 381991554,
      gsd: 3.3787e-7,
      footprint: "POLYGON((124.99486944444445 11.250847222222223,125.01255555555555 11.250847222222223,125.01255555555555 11.240333333333332,124.99486944444445 11.240333333333332,124.99486944444445 11.250847222222223))",
      projection: "GEOGCS[\"WGS84\",DATUM[\"WGS_1984\",SPHEROID[\"WGS84\",6378137,298.257223563,AUTHORITY[\"EPSG\",\"7030\"]],AUTHORITY[\"EPSG\",\"6326\"]],PRIMEM[\"Greenwich\",0],UNIT[\"degree\",0.0000000911325]]",
      title: "tacloban_part_2.tif",
      __v: 0,
      - bbox: [
        124.99486944444445,
        11.240333333333332,
        125.01255555555555,
        11.250847222222223
      ]
    }
  ]
}

```





# THE UPLOADER



Welcome to the [OpenAerialMap](#) Imagery Uploader.

Use the form below to submit your imagery - a valid upload token is needed. [Read the documentation](#) to learn how to contribute.

[Request a token](#)

Upload

General

Token

Key

Uploader

Name (optional)

Email

Dataset

Title

Dataset title

Platform

☒ Satellite
☐ Aircraft
☐ UAV
☐ Ballon
☐ Kite

Sensor

Type/model (optional)

Type or model of image sensor or camera used (ex: Worldview-3).

Date start

2016-01-06 12:08:01

📅 ⌚

Date end

📅 ⌚

Imagery location

One URL per line

See URL requirements for more details.

Tile service

URL (optional)

Enter a tile URL template. Valid tokens are {z}, {x}, {y} for Z/X/Y, and {u} for quadtile scheme.

Provider

Entity name

Name of company or individual that collected or provided the imagery.

Contact

☒ Same as uploader
☐ Other



Search location



Ulaanbaatar

Zuunmod

аэропорт Налайх

## Ulaanbaatar / Asia Foundation Imagery

2 of 2 results



Download

DATE	2015-03-10
RESOLUTION	9 cm
TYPE	Image
IMAGE SIZE	1.39 GB
PLATFORM	Uav
SENSOR	UAV
PROVIDER	City Of Ulaanbaatar / Asia Foundation





Search location



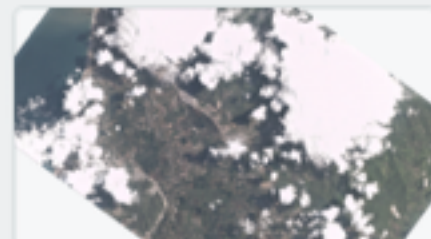
OpenAerialMap BROWSER

Upload



## Available Imagery

17 results



TYPE Image  
DATE 2016-04-18  
RES 3 m



TYPE Image  
DATE 2016-04-18  
RES 3 m



TYPE Image  
DATE 2016-04-16  
RES 3 m



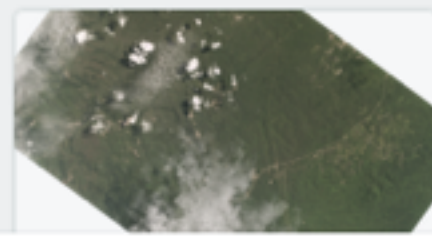
TYPE Image  
DATE 2016-04-16  
RES 3 m



TYPE Image  
DATE 2016-04-16  
RES 3 m



TYPE Image  
DATE 2016-04-16  
RES 3 m





Built on a few principles:

- Open imagery is important for coordination and access.  
Licensing is key.
- Imagery should be accessible in raw AND derivative format
- OpenStreetMap is an important consumer



Why does open imagery  
matter?







?





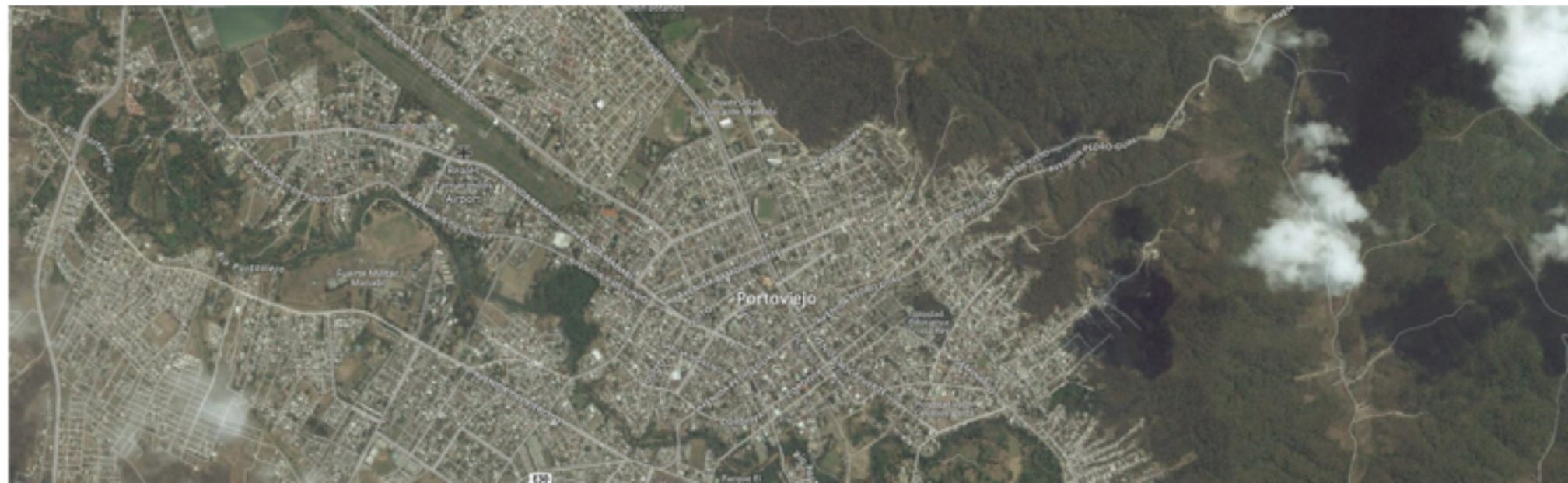
Seeing a better world™

# Open imagery and data to support Ecuador earthquake response

by DigitalGlobe

Share: [f](#) [t](#) [in](#) [g+](#) [e](#) [p](#) [v](#) [27](#)

Last weekend, Ecuador experienced a devastating 7.8 magnitude earthquake which resulted in the deaths of 350 people and another 2,500 injured. While rescuers attempt search and rescue missions, many are still unaccounted for, especially in the cities of Manta and Portoviejo which suffered extensive damage. According to the U.S. Geological Survey, this is the strongest earthquake to impact Ecuador since 1979, and President Rafael Correa has declared a national state of emergency.



19  
APR 2016

## Monthly Archives

### Monthly Archives

Select Month

## Annual Archives

2016 (12)

2015 (56)

2014 (32)

2013 (21)

2012 (3)

2011 (24)

2010 (9)

## Social Media







# Open Imagery Network





## Open Imagery Network – CC-BY 4.0

H0T

Astro  
Digital

??



??

OpenAerialMap

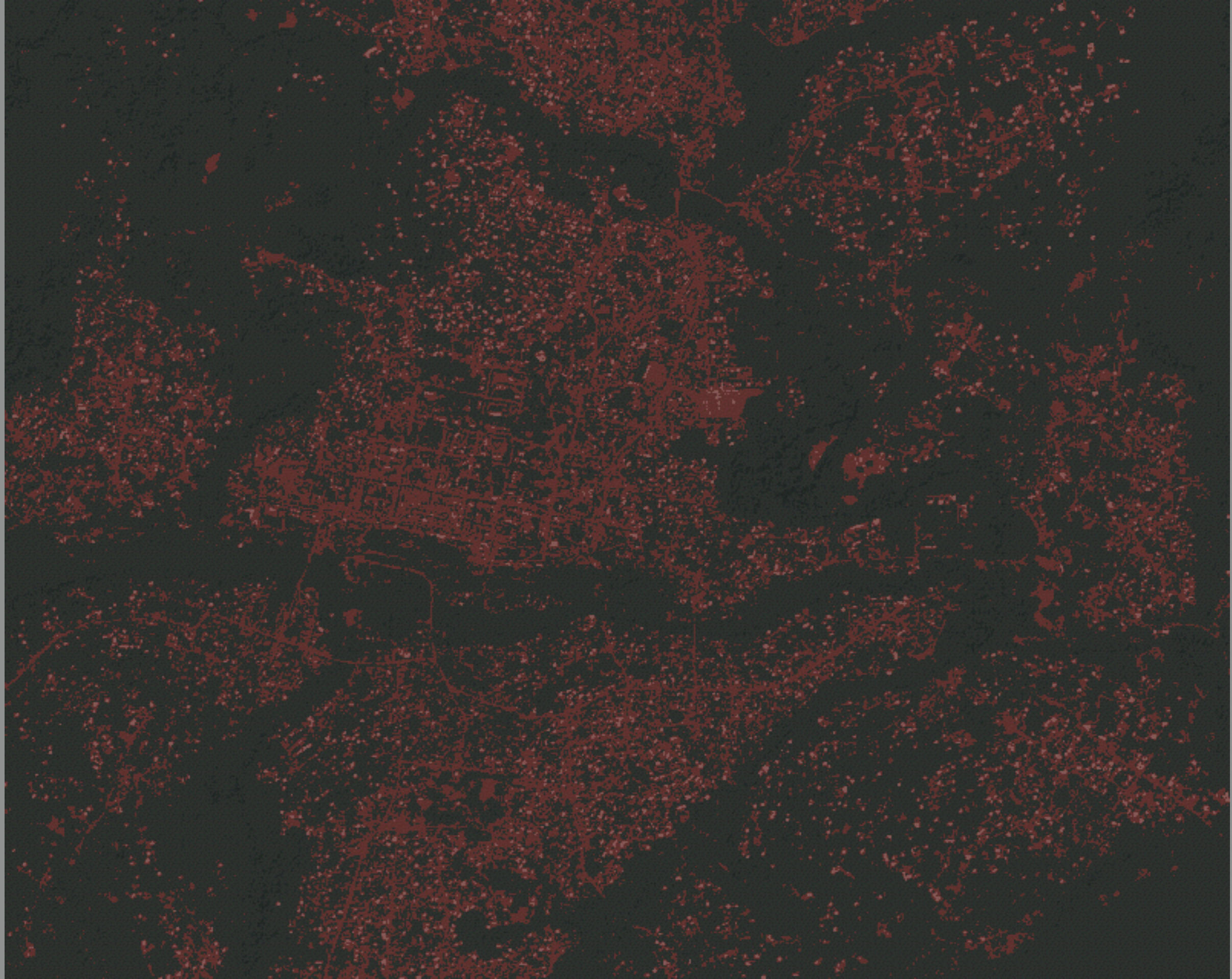
---

Open Imagery Network is a simple, distributed federation of highly available public file stores.



Why does the future  
needs tools like OAM?







# WHAT'S NEXT?



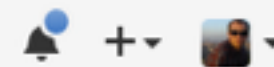
- Community growth
- More upload & sharing
- Conduct & guidelines





This repository Search

Pull requests Issues Gist



hotosm / OpenAerialMap

Unwatch 44 Star 85 Fork 13

Code Issues 24 Pull requests 0 Wiki Pulse Graphs Settings

OpenAerialMap — Edit

25 commits 4 branches 0 releases 10 contributors

Branch: master New pull request New file Find file SSH git@github.com:hotosm/OpenAer Download ZIP

cgiovando Adding link to the OAM Server repo Latest commit 66216c0 on Jun 3, 2015

metadata	Added specification that we are dealing with RGB GeoTIFF image files.	8 months ago
.gitignore	Initial metadata for OIN and OAM to be commented on and revised.	8 months ago
README.md	Adding link to the OAM Server repo	7 months ago

README.md

# OpenAerialMap (OAM)

## What is OpenAerialMap?

Imagery from satellites, unmanned aerial vehicles (UAVs) and other aircraft is becoming increasingly available after a disaster. It is often difficult to determine what is available and easily access it. OpenAerialMap (OAM) seeks to solve this by providing a **simple open way to host and provide access to imagery** for humanitarian response and disaster preparedness.



Demo time!