

August 1-3, Foundation University, Dumaguete



PISTATA ING MAPA

open data & software • free maps • community • talks • workshops



KAART



mapbox



Mapillary UΔV4GEO

DIY IMAGERY COLLECTION FOR MAPPING



UAV / RPAS / UAS

- UAV – Unmanned Aerial Vehicle
- RPAS – Remotely Piloted Aircraft System
- UAS – Unmanned Aircraft System
- An aircraft system that may be remotely controlled or flown autonomously through software controlled flight plans in their embedded systems working in conjunction with GPS (Global Positioning System).

Two main types of Drone:

- **Fixed-Wing Aircraft**
 - For covering larger areas in a single autonomous flight



eBee by Sensefly

Two main types of Drone:

Multicopter – Quadcopter

- Best for monitoring and charting smaller areas and fly at lower altitudes for high resolution images.



DJI INSPIRE 1

Why use drones?

- Drones offer quick, easy and cost-effective aerial imagery, on demand. With drones, we can survey and map areas with thick vegetation and lack of satellite data coverage due to cloud cover especially in high altitude locations. Drones can quickly process the data gathered.

Drone Application and Uses



Journalism, Filming and Aerial Photography



Disaster Management

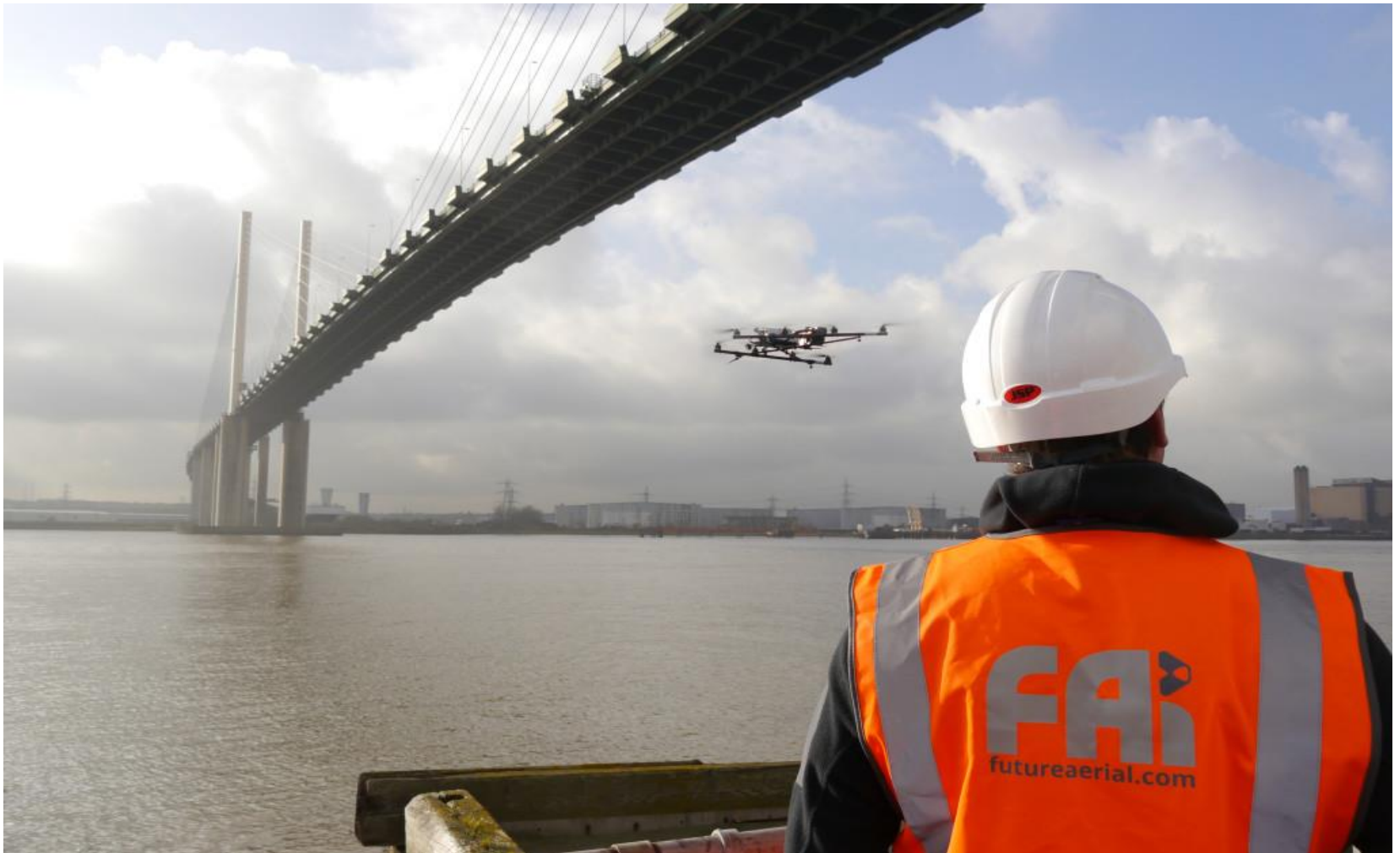


<https://www.digitalstreetsa.com/drones-will-support-future-fire-disaster-management/>

Search and Rescue



Structural Safety Inspections



<http://futureaerial.com/inspecting-superstructures-the-qe2-bridge/>

Construction Sites Survey



<http://fortune.com/2016/09/13/commercial-drone-construction-industry/>

Precision Agriculture

- **Species identification**
- **Plant/tree counting**
- **Growth/coverage monitoring**
- **Plant health analysis**
- **Pesticide application**



<https://www.dronecommunity.biz/3-ways-drones-agriculture/>

Wildlife Monitoring



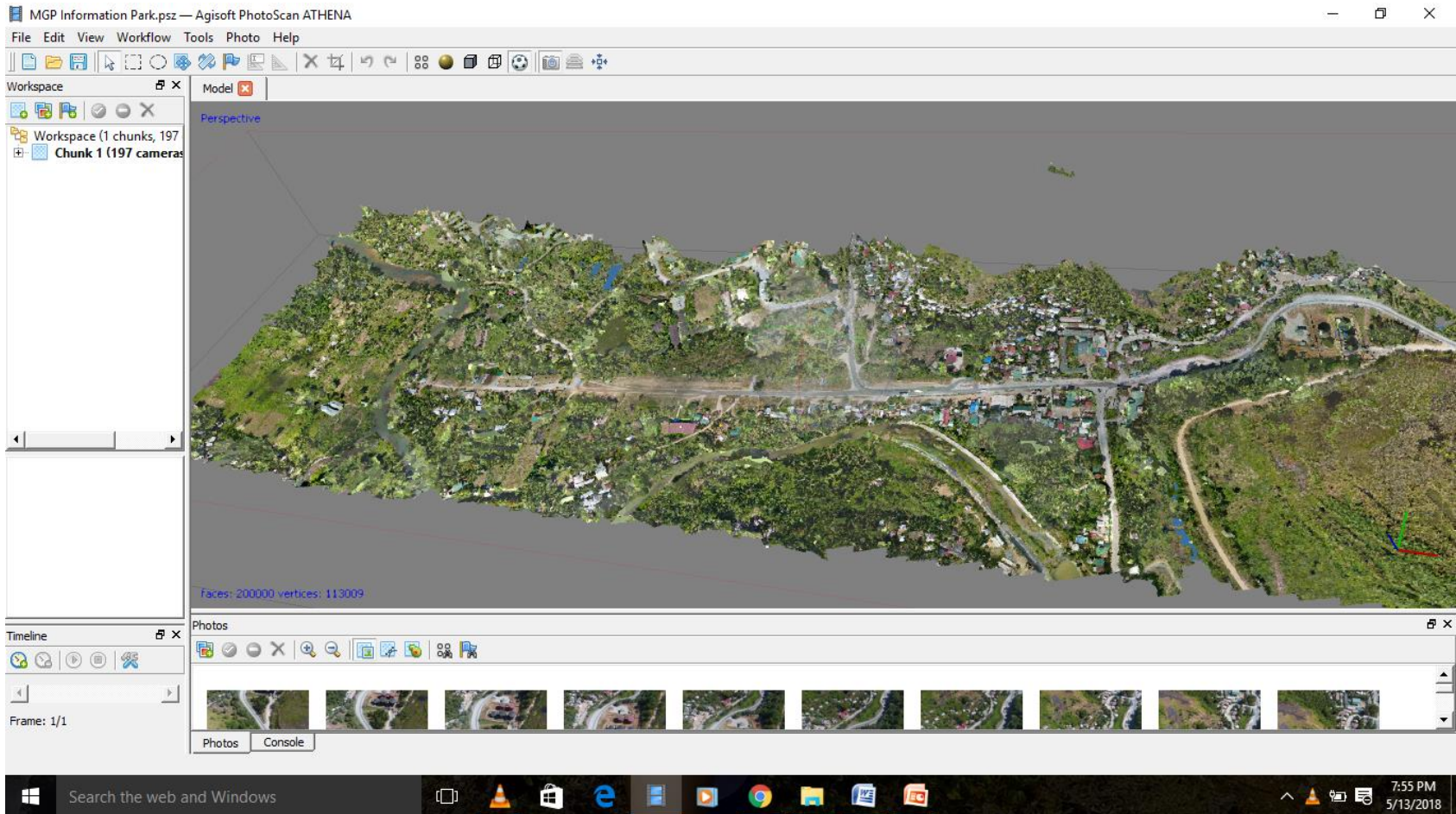
<https://projectconservation.org/drones-eye-view/>

Law-Enforcement



<https://www.forensics.co.ug/services/intelligent-law-enforcement-systems/>

Geographic Mapping



HARDWARE PREPARATIONS



Pre-flight Checklist

- Check that you have your micro SD card inserted.
- Mobile device (used for the monitor) is charged.
- Make sure the transmitter battery is charged.
- Make sure the drone batteries are charged.
- Make sure the battery is inserted securely.
- Make sure each propeller is secured before flight.

Pre-flight Checklist

- Check that there are no loose parts on the drone.
- Turn on the transmitter first before the aircraft.
- Calibrate compass and get satellite lock, wait until it finishes.
- Make sure there is enough room for takeoff and flight.
- Back away 3 or 4 steps (or to a safe distance).
- Face the drone the entire time.

Software Preparations



Flying Safely

- Always do pre-flight check-ups.
 - DO the pre-flight checklist
 - DO NOT fly your aircraft if there is at least one item unchecked.
- Be aware of your surroundings. Be sure to check for obstructions.
- In a mountain setting, locate the highest vantage point possible within the fly zone. Take off from there if possible.
- Don't fly in high wind velocity or in the rain.

Flying Safely

- Check for territorial birds that may possibly attack your drone in-flight.
- ALWAYS, always fly within your Visual Line of Sight (VLOS)
- Read your aircraft manual. Take basic flight lessons and learn to fly safely. Know your aircraft and be aware of the CAAP guidelines and regulations. Read PCAR 11.11.
- Do not fly under the influence of drugs and/or alcohol.

WEBODM

WebODM

Drone Mapping Software

Generate maps, point clouds, DEMs and 3D models from aerial images.

Runs on your computer, even offline. No monthly fees.

[Live Demo](#) [Download](#)



Features



Orthomosaics

Georeferenced, orthorectified maps.



3D Models

3D models and point clouds in a variety of formats.



Export

High resolution GeoTIFF, PNG, LAS, OBJ formats.



Elevation Models

Easily generate georeferenced DSMs/DTMs.



Measurements

Make volume and area measurements with ease.



Rebrand

Choose a logo and color scheme that matches your organization.



Ground Control Points

Create and use GCPs for additional accuracy.



Share

Easily share your maps and 3D models.

WEBODM Lightning

https://webodm.net

80%



WebODM Lightning

Pricing API Tools Contact

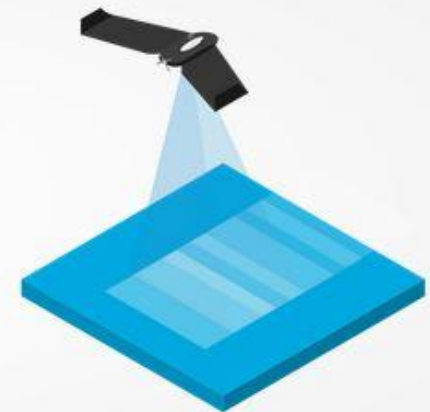
Dashboard My Account

DRONE AND UAV MAPPING SOFTWARE

Create maps, 3D models and point clouds from aerial images. Integrate with applications using our open API.

Open Dashboard

Logout



Coming soon! Process up to 30,000 images with [Storm](#).

The only open cloud platform for processing aerial imagery from drones and UAVs

WEBODM Lightning

- Create an account: email & password
- Upload survey images for cloud processing
- Download Results
- Use in QGIS
- Use in Openstreetmap ID Editor, JOSM
- Share in OpenAerialMap: <https://openaerialmap.org/>
- UAV4Geo Software Grant

OpenAerialMap



[Explore imagery](#) [Documentation](#) [About](#) [Blog](#)

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](#)

[Watch the Video](#)

DRONE SURVEY CASE STUDIES

- Mt. Pulag National Park
- Arroceros Forest Park
- Lupang Arenda Community Mapping
- Foundation University Campus

Mt. Pulag National Park Grassland Fire Survey

Mission flight = 349 images

Flight Altitude = 150 feet

Flying time = 18 minutes Distance covered = 4.4 km



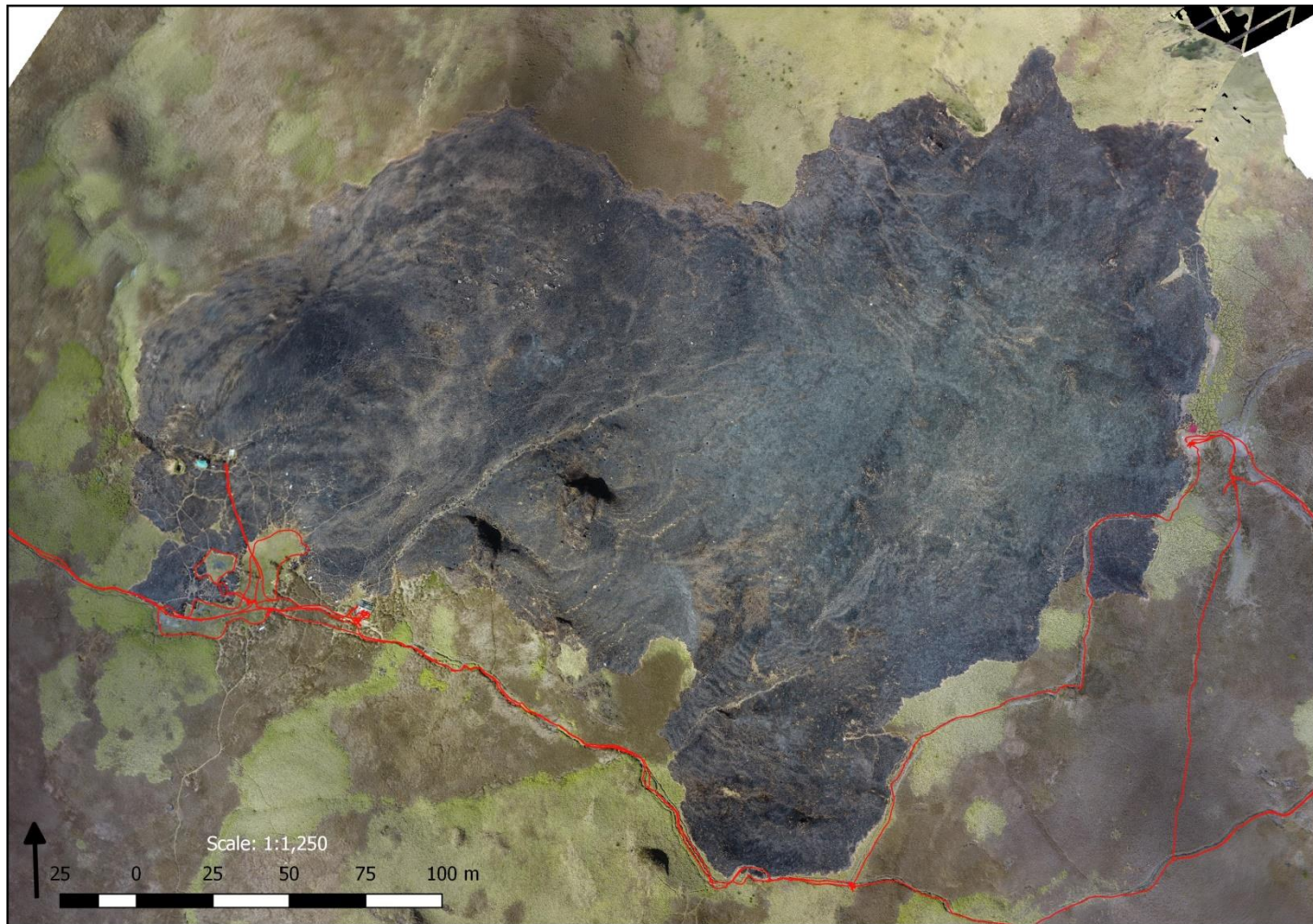
Drone Aerial Image (1/349)



Actual Pixels



Ortho-mosaic image of the burned area (Approximately 5.82 hectares)



OpenAerialMap

File Edit View History Bookmarks Tools Help

OpenAerialMap Browser x +

https://map.openaerialmap.org/#/120.89806079864502,16.59713000224743,17/user/5a928bc22553e600

Most Visited Getting Started Close


OpenAerialMap

Search location or coordinates

Sign In


Mt. Pulag National Park Burned Area

UPLOADED BY Leonard Soriano



Display as TMS Thumbnail

Open in iD editor | JOSM



Leaflet | © Mapbox © OpenStreetMap | Report an issue with this map

11:14 PM 5/18/2018

https://map.openaerialmap.org/#/120.89806079864502,16.59713000224743,17/user/5a928bc22553e6000ce5ace8/5a9d4b935a9ef7cb5da1de2a?_k=9ybt6c

OpenStreetMap (OSM)

The screenshot displays the OpenStreetMap (OSM) web interface. At the top left, the 'OpenStreetMap' logo is visible, followed by 'Edit', 'History', and 'Export' buttons. The top right corner contains links for 'GPS Traces', 'User Diaries', 'Copyright', 'Help', and 'About', along with a user profile for 'banito_pinoy'. The main map area shows a satellite view with a red dashed line representing a 'Path' feature and a blue solid line representing a road. The 'Edit feature' panel is open on the left, showing the 'Path' feature with the following details:

- Name:** Akiki Trail
- Surface:** dirt
- Width (Meters):** Unknown
- Structure:** Bridge, Tunnel

The bottom of the interface shows a scale bar for 100 ft, a timestamp 'Edits by HaonHiAki, schadow1, Man77, and 5 others', and the version number '2.8.2'.

Arroceros Forest Park

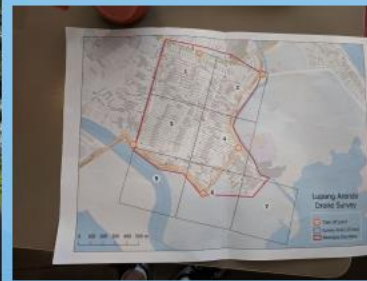
The screenshot displays the OpenAerialMap interface. The main map shows an aerial view of Arroceros Forest Park, a large green area situated along the Pasig River in Manila. The map is overlaid on a street map showing roads like Riverside Drive, Padre Burgos Avenue, and MacArthur Bridge. The interface includes a search bar at the top, navigation controls (compass, zoom, pan), and a sidebar on the left with the following options:

- OpenAerialMap
- Arroceros Forest Park
- UPLOADED BY Leonard Soriano
- Thumbnail (TMS)
- Open in (iD editor | JOSM)
- Copy image URL (TMS | WMTS)

At the bottom of the map, the attribution reads: Leaflet | © Mapbox © OpenStreetMap | Report an issue with this map.

https://map.openaerialmap.org/#/120.98193347454071,14.59435053656079,17/square/132303122000100/5b90f92da0d7280005fab355?_k=2hq7pe

Lupang Arenda Mapping Party



Lupang Arenda



Lupang Arenda

OpenAerialMap

Lupang Arenda Ortho Image 6



UPLOADED BY
Leonard Soriano



Display as

TMS Thumbnail

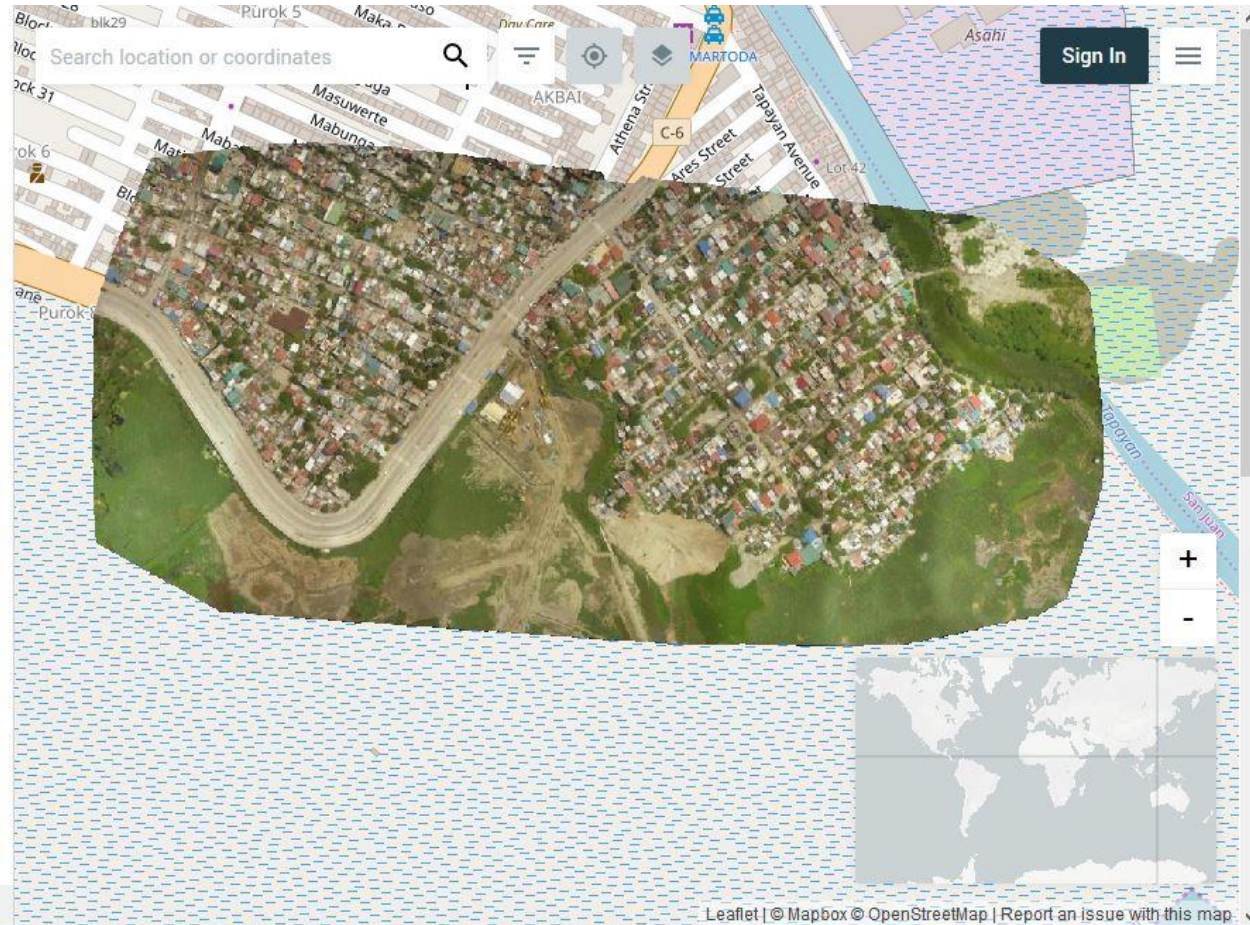
Open in

iD editor | JOSM

Copy image URL

TMS | WMTS

DATE 2019-07-07



MARAMING SALAMAT!

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