4.5 Creating .mbtiles

Overview

MBTiles (.mbtiles) is the file format used for storing map tiles as a single file - the most common use case as baselayers for mobile mapping applications. There are multiple tools to create mbtiles, with selection based on baselayer type (aerial imagery), addition of vector layers, file size, zoom, etc. Many factors can influence the type of basemap that you need for your field data collection.

- If you are mapping buildings in areas that are rural and/or there are few landmarks in OSM, use an **aerial imagery basemap mbtile**.
- If you are working with mappers or surveyors with low map literacy, **aerial imagery basemap mbtiles** could reduce issues.
- If you are mapping points (such as POI) and/or working in well-mapped areas, simply using **OSM basemap mbtiles** would be feasible.
- If your mapping area is being divided into assignment areas or enumeration areas to divide among surveyors, consider adding **vector layers** to your mbtile for mappers work from.

I need .mbtiles with…

HOT Export Tool

Tile Mill

TileHuria

Aerial Imagery Basemap

X

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OSM Basemap

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X

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Vector layers (i.e. enumeration areas)

X

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X

Resources

- OSM Wiki: https://wiki.openstreetmap.org/wiki/MBTiles
- Mapbox: https://docs.mapbox.com/help/glossary/mbtiles/

HOT Export Tool

HOT Export Tool allows users to download OSM data by specifying tags, area of interest, and file type. Learning resources and walkthroughs can be found at the HOT Export Tool Learn page.

Skill level: Easy

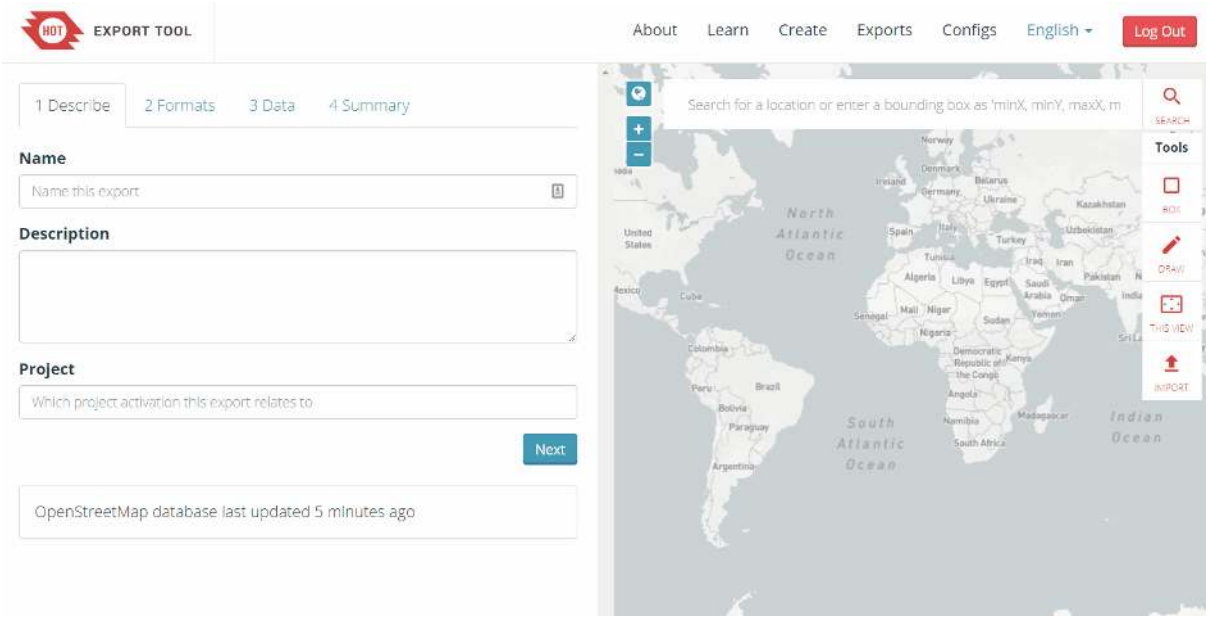
Tools and Technology Needed:

- Computer
- Internet Connection
- OSM Account

To get started, open an internet browser and go to: https://export.hotosm.org/ To use the HOT Export Tool, you will need to log in using your OSM username and password, by clicking the red “Log In” button in the top right-hand corner.

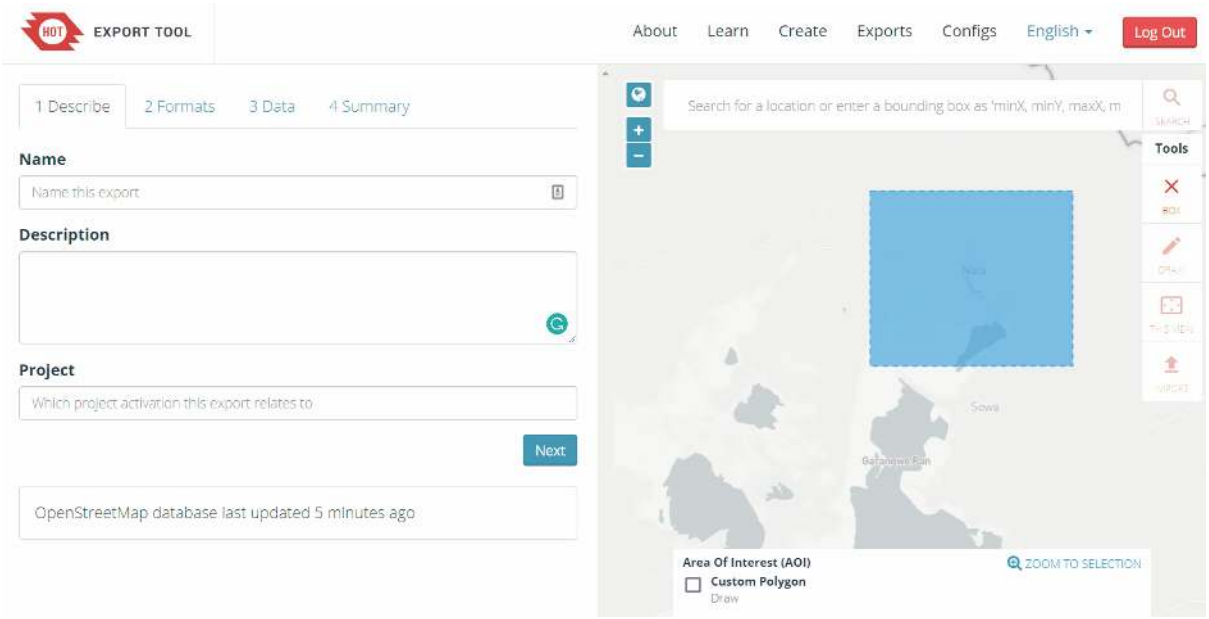
Select ‘Create’ in the top menu.

Select an AOI on the map by searching a place, uploading a .geojson, or drawing an area in the map to the right. To draw an area of interest, zoom in and find a location of your choice (i.e. Zwedru, Accra). Once you have zoomed in to your area of interest, select the box tool from the Tools Menu on the right. Click one corner to start drawing a box, then select the opposite corner to complete the box. This is your AREA OF INTEREST that will be downloaded.

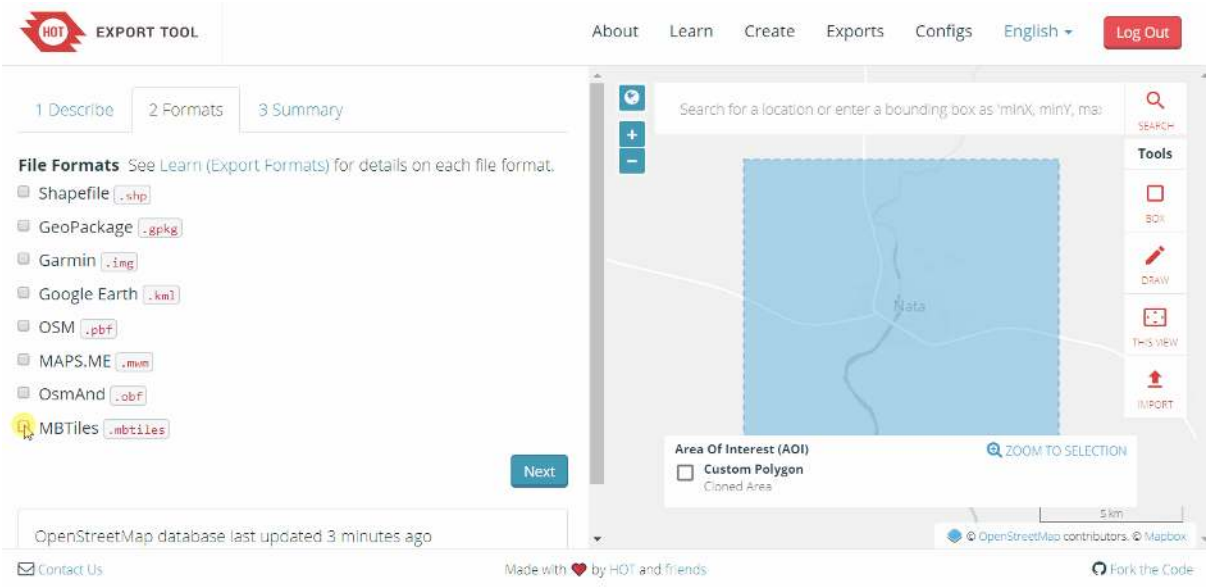


On the left hand side of the window, fill out the “1 Describe” options:

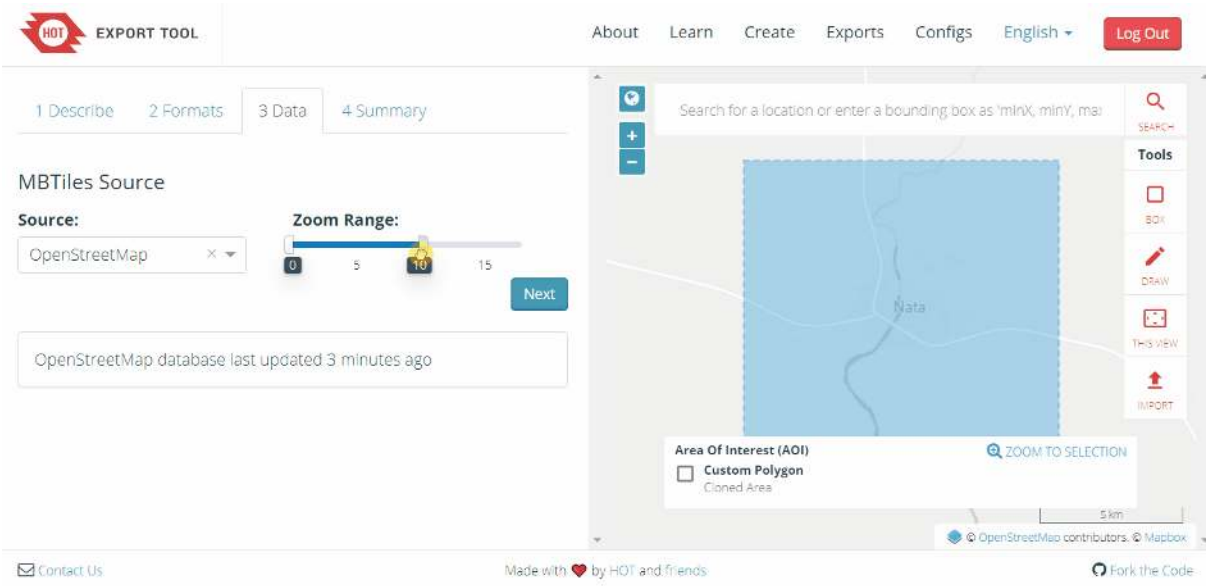
- Name: “[YOUR OSM USERNAME] Test Export”
  - For example, “jessbeutler Test Export”
- Description (optional)
- Project (optional)
  - For example, “Government Inclusion Project”



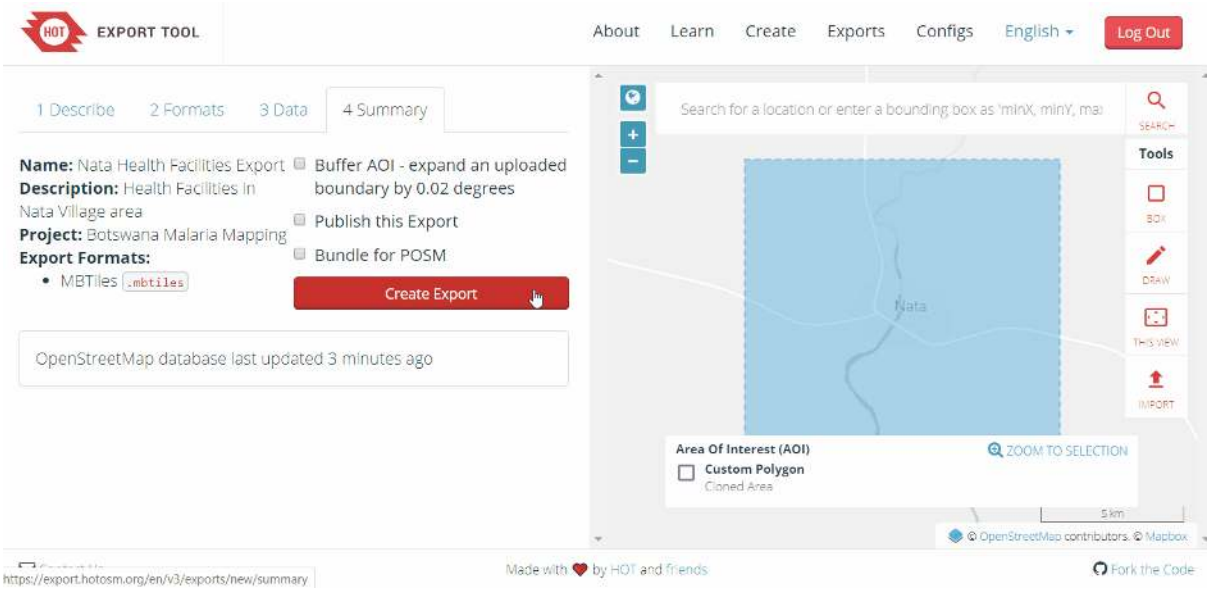
Select preferred file type in the ‘Formats’ tab. Select .mbtiles.



In the 'Data' tab, select the 'OpenStreetMap' as the source. Then select the zoom range. The higher the zoom range, the more you will be able to zoom in on the basemap. Note, higher zoom ranges increase the size of files.



In the 'Summary' tab, select 'Create Export'. While processing, a "Running" status will show. Processing time depends on export size. Once completed, the file will be available for download & sent to your email.



This process will take several minutes to process.

When the export process is completed, the 'Status' bar will be updated to 'COMPLETED'. Download the file by clicking on the file link, as highlighted below.

Tile Huria

Tile Huria is a simple tool for creating mbtiles based on an area provided via Geojson format with aerial imagery.

Skill level: Easy

Tools and Technology Needed:

- Computer
- Internet Connection
- .geojson file for area of interest

TileMill

TileMill is an offline, downloadable application used to create mbtiles. TileMill allows for vector layers to be inserted into mbtiles (i.e. assignment area shapefiles, roads).

Skill level: Hard

Tools and Technology Needed:

- Computer
- Internet Connection
- Optional: .shp files for vector layering

Resources

- TileMill Documentation: https://tilemill-project.github.io/tilemill/docs/crashcourse/introduction/

Download

- https://tilemill-project.github.io/tilemill/