



Go to <http://www.OpenStreetMap.org>
and sign up for an account!
(if you haven't already)

Photo: International Medical Corps/Stuart J. Sia

**Supporting Ebola First Responders
in West Africa through OpenStreetMap**

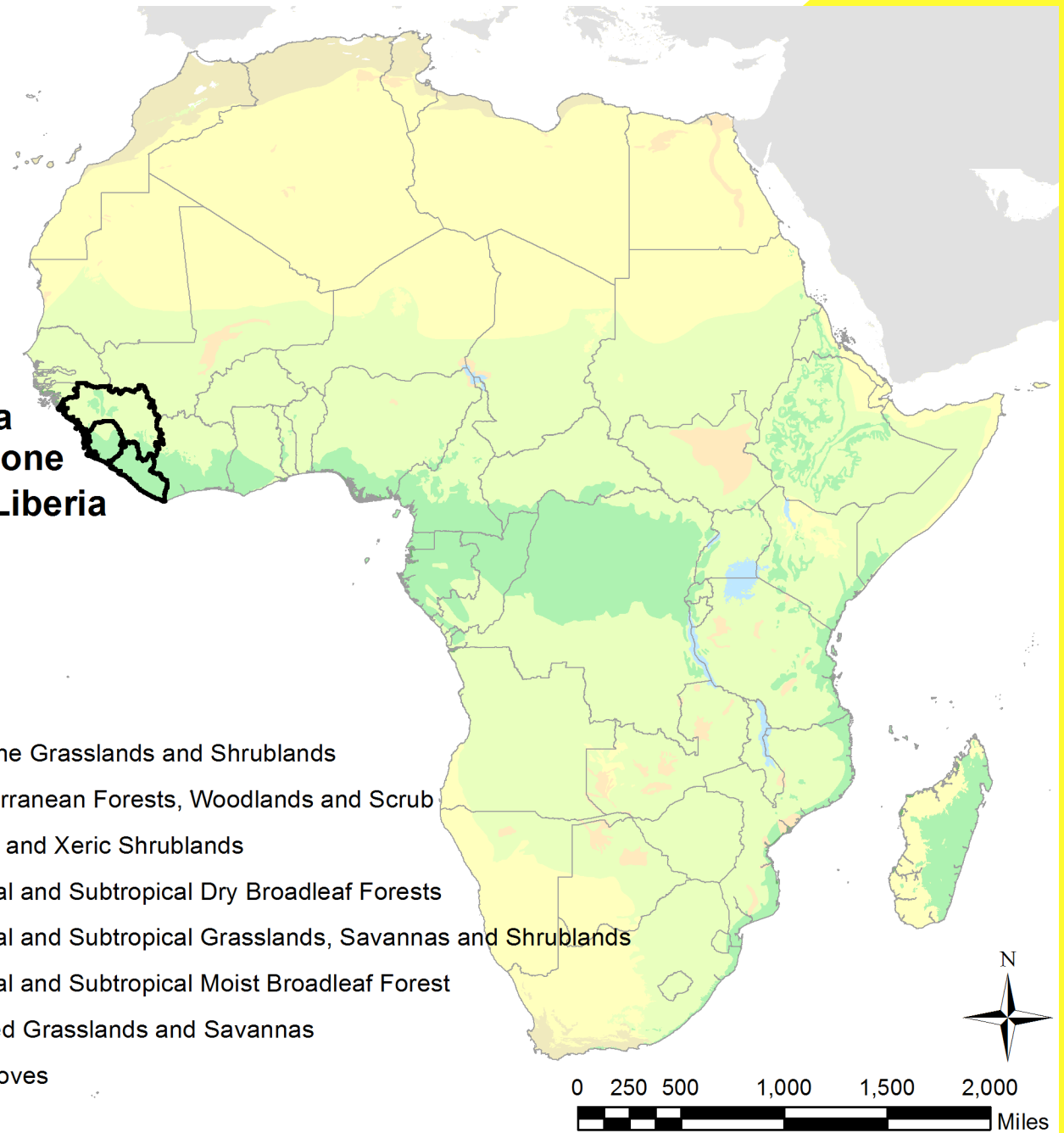
“Geography is really a
huge part of the story.”
— Michael Duffy,
Time Magazine

Africa

Guinea
Sierra Leone
Liberia

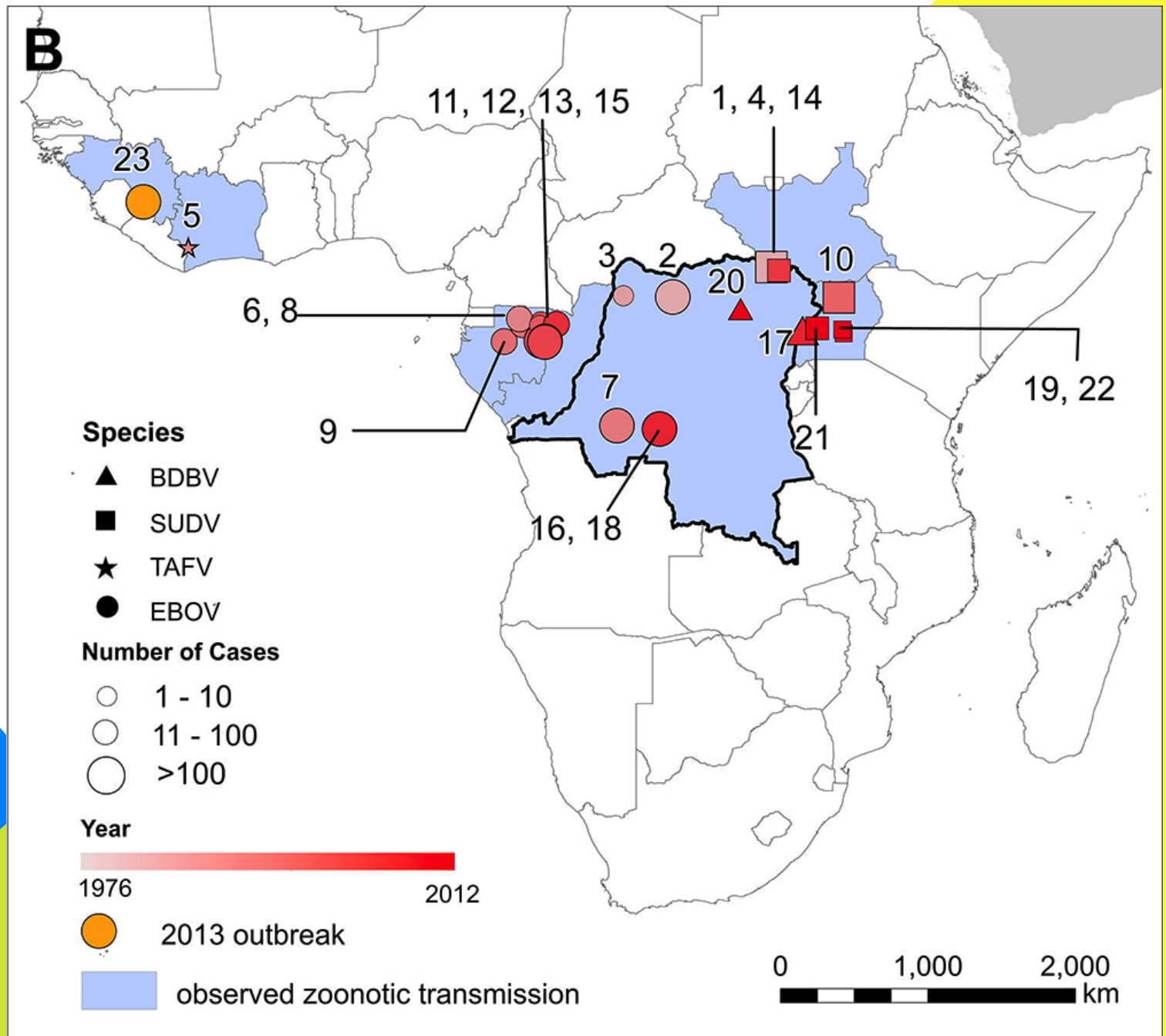
Biomes

- Montane Grasslands and Shrublands
- Mediterranean Forests, Woodlands and Scrub
- Desert and Xeric Shrublands
- Tropical and Subtropical Dry Broadleaf Forests
- Tropical and Subtropical Grasslands, Savannas and Shrublands
- Tropical and Subtropical Moist Broadleaf Forest
- Flooded Grasslands and Savannas
- Mangroves
- Water

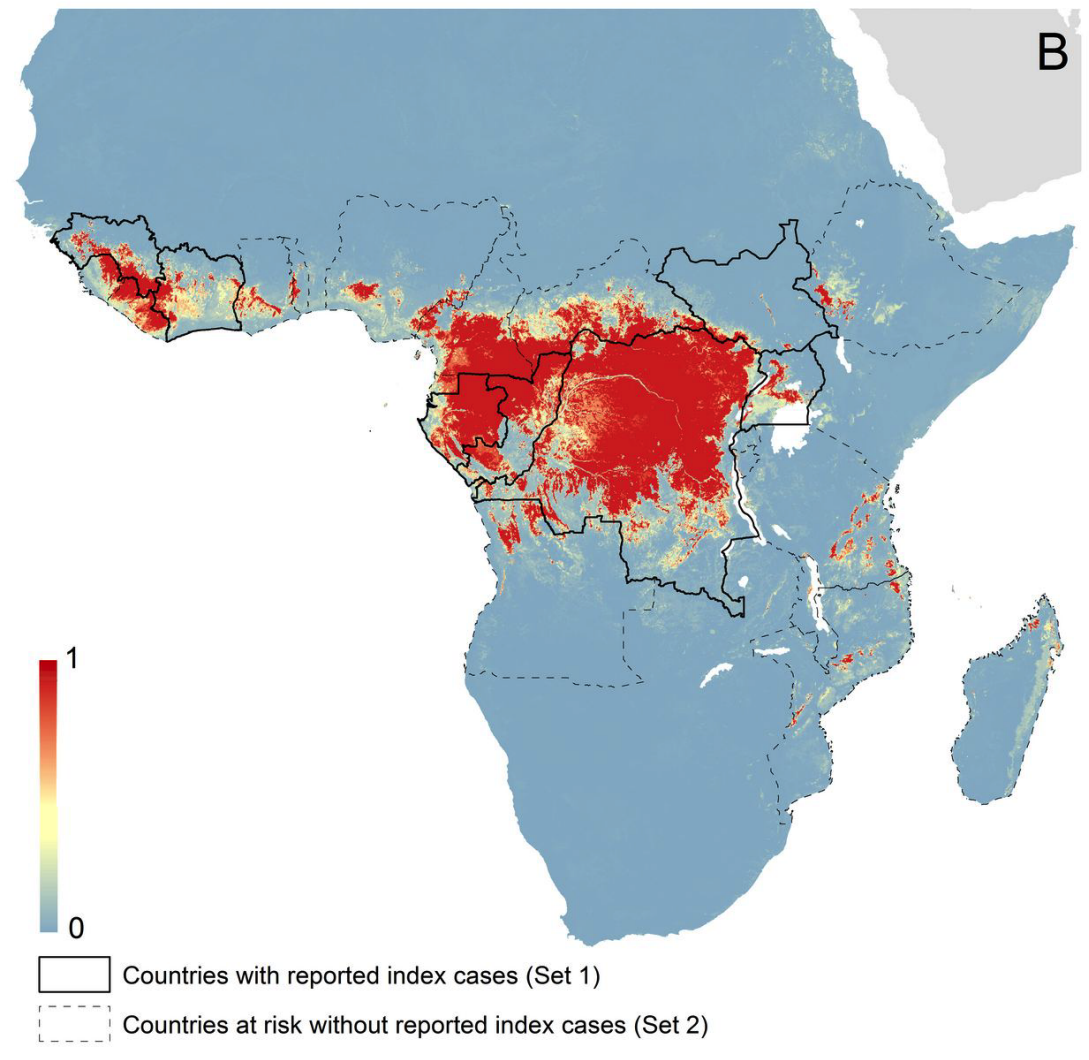


Ebola

“Mapping the zoonotic niche of Ebola virus disease in Africa”,
Pigott, et al.,
eLife 2014;10.7554/
eLife.04395



Risk



“Mapping the zoonotic niche of Ebola virus disease in Africa”,
Pigott, et al.,
eLife 2014;10.7554/
eLife.04395

“A large survey of small mammals in and around Gabon identified three species of bats which were infected with Ebola viruses... Subsequent serological surveys and evidence linking the potential source of human outbreaks to bats lend support to the hypothesis of a bat reservoir.”

EBOLA OUTBREAK RESPONSE: REGIONAL CONFIRMED AND PROBABLE CASES

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

MAP DATE: 29 October 2014

Recent Cases (21 Days Prior)



All cases

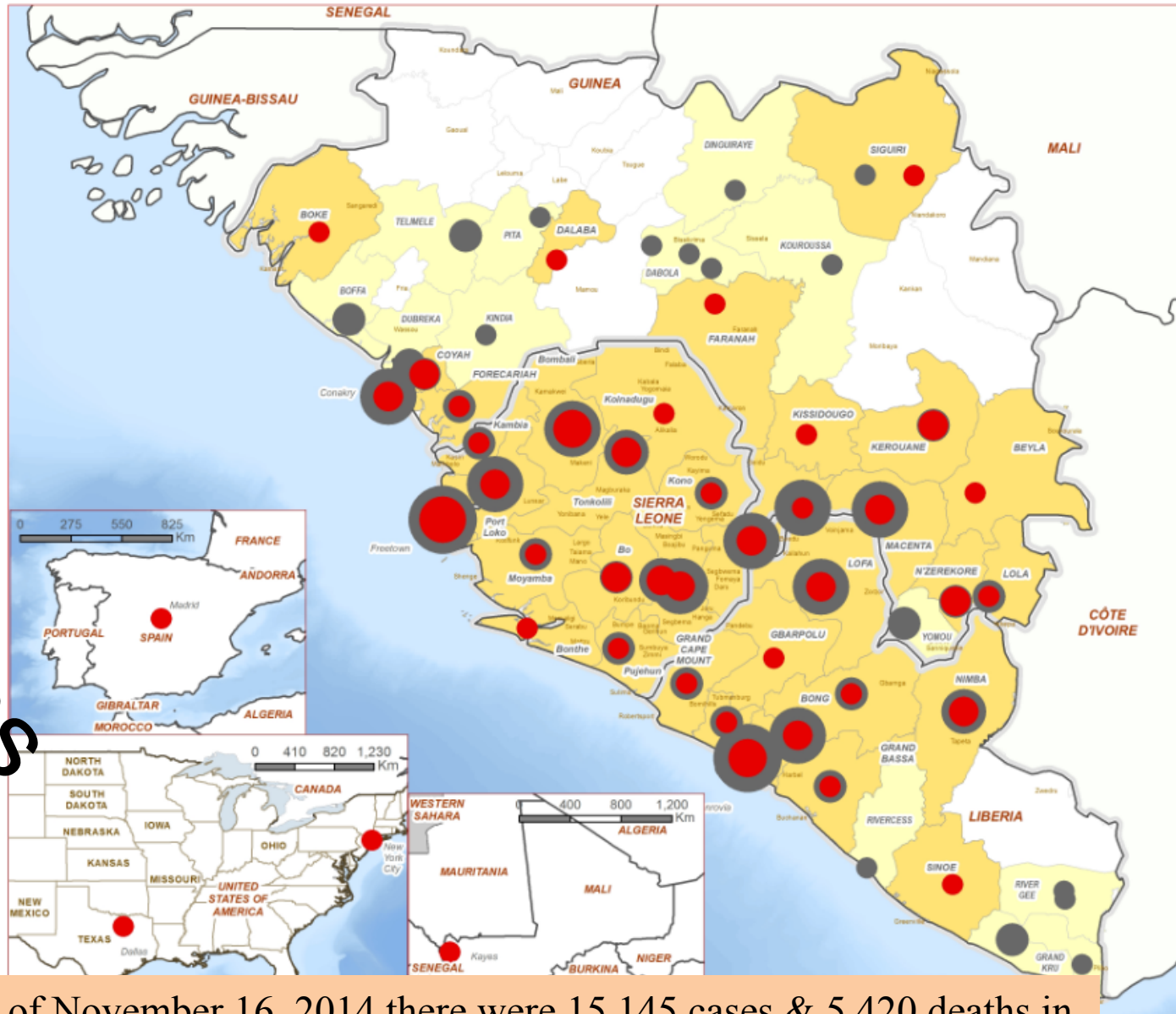


NOT ACTIVE - No cases in previous 21 days

ACTIVE - New cases in previous 21 days

NEWLY INFECTED - New cases in previous 7 days (in previously uninfected areas)

Cases

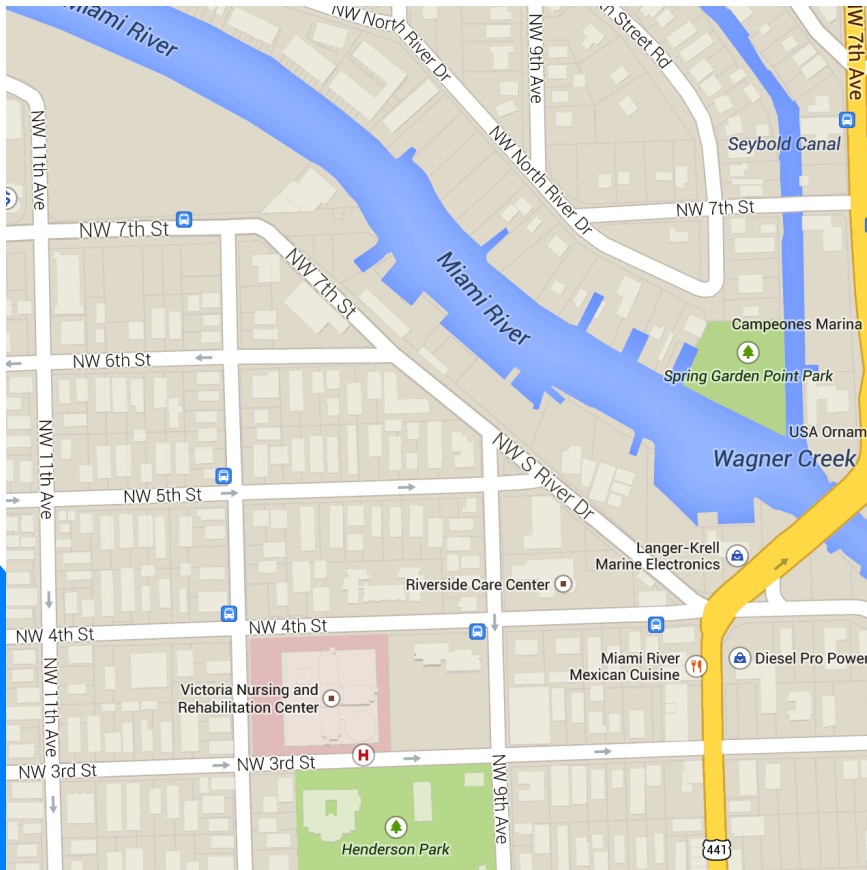


Map Scale (A3): 1:3,700,000

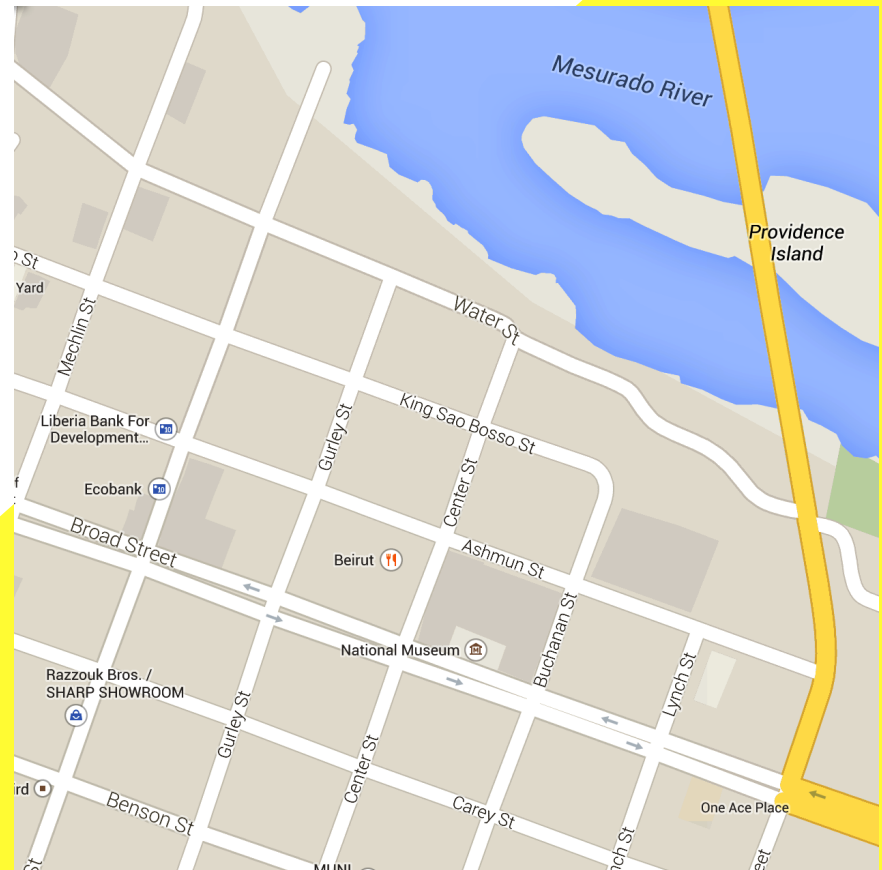
1 cm = 37 km

0 40 80 160

WHO [reports](#) that as of November 16, 2014 there were 15,145 cases & 5,420 deaths in eight countries, and for health-care workers, 584 cases & 329 deaths in seven countries.



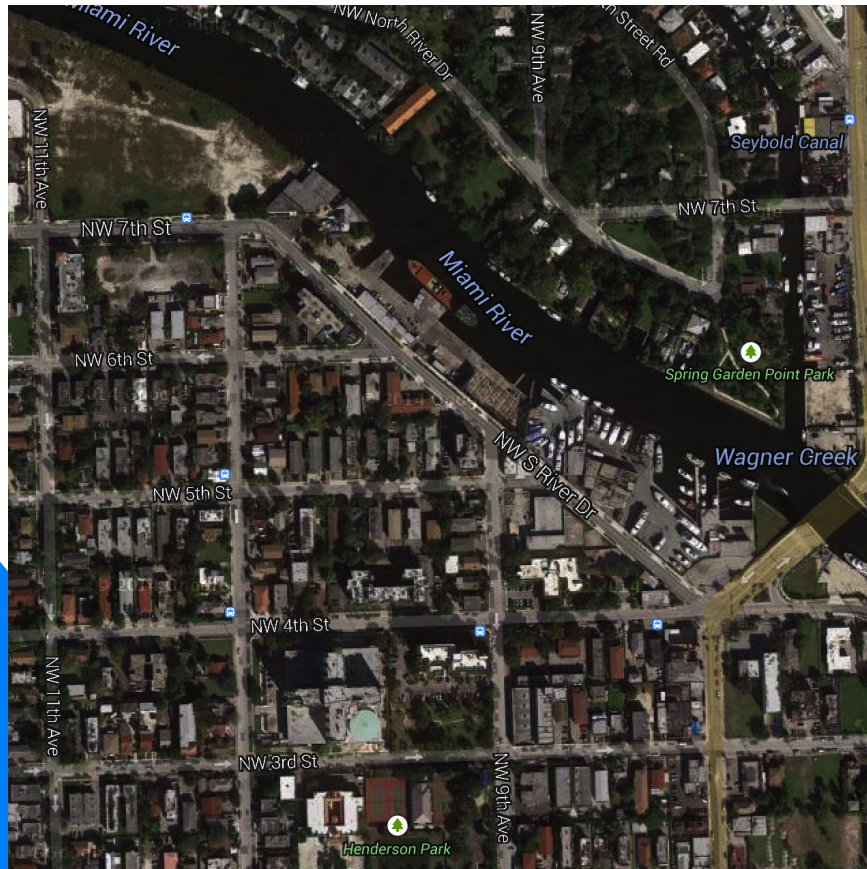
Miami, Florida
Population 417,650



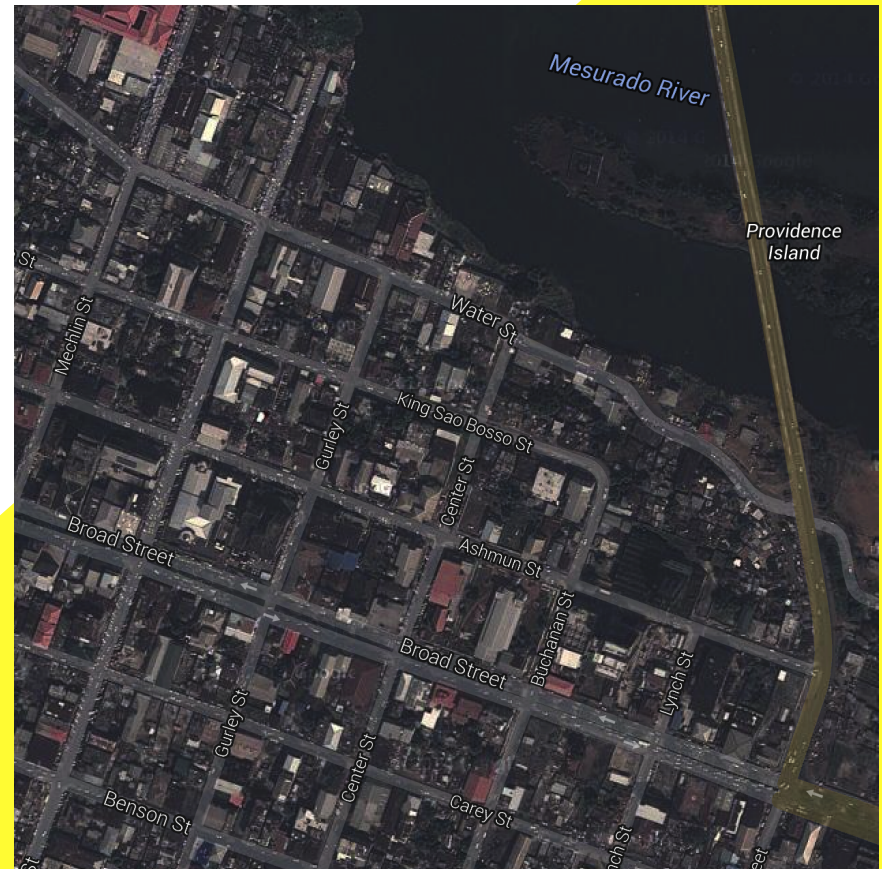
Monrovia, Liberia
Population 970,824

Map

Where is the population at risk?
How does one reach them?



Miami, Florida
Population 417,650



Monrovia, Liberia
Population 970,824

Satellite

The population at risk is there, but harder to locate...
as are entire villages and roads in rural areas.



Search

Where am I?

Go



State of the Map 2014 x

8th Annual Conference
November 7th-9th 2014
Buenos Aires, Argentina

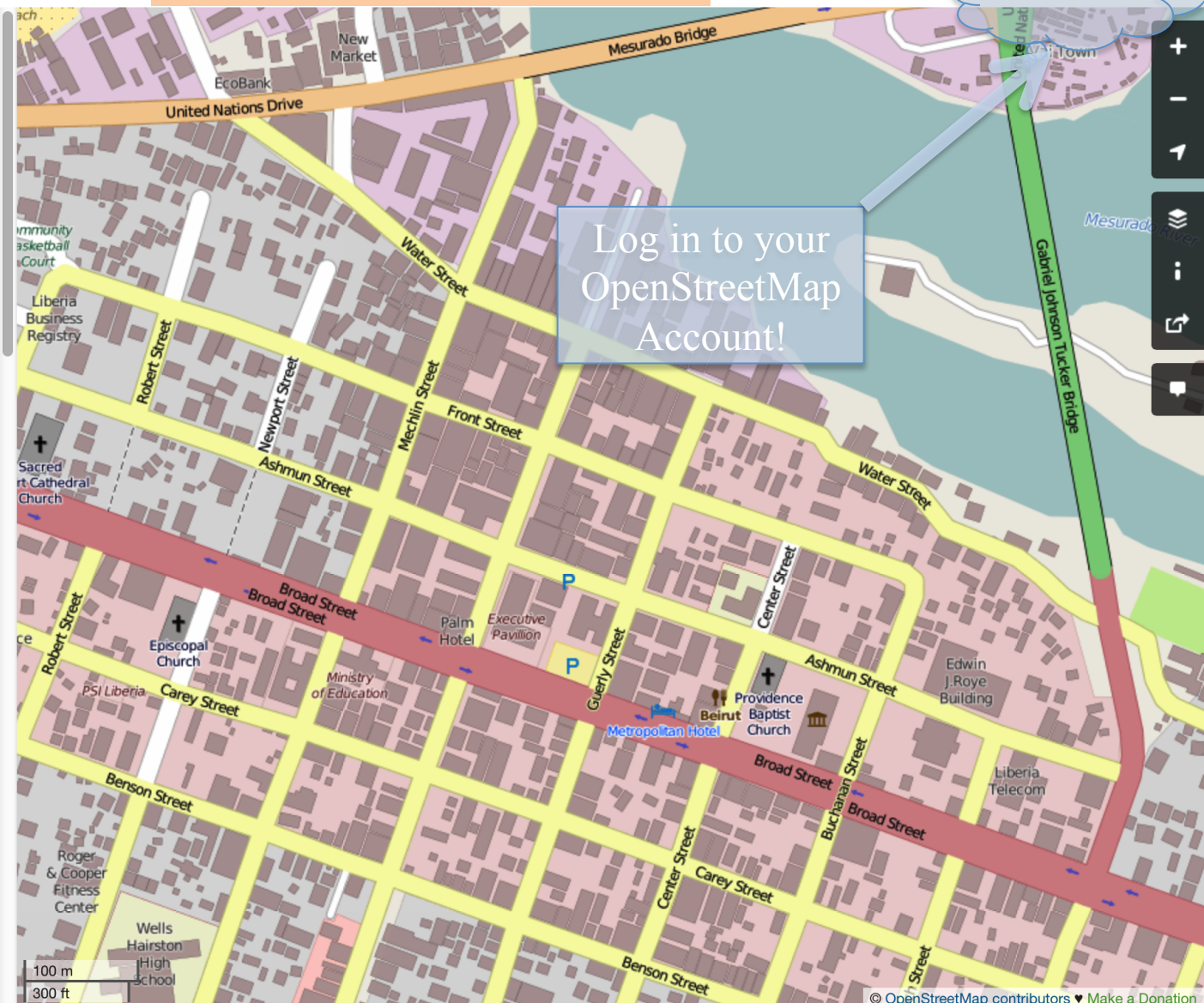
Node: Monrovia (27564980) x

#photosm-task-662

Edited 13 days ago by [matthewsheffield](#)
Version #17 · Changeset #25804002
Location: 6.3280343, -10.7977882

Tags

admin_level	2
capital	yes
is_capital	country
is_in	Liberia
is_in:continent	Africa
is_in:country	Liberia
is_in:country_code	LR
name	Monrovia
name:am	ሞንሮቪያ
name:ar	مونرويا
name	Monroviya
name:be	Гора́д Манрови́я



Monrovia, Liberia — with **features** identified by volunteers like you!
Using the OpenStreetMap platform — open data, open source.



FEATURED PROJECT

West Africa Ebola epidemic

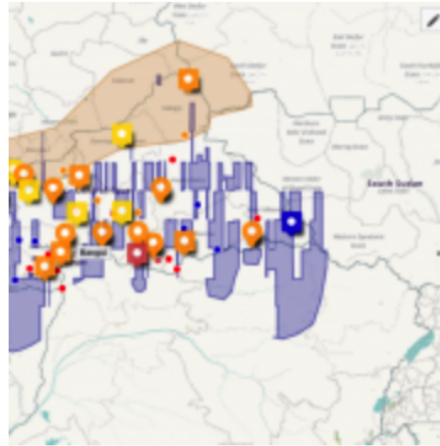
The Ebola Outbreak that struck Guinea in march 2014 later spread to Liberia, Sierra Leone and Nigeria causing at the beginning of august 1711 infections and 932 deaths. Aid organisations are taking emergency measures to contain the spread of this highly infectious and deadly virus. It is crucial for this work to drive rapidly through the territory and quickly locate those infected.

The Humanitarian OpenStreetMap Team [HOT] applies the principles of open source and open data sharing for humanitarian response and economic development.

The Humanitarian OpenStreetMap Team receives requests for better maps in specific areas from WHO, the Red Cross, Doctors Without Borders, et al.



West Africa Ebola epidemic



Central African Republic Activation



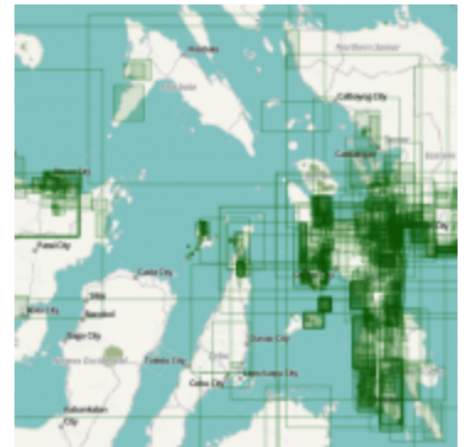
OSM community mapping for Flood Preparedness in Malawi



Haiti



Mongolia, mapping Ulaanbaatar



Typhoon Haiyan

GIS Support for the MSF Ebola response in Guinea in 2014 (Case Study)

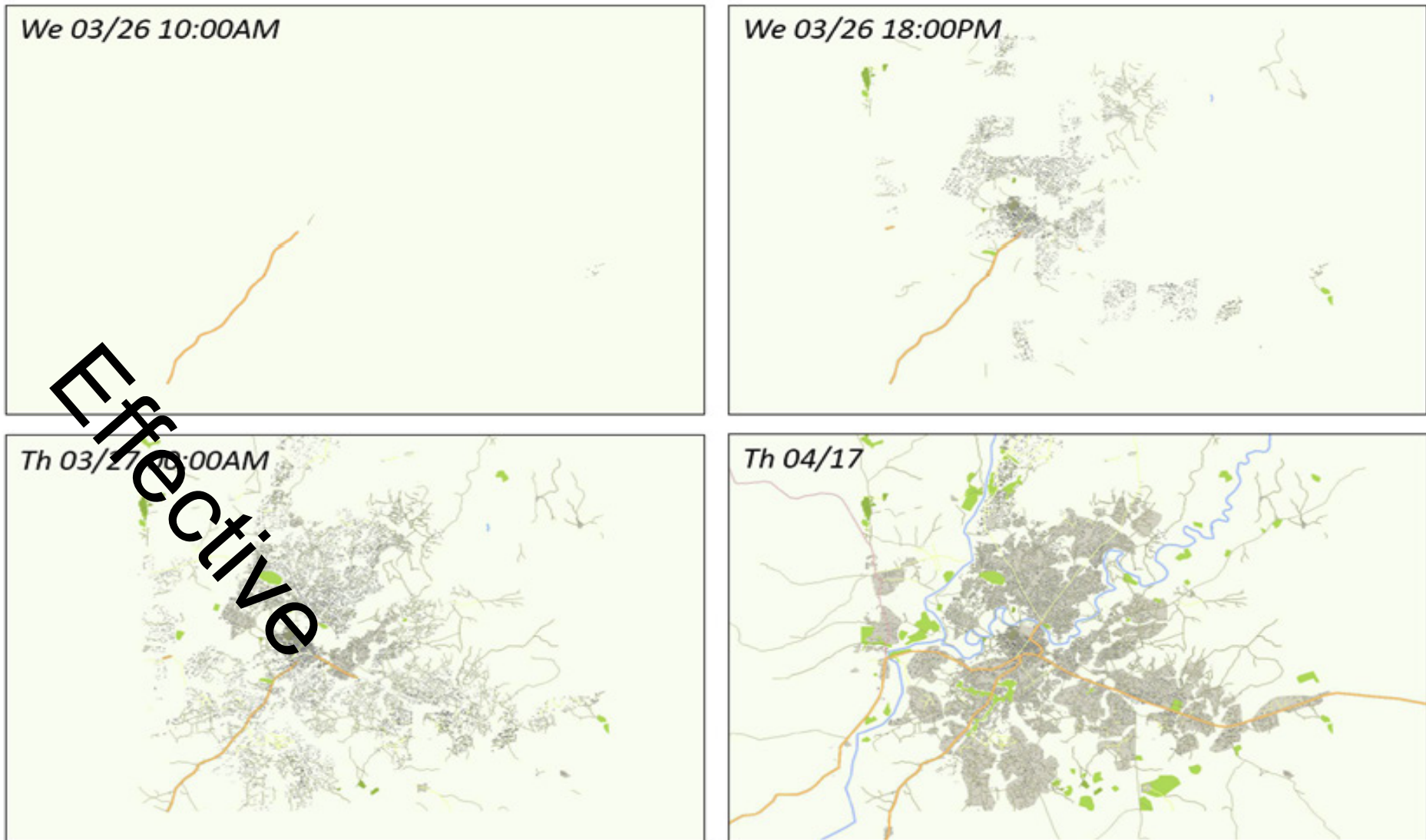


Table 2: Initial mapping of three cities as completed by the OSM volunteers within three days. Volunteers continued to work on maps of the region even after that period (see image bottom right).

“Based on this information, MSF [Doctors Without Borders] programme staff were able to respond to the outbreak faster, in a more targeted way and with fewer resources.”

Legend

Functional Laboratory Locations



Drive Time (Hours)

1


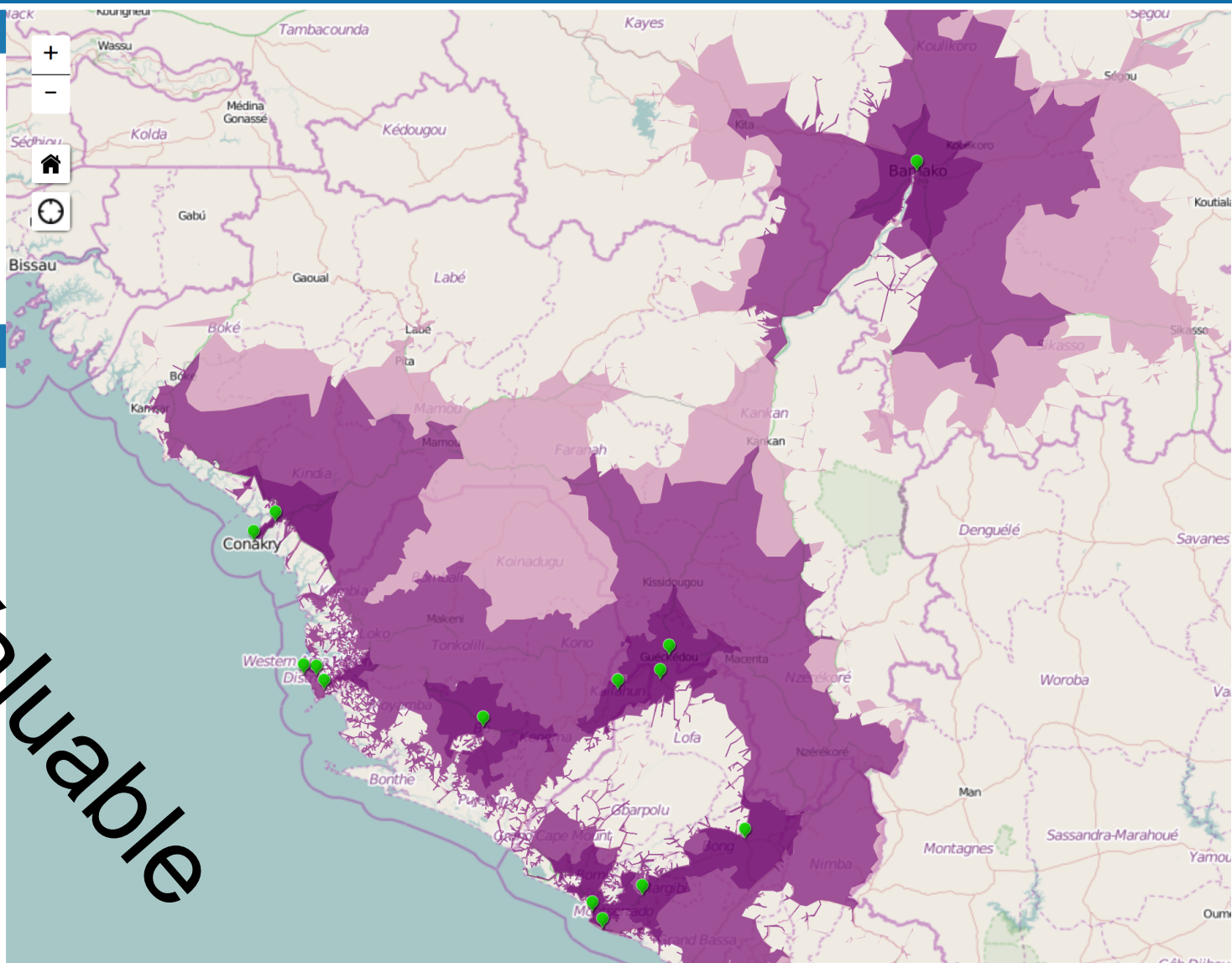
3

5

About

NOTE: This is a draft product and should not be used for operational activities or analysis.

This map displays functional Ebola Virus Disease testing laboratories with 1-2-3-4-5 hour drive times calculated from OpenStreetMap Roads. Laboratory location, status and sponsor info is subject to change as updated data is received.



Valuable

“This map displays functional Ebola Virus Disease testing laboratories with 1-2-3-4-5 hour drive times calculated from OpenStreetMap Roads.”

Projects

Sort by: **High priority first** ▾

#692 Ebola Outbreak, Freetown - More Buildings

8 55%

- Author: **HOT**
- Requesting organization: **MSF**

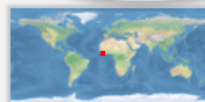


Created by AndrewBuck - Updated 2 minutes ago - Priority: urgent

#672 Ebola Outbreak, Port Loko, Bombali districts, road network

6 32%

- Author: **HOT**
- Priority: **High**



Doctors Without Borders (MSF/DWB), the World Health Organization (WHO), and other humanitarian organizations are deploying for the Ebola epidemic going on there. More detailed basemap data (roads, villages, streets) is needed to assist in the response.

The purpose of this task is to make a first pass over the area and put in roads and important landuse areas.

Created by PierZen - Updated 7 minutes ago - Priority: urgent

About the Tasking Manager

OSM Tasking Manager is a mapping tool designed and built for the Humanitarian OSM Team collaborative mapping. The purpose of the tool is to divide up a mapping job into smaller tasks that can be completed rapidly. It shows which areas need to be mapped and which areas need the mapping validated.

This approach facilitates the distribution of tasks to the various mappers in a context of emergency. It also permits to control the progress and the homogeneity of the work done (ie. Elements to cover, specific tags to use, etc.).

Questions About Tasks, Mapping or HOT?

If you have any questions about a project, a task or mapping in general please ask on our mailing list: [HOT E-Mail List](#)

Or visit us in our IRC Chat Channel, just select #hot from the pop down channel list: [OSM HOT IRC Channel #hot](#)

General inquiries and comments are welcomed at: info@hotosm.org

Current volunteers and amount completed.

This site will request access to your OpenStreetMap account — allow it.

Each HOT project has one or more tasks, worked on by many individuals. Project #672 in this snapshot has six volunteers and a low completion rate of 32%.
Login, type in this web address, and click on a project.

Projects

#672 - Ebola Outbreak, Port Loko, Bombali districts, road network

Instructions

Contribute

Activity

Stats

Justification

There is a resurgence of the Ebola outbreak, and a risk of the epidemic spreading with the multiplication of sites of infection. Maps are needed to help locate people at risk and to support distribution of food and material.

Changeset Comment ?

#hotosm-ebola-672

2014 West Africa Ebola Response [Wiki Coordination Page](#)**Please map in all roads and residential landuse in the area using bing imagery.**

Map roads (dirt roads) and smaller paths for as far as you can follow them. Tag roads according to the [Highway Tag Africa](#) wiki page. Most roads connecting villages should either be *unclassified* or *tertiary* with only occasional small clusters of isolated houses being connected to the road network by a *track* (only use path if it would be too small to even drive a 4x4 vehicle on).

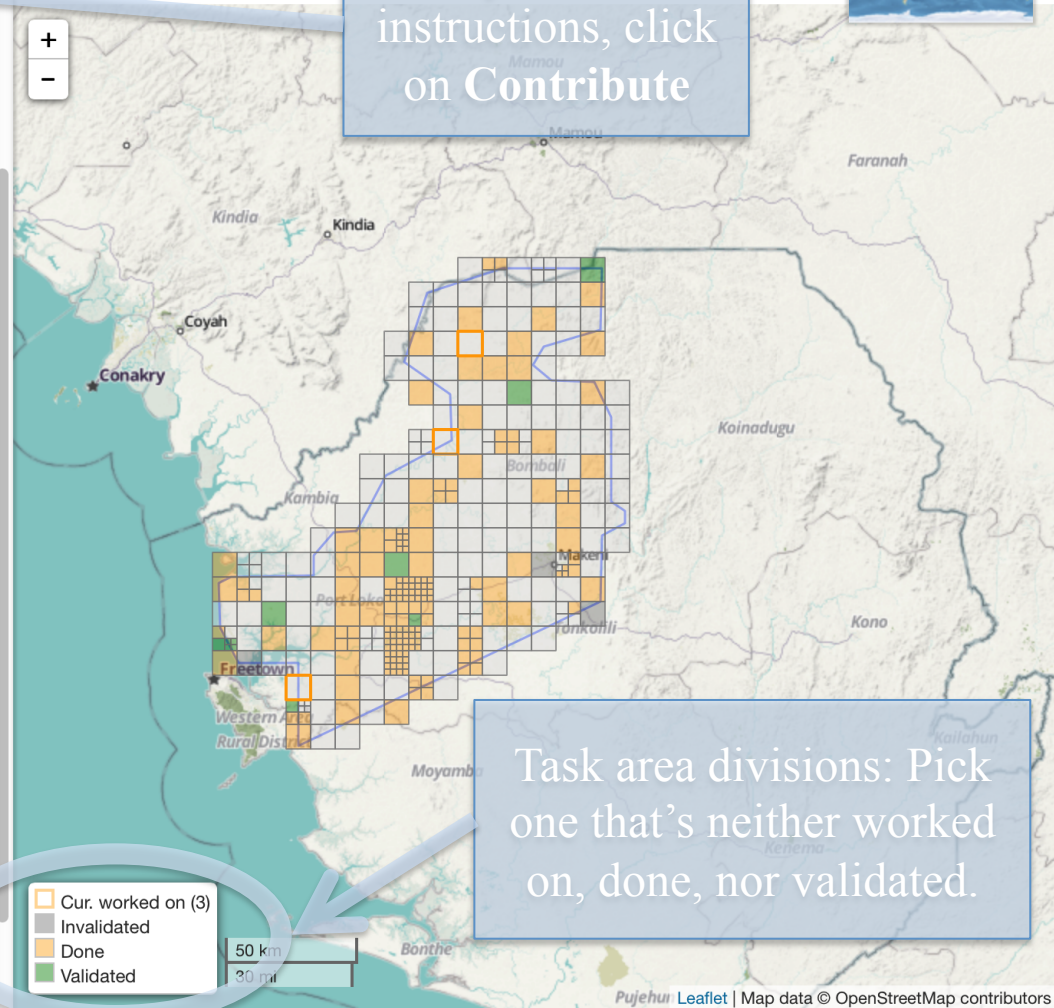
Also trace *landuse=residential* around clusters of houses and mark large open areas (not fields, just smooth open ground next to towns) as *leisure=common* as these are potential helicopter landing sites. Another common and useful feature to tag is school areas, easily identified as 1 or 2 long buildings at the edge of the village often with two small toilet buildings behind them. The schools are almost always accompanied by a large open area for the children to play in; tag the whole area of the school complex with *amenity=school* and trace the school buildings and bathrooms (don't worry about the buildings in the rest of the town for now).

Note that for some areas, clouds will obscure the view. In these areas, do your best. We will revise the mapping on these areas when new imagery is available.

Save with credit to Hotosm Comment the changeset with: **Sierra Leone, #hotosm-ebola-672**

And use the following source tag either on the objects you create or on the changeset itself (if using JOSM): **source=Bing**

After you read the instructions, click on **Contribute**



Task area divisions: Pick one that's neither worked on, done, nor validated.

Read the instructions carefully.

Note the standard tags recommended, and the link to [Highway Tag Africa](#).

#672 - Ebola Outbreak, Port Loko, Bombali districts, road network

Instructions **Contribute** Activity Stats

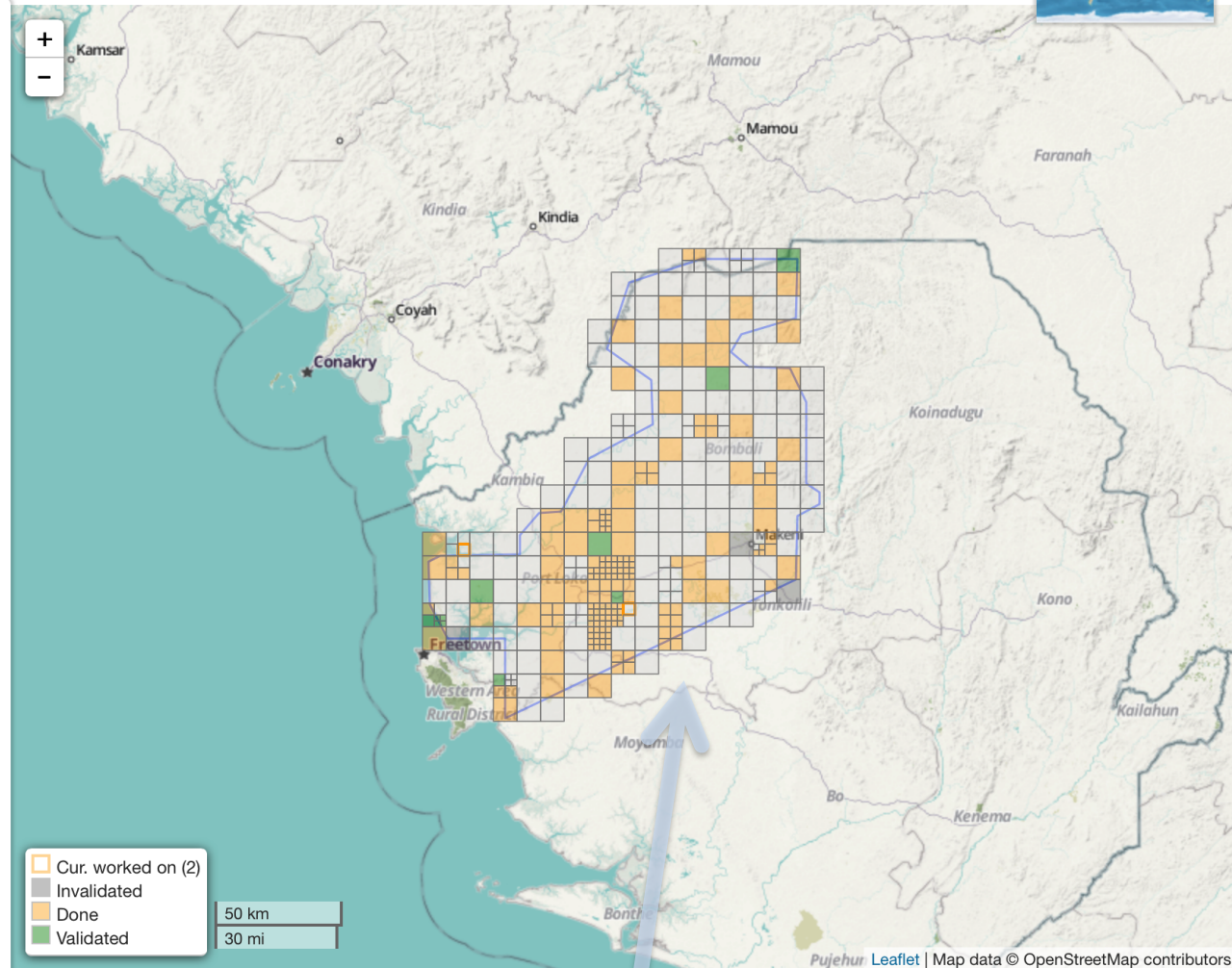
Select a task on the map



or

Take a task at random

Tasks



Select a task: click on a square on the map, or take one at random.
A small one is a good place to get familiar with the process.

#672 - Ebola Outbreak, Port Loko, Bombali districts, road network

Instructions

Contribute

Activity

Stats



Task #109

Start mapping

Leave a comment

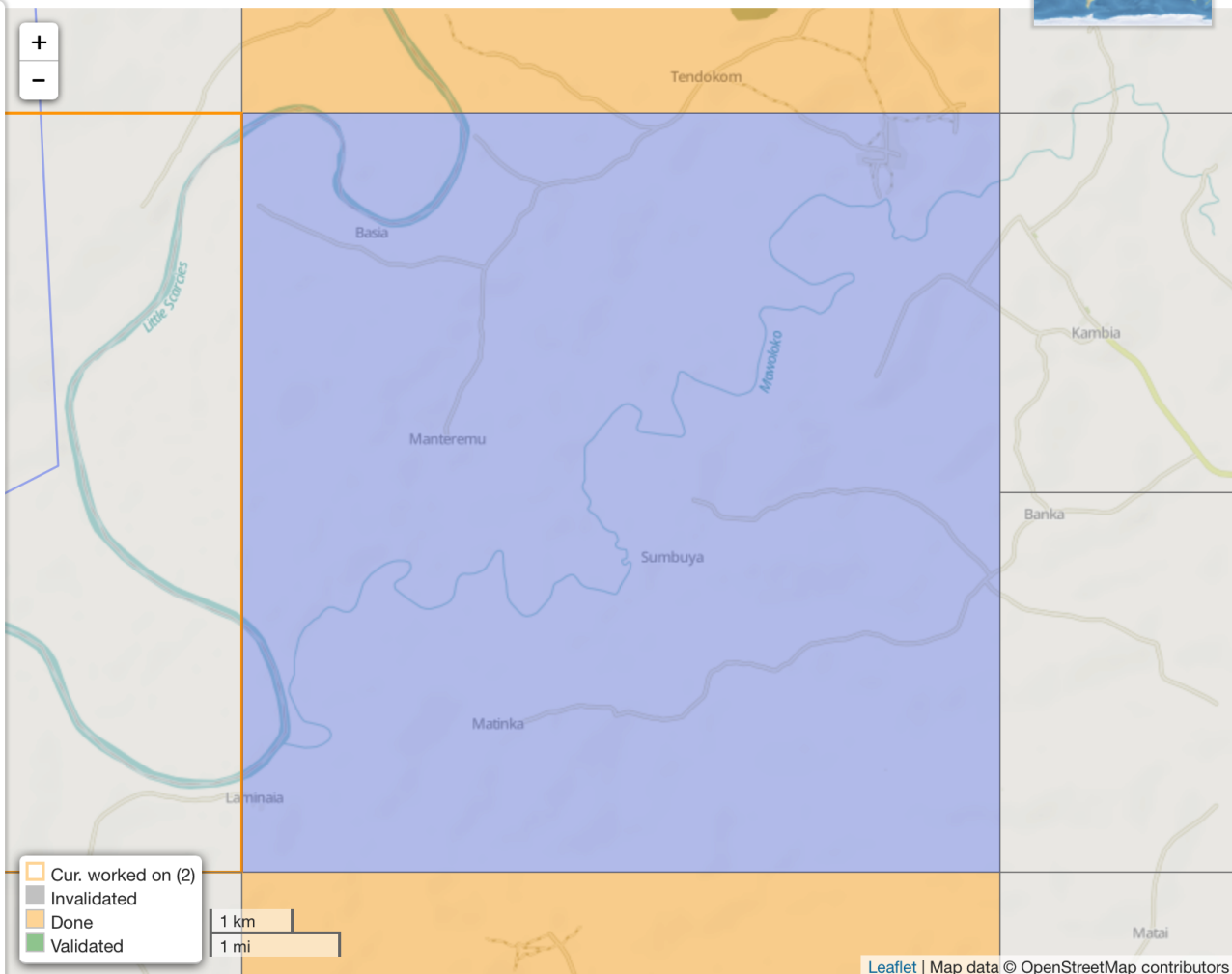
Comment

Nothing has happened yet.

OSM changesets

Review the area,
then *Start mapping*

Contribute



Start mapping

When you click this button, you **lock** this area so no one else can work on it.

#672 - Ebola Outbreak, Port Loko, Bombali districts, road network

[Instructions](#)[Contribute](#)[Activity](#)[Stats](#)

Task #109



Locked by you.

118 min. left

Edit with ▼

JOSM

iD editor

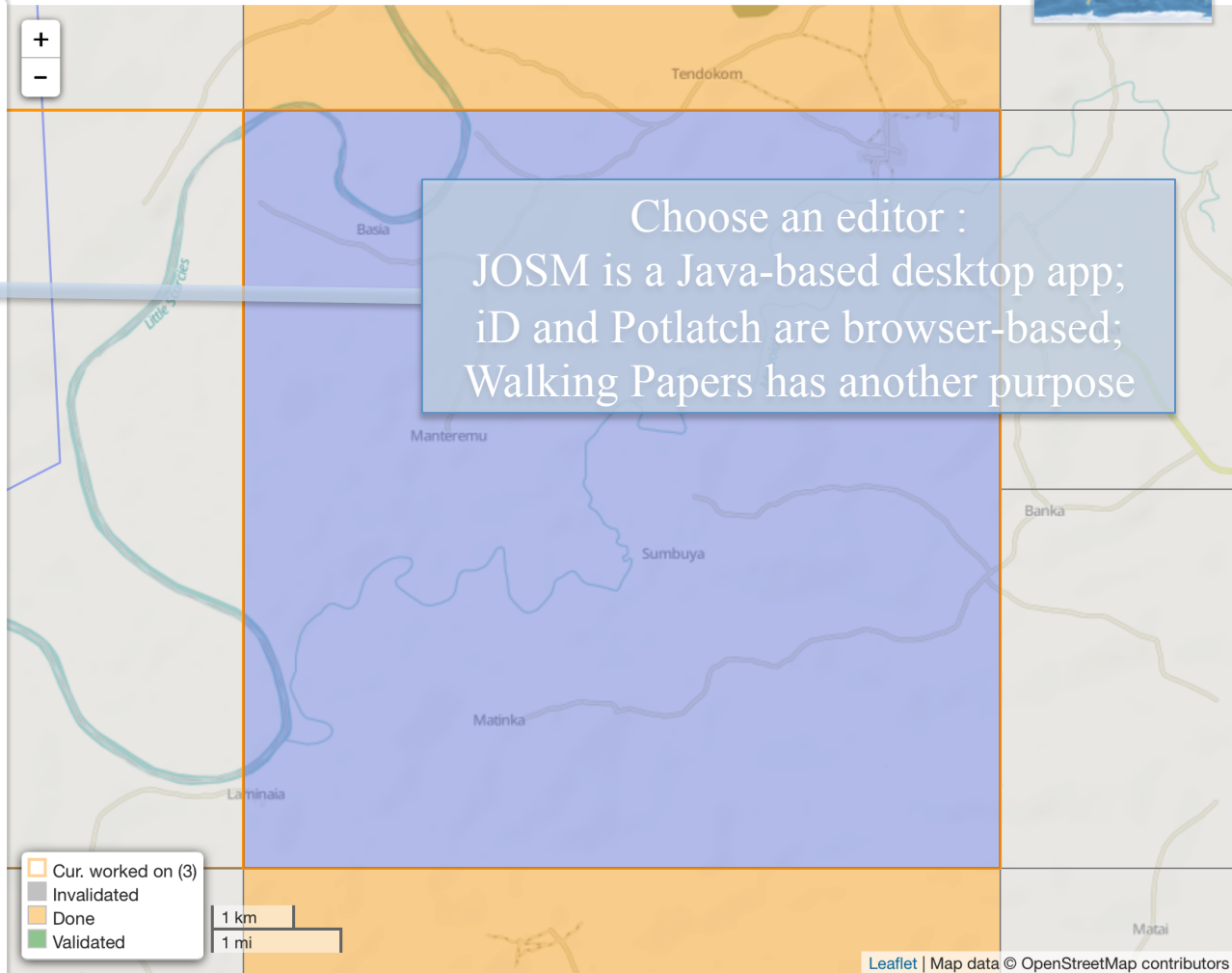
Potlatch 2

Walking Papers

Leave a comment

Unlock

Mark task as done

Locked by Andy Anderson
2 minutes ago[OSM changesets](#)

Choose an editor :
JOSM is a Java-based desktop app;
iD and Potlatch are browser-based;
Walking Papers has another purpose

Editor

For now, choose the iD editor

This works best with Google Chrome browser.

Note: you may also want to split an area here to make it smaller.



Welcome to the iD OpenStreetMap editor

iD is a friendly but powerful tool for contributing to the world's best free world map. This is version 1.5.4.
For more information see ideditor.com and report bugs at github.com.



[Start the Walkthrough](#)



[Edit Now](#)

[+ Zoom in to Edit](#)

Edit Now

The browser opens a new window with satellite imagery and an outline of the task area.

Edit Now!



+ Zoom in to Edit

Click on the darkest color to get the brightest image (!)

Background 100% brightness

☐ None

☒ Bing aerial imagery

☐ MapQuest Open Aerial

☐ Mapbox Satellite

☐ OpenStreetMap (Mapnik)

☐ Custom

☒ Locator Overlay

☐ OpenStreetMap GPS traces

☒ Local GPX file

► Fix alignment

Brightness

You'll usually want a brighter image, so:

*Click on the **Background** button;*

Click the brightest setting;

*Click on the **Background** button again to dismiss the panel.*



Edit feature



Residential

Name

Common name (if any)

Source

Bing aerial imagery

All tags (2)

landuse

residential

source

Bing aerial imagery

All relations (0)

Point

Line

Area



Save



Identify


Scan the image to identify features to outline:

Use + – to zoom in and out;

Click-and-drag  or use arrow keys to move the image around.

OpenStreetMap Edit History Export GPS Traces User Diaries Copyright Help About

Edit feature

 Residential

Name
Common name (if any)

Source
Bing aerial imagery

All tags (2)

landuse	residential
source	Bing aerial imagery

All relations (0)

Point Line Area

Area

Line

Point

bing

50 ft

Edits by Andy Anderson 1.6.2

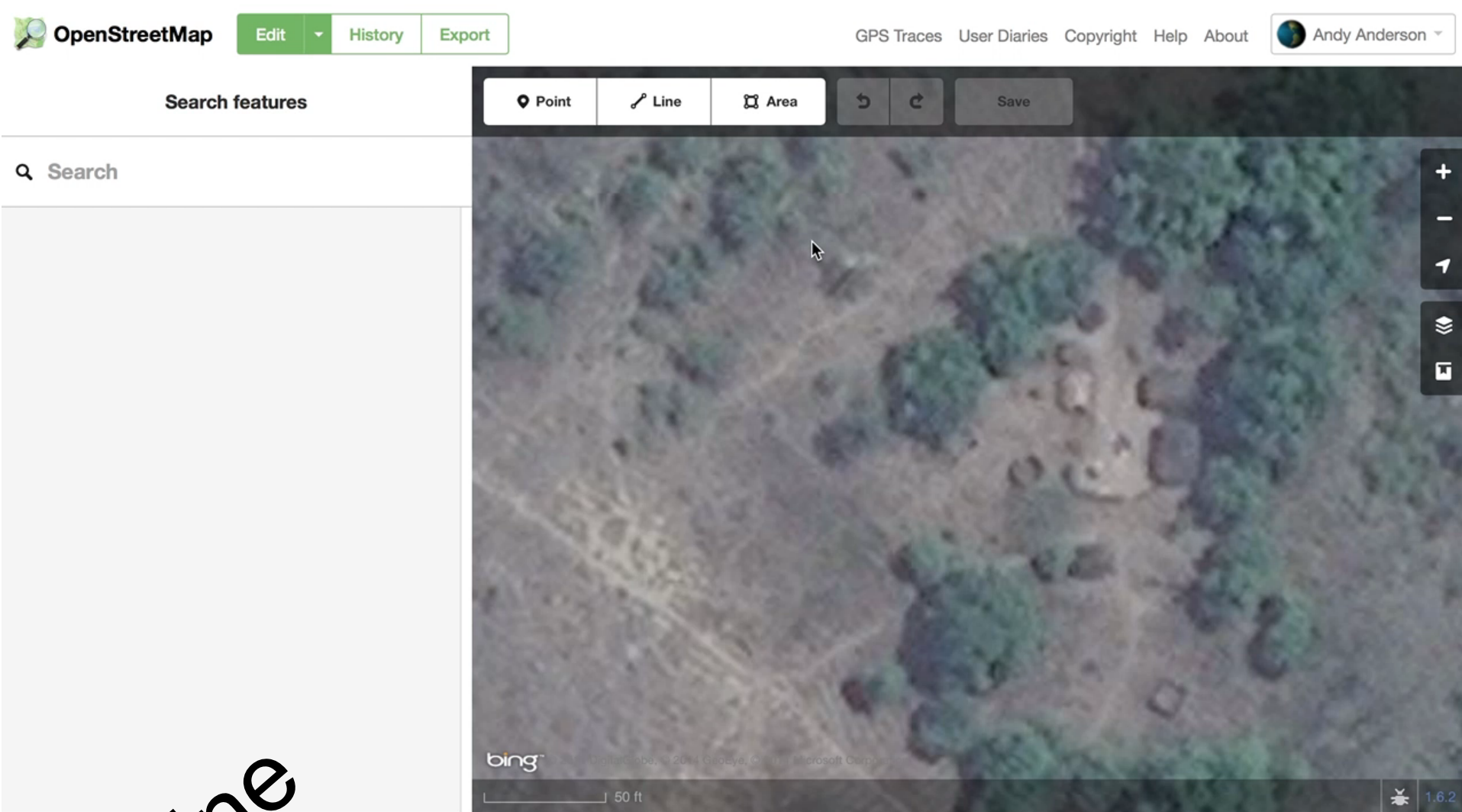
Tools

Choose a tool to outline a feature:

Points for wells, monuments, and other points of interest;

Lines for roads, tracks, paths, and rivers;

Areas for buildings, villages, school yards, and commons



Outline

As shown in the above video:

*To trace a feature, click where the first point should be, then click on bend points;
To move the image, click-and-drag (won't leave a point) or use arrows keys.
Double-click on the last point to finish (or, for areas, click the first point).*

Edit feature



Meadow



Name



Common name (if any)



► All tags (1)

▼ All relations (0)



Tag with a feature type.

Click to tag with **Source** information, e.g. "Bing aerial imagery".

Click the **Save** button when you are finished editing each feature.

Tag & Save

Every feature you create should be tagged with a type.
The source of imagery used should also be tagged (in the iD editor, not JOSM).
Click the **Save** button when you are finished editing each feature.

Save Changes



Commit message

#hotosm-ebola-672

The changes you upload as  **Andy Anderson** will be visible on all maps that use OpenStreetMap data.

Save

1 Changes

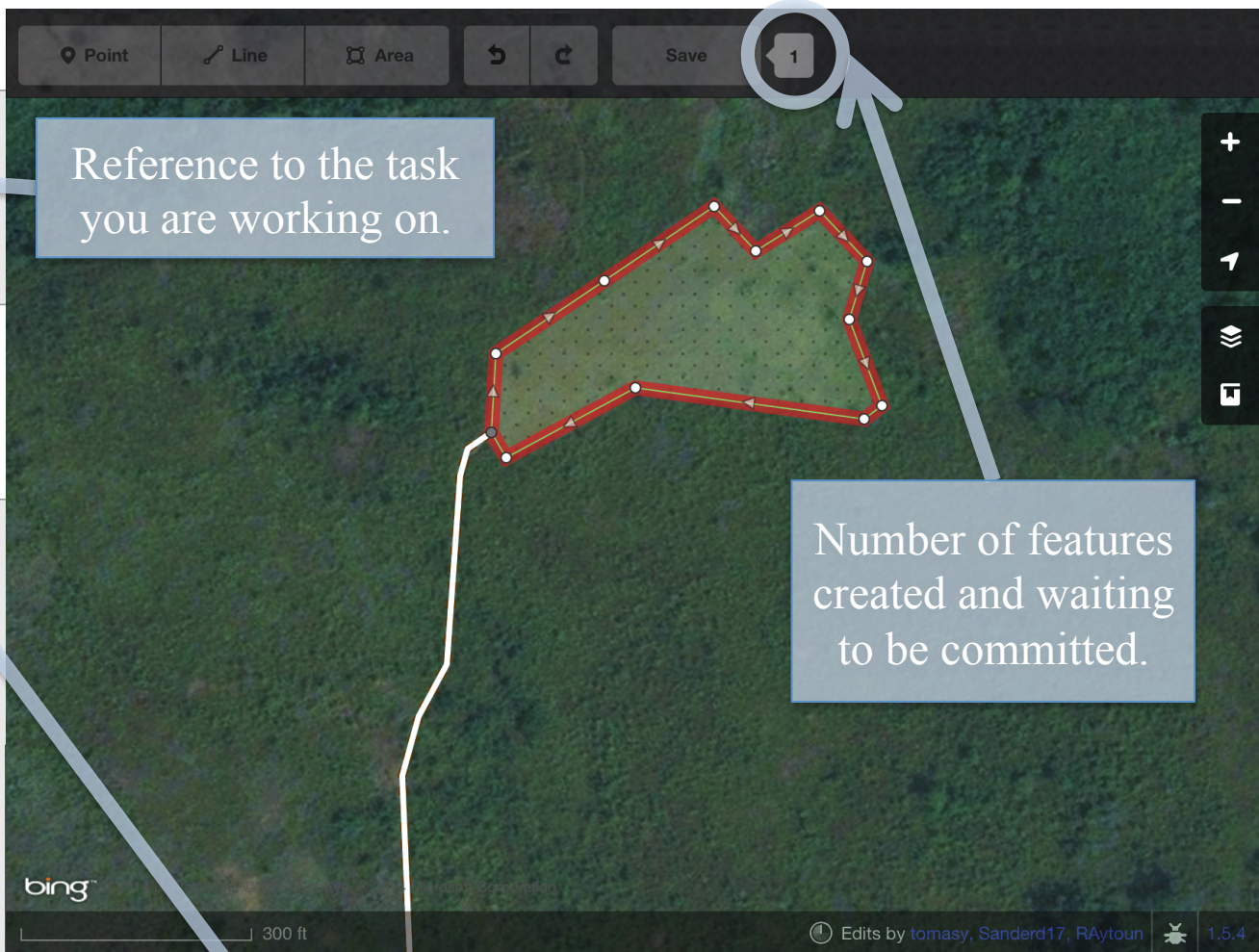
Created **Track**

Reference to the task you are working on.

Number of features created and waiting to be committed.

Commit

*Click the second **Save** button to commit all of your changes to OpenStreetMap, where others can review them.*



#672 - Ebola Outbreak, Port Loko, Bombali districts, road network

[Instructions](#)[Contribute](#)[Activity](#)[Stats](#)

Task #401



Locked by you.

⌚ 87 min. left

[↗ Edit with iD editor](#) ▼Task is too big? [Split](#) 🖨

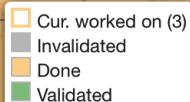
Leave a comment

Unlock

✓ Mark task as done

Locked by Andy Anderson
about an hour ago[OSM changesets](#)

Either unlock or mark as done!



Leaflet | Map data © OpenStreetMap contributors

Finish by returning to the Task Manager window (separate from OpenStreetMap) and unlocking your task, or mark it as done!

Finish

Procedure Review:

1. From <http://www.OpenStreetMap.org>, **Log in to Your Account.**
2. From <http://tasks.hotosm.org>, **Pick a Project.**
3. For each project **Read the Instructions.**
4. Click on the link **Contribute.**
5. Click on **Select a Task.**
6. Click on **Start Mapping.**
7. From the menu, **Choose an Editor.**
8. Now back in OpenStreetMap, **Adjust the Brightness.**
9. Study the image to **Identify Features**, e.g. villages, roads, etc.
10. **Select a Tool:** Area, Line, Point and then **Outline a Feature.**
11. Set **Tags** for **Feature Type** and **Source**, and **Save (Feature).**
12. Then **Repeat** the above three steps, and often **Save (Commit).**
13. Return to Task Manager and either **Unlock** *or* **Mark as Done.**

Summary

Resources for more information:

Magazine Article:	http://www.fastcompany.com
OpenStreetMap:	http://www.OpenStreetMap.org
HOT page:	http://hot.OpenStreetMap.org
Projects page:	http://tasks.hotosm.org
Tutorial:	http://learnosm.org/
Another tutorial:	http://mapgive.state.gov
HOT Mailing List:	https://lists.openstreetmap.org/listinfo/hot

Western Massachusetts Contacts:

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Victoria Beckley vbeckley@smith.edu

Jon Caris jcaris@smith.edu

Theresa Clary tclary@workforcestrategies.com