3.4 Data Collection Servers

This section provides:

- An overview of server storage options
- Guidance on selecting a server for your project needs
- Brief overviews of server options

The following section provides an overview and guide to deciding if a server is necessary for your project and options to choose from. For in-depth information on setting up and managing servers, please use the documentation linked for each server option.

Overview

When beginning a mapping project, many organizations ask if they need to have a server. After collecting data, you'll need to get the data from the devices. Sometimes, it works to simply collect and process data directly from the data collection devices. However, this does not scale well when you get more people collecting data, and also means your data is not backed up - if you lose the device, you can lose the data. Prior to data collection, it is important to have a data management strategy that is suited for your operations.

Management Guide

Choosing a Storage Option

Cloud Server vs. Physical storage Using a data collection server allows for much better management of forms and deployments, collection and aggregation of responses, and can offer additional features for viewing, analysing and exporting data. Use of a server may be restricted by available resources (cost of a server) and/or internet connection (access to cloud server). Servers used in HOT workflows include:

- POSM
- OpenMapKit Server
- Kobo Toolbox

If the use of a server is not available to you, it is still possible and crucial to store backups of data. In this case, data will need to be downloaded or otherwise shared with a central location, such as a laptop computer, and cloned to a secondary location such as a hard-drive or second computer.

Which server should I use?

If you do decide to use a server, use the following table to decide which table is best for your project and resource restrictions. These are not the only options available, but instead, servers that HOT has used and tested in the field for mapping projects.

I want to use a server that…	Kobo Toolbox	OpenMapKit Server	POSM
Is physical or does not require internet connection for upload	☒	☒	☒
Is cloud-based (data upload via internet)	☒	☒	☒
Accepts ODK data	☒	☒	☒
Accepts KOBO Collect data	☒	☒	×
Accepts OMK data	×	×	×
Can provide data visualizations	×	×	×
Provides a map visualization of GPS data collected	×	×	☒

Kobo Toolbox

Kobo Toolbox is an online application that allows users to build Kobo/ODK surveys as well as store, aggregate, and perform analysis of Kobo/ODK data.

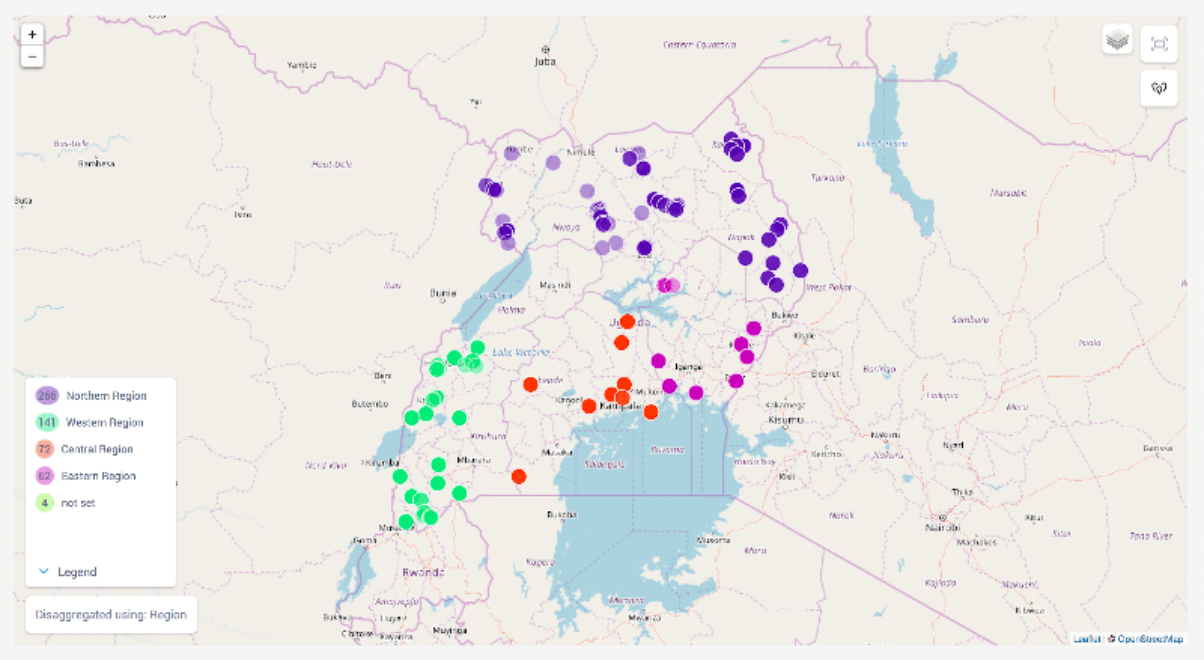


Figure 1: Kobo Dashboard showing data collected in Uganda

Skill level to implement and manage

Beginner

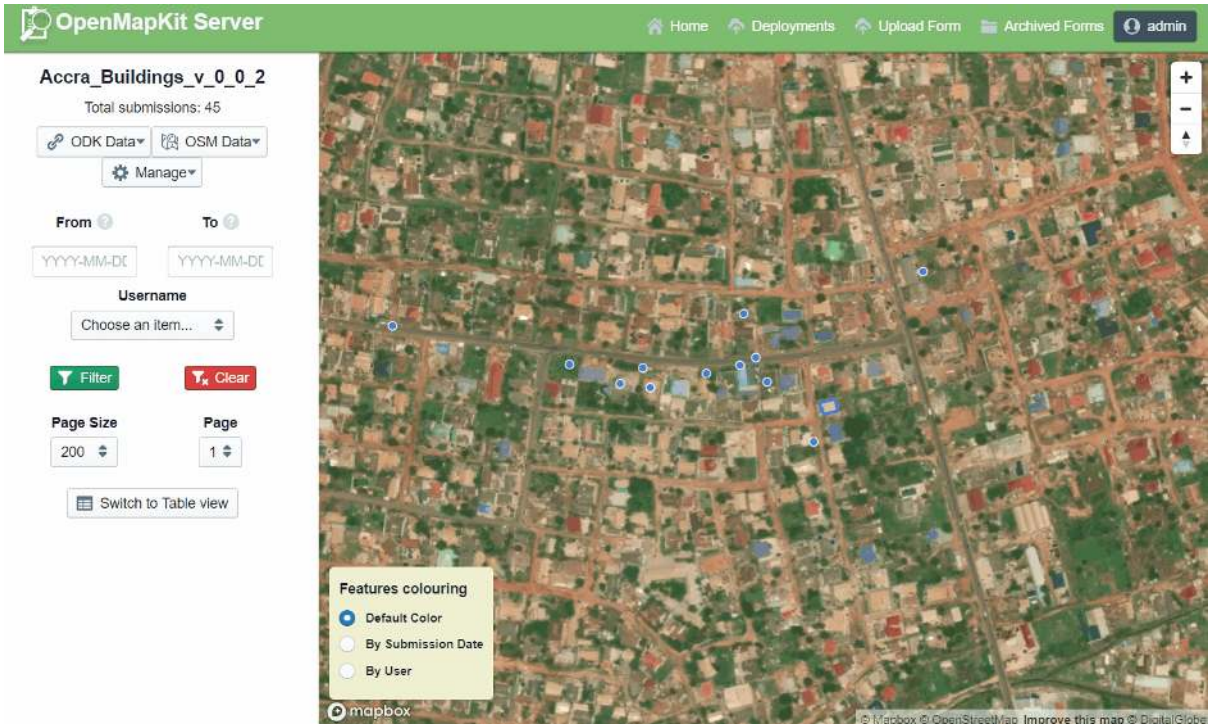
Use Kobo Toolbox Server if:

- OpenMapKit is NOT being used.
- Data is collected in .xml format, such as with ODK or Kobo Collect
- Geospatial data collection does not include polygons - GPS points are accepted

Set-up and Data Management Visit kobo.humanitarianresponse.info

OpenMapKit Server

OpenMapKit Server is a cloud based storage system for specially designed to store and compile OpenMapKit data. Data collected through OpenDataKit can also be uploaded to an OpenMapKit Server.



Skill level to implement and manage Moderate

Use OpenMapKit Server if:

- Collecting .osm data using OpenMapKit.
- Collecting .xml data using ODK and Kobo applications.
- Project Manager need to monitor data as it is collected and uploaded from the field.

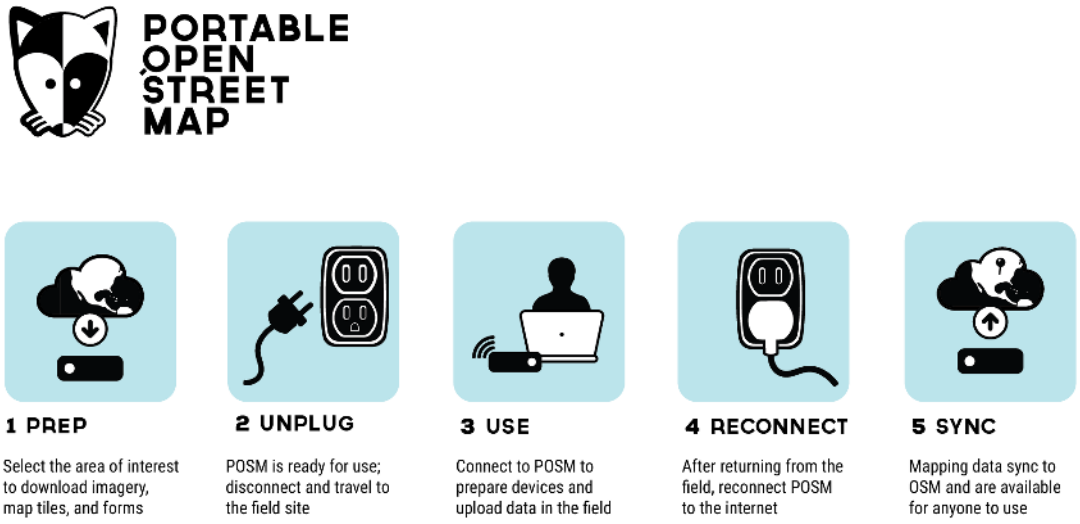
Set-up Set up and hosting is provided by HOT for local OSM communities and projects that HOT has an active agreement with.

Data Management

1. OpenMapKit Server allows for ODK and OMK forms in .xlsx format to be uploaded and converted to .xml forms. In other words, OpenMapKit Server can convert forms from Excel format to the digital format readable by ODK, Kobo, and OMK applications.
2. OpenMapKit Server also allows for Deployments (containing .mbtiles and .osm building layers) to be uploaded.
3. Both forms and deployments can be downloaded directly to mobile phones and tablets via internet connection - allowing for remote set-up of devices for data collection.
4. Completed forms and data can then be uploaded directly from the field when an internet connection is available.
5. OpenMapKit Server managers can view the the incoming data and download in a variety of formats.

POSM

Portable OpenStreetMap, or POSM, is a physical server that contains a set of OpenStreetMap tools, including OpenMapKit server. POSMs allow multiple users to connect and upload data from data collection devices to a central location without the need for internet access. This data can then be aggregated using the OMK Server and synced with OSM directly or downloaded for analysis and processing.



Skill level to implement and manage Expert

Use POSM if:

- Project Managers will need to procure hardware for assembling a POSM, or parts for self-assembly. Additionally, teams will need to have skills for setting up a server on the device. *Due to these requirements, POSM is only recommended for teams that have technical support available.*
- Surveyors will not have access to internet for data upload
- Surveyors will be able to convene for upload to POSM (i.e. able to gather to return to a location where the POSM is kept)
- Project managers are able to procure and purchase a POSM device

Set-up and Data Management Visit the POSM.io website.