1.1 Mapping Buildings and POI with OMK Workflow

The following workflow showcases the tools and processes used in a long-term field mapping project to map buildings and points of interest using OpenMapKit with government and local partners.

Project Overview

Open Cities Africa - Accra

The Open Cities Africa Accra project sought to make Alogboshie and its environs resilient to natural disasters, especially flooding. The project involved the remote mapping of Alogboshie, Akweteyman and Alajo. These are areas of focus in a larger resilience project, Greater Accra Resilience and Integrated Development (GARID), and are all located along the Odaw River which is prone to floods. Alogboshie is a community that is plagued by perennial flooding affecting its residents and those in neighboring communities. The area is usually flooded in the months of June and July during the peak times of the rainy season. The effect of the flood on human life in the community is huge. Often after floods, some community residents are displaced.

The Open Cities Accra team - led by Humanitarian OpenStreetMap Team (HOT), Mobile Web Ghana and OpenStreetMap Ghana (OSM Ghana).

Project page:

OPEN CITIES AFRICA - ACCRA CITY PROJECT - GHANA

Dates: June 2018 - February 2019

Status: Complete

Tools used:

Tool Type	Tool	Use
Software	ODK	Field data collection surveys
	OMK	Field data collection surveys
	OSMAnd	GPX tracking and navigating in the field
	Maps.Me	Navigating in the field
	JOSM	Digitization, creation of .osm layers for OMK set-up, data cleaning following data collection

Tool Type	Tool	Use
	QGIS	Creation of field assignment areas, creation of maps following data collection
	TileMill	Creation of .mbtiles for OMK
	Mapillary	Streetview imagery collection
Hardware	POSM	Used as a server to share forms and receive field data
	Tecno C9	Smartphones used for field data collection

Field Mapping Workflow

1. Technical Set-up

- Remote digitization through HOT Tasking Manager
  - For this, we used
- Development of data model (in coordination with project partners and stakeholders)
- Creation of ODK & OMK Forms
- OMK set-up
  - Creation of mbtiles using TileMill (using drone or aerial imagery)
  - Creation of .osm layers used JOSM
- Set up phones
- Created map assignment areas in QGIS to guide teams in data collection
- Created print maps of assignment areas (drone/aerial imagery in background)
- Set up a POSM or online OMK Server for use in downloading forms and receiving field data #### 2. Drone Imagery Capture and Processing
- Due to the density of the building in this project area of interest, and the lack of high resolution, up-to-date satellite imagery, UAVs/Drones were flown to capture high resolution imagery which was used in remote mapping
- Drone Imagery Capturing
- Drone Imagery Processing
- Drone Imagery Use

3. Field Mapping

- Field mappers grouped into teams with leaders
- Use of OMK (full survey) and OSMAnd (tracking field movement) by field mappers on a daily basis
- Uploading field data to POSM/online OMK server on a daily basis #### 4. Data Cleaning
- Download data from the server

- Manually divide downloaded data into small sections that can be cleaned in a few hours
- Data cleaning and upload procedures
  - Data cleaning in JOSM #### 5. Data Products Creation Creation
- All mapped data was uploaded to OSM, and was later used to develop map products to be used by stakeholders
- Download data from OSM via QuickOSM
- Creation of maps in QGIS using Print Composer & Atlas