



Crisis Response : Connecting point between humanitarian and open mapping communities

- Upon activation, HOT interacts with responding humanitarian organizations to determine their needs
- HOT quickly identifies available imagery and advocates to make more imagery available
- Team members are ready to be deployed quickly if necessary
- Remote support : Software development, Documentation, Training and Mappers
- hot.openstreetmap.org and communication via various channels for quick action and better coordination

Support Community efforts for better maps

- Long term projects in various countries to contribute to development and risk reduction during disasters

OpenStreetMap and Open Data

- Was launched in 2004 in UK by Steve Coast. There are hundred of thousands of contributors around the world and 4 000 in Canada alone. More than 5 000 contributors edit every month around the world.
- OSM Canada is importing Natural Resources Canada Topographic and Road Network databases (1/50 000).
- A few canadian cities have started to provide georeferenced Open Data.

How Crowdsourcing has changed Relief Response Haiti Earthquake, January 2010

Haiti disaster has revealed the capacity of a rapid remote response by thousands of remote mappers. OpenStreetMap, HOT and the GIS humanitarian community in general were a key factor in the relief response. This also showed how Open-Source and Open Data can be deployed in emergencies. NGOs and UN Agencies have learned practical ways to work together. Since then, HOT and other technical NGOs have strengthened their interrelations for a rapid response, developing software tools, and communicating through internet. They are young organizations but already on the radar screen of UN organizations. They respond collectively to requests from organizations such as WHO and OCHA, working remotely or on the ground to better evaluate risks and be prepared for other disasters.

OpenStreetMap.org Port-au-Prince, Haiti Response 12 January → 24 January 2012



Immediately after the January 12, 2010 Earthquake in Haiti, international community responded rapidly. Satellite Imagery providers offered post-earthquake Imagery and hundreds of mappers around the world pitched in to trace and add the data to OpenStreetMap. With this outstanding Crowd-sourcing effort, they quickly built the best dataset available for Port-au-Prince and the surrounding areas.

OSM Map became the standard map for the relief effort .

Both Base and Humanitarian layers were digitized from high-res imagery added to the Map database. The roads were traced, collapsed buildings and road blocks were located and spontaneous camps were identified from satellite imagery. Mappers received

instructions on how to add this information to the database. This contributed to the GIS specialists efforts to assess the extent of damages and the number of people living in camps and establish the logistic to respond to this humanitarian challenge.

March 2010 was the first HOT mission to Haiti, moving the mapping effort from remote volunteers to teaching those working and living in Haiti how to keep the map up to date.



GPS Tracks to collect for the day.

Self-sufficient approach

Nicolas Chavent and Robert Soden, from HOT, brought with them both material (ie. laptops, GPS, printer scanner) and software kits. This assured data collection in the field even without immediate Internet connection to the Main OSM database. Training sessions and promotion of OSM Services were made to UN, Rescue teams and humanitarian respondents. The HOT Humanitarian Data Model was adapted to UN requirements. Specific humanitarian tags were then added to OSM Database. GIS specialists could then export this data for analysis.



Nicolas Chavent and Robert Soden, Haiti, 2010

A workflow of the data was established. Every day, UN and NGOs would bring GPS traces to add to the database. When internet connection was possible, synchronization with the Master database was done, sending and receiving data. And the next morning, GPS were ready to receive new data at street level, showing damages, road blocks and spontaneous refugee camps. Several UN and rescue teams have testified how useful this information has been for them in such a situation and had saved lives.



United Nations Foundation

Disaster Relief 2.0: The Future of Information

Sharing in Humanitarian Emergencies analyzes how the humanitarian community and the emerging volunteer and technical communities worked together in the aftermath of the 2010 earthquake in Haiti, and recommends ways to improve coordination between these two groups in future emergencies.

<http://www.unfoundation.org/what-we-do/legacy-of-impact/technology/disaster-report.html>

OpenStreetMap on GPS being used by search & rescue teams after the Haiti earthquake.

Software development for Humanitarian Open Data

HOT-OSM and other GIS humanitarian teams work closely to respond to various crisis situations. In the last two years, HOT has developed various tools to facilitate mapping and strengthen communications between various groups. For the Japan Tsunami in 2011, specialized maps have been developed to facilitate identification of building damages, road blocks, schools, hospitals, etc. Similar tools were available to edit OSM database through the JOSM Editor. OSM developers also adjust software upon request to take account of new realities.

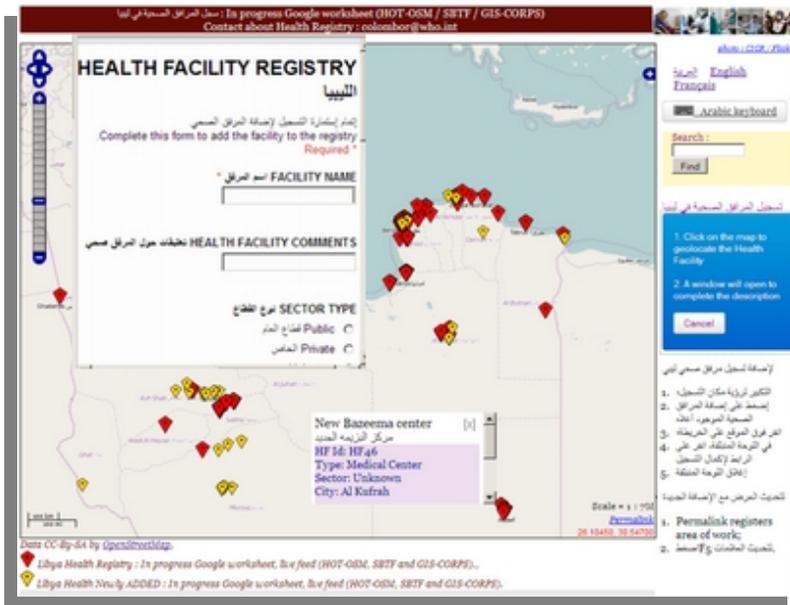
OSM Tasking Server



The Task manager (Pierre Giraud, 2011) facilitates distribution of Jobs in a context of collaborative mapping for disasters situations and long term projects. The area to map is divided in small sections where a volunteer mapper can execute a job rapidly. This lets also the Team better coordinate the Mapping Task and interact with the remote mappers. The Wiki page of the project, the HOT distribution list and the #HOT Chat channel are various ways to keep contact with mappers, to coordinate and give new instructions as necessary.

Live Interactive Map

To help HOT, SBTF and GIS Corps manage the Libya Health Registry, the Live Interactive Map (Pierre Béland, January 2012) interacts in both directions with the Registry to facilitate monitoring of the georeferenced data and let people from Libya add facilities to the map.



Instant update with a GeoRSS feed, a de facto standard to aliment live map.

Health specialists from Libya geolocate Facilities by a simple click on the Map. The next step is to add the description of the Facility in a Popup window. This is transferred instantaneously to a second Registry for treatment. This interactivity takes account of humanitarian team working habit where numerous team members update a Google Doc spreadsheet simultaneously. The Map facilitates monitoring and conjoint efforts of organizations involved in this project. While this map has some similarities with the Ushahidi platform, it focuses on Team work on the ground, facilitating

coordination of these Teams.
Interactive Map -> <http://tiny.cc/w825u>

Such tools, based on Open Source and Open Data, can be easily adapted for other situations (ie. Register/geolocate Canadians abroad, georeference analysis reports ...). The GeoRSS feeds, like any other RSS feed, have an interesting feature. They can be presented in the form of a newswire.

Support Community efforts for better maps



Haiti Just a few hours after the 7.0 magnitude earthquake hit Haiti in January 2010 the OpenStreetMap Community began tracing.... Community OpenStreetMap Haiti (COSMHA) seeks to continue the development of the OpenStreetMap in Haiti.



Kate Chapman from HOT : OpenStreetMap and Quantum GIS Training in Bali, 5th & 6th December 2011
Working with Australian Community Development and Civil Society. Training local facilitators about OSM; how to collect data using GPS and Walking Papers, edit data with JOSM, analysis with Quantum GIS software (QGIS)