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Open Data for Humanitarian and Development Use

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Capabilities

HOT uses OpenStreetMap in two ways: to coordinate remote workers for map digitization and to field

workers so that locals can be trained in mapping their communities, facilities and/or critical infrastructure. HOT advocates that free geodata saves and improves lives in times of political crisis and natural disasters. Access to this open geodata provides an avenue to engage local actors and to initiate processes towards building community resilience.

The main activities of HOT include collecting data, coordinating the design of OSM tools and documentation, teaching data quality assurance, collaborating with data imagery providers, and OSM outreach.

Open Data Collection

The HOT community collects new vector data by tracing over compatible imagery and then by training people to collect feature data in the field. HOT evaluates existing datasets to determine their quality, usefulness, and compatibility with the OSM license. Acceptable datasets are then imported into OSM.

[insert digitizing photo]

Design of OSM Tools and Documentation

To support these activities, HOT members and volunteers design training documentation on OSM mapping techniques : general user manuals and project workflows adapted for specific contexts. HOT also develops specific tools to improve the coordination of the HOT community and the use of OSM data, such as the Tasking Manager or Private Data Store.

HOT aims to ensure that open data is easily available for the humanitarian community and development stakeholders-- whether as a background or as baseline data for GIS (Geographic Information Systems) and other database systems. If specific tools are unavailable, HOT works with others in the OpenStreetMap community to build the new needed tools.

[insert screenshot of new learnosm.org site]

Data Quality Assurance

HOT trains participants to map in the highest quality through using validation tools, such as OSMKeepRight and the Validation menu in JOSM. The data collected by HOT and its volunteers are based on OpenStreetMap tagging schemes and map features. These attribute details are collected in a "folksonomy" method, or by consensus of the OpenStreetMap community. Thus, HOT works together with governments and international response organizations to match the OpenStreetMap information with already existing humanitarian themed data. HOT aims to spread mapping processes that include the review of editor statistics, editing procedure that involve validation editing by more advanced mappers, and the training and use of quality assurance tools.

Partnership with Data Providers

To respond effectively to remote humanitarian mapping, OSM requires recent imagery. Therefore, HOT

partners with imagery providers to have temporary and/or permanent access to OpenStreetMap compatible imagery. HOT is also contacted for official support by organizations and institutions (U.S. State Department and U.S. Agency for International Development, **ICRC**), to create open data from their imagery. Hence, HOT collaborates with data providers and institutions who collect up-to-date datasets, who are advocates of open data and who have consented to have their data imported into OSM. As an example, [see](http://hot.openstreetmap.org/updates/2013-01-04_mapping_selayar_island_with_help_from_mapbox_and_geoeye) [this blog post](http://hot.openstreetmap.org/updates/2013-01-04_mapping_selayar_island_with_help_from_mapbox_and_geoeye)

Outreach activities

HOT frequently participates at international conferences ([Where2.0](#), [Understanding Risk](#), [ICCM](#), [SOTM](#), [TED](#), etc). Its members are speakers at UN Conferences that focus on humanitarian relief and/or sustainable development, as well as at thematic workshops organized by organizations, such as the World Bank, other UN Institutions or Universities (Harvard, Yale...). HOT promotes and explains the importance of open data tools, as well as discusses past projects and the lessons learned from those experiences.

Crisis Response

HOT responds to various types of crises: from village level to national scale. HOT aims to respond whenever the disaster exceeds the capacity of the national response organizations. To do this, HOT maintains a roster of skilled OpenStreetMap experts (remote mappers, remote coordinators, programmers, developers, field coordinators, and trainers).

For these members, a number of principles guide their work in crisis response:

- To develop, utilize, and rely on **open data**
- To collect data in a **quick** and **efficient** manner
- To aid in the collection of mapping data for **humanitarian responders**
- To respect **local knowledge** and **culture**
- To be **covert**
- To **collaborate** and **partner** with other organizations, namely OCHA

In times of crises, HOT works in three ways: to bridge humanitarian responders and the OSM community, to digitize remotely and to provide training in the field.

Bridging Humanitarian Responders and the OpenStreetMap Community

HOT coordinates response among its members and volunteers. With the needs of humanitarian stakeholders in mind, HOT connects those engaged in the humanitarian relief and response operations, like OCHA, with the Virtual Technical Communities (VTC).

Remote response

The majority of HOT's response activities occur remotely. After a disaster strikes, HOT members search for existing data and available satellite imagery. Pertinent partners are contacted to provide ODbL compatible imagery. Once the imagery is obtained the virtual community digitizes, or traces from the imagery (normally, the focus is on recognizable objects that are useful for humanitarian response, like roads, buildings, blocked roads, flood extent, etc) and **generates data and maps**. During this time, responding organizations are also contacted to determine their needs.

Considering the scale of the crisis, HOT allocates the necessary resources and the response is coordinated by a specific team or member who makes sure everyone knows when new resources are available as well as where to focus efforts.

HOT fosters the engagement of the OSM community and, if existing, local actors to use tools like the [Tasking Manager](#) to coordinate response efforts. Examples include the remote activities done in <http://hot.openstreetmap.org/projects/c%C3%B4te-divoire-0>>Ivory Coast, **Senegal**, **Philippines**, and the **Democratic Republic of the Congo**.

Field response

When there is very little mapping data available, field action may be necessary. Skilled members are sent to the field to train humanitarian workers, local government staff and communities to collect and use OSM data. Once these on-the-ground OSM capacities are developed, HOT can continue to work remotely.

Preventive Data Collection

HOT aids in efforts to collect specific humanitarian datasets, such as critical infrastructure or household income distribution, in order to improve community resilience. The primary goals of these projects are preparedness and disaster risk reduction. As a partner or lead implementer, HOT coordinates projects from design to implementation.

HOT designs map projects, deploys field workers and provides custom documentation and software for disaster risk reduction (DRR) projects.

Designing Map Projects

HOT initial scopes a proposed project to analyze the needs of that specific project. This investigatory trip is necessary, especially in countries where a vibrant OpenStreetMap community does not already exist. From this initial trip, HOT designs the most suitable workflow, including all related aspects, like activity and financial reporting (i.e. staffing, insurance, logistics, procurement, communications strategy). HOT has experienced field project managers who have coordinated mapping processes that involve numerous teams of mappers, as seen in <http://hot.openstreetmap.org/projects/haiti-2>>Haiti and in <http://hot.openstreetmap.org/projects/indonesia-0>>Indonesia.

Providing Custom Documentation and Software

HOT delivers specific training documentation (www.learnOSM.org), workflows, web renderings ([Mapbox](#) and [TileMill](#) training) and data services (private data servers). HOT aims to create self-sufficient OSM communities and so initiates documentation and software to allow this. Ensuring that communities can be self-reliant involves tasks, such as translating all of the OSM training material to advocating and initiating the development of software, like the tasking manager, private data store and data extraction database.

Capacity Building and Community Strengthening

Community Approach

HOT aims to create sustainable mapping communities all over the world. Initially, HOT meets with local community representatives to explain the open and participative approach. When possible, HOT facilitates access to workspaces and provides hardware, like GPS units, to the trained local community so that they continue mapping activities. HOT enables locals to take control of mapping their communities. Through involving the local community, HOT's approach builds capacity and allows the community to take a part in mapping their neighborhoods. This community ground-truthing also ensures that the data collected is up-to-date and correct.

Developing Skilled Mappers

All willing participants are trained on the entire mapping process. HOT does not limit training to a limited range of tasks, but rather teaches a whole range of skills, from data collection to basic GIS analysis. This type of training allows locals to understand how important detailed data collection is. HOT develops mappers that understand the objectives of the project, the logic of the workflow and all of the steps necessary to complete the end goals.

Training Trainers and Advocates

HOT is concerned with establishing skilled OSM communities around the world. Training expert mappers, teachers and OSM advocates is thus quite important. HOT has created trainer guides, slides and activities accessible to anyone and everyone interested in mapping and collecting OSM data. HOT desires to leave projects only after the local community is skilled enough to continue OSM data collection and to expand it after the HOT leaves.

Building a Local OSM Environment

Besides training activities, HOT organizes meetings and workshops to get government agencies, academics, technology communities and humanitarian organizations involved and excited about open mapping data. These gatherings show participants the advantages of open source data and of coordinated activities.

About

The Humanitarian OpenStreetMap Team (HOT) is a USA non-profit organization established in August of 2010-- proceeding the Haiti Earthquake. HOT is made up of skilled and committed [members](http://wiki.openstreetmap.org/wiki/Humanitarian_OSM_Team/Members) and volunteers whose backgrounds encompass project management, computer sciences, GIS, social sciences, and social media. HOT members believe that free geodata can help save and improve lives in times of political crisis, natural disasters and development.

Free, collaborative maps are uniquely valuable to humanitarian work, especially in places where base map data is scarce, out of date, or rapidly changing. OpenStreetMap is a web [wiki project](http://wiki.openstreetmap.org/wiki/Main_Page) to create these free and open [maps](http://www.openstreetmap.org/). It is built entirely by people surveying with GPS units, digitizing aerial imagery, and collecting and liberating existing public sources of geographic data. The accessible information in OpenStreetMap greatly assists in responses to disasters and crisis. Unlike many other providers, OSM allows users to add detailed tagging and be able to access it anywhere in the world.

The primary goal of HOT is to apply the techniques of the OpenStreetMap project and the principles of open source and open data sharing towards **humanitarian** goals. The activities of HOT include collecting geographic information using OpenStreetMap after disasters, developing data collection strategies, and partnering with governments and communities for preparedness. HOT works both remotely and physically in countries to assist in the collection of geographic data, in the usage of that information, and in the training of OpenStreetMap. See our [Capacities](http://hot.openstreetmap.org/capacities) page for more information.

Ultimately, HOT's emergency and emergency preparedness work occupies a unique niche in the humanitarian and development worlds. Various organizations rely on OSM for their emergency work and this number is rapidly growing. Among the humanitarian organizations using OSM include United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA), International Organization for Migration (IOM), <http://www.bostonglobe.com/2012/10/29/storm/8Fs6VOEa3F1znmSmc3f92H/story.html> MassGov, <http://gis.nyc.gov/oem/he/map.htm> NYCgov, World Food Program (WFP), American Red Cross, Uganda Red Cross, Map Kibera, UNICEF, etc.

Partners

List of past or current partners: AUSAID, Australian Community Development and Civil Society Strengthening Scheme (ACCESS), Australia-Indonesia Facility for Disaster Reduction (AIFDR), American Red Cross, Educational Concerns for Hunger Organization (ECHO), European Union (EU), Fondation de France/OSM-fr, Haiti Communiter, International Organization of Migration

(IOM), Pan American Health Organization(?), World Bank (WB), Uganda Red Cross, USAID, Ushahidi, World Food Program (WFP) and many others.



Contact: info@hotosm.org

Capacités

Donnée libre et ouverte (open data)

HOT dispose d'une expertise reconnue sur la donnée libre auprès de grandes organisations internationales (Banque Mondiale, USAID, AusAID, IOM, ICRC...). Sur ce thème, nous effectuons des missions de conseil ou d'évaluation, menons des projets de création ou d'imports de données et mettons en place des stratégies de partenariat sur le long terme.

Réponse à l'urgence humanitaire

En cas de désastre, HOT active la communauté de contributeurs OSM pour la création de données utiles pour la réponse humanitaire et fait le lien avec la communauté humanitaire. Il nécessaire, des membres expérimentés dans l'action humanitaire se rendent sur place pour renforcer la réponse et former des capacités dans le milieu humanitaire, le gouvernement local et la société civile.

Capacities (published text)

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Design of OSM Documentation and Tools

HOT aims to create self-sufficient OSM communities and so initiates documentation and software to allow this.

HOT members and volunteers design [training documentation](http://wiki.openstreetmap.org/wiki/Humanitarian_OSM_Team/Working_groups/Training) on OSM mapping techniques: general user manuals with the [LearnOSM](http://www.learnosm.org/) project and workflows adapted for specific contexts. Ensuring that communities can be self-reliant involves tasks, such as translating all of the OSM training material to advocating.

[inline:LearnOSM_frontpage.jpg]

HOT also develops specific tools to improve the coordination of the HOT community and the use of OSM data, such as the [Tasking Manager](http://tasks.hotosm.org/), the Private Data Store, the [HOT Exports](http://hot-export.geofabrik.de/) for data extraction or [MapBox](http://mapbox.com/) and [Tilemill](http://mapbox.com/tilemill/) web renderings.

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stakeholders - whether as a background or as baseline data for GIS (Geographic Information Systems) and other database systems. If specific tools are unavailable, HOT works with others in the OpenStreetMap community to build the new needed tools.

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- To **collaborate** and **partner** with other organizations, namely OCHA and the [Digital Humanitarian Network](http://digitalhumanitarians.com/) members

[inline:DHN_diagram.jpg]

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<h2>Capacity Building and Community Strengthening</h2>

<h3>Community Approach</h3>

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<h3>Building a Local OSM Environment</h3>

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