



Humanitarian
OpenStreetMap
Team



Activation Protocol

Defining the HOT Disaster Mapping Program

HOT Activation Protocol

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This Activation Protocol was developed for and by the **Humanitarian OpenStreetMap Team (HOT)** through a generous grant from the Hewlett Foundation. Aimed at improving the ability to fulfill our mission and inspired by our response to the West Africa Ebola epidemic in 2014, development of the HOT Activation process was just one of three priority areas chosen by the HOT community. The funding allowed HOT community members to meet for a three day sprint in order to capture the knowledge and experience necessary for the drafting of this Protocol. It also enabled development of a training curriculum for volunteer coordinators, informally referred to as “Activators” in this document.

This Activation Protocol defines the flow of activities during a HOT Activation and describes how our trained volunteers perform the tasks that lead to a successful and efficient response. An Activation is broken down into three phases:

- Phase 1** Determine Response
- Phase 2** Response Activities
- Phase 3** Activation Conclusion

Another key aspect of an effective Activation is **HOT Readiness (Phase 0)**, which aims to keep the HOT community prepared to respond when called upon.

September 2015, the community of HOT initiate this Activation Protocol to be carried out by the Executive Director, staff and other HOT “Associates” (as defined in the HOT Code of Conduct) engaged in activities related to the Disaster Mapping Program.

Under review and collaboration with the Activation Working Group and global community of HOT the following people helped develop the original content for the Activation Protocol:

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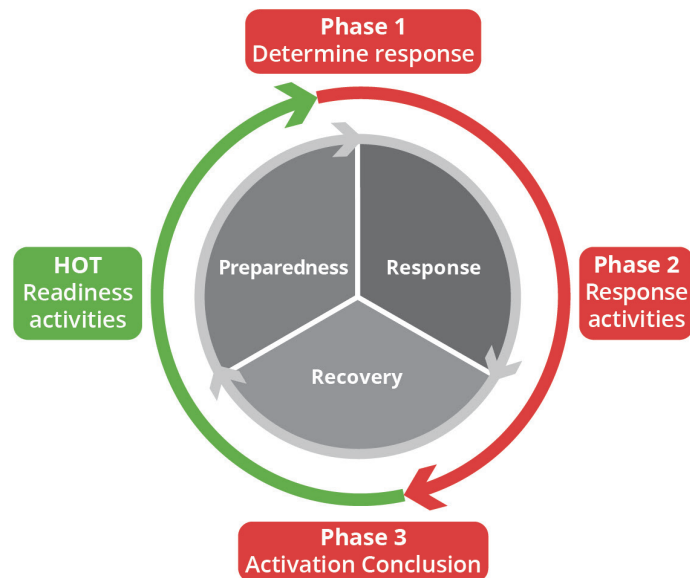
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Glossary 

Phase Zero: HOT Readiness

“Activation” is a concept that the **Humanitarian OpenStreetMap Team (HOT)** was founded on. This relates to coordinating the multi-million strong global community of OpenStreetMap (OSM) contributors in response to a disaster. Although HOT has since grown to do much more, the activities carried out during all phases of the disaster cycle fall under the term “Activation” – a common phrase used by digital humanitarians. For external communication HOT uses the term “Disaster Mapping”.

Activation Phases and the Disaster Cycle



Activation Roster

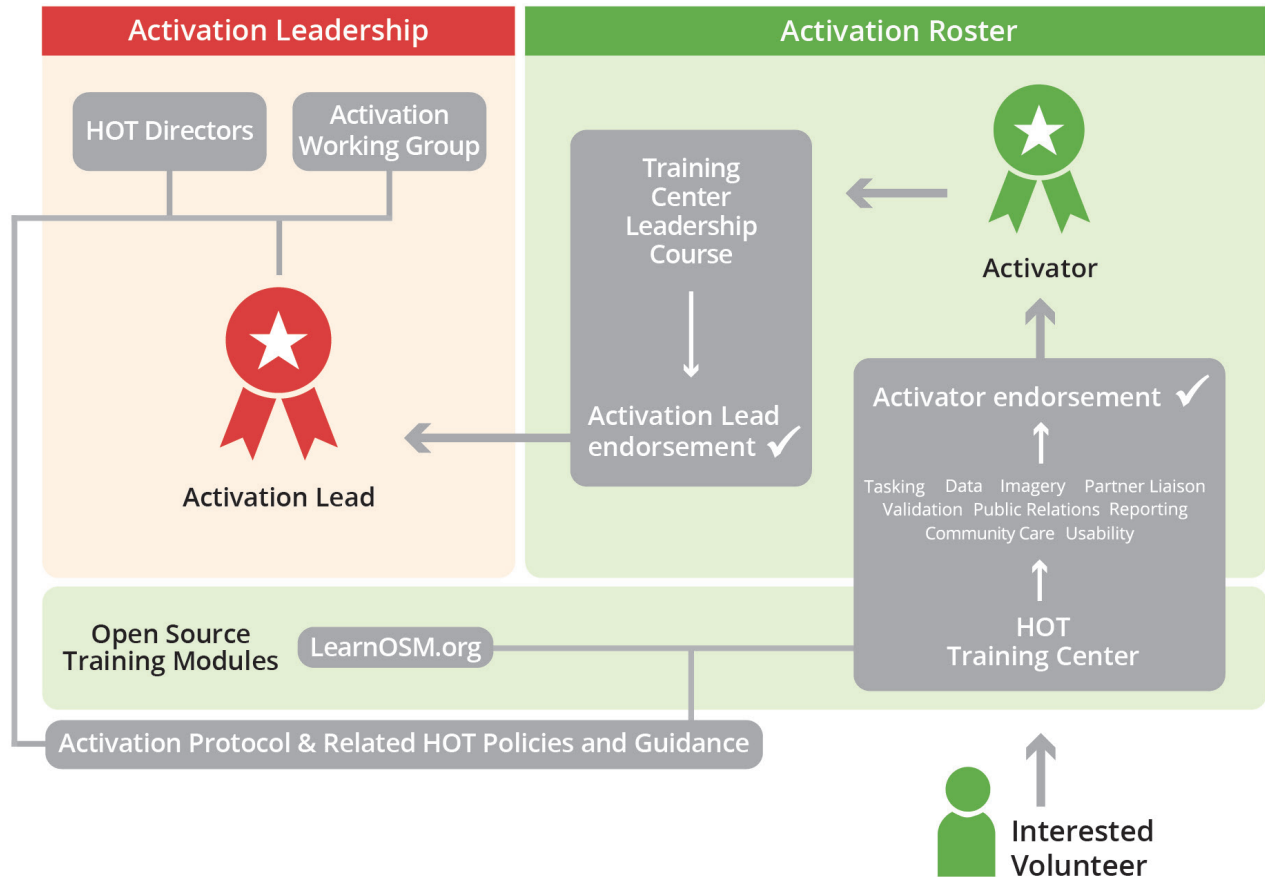
The numerous, and at times complex, activities required for a successful and efficient Activation are coordinated largely by HOT volunteers. These volunteers are referred to as “Activators” in this document. They are trained and peer-endorsed to handle various role(s) as part of a team in order to fulfill this Activation Protocol.

Activation Roles

Roles	Responsibilities
Activation Lead	Overall Activation management through all three phases.
Public Relations	Handle communications, monitor channels, address media enquiries.
Partner Liaison	Liaise with existing and potential partner organisations and donors.
Community Care	Ensure a healthy digital environment is maintained and help new mappers.
Data	Assess the AOI for data needs, handle imports and tagging, review progress.
Imagery	Assess imagery availability, imagery needs, and facilitate requests with liaisons.
Tasking	Setup and manage mapping projects as well as help coordinate priorities.
Validation	Review the data, coordinate the validation process and help new mappers.
Usability	Ensure first responders and aid organisations can utilize OSM data.
Reporting	Ensure proper documentation and reporting, assist with review.

Volunteers are required to complete training as well as receive endorsement from an existing Activator to be recognized as able to perform activation activities on behalf of HOT. Activators must also complete every training module and be endorsed before they can be certified as an Activation Lead. The path for becoming a Trainee, then Activator and ultimately an Activation Lead is visualized in the Activator Career Path diagram.

Activator Career Path

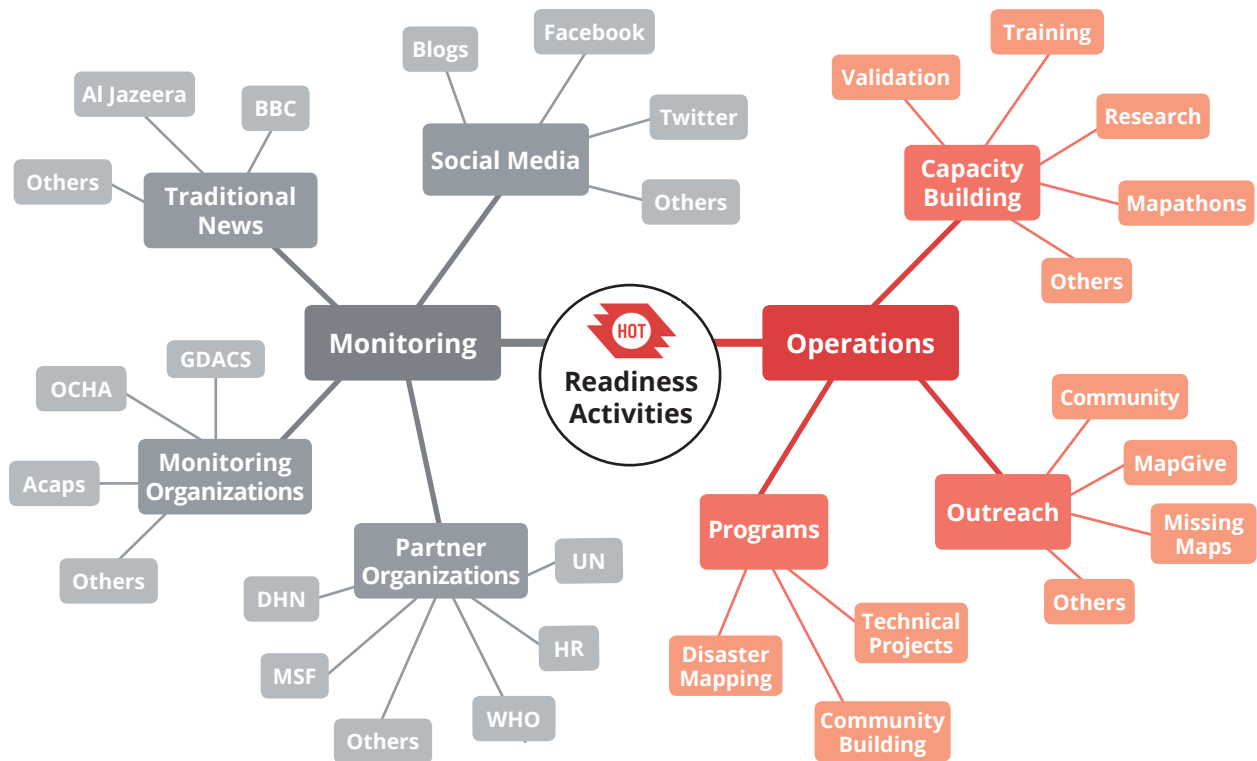


Typically endorsement is accomplished by performing a role as a trainee during an Activation. Endorsement can also be achieved outside of an Activation; an example might be for HOT to coordinate a training workshop to exercise Activation techniques. HOT maintains a roster which lists trained and active Activators, and reserves the right to manage the roster (including promotion, demotion, role changes, or removal) under the direction of the Executive Director.

Readiness Activities

During day-to-day operations, HOTA is continually working to be ready and improve its ability to provide assistance to those in need. All Activators and those interested in volunteering for Activations need to be engaged in HOTA activities. This includes monitoring news and partner communication as well as involvement in normal operational activities including outreach, capacity building, disaster mapping programs, community building and technical projects.

HOT Readiness Activities



Phase One: Determine Response

As an event is predicted or unfolds, the HOT Activation Lead(s) and community discuss various factors to determine an appropriate response. The type, scope and anticipated humanitarian impact of the event is evaluated. The current state of OSM data and imagery available in the area of interest (AOI) is reviewed to determine needs and the assistance HOT can provide. Local OSM community is identified and partner or other response organizations requests are reviewed, as well as HOT's capacity to assist. A decision for HOT to fully activate, or to support a response through other means is based on, but not limited, to these factors.

Factors for Determining the HOT Response



Perform Event Size-Up

Activation Lead(s)

There are three types of disasters/crises: sudden onset events, slow onset events and protracted crisis.

Examples of Event Types

Event Type	Examples
Sudden Onset	Earthquake, Flash Flood, Tornado, Wildfire
Slow Onset	Disease Outbreak, Drought, Famine, Seasonal Flooding
Protracted Crisis	Epidemic, Sociopolitical Transition, Violent Conflict

Sudden onset events happen quickly, with little or no warning. Slow onset events are usually not limited to a single occurrence with damaging effects often occurring over an extended period of time. Protracted crises are events where a significant proportion of the population is vulnerable to death, disease, displacement or disruption of their livelihoods over a prolonged period.

Event Scope and Need for HOT Activation

Event Scope	Minor Event	Moderate Event	Major Event
Geographic Scope	Village(s) to City	City to Region/Country	Region/Country to Global
Humanitarian Impact	<10,000 People Affected	10,000s to 100,000s	100,000s to 1,000,000+
Estimated Duration	Short (days to weeks)	Medium (week to months)	Long (month to years)
Need for Activation	Low Probability	Moderate Likelihood	High Expectation

Geographic scope and estimated humanitarian impact will affect the amount of work needed, urgency, and expected duration of the response.

Estimate Data and Imagery Needs

Data Imagery Usability

The existing data in the AOI must be considered and reviewed. This includes existing OSM data, high resolution imagery coverage, and 3rd party data. This review is only one of the inputs into the decision whether or not to activate, but the review is vital in the event of a HOT Activation. Activators will evaluate Common and Fundamental Operational Datasets (COD/FOD) and data available via the Humanitarian Data eXchange (HDX).[↗](#)

Evaluate the state of the map in the AOI	✓
Evaluate available imagery in the AOI	✓
Evaluate known sources of data in the AOI	✓

Estimate Capacity to Assist

Activation Lead(s) Public Relations Partner Liaison

Often HOT will be contacted with a request to activate. While this will have an influence on the decision, a request alone is not enough for HOT to activate. Sometimes HOT will identify areas of immediate impact and activate without a request. One limiting factor may be HOT's internal capacity at the time due to other ongoing events.

Is assistance being requested?	✓
Is there COD data missing from OSM?	✓
Is there a need HOT can assist with?	✓

Determine Appropriate Response

Activation Lead(s)

Part of the decision process is to discuss the nature and scope of the event. This is often done in a quick text or voice conference with Activation Lead(s) and the Activation Working Group. For major events, coordination with other organizations will be facilitated by the appropriate HOT Partner Liaison(s) and the decision to activate will include the HOT Executive Director to ensure resource needs are available.

As the nature and scope of the crisis becomes apparent, a decision for how HOT will engage will occur. HOT expects that the Activation Lead(s) have been diligent in performing a size-up, reviewing data and imagery, estimating the resource needs, and that they agree to fulfill this Activation Protocol. However, if an Activation does not seem like the appropriate response, this does not mean that the individual Activator(s) and HOT members cannot support the response in other ways, with many of the same activities proceeding in a less formal way. An event that is not selected for an Activation could be coordinated as a Missing Maps [↗](#) or other community driven project.

Suggested Response Matrix

	HOT Activation	Missing Maps	Local Project	Other Support
Minor Event (Local Leadership)	No	Possibly	Likely	Imagery/Imports/Outreach/Tagging
Minor Event (no Local Leadership)	Unlikely	Likely	Possibly	Disaster Mapping Guidance
Moderate Event (Local Leadership)	Unlikely	Possibly	Possibly	Imagery/Imports/Outreach/Tagging
Moderate Event (no Local Leadership)	Possibly	Likely	Possibly	Individual Activator Support
Major Event (Local Leadership)	Possibly	Unlikely	Possibly	Imagery/Imports/Outreach/Tagging
Major Event (no Local Leadership)	Likely	Possibly	Unlikely	Full Activation Support
Needs	The estimated data and imagery needs may increase the likelihood of Activation or support from individual Activator(s).			
Capacity	The likelihood of HOT to activate or for Activator(s) to provide support is increased when there is an identified COD/FOD missing from OSM and HOT has capacity to assist.			

Declaration of Activation

All

A Declaration of an Activation will result in the following actions:

- Setup the framework and workflow for the Activation.
- Commence activities that will occur over the course of the Activation until its conclusion.

1 Identify Local HOT/OSM Community

Activation Lead(s) Community Care Public Relations

If no local HOT/OSM groups or community members are part of the decision to activate, Activators will strive to identify locals to include in the coordination, or at least be local points of contact. HOT's Code of Conduct requires Activators to defer to local leadership whenever possible. Locals typically provide the best information about where needs are greatest, help determine local mapping standards, motivate and organize local contribution, as well as help with reviewing the data during and after the event.

Activation Declaration Flowchart



2 Formalize Activation Team

Activation Lead(s)

While a minor scope event and shorter duration Activation could be conducted with one Activator coordinating all the various aspects, more often Activation requires a team with assigned roles. A quick text or voice chat between Activation Lead(s) to determine availability, as well as the number and locality of lead(s) appropriate for the scope of the event will occur.

Guide to Determine Activation Team Size

Event Scope	Desired Number of Activation Lead(s)	Anticipated Size of Support Team	Estimated Roles per Activator
Minor Event	1-2	0-4	4-10
Moderate Event	1-4	2-6	2-6
Major Event	2-4	4-8	1-2

The Activation Lead(s) recruit from the roster those Activators trained in the Role(s) that will best complement the team in order to successfully coordinate and execute the Activation. The makeup of the team takes into account various particularities.

Factors to Consider in Activation Team Selection

Experience	Description
Local	Lived, worked, or traveled extensively in AOI
Event	Understanding or experience in event type
Mapping	Contributed to mapping projects in AOI
Cultural	Language, cultures, and other specifics in AOI
Activations	Other knowledge related to Activation experience

3 Establish Internal Communication and Coordination Tools

Activation Lead(s)

HOT uses a variety of tools to coordinate the various aspects of an Activation, as well as develops new tools to meet specific needs. Establishing a core set of tools for a particular activation is vital to sharing information among Activators, volunteers, and other stakeholders.

Example Coordination and Communication Tools

Coordination Need	Example Tools
Mapping/Project Tasks	Tasking Manager, Mapmill, etc.
Imagery	OpenAerialMap, uMap, Google CrisisMaps, etc.
Training	LearnOSM, Tracing Guides, OSM Wiki, etc.
General Information	HOT Activation Wikipage, HOTOSM.org, etc.
General Communication	Email, IRC, Mumble, Skype, etc.
HOT Activation Coordination	Trello, Google Sites, etc.
Document Drafting	Google Docs, HackPad, etc.

4 Establish External Communication and Coordination Tools

Activation Lead(s) Community Care Partner Liaison Reporting Usability

Set up a wiki-page and/or HOTOSM.org website project and point of contacts for external parties. Include links to the relevant public resources related to the Activation activity like public HOT/OSM event information documents, training materials for new mappers and any event specific (location or event type) mapping resources.

5 Create Initial Project(s)

Tasking Data Imagery Reporting Validation


Create the initial Tasking Manager or other project(s) to give the community a place to start working right away. These are typically high level mapping tasks, for example road networks or identifying residential areas. Having a wiki-page created with even minimal information on the area of interest and links to local mapping recommendations can get more experienced mappers started right away, who may in turn be able to help prioritize further tasks.

6 Collect and/or Provide 3W Information – Who does What, Where?

Activation Lead(s) Partner Liaison

Who does What, Where (often referred to as a 3W) outlines each organization’s operational presence by sector and location within an emergency. At a basic level, the 3W Operational Presence (3W:OP) can enable organizations to help identify potential partners, quickly give a very rough understanding of an on-going response, and superficially identify potential overlaps or gaps in response. [1]

HOT will contribute to the collection of this information by providing information on its response efforts to UN OCHA via the Digital Humanitarian Network (DHN). This enables Activators to better interact with other responding organizations (both digital and traditional responders), help determine their needs, and keep them informed of HOT services and available data products.

[1] Source: www.humanitarianresponse.info 

7 Announce the Activation

Activation Lead(s) Community Care Public Relations Reporting

Once a decision has been made to Activate, it must be communicated to the HOT/OSM community and the general public. This initial communication will be planned and include links to the relevant public resources related to the Activation activity like public HOT/OSM event information documents, training materials for new mappers and any event specific (location or event type) mapping resources. If well done, this initial communication can serve as a resource document to handle inquiries for the early stages of the Activation. The announcement will be distributed via the HOT Communications Working Group to ensure all available channels are utilized, including social media, new media and traditional media.

Checklist: Steps to Complete Before Announcing an Activation

Initial Projects created and Prioritizing Underway	✓
3W Information Collected and Shared	✓
Communication Established and Monitored	✓
Team is Ready to Monitor Data and Imagery	✓
Team is Ready to Manage Mapping Activities	✓
Team is Ready to Manage Exports and Products	✓
Team is Ready to Handle Technical Issues	✓
Team is Ready to Monitor the Event Scope	✓

Phase Two: Response Activities

Over the duration of an Activation many activities are repeated, maintained and monitored. Activation Lead(s) ensure these are managed and taken care of throughout the entire Activation.



Phase 2 Activities Flowchart

Maintain Communications

Activation Lead(s) Public Relations Partner Liaison

Recognize and identify the different communications needs during an Activation, especially during the difficult first days after a disaster occurs. There are a variety of communication channels both internal and external, each with different audiences.

Communication Triage

- Often the various communication channels are overwhelmed at the start of an Activation.
- Assign an Activator or team of Activators to triage communications.
- These Activators can play a key role in making sure:
 - 1 Communication issues are minimized.
 - 2 The community has all the information they need to participate.
- For example, press inquiries may come in very fast, and the time window to reply short. Questions come in from different audiences (technical, humanitarian, foreign language, etc.) to all channels; knowing who is best to speak on various topics will expedite the process.

Partner Relationships

- Communications with partner organizations is one of the most important duties of Activators and will be closely coordinated with HOT leadership.
- These communications will include:
 - 1 Gathering of needs information from people in the field.
 - 2 Sharing updates about HOT services and OSM products.
 - 3 Learning where information is being collected by other organizations, where partners will be deployed, and what data is needed for their success.
- In many cases HOT community members have worked years to establish relationships with partners.
- Make sure to coordinate with HOT's Executive Director or Partner Liaison designee when communicating with any external organisation.

Local OSM Communities

- Communicating with OSM groups in the affected area is key to a more effective response.
- Ideally HOT will have Activators who are also leaders among the local OSM community in the affected area.
- At minimum Activators will send a message to the affected country/region's OSM mailing list asking for contacts to help with coordination by:
 - 1 Guiding mapping efforts and priorities.
 - 2 Giving feedback on the usefulness and quality of the map data generated.

HOT Event Pages

- A wiki allows others to add or enhance information that has been captured by the Activation Team, such as:
 - 1 Local media reports.
 - 2 Mapathons or other support events.
 - 3 Examples of OSM usage by first responders or aid organizations.
 - 4 Other dynamic topics often difficult for Activators to stay informed on.
- Creating a project page on the HOTOSM.org website provides a central place for updates (blog posts) to be linked, a way to easily supply contact info and show who is participating.

Ongoing Review

Data Imagery

As an Activation continues, more and more data sets and imagery will be generated or 'discovered' by other organizations and will be shared in the common coordination channels. These sources will need to be reviewed to determine their appropriateness and usefulness to the objective(s) during the Activation.

Key Items to Review

Imagery	OSM Data	External Data
<p>Post-event imagery may become available as well as additional sources of pre-event imagery. This must be reviewed and integrated into projects (via Tasking Manager or other tools) so volunteers can use the most appropriate imagery for the tasks they are asked to perform.</p>	<p>Both existing and newly generated OSM mapping data will need to be continually reviewed to make sure overall data quality remains high and any identified issues or deficiencies are corrected as soon as possible, with the associated adjustments to the instructions and/or training documents.</p>	<p>Third party data, both existing and newly generated will be available, often identified and shared through the coordination channels. The usefulness of this data to the mission objectives needs to be evaluated, as well as whether it can be incorporated into OSM legally and how best to do so.</p>

Manage Mapping Activities

All

Mapping is the main activity that the community of volunteers contribute to, through the creation of OSM baseline data in the AOI. Activators ensure that this data is accessible and usable by other organisations also responding to the event. Ongoing management of the mapping process is one of the main activities during an Activation.

Mapping Activities Management Strategies





Activity	Roles	Description
Determine Appropriate Data Model	Data, Tasking and Usability	Conduct a review of available data models. This may be dynamic as priorities change. It also may require developing or modifying existing data models to fit local geography, construction, and cultural differences; such as Highway Tag Africa 
Onboard New Mappers	Community Care, Public Relations and Validation	Often new mappers reach out through the mailing list and IRC and many more join but never ask for help. Try to identify new mappers who need gentle guidance on mapping best practices, and make use of external resources to help with guidance.
Manage Mapping Projects	Data, Imagery, Liaison, Reporting and Tasking	As feedback and information is received, focusing mapping with priority areas will ensure that we are responding with the most critical data first. The better projects are managed, the more efficient and effective mapping efforts will be.
Review Mapping Progress	Data, Reporting, Tasking and Validation	An overall status of the mapping progress needs to be maintained. This can be achieved with a table on the wikipage. As news fades from the headlines, it may be necessary to make clear and direct asks of the community or for assistance mapping within specific Tasking Manager projects.
Document and Recognize Achievement	Community Care, Public Relations and Reporting	The geographic data generated by HOT through mapping is consumed and utilised by partner organizations, governments, responders on the ground and other interested parties.
Coordinate With Responders	Data, Imagery, Liaison, Tasking and Usability	Coordinating with other organizations to determine what geodata is required will guide mapping focus and objectives. Means of communication can vary. Activators will be diligent to include all stakeholders in appropriate channels.

Manage Exports and Data Products

Usability

The geographic data generated by HOT through mapping is consumed and utilised by partner organizations, governments, responders on the ground and other interested parties. An important part of the Activation coordination is to help people get access to OSM generated data in a format they can use; Activators facilitate export services and document product availability through channels such as the wiki-page and HDX.

Example Export Tools and Documentation Strategies

Coordinates	Description
HOT Export Tool 	When available post notice and/or sample export on HDX  and instructions on the wiki.
GeoFabrik Export Tool 	When available post instructions or direct link on the wiki.
OverPass Turbo 	If other services are not available, or it may be useful, post brief instructions on the wiki.
GPS/Mobile Data	Post instructions or links to various common GPS/Mobile device format sources.
Custom Services	In some cases, custom export and/or conversion services are set up, post appropriately.

Manage Technical Issues

Activation Lead(s) Usability

During an Activation a variety of issues can arise, for example technical issues related to data imports or exports, or even technical issues related to infrastructure or software. These need to be recognized and dealt with in the most efficient manner possible and will often involve support from people outside the group working the current Activation. An Activator will relate the issue to the right people, through the correct channels and follow up to make sure the matter was resolved satisfactorily.

Monitor Event Scope

Activation Lead(s) Partner Liaison Public Relations

Ongoing interactions with partners, media, local OSM communities and volunteer mappers will help determine the scope of the event and continued need for HOT activities. This will help guide the decision process for number of Tasking Manager projects, emphasis on external communications to recruit new mappers, and timeframe for concluding the Activation.

Phase Three: Activation Conclusion

The process of slowing down Activation activities is both important to clear the way for other mapping projects and to give the Activators more time to engage in the end of Activation debriefing. De-escalating the activities consists of completing and validating the remaining Tasking Manager projects, making sure to reflect the changes in priority on the Tasking Manager, wiki-page and other messaging, and completing documentation and reports.

Activation Conclusion Flowchart



Review Map Data

Validation Data Usability

A high level and thorough review of all the areas mapped will be conducted to standardize tagging (such as road classification) and review the quality of mapping. The corrective work will be led by the Activator(s) performing the Validation role with the aid of experienced mappers.

Build Local Capacity

Partner Liaison Public Relations Community Care

During an Activation, strive to identify people and methods to build local capacity. This is important for data validation and the continuation of updating of the map data in the AOI. A long-term positive and important outcome an Activation can achieve is ensuring strong local contacts, and that they are connected to the larger OSM and HOT community.

Plan Long-term Support

Activation Lead(s) Tasking Public Relations Community Care

The official end of an Activation does not mean that the mapping activities in the area will conclude. Longer term mapping projects can be created to improve the geo-data coverage or fill in details that were not immediately needed during the initial response phase. Often the Activation Team will be in the best position to facilitate the creation of those mapping projects; but since they are less critical, the amount of time it takes to complete those projects might be significantly longer and consideration will be made to transfer the project(s) to Missing Maps or the local OSM community.

Conclude the Activation

All

At some point the Activation will be concluded. Potentially, the response to the event will enter a recovery phase and mapping remotely may become less effective or less necessary; or the event was very localized and all of the mapping that can be done for the area has been completed. The Activation Team will be debriefed and communication through the appropriate channels made to inform all of the concerned entities that HOT has officially ended the formal part of mapping efforts.

Checklist: Steps to Take Before Concluding an Activation

Are There More Requests For Mapping?	X
Is There High Risk Of Additional Crisis?	X
Have Remote Mapping Needs Been Met?	✓
Is Local Community Ready To Manage?	✓
Has Long Term Support Been Planned?	✓
Has Activation Team Been Debriefed?	✓
Is After Action Review Complete?	✓
Are Projects Closed And Reporting Finished?	✓

Review Methodology and Results

All

A critical part of ending an Activation is to review activities with the larger OSM and HOT communities to recognize successes and identify areas of improvement for future Activations.

Every Activation will inform future process improvement. At minimum, an after action review (AAR) will be conducted and include feedback from the Activation Team.

Example of Simple After Action Review Questions and Responses

Basic Question	Sample Response
One thing that went well this Activation?	Wiki combined with webpage kept information flow maintained.
One thing that did not go so well?	Too many projects going at once, difficult and took longer than expected to complete.
One lesson learned or suggestion for improvement?	The tasks that had less features (i.e. just roads vs. roads, buildings and waterways) were completed and validated quicker. OR, We should limit the number of features we ask to map in each task.

Where needed, conduct a more thorough review. Individual activities can be reviewed; for example: how tasks were created, what features were mapped, and how well the quality meets expected standards, as well as larger issues, such as how well were communications, collaboration and coordination handled. In case of specific techniques such as damage assessment mapping tasks, start a discussion between the HOT community and experts from other organizations to compare results and solicit on-the-ground verification of accuracy and usefulness. Activities identified as needing improvement should be documented and communicated to the appropriate people or working groups in order to facilitate discussion and recommendations for the next response.