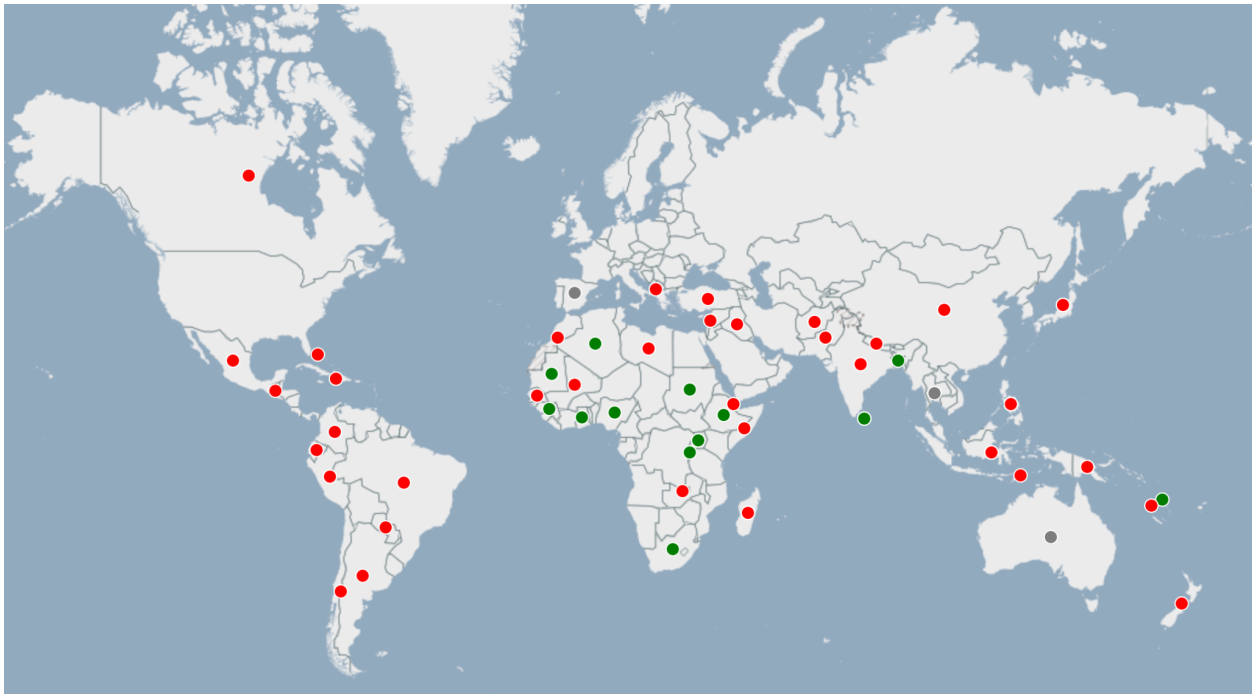

Activation Response 2008-2023

Analysis

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Executive Summary

Since 2008, there is documentation showing OpenStreetMap contributors coordinating mapping efforts in response to disaster, which led to the founding of HOT in 2010. Over the next 13 years, HOT has exhibited strong leadership in disaster response, particularly in significant events. This leadership has solidified HOT's position as a player in the humanitarian sector, leading 88 disaster activation responses and supporting an additional 58.

Since 2018, HOT has been increasingly taking on a supporting role, collaborating extensively with other entities and organizations. This collaborative approach optimizes resources, expertise, and reach, ensuring that affected communities receive comprehensive support.

While HOT's involvement has been consistent, there are events, especially in recent years, that did not receive HOT's support (moderate size and tropical cyclone types). This presents opportunities for introspection, strategy refinement, and increased engagement in the future.

Insights summary

1. **Prioritization of Major Events:** HOT has consistently showcased its commitment to large-scale incidents, leading or supporting in 96% of events classified as "Major". The involvement signifies a strategic decision to channel resources and expertise where the impact can be the most substantial.
2. **Evolution of Role:** Between 2010 and 2017, HOT predominantly assumed a leading role in disaster events. However, there was a noticeable shift from 2018 onwards, where they began to collaborate more, supporting rather than spearheading efforts. The year 2018 was particularly significant, marking a peak in HOT's involvement in both leading and supporting roles.
3. **The 2021 Challenge:** In 2021, while HOT led and supported numerous events, there was also a high number of events (23) where HOT was notably absent. Most of these events were Tropical Cyclones. The reasons ranged from deeming a response unnecessary to only considering support-type interventions.
4. **Diverse Engagement by Event Type:** HOT's engagement varies across different disaster types. For instance, while it has a substantial leading role in tropical cyclone and flood events, there are also significant instances where it did not support. The involvement strategy might be influenced by various factors, including available resources, the presence of other organizations, and strategic decisions.
5. **Regional & Country-specific Highlights:** HOT's presence is felt worldwide, with a notable emphasis on Asia and Africa. Countries like the Philippines, Indonesia, and Peru have seen consistent engagement, while in others like Mexico, there have been varied responses.

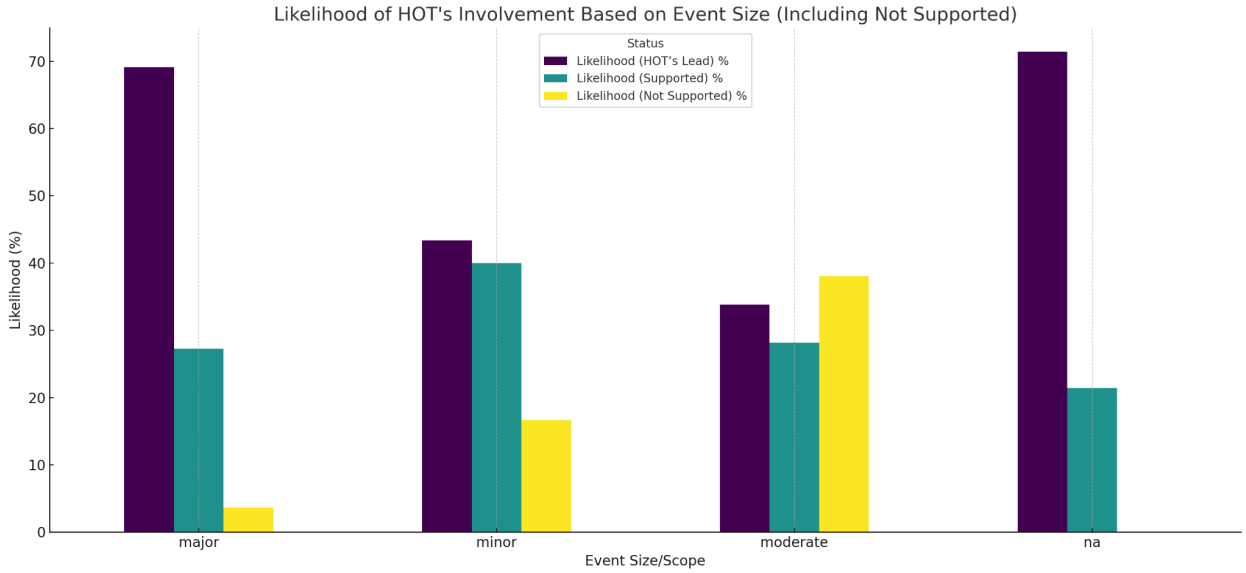
6. **Collaborative Approach:** Since 2018, HOT has championed collaboration, working extensively alongside other entities and organizations. This joint approach optimizes resources, consolidates expertise, and expands reach, ensuring that affected communities receive robust and comprehensive support.

Data Sources

- Disaster_Triage
- 📝 Airtable sanitized data - 📊 Interactive dashboard [HOT staff access]
- Public Airtable link - No account needed
- Jupyter Notebook for the graphs on this doc

Detailed insights

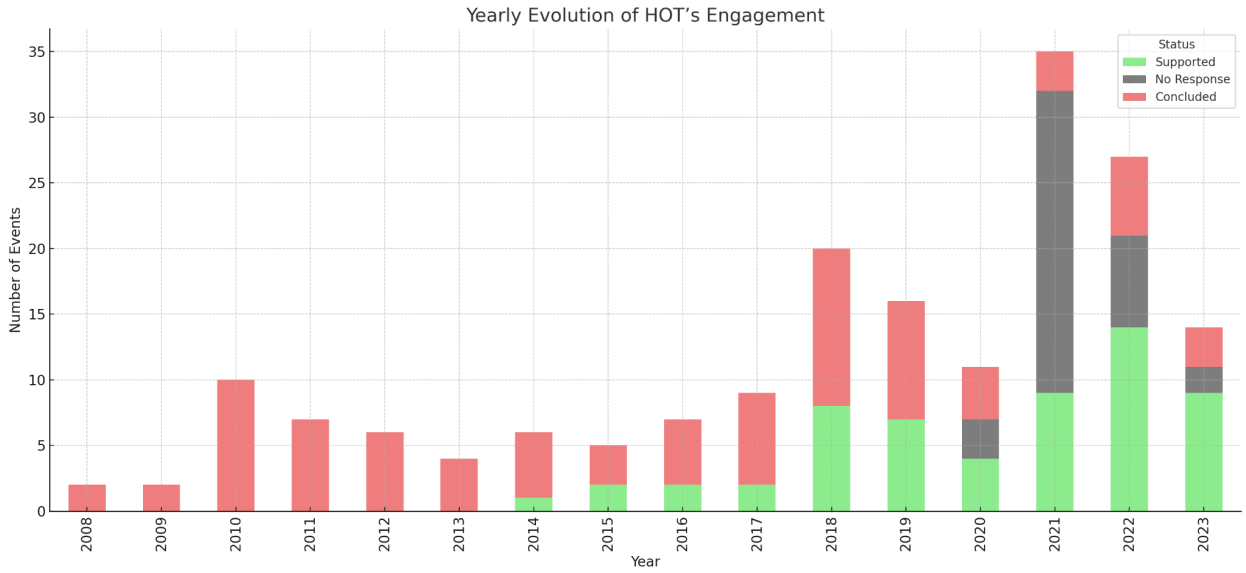
Event Prioritization by Size/Scope



1. **Major Events are a Priority for HOT**: For events classified as "Major", HOT is highly involved, either leading or supporting in 96% of such events. This suggests that HOT prioritizes significant events and ensures that the expertise and resources are channeled towards large-scale incidents. Only a tiny fraction (4%) of these major events did not see HOT involvement.
2. **Moderate Events See Varied Responses**: While HOT is involved in about 62% of moderate events, it's notable that 38% of such events do not receive HOT support. This indicates that other factors (perhaps available resources, the presence of other organizations, or strategic decisions) influence HOT's decision to engage with moderate-scale events.

3. **Consistent Engagement in Minor Events**: HOT is relatively consistent in its involvement with minor events, with about 83% seeing either leadership or support from HOT. While these events are smaller in scale, they still receive considerable attention.
4. **Unspecified Events See Strong Leadership**: For events where the size/scope is unspecified, HOT predominantly takes on a leadership role. This could be indicative of HOT stepping in when there's ambiguity or lack of clarity, ensuring that necessary actions are taken.

Yearly Evolution of HOT's Engagement



- **Evolution of HOT's Role**: Initially, from 2008 to 2017, HOT predominantly took a leading role ("HOT's Lead" or "concluded") in events. Starting from 2018, we observe a shift with an increasing number of events being supported, rather than led by HOT.
- **Peak in 2018**: The year 2018 marked a peak in HOT's involvement, both in terms of leading and supporting. This was due to the increased disaster events and first-time funding for disaster work from partners.
- **Significant Non-Support in 2021**: The year 2021 stands out with a notably high number of events (23) that were not supported by HOT, even though HOT also led and supported a significant number of events that year. This was a year where HOT had full-time incident evaluation time from staff.
- **Balanced Approach in Recent Years**: In more recent years (2020-2022), HOT's involvement appears more balanced between leading and supporting roles, with both categories seeing similar numbers, a result of years of community-lead responses strategy that started back in 2014.

Year	HOT's Lead	Supported	Not supported
2008	2	0	0
2009	2	0	0
2010	10	0	0
2011	7	0	0
2012	6	0	0
2013	4	0	0
2014	5	1	0
2015	3	2	0
2016	5	2	0
2017	7	2	0
2018	12	8	0
2019	9	7	0
2020	4	4	3
2021	3	9	23
2022	6	14	7
2023	3	9	2
Total	88	58	35

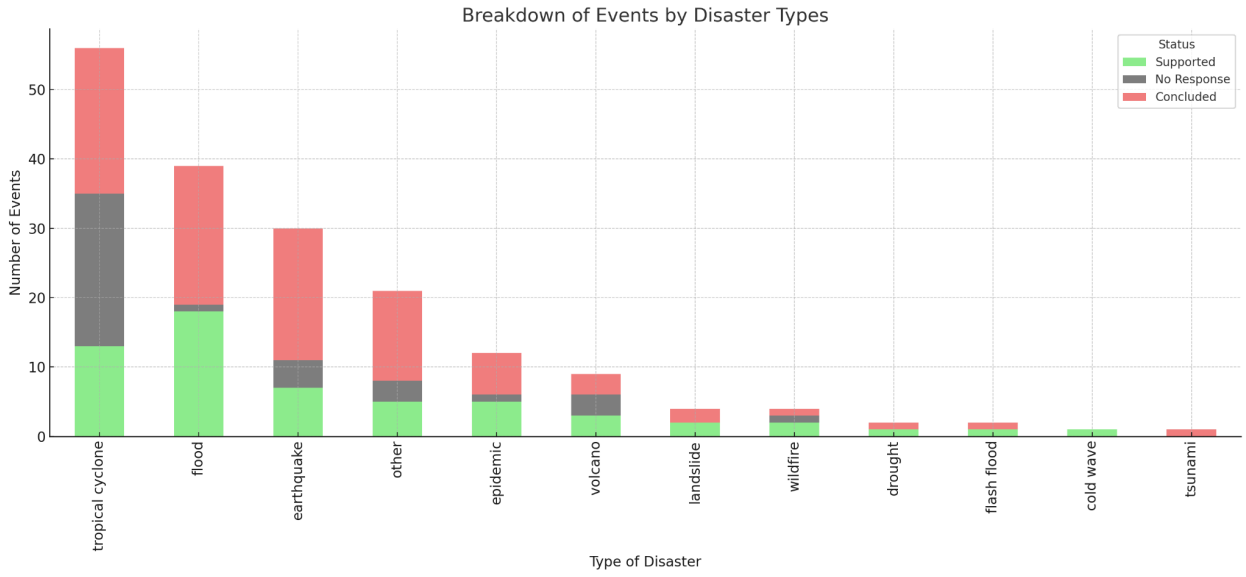
Diving Deep into Unsupported Events

There were 35 events where there was no response or support. From those these are the main reasons for not getting involved at any level:

Reason	Number of Events	Explanation

Unlikely	18	Based on available information, a response was deemed unnecessary.
Possibly/Possible	10	There was potential or consideration for a response, but no full activation occurred. No additional details are provided.
Likely	3	Response was deemed likely, but no activation took place. No additional details are provided.
Support-Type Response	3	If any response was to occur, it would have been of a supporting nature rather than a full activation.
Specific Assessment	1	Specific assessment of the situation, such as emphasizing data use over mapping.

Breakdown by Disaster Types

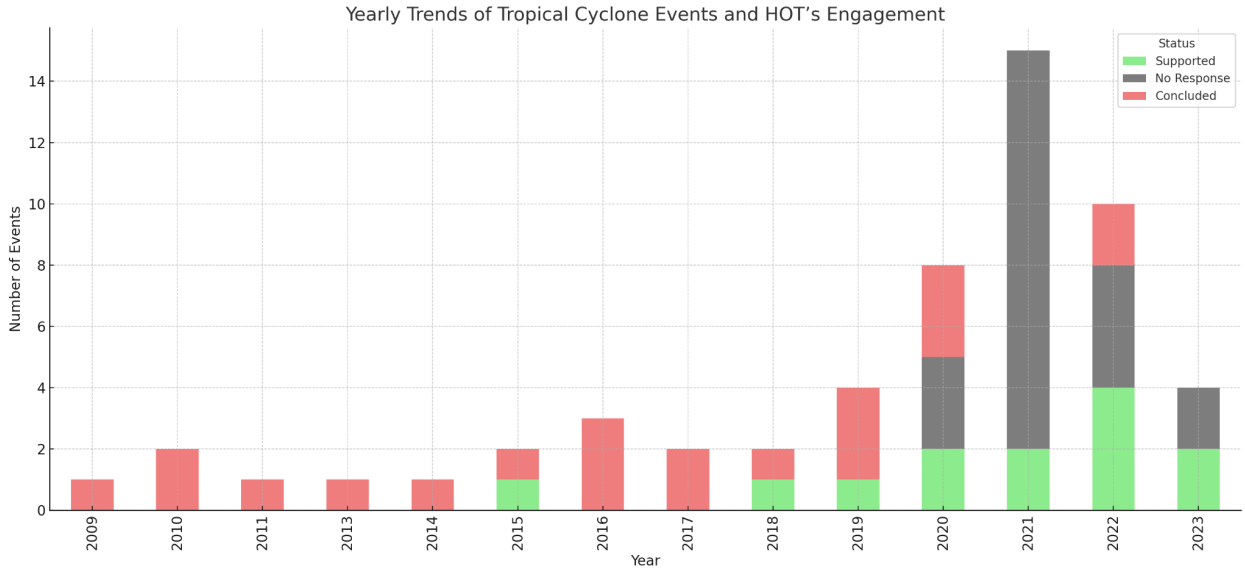


Type of Event	HOT's Lead	Supported	Not supported
tropical cyclone	21	12	22
flood	20	18	1

earthquake	19	7	4
other	13	5	3
epidemic	6	5	1
volcano	3	3	3
landslide	2	2	0
drought	1	1	0
flash flood	1	1	0
tsunami	1	0	0
wildfire	1	2	1
cold wave	0	1	0

Zooming in on Tropical Cyclone Decisions

In order to understand the type of activation with the larger number of unsupported events (23), we went deeper into Tropical Cyclones data and analyzed the documented reasons for not supporting those.

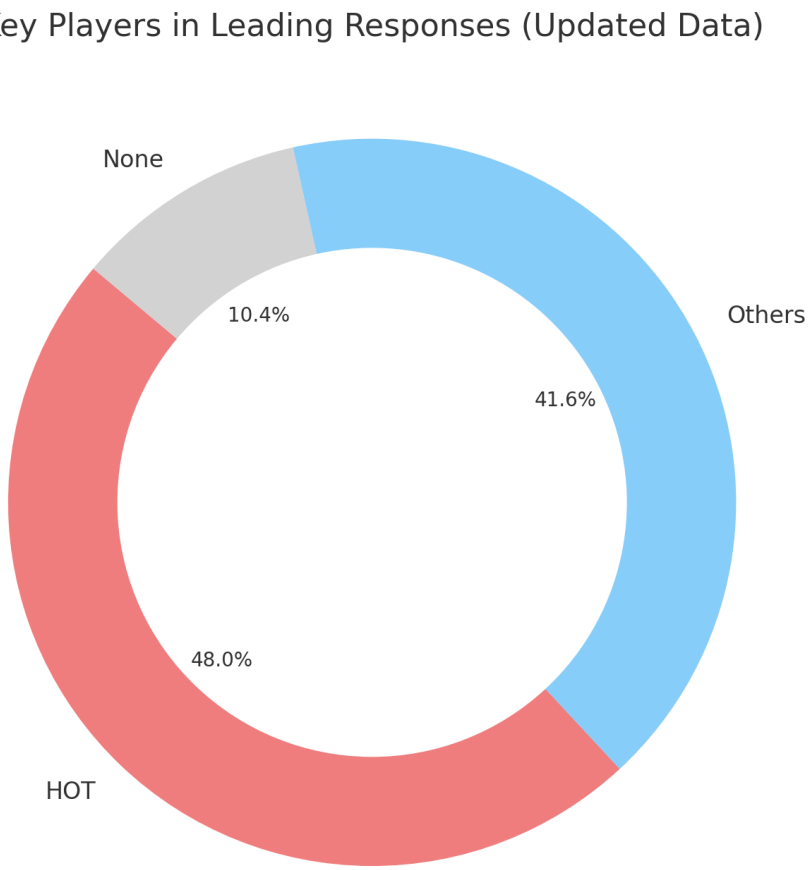


In 2021, for the tropical cyclone events where there was "no response" from HOT, the main reasons were as follows:

- **Unlikely**: 11 events. This indicates that it was deemed unlikely that a response would be required based on the information available.

- **Possibly**: 1 event. This suggests that there was some potential for a response, but it wasn't activated for some reason.
- **Most likely only a support-type response**: 1 event. This implies that if there was any response, it would most likely have been of a supporting nature rather than a full activation.

Key Players in Leading Responses



Almost half of activations have been led by HOT itself, followed by instances where someone else was leading and HOT was supporting. Several local OSM communities from different regions also have had a role in leading activations.

Most events with no lead were Tropical Cyclones (13), and most of them took place in 2021, which is connected with numerous events that did not require activation and HOT didn't get involved.

Key Players	Number of Events

HOT	97
Others	84
None	21

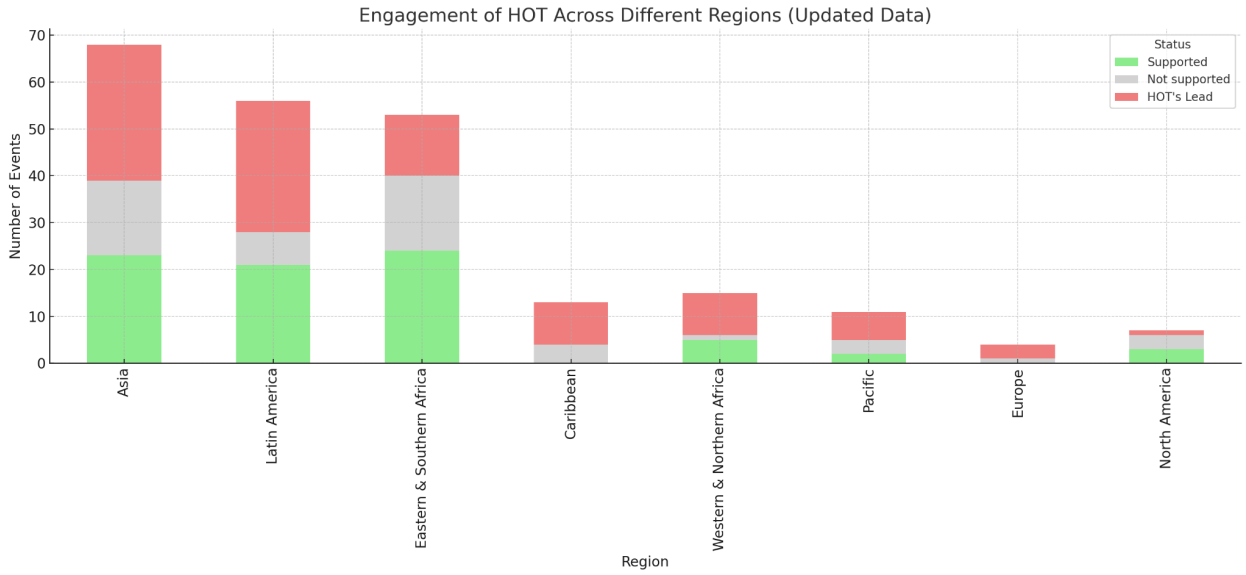
External orgs leading or supporting

There are the external organizations not national OSM or HOT communities that have been involved in activations.

Name	**Role**	**Incident/Event Name**	**Country**
Action Economic Reform (AER)	Supporter	Tropical Storm Agaton 2022	Philippines
AmeriGeo	Lead	Canchaque Landslides 2021	Peru
Bali Disaster Management Agency and U-Inspire	Supporter	Bali Flash Flood 2022	Indonesia
Community of Geochicas in Bolivia.	Supporter, Lead	2019 Bolivia Wildfires	Bolivia
CrisisMappers Japan	Lead, Supporter	Japan Earthquake Support	Japan
IFRC/YM Panama/IDB-Nicaragua	Supporter	Hurricane Eta	Honduras; Nicaragua; Guatemala
Kathmandu Living Labs	Lead, Supporter	2015 Nepal earthquake	Nepal
MSF	Lead, Supporter	(2019?) - 2021 Central America Dengue Fever; 2021 Central America Dengue Fever	Central America
MapAction	Supporter	Bata Explosion	Equatorial Guinea

MapBeks	Lead	Typhoon Rolly	Philippines
MapGive	Lead, Supporter	Sri Lanka Flood Activation	Sri Lanka
OCHA and WFP (Logistics Cluster)	Lead, Supporter	Democratic Republic of Congo Ebola Response	Democratic Republic of the Congo
PH Red Cross - Basemap	Supporter, Lead	October PH Earthquakes	Philippines
POI	Supporter, Lead	Tropical Cyclone Sejora	Australia; Indonesia
Red Cross	Lead, Supporter	2015 Vanuatu (Typhoon Pam Cyclone)	Vanuatu
Indonesia Red Cross (PMI), BNPB	Supporter	Semeru Volcano Eruption	Indonesia
Unique Mappers Network Nigeria	Lead	Nigeria Floods 2022	Nigeria
Yer Çizenler	Lead, Supporter	Aegean Sea EQ	Turkey

Engagement Across Regions



Region	HOT's Lead	Supported	Not supported
Asia	29	23	16
Latin America	28	21	7
Eastern & Southern Africa	13	24	16
Caribbean	9	0	4
Western & Northern Africa	9	5	1
Pacific	6	2	3
Europe	3	0	1
North America	1	3	3

Country-specific Analysis

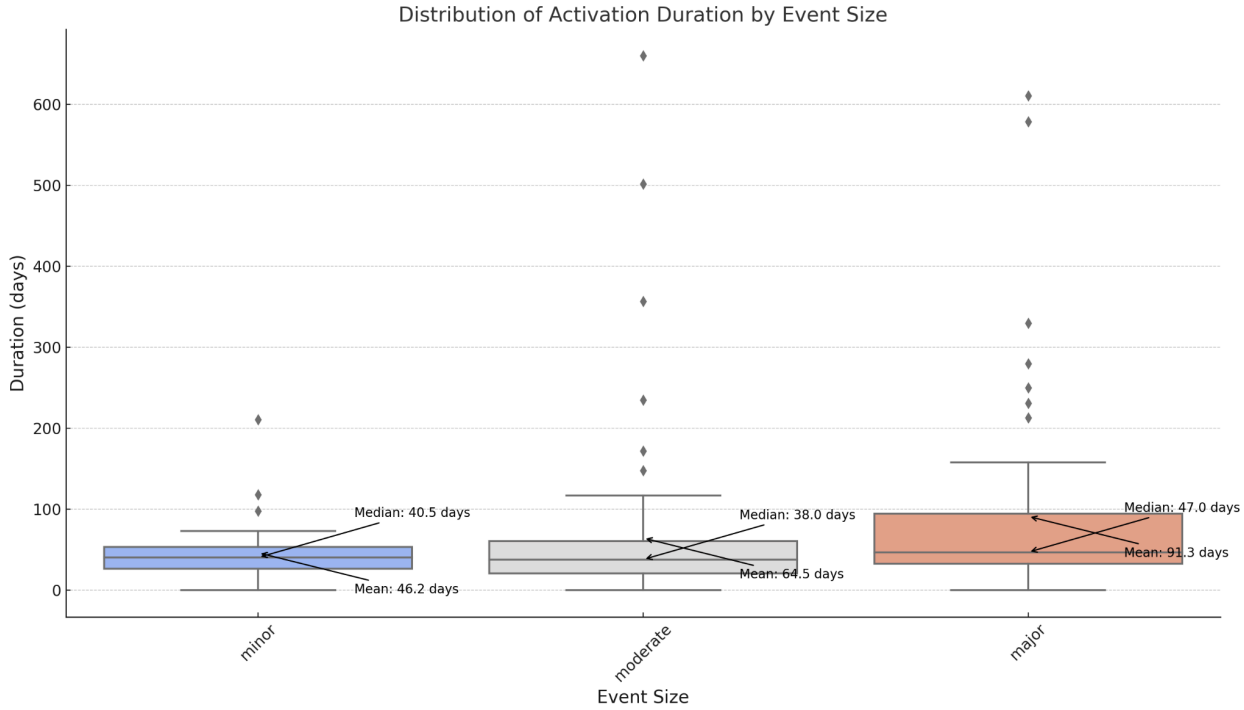
Country	HOT's Lead	Supported	Not supported
philippines	5	6	1
indonesia	4	1	0

peru	4	2	1
brazil	3	2	0
colombia	3	2	0
democratic republic of the congo	3	2	0
haiti	3	0	0
mexico	3	1	3
pakistan	3	0	0
afghanistan	2	0	0
albania	2	0	0
china	2	0	1
honduras, nicaragua, guatemala	2	0	0
india	2	4	3
papua new guinea	2	0	1
somalia	2	0	0
argentina, bolivia	1	0	0
bahamas	1	0	0
bosnia and herzegovina, croatia, serbia	1	0	0
canada	1	0	0
central african republic	1	0	0
chile	1	0	0
djibouti	1	0	0
ecuador	1	0	0
ethiopia, kenya, somalia	1	0	0
fiji	1	0	0
guatemala	1	0	0

guinea, liberia, mali, sierra leone	1	0	0
iran	1	0	1
iran, iraq	1	0	0
japan	1	2	1
laos	1	0	0
lebanon	1	1	0
libya	1	0	0
madagascar	1	1	1
mali	1	0	0
nepal	1	1	0
new zealand	1	0	0
palestine	1	0	0
paraguay	1	0	0
samoa	1	0	0
senegal	1	0	0
south sudan	1	1	0
sri lanka	1	1	0
tonga	1	0	1
turkey	1	1	0
vietnam	1	0	0
zambia	1	0	0
algeria	0	1	0
australia	0	0	1
australia, indonesia	0	1	0
bangladesh	0	1	0

bangladesh, nepal	0	1	0
bolivia	0	1	0
democratic republic of the congo, rwanda	0	1	0
ecuador, peru	0	1	0
equatorial guinea	0	0	1
ghana	0	1	0
guinea	0	1	0
honduras, nicaragua, guatemala, el salvador	0	1	0
japan, china	0	0	1
mauritania	0	1	0
mexico, united states of america	0	0	1
nigeria	0	1	0
philippines, china, vietnam, laos, thailand	0	0	1
south africa	0	1	0
spain	0	0	1
sudan	0	1	0
taiwan, china, philippines	0	0	1
thailand	0	0	1
uganda	0	1	0
united states of america	0	0	1
vanuatu	0	1	0
venezuela, colombia	0	1	0
zimbabwe, mozambique	0	1	0

Duration Stats by Event Size (Scope/Size)



Size	No. activations	Average duration (days)	Median duration	Shortest duration	Longest duration
Major	55	91.3	47	0	611
Moderate	73	64.5	38	0	660
Minor	30	46.2	40.5	0	211
Undefined	13	177.4	15	0	1977

- **Minor Events**: Most activations last around 40 days, with some activations being considerably shorter or longer, reaching up to around 200 days.
- **Moderate Events**: The median duration is around 40 days, but there is a wider range of durations, with some activations lasting up to 660 days.
- **Major Events**: The median duration is around 50 days, but, similar to moderate events, there's a broad range, with some lasting over 600 days.

Open questions

1. **Activation Leadership**:

    - Why are there instances where no specific organization took the lead in activations? Are these situations where local entities managed the situation without external leadership?
2. **Scope and Response**:
    - How does the scope of an event (Minor, Moderate, Major) influence the decision to activate or not activate? Are there other hidden factors at play?
3. **No Response Insights**:
    - What is the deeper reasoning behind the "Possibly" or "Likely" labels for no response? What criteria define these categories?
    - For events marked "Unlikely" for activation, are there lessons learned or internal evaluations on why they were deemed unlikely?
4. **Geographical Focus**:
    - How does the local OSM community's strength and presence influence HOT's decision to lead or support activations in certain regions?
5. **Duration and Expected Impact**:
    - How do the estimated duration and the expected humanitarian impact of an event correlate with HOT's decision to activate, support, or not respond?
6. **Collaboration and Partnerships**:
    - How do collaborations with other organizations (like OSM India, OSM Mexico, etc.) shape activation responses?
    - Are there patterns in which organizations frequently collaborate with HOT, and what does this reveal about HOT's strategic partnerships?
7. **Feedback Loop**:
    - For activations that were concluded or supported, is there a mechanism for feedback from the affected communities? Such feedback can guide future activations and ensure the relevance and effectiveness of interventions.
8. **Data Utilization:**
    - How is the data generated during activations utilized by local governments, NGOs, or other stakeholders? Is there evidence of the data being integrated into local disaster response strategies or development plans?
    - Beyond the immediate response phase, how has the data generated during activations contributed to longer-term recovery and rebuilding efforts?
    - Are there metrics or indicators in place to measure the direct impact of the data (e.g., number of people reached, infrastructure rebuilt using the data, or resources allocated based on the data)?
9. **Capacity Building**:
    - To what extent has the data generated during activations been used for capacity building, training, or education in the affected regions?
10. **Technological and Data Challenges**:
    - Are there events or regions where data availability or technological challenges influenced the decision to activate or not? This could point to areas where investments in technology or data partnerships could be beneficial.

    - Are there specific challenges or barriers faced by stakeholders in using the data generated during activations? This could be technological, capacity-related, or due to lack of awareness.
    - How relevant and timely is the data generated during activations? Are there instances where the data was generated but not used due to delays or lack of relevance?
    - Post-activation, how long does the data remain relevant and useful? Is there a system in place to update or maintain the data over time?

Observations

Data consistency

In order to have consistency and that the activation response data is reliable, accurate and easily interpretable, here are some observations for maintaining this data moving forwards:

- **Structured Data Input**:
    - **Use controlled vocabularies** for fields with a finite set of values (e.g., status, type of event, region) to prevent free-text entry errors.
    - Implement date pickers for date fields to ensure a consistent date format
- **Normalize Text Data**:
    - **Consistent Casing**: Maintain a consistent text case (e.g., all lowercase) for all entries to avoid duplicate values due to case sensitivity.
    - **Standardized Naming**: Use standardized naming conventions for organizations, countries, and other entities. Avoid abbreviations unless they are universally accepted.
- **Handle Multiple Entries**:
    - **Separate Fields for Multiple Values**: Instead of comma-separating values within a single cell (e.g., multiple countries or organizations), consider using separate rows or a relational database structure.
    - **Consistent Delimiters**: If multiple values in a single cell are necessary, use a consistent delimiter like a comma.
- **Data Validation**:
    - **Required Fields**: Make crucial fields (e.g., event type, status) mandatory to prevent missing data.
    - **Value Checks**: Implement checks to ensure that values fall within expected ranges or sets (e.g., status should only be "Supported", "Not supported", etc.).
- **Handle Missing Values**:
    - **Placeholders for Missing Data**: Use a consistent placeholder (e.g., "N/A" or "Unknown") for any missing or unavailable data.
    - **Data Entry Prompts**: If a field is left blank, prompt the user to confirm if the data is genuinely unavailable.
- **Implement Data Auditing**:
    - **Regular Data Checks**: Periodically review the dataset for inconsistencies, outliers, or anomalies.

        - **Feedback Loop**: Allow users or stakeholders to report inconsistencies or errors in the data.
- **Regular Training**:
    - **Training for Data Entry Staff**: Ensure that everyone entering data is trained on the data entry guidelines and understands the importance of data consistency.
- **Centralized Data Entry**:
    - **Central Platform**: Use a centralized platform or database for data entry to reduce variations in data input methods.

All of this can be easily accomplished if the data resides in a relational database structure such as the airtable that was generated for this work.