

IMPACT REPORT 2022 - 2023

MAPPING OUR WORLD TOGETHER





Humanitarian OpenStreetMap Team

Humanitarian OpenStreetMap Team, Washington D.C., 2023

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Mappers taking a look at a field paper to navigate in the field during drainage mapping

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IMPACT REPORT 2022-2023

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A message from our board of directors

On behalf of HOT's board of directors, thank you to everyone who has been a part of HOT's work and the humanitarian open mapping movement over the last year, from mappers to community members to impact partners to advocates to supporters.

We said farewell to Tyler Radford in December 2022, after seven years as executive director. I want to personally acknowledge his leadership and impact on the organization.

I'm thrilled to introduce HOT's new executive director, Rebecca Firth. Rebecca started her journey with HOT as a volunteer in 2014, joined the staff in 2016, and pioneered HOT's Audacious Project and organizational transformation, leading HOT's localization journey. I look forward to continuing to work with her, and with all of you, in the year ahead to use open data and mapping to make a difference.



Kate Chapman
Chair, Board of Directors



Letter from Rebecca Firth

When I attended my first mapping event in 2014, I couldn't have imagined that it would lead me to where I am today. Over the last nine years, I have learned so much from the vibrant and committed open mapping community of Humanitarian OpenStreetMap Team (HOT), and I want to take advantage of this space to share my learnings with you.

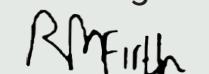
HOT's power lies in the way we can bring people and information together and move across the different systems we operate in (tech, humanitarian, development, community), including our valued communities of mappers, map data users, and map supporters. In our role as a catalyst, we strengthen the connections among these three groups. Across the world, the Open Mapping Hubs have been working hand in hand with communities, from mapping water access points in Niger to identifying 20,000 potential sites for aquaculture projects in southern India. You will find many more inspiring examples of these actions throughout this report.

Our Regional Open Mapping Hubs have expedited this process. They engage with a variety of stakeholders to raise awareness about open mapping and its relationship to climate change, disaster, sustainable communities, health, gender, displacement, and safe migration. They do this with support from our technology and data team, which ensures that responsible and high-quality data and tools are available to all.



"HOT is a unique global organization that brings together an open-source community with a formal NGO."

I am honored and excited for this opportunity to accelerate HOT's role as a catalyst for citizen-led development that prioritizes local voices and insights, continuing to broaden the ways in which open mapping can change the world.


**Rebecca Firth,
Executive Director**

Our communities

MAPPERS

GATHER LOCAL KNOWLEDGE AND INSIGHTS AND COMBINE THESE WITH OTHER GEOSPATIAL INPUTS SUCH AS SATELLITE IMAGERY AND REMOTE MAPPING DATA.

MAP DATA USERS

USE THESE MAPS TO UNDERSTAND AND ADDRESS SOCIO-ENVIRONMENTAL CHALLENGES AROUND THE WORLD AND IN DOING SO CREATING IMPACT.

MAP SUPPORTERS

CONTRIBUTE FINANCIAL AND IN-KIND RESOURCES AND SHARE LEARNING ACROSS THEIR NETWORKS, HELPING THE MOVEMENT TO GROW.



Dr. Nick Muneza, Assistant District Health Officer, Kisoro, Uganda
Project: Scaling Missing Maps in the Great Lakes region

Ours is a Global Effort

HIGHLIGHTED PROJECTS AROUND THE WORLD



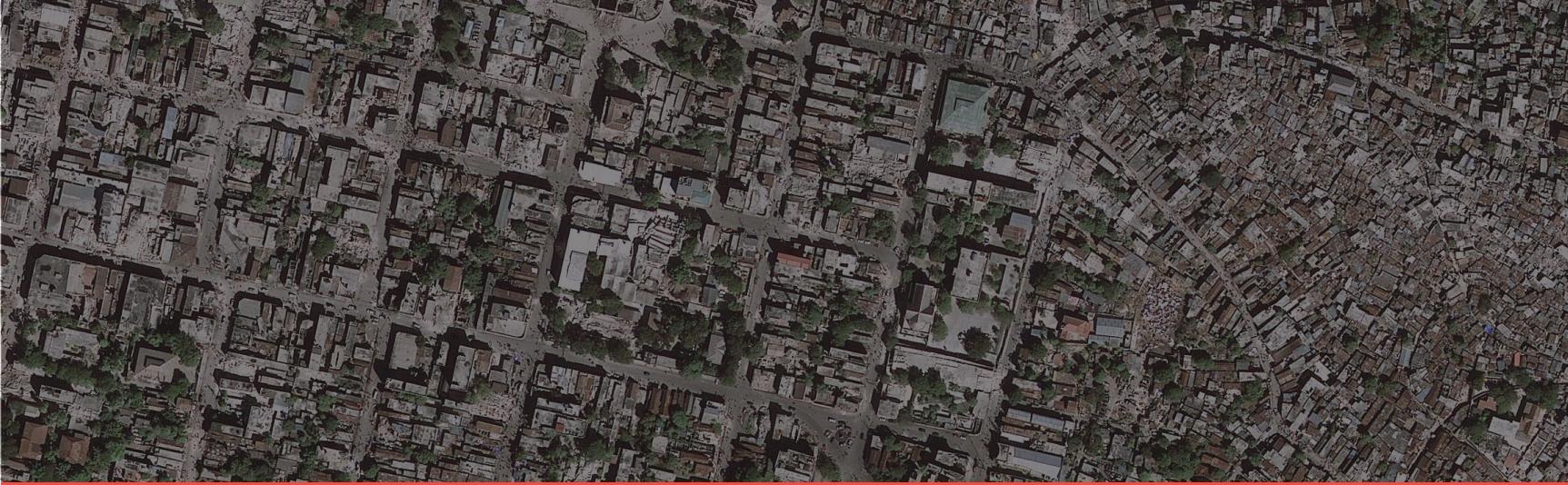
645,000 MAPPERS
3,000 PROJECTS
148 PARTNERSHIPS
52 COUNTRIES MAPPED

These Key Performance Indicators (KPIs) are mostly from mapping completed through the HOT's Tasking Manager.
For more visit tasks.hotosm.org

AREA HOME TO



707 MILLION PEOPLE



FROM HAITI TO SYRIA AND TÜRKİYE

13 YEARS OF

HUMANITARIAN OPENSTREETMAP TEAM



2010: A movement was born after the Haiti Earthquake

In 2010, the devastating Haiti earthquake left the world reeling. As first responders arrived to provide support, they were challenged by the lack of up-to-date data in available maps. A group of open mapping volunteers recognized this challenge, and armed with high-resolution satellite imagery, they mapped the affected region. Over the following month, a remarkable transformation took place. More than 600 contributors, including members of the Haitian diaspora, volunteered their time and skills to build a comprehensive base map of Haiti on OpenStreetMap (OSM). OSM is a free, editable map of the world built mainly by volunteers and released with an open-content license. This base map quickly became the go-to resource for organizations involved in the crisis. This marked the birth of HOT, a community that would change the landscape of crisis mapping.

Working closely with responding

Buildings of Port-au-Prince in OpenStreetMap on January 12th, 2010, the day of the earthquake

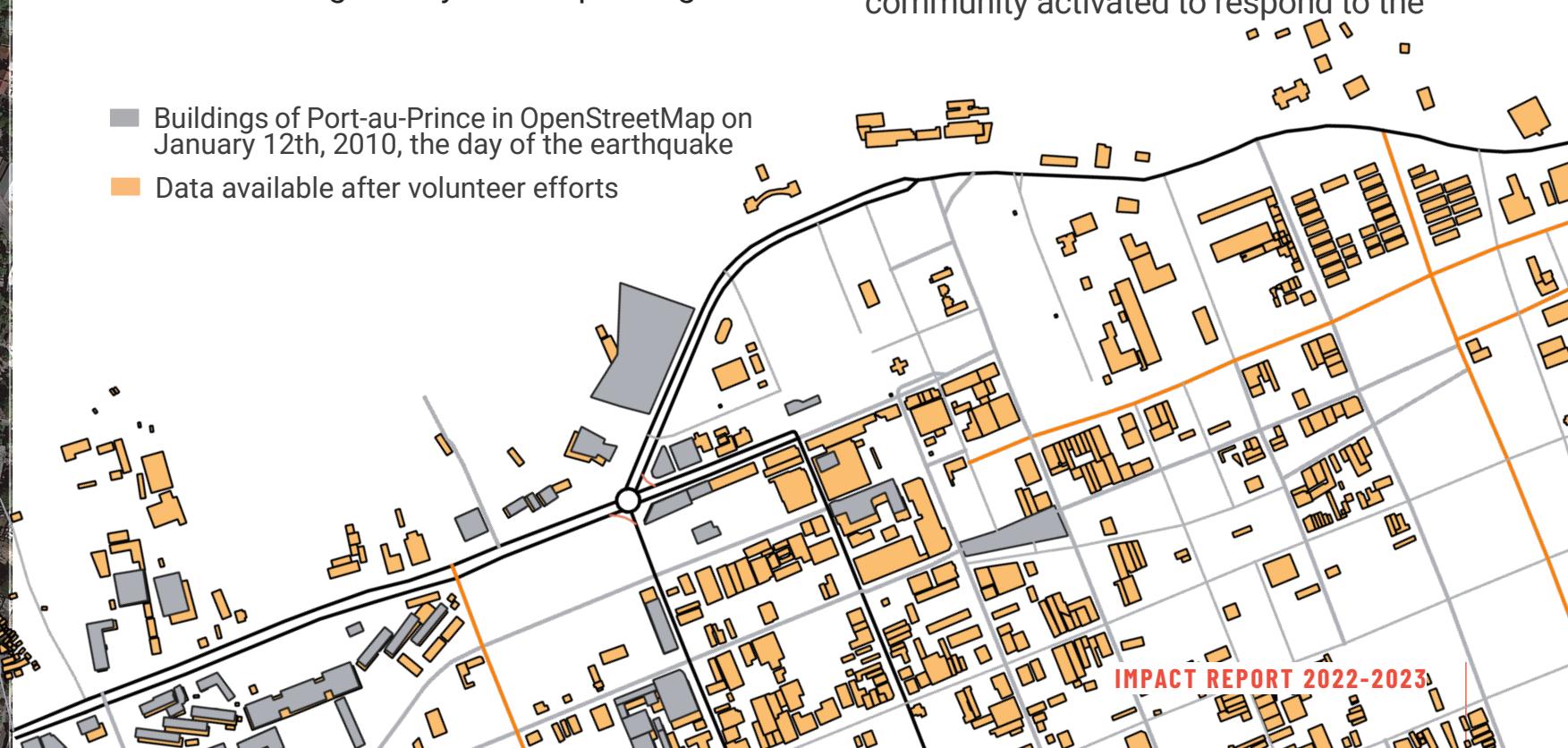
Data available after volunteer efforts

organizations, the Government of Haiti, and civil society groups, HOT introduced them to the power of OSM. This collaboration paved the way for the emergence of the Communauté OpenStreetMap d'Haiti Nord et Nord Est (COSMHANNE), an organization led by Haitians, dedicated to furthering the development of the open mapping community within their country, and our partnership with them continues to this day.

This laid the foundation for our working model, a unique blend of global volunteer power and remote technical skills, combined with invaluable local knowledge.

2015: Community mapping in the aftermath of Nepal's earthquake

In 2015, Nepal was struck by a series of catastrophic earthquakes. The HOT community activated to respond to the



crisis, raising HOT's disaster response capacity to new heights by engaging 8,000 volunteers. Within just five days of the earthquake, 3,679 mappers made over 3 million edits to the map.

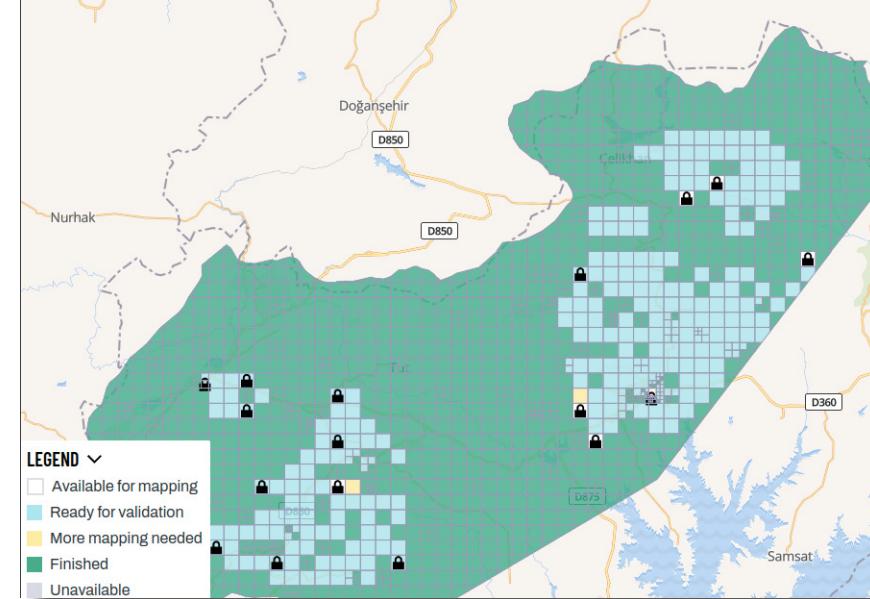
While HOT bridged the gap between the OpenStreetMap community and international aid organizations, the local organization Kathmandu Living Labs took the lead in collecting ground data. They set up a situation room to coordinate the mapping response in the country, created downloadable maps at the request of responders, put together guides for how to access those maps, set up a crowd-sourcing platform to track the damage, and trained 40 new Nepalese mappers to help fill in local data on the map.

The work in Nepal highlighted the key role that local communities play in achieving effective coordination and the efficient use of technology in humanitarian mapping.

2023: Community-driven disaster response in Türkiye/Syria

On February 6, 2023, a powerful 7.8 magnitude earthquake struck southern and central Türkiye (Turkey), as well as northern and western Syria, leaving a trail of devastation in its wake. The affected areas were densely populated and only partially mapped, making the need for updated and accurate maps crucial for first responders and aid organizations.

Recognizing the urgent need for assistance, HOT's disaster response activation team sprang into action,



Map of the affected regions after the Türkiye-Syria Earthquake, as shown on HOT's Tasking Manager. Each square designates an area in need of mapping, already mapped and ready for validation, or mapped and validated.

collaborating with a long-standing partner, the Turkish open mapping community known as Yer Çizenler. Yer Çizenler swiftly took the lead on the response, utilizing pre-disaster satellite imagery to remotely digitize buildings and roads across the affected areas in Türkiye and Syria. Nearly 7,000 contributors from the OSM community joined forces to map almost 1.5 million buildings and over 66,000 kilometers of road over the next two weeks. HOT connected actors on the ground, such as physicians, with this information to facilitate delivering medical care and planning public health interventions. Once again, the collective effort of local partners and global volunteers showcased the power of open mapping during times of crisis.

Open mapping for humanitarian response has come a long way since the 2010 Haiti earthquake, with communities now taking the lead on disaster response and the global community supporting their efforts. As HOT continues to evolve and adapt, our commitment to bridging local and global efforts remains unwavering.



As climate change and increased global displacement present new and unexpected challenges to communities, we are continuing the mission that started 13 years ago in Haiti, incorporating the lessons we have learned along the way.

OPEN MAPPING HUBS IMPACT ACROSS THE WORLD

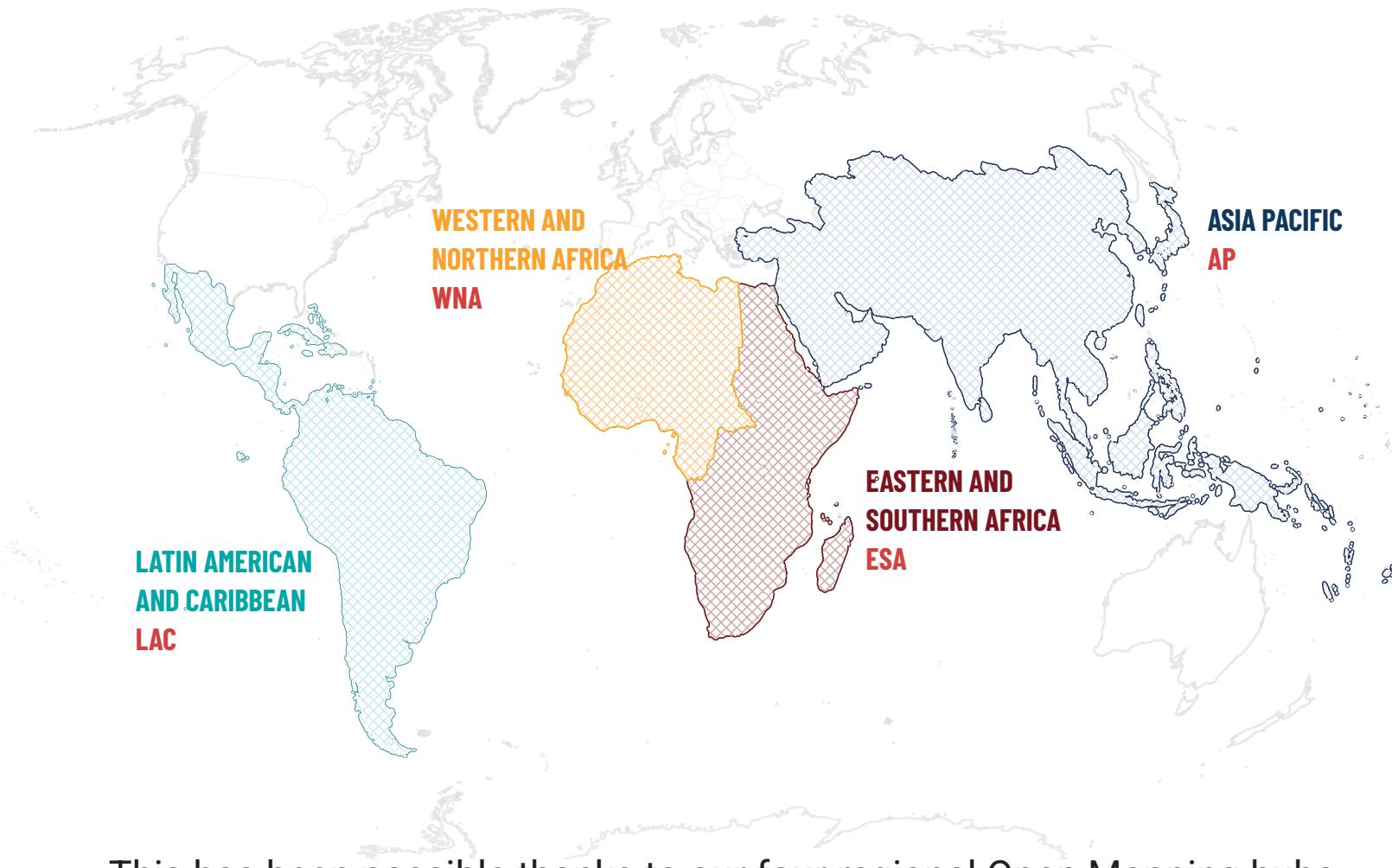
While HOT's mission remains centered on working with communities to map the challenges they face, our approach to achieving this goal has evolved. We now strive to serve as a catalyst within the sector, placing even greater emphasis on local communities taking the lead to address their specific needs. Our 2022 Living Strategy reflects this shift in approach.

OVER THE PAST YEAR, HOT'S GLOBAL COMMUNITY HAS REACHED

164,797
OSM Mappers in Hub Countries

10K
People Trained

43
Community Grants



This has been possible thanks to our four regional Open Mapping hubs. They are the result of the ongoing decentralization effort at HOT that looks to fortify local mapping communities, facilitate knowledge exchanges, distribute funding, and provide training and support tailored to each community's context and needs.



Open Mapping HUB ASIA - PACIFIC (AP)

The AP Hub was launched in early 2021 as our first regional open mapping hub. The hub provides financial and technical support, and facilitates dialogue and the exchange of ideas with open mapping organizations and communities in the region.



AP

25
Countries

9
Projects

47
Partnerships

707
People Trained

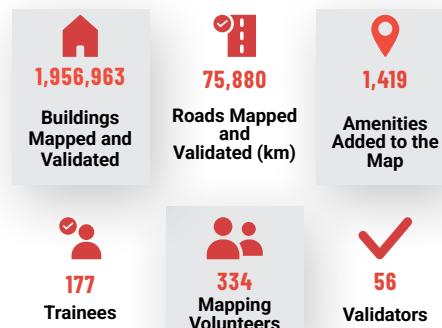
27K
Mapping volunteers

*Since Hubs' creation

MAPPING FOR DISASTER MANAGEMENT

LOCATION: TIMOR LESTE

AREA: DISASTER AND CLIMATE RESILIENCE



+ In the absence of active OSM groups and with limited knowledge on how to collect and gather data from the field in Timor Leste, the AP Hub brought together a consortium



of partners including community members, government employees, and civil society staff, who received training in open mapping.

As a result of this partnership, the participants established a local OSM Timor Leste Community and created a [Map Atlas for Anticipatory Action](#).



Open Mapping HUB EASTERN AND SOUTHERN AFRICA (ESA)

The ESA Hub, also launched in early 2021, works with a network of individuals and organizations to promote local mapping activities, share knowledge and learning, distribute funding, and provide technical training to nurture, support, and amplify open mapping.

ESA

22
Countries

11
Projects

5
Partnerships

7,210
People Trained

57K
Mapping Volunteers

*Since Hubs' creation

EMPOWERING COMMUNITIES THROUGH INCLUSIVE DATA COLLECTION IN NAMIBIA

LOCATION: NAMIBIA

AREA: SUSTAINABLE CITIES AND COMMUNITIES



+ In Namibia, informal settlements are not a priority in the digitization and collection of land information, which has led to their invisibility in planning processes. With this in mind, the ESA Hub partnered with the Shack Dwellers Federation of



Namibia (SDFN), the Namibia Housing Action Group, and the Namibia University of Science and Technology, to digitally map informal settlements and towns across all 14 regions of Namibia. This information has been crucial for the SDFN to upgrade their own projects and to inform and guide the development of land information systems for local authorities.

HASIRU AQUA: ENGAGING SOCIAL ENTERPRISE

LOCATION: RAJASTHAN, INDIA

AREA: SUSTAINABLE CITIES AND COMMUNITIES



+ The AP Hub is working together with four social enterprises to address local issues and create social impact while ensuring sustainability. One of these enterprises is Hasiru

Aqua, an aquaculture startup helping farmers in India increase fish farming yield to improve their economic conditions by providing high-quality resources, water health monitoring, and support for selling produce. The Hasiru Aqua team was missing a key source of information to provide this support: the location of potential aquaculture ponds in the region. Thus, the AP Hub launched a mapping campaign and a 24-hour mapathon to identify these ponds, and will provide training to the Hasiru Aqua team on how to analyze and use this information.



#MAPHERWORLD CAMPAIGN

LOCATION: REGIONAL

AREA: GENDER EQUALITY



+ Inspired by the International Women's Day 2023 theme, "Celebrating women and girls who are championing the advancement of transformative technology and digital education", the ESA Hub ran

the #MapHerWorld Campaign from March 13th to June 20th of 2023, aimed at increasing the visibility of women-focused points of interest on OSM.

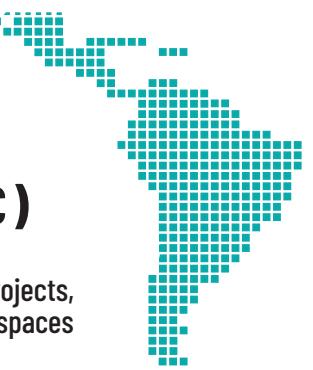
The campaign mobilized the open mapping community to put amenities used by women and girls in communities across East and Southern Africa on the map, including health facilities, schools, childcare, and police stations.

"In the context of my country, the DRC, where women in GIS are scarce, I made a deliberate choice to stand tall and represent my nation."
- #MapHerWorld Campaigner



Open Mapping HUB LATIN AMERICA AND THE CARIBBEAN (LAC)

After launching in 2022, the Hub has focused on developing local open mapping data projects, providing regional support to local communities seeking to solve problems, and creating spaces for knowledge-sharing and peer-to-peer support.



LAC

33
Countries

42
Projects

42
Partnerships

1,649
People Trained

53K
Mapping volunteers

*Since Hubs' creation

OPEN CITIES GUATEMALA

LOCATION: SAN JOSÉ POAQUIL
AREA: SUSTAINABLE CITIES AND COMMUNITIES



program for indigenous youth from the community. Open source tools have been developed for data management by the community itself.

+ In San José Poaquil, Guatemala, forest conservation and management are key for the local indigenous communities who depend on the forest for sustainable livelihoods. The LAC Hub joined forces with the NGO Sotz'il in an effort to implement an open mapping training

This project is part of the broader Open Cities initiative implemented in the region (Dominica, Jamaica, Mexico, Saint Lucia), in partnership with the SwissRE Foundation and the Global Facility for Disaster Reduction and Recovery (GFDRR).



CANOÀ DE TOLDÀ: RIVER MONITORING

LOCATION: ILHA DO FERRO, BRAZIL
AREA: DISASTERS AND CLIMATE RESILIENCE



+ Industrial interventions like dams have altered the flood cycles in the lower basin of the

São Francisco River in Brazil. This in turn has impacted communities in the region. The LAC Hub partnered with NGO Canoa de Tolda along with other organizations, to map communities who have disappeared due to changes in the river levels, organized a field campaign in the town of Ilha do Ferro to monitor river depth and wet/dry cycles, and co-develop innovative tools with the local community. This process also aimed to create results that were understandable by all the members of the community and could be used for strategic urban planning.



Open Mapping HUB WEST & NORTHERN AFRICA (WNA)

The WNA Hub, launched in March 2022, has a mission to raise awareness and support ownership of OSM tools for communities, institutions, governments, civil society and all stakeholders facing development and social issues.

WNA

24
Countries

8
Projects

31
Partnerships

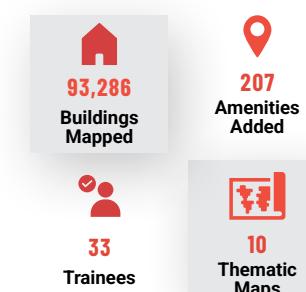
810
People Trained

25K
Mapping volunteers

*Since Hubs' creation

SUNNU WER GYI YARAM: MAPPING WOMEN'S HEALTH-CARE

LOCATION: SENEGAL
AREA: PUBLIC HEALTH & GENDER EQUALITY



+ Access to quality healthcare for women and children remains a major challenge in Senegal. To promote access to women's healthcare, the Sunnu Wer

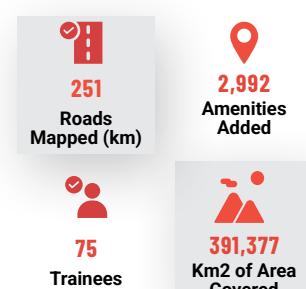


Gyi Yaram open mapping project, along with national and local authorities, OSM Senegal and Marie Stopes, promoted and provided reliable information on the situation of access, supply, maintenance, and overall infrastructure of health facilities across the Matam Region.



FLOOD TRACKING

LOCATION: LIBERIA
AREA: DISASTERS AND CLIMATE RESILIENCE



+ The WNA Hub is collaborating with communities and key stakeholders in Liberia, like

government officials and development actors, to track flooding and address data gaps for the preparedness and response efforts of local partners working on climate effects and sustainable communities. Through focus groups and data collection, the team documented the vulnerability, risks, exposure, and hazards and identified the gaps hindering the effectiveness of disaster agencies and the Red Cross in designing awareness and response efforts.

As a result of this project, the communities identified 604 buildings to be directly in the path of severe coastal flooding

POWERING OPEN MAPS WITH TECHNOLOGY

A BIRD'S EYE VIEW OF HOT'S TECHNOLOGICAL ADVANCES
FOR HUMANITARIAN OPEN MAPPING



This year has been a period of growth for our technology team, who has worked on exciting technological developments that address specific community needs, planned with people at the center. These developments include i) security new imagery sources to enable remote mapping, ii) co-developing tools for organized field mapping adding local knowledge to the map, iii) co-creating AI models together with communities, to improve their confidence and quality, and iv) a community platform to connect people, data and knowledge. Here are four examples of initiatives that have emerged as a result of these approaches:



LOCAL IMAGERY ALLIANCE - EXPLORING IMAGERY ALTERNATIVES

Rapid humanitarian response and open mapping depend on access to up-to-date, high quality aerial images of areas of interest. However, they are often hard to access, making disaster response more challenging. HOT's Tech team initiated a local imagery coworking alliance, which includes the Red Cross, UNICEF, OpenStreetMap and geospatial tech institutions such as OpenDroneMap.

Together, we have started exploring opportunities for accelerating crowd-sourced open imagery, including experiments with small, light, community-owned drones, small fixed wing drones and street level imagery. These efforts will ensure that the necessary resources for open mapping are available to anyone anywhere in the world.

FIELD MAPPING TASKING MANAGER- ORGANIZED FIELD MAPPING

Although field mapping is a key activity in open mapping, a persistent challenge has been the lack of tools to coordinate these efforts in an organized fashion. With this in mind, HOT's Tech team developed the Field Mapping Tasking Manager (FMTM), a free and open-source coordination tool for organized field mapping that takes the familiar features of our flagship tool, the Tasking Manager, and applies them to the field.

Currently in its deployment stage, this innovative tool allows field mappers to select, lock, keep track of progress and seamlessly integrate the new data into OpenStreetMap without damaging existing data.



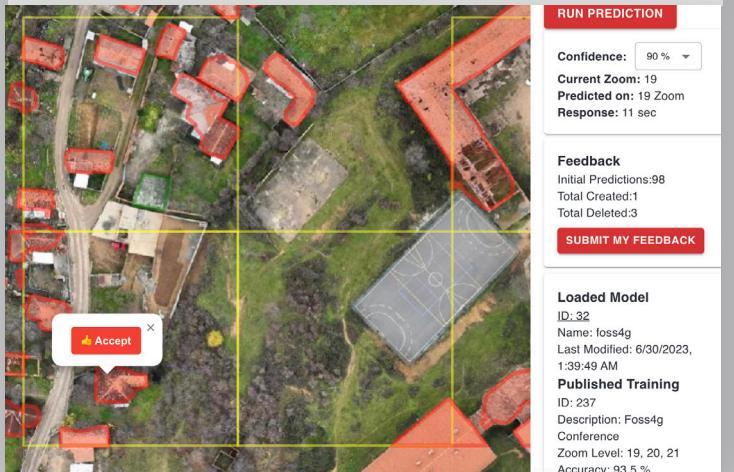
TECH IN THE FIELD

fAlr - LOCALLY RELEVANT AI-ASSISTED MAPPING

The integration of artificial intelligence (AI) technology in open mapping holds incredible potential to increase the efficiency of mapping efforts. However, unlike other AI-integrations, we believe that communities should be at the center of AI development. That is why this year we reached the alpha-stage for fAlr, a free and open-source AI-assisted mapping tool aimed to revolutionize humanitarian OSM mapping. fAlr leverages AI to detect objects like buildings, roads, and waterways from open-source, crowd-sourced aerial imagery.

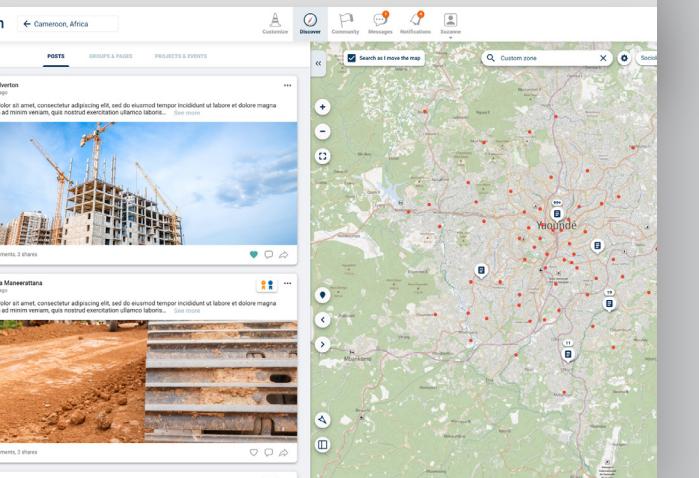
Unlike other AI initiatives in mapping, fAlr addresses four key challenges identified by the open mapping community: 1) ensuring open-source AI results, 2) mitigating model bias, 3) including people in the design and decision-making and, 4) facilitating continuous feedback to enhance the intelligence and accuracy of AI models.

Crucially, fAlr strives to empower local communities by enabling them to create and train AI models tailored to their local needs, fostering a collaborative approach to AI-assisted mapping.



GEOSM - CONNECTING COMMUNITIES, EXCHANGING DATA & KNOWLEDGE

This year, we began a collaboration with GeOSM Family, a Cameroon-based French-speaking community that facilitates exchanges and connection between open mapping communities. As part of this collaboration, we channeled resources to contribute to the development of GeOSM, a free and open-source social media platform that aims to bring together people, data and knowledge in the open mapping ecosystem. Currently in its prototype stage, the platform will be launched in September 2023.



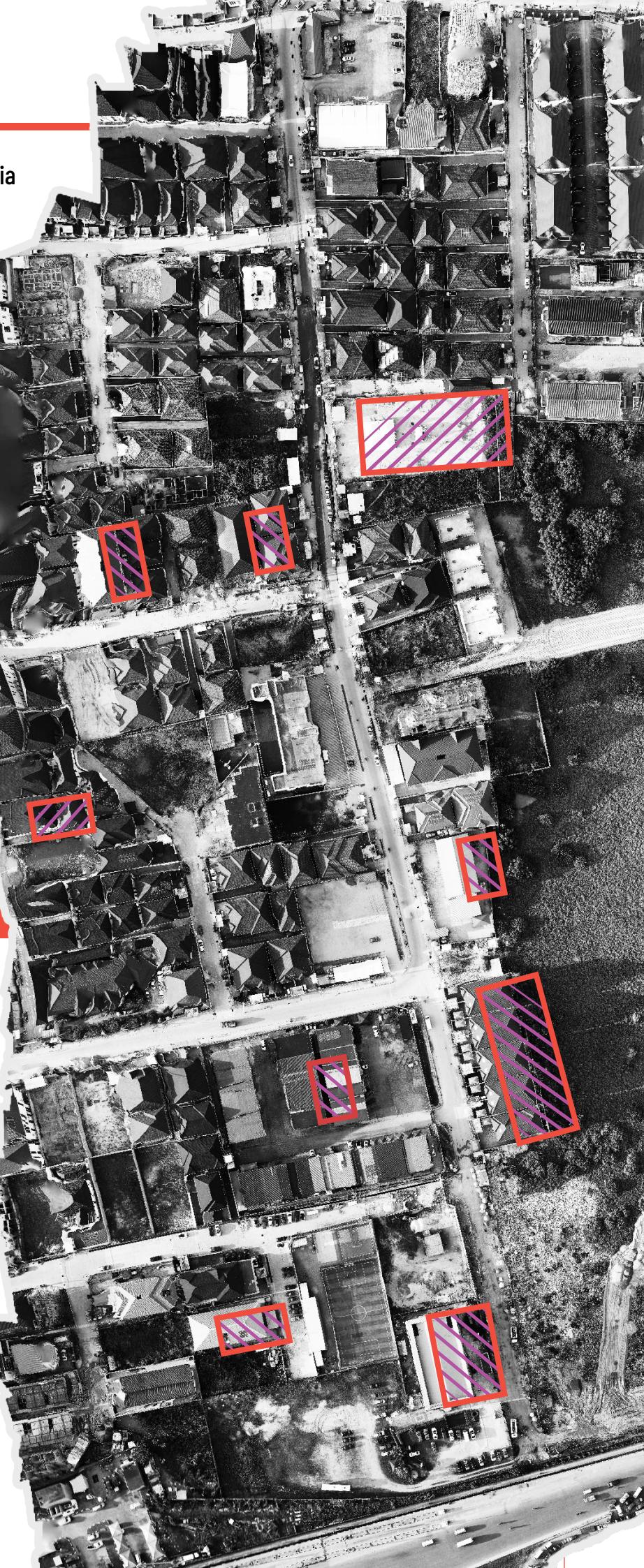
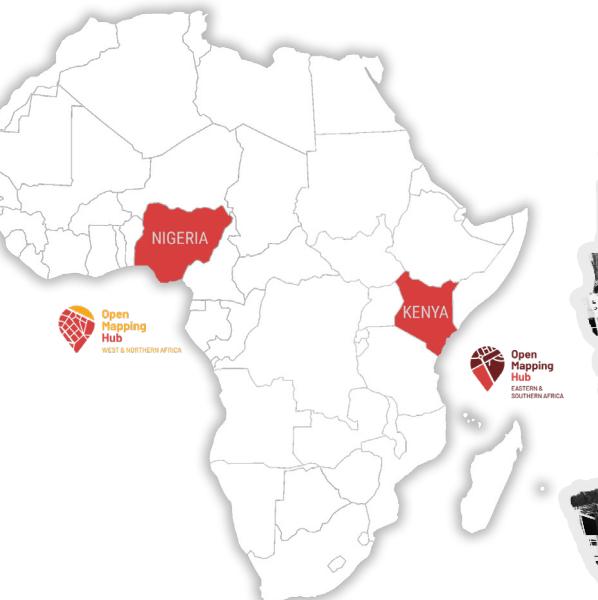
Beyond these exciting advancements in tools and problem-solving, we have also focused on building a vocal community of geospatial tech enthusiasts globally.

We launched a Geospatial Tech and Innovation Working Group in March 2023, which acts as a space that allows for open discussion with the community, connects the people building technology with those using it, and identifies resources and support to amplify creativity and build wider networks.

Satellite Imagery for Social Good - Kenya and Nigeria

Last year, we partnered with Microsoft and open mapping communities in Kenya and Nigeria to increase the rate of remote mapping using AI. As a result, the council and city planners in Nakuru City, Kenya are using the generated datasets for flood risk assessment and mitigation.

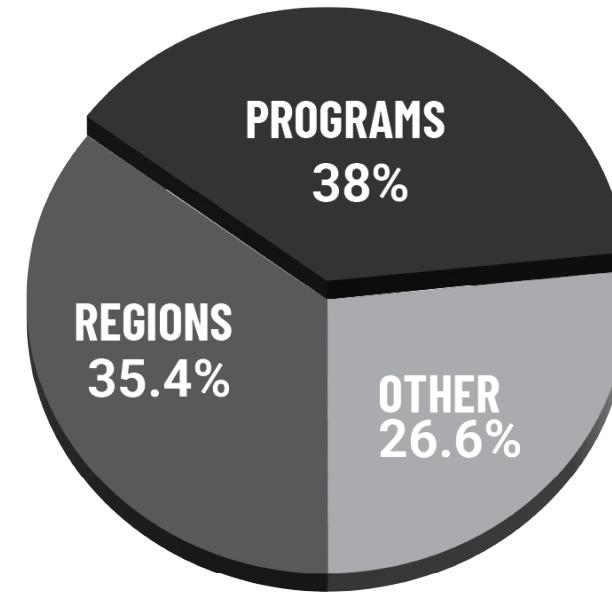
The **AI-generated building footprints**, coupled with human verification, have played a pivotal role in the development of city plans, allowing urban planners to make informed decisions, leading to more efficient and sustainable urban development, and safeguarding communities from potential disasters.



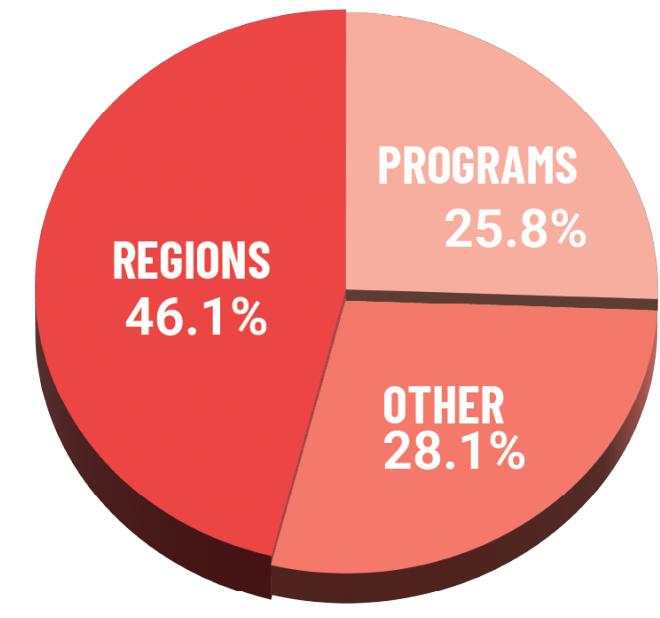
Financial Report

	July 2022 - June 2023	July 2023 - June 2024*
Asia Pacific Region	\$830,952	\$1,200,000
Eastern & Southern Africa Region	\$1,283,536	\$1,400,000
West & Northern Africa Region	\$821,878	\$1,200,000
Latin America & Caribbean Region	\$606,246	\$1,200,000
Community Programs	\$903,122	\$700,000
Technology Innovation Programs	\$1,628,616	\$1,500,000
Technical Mapping Programs	\$957,013	\$200,000
Responsible Data Program	\$310,424	\$400,000
Impact Partnerships	\$474,116	\$800,000
External Relations & Philanthropy	\$663,698	\$550,000
Management & Operations	\$1,522,260	\$1,700,000
TOTAL	\$10,001,862	\$10,850,000

*Estimated based in trends from previous years

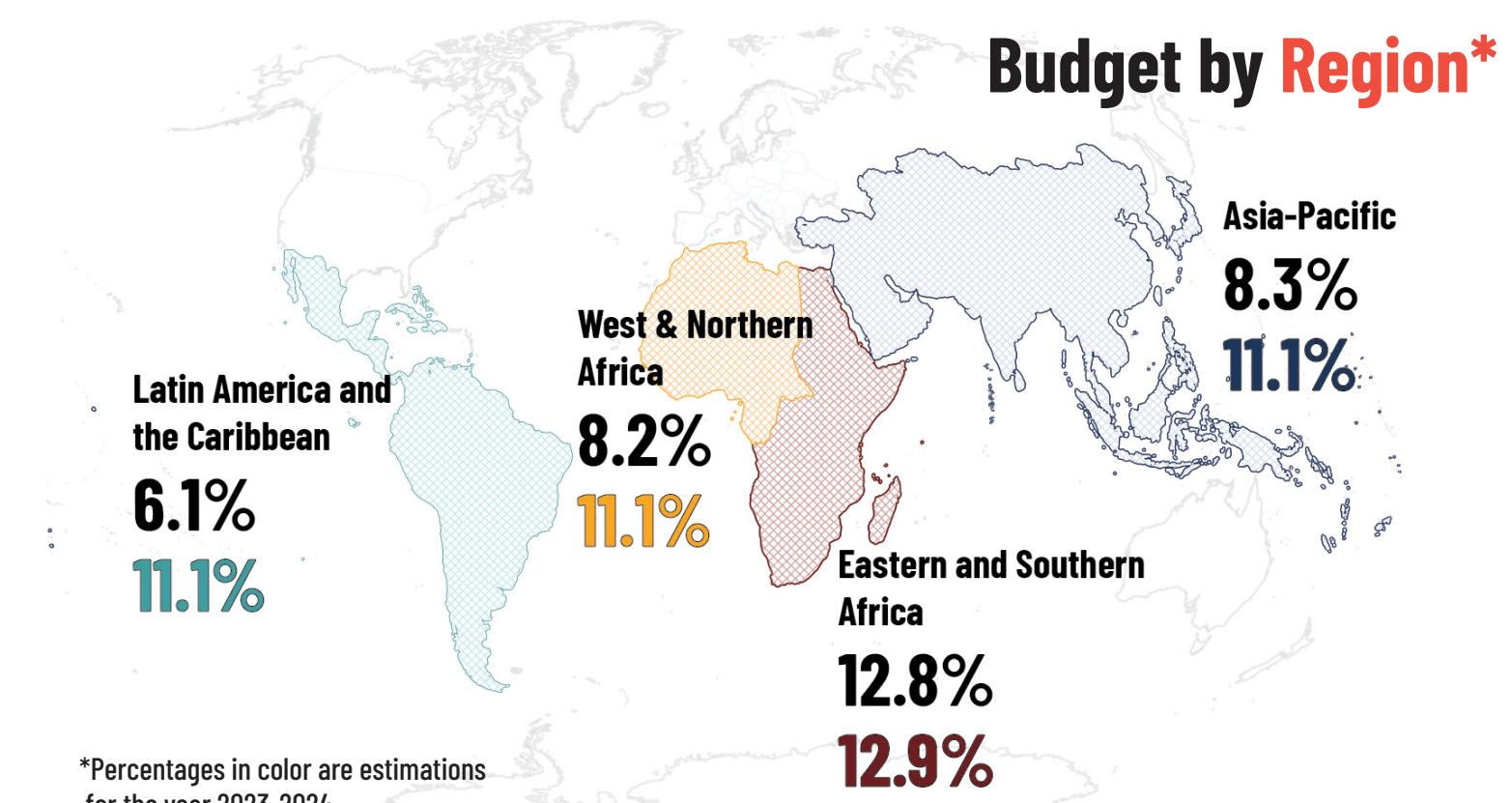


2022-2023



2023-2024

Budget by Region*



*Percentages in color are estimations for the year 2023-2024

OUR DEEPEST GRATITUDE TO OUR MISSION CRITICAL IMPACT PARTNERS*

Members of



Including



Networks



OUR CORPORATE PARTNERS

accenture



ALSTON & BIRD

arm

▲ ATLASSIAN



Bloomberg

CREDIT SUISSE



Deloitte



DocuSign

FACTSET



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MAXAR

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Meta

Microsoft

Moody's

Morgan Stanley

okta

PIMCO

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*Based on the size of data contributions, collaboration, and/or funding support.

Looking to the future

As we conclude this 2022-2023 Impact Report, we have reflected on the impact community-led humanitarian mapping has had on the world. We also want to share some insights and upcoming programs and initiatives with you.

+ In the face of an ever-changing climate landscape, our new **Climate and Resilience Fund** will bolster our efforts to map vulnerable regions, anticipate environmental risks, and promote adaptive capacity. By working along with communities already impacted by climate change, we aim to build resilience using geospatial knowledge and technologies to mitigate climate-induced challenges.

+ As part of our profound commitment to address gender disparities and promote gender inclusion in open mapping, we are launching HOT's **Gender Equality Fund**. We aim to ensure that all genders are equally skilled with the tools and resources they need to actively participate in mapping efforts and humanitarian responses.

+ We will be relaunching the HOT Summit as the HOT OpenSummit, with the first set of conferences starting by the end of this year. Through the OpenSummit, we will promote even more inclusive, diverse and accessible gatherings that spark conversations about open mapping in the humanitarian sector and drive collaboration and collective action

To all our partners, volunteers, and supporters, your unwavering dedication fuels the realization of our collective aspirations. As we continue our journey to support local, community-led mapping, we invite all of you to continue joining forces with us throughout the upcoming years.

Onward, with purpose and compassion,

Humanitarian OpenStreetMap Team





Humanitarian OpenStreetMap is an international team dedicated to improving the well-being of people and the health of our planet through growing and sustaining the open mapping movement. In our role as a catalyst, we connect with communities in countries at high risk of disaster, humanitarian crises, or multidimensional poverty, and support them to be added to the map in the way they choose and to be included in decisions that affect their lives.

