Humanitarian
OpenStreetMap
Team

MAPPING OUR IMPACT

2016 ANNUAL REPORT

Humanitarian OpenStreetMap Team

The Humanitarian OpenStreetMap Team (HOT) is an NGO and global community working to map the most vulnerable places in the world for humanitarian aid and sustainable development. Through training, partnering with people on the ground and rallying more than 32,000 volunteers to assist remotely, HOT reaches those in need through maps.

PUTTING THE WORLD'S VULNERABLE PEOPLE & PLACES ON THE MAP

Many of the poorest and most vulnerable places in the world do not exist on any map. To date, more than 26,000 Missing Maps volunteers have collectively made 29 million edits to OpenStreetMap, putting 30 million people on the world map, many for the first time.

REACHING THOSE IN NEED THROUGH MAPS

When major disaster strikes anywhere in the world, HOT rallies a huge network of volunteers to create maps that enable responders to reach those most in need as quickly as possible.

CREATING BETTER MAPS WITH COMMUNITIES

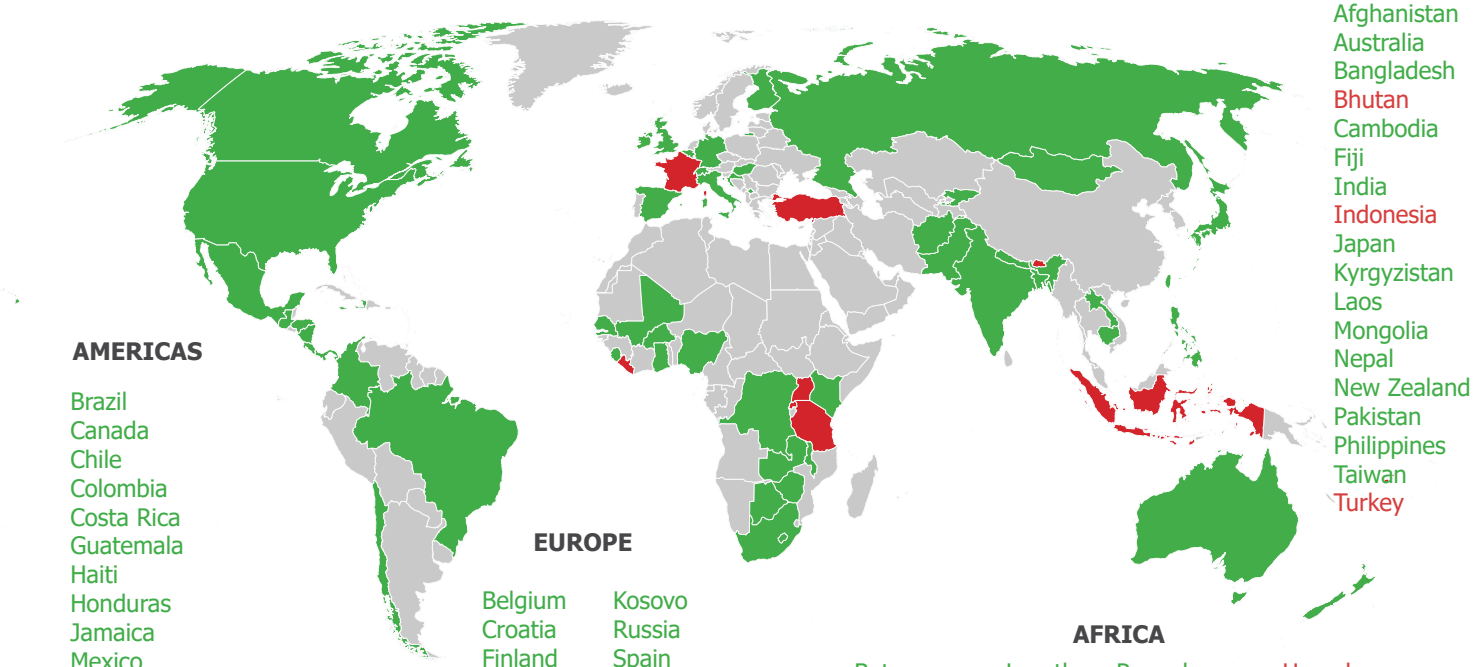
HOT supports community mapping projects around the world and assists people to create maps of their own environments to improve socio-economic development and disaster preparedness.

TRAINING GOVERNMENTS, NGOS, STUDENTS AND VOLUNTEERS

HOT organizes and facilitates customized training workshops in open data and open source mapping and GIS tools.

WHERE WE ARE:
HOT MEMBERS AND GLOBAL COMMUNITY

HOT Ground Operations Communities and HOT Voting Members



AMERICAS

Brazil
Canada
Chile
Colombia
Costa Rica
Guatemala
Haiti
Honduras
Jamaica
Mexico
Nicaragua
Panama
United States

EUROPE

Belgium
Croatia
Finland
France
Germany
Hungary
Ireland
Italy
Kosovo
Russia
Spain
Switzerland
United Kingdom

AFRICA

Botswana
Burkina Faso
Congo
Ghana
Kenya
Lesotho
Liberia
Malawi
Mali
Nigeria
Rwanda
Senegal
Sierra Leone
South Africa
Tanzania
Uganda
Zambia
Zimbabwe

ASIA & OCEANIA

Afghanistan
Australia
Bangladesh
Bhutan
Cambodia
Fiji
India
Indonesia
Japan
Kyrgyzstan
Laos
Mongolia
Nepal
New Zealand
Pakistan
Philippines
Taiwan
Turkey

A MESSAGE FROM OUR EXECUTIVE DIRECTOR

Our global community, the Humanitarian OpenStreetMap Team, continued to meet the challenges of humanitarian response and impacted millions of lives in 2016. Highlights include HOT joining the Global Alliance for Urban Crisis, as we furthered our work in one of the world's largest metropolitan areas (Jakarta, Indonesia) and Africa's fastest-growing city (Dar es Salaam, Tanzania). In the first year after the Sustainable Development Goals were adopted, HOT projects contributed to 11 different goals, and through HOT training and internships, we contributed directly to Goal 8 (Decent Work and Economic Growth) as part of the Global Partnership for Sustainable Development Data. With a team of dedicated young men and women in Uganda, HOT mapped more than 21,000 financial access points, fundamental to enabling local people to become more economically stable, prosperous and resilient. Our rapid response mapping community was activated for six disasters across Latin America and the Caribbean, Africa, and Asia and we deployed new open source technology tools enabling critical decision making for the humanitarian community.

What makes HOT especially unique is that we are not only an NGO but a network of global neighbors helping neighbors, endeavoring to impact all our lives for the better. Please join me in celebrating the accomplishments of our global team. We welcome you to join us in furthering our humanitarian mission!

Tyler Radford
@TylerSRadford

Ramani Huria:

Mapping Africa's Fastest Growing Metropolis

TANZANIA

SUSTAINABLE CITIES & COMMUNITIES

▲ Community members mapping a drainage line in Vinginguti, one of the informal settlements in Dar es Salaam.

The Tanzanian metropolis of Dar es Salaam is the fastest-growing city in Africa and its massive, largely unplanned areas are prone to urban flooding each year during the rainy season.

HOT developed detailed maps that showed which buildings were flooded and which were not, informing critical disaster relief decisions. HOT ensured that all aspects of the work included local community members and residents who know the most about their area. The Ramani Huria project has significantly improved available maps in 65 of the city's 101 wards to date, home to more than 3 million people.

As part of Ramani Huria, HOT is also mapping public transport, water, sanitation and hygiene facilities, such as water points and public toilets. This mapping enables prevention and preparation for outbreaks of disease such as cholera, supporting the global agenda towards SDG 6: Clean Water and Sanitation. Drainage and water systems are being mapped for hydrological analysis to determine the potential impact of flood disasters.

▶ CLICK FOR MORE INFO

SUPPORTED BY THE WORLD BANK

SEE WWW.RAMANIHURIA.ORG FOR COLLABORATING PARTNERS.

Dorica Mugusi speaking at a Ramani Huria community meeting.

"

Now we have a map - and a map is something to start with. It is a 'road map' for us to set up new plans and organize ourselves while involving the community, which can have a sense of ownership over our new plan for development. Let's not stop here, because this is just the beginning!

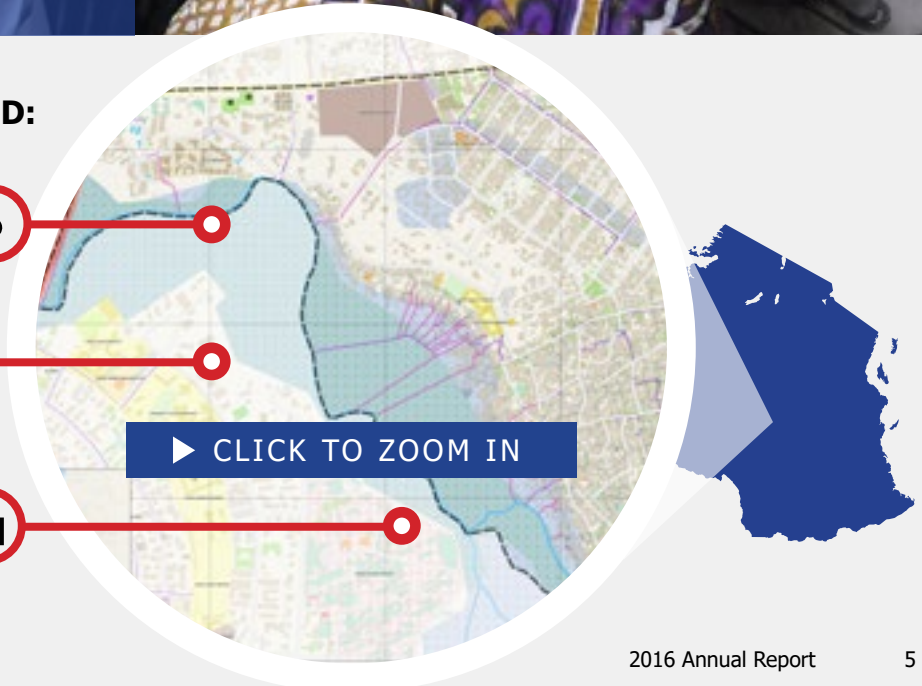
OSILIGI LOSSAI
WARD EXECUTIVE OFFICER IN DAR ES SALAAM

THE RAMANI HURIA TEAM MAPPED:

1,254 KM OF WATERWAYS

3,396 KM OF ROADS

1,700 SCHOOL BUILDINGS



Mapping Access to Digital Financial Services

UGANDA

FINANCIAL INCLUSION

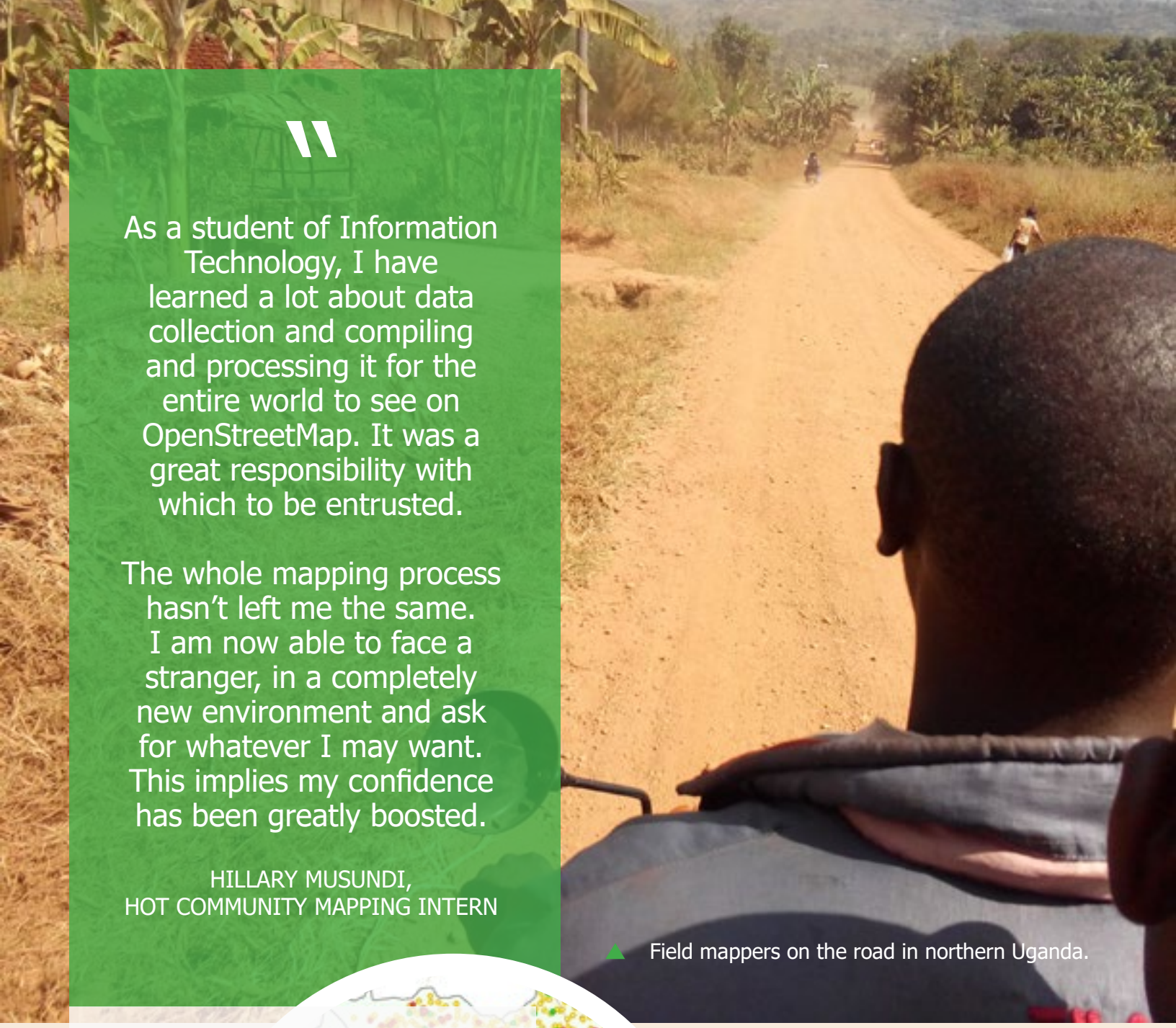
▲ Mapping a mobile money agent in Jinja with OpenMapKit.

▲ Bernard Wright from GeoGecko presenting on advanced GIS concepts during HOT's Masterclass in Kampala, for outstanding students on the project.

In 2016, HOT spearheaded a large-scale financial inclusion mapping project in Uganda. The initiative responds to the changing way that most people in the developing world "bank". Rather than traveling long distances to physical banks, many Ugandans use mobile money accounts accessible via phone, and visit the nearest mobile money agent to add or withdraw cash from their account. The very mobility intended to aid access creates challenges in keeping information on locations current. To address the challenge, HOT trained and equipped local students to comprehensively survey each of more than 21,000 locations across eastern Uganda and Kampala. To ensure sustainability for the project, HOT supported the formation of five YouthMappers student group chapters at universities throughout Uganda. Data generated by HOT is being used by Financial Sector Deepening (FSD) Uganda partners to locate areas lacking coverage.

▶ CLICK FOR MORE INFO

SUPPORTED BY BILL & MELINDA GATES foundation IN COLLABORATION WITH **FSD UGANDA, UGANDA BUREAU OF STATISTICS, YOUTHMAPPERS**



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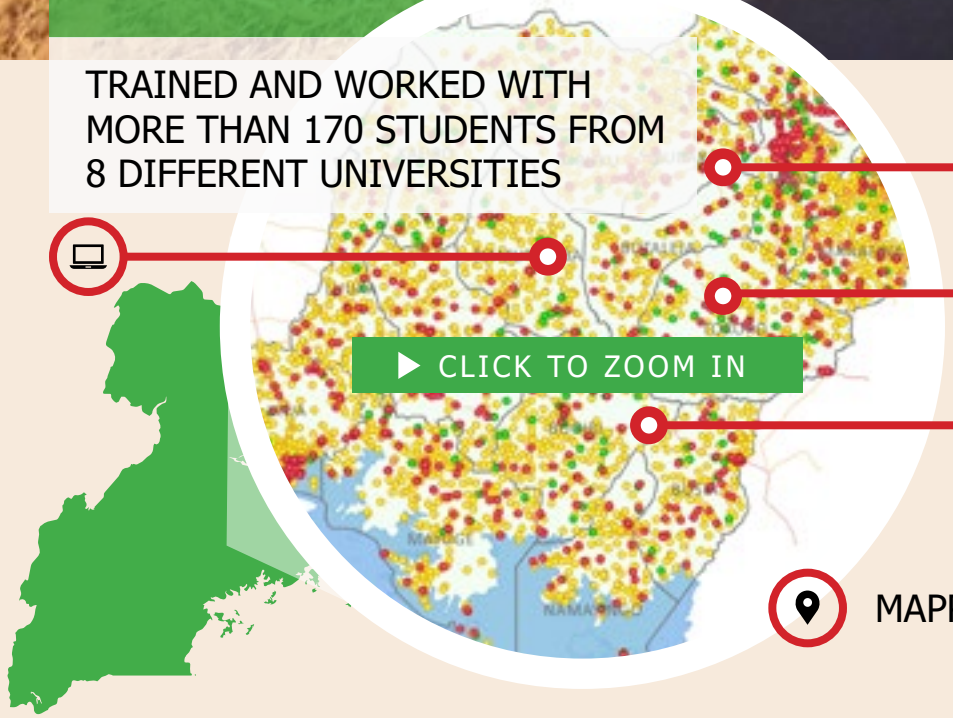
As a student of Information Technology, I have learned a lot about data collection and compiling and processing it for the entire world to see on OpenStreetMap. It was a great responsibility with which to be entrusted.

The whole mapping process hasn't left me the same. I am now able to face a stranger, in a completely new environment and ask for whatever I may want. This implies my confidence has been greatly boosted.

HILLARY MUSUNDI,
HOT COMMUNITY MAPPING INTERN

▲ Field mappers on the road in northern Uganda.

TRAINED AND WORKED WITH MORE THAN 170 STUDENTS FROM 8 DIFFERENT UNIVERSITIES



14,270 FINANCIAL SERVICES

1,275 HEALTH FACILITIES

5,495 SCHOOLS

MAPPED A TOTAL OF 21,040 POINTS

Reducing Disaster Risk
in the World's Second Largest City

INDONESIA

DISASTER RISK MANAGEMENT

▲ HOT Executive Director Tyler Radford works with field mappers in Indonesia.

▲ Field mappers work with local communities in Lembata assessing disaster risk.

Almost every year, serious floods strike Jakarta, Indonesia's capital and the world's second-largest metropolitan area. Working with Indonesia's national and regional disaster management authorities, HOT collects data on vulnerable areas before floods, earthquakes and other disasters occur.

HOT's community approach puts local residents and university students at the center of collecting the data vital for their neighborhood. HOT also brings together government and civil society through joint training and workshops, helping to build confidence in the quality and sustainability of the data. This work is helping the government to respond more quickly and efficiently for flood and disaster relief. Before HOT got involved, the data on flooding went down only to the village level. If the government received reports of flooding in a village, it had to assume the whole village was inundated. With the greater detail made possible by HOT's mapping, Indonesia's disaster management agencies can provide faster and far more efficient flood relief.

▶ CLICK FOR MORE INFO

SUPPORTED BY USAID FROM THE AMERICAN PEOPLE · Australian Government

IN COLLABORATION WITH **PACIFIC DISASTER CENTER; INDONESIA NATIONAL DISASTER MANAGEMENT AGENCY (BNPB); MIT URBAN RISK LAB**

▲ Map distribution to local officials in Surbaya.

"

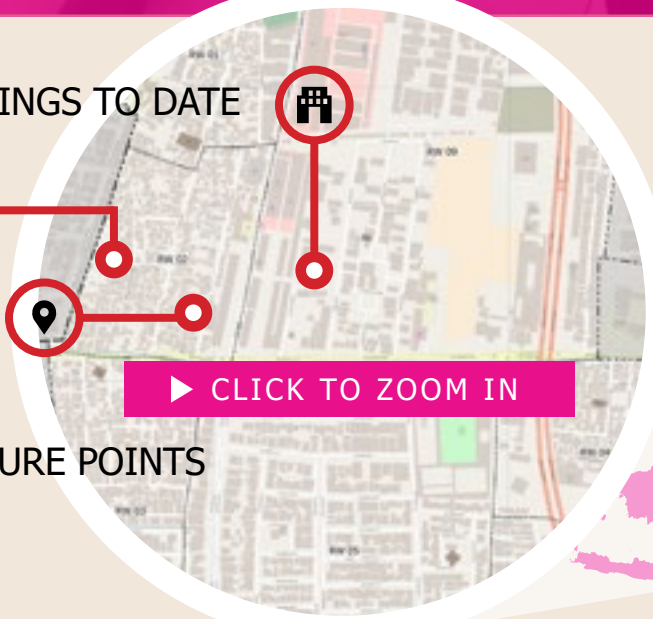
HOT helped add precision to the government's data. Previously, most maps hanging on village offices' walls were drawn by hand. The communities and village officials expressed their gratitude for the updated detailed maps. Having OSM maps printed and pinned to the wall will help coordination during emergency situations.

BIONDI SIMA, HOT COMMUNICATIONS SPECIALIST

MAPPED 5,250,000 TOTAL BUILDINGS TO DATE

TRAINED 470 PEOPLE

MAPPED SURABAYA, COVERING
(INDONESIA'S SECOND-LARGEST CITY)



- 4,417 LIFELINE INFRASTRUCTURE POINTS
- 3,073 KM OF ROADS
- 155 VILLAGES
- 1,302 COMMUNITY GROUPS

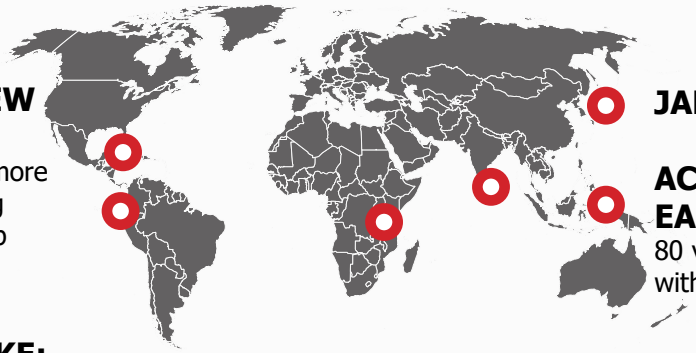
HOT's Rapid Response Activations

DISASTER RESPONSE

When major disaster strikes anywhere in the world, HOT rallies a huge network of volunteers to create maps that enable responders to reach those in need. Working with a coalition of organizations to initiate disaster activations, the HOT Tasking Manager streamlines collaboration and coordination. Inspired by innovative technology, campaigns, community involvement and public mapathons, more than 32,000 people have contributed to HOT, making more than 182,000,000 map edits and volunteering an estimated 240,000 hours since our founding in 2010.

> "HOT were crucial to our GIS team's ability to respond rapidly and at scale to humanitarian crises in 2016. The quality of the HOT network means that there is always capacity and capability when it's needed for humanitarian response.
>
> ANDREW BRAYE, GIS TEAM LEAD, BRITISH RED CROSS

In 2016, the HOT community responded to six disasters worldwide:



HURRICANE MATTHEW (HAITI):
1,000 mappers contributed more than 1.2 million edits, adding 180,000 buildings to the map

ECUADOR EARTHQUAKE:
2,300 mappers made close to 3 million changes

TANZANIA EARTHQUAKE

SRI LANKA FLOODING:
One million map changes made by roughly 400 mappers

JAPAN EARTHQUAKE

ACEH INDONESIA EARTHQUAKE:
80 volunteers mapping within minutes

Equipping the Humanitarian Community with New Tools

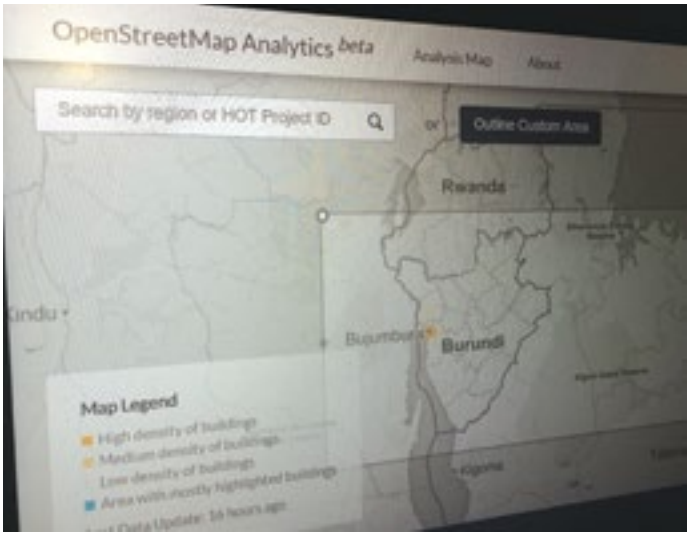
TECHNOLOGY INNOVATION

OpenAerialMap

OpenAerialMap (OAM) is a complete set of tools for searching, sharing and using satellite and unmanned aerial vehicle (UAV or drone) imagery. Using a crowdsourced approach, any satellite imagery provider or drone operator can contribute aerial imagery, which is then made available to all humanitarian responders. OAM has enabled better humanitarian coordination by reducing duplication of imagery, facilitating offline analysis through fast downloading, and supporting the creation of better real-time maps using OpenStreetMap and other platforms. The improvement in process ensures humanitarians and organizations have the most current imagery with which to work and plan their interventions.

In the Pacific Islands, HOT is working with the Secretariat of the Pacific Community (SPC) Geosciences Division on the Pacific Drone Imagery Dashboard (PacDID) project to improve drone flight coordination and standardize imagery collection and processing.

Explore OpenAerialMap
Click Here



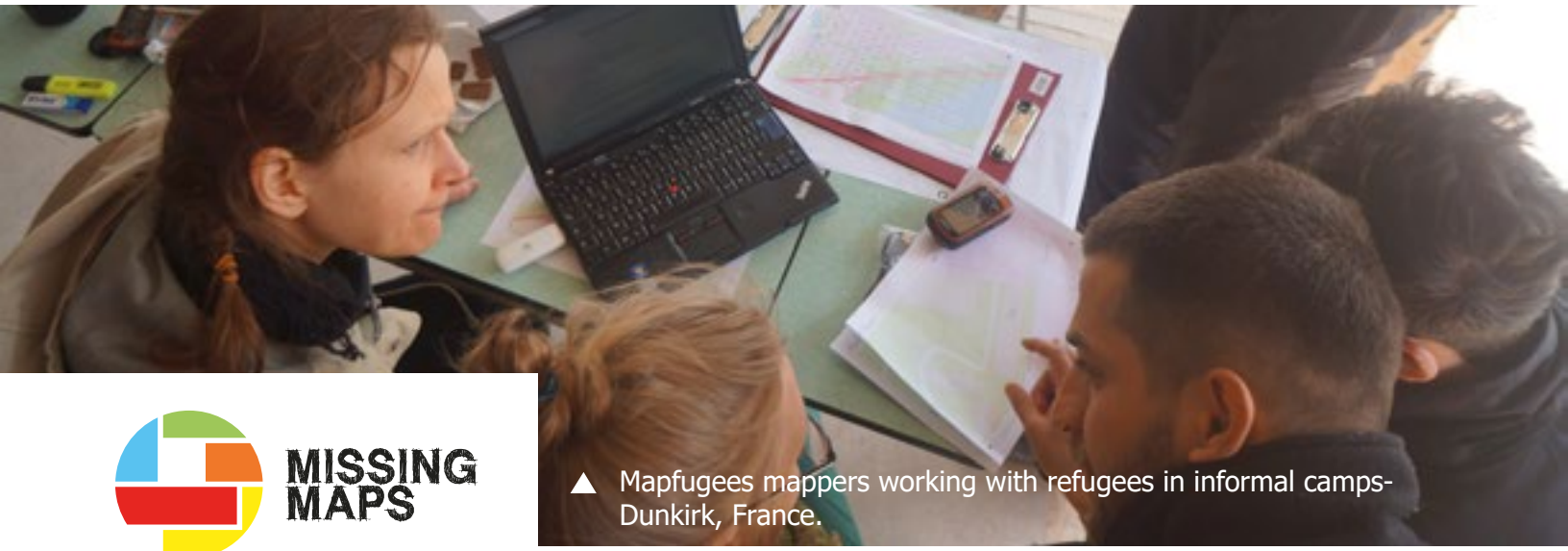
OSM Analytics (OSMA) is a web application that enables interactive analysis of how OpenStreetMap features, such as buildings and roads, are mapped in a specific region. Funded through a prototype grant by the Knight Foundation, it provides an intuitive way to explore the global footprint of OSM data and see the changes to OpenStreetMap, where and when they happened.

Daily data updates for the entire planet allow easy tracking of mapping progress over time.

Explore OSM Analytics
osm-analytics.org

Missing Maps & HOT's Global Community at Work

SUSTAINABLE DEVELOPMENT GOALS & REFUGEE CRISIS RESPONSE



▲ Mapfugees mappers working with refugees in informal camps- Dunkirk, France.

MISSING MAPS: MAKING VULNERABLE PLACES VISIBLE

Missing Maps celebrated its two year anniversary in November 2016. In just over two years, the Missing Maps Project has led over 26,000 volunteers to build a better map of vulnerable places through OpenStreetMap. This work has added an area home to over 30 million people to the map, and has set a goal of mapping 200 million people by 2021. This work is already having lifesaving impact, and enabling rapid response in public health emergencies. For example, using map data created by Missing Maps, Médecins Sans Frontières responded to a yellow fever outbreak, completing the largest and fastest vaccination campaign in their history, vaccinating 720,000 people in Kinshasa in only 10 days.

> "I tell people at mapathons sometimes, that house you're tracing right now, that hut – that's the first time in the history of humanity someone cared enough about them to take note. Things don't exist just because we name them, but giving them a name engenders new meaning. At its most basic, to exist on a map is to have value.
>
> - **IVAN GAYTON**

MAPFUGEES: RESPONDING TO A REFUGEE CRISIS

In the informal refugee camps of Calais and Dunkirk in northern France, HOT worked with residents to map their camps and the surrounding areas as part of the MapFugees project. The maps produced helped new arrivals respond to the challenge of quickly-changing environments. Feedback from participating camp residents was positive with many eager to learn the mapping skills and be a part of efforts to map their community.

▶ CLICK FOR MORE INFO

> Mapping is powerful because it allows the refugees to break out of their role as victims and make decisions that would improve their lives.
>
> **- KATJA ULBERT**

CROWD2MAP TANZANIA - PROTECTING WOMEN'S RIGHTS

Having better maps helped staff at a Tanzania safe house for Female Genital Mutilation (FGM) save lives, reducing the number of deaths from 12 in 2015 to 4 in 2016. Crowd2Map is a volunteer project set up by Tanzania Development Trust to map Tanzania's, difficult to navigate, rural areas where girls are most at risk of FGM. Crowd2Map recruited more than 1,500 online volunteers who remotely mapped more than 50,000 km^2, adding more than one million buildings and 64,000 km of roads.

▶ CLICK FOR MORE INFO

YOUTHMAPPERS

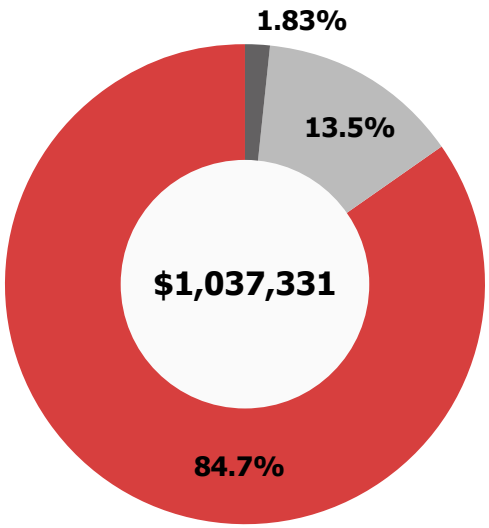
YouthMappers currently has 57 universities that have formed chapters in 19 countries. Thirty-seven of these are in countries with USAID missions or countries with current development projects. Approximately 2000 student mappers are part of these chapters. In 2016, over 6 million edits were committed to OSM with hashtags of #YouthMappers. In the second half of 2016, HOT team members led special local capacity building efforts supported by YouthMappers/USAID GeoCenter to create and train YouthMappers chapters in Uganda, Colombia, Bangladesh and contributed to others in Kenya and Ghana.

▶ CLICK FOR MORE INFO

2016 FINANCIALS

FINANCIAL ACCOUNTABILITY & TRANSPARENCY

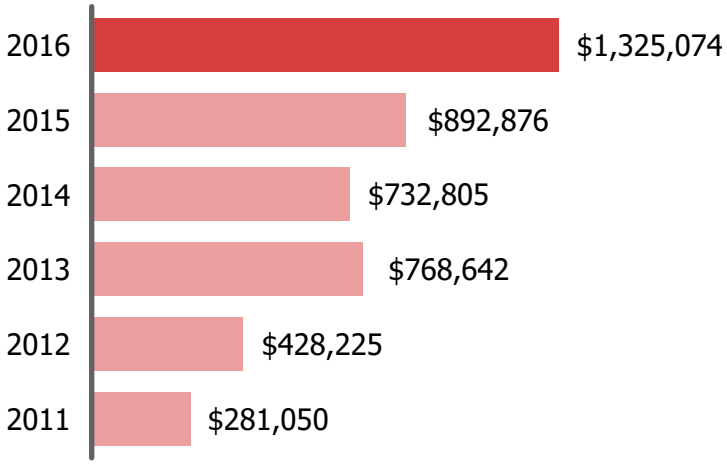
YOUR CONTRIBUTIONS AT WORK



- **PROGRAMS: 84.7%**
- **ADMIN & MANAGEMENT: 13.5%**
- **FUNDRAISING: 1.83%**

TECHNOLOGY INNOVATION: 47.5%
INDONESIA PROGRAMS: 19%
DATA COLLECTION/MAPPING: 16.4%
RAMANI HURIA: 9.7%
MICROGRANTS: 4%
TRAINING/CONSULTING: 3.4%

GROWTH IN PUBLIC SUPPORT



GOLD GuideStar Rating
(Highest rating)

YOU CAN MAKE A DIFFERENCE

When disaster strikes, HOT mobilizes our global network of thousands of volunteers who work together to map the affected area in OpenStreetMap.

We don't only do it after a disaster. Every day, HOT volunteers work tirelessly to put the most vulnerable people and places on the map before disaster strikes. Access to maps is vital to saving lives in an emergency.

HOW TO CONTRIBUTE

Thank you for supporting this critical work. When you give to HOT, your donation is used where it is needed most to carry out our humanitarian mission.

donations@hotosm.org

www.hotosm.org/donate

THE YEAR AHEAD

▲ Before HOT operations in Liberia.

▲ HOT-led OpenStreetMap training in Monrovia, Liberia.

"MAKING CITIES WORK" IN LIBERIA
BY SUPPORTING DECENTRALIZATION AND IMPROVED LOCAL SERVICE PROVISION

LEARN MORE

NEW OPERATIONS IN UGANDA AND TURKEY
TO SUPPORT SOUTH SUDAN AND SYRIA REFUGEE CRISES

LEARN MORE

HOT MICROGRANTS:
HOT WILL PROVIDE FUNDING FOR 8 OPEN DATA COMMUNITIES TO CARRY OUT SMALL-SCALE, BIG-IMPACT MAPPING PROJECTS ACROSS THE WORLD

LEARN MORE

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Shaping a more livable world.

USAID
FROM THE AMERICAN PEOPLE

Humanitarian
OpenStreetMap
Team

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Washington, D.C. 20005

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