Side Event of the UN Geospatial Network at the Eleventh Session of UN-GGIM

Disaster Management and Capacity Development in countries

HUMANITARIAN RAPID MAPPING

SATELLITE IMAGE ANALYSIS DURING HUMANITARIAN EMERGENCIES

UNOSAT

SERVICE OVERVIEW

Operational since 2003, the UNOSAT Rapid Mapping service offers a 24/7 year round availability to process requests from humanitarian actors and to deliver satellite imagery derived analysis, maps, reports and data ready to use data following major sudden onset disaster events and conflict situations. Typical situations for which UNOSAT Rapid Mapping is activated include floods, earthquakes, storms, landslides, volcanoes, oil spills, chemical waste, refugee and internally displaced person camp mapping, conflict damage assessment and situation analysis. UNOSAT benefits from a variety of sources for its satellite imagery: free and open source, commercial vendors, International Charter Space and Major Disasters (natural and technological disasters only) and in-kind donations.

UN-ASIGN
Download and use the UN-ASIGN app to capture images of humanitarian disasters

HOW WE SUPPORT DURING HUMANITARIAN EMERGENCIES

Wide and timely distribution of rapid mapping products to support evidence based operational planning and decision making of humanitarian actors in the field and at headquarter level.

Broad and rapid coverage of areas of interest using satellite images collected through different acquisition mechanisms including the activation of the International Charter Space and Major Disasters.

24/7 on-call service for UN member states, UN agencies, Red Cross and Red Crescent Movement (ICRC and IFRC), international and regional organizations and humanitarian non-governmental organizations.

Rapid satellite derived analysis and assessments in support of emergency response operations.

VULNERABLE POPULATION

ROADS & FEATURES

AREA OF IMPACT

PRODUCTS

SATELLITE ANALYSIS

REPORTS & DATA

WEB MAP

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UN GEOSPATIAL NETWORK
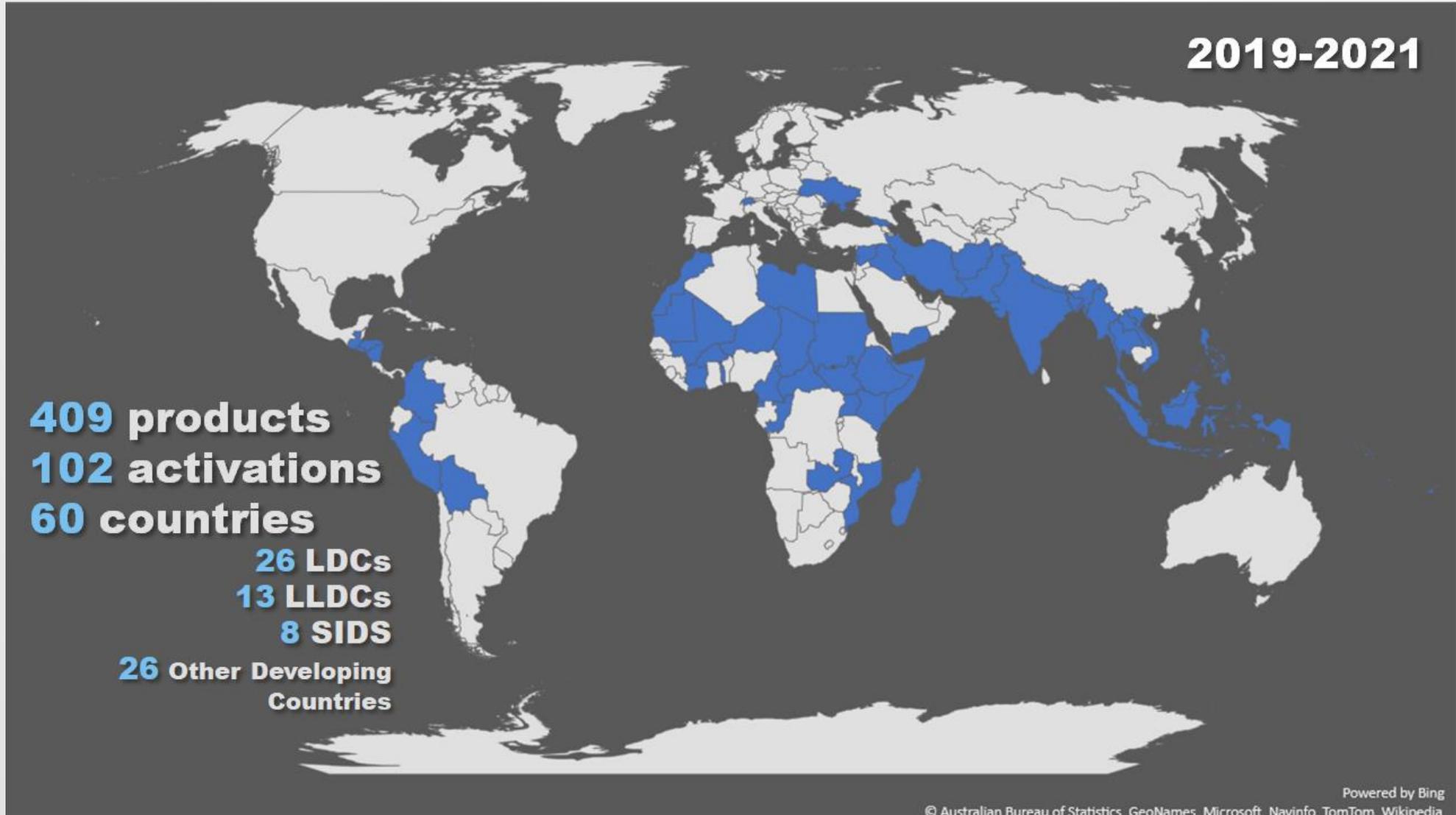UNITED NATIONS COMMITTEE OF EXPERTS ON GLOBAL GEOSPATIAL INFORMATION MANAGEMENT

2019-2021

409 products
102 activations
60 countries
26 LDCs
13 LLDCs
8 SIDS
26 Other Developing Countries

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HAITI
NIPPES DEPARTMENT

IMAGERY ANALYSIS: BETWEEN 14 &16/08/2021 PUBLISHED 18/08/2021 V1.

ANALYZE AREA 150km2 | DAMAGED STRUCTURE 73 | POTENTIALLY DAMAGED STRUCTURE 125

EARTHQUAKE
EQ20210814HTI

INSET 1 INSET 2

NIPPES

epicentre

INSET 3

INSET 4
Damaged structures

See inset 1 & 2 for close up view

Cavaillon

Changieux

Charpentier L'Asile

Abricot

See inset 3 & 4 for close up view

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FLOOD A.I. MAPPING

AUTOMATIC FLOOD MAPPING DONE USING ARTIFICIAL INTELLIGENCE

UNOSAT

SERVICE OVERVIEW

UNOSAT has years of experience mapping floods in support of the UN and member states all over the world. Advances in Artificial Intelligence and improved radar data availability allows UNOSAT flood mapping to address a larger portion of global flood events than in the past. UNOSAT analysts will be able to process more imagery over wider scales than ever before, which together with targeted radar tasking can greatly expand the amount of flood events UNOSAT can address.

HOW WE SUPPORT FLOOD MAPPING

Floods can be addressed 'at scale' instead of 'as possible'

More frequent updates of flood mapping can be done

Automatic ingestion of results into live dashboard for decision making

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Automated Flood Mapping

By using Artificial Intelligence (AI), satellite based analysis and related mapping are completed in considerably less time and the process is almost fully automated. This not only informs the decision-making process to help optimize the disaster response, it also has the potential to significantly reduce loss of life and mitigate structural damage, particularly in the context of humanitarian operations, thus supporting both national authorities and international emergency management organizations for the benefit of local populations.

UNOSAT in collaboration with UN Global Pulse, trained machines extensively to process satellite images and detect water much more rapidly in comparison to standard manual analysis. Working with the Government of Mozambique, UNOSAT set up an operational AI-based flood detection platform. This platform will support the Government and other national stakeholders with near real time satellite-derived analysis and statistics about potential flood events.

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Since 2010:
161 events
5402 people trained

CAPACITY DEVELOPMENT

HIGH QUALITY TRAININGS AND SKILLS DEVELOPMENT IN THE APPLICATION OF GEO-INFORMATION TECHNOLOGIES AND EARTH OBSERVATION

SERVICE OVERVIEW

Our team has more than a decade of remarkable practical experience in the design, development and delivery of innovative and tailor-made geospatial services and learning solutions for UN member states, UN agencies, international organizations and academia.

By leveraging science and innovative technologies such as Earth observation, artificial intelligence, machine learning and big data analytics, countries will have better tools and solutions to inform policies, planning and decision making. It is therefore very important to build technical capacities and to establish robust, evidence based and predictable mechanisms to access datasets and open data platforms which will enable least developed countries.

ONLINE COURSES
Browse our catalogue of courses or contact us at unosat@unitar.org for more information.
https://www.unitar.org/event/full-catalog?programme=51

HOW WE BUILD CAPACITY

Expertise in designing and delivery of innovative learning solutions to equip training beneficiaries with technical skills in the use of geospatial information technology relevant to different application domains including the know-how of using scientific information and spatial datasets into decision support products.

Robust quality assurance framework: all learning-related events are assessed against a set of over a dozen standards prior to delivery in accordance with the Institute's Quality Assurance Framework certification process.

Implementation of in-country capacity development programmes to enhance capacity of governments and national or regional stakeholders through ad-hoc technical training and awareness raising events including technical backstopping.

Implementation of geospatial solutions for improved DRR and climate change resilience such as early warning systems, spatial decision support platforms, multi hazard risk assessment tools, etc.

AWARENESS BUILDING

ONLINE WEBINARS

IN PERSON TRAINING

ONLINE TRAINING

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"NDMO applied the new skills learned from the CommonSensing Advanced GIT Training during TC Yasa to take the lead role in emergency responses. We leveraged skills and knowledge about damage assessments, visual interpretation, as well as the use of demographic data for assessing affected communities by provinces and districts. A live dashboard showing the results of multiple assessments was developed by the training participant from the Bureau of Statistics with the help of CS country officer, and it was displayed in the National Emergency Operations Centre in Suva."

*Senior Geospatial Officer
from Fiji NDMO*

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