

This service summarizes current satellite mapping activities of interest to GDACS stakeholders. It is issued weekly and based on contributions from map-producing entities and GDACS partners.

Satellite mapping overview

As of 22 December 2014

Africa

Cape Verde volcano – GLIDE number: VO20141124CPV

On 23 November 2014 the Pico de Fogo volcano erupted for the first time since 1995. The Copernicus Emergency Management Service continues to monitor the situation in Fogo Island and recently published new grading maps. Satellite imagery acquired 16, 12, 09, 08, 07 and 04 December 2014, as well as 29 and 30 November 2014 was used to analyze the lava flow's progression. As of 16 December 2014, a total of 444.7 hectares of land and 6.4 kilometers of local roads were destroyed. Approximately 20.6 hectares of residential settlements and 328 inhabitants were also affected by the lava flow. This represents an increase of 10.1 hectares of residential settlements and 160 inhabitants impacted by the volcano since 12 December 2014. Map products and data are available in JPEG, PDF and TIFF formats as well as a downloadable zipped vector package on the Copernicus Emergency Management Service website. Data can also be accessed in GeoTIFF, GeoPDF, GeoJPEG and vector (shapefile and KML) formats.

Source: Copernicus Emergency Management Service

Link: <http://emergency.copernicus.eu/mapping/list-of-components/EMSR111>

Somalia complex emergency – GLIDE number: CE20130710SOM

As a result of conflict as well as political, security, development, and humanitarian challenges, more than one million internally displaced persons (IDPs) currently reside within Somalia. UNITAR-UNOSAT recently published a map of IDP shelter changes in Hargeisa, Somalia between 20 August 2012 and 02 November 2014. Analysis of satellite imagery acquired between these dates revealed one new IDP settlement and one expanded IDP settlement by 02 November 2014. During this same time, 4 other settlement areas contracted and 2 settlement areas experienced no change. As of 02 November 2014, IDP settlements occupied a total area of 71.06 hectares. This represents an increase of 3.96 hectares since 20 August 2012. A total of 7,108 IDP structures were detected on 02 November 2014. This map product is available for download as a PDF on the UNITAR-UNOSAT website. An accompanying shapefile and geodatabase in ESRI format can also be accessed through UNITAR-UNOSAT's product links.

Source: UNITAR-UNOSAT

Link: <http://www.unitar.org/unosat/maps/92>

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West Africa infectious disease – GLIDE number: ID20141010LBR

Following an outbreak of Ebola in western Africa, the World Health Organization (WHO) declared an International health emergency in August 2014. In response to a worsening situation, the International Charter for Space and Major Disasters was activated on 09 October 2014 by the USGS on behalf of the National Geospatial-Intelligence Agency (NGA) and by UNITAR-UNOSAT on behalf of the WHO Operations Center. As Project Manager, UNITAR-UNOSAT continues to work with the USGS to obtain and disseminate high resolution satellite imagery of the most heavily affected areas. UNITAR-UNOSAT recently released an updated atlas of Ebola Care Facilities in Guinea, Liberia, and Sierra Leone. The atlas provides detailed crisis satellite imagery coverage over the locations of existing, planned, under construction and closed Ebola Care Facilities in these countries. This atlas is available for download as a PDF on the UNITAR-UNOSAT website. Satellite imagery depicting the situation prior to and following the Ebola outbreak is accessible online through the USGS Hazards Data Distribution System (HDDS) RSS feed.

Sources: International Charter for Space and Major Disasters, UNITAR-UNOSAT, USGS

Links: <https://www.disasterscharter.org/web/guest/activations/-/article/other-in-sierra-leone>

<http://www.unitar.org/unosat/maps/112>

http://dds.cr.usgs.gov/ee-data/rss/events/201410_Ebola_Africa.rss

Asia

Bangladesh oil spill – GLIDE number: AC20141217BGD

On 09 December 2014, a collision between an oil tanker and another vessel resulted in an oil spill of approximately 400,000 liters in Bangladesh's Sundarbans. The Sundarbans is a UNESCO World Heritage Site that constitutes one of the largest mangrove forests in the world. UNITAR-UNOSAT recently published a map of the oil spill's extent. Using satellite imagery acquired 17 December 2014 and 25 November 2014, UNITAR-UNOSAT identified areas of probable oil spill along parts of the Sela and Pashur Rivers. As of 17 December 2014, the map shows that the oil had spread downstream past Harantanakhal along the Sela River and Harbariakhal along the Pashur River. The precise boundaries of detected oil are uncertain due to their similarity to calm waters, surface level organic and vegetation films, as well as other features in radar imagery. Additionally, oil spill areas may be hidden by dense vegetation in radar imagery. This map product is available for download as a PDF on the UNITAR-UNOSAT website.

Source: UNITAR-UNOSAT

Link: <http://www.unitar.org/unosat/maps/14>

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Indonesia landslide – GLIDE number: TBD

Due to heavy rainfall a landslide occurred in Indonesia on 12 December 2014 and buried Jemblung, a village located in the Banjarnegara District of Java Island. The International Charter for Space and Major Disasters was activated on 15 December 2014 by the Asia Disaster Reduction Center (ADRC) on behalf of the Indonesian National Institute of Aeronautics and Space (LAPAN). LAPAN assumed project management for this event and has produced maps of its aftermath. Analysis of satellite imagery acquired 16 December 2014 and 18 April 2014 reveals the extent of the landslide in Karangobar Subdistrict. LAPAN identified approximately 9 settlement areas and 48 structures that were engulfed by the landslide. Pre and post-event imagery is juxtaposed in one map to allow for close comparison. Map products are available for online viewing and download in JPEG format on the International Charter for Space and Major Disasters' website.

Source: International Charter for Space and Major Disasters

Link: <https://www.disasterscharter.org/web/guest/activations/-/article/landslide-in-indonesia>

Philippines typhoon – GLIDE number: TC20141204PHL

On 06 December 2014 Typhoon Hagupit made landfall in the Philippines as a Category Three storm on the Saffir-Simpson scale. Heavy rainfall and strong winds caused flooding and significant damage to structures in the eastern part of the country. In anticipation of the typhoon's potentially damaging effects, the International Charter for Space and Major Disasters was activated on 04 December 2014 by UNITAR-UNOSAT on behalf of the UNOCHA Philippines and the UNDP Crisis Response Unit. Project management was assumed by the European Space Agency (ESA). The ESA, USGS, EUMETSAT, NASA, UNITAR-UNOSAT, Copernicus Emergency Management Service, and German Aerospace Center (DLR) are currently engaged in satellite imagery acquisition, coordination, and mapping activities for this event. The USGS continues to provide the latest satellite data coverage of affected areas through its Hazards Data Distribution System's (HDDS) RSS feed. UNITAR-UNOSAT published two new maps of damaged structures in Borongan City and the San Julian area of Eastern Samar Province. Using satellite imagery acquired 14 December 2014 and 26 April 2014, UNITAR-UNOSAT identified a total of 439 affected structures in Borongan City. Of these structures, 87 were destroyed, 154 severely damaged, and 198 moderately damaged. Analysis of satellite imagery from 12 December 2014 and 12 July 2014 revealed a total of 279 affected structures in the San Julian area. This includes 66 structures categorized as destroyed, 148 as severely damaged, and 65 as moderately damaged. UNITAR-UNOSAT map products are available online for download as PDFs. Accompanying shapefiles and geodatabases in ESRI format can also be accessed on the UNITAR-UNOSAT website.

Sources: UNITAR-UNOSAT, USGS, International Charter for Space and Major Disasters

Links: <http://www.unitar.org/unosat/maps/69>

<https://unosatgis.cern.ch/LIVE/TC20141204PHL/>

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http://dds.cr.usgs.gov/ee-data/rss/events/201412_Typhoon_Hagupit_PHL.rss

<https://www.disasterscharter.org/web/guest/activations/-/article/flood-in-philippines>

<https://gdacs-smcs.unosat.org/events/view/id/13>

This summary is compiled by the GDACS mapping & satellite imagery coordination mechanism, operated by the UNITAR Operational Satellite Applications Programme (UNOSAT).

When referring to this summary, please credit: GDACS, UNITAR-UNOSAT.

For comments, questions and to submit information on satellite image derived products, please contact:

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Sources indicate satellite analysis production entities and imagery providers. The products referenced in this summary are based on remote satellite imagery and may not be validated in the field prior to release, in which case findings are based only on what is observed in the satellite imagery.

**Not an official GLIDE number, as event has no entry in GLIDE database, but used by GDACS for seamless information integration.*