

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 08 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 recently published detailed grading and monitoring maps depicting the situation in Fogo Island, Cape Verde. Satellite imagery acquired 29 and 30 November 2014, as well as 04, 07 and 08 December 2014 was used to monitor the lava flow's progression. As of 08 December 2014, the lava had advanced northwest into the villages of Portela and Bangaeira. A total of 365.5 hectares of land and 6.27 kilometers of local roads were destroyed. Approximately 10.5 hectares of residential settlements and 168 inhabitants were affected. 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>

West Africa infectious disease – GLIDE number: ID20141010LBR

Due to 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. The Copernicus Emergency Management Service recently released an overview reference map for four areas of interest in Nzérékoré, Guinea. In order to provide security support to a Belgian medical mission in the field, the Copernicus Emergency Management Service used satellite imagery to delineate transportation networks, rivers, settlements and facilities in the areas of interest. An estimated population of 160,000 inhabitants reside within Nzérékoré and its surrounding areas. This map product and its accompanying 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. 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.

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Sources: International Charter for Space and Major Disasters, Copernicus Emergency Management Service, USGS, UNITAR-UNOSAT

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

<http://emergency.copernicus.eu/mapping/list-of-components/EMSR110>

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

Asia

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 resulted in 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 provides the latest satellite data coverage of affected areas through its Hazards Data Distribution System's (HDDS) RSS feed. EUMETSAT and NASA have used their satellites to monitor the progression and extent of Typhoon Hagupit. UNITAR-UNOSAT has created a Satellite Mapping Coordination System (SMCS) for Copernicus, DLR and itself on the Global Disaster Alert and Coordination System (GDACS) website. Additionally, UNITAR-UNOSAT released a flood map and an estimated rainfall accumulation map for the Eastern Visayas region. Using satellite imagery acquired 08 December 2014, UNITAR-UNOSAT analyzed satellite-detected flood waters in the San Miguel area, situated west of Tacloban city in Leyte Province. Some areas of substantial flooding include Bahay, Yuro, Malaihao, and Mawodpawod. Estimated rainfall accumulation covering the period from 04 to 07 December 2014 indicated the northwest part of Samar Island was most significantly impacted during this time with 300 to 375 millimeters of rain. Links to the aforementioned emergency response resources are available at the links below.

Sources: International Charter for Space and Major Disasters, ESA, USGS, EUMETSAT, NASA, UNITAR-UNOSAT, Copernicus Emergency Management Service, DLR

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

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

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

http://www.eumetsat.int/website/home/Images/ImageLibrary/DAT_2437036.html

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<http://www.nasa.gov/content/goddard/hagupit-northwestern-pacific-ocean/#.VIY2RMmadwn>

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

Russia volcano – GLIDE number: TBD

Located on the Kamchatka Peninsula of Russia, the Zhupanovsky volcano began erupting on 06 June 2014 and has continued its explosive activity into December 2014. The NASA Earth Observatory collected satellite imagery of the volcano on 01 December 2014 and produced two situational overview maps. Airborne ash moving in a southeast direction near the top of the volcano’s caldera is visible in the maps. Ash-covered snow and ground can also be seen on the mountain’s slopes. The Global Volcanism Program has attributed Zhupanovsky’s ongoing activity to phreatic explosions caused by the vaporization of water by hot material underneath the surface. Map products are available for online viewing and download in GeoTIFF and JPEG format on the NASA Earth Observatory website.

Source: NASA Earth Observatory

Link: <http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=84826>

Europe

Czech Republic industrial accident – GLIDE number: EMSR113*

Following an explosion in mid-October 2014, a former munitions depot located in Vrbětice, South Moravia experienced a new series of blasts on 03 December 2014. Villages within the depot’s vicinity were evacuated and ongoing clean-up work from the October 2014 explosion came to a halt. In response to this event, the Copernicus Emergency Management Service has produced reference maps for disaster response authorities. The maps illustrate the various settlements (residential, industrial, agricultural, etc.), transportation networks, utilities, points of interest, and the physiography of Vrbětice village and its surrounding area. An estimated population of 2,576 inhabitants reside within and around Vrbětice. Approximately 183 hectares of settlements, 2.2 hectares of utilities, and 110.3 kilometers of transportation routes are located in the potentially affected area. 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/EMSR113>

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Middle East

Iraq complex emergency – GLIDE number: TBD

According to the UNHCR, approximately 1,450,568 refugees, IDPs, asylum seekers and stateless persons reside within Iraq. REACH, a joint initiative of ACTED, IMPACT Initiative, and UNITAR-UNOSAT, recently released several updated general infrastructure maps for camps in Iraq in order to aid humanitarian efforts. REACH integrated satellite imagery acquired on various dates in 2014 into these maps. Mapped IDP and refugee camps include Arbat in Sulaymaniyah Governorate, Bajid Kandala and Khanke in Duhok Governorate, as well as the Qushtapa, Basirma, Darashakran and Kawergosk camps in Erbil Governorate. General infrastructure depicted in the maps consists of shelters, offices, clinics, schools, shops, police and fire stations, kitchens, water tanks, latrines, showers, fuel depots, network towers, storage areas, distribution structures, etc. In some cases, camp areas under construction as of mid-November 2014 are also delineated. Map products are available for download as PDFs on the REACH website.

Source: REACH

Link: [http://www.reachresourcecentre.info/advanced-search?field_document_type_tid\[\]=4](http://www.reachresourcecentre.info/advanced-search?field_document_type_tid[]=4)

Syria complex emergency – GLIDE number: CE20130604SYR

Due to the ongoing conflict in Syria, many citizens continue to flee the country in search of refuge. UNITAR-UNOSAT recently published a map illustrating satellite-detected shelters of displaced persons in the area of the Hadalat crossing on the Syrian-Jordanian border. Using satellite imagery acquired 02 December 2014, UNITAR-UNOSAT identified 95 probable shelters in the open desert and along the Syrian side of the border approximately 107 kilometers southwest of the Iraq border. As a result of the irregularity and small size of the shelters it is likely that some may have been missed or included erroneously in the analysis. This map is available for download as a PDF on the UNITAR-UNOSAT website.

Source: UNITAR-UNOSAT

Link: <http://www.unitar.org/unosat/maps/98>

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: maps@gdacs.org

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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.*