

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 23 October 2014

Africa

Ethiopia refugee camps – GLIDE number: RC20140228ETH

Ethiopia provides shelter and protection to hundreds of thousands of refugees from more than 13 countries, the majority of which originate from Sudan, South Sudan, Somalia, and Eritrea. In response to a request by the UNHCR, UNITAR/UNOSAT used satellite imagery acquired 10 February 2014 and 11 September 2014 to produce two land cover classification maps for refugee camp planning purposes in the Gambella region. Four separate classes depict swamp/water, bare soil/sparse vegetation, vegetation, and dense vegetation in areas around the Leitchuor and Nip Nip camps. During the dry season in February 2014, the camps were surrounded by bare soil, vegetation, and dense vegetation, as well as some swamp/water located slightly farther than one kilometer away. Following the long rainy season, in September 2014 vast expanses of swamp/water surrounded the camps, the closest of which were situated within or less than one kilometer from them. Previous UNITAR/UNOSAT maps of inundations and swamps near refugee camps in Ethiopia demonstrate the importance of such land cover data for camp planning. Both land cover classification maps are available for download as PDFs on the UNITAR/UNOSAT website.

Source: UNITAR/UNOSAT

Link: <http://www.unitar.org/unosat/maps/29>

Egypt fires – GLIDE number: TBD

Egypt experienced numerous small fires in the Nile River Delta in mid-October 2014. The NASA Earth Observatory acquired satellite imagery of the event on 17 October 2014 and produced a map of detected fires. Visible smoke plumes, many of which blow southward towards Cairo, accompany the identified fire locations. Due to the number of fires and their far-reaching nature, it appears as though they were ignited purposefully for agricultural reasons. Supposedly 946 such fires were also reported in the Sarqia, Dakahlia, and Gharbiya governorates within the first eight days of October. This map product is available for online viewing and download on the NASA Earth Observatory website in JPEG format.

Source: NASA Earth Observatory

Link: <http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=84582&eoan=home&eoci=nh>

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Somalia floods – GLIDE number: TBD

During mid-October 2014, Somalia's Juba River Basin experienced moderate to heavy rainfall which resulted in flooding within the Jilib District of Lower Juba. As part of an ongoing monitoring project, the Food and Agriculture Organization (FAO) recently published a map of breakages in the Lower Juba River from December 2012 to August 2014. High resolution satellite imagery acquired and analyzed by the FAO between these periods reveals numerous breaking point incidents along the Lower Juba River that caused flooding. While eight breakage points have thus far been closed in 2014, more than thirty points along the river have the potential to break. One breakage point, situated near Madhooka in Jilib District, remains open and presents a high flood risk at the moment. This map is available online for download as a PDF.

Sources: ReliefWeb, Food and Agriculture Organization

Link: <http://reliefweb.int/map/somalia/somalia-lower-juba-river-breakages-lower-juba-region-wv2-images-dec-2012-aug-2014>

Europe

Italy landslide – GLIDE number: EMSR105*

Beginning on 09 October 2014, Italy experienced four consecutive days of heavy rainfall that resulted in floods in Genoa's city center and landslides in the central-eastern part of Liguria. In support of the Italian Civil Protection Department, the Copernicus Emergency Management Service used satellite imagery acquired 22 October 2014 to produce two grading maps of landslide damage in the area of Montoggio. The maps indicate that 5.19 hectares of mudflow and 6.32 hectares of erosion along the Scrivia, Pentemina, Lationa, Carpi, and Val di Noci rivers affected the area of interest. These events impacted 29 inhabitants, 8 settlements (3 of which were destroyed), 0.59 kilometers of local roads, as well as 6.13 hectares of woodland and 1.89 hectares of grassland. Grading and reference map products and data for this event 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/EMSR105>

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North Atlantic Ocean

Bermuda hurricane – GLIDE number: TBD

Reduced to a Category Two storm, hurricane Gonzalo hit Bermuda on 17 October 2014. In anticipation of the storm's potentially adverse effects, the International Charter for Space and Major Disasters was activated on 15 October 2014 by the U.K. Cabinet Office CSS on behalf of the Bermuda Government Emergency Management Organization. This activation has been managed by the Government of Bermuda's Department of Land Surveys and Registration. Although satellite-derived activation mapping products are not yet available on the International Charter for Space and Major Disasters website, the Copernicus Emergency Management Service recently published grading maps of northeast and southwest Bermuda. Analysis of post-event satellite imagery acquired 18, 19 and 20 October 2014 revealed that areas in the northeast including Flatt's Village, Tucker, Hamilton District, and St. George's were not seriously affected by the storm. In the southwest, Hamilton City and Warwick District also remained unharmed, however, Somerset and Hog Bay were impacted. In Somerset, 68 inhabitants, 20 settlements (industrial commercial, residential, multifunctional, and agricultural), as well as 0.13 kilometers of primary and local roads were affected. In Hog Bay, 18 inhabitants and 5 settlements (industrial, residential, and agricultural) were affected. Grading and reference 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. More grading maps for this event are currently in production.

Sources: International Charter for Space and Major Disasters, Copernicus Emergency Management Service

Links: <https://www.disasterscharter.org/web/guest/activations/-/article/cyclone-in-bermuda>

<http://emergency.copernicus.eu/mapping/list-of-components/EMSR106/ALL/ALL>

South America

Brazil drought – GLIDE number: TBD

Due to an ongoing drought in southeast Brazil, particularly in the city and state of São Paulo, the NASA Earth Observatory recently released two maps depicting the situation around the Jaguari Reservoir. Cloud-free satellite imagery acquired before the drought on 16 August 2013 and after the drought on 03 August 2014 illustrates the gravity of this event. With rainfall 300 to 400 millimeters below normal, a drastic change in water level is apparent in the water color and an increased visibility of reservoir banks. To facilitate observation of this phenomenon, the NASA Earth Observatory has provided a comparison tool which allows the viewer to seamlessly slide between 2013 and 2014 images of Jaguari Reservoir. Since August 2014, Brazil's reservoirs have continued to shrink from 12 to 4 percent capacity and production of major crops like coffee and sugar is declining.

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Map products are available for online viewing and download in GeoTIFF and JPEG formats on the NASA Earth Observatory website.

Source: NASA Earth Observatory

Link: http://earthobservatory.nasa.gov/IOTD/view.php?id=84564&eocn=home&eoci=iotd_image

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

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.*