

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 12 September 2016

Asia

India floods – GLIDE number: FL-2016-000094-IND

Ongoing monsoon rainfall in late August 2016 led to floods throughout India that affected up to six million people. Central and eastern India were the worst affected, particularly the states of Bihar, Uttar Pradesh, Rajasthan, Madhya Pradesh and Gujarat. The International Charter on Space and Major Disasters was activated by ISRO on 26 August 2016 and project management was assumed by the National Remote Sensing Centre. Three maps have since been produced using satellite imagery acquired 28 August 2016. As of this date, flood waters were visible along the Ganga river in different parts of the Patna and Bhagalpur districts located in Bihar state. These are two of the fourteen worst affected districts according to the Bihar Department of Disaster Management. The Ganga river in Bhagalpur has been reported to have reached record high levels as a result of the rainfall. Map products are available for online viewing or download in JPEG format on the International Charter on Space and Major Disasters website.

Source: International Charter on Space and Major Disasters

Link: <https://www.disasterscharter.org/web/guest/-/flood-in-ind-1>

Japan tropical cyclone – GLIDE number: TC-2016-000096-JPN

Tropical cyclone Lionrock made landfall over northeast Japan on 30 August 2016, just one week after tropical cyclones Mindulle and Kompasu struck the country. Heavy rainfall from Lionrock caused flooding in the northern island of Hokkaido, resulting in riverbank collapses and evacuations. The NASA Earth Observatory acquired 28 August 2016 satellite imagery of Lionrock and produced an overview map. As of this date, the tropical cyclone was visible hovering over the North Pacific Ocean to the south of Japan. By 31 August 2016 Lionrock had cleared Japan and merged with another weather system in the Sea of Japan before impacting eastern Russia, eastern China, and the Korean peninsula. This map product is available for online viewing as well as 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=88652&eoqn=home&eoci=nh>

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Lao People's Democratic Republic floods – GLIDE number: FF-2016-000093-LAO

Heavy rainfall in mid-August 2016 followed by tropical cyclone Dianmu resulted in floods within the Lao People's Democratic Republic. According to the Lao Red Cross, at least 19,306 people were affected as of 27 August 2016. In response to this event, UNITAR-UNOSAT recently released a map of satellite detected waters over Xieng Ngneun district in Louangprabang province. Using satellite imagery acquired 23 August 2016, UNITAR-UNOSAT observed water expansion predominantly located in areas along the Mekong river bank. The Nam Khan river also grew in size along its banks, but did not overflow. 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/LAO>

Central America

Guatemala volcanic eruption – GLIDE number: TBD

Located roughly 70 kilometers west of Guatemala City, Volcán de Fuego is one of the most active volcanoes in Central America and recently exhibited explosive activity. On 04 September 2016, lava was reported to have reached 200 meters above the volcano's crater rim and ash plumes rose approximately 850 meters high. The NASA Earth Observatory captured 07 September 2016 satellite imagery of the volcano and created an overview map. As of this date, increased temperatures associated with lava were detected moving down the volcano's slopes in a southeast direction. An ash plume emanating from the Volcán de Fuego was also visible drifting westward. This map product is available for online viewing and download in JPEG format on the NASA Earth Observatory website.

Source: NASA Earth Observatory

Link: <http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=88722&eocn=home&eoci=nh>

Mexico tropical cyclone – GLIDE number: TC-2016-000078-MEX

On 06 September 2016, Category 1 tropical cyclone Newton made landfall over Mexico's Baja California peninsula. Newton first hit Cabo San Lucas and then moved northwest, bringing heavy rainfall and maximum sustained winds of 130 kilometers per hour. The NASA Earth Observatory acquired 05 September 2016 satellite imagery of Newton and produced an overview map. At this time, Newton was a tropical storm with maximum sustained winds of 105 kilometers per hour. Newton was visible hovering over the Pacific Ocean approximately 440 kilometers south and southeast of Cabo San Lucas. As of 07 September 2016, Newton had weakened to a post-tropical cyclone and moved to the United States affecting parts of Arizona and New Mexico. This map product is available for online viewing and download in JPEG format on the NASA Earth Observatory website.

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Source: NASA Earth Observatory

Link: <http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=88706&eocn=home&eoci=nh>

Europe

Italy earthquake – GLIDE number: EQ-2016-000095-ITA

A 6.2 magnitude earthquake that hit central Italy on 24 August 2016 resulted in significant damage and 292 deaths. The Copernicus Emergency Management Service created an internal activation for this event and has produced many maps depicting the situation in parts of central Italy. Most recently, it evaluated damage in the areas of Grisciano, Amatrice, Montegallo, Frascaro, Montereale, Capodacqua, Trisungo and Vezzano. Using satellite imagery acquired 02, 03 and 04 September as well as 25 August 2016, the Copernicus Emergency Management Service identified a total of 1,093 affected inhabitants, 713 impacted settlements, and 5.1 kilometers of damaged roads in these areas. Map products are available for download in TIFF, PDF, and JPEG formats on the Copernicus Emergency Management Service website. Accompanying zipped vector packages are also provided on this website.

Source: Copernicus Emergency Management Service

Link: <http://emergency.copernicus.eu/mapping/list-of-components/EMSR177>

Middle East

Syria complex emergency – GLIDE number: CE20130604SYR

As a result of continuous violence in Syria, the country's population has experienced significant upheaval. UNITAR-UNOSAT published new maps of shelters at the Hadalat and Rukban areas on the Syria-Jordan border. Analysis of satellite imagery acquired 05 September 2016 revealed 1,553 probable shelters on the Syrian side of the security berm at the Hadalat border crossing. This represents a 27 percent decrease in shelters since the previous UNITAR-UNOSAT analysis of this area with a 13 July 2016 satellite image. Using satellite imagery collected 02 September 2016, UNITAR-UNOSAT identified 8,295 probable shelters along the Jordanian side of the Rukban border crossing, situated 25 kilometers southwest of the Al Waleed crossing. Since the previous UNITAR-UNOSAT analysis of 25 July 2016 imagery, this indicates a 26 percent increase in visible shelters within this area. These map products are available for download as PDFs on the UNITAR-UNOSAT website. Accompanying data in ESRI shapefile and geodatabase format is also accessible on this website.

Source: UNITAR-UNOSAT

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

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North America

United States tropical cyclone – GLIDE number: TBD

In early September 2016, Category 1 tropical cyclone Hermine struck Florida and the coastal southeast states. Although it later became a post-tropical storm, Hermine's remnants resulted in heavy rainfall and rip-currents while moving up the eastern coast of the United States. The NASA Earth Observatory monitored this progression and produced maps using satellite imagery from 01 to 07 September 2016. During this week, Hermine was visible drifting up the Atlantic coast and changing in form due to different energy sources. As of 06 September 2016, the storm could be seen southeast of Long Island, hovering over the Atlantic Ocean. At this time its maximum sustained winds reached 100 kilometers per hour and it created storm surges of 0.3 to 0.6 meters. By 07 September 2016, the storm had significantly weakened. Map products are available for online viewing and download in JPEG format on the NASA Earth Observatory website.

Source: NASA Earth Observatory

Link: <http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=88718&eocn=home&eoci=nh>

<http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=88681&eocn=home&eoci=nh>

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.*