

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 May 2016

Asia

Tajikistan flood and mudflow – GLIDE number: MS-2016-000049-TJK

Heavy rainfall from 09 to 13 May 2016 led to flash floods and mudflows in at least eight districts of Tajikistan. About 2,550 households were affected by the flooding and the district of Rudaki was the most severely impacted. The Copernicus Emergency Management Service created two internal activations for this event, one for floods in Rudaki District and the other for mudflows in Panjakent District. Satellite imagery acquired 17 and 22 May 2016 was used to produce maps of the aftermath in both of these locations. In Rudaki District, as of 17 May 2016 a total of 5.88 square kilometers of flooded area and mudflows were detected in west Bashkynghash, as well as south and southeast Dushanbe. Additionally, 3,036 settlements, 20.5 kilometers of roads, 2 bridges, and 2,296 inhabitants were affected in these areas. In Panjakent District, as of 22 May 2016 a total of 0.15 square kilometers of flooded area and mudflows were found in Artuch, Shishkat, north and south Koshana. Approximately 16 settlements, 1.06 kilometers of roads, and 70 inhabitants were affected in these areas. Fortunately, most of the damage to settlements was categorized as negligible to slight. Map products are available for download in TIFF, PDF, and JPEG formats on the Copernicus Emergency Management website. Accompanying zipped vector packages are also provided on the website.

Source: Copernicus Emergency Management Service

Links: <http://emergency.copernicus.eu/mapping/list-of-components/EMSR162>

<http://emergency.copernicus.eu/mapping/list-of-components/EMSR163>

North America

Canada wildfire – GLIDE number: WF-2016-000043-CAN

In early May 2016, a massive wildfire broke out in the Northern Alberta region of Canada and required the evacuation of an entire city. The International Charter on Space and Major Disasters was activated on 04 May 2016 by GOC Public Safety Canada, and project management was assumed by the Canadian Space Agency (CSA). The NASA Earth Observatory released new maps of the fires burning more than two weeks after the start of this situation. Analysis of satellite imagery collected 12, 14, 15, and 16 May 2016 showed burned areas continuing to grow in size as the fires spread due to warm and dry conditions. As of 15 May 2016, numerous active fires were detected in Alberta and smoke drifted into Saskatchewan. About 15 wildfires burned around Fort McMurray at this time, 9 of which were new fires ignited within the previous 24 hours. The size of the burned area was 2,510

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square kilometers and had increased by roughly 4 percent since 12 May 2016. By 16 May 2016, winds caused the fire to move northwards in the direction of the Athabasca oil sands, one of the world's largest reserves of oil. On 18 May 2016, thousands of workers were evacuated from the oil sands as a result of the fires which destroyed at least one work camp. Map products are available for online viewing and download in GeoTIFF or JPEG format on the NASA Earth Observatory website.

Source: NASA Earth Observatory

Links: <http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=88041&eocn=home&eoci=nh>
<http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=88039&eocn=home&eoci=nh>
<http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=88051&eocn=home&eoci=nh>
<http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=88045&eocn=home&eoci=nh>

South America

Ecuador earthquake – GLIDE number: EQ-2016-000035-ECU

On 16 April 2016, a 7.8 magnitude earthquake struck near the town of Muisne on the western coast of Ecuador. The International Charter on Space and Major Disasters was activated on 17 April 2016 by UNITAR-UNOSAT on behalf of UN OCHA. UNITAR-UNOSAT recently published a map of satellite-detected areas of damage and related density for the city of Jama in Manabi Province. Jama is located approximately 100 kilometers south of the 16 April 2016 earthquake's epicenter. Using satellite imagery acquired 02 May 2016, UNITAR-UNOSAT identified a total of 151 potentially damaged structures. Of these, 105 were destroyed, 34 severely damaged, and 12 moderately damaged. A damage site density index was subsequently created by UNITAR-UNOSAT to illustrate which areas of Jama were the most and least affected by the earthquake. The Copernicus Emergency Management Service also released a map of the post-earthquake situation in Montalvo, situated near the North Pacific Ocean coastline. Analysis of 16 May 2016 satellite imagery revealed 4 damaged residential settlements and 16 affected inhabitants. These map products and their accompanying data are available for download in various formats on the UNITAR-UNOSAT and Copernicus Emergency Management Service websites.

Sources: UNITAR-UNOSAT, Copernicus Emergency Management Service

Links: <http://www.unitar.org/unosat/maps/ECU>
<http://emergency.copernicus.eu/mapping/list-of-components/EMSR159>

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Guatemala volcanic eruption – GLIDE number: TBD

One of Central America’s most active volcanoes, known as Fuego, erupted on 18 May 2016. Fuego is located approximately 70 kilometers west of Guatemala City and its summit elevation reaches up to 3,763 meters high. The NASA Earth Observatory acquired 19 May 2016 satellite imagery of the eruption and produced an overview map. As of this date, a large plume of ash was visible emanating from Fuego and drifted southwest of the volcano. According to news reports, this ash hovered roughly 5,000 meters above sea level. As a result of the eruption, populated areas surrounding the volcano’s peak were evacuated. As of 22 May 2016, explosions from the volcano became stronger and more frequent, with the rate of magma output increasing as well. The last time the NASA Earth Observatory captured an eruption at Fuego was on 13 September 2012, at which time ash emissions and a 500 meter long lava flow were observed. 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=88062&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.*