

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 31 August 2015

Asia

Russia wildfires – GLIDE number: TBD

In late July and early August 2015 a heat wave triggered more than one hundred wildfires in the Russian Republics of Buryatia and Irkutskaya. Many fires burned near the shoreline of Lake Baikal, the world's largest freshwater body. Lake Baikal is currently at its lowest level in more than 30 years and its waters are expected to continue dropping. As a result of lower water levels these past few months, peat reserves have dried and made the area more prone to wildfires. The International Charter on Space and Major Disasters was activated on 13 August 2015 by ROSCOSMOS/EMERCOM. Remote Pixel recently released a web map with 21 August 2015 and 18 June 2015 satellite imagery over a portion of Lake Baikal. A slider tool allows for a comparison of the region before and after the start of the wildfires. While the area surrounding Lake Baikal appeared relatively normal on 18 June 2015, by 21 August 2015 large burn scars and numerous smoke plumes were visible. As of 28 August 2015, over 25,000 hectares of forest had been affected by the fires. A link to the web map is available on the International Charter on Space and Major Disasters' website.

Sources: International Charter on Space and Major Disasters, Remote Pixel

Link: <https://www.disasterscharter.org/web/guest/-/fire-in-russian-federation>

Europe

Hungary wildfire – GLIDE number: EMSR133*

During July and August 2015 a wildfire in Hungary damaged and destroyed natural reserves including forest, ancient juniper vegetation, and grasslands near Kaskantyú, Hortobágy, and Nádudvar. The Copernicus Emergency Management Service produced a series of reference, delineation and grading maps that illustrate the extent of damage and destruction in each of these areas. Analysis of satellite imagery acquired 23 and 24 August revealed a total of 274.03 hectares of burned land in Kaskantyú, 502.14 hectares in Hortobágy, and 1,248.5 hectares in Nádudvar. Approximately 3.25 kilometers of local roads were affected in Kaskantyú, 10.52 kilometers in Hortobágy, and 10.5 kilometers in Nádudvar. Fortunately no inhabitants were directly impacted by the wildfire. Map products are available in TIFF, PDF, and JPEG formats on the Copernicus Emergency Management Service website. Accompanying data in shapefile and KML formats are also accessible on this website.

Source: Copernicus Emergency Management Service

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Link: <http://emergency.copernicus.eu/mapping/list-of-components/EMSR133>

Middle East

Syria complex emergency – GLIDE number: CE20130604SYR

As a result of continuous violence in Syria, the country has experienced substantial damage and destruction. UNITAR-UNOSAT recently published damage assessments for the Baal Shamin and Bel temples in the ancient city of Palmyra, as well as for the city of Douma located in Rif Dimashq governorate. Using satellite imagery acquired 27 and 31 August 2015, UNITAR-UNOSAT identified the complete destruction of the Baal Shamin and Bel temples. Analysis of 29 August 2015 satellite imagery over Douma revealed a total of 109 damaged and destroyed structures in the city. Approximately 22 buildings were destroyed, 35 severely damaged, and 52 moderately damaged. Numerous severely damaged buildings were visible in the city center close to the Great Mosque of Douma and the Al Katifani market. Several destroyed buildings situated in the city center appeared to have sustained damage similar to that of air strikes or barrel bombing. As of 29 August 2015, there was no traffic in the city center and many roadblocks were visible on main roads. These damage assessments are available for download as PDFs on the UNITAR-UNOSAT website.

Source: UNITAR-UNOSAT

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

Yemen complex emergency – GLIDE number: CE-2015-000108-YEM

Ongoing conflict in Yemen has caused parts of the country to suffer from significant damage and destruction. UNITAR-UNOSAT released a new damage assessment for the city of Aden. Using satellite imagery acquired 21 August 2015, 10 May 2015, and 31 December 2014, UNITAR-UNOSAT identified a total of 839 affected structures. This represents a 30 percent increase from the previous analysis of 10 May 2015 imagery. Approximately 356 structures were destroyed, 202 severely damaged, and 270 moderately damaged. Additionally, 50 impact craters were found within the city, the majority of which were located in the vicinity of Aden International Airport. A total of 13 medical facilities were also identified within 100 meters of damaged and destroyed buildings, and it is possible that these facilities sustained some damage. This damage assessment is available for download as a PDF on the UNITAR-UNOSAT website. Accompanying data in ESRI shapefile and geodatabase format is also provided.

Source: UNITAR-UNOSAT

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

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North America

United States wildfires – GLIDE number: WF-2015-000103-USA

As of 17 August 2015, summer wildfires in the western United States had burned through more than seven million acres of land. Although 73 percent of the affected area was located in remote Alaskan forests, wildfires have significantly impacted the Pacific Northwest as well. On 22 August 2015, the NASA Earth Observatory acquired satellite imagery of the Mad River Complex fires in the Six Rivers National Forest of northwest California. These fires were initially caused by lightning on 30 July 2015 and have been burning through timber, chaparral and tall grass. An overview map produced by the NASA Earth Observatory illustrates active fire fronts, burn scars, and smoke plumes emanating from the affected area. By 22 August 2015 the fires had burned through an area of 132 square kilometers and were 65 percent contained. The fires are expected to be completely contained by early September 2015. 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=86486&eoqn=home&eoci=nh>

South America

Argentina floods – GLIDE number: FL-2015-000110-ARG

Following a few days of unseasonal heavy rainfall, the Pampas region of Argentina experienced flooding that caused the Lujan, Areco and Arrecifes rivers to overflow. Subsequently, an evacuation was ordered for more than 11,000 inhabitants of Buenos Aires Province. In response to this event, the International Charter on Space and Major Disasters was activated on 12 August 2015 by SIFEM DNPC and project management was assumed by CONAE. In addition to past maps produced by CONAE, Aeroterra recently published a story map of flood affected areas. Satellite imagery acquired 15 and 16 August 2015 was used to provide an overview of inundated regions in Buenos Aires Province and impacted urban areas close to part of the Lujan River. Image comparison tools supplied for two of the maps permit observation of the situation in these areas prior to the floods in June 2015 and following the event in August 2015. A link to the story map, which is available for online viewing in Spanish, can be accessed on the International Charter on Space and Major Disasters' website.

Sources: International Charter on Space and Major Disasters, Aeroterra

Link: <https://www.disasterscharter.org/web/guest/-/flood-in-argenti-2>

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Bolivia floods – GLIDE number: FL20150824BOL

Bolivia has experienced episodes of torrential rainfall and subsequent flooding since the end of April 2015. As of 23 July 2015, seven municipalities in the state of Santa Cruz were declared disaster zones and more than 9,000 families had been adversely affected by the flooding. UNITAR-UNOSAT recently released a map of flood waters in the western region of Santa Cruz. Using satellite imagery acquired 21 and 26 July 2015, UNITAR-UNOSAT detected flooding mainly in low-lying and agricultural areas. As of 26 July 2015, a decline in the full extent of flooded zones was observed. Given the special characteristics of the satellite data used, it is likely that flood waters were systematically underestimated in highly vegetated areas along main river banks and within built-up urban areas. This map is available for download as a PDF on the UNITAR-UNOSAT website. Accompanying data in shapefile and ESRI geodatabase format are also provided there.

Source: UNITAR-UNOSAT

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

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.*