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 05 December 2016

Central America

Costa Rica floods – GLIDE number: TC-2016-000125-CRI

In late November 2016, tropical cyclone Otto traveled across Central America. Widespread flooding and landslides from intense rainfall led to significant damage and destruction in parts of northern Costa Rica. The International Charter on Space and Major Disasters was activated on 28 November 2016 by the USGS on behalf of the National Emergency Committee of Costa Rica. Natural Resources Canada has since produced a map of the flood extent in Costa Rica, derived from satellite imagery acquired 28 and 30 November 2016. On 28 November 2016, flood waters were visible in different parts of northwest Costa Rica, particularly near the border with Nicaragua. North of the city of Upala, flood waters had receded significantly by 30 November 2016. This map product is available for online viewing and 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-costa-rica-call-594-

Europe

Italy floods – GLIDE number: EMSR192*

Days of torrential rainfall in late November 2016 resulted in flooding in northern Italy. In response to this event, the Copernicus Emergency Management Service created an internal activation on 24 November 2016. It produced several new maps of the aftermath in the Piemonte and Liguria regions using satellite imagery from 26, 27, 28 and 30 November 2016. A total flooded area of approximately 41.1 square kilometers was found in the Bagnasco, Ormea, Garessio, Piacenza, Guardamiglio, Gerrone, Fossano, and Asti areas. Additionally, 4,175 inhabitants, roughly 111 kilometers of roads, and about 72.1 square kilometers of land use were impacted. Landslides were also identified in the Pornassio and Rezzo 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/EMSR192

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Middle East

Iraq complex emergency – GLIDE number: CE20140613IRQ

Several oil wells were set ablaze as part of the ongoing conflict in Iraq. UNITAR-UNOSAT recently published maps of fires within and surrounding the Al Qayyarah oil field in Nineveh governorate. Using satellite imagery acquired 10, 20 and 21 November 2016, as well as 22 and 27 September 2016, UNITAR-UNOSAT identified numerous fires burning in and around Al Qayyarah. Urban areas polluted with ash from the smoke were visible, and a large oil spill was found north of Al Qayyarah. Since the oil spill was situated near a tributary of the Tigris River, it is possible that oil is also entering this stream. Analysis of additional satellite imagery collected from 18 July 2016 through 24 November 2016 revealed the frequency of smoke plumes from an oil fire complex in the region, which has been burning at its current scale since 12 July 2016. The frequency of smoke plumes in the affected areas ranged from 1 to 108 days. Map products are available for download as PDFs on the UNITAR-UNOSAT website. Accompanying data in shapefile and ESRI geodatabase format is also accessible on this website.

Source: UNITAR-UNOSAT

Link: http://www.unitar.org/unosat/maps/IRQ

Israel fires – GLIDE number: TBD

On 18 November 2016, Israel experienced an outbreak of wildfires in the Jerusalem and Haifa areas. The International Charter on Space and Major Disasters was activated by EMERCOM on 24 November 2016 and project management was assumed by ROSCOSMOS. Maps have since been produced by the Research Center for Earth Operative Monitoring (NTs OMZ), the German Aerospace Center (DLR), and the NASA Earth Observatory. NTs OMZ analysis of 26 November 2016 satellite imagery revealed an active fire and a burn scar of approximately 0.17 square kilometers surrounding Nataf village, located to the west of Jerusalem. The DLR examined 25 November 2016 satellite imagery and identified major hot spots dispersed throughout the northern half of the West Bank. Using 24 November 2016 satellite imagery, the NASA Earth Observatory found hot spots to the west and northwest of the West Bank. A large smoke plume was also visible southwest of Haifa, moving in a westward direction over the Mediterranean Sea. Map products and data are available in various formats on their respective websites.

Sources: International Charter on Space and Major Disasters, DLR, NASA Earth Observatory

Links: https://www.disasterscharter.org/web/guest/-/fire-in-israel-call-593-

https://www.zki.dlr.de/article/2842

http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=89210&eocn=home&eoci=nh

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North America

United States fires – GLIDE number: TBD

In November 2016, intense wildfires burned in the southeast United States. The states of North Carolina, South Carolina, Tennessee, and Georgia were especially impacted. The NASA Earth Observatory captured 27 November 2016 satellite imagery of the fires and created an overview map of the situation. As of this date, the smoke plumes from several fires were visible within and surrounding western North Carolina. On 29 November 2016, 14,000 people were evacuated from the town of Gatlinburg in Tennessee, and the Great Smoky Mountains National Park was closed. The NASA Earth Observatory acquired nighttime satellite imagery of the fire in this region on the same day. At this time, the fire was visible illuminating the clouds above it to the east of Gatlinburg. 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=89195&eocn=home&eoci=nh

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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.*