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 28 April 2015

Asia

Nepal earthquake – GLIDE number: EQ-2015-000048-NPL

On 25 April 2015, Nepal experienced a 7.9 magnitude earthquake which caused over three thousand deaths as well as widespread damage and destruction. The International Charter for Space and Major Disasters was activated the same day by the Disaster Management Support (DMS) Programme Office, Indian Space Research Organisation (ISRO), and UNITAR-UNOSAT on behalf of UNICEF. In order to provide an ongoing record of satellite imagery analysis results over Nepal, UNITAR-UNOSAT published a live web map which combines multiple image analysis products from the United States National Geospatial-Intelligence Agency (NGA), the Copernicus Emergency Management Service, and UNITAR-UNOSAT. UNITAR-UNOSAT also published an initial report identifying damage and displaced persons in Kathmandu using satellite imagery acquired 27 April 2015. An estimated rainfall accumulation map for Nepal from 25 to 27 April 2015 was published by UNITAR-UNOSAT as well. The Copernicus Emergency Management Service published reference maps for Kathmandu, Bidur, Bharatpur, Pokhara, and Hetauda. Grading maps for Kathmandu, Bidur, and Bharatpur were also produced by Copernicus using satellite imagery acquired 27 April 2015 and revealed a total of 721, 183, and 50 affected settlements respectively. The DLR produced geographic reference maps for the northern and southern parts of Kathmandu. SERTIT published an initial map of building damage in Kathmandu based on satellite imagery collected 27 April 2015. REACH also produced a reference map for Kathmandu. All aforementioned map products are available for online viewing and download in various formats on their respective websites listed below.

Sources: International Charter for Space and Major Disasters, UNITAR-UNOSAT, NGA, Copernicus Emergency Management Service, DLR, SERTIT, REACH

Links: https://www.disasterscharter.org/web/guest/-/landslide-in-nep-2

https://unosatgis.cern.ch/live/EQ20150425NPL/

http://www.unitar.org/unosat/maps/NPL

http://emergency.copernicus.eu/mapping/list-of-components/EMSR125

http://www.zki.dlr.de/article/2748

http://sertit.u-strasbg.fr/RMS/action.php?id=3020633801

http://www.reachresourcecentre.info/advanced-search?name_list[]=NP&field_document_type_tid[]=4

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North Korea fires – GLIDE number: TBD

Annual agricultural fires set by farmers in North Korea spread out of control in April 2015. Satellites began detecting numerous fires on 23 April 2015. The NASA Earth Observatory acquired 27 April 2015 satellite imagery of the affected areas and created an overview map. Large fires were visible in the forested highlands located near cultivated river valleys in the eastern part of the country. Smoke plumes emanating from the burning regions could also be observed moving in an eastward direction over northern Japan. 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=85784&eocn=home&eoci=nh

Middle East

Iraq complex emergency – GLIDE number: CE20140613IRQ

Ongoing violence in Iraq has caused significant damage to some of the country's towns and cities. UNITAR-UNOSAT recently published a situation update map of damage to the ancient Assyrian city of Nimrud, located in northern Iraq. Analysis of satellite imagery acquired 18 April 2015 and 07 March 2015 revealed extensive damage in the area known as the Northwest Palace, inside the Nimrud Citadel. Several structures as well as a gate to the Palace appeared to be destroyed. 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/IRQ

Yemen complex emergency – GLIDE number: CE20150402YEM

As a result of the conflict in Yemen, parts of the country have experienced damage and been left without electricity. UNITAR-UNOSAT recently published a situation overview for the cities of Aden and Sadah, as well as an updated map of satellite-detected areas of visible light at night time in western Yemen. Satellite imagery collected 15 and 17 April 2015 was used to identify visible damage in Aden and Sadah. Several damaged structures were found in the Masheek Peninsula and some damage was detected within the vicinity of the Aden International Airport. The port areas of Aden appeared to be intact and vehicle traffic around the city was light, though still present. Widespread damage was identified in the city of Sadah, particularly near the Sadah Airport. Other damaged infrastructure included a gas station, an electric substation, and government offices. Although traffic in Sadah was visible, access control points were detected. Analysis of satellite imagery acquired 25 April 2015 and 20 March 2015 revealed electrical blackout conditions in large areas of Sana'a, Aden, Sadah, Ibb, and Damar. Situation updates and map products are available for download as PDFs on the UNITAR-UNOSAT website.

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Source: UNITAR-UNOSAT

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

Oceania

Australia storm – GLIDE number: TBD

Torrential rain and cyclonic winds hit the Australian city of Sydney and other parts of New South Wales from 20 to 22 April 2015. The NASA Earth Observatory acquired satellite imagery of the storm on 21 April 2015 and produced a situational overview map. Expansive storm clouds were visible over the eastern coast of New South Wales, the Australian Capital Territory, and the Pacific Ocean at this time. This storm has been referred to as a rare event that occurs once in a decade and has affected hundreds of thousands of inhabitants. The overview map product is available for online viewing and 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=85743&eocn=home&eoci=nh

South America

Chile volcano – GLIDE number: VO-2015-000045-CHL

Located in the Los Lagos Region of Chile, the Calbuco Volcano erupted on 22 April 2015 for the first time in 42 years. The International Charter for Space and Major Disasters was activated by ONEMI on 23 April 2015 and project management was assumed by CONAE. The DLR published a situation overview map using satellite imagery acquired 23 April 2015. An ash plume emanating from the mouth of the volcano was visible at this time and responsible for the evacuation of thousands of people within a 20 kilometer radius of Calbuco. The NASA Earth Observatory also published overview maps of the eruption, ash and gas emissions with satellite imagery collected 23 and 24 April 2015. One map delineates the extent of hot ash diffusion following the eruption on 23 April 2015. Map products are available for online viewing and download in GeoTIFF and JPEG format on the DLR and NASA Earth Observatory websites.

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

Links: https://www.disasterscharter.org/web/guest/-/volcano-in-ch-20

http://www.zki.dlr.de/article/2736

http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=85767&eocn=home&eoci=nh

http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=85779&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.*