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 16 November 2015

Asia

Afghanistan/Pakistan earthquake – GLIDE number: EQ-2015-000147-AFG

On 26 October 2015, the Hindu Kush region of northeastern Afghanistan was struck by a 7.5 magnitude earthquake. More than 360 people were killed by the earthquake, the majority of which resided in Pakistan, and at least 2,000 were injured. In response to this event, the International Charter on Space and Major Disasters was activated by UNITAR-UNOSAT on behalf of UNOCHA. UNITAR-UNOSAT produced a new map of potential damage in the Puli Khumri area of Baghlan Province, Afghanistan. This area is located approximately 190 kilometers southwest of the earthquake's epicenter. Using satellite imagery acquired 03 November 2015 and 01 September 2014, UNITAR-UNOSAT identified a total of 133 potentially damaged structures. Some heavily damaged areas south of the Qahwakhana settlement appeared to have also been affected by a limited landslide. 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.

Sources: UNITAR-UNOSAT, International Charter on Space and Major Disasters

Links: http://www.unitar.org/unosat/maps/AFG

https://www.disasterscharter.org/web/guest/-/earthquake-in-afghanist-1

Africa

Madagascar fires – GLIDE number: TBD

In November 2015, many small fires were visible burning throughout Madagascar. It is estimated that one quarter to one half of the country's grasslands are burnt each year for pasture management. Brush and forest is often cleared by fires also for farming purposes. The NASA Earth Observatory acquired 11 November 2015 satellite imagery of the Madagascar fires and produced two maps. As of 11 November 2015, dozens of fires were visible burning in different areas of the eastern coastal plain in particular, as well as along the western coast. While affected coastal areas mainly consist of dense forests and a mixture of forested and agricultural land, the landscape of the highland interior is comprised of grasslands and savannah. Several fires which appeared to burn within and surrounding densely forested areas produced large quantities of smoke. Map products are available for online viewing and download in JPEG format on the NASA Earth Observatory website.

Source: NASA Earth Observatory

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Link: http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=86998&eocn=home&eoci=nh

Somalia floods – GLIDE number: FL-2015-000145-SOM

In late October 2015, flash floods affected thousands of people residing in low lying areas of southern and central Somalia. UNITAR-UNOSAT continues to monitor the situation in collaboration with IGAD/ICPAC and FAO SWALIM. It recently produced an updated map of standing waters over the Jowhar, Middle Shabelle region of Somalia. Using satellite imagery acquired 16 November 2015 and 02 January 2015, UNITAR-UNOSAT identified a total affected area of approximately 8,300 hectares in the Shabelle Dhexe and Hoose provinces. This represents a decrease of roughly 32 percent since the previous UNITAR-UNOSAT analysis of 30 October 2015 imagery. Due to the characteristics of satellite data used in the analysis, the exact limit of flood water is uncertain. Detected water bodies likely reflect an underestimation of all flood-affected areas within the map extent. This map product is available for download as a PDF on the UNITAR-UNOSAT website. Accompanying data in ESRI shapefile and geodatabase format is also accessible there.

Source: UNITAR-UNOSAT

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

South Sudan complex emergency – GLIDE number: OT-2014-000001-SSD

As a result of escalating violence in South Sudan during the month of December 2013, over 30,000 civilians sought refuge in United Nations facilities. UNITAR-UNOSAT continues to monitor the progression of this situation and recently released an updated map of IDPs at the UNMISS base in Bentiu, Rubkona County, South Sudan. Analysis of satellite imagery acquired 31 October 2015 revealed an increase in Protection of Civilian (PoC) areas within the base by more than 12% since the previous UNITAR-UNOSAT analysis of 07 March 2015 imagery. As of 31 October 2015, UNITAR-UNOSAT identified a total of 12,641 structures within the base's PoC areas and contingency zones. Approximately 10,925 of these structures were tent shelters and 1,685 were camp infrastructure buildings. The remaining 31 structures were observed outside of delineated areas and consisted mainly of sentry posts as well as watch towers. This map product is available for download as a PDF on the UNITAR-UNOSAT website. Accompanying data in ESRI shapefile and geodatabase format is also accessible on the website.

Source: UNITAR-UNOSAT

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

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Middle East

Yemen cyclone – GLIDE number: TC-2015-000149-YEM

Tropical cyclone Chapala made landfall over the remote Yemeni island of Socotra on 02 November 2015. Considered to be the country's most powerful storm in decades, Chapala generated sustained winds of up to 240 kilometers per hour, equivalent to a Category 4 hurricane. The International Charter on Space and Major Disasters was activated on 03 November 2015 by UNITAR-UNOSAT on behalf of UNOCHA. UNITAR-UNOSAT recently released a damage assessment of western Socotra Island in Socotra Governorate, Yemen. Satellite imagery acquired 04 November 2015 was compared with imagery from 27 October 2015, 10 and 23 September 2015. UNITAR-UNOSAT analyzed an area of approximately 2,157 square kilometers or roughly 59% of Socotra, and identified a total of 81 potentially damaged structures as of 04 November 2015. Many affected structures and boats were observed near the settlement of Qulansiyah. Detected damage likely reflects an underestimation due to significant cloud obstruction. This map product is available for download as a PDF on the UNITAR-UNOSAT website. Accompanying data in ESRI shapefile and geodatabase format is also accessible there.

Sources: UNITAR-UNOSAT, International Charter on Space and Major Disasters

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

https://www.disasterscharter.org/web/guest/-/cyclone-in-yemen

South America

Brazil dam collapse – GLIDE number: TBD

On 05 November 2015, two iron ore tailing dams storing waste materials collapsed in the Minas Gerais State of Brazil. As a result of this incident, a flood of liquid waste was released into the town of Bento Rodrigues and hundreds of homes were destroyed. The International Charter on Space and Major Disasters was activated on 05 November 2015 at the request of Brazilian Disaster and Risk Management, and project management was assumed by Integração. The Brazilian National Risk and Disaster Management Center (CENAD) and the NASA Earth Observatory recently published maps of areas affected by this event. Using satellite imagery acquired 11 November 2015, CENAD delineated the disaster's origin, areas impacted by flooding, and the direction of debris flow. Additionally, an inset image from the same date shows part of Bento Rodrigues covered in mud and flood waters. The NASA Earth Observatory used 12 November 2015 and 11 October 2015 satellite imagery to illustrate the affected region before and after the collapse. A map comparison tool is provided to visualize the extent of mud and flood waters following the accident. One village situated 80 kilometers from the dams experienced significant flooding and access to water was lost in cities as far as 300 kilometers downstream. Map products are available for online viewing and download in

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JPEG format on the International Charter on Space and Major Disasters and NASA Earth Observatory websites.

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

Links: https://www.disasterscharter.org/web/guest/-/other-in-brazil

http://earthobservatory.nasa.gov/IOTD/view.php?id=86990

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.*