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 29 February 2016

Africa

Nigeria complex emergency – GLIDE number: CE-2014-000149-NGA

As a result of violence in Nigeria, nearly 50,000 people have fled their homes and crossed the border into Cameroon in search of safety at the Minawao refugee camp. UNITAR-UNOSAT recently released a map of satellite-detected shelters and other buildings at the Minawao refugee settlement in the Mayo-Tsanaga district of Cameroon's Far North province. Analysis of satellite imagery acquired 19 November 2015 revealed a total of 11,777 structures within 502 hectares of the settlement area. Approximately 9,390 of these structures were tent shelters, 551 administrative buildings, 634 improvised shelters, and 1,202 semi-permanent shelters. Compared with a previous analysis of 10 March 2015 imagery which found 5,220 shelters over an area of 261 hectares, this analysis indicates an increase of roughly 126% in shelters and 93% in the land occupied. It should be noted that adjoining, contiguous shelters were counted as a single shelter and may thus represent an underestimation in the total number of shelters. 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 this website.

Source: UNITAR-UNOSAT

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

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

Since an outbreak of violence occurred in South Sudan during December 2013, more than 2.25 million individuals have been internally displaced or fled to neighboring countries. UNITAR-UNOSAT continues to monitor the progression of this situation and recently released a map of an IDP camp in the UNMISS Malakal base in Malakal, South Sudan. Using satellite imagery acquired 20 February 2016, UNITAR-UNOSAT identified 6,438 shelters as well as 228 infrastructure and support buildings. Burned areas from recent violence were visible in sectors 1, 2 and 3 of the camp. A total of 2,839 shelters were burned, including 96 camp infrastructure buildings and 2,743 shelters. As a result of the fire, the number of structures in the initial Protection of Civilians (PoC) zones, 1, 2, 3 and 4 increased and an additional area was set up with shelters. Sectors 1 and 2 are newer PoC extensions with larger shelters, each holding up to 30 people. 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 this website.

Source: UNITAR-UNOSAT

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

Europe

Iberian Peninsula dust storm – GLIDE number: TBD

In late February 2016, Portugal and Spain were affected by a dust storm which was carried northward over the Atlantic Ocean from the Sahara desert. The NASA Earth Observatory collected satellite imagery of this event on 21 February 2016 and produced an overview map. At this time a vast array of dust was visible over the Atlantic Ocean, northern Portugal, and a portion of western Spain. A photograph taken by an astronaut on the International Space Station also showed the dust storm from a different angle. According to researchers, this phenomenon is quite common and the majority of Saharan dust that makes its way over the Iberian Peninsula travels at an altitude of approximately 2.5 to 4.5 kilometers. The main source of atmospheric dust in the world is Africa which supplies 70 percent of the total. Aside from its impacts on the atmosphere and climate, airborne mineral dust originating from deserts also provides nutrients to the ocean and land. This map product is available for online viewing or download in JPEG format on the NASA Earth Observatory website.

Source: NASA Earth Observatory

Link: http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=87566&eocn=home&eoci=nh

Middle East

Iraq dust storm – GLIDE number: TBD

A dust storm impacted parts of Iraq and some of its neighboring countries in late February 2016. Dust storms are common in the Middle East at this time of year. The NASA Earth Observatory acquired 20 February 2016 satellite imagery of the dust storm and created an overview map. As of this date dust moving across the Iran-Iraq border as well as in northwest Iraq and part of eastern Syria was visible. Some evidence exists that dust storms controlled by northwest (Shamal) winds have become more prevalent in this region over the past decade as a result of long-term drought which has affected important wetlands. When they occur in populated areas, dust storms are of particular concern to people with asthma and other respiratory diseases. In addition to aggravating health issues, they can also pose an obstacle to everyday activities such as driving due to decreased visibility. This map product is available for online viewing or download in JPEG format on the NASA Earth Observatory website.

Source: NASA Earth Observatory

Link: http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=87569&eocn=home&eoci=nh

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Oceania

Fiji tropical cyclone – GLIDE number: TC-2016-000014-FJI

Tropical cyclone Winston made landfall over Fiji on 20 February 2016 with Category 5 winds of up to 325 kilometers per hour. A state of emergency was declared by the government as hundreds of homes were destroyed, thousands of people were evacuated, and at least 42 were reportedly killed. The International Charter on Space and Major Disasters was activated by UNITAR-UNOSAT on behalf of UNOCHA on 19 February 2016. UNITAR-UNOSAT recently published damage assessments for the Lautoka, Lauwaki, and Vitigo areas of Ba Province in the northwestern part of Viti Levu Island. Analysis of satellite imagery acquired 22 February 2016 revealed 900 damaged structures in Lautoka, 20 in Lauwaki, and 30 in Vitigo. ROSCOSMOS used 22 and 24 February 2016 satellite imagery to produce maps depicting damage and destruction for Qoma Island and Natovi village in Viti Levu Island. The Copernicus Emergency Management Service released new maps for the Nasoso, Sikituru, Koro Island, Volivoli, Tavua, Ba, Lawaki, and Levuka areas using satellite imagery acquired 21, 22, 23, 24 and 28 February 2016. A total of 3,200 damaged settlement structures, 6,249 affected inhabitants, and 182.6 hectares of flooded lands were found in these areas. The NASA Earth Observatory collected 20 February 2016 satellite imagery of Winston and created an overview map which shows Fiji engulfed in the large cyclone. Map products and data are available for download in various formats on their respective websites.

Sources: International Charter on Space and Major Disasters, UNITAR-UNOSAT, Copernicus Emergency Management Service, NASA Earth Observatory

Links: https://www.disasterscharter.org/web/guest/-/cyclone-in-fi-1

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

http://emergency.copernicus.eu/mapping/list-of-components/EMSR155

http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=87562&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).
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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.*