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 30 May 2016

Asia

Bangladesh tropical cyclone – GLIDE number: TC-2016-000052-BGD

Tropical cyclone Roanu made landfall over Bangladesh on 21 May 2016, causing floods and landslides across the coastal region. Hundreds of thousands of people were affected by Roanu and it is estimated that 80,000 buildings were damaged. On 25 May 2016, the International Charter on Space and Major Disasters was activated by ADRC on behalf of SPARRSO, and AIT assumed project management. AIT, the Copernicus Emergency Management Service, and the NASA Earth Observatory have since produced maps of the situation following this event. Using satellite imagery acquired 23, 26 and 27 May 2016, AIT detected significant flooding within the Barisal area, as well as damage along Chittagong's Coast Road and Pattenga sea beach. In its analysis of 23, 24, and 28 May 2016 satellite imagery, the Copernicus Emergency Management Service identified a total flooded area of approximately 2,354.8 square kilometers in Cox's Bazar, Chittagong, Satkania, Lalmohan, Barguna, and Chandpur. The NASA Earth Observatory created an overview map of the tropical cyclone with 21 May 2016 satellite imagery, at which time Roanu travelled northeast of the Bay of Bengal towards Bangladesh with maximum sustained winds of 102 kilometers per hour. Map products and data are available for download in various formats on their respective websites.

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

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

http://emergency.copernicus.eu/mapping/list-of-components/EMSR164

http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=88074&eocn=home&eoci=nh

Indonesia volcanic eruption – GLIDE number: TBD

Located in the Karo District of North Sumatra, Mount Sinabung is one of Indonesia's most active volcanos. On 21 May 2016 it erupted and claimed seven lives in the nearby village of Gamber. The International Charter on Space and Major Disasters was activated on 23 May 2016 by ADRC on behalf of LAPAN, and project management was assumed by LAPAN. At this time the volcano was still erupting and releasing ash up to three kilometers into the air. LAPAN produced a map of the situation based on satellite imagery acquired 22, 25 and 28 May 2016. Lava and pyroclastic deposits were visible to the east and southeast of the volcano on these dates, and volcanic ash deposits could be seen on 25 May 2016. On 28 May 2016 the volcano erupted again, only one day after authorities allowed evacuees to return to their villages near Mount Sinabung. As of 30 May 2016, a total of 16

people had died as a result of the second eruption of the month. The LAPAN 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/-/volcano-in-indones-3

Sri Lanka flood – GLIDE number: FL-2016-000050-LKA

Torrential rainfall resulting from a nearby tropical cyclone led to widespread flooding in Sri Lanka during mid-May. In response to this event, the International Charter on Space and Major Disasters was activated on 17 May 2016 by ADRC on behalf of IWMI – DMC, and project management was assumed by AIT. Several maps depicting the situation in the Colombo, Gampaha, and Kurunegala areas were produced by AIT and the International Water Management Institute using satellite imagery from 19, 20, 21, 22 and 24 May 2016. As of 21 May 2016, the total flood affected area for these locations was 865.62 square kilometers. Kurunegala received the most flooding (552.97 km²), followed by Gampaha (218.12 km²), and Colombo (94.53 km²). It is estimated that 300,000 people may have been affected by this event, with hundreds of homes damaged and some villages completely inundated by flood waters or covered by landslides. Map products are available for online viewing and download in PDF or 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-sri-lan-1

Tajikistan flood and mudflow – GLIDE number: MS-2016-000049-TJK

Heavy rainfall from 09 to 13 May 2016 led to flash floods and mudflows in at least eight districts of Tajikistan. The Copernicus Emergency Management Service recently published new maps of the situation in Panjakent District with satellite imagery acquired 21 and 29 May 2016. A total flooded area of 0.17 square kilometers and 0.27 square kilometers of mudflow were detected in the locations of Chorbog, Sudzhina, north and south Panjakent. Additionally, 25 settlements, 96 inhabitants, 2 bridges, and 2 kilometers of roads were affected in these areas. More continuous heavy rainfall in Tajikistan on 20 May 2016 caused further mudflows in Nurobod District. As of 24 May 2016, over 5,500 people mainly residing in the Rudaki and Panjakent Districts had been impacted by the flooding and mudflows. Humanitarian assistance in all affected areas has been provided by the government and the Rapid Emergency Assessment and Coordination Team (REACT). Map products are available for download in TIFF, PDF, and JPEG formats on the Copernicus Emergency Management website. Accompanying zipped vector packages are also provided on the website.

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Source: Copernicus Emergency Management Service

Link: http://emergency.copernicus.eu/mapping/list-of-components/EMSR163

North America

Canada wildfire – GLIDE number: WF-2016-000043-CAN

In early May 2016, a massive wildfire broke out in the Northern Alberta region of Canada and required the evacuation of an entire city. The International Charter on Space and Major Disasters was activated on 04 May 2016 by GOC Public Safety Canada, and project management was assumed by the Canadian Space Agency (CSA). The NASA Earth Observatory captured satellite imagery of the fires burning on 24 May 2016 and produced an overview map. As of this date, the fires continued to affect the Alberta and Saskatchewan Provinces of Canada. Numerous fires were detected near Fort McMurray and a large burn scar was visible, as well as thick plumes of smoke drifting in a northward direction. As of 24 May 2016, the wildfire had scorched through 5,229 square kilometers and was still burning out of control with high to extreme fire conditions. Wildfire crews from Canada, the United States, and South Africa are supporting containment efforts. 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=88090&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.*