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 17 October 2016

Asia

Indonesia floods – GLIDE number: FL-2016-000103-IDN

Indonesia's Java Island experienced torrential rainfall and subsequent floods on 21 September 2016. In response to this event, the International Charter on Space and Major Disasters was activated on 24 September 2016 by UNITAR-UNOSAT on behalf of UNOCHA. Several new damage assessment maps produced by LAPAN have since been released. Analysis of 30 September 2016 satellite imagery revealed damaged settlements in the Tarogong Kidul and Garut Kota areas of Garut regency in West Java. Following flash floods in Garut, many damaged residential structures in parts of the regency were also identified in satellite imagery collected 07 October 2016. All map products are available for online viewing or download in JPEG format on the International Charter on Space and Major Disasters website. Map products with 30 September 2016 satellite imagery analysis can also be downloaded as PDFs on the UNITAR-UNOSAT website.

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

Links: https://www.disasterscharter.org/web/guest/-/flood-in-indones-1

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

Philippines tropical cyclone – GLIDE number: TC-2016-000108-PHL

On 16 October 2016, tropical cyclone Sarika made landfall as a Category 4 storm in the eastern part of Central Luzon, Philippines. In anticipation of the storm's wrath, almost 12,500 people were evacuated from their homes. The NASA Earth Observatory collected satellite imagery of Sarika on 15 October 2016 and created an overview map. At this time, the tropical cyclone was visible over the Philippines and part of the Pacific Ocean as a Category 2 storm, with maximum sustained winds of roughly 170 kilometers per hour. As of 17 October 2016, Sarika was moving over the South China Sea and expected to later impact parts of southern China and Vietnam. In the meantime, another tropical cyclone called Haima is forecast to make landfall over northern Luzon on 19 October 2016. 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=88946&eocn=home&eoci=nh

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Caribbean

Cuba tropical cyclone – GLIDE number: TC20161005CUB

On 04 October 2016, Cuba was hit with heavy rainfall and strong winds as tropical cyclone Matthew drifted by the northeast coast of the country. The International Charter on Space and Major Disasters was activated on 05 October 2016 by UNITAR-UNOSAT on behalf of UNOCHA, and project management was assumed by the European Space Agency. UNITAR-UNOSAT published two damage assessment maps of the Imias and Maisi areas in Guantanamo province. Using satellite imagery acquired 10 October 2016, UNITAR-UNOSAT identified 603 damaged structures in the Imias area. Analysis of 07 October 2016 satellite imagery revealed a total of 417 damaged structures within the town of Maisi and its surrounding area. Map products are available for download in JPEG format on the International Charter on Space and Major Disasters website, and as PDFS on the UNITAR-UNOSAT website. Accompanying data for damage in the Imias area is also accessible in shapefile and ESRI geodatabase format on the UNITAR-UNOSAT website.

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

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

http://www.unitar.org/unosat/maps/116

Haiti tropical cyclone – GLIDE number: TC-2016-000106-HTI

Tropical cyclone Matthew made landfall over the west coast of Haiti on 04 October 2016. The International Charter on Space and Major Disasters was activated on 03 October 2016 by the USGS on behalf of the Pacific Disaster Center. UNITAR-UNOSAT, the Copernicus Emergency Management Service, and SERTIT recently published new maps related to the event. UNITAR-UNOSAT analysis of 07 October 2016 satellite imagery indicates a total of 13,753 damaged structures, 141 obstructed roads, and 995 temporary people gathering sites in more than 290 square kilometers of Jérémie commune and its surrounding area. Additionally, as of 08 October 2016, approximately 5.2 square kilometers of satellite detected waters were observed in the Pestel and Corail communes of Grande Anse department. The Copernicus Emergency Management Service examined 07, 09, 10, 11 and 13 October 2016 satellite imagery and found 119,073 affected inhabitants, as well as 23,000 impacted settlements in the areas of Corail, Jérémie, Les Cayes, Anse-d'Hainault, Île-à-Vache, Bombardopolis, Les Irois, Tiburon, Dame Marie, Abricots, Les Anglais, and Chardonnières. Using 07 and 11 October 2016 imagery, SERTIT observed several places with potential traffic difficulties in the Jérémie area, as well as 146 destroyed and 66 potentially affected buildings in the Bonbon area. Map products 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, SERTIT

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

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

http://emergency.copernicus.eu/mapping/list-of-components/EMSR185

http://sertit.u-strasbg.fr/RMS/action.php?id=9721938801

Europe

Romania floods –GLIDE number: EMSR187*

Heavy rainfall led to floods in Romania on 12 October 2016, particularly affecting the county of Galati. Prior to this event, hundreds of residents were evacuated and roads and schools were closed as a precaution. The Copernicus Emergency Management Service created an internal activation for the floods and has since produced maps of the situation. Analysis of satellite imagery obtained 14 October 2016 revealed a total of approximately 3.4 square kilometers of flooded area and 161 affected inhabitants in the Galati, Pechea, and Cuza Voda areas. The Copernicus Emergency Management Service continues to monitor the situation in these areas with more maps under production. The latest 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 this website.

Source: Copernicus Emergency Management Service

Link: http://emergency.copernicus.eu/mapping/list-of-components/EMSR187

North America

Bermuda hurricane – GLIDE number: TBD

Hurricane Nicole made landfall over Bermuda as a Category 3 storm on 13 October 2016. Widespread damage resulted from the hurricane's torrential rainfall and powerful winds. The NASA Earth Observatory captured 12 and 13 October 2016 satellite imagery of Nicole and created two overview maps. On 12 October 2016, the storm was visible hovering over the Atlantic Ocean, approximately 500 kilometers south-southwest of Bermuda. By 13 October 2016, the hurricane could be seen engulfing Bermuda and moving in a northeast direction with maximum sustained winds of 195 kilometers per hour. As of 17 October 2016, Nicole is moving over the North Atlantic Ocean and is expected to soon weaken into a post-tropical storm. Map products are available for online viewing or download in GeoTIFF and JPEG format on the NASA Earth Observatory website.

Source: NASA Earth Observatory

Links: http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=88915&eocn=home&eoci=nh

http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=88918&eocn=home&eoci=nh

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United States tropical cyclone – GLIDE number: EMSR186*

Tropical cyclone Matthew caused damage and floods as it traveled near the southeast coast of the United States and made landfall over South Carolina on 08 October 2016. The International Charter on Space and Major Disasters was activated on 06 October 2016 by the USGS on behalf of the Federal Emergency Management Agency. The Copernicus Emergency Management Service, NASA Earth Observatory, and RSS produced new maps of the tropical cyclone and its aftermath. In its latest analysis, the Copernicus Emergency Management Service examined 07, 09, 10, 11 and 12 October 2016 satellite imagery. It identified a total flooded area of roughly 521.7 square kilometers, approximately 65.1 square kilometers of damaged settlements, 207.2 kilometers of impacted roads, and 19,860 affected inhabitants in different parts of Florida, Georgia, North Carolina, and South Carolina. The NASA Earth Observatory acquired 09 October 2016 satellite imagery over the coast of North Carolina and South Carolina, where sediment-filled flood waters from Matthew's record breaking rainfall could be seen flowing out of rivers into the Atlantic Ocean. An RSS map illustrates the storm's trajectory with 03, 05 and 07 October 2016 satellite imagery, as it moved from the Caribbean Sea to the southeast coast of the United States. Map products 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-united-states

http://emergency.copernicus.eu/mapping/list-of-components/EMSR186

http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=88906&eocn=home&eoci=nh

Oceania

Australia floods – GLIDE number: EMSR184*

Southeast Australia experienced heavy rainfall starting on 24 September 2016. Consequently, roughly 34,000 square kilometers of the Lachlan river catchment flooded and hundreds of residents were evacuated. The International Charter on Space and Major Disasters was activated on 26 September 2016 by Geoscience Australia. In an effort to monitor the situation, the Copernicus Emergency Management Service recently released new maps of the situation along the Lachlan River in the Eubalong area of New South Wales. Using satellite imagery from 11 and 14 October 2016, the Copernicus Emergency Management Service identified a total flooded area of approximately 67.7 square kilometers, as well as 3.4 kilometers of impacted roads and 10 affected residents. 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 this website.

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.

Source: Copernicus Emergency Management Service

Link: http://emergency.copernicus.eu/mapping/list-of-components/EMSR184

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.*