

***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 18 April 2016

### Asia

#### **Japan earthquake – GLIDE number: EQ-2016-000033-JPN**

On 14 April 2016, a magnitude 6.2 earthquake struck east of Kumamoto in southern Japan and a series of aftershocks followed. Due to the shallow depth of the initial earthquake at 10 kilometers and its location under populated areas, severe damage resulted and at least 32 deaths have since been reported. The International Charter on Space and Major Disasters was activated on 14 April 2016 by JAXA on behalf of the Cabinet Office, and project management was assumed by the University of Tokyo's Center for Spatial Information Science. Several maps have since been produced using satellite imagery collected on 15 April 2016. The maps show the earthquake's location, affected buildings and damaged roads in Kumamoto, as well as a landslide detected in Minamiaso. The situation in Japan was recently aggravated with the occurrence of a magnitude 7.0 earthquake in the Kyushu region on 16 April 2015, followed by aftershocks, heavy rainfall, and the possibility of additional landslides. Map products are 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/-/earthquake-in-jap-1>

#### **Nepal fires – GLIDE number: TBD**

A record number of fires were reported in Nepal on 10 April 2016. According to the media, forest fires burned 13,000 square kilometers within a period of 15 days. The Sindhuli district was the worst affected with 40 percent of its forest cover lost to the fires. The NASA Earth Observatory acquired 11 April 2016 satellite imagery of the fires and produced an overview map. As of this date, extensive plumes of smoke and numerous fires were visible burning across Nepal. Warm surface temperatures typically associated with fires were detected by the satellite sensor and outlined in red on the map. Nepal usually experiences 80 percent of its forest fires in the months of April and May, resulting in the burning of hundreds of hectares of forest and significant economic loss. The fires this year have been more concentrated in the southern Terai districts. In addition to threatening human settlements, the fires have destroyed flora and fauna on hundreds of hectares of land. 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=87854&eocn=home&eoci=nh>

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## Europe

### **Greece migration – GLIDE number: OT-2015-000050-GRC**

As of early March 2016, more than 125,000 migrants believed to be fleeing conflict in Syria, Iraq, and Afghanistan had reached Greek shores this year. UNITAR-UNOSAT recently released two maps of the Cherso and Katsika Ioannin informal sites located in the Kilikis and Epirus regions respectively. Using satellite imagery acquired 19 March 2016, UNITAR-UNOSAT identified a total of 585 structures at the Cherso informal site. Of these structures, 577 were tent shelters and 8 were administrative buildings. The Cherso informal site covers an area of approximately 68,760 square meters. Analysis of 31 March 2016 satellite imagery revealed a total of 376 structures at the Katsika Ioannin informal site. Of these structures, 361 were tent shelters and 15 were administrative buildings. The Katsika Ioannin informal site covers an area of roughly 31,281 square meters. In the future, both the Cherso and Katsika Ioannin informal sites may increase in size due to the potential relocation of migrants from nearby camps that have reached capacity. These map products are available for download as PDFs on the UNITAR-UNOSAT website.

Source: UNITAR-UNOSAT

Link: <http://www.unitar.org/unosat/maps/115>

## North America

### **United States fires – GLIDE number: TBD**

Smoke from fires filled the skies of eastern Kansas in the spring of 2016. Each spring, ranchers burn pasture land in order to remove old vegetation, promote the growth of fresh grass, and prevent forests from developing in the prairie. This year the fires have been intensified by strong winds and some have spread uncontrollably. The U.S. Drought Monitor has indicated that the majority of Kansas is either abnormally dry or experiencing a moderate drought. The NASA Earth Observatory collected a 12 April 2016 satellite image of the fires and created an overview map. At this time, dozens of fires were visible burning throughout the Flint Hills and winds caused smoke plumes to travel in a northwest direction. The smoke has been problematic in Kansas as well as its neighboring states. Public health officials in Omaha, Nebraska stated that the air quality had attained unhealthy levels and schools in Lincoln, Nebraska cancelled outdoor athletic activities. 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=87878&eocn=home&eoci=nh>

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## South America

### **Argentina floods – GLIDE number: FL-2016-000003-ARG**

In early April 2016, four provinces in Argentina experienced flooding after a week of torrential rainfall. It is estimated that 10,000 people were evacuated from the floods in the provinces of Corrientes, Formosa, Entre Rios, and Santa Fe. In response to this event, the International Charter on Space and Major Disasters was activated on 7 April 2016 by DNPC SIFEM and project management was assumed by CONAE. Using satellite imagery acquired 2, 10, 11 and 14 April 2016, CONAE produced new maps of flooding in Entre Rios province and the cities of Monte Caseros, San Jaime de la Frontera, Santa Ana, Pueblo Libertador, Gualaguaychu, Gualaguay, Chajari, and Federacion. The provinces of Entre Rios and Corrientes were most significantly affected by the floods and registered a total of 6 deaths. Map products are 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/-/flood-in-argenti-4>

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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](mailto: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.*