

***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 22 February 2016

### Asia

#### **Russia volcanic eruption – GLIDE number: TBD**

Located in the Kamchatka Peninsula of eastern Russia, the Zhupanovsky volcano erupted on 13 February 2016. Zhupanovsky's recent activity began in October 2013 for the first time since the 1950s, and it has since intermittently released ash and steam plumes. The NASA Earth Observatory acquired 13 February 2016 satellite imagery of the latest eruption and created overview maps of it at two different times. As of 13 February 2016, the eruption spewed ash, steam, and gas 10 kilometers above sea level. An ash plume emanating from Zhupanovsky and moving in a southeast direction toward the Pacific Ocean was visible at 10:55 a.m. local time. By 12:40 p.m. local time, the ash plume had become more dispersed in certain areas and moved farther southeast over the Pacific Ocean. Due to the size and altitude of the eruption, a code-red warning was released for airplane traffic in the region. Map products are available for online viewing and download in GeoTIFF or JPEG format on the NASA Earth Observatory website.

Source: NASA Earth Observatory

Link: <http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=87536&eocn=home&eoci=nh>

### Middle East

#### **Iraq complex emergency – GLIDE number: OT-2014-000074-IRQ**

Ongoing conflict in Iraq has caused significant structural damage and destruction to some of the country's cities, towns, and villages. UNITAR-UNOSAT released a map of the percentage damage level of buildings in the city of Ramadi, Al Anbar province, Iraq. In a previous analysis, satellite imagery acquired 29 January 2016 was compared with 06 July 2014 pre-crisis imagery and a total of 5,696 affected structures were identified. Of this total, 1,963 structures were destroyed, 1,442 severely damaged, and 2,291 moderately damaged. These affected structures were recently compared with the total number of buildings found in a pre-crisis image to determine the percentage of damaged buildings across the city. Despite varying degrees of damage throughout the analyzed parts of the city, it appears the majority of Ramadi was impacted by structural damage to some extent. This map product is available for download as a PDF on the UNITAR-UNOSAT website.

Source: UNITAR-UNOSAT

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

***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.***

-----

### **Syria complex emergency – GLIDE number: CE20130604SYR**

As a result of continuous violence in Syria, the country has experienced substantial damage and destruction. UNITAR-UNOSAT recently published maps of city and neighborhood building damage percentages for the city of Aleppo. Using satellite imagery acquired on various dates in 2015, 2014, 2013 and 2010, UNITAR-UNOSAT identified a total of 12,065 affected structures within the extent of the city-wide percent damage map. Affected structures were compared with the total number of buildings found in pre-crisis satellite imagery collected in 2009 to determine the percentage of damaged buildings across the city. Based on this analysis, UNITAR-UNOSAT found the number of damaged buildings to be more than 20% in 12 Aleppo neighborhoods. The three neighborhoods with the most damage were Aqabeh with 42.53% of buildings damaged, followed by Farafira with 36.82%, and Karam al-Jabal with 32.99%. 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.

Source: UNITAR-UNOSAT

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

## **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 21 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 published a map of satellite-detected waters in the Savu area of Naitasiri province, situated in the south of Viti Levu Island (Fiji). Analysis of 21 February 2016 satellite imagery revealed approximately 1,100 hectares of potentially flood affected land. Most impacted areas were agricultural fields along the banks of the Rewa River. The Copernicus Emergency Management Service released maps for the Levuka, Nasoso, and Sikituru areas using satellite imagery acquired 20 and 21 February 2016. No affected areas or damage were found in Levuka or Sikituru, though a total of 151.76 hectares of flooded area was detected in Nasoso on 21 February 2016. As of 22 February 2016 repair and recovery efforts in Fiji had begun. 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

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

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

***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.***

-----

*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.*