



San Felice, Emilia Romagna, ITALY

Earthquake - 29/05/2012

Grading Map - 02 Detail

Production date: 31/05/2012



Cartographic Information

1:6000 Full color ISO A1, medium resolution (200 dpi)



Map Coordinate System: WGS 84 UTM zone 32N
 Graticule: WGS 84 geographical coordinates

Legend

- Area of Interest
- Crisis information**
- Gathering of People
- Building Grading (Satellite 30/05/2012)**
- Completely Destroyed (EMS 5)
- Moderately Affected (EMS 4, 3, 2)
- Not Affected
- Building Grading (Aerial 22/05/2012)**
- Completely Destroyed (EMS 5)
- Moderately Affected (EMS 4, 3, 2)
- Not Affected
- Transportation**
- Secondary Route
- Local Route
- Other
- Railway
- Points of Interest**
- Institutional
- Educational
- Recreational

Affected population 6500 inhabitants (estimated)

Destroyed assets 27 Buildings

Damaged assets 206 Buildings

	Destroyed	Damaged	Destroyed	Damaged
Residential	15	175	Educational	0
Industrial	6	18	Medical	0
Commercial	0	3	Recreational	1
Institutional	0	2	Religious	0
Multi-Functional	1	0	Transportation	0
Other	4	5	Military	0

Map Information

A strong earthquake has affected large parts of northern Italy, causing at least seven deaths and seriously damaging historic buildings such as churches, bell towers and a medieval castle. The 6.0-magnitude earthquake occurred just after 4:04 a.m. on 20/05/2012, about 35km (22 miles) north-northwest of Bologna (4 kilometers outside Comasanto), at a relatively shallow depth of 10 km. A series of strong aftershocks hit the area, the strongest measuring 5.1-magnitude. (Source: BBC)

The core users of the map are Civil Protection authorities involved in operations in the field. The aim of the map production is to support the emergency response activities.

Data Sources

Background imagery: WorldView-02 © Digitalglobe (0% cloudy, 0.6 m resolution, acquired on 30/05/2012)

LandScan (GUT BATTELLE, LLC, 2010 (ca 1km resolution))

Base vector layers based on Openstreetmap and Wikimapia refined by ITHACA (nominal scale 1:5000).

All Data sources are complete and with no gaps.

Dissemination/Publication

No restrictions on the publication of the mapping apply.

Delivery formats are GeoTIFF, GeoPDF, GeoJPEG and vectors (shapefile and KML formats).

Framework

The products elaborated for this rapid mapping have been realized to the best of our ability, within a very short time frame during a crisis, optimizing the available data and information. All geographic information has limitations due to scale, resolution, date and interpretation of the original data sources. The products are compliant with GIO-EMS RUSH Product Portfolio specifications.

Map production

The present map shows an updating of a building damage assessment in the area of San Felice, ITALY, after 29/05/2012 aftershock. The previous assessment, based on aerial imagery acquired on 23/05/2012 (spatial resolution 0.07 m) and with an estimated thematic accuracy of 85%, has been updated by means of visual interpretation of post-event WorldView-02 satellite imagery acquired on 30/05/2012 (spatial resolution 0.6 m). Grading classes are based on EMS-98 damage grades, specifically: Completely Destroyed (EMS-98 Grade 5), Damaged (EMS-98 Grade 2-4), Not Affected.

Post-event satellite image have been orthorectified using RPC model and SRTM elevation data.

The estimated geometric accuracy of this product is 5m CE90 or better, from native positional accuracy of the background orthoimage.

The estimated thematic accuracy of the updating is 60% or better, as it is based on visual interpretation of recognizable items on very high resolution satellite imagery. The overall estimated thematic accuracy is in the range 60-85% due to the use of two different post event data sources.

Map produced on 31/05/2012 by e-GEOS under contract 257219 with the European Commission. All products are © of the European Commission.

Name of the release inspector (quality control): GAFA (ODO).

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Earthquake

- Civil Protection
- Response
- Grading Map - Detail
- Planning
- Satellite imagery © 2012 Digitalglobe
- 29-05-2012