

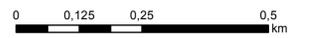
Bondeno, Emilia Romagna, ITALY Earthquake - 20/05/2012 Delineation Map - Detail

Production date: 26/05/2012



Cartographic Information

1:7000 Full color ISO A1, medium resolution (200 dpi)



Map Coordinate System: WGS 1984 UTM Zone 32N
Graticule: WGS 84 geographical coordinates

Legend

- Area of interest
- Buildings Affected
- Buildings Not Affected
- Primary Road
- Secondary Road
- Local / Other Road
- Railway
- T Transportation
- I Institutional
- E Educational
- M Medical
- R Religious
- O Other

Consequences within the AOI			
Estimated AOI population	5968 Inhabitants		
Affected assets	9 Buildings		
Residential	9	Educational	0
Industrial	0	Medical	0
Commercial	0	Recreational	0
Institutional	0	Religious	0
Multi-Functional	0	Transportation	0
Other	0	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 Camposanto), 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

Airborne imagery © 2012 Courtesy of Blom CGR (acquired 23/05/2012, 0% cloudy, 0.07m resolution).
WorldView-2 © DigitalGlobe (acquired 25/05/2012, 20% cloudy, 0.5m resolution).
LandScan © UT BATELLE, LLC, 2010.
Base vector layers based on Openstreetmap and Wikimapia refined by ITHACA.
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 a building damage assessment in the city of Bondeno, ITALY, based on visual interpretation of post-event aerial imagery acquired on May, 23rd 2012 (spatial resolution 0.07m). Grading classes are based on EMS-98 damage grades, specifically: Completely Destroyed (EMS98 Grade 5), Damaged (EMS98 Grade 2-3-4), Not Affected. Post-event aerial images have been rectified using GCPs collected on the 2012 WorldView-2 satellite orthoimage.
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 this product is 60% or better, as it is based on visual interpretation of recognizable items on very high resolution aerial and satellite imagery.
Map produced on 26/05/2012 by SIRS under contract 257219 with the European Commission. All products are © of the European Commission.
Name of the release inspector (quality control): GAF AG (ODO).
E-mail: rush@ems-gmes.eu

Earthquake

- T Civil Protection
- R Response
- D Delineation Map - Detail
- P Planning
- A Airborne imagery © 2012 Courtesy of Blom CGR
- E 20-05-2012