

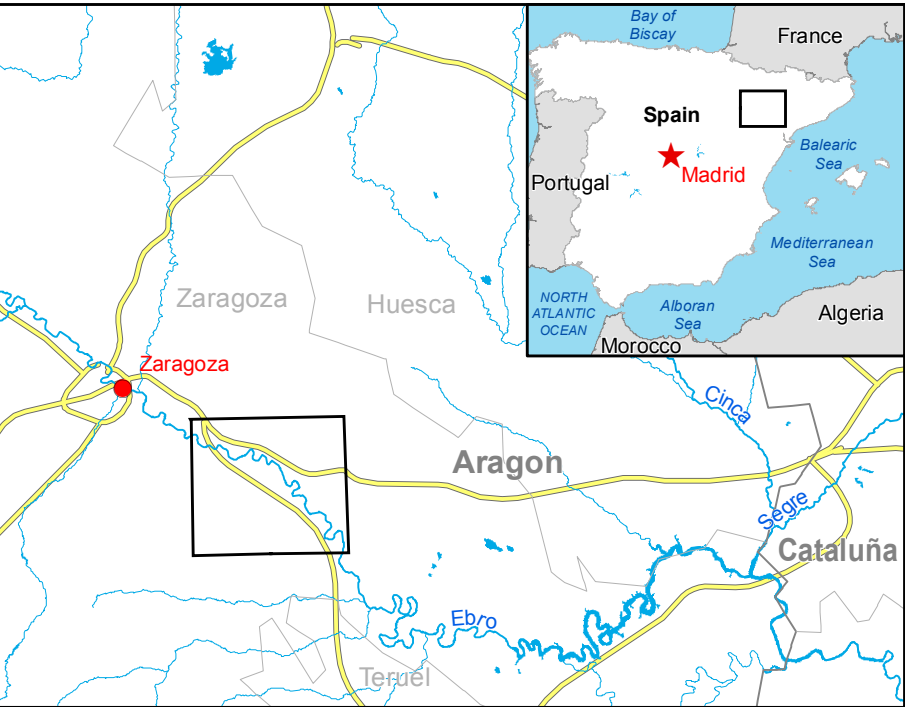


## Zaragoza - SPAIN

### Flood - 02/02/2015

#### Delineation Map - 03 Detail

Production date: 03/02/2015



#### Cartographic Information

1:40000 Full color ISO A1, medium resolution (200 dpi)

0 0.75 1.5 3 km

Grid: WGS 1984 UTM Zone 30N map coordinate system  
Tick marks: WGS 84 geographical coordinate system

#### Legend

Crisis Information	Hydrology	Industry / Utilities
<b>General Information</b>	Dam	Extraction Mine
Flooded Area (03/02/2015 06:08 UTC)	River	Quarry
Area of Interest	Canal	Transportation
<b>Administrative boundaries</b>	Lake	Bridge
Municipality	Reservoir	Railway
<b>Settlements</b>	River	Motorway
Populated Place	Point of Interest	Primary Road
Residential	Educational	Secondary Road
Industrial	Institutional	Local Road
Urbanized Multi-functional	Religious	

#### Land use - Land Cover

Features available in vector data

Consequences within the detail AOI on 03/02/2015	Affected	Total in AOI
Flooded area	ha	232
Estimated population	inhabitants	93
Settlements		
Urbanized multi-functional	ha	120
Industrial	ha	330
Residential	ha	541
Transportation		
Motorways	km	36
Primary roads	km	77
Secondary roads	km	28
Local roads	km	62
Railways	km	83
Bridges	ha	4
Utilities		
Extraction mine	ha	138
Quarry	ha	114
Land use		
Rice field	ha	50
Cropland	ha	36820
Grassland	ha	30
Scrub	ha	9022
Woodland	ha	4312
Wetland	ha	138

#### Map Information

Since 31 of January 2015 heavy and torrential rainfall has been causing floods at the head of the river Ebro and overflowing streams in the Ebro basin. Many villages in the Zaragoza region are expecting flood peaks within the next days. The core users of the maps are Disaster Response Authorities involved in the operations.

#### Data Sources

Inset maps based on: Administrative boundaries (JRC 2013, GISCO 2010, © EuroGeographics), Hydrology, Transportation (Natural Earth, 2012, CCM River DB © EU-JRC 2007), Settlements (Geonames, 2013).  
Sentinel-1 A (acquired on 03/02/2015 06:08 UTC, GSD 10 m) provided by the European Space Agency.  
PNOA © IGN/CNIG (acquired on 15/01/2012, GSD 3.6 m, 0% cloud coverage).  
Base vector layers based on OpenStreetMap © OpenStreetMap contributors, Geonames (approx. 1:10000, extracted on 02/02/2015), refined by ITHACA. Source information is included in vector data.  
Elevation data: SRTM (90 m posting). Height in meters above mean sea level.  
Population data: Landscan 2010 © UT BATTELLE, LLC.  
All Data sources are complete and with no gaps.

#### Dissemination/Publication

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

#### Framework

The products elaborated in the framework of current mapping in rush mode activation are realized to the best of our ability, within a very short time frame during a crisis, optimising 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 the flood delineation in the area of Zaragoza (SPAIN). The basic topographic features are derived from public datasets, refined by means of visual interpretation of PNOA pre-event aerial imagery.  
Thematic layers, assessing the delineation of the event, have been derived from post-event Sentinel-1 A image.  
All satellite images have been radiometrically enhanced and geocoded (using SRTM elevation data).  
The estimated geometric accuracy of this product is 15 m CE90 or better, from native positional accuracy of the satellite images.  
The estimated thematic accuracy of this product is 85% or better, based on previous experience in using high-resolution SAR for flood extent delineation. Please be aware that the thematic accuracy might be lower in urban and forested areas due to known limitations of the analysis technique.  
Only the area enclosed by the Area of Interest has been analyzed.  
Map produced on 03/02/2015 by ITHACA under contract 257219 with the European Commission. All products are © of the European Commission.  
Name of the release inspector (quality control): GAF AG (ODO).  
Map products available at <http://emergency.copernicus.eu/mapping/list-of-components/EMSR118>

