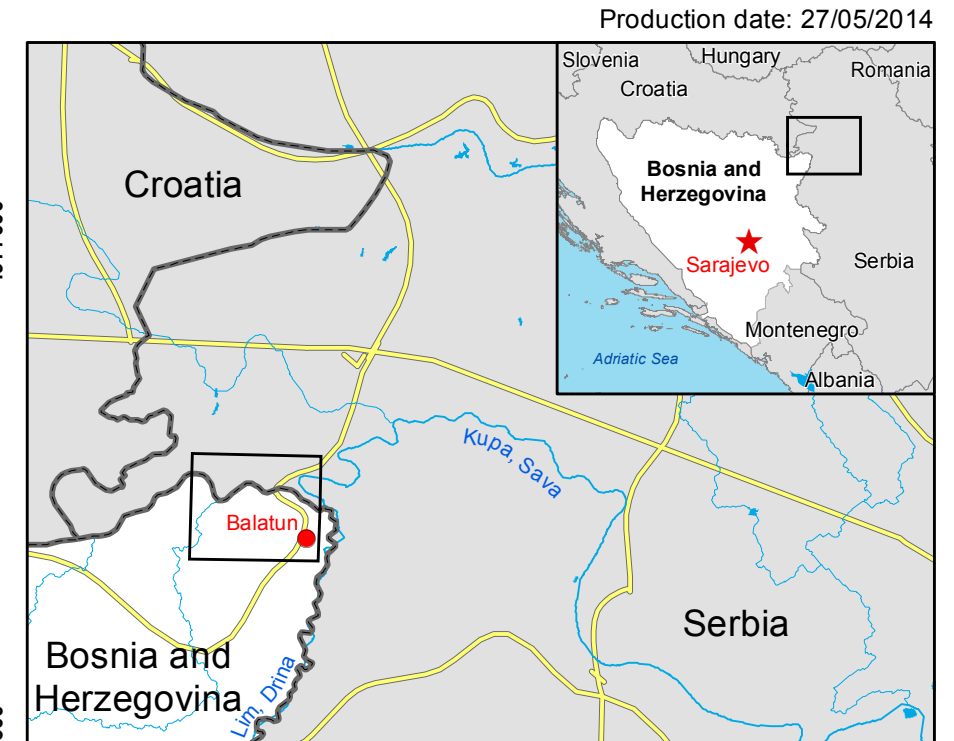


# Balatun - BOSNIA AND HERZEGOVINA Flood - 13/05/2014 Delineation Map - Detail



## Cartographic Information

1:22500      Full color ISO A1, medium resolution (200 dpi)

0      0.5      1      2      km

Grid: WGS 1984 UTM Zone 34N map coordinate system  
Tick marks: WGS 84 geographical coordinate system

### Legend

#### Crisis Information

(24/05/2014 16:31 UTC)

**General Information**

- Area of Interest
- Sensor Footprint

**Administrative boundaries**

- International Boundary
- Region

**Settlements**

- Residential
- Agricultural
- Cemetery
- Industrial
- Religious
- Transportation

#### Hydrology

- River
- Stream
- Canal
- River
- Lake
- Reservoir

#### Point of Interest

- Religious

#### Transportation

- Bridge
- Railway
- Primary Road
- Secondary Road
- Local Road

	Affected	Total in AOI
Flooded area	3622.1	9140
Estimated population	472.9	3.7
Settlements		
Residential	1.1	0.8
Agricultural	0.7	9.3
Cemetery	0	4.4
Industrial	1.2	0.5
Transportation	0	16.5
Religious	0	11.6
Transportation		
Primary roads	0.3	86.5
Secondary roads	1.5	11.6
Local Roads	7.6	11.5
Railways	0	1
Bridges	1	13

## Map Information

On 13 May 2014, heavy rainfalls and widespread flooding hit large parts of Bosnia and Herzegovina. Heavy rainfall continued to affect large parts, in particular the region of Doboj and Zenica. The core users of the maps are Disaster Response Authorities involved in operations

## Data Sources

Inset maps based on: Administrative boundaries (JRC 2013, GISCO 2010, EuroGeographics) Hydrology, Transportation (Natural Earth, 2012, CCM River DB @ EUJRC 2007), Settlements (Geonames, 2013).  
Sentinel-1A (acquired on 24/05/2014 16:31 UTC, GSD 10 m) provided by the European Space Agency.  
Pre-event: SPOT6 @ Airbus Defence and Space (acquired on 13/02/2014 08:58 UTC, GSD 2.6 m, 0% cloud coverage), all rights reserved, Landsat @ U.S. Geological Survey (acquired on 12/03/2014, GSD 15 m, approx. 0% cloud coverage).  
Base vector layers based on OpenStreetMap @ OpenStreetMap contributors, GeoNames (approx. 1:10,000, extracted on 21/05/2014), refined by ITHACA. Source information is included in vector data.  
Population data: Landscan 2010 @ UT BATTELLE, LLC.  
Elevation data: EU-DEM (25 m posting). Height in meters above mean sea level.  
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 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 Balatun (BOSNIA AND HERZEGOVINA).  
The basic topographic features are derived from public datasets, refined by means of visual interpretation of pre-event orthorectified maps from SPOT6 @ Airbus Defence and Space (acquired on 13/02/2014 08:58 UTC, GSD 2.6 m, 0% cloud coverage).  
Thematic layers, assessing the delineation of the event have been derived from post-event image Sentinel-1A (acquired on 24/05/2014 16:31 UTC, GSD 10 m) provided by the European Space Agency.  
All satellite images have been radiometrically enhanced and coregistered to the pre-event image.  
The estimated geometric accuracy of this product is 6.6 m CE90 or better, from native positional accuracy of the background satellite image.  
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.  
Map produced on 27/05/2014 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).  
E-mail: rush@ems-gmes.eu

Map products available at <http://emergency.copernicus.eu/mapping/list-of-components/EMSR087>

Flood

- Civil Protection
- Response
- Delineation Map - Detail
- Planning
- Sentinel-1A (c) European Space Agency
- 13-05-2014