



Flooded area
11.7 ha

Potentially affected population
~ Not available

Potentially Affected Built-up and Transportations

Road
0.01 km

- Estimated flood depth (m)**
- Below 0.50
 - 0.50 - 1.00
 - 1.00 - 2.00
 - 2.00 - 4.00
- General Information**
- Area of Interest
 - Not Analysed
- Administrative Boundaries**
- Municipality
- Placenames**
- Placename
- Built-Up Area**
- Residential
 - Non residential
 - School, university and research buildings
 - Military
- Hydrography**
- Lake, River
- Facilities**
- Long-distance pipelines or lines
 - Local pipelines or lines
 - Mining or extraction site
 - Sport and recreation constructions
 - Water or Aquatic infrastructure
- Transportation**
- Highway
 - Main road
 - Local road
 - Railway
 - Helipad
- Unclassified**

Event: Italy has been hit in recent days by a severe phase of bad weather, which has caused flooding in large parts of the country. In Emilia-Romagna, in particular, several rivers reached the third-highest alert level. During the night and early hours of October 20, several rivers in the city of Bologna overflowed, causing flooding in the city and neighboring municipalities: San Lazzaro, Medicina and Budrio. The situation is still ongoing, although the weather is expected to improve. The National Civil Protection System has been configured as national emergency. Copernicus EMS Rapid Mapping is requested to provide initial rough estimation, flood extent and damage assessment emergency mapping.

Data sources and analysis: Pre-event image: Sentinel-2A/B (2024) (acquired on 30/08/2024 at 10:18 UTC, resolution 10 m). This image is used as background image. Post-event image: COSMO-SkyMed SG © ASI (2024), distributed by e-GEOS S.p.A. (acquired on 21/10/2024 at 04:16 UTC, resolution 3.0 m). All images are provided under COPERNICUS by the European Union and ESA, all rights reserved.

The thematic layer has been derived from post-event satellite imagery using a semi-automatic approach. Please be aware that the thematic accuracy might be lower in urban and forested areas due to inherent limitations of the SAR analysis technique.

The flood depth information is based on the analysis of post-event satellite imagery and on Digital Elevation Model data. The flooded area corresponds to the water observed in the most recent satellite imagery, excluding the permanent water.

Consequences within the AOI			
		Unit of measurement	
Flooded area		ha	11.7
Estimated population	Number of inhabitants	NA	~ 17 000
Built-up	Residential Buildings	ha	0
	Office buildings	ha	13.3
	Wholesale and retail trade buildings	ha	3.5
	Industrial buildings	ha	183.4
	School, university and research buildings	ha	9.3
	Military	ha	53.2
	Cemetery	ha	0.7
	Building block	ha	27.9
	Unclassified	ha	46.1
Transportation	Helipad	ha	0
	Highways	km	0
	Primary Road	km	8.0
	Secondary Road	km	14.7
	Local Road	km	129.4
	Cart Track	km	111.5
	Long-distance railways	km	12.9
Facilities	Settling Basin	ha	0
	Constructions for mining or extraction	ha	3.0
	Sport and recreation constructions	ha	1.8
	Other civil engineering works not elsewhere classified	ha	7.6
	Long-distance pipelines, communication and electricity lines	km	0
	Local pipelines and cables	km	0.1
Land use	Arable land	ha	11.7
	Permanent crops	ha	40.4
	Heterogeneous agricultural areas	ha	375.6
	Forests	ha	39.1
	Shrub and/or herbaceous vegetation association	ha	11.2
	Other	ha	432.3

Disclaimer:
Full disclaimer and other helpful information available in the online manual:
<https://emergency.copernicus.eu/mapping/ems/online-manual-rapid-mapping-products>
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Data Access:
All data displayed on the map(s), as well as the Physiography and Land Use - Land Cover layers, are available in the Crisis Information Package and the Base Layer Package (for reference data). The table above is available in editable format in the Crisis Information Package. All products and data are also available for download on the portal.

Estimated Population:
Estimated population is based on Copernicus Global Human Settlement Layer (GHS-L) dataset. Additional population datasets and analysis are available in the summary table.

Data Sources:
Base Vector Layers: OpenStreetMap © OpenStreetMap contributors (2024), Wikimapia.org, GeoNames 2015, Corine Land Cover (CLC) 2018, EuroBoundaryMap 2017 ©EuroGeographics.
Inset Maps: JRC 2013, GISCO 2010 © EuroGeographics, Natural Earth 2012, CCM River DB © EUJRC2007, GeoNames 2015.
Digital Elevation Model: Digital Terrain Model (Srtm) © Geoportale Regione Emilia-Romagna (2018).

