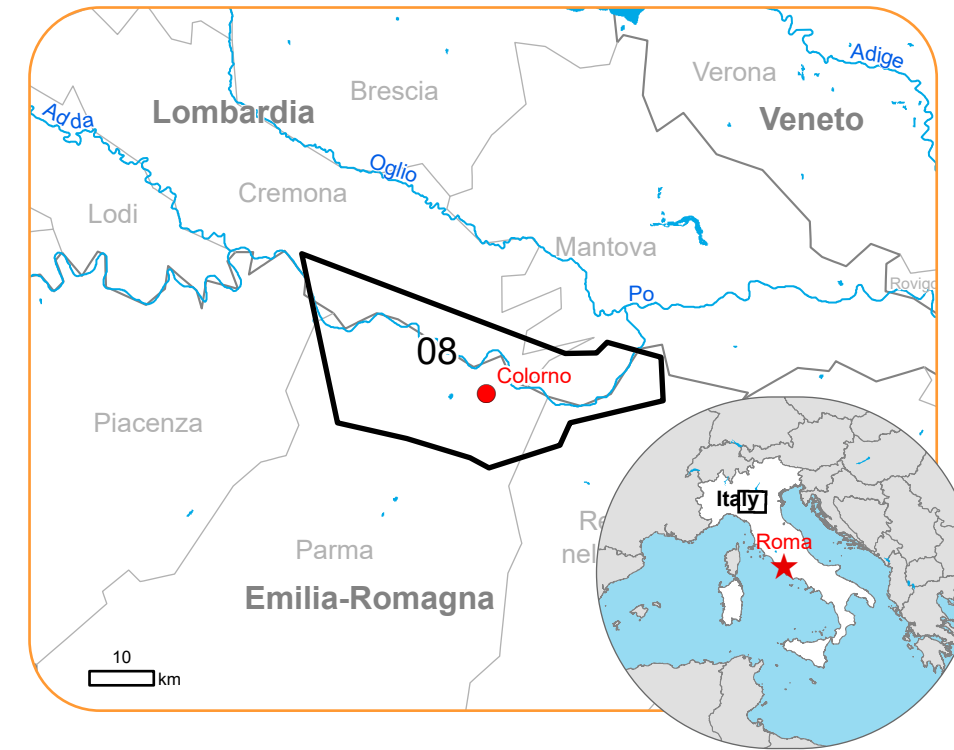


Situation as of 24/10/2024 05:27 UTC

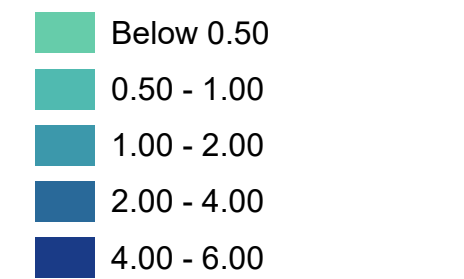
Delineation MONIT02 - Overview map 01



Potentially Affected Built-up and Transportations



Estimated flood depth (m)



Crisis Information

Maximum Flood Extent

General Information

Area of Interest

Administrative Boundaries

Region

Province

Municipality

Placenames

Placename

Built-Up Area

Residential

Non residential

School, university and research buildings

Hospital or institutional care buildings

Military

Hydrography

Lake, River

Facilities

Long-distance pipelines or lines

Local pipelines or lines

Dam

Mining or extraction site

Water Well

Power plant

Sport and recreation constructions

Dump Site

Water or Aquatic infrastructure

Transportation

Highway

Main road

Local road

Railway

Airfield runway

Navigable canal

Helipad

Water or Aquatic infrastructure

**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 30/09/2024 at 10:16 UTC, resolution 10 m). This image is used as background image. Post-event image: Sentinel-1A/B (2024) (acquired on 24/10/2024 at 05:27 UTC, resolution 20.0 m). All images are provided under COPENICUS by the European Union and ESA, all rights reserved.

The thematic layer has been derived from post-event satellite image 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 maximum flood extent corresponds to the flood observed in all previous products (cumulative analysis). The flooded area corresponds to the water observed in the most recent satellite imagery, excluding the permanent water.

Map produced by Planetek Hellas released by SERTIT on the 25/10/2024.

Details on this activation and service conditions available through the QR code or at the link: <https://rapidmapping.emergency.copernicus.eu/EMSR771>





Consequences within the AOI			
	Unit of measurement	Affected	Total in AOI
Flooded area*	ha		1,730.0
Maximum flood extent**	ha		5,748.0
Estimated population	Number of inhabitants	~ 30	~ 150,000
Built-up	Residential Buildings	ha	0
	Office buildings	ha	0
	Wholesale and retail trade buildings	ha	0
	Industrial buildings	ha	0
	School, university and research buildings	ha	0
	Hospital or institutional care buildings	ha	0
	Military	ha	0
	Cemetery	ha	0
Transportation	Navigable canals	ha	0
	Helipad	ha	0
	Airfield runways	km	0.1
	Navigable canals	km	0
	Highways	km	0
	Primary Road	km	0
	Secondary Road	km	0
	Local Road	km	0.6
	Cart Track	km	17.2
Facilities	Long-distance railways	km	0
	Settling Basin	ha	0
	Constructions for mining or extraction	ha	5.7
	Power plant constructions	ha	0
	Sport and recreation constructions	ha	0
	Other civil engineering works not elsewhere classified	ha	0
	Long-distance pipelines, communication and electricity lines	km	4.0
	Local pipelines and cables	km	0
Land use	Dams	km	0.5
	Arable land	ha	1,228.4
	Other	ha	204.3
	Forests	ha	116.9
	Shrub and/or herbaceous vegetation association	ha	98.9
	Open spaces with little or no vegetation	ha	56.0
	Pastures	ha	11.4
	Heterogeneous agricultural areas	ha	11.0
	Inland wetlands	ha	3.0
	Permanent crops	ha	0

\* Corresponds to the water observed in the most recent satellite imagery, excluding permanent water

\*\* Corresponds to the water observed in all previous products and in all crisis imagery, excluding permanent water (cumulative analysis).

#### Disclaimer:

Full disclaimer and other helpful information available in the online manual:

<https://emergency.copernicus.eu/mapping/ems/online-manual-rapid-mapping-products>

© European Union / Copernicus Emergency Management Service

#### 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 (GHSL) dataset.

Additional population datasets and analysis are available in the summary table.

Access to the portal



#### 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: FABDEM (ForestAndBuildingsremovedCopernicusDEM) removes building and tree height biases from the Copernicus GLO 30

Digital Elevation Model (DEM) (Airbus,2020).



PROGRAMME OF THE  
EUROPEAN UNION

