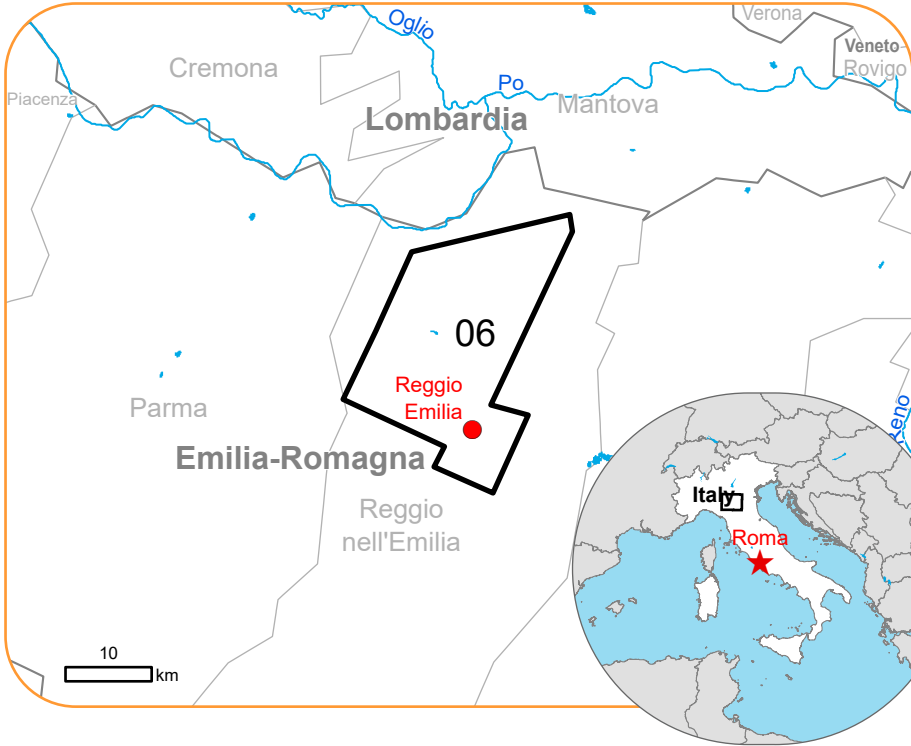




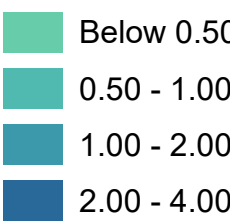
Situation as of 25/10/2024 05:10 UTC
Delineation MONIT03 - Overview map 01



Potentially Affected Built-up and Transportations



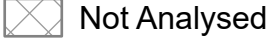
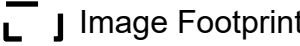
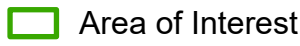
Estimated flood depth (m)



Crisis Information



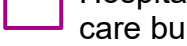
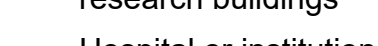
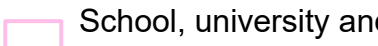
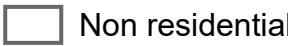
General Information



Administrative Boundaries



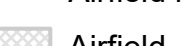
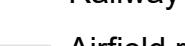
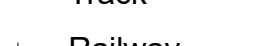
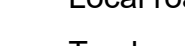
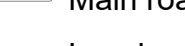
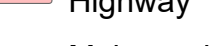
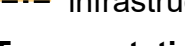
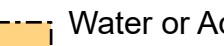
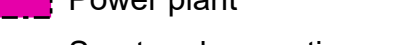
Built-Up Area



Hydrography



Facilities



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 10.0 m). This image is used as background image.
Post-event image: COSMO-SkyMed © ASI (2024), distributed by e-GEOS S.p.A. (acquired on 25/10/2024 at 05:10 UTC, resolution 5.0 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 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 CLS released by e-GEOS 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>



PROGRAMME OF THE
EUROPEAN UNION



Consequences within the AOI		Unit of measurement	Affected	Total in AOI
Flooded area*		ha		52,1
Maximum flood extent**		ha		1 395,6
Estimated population	Number of inhabitants		NA	- 220 000
Built-up	Residential Buildings	ha	0	2 140,8
	Office buildings	ha	0	51,2
	Wholesale and retail trade buildings	ha	0	3,1
	Industrial buildings	ha	0	1 340,2
	School, university and research buildings	ha	0	56,4
	Hospital or institutional care buildings	ha	0	11,8
	Military	ha	0	0,6
	Cemetery	ha	0	38,1
	Residential Buildings	No.	0	560
	Office buildings	No.	0	50
	Administrative	No.	0	3
	Institutional	No.	0	5
	Police station	No.	0	6
	Fire station	No.	0	2
	Wholesale and retail trade buildings	No.	0	224
	Industrial buildings	No.	0	1 803
	Reservoirs, silos and warehouses	No.	0	31
	Public entertainment buildings	No.	0	11
	Museums and libraries	No.	0	7
	School, university and research buildings	No.	0	76
	Hospital or institutional care buildings	No.	0	19
	Non-residential farm buildings	No.	0	33
	Buildings used as places of worship and for religious activities	No.	0	69
	Historic or protected monuments	No.	0	3
	Other buildings not elsewhere classified	No.	0	41
	Hotel buildings	No.	0	11
	Communication buildings, stations, terminals and associated buildings	No.	0	60
	Garage buildings	No.	0	21
	Unclassified	No.	0	18 593
Transportation	Airfield runways	ha	0	119,2
	Helipad	ha	0	0,2
	Airfield runways	km	0	3,2
	Highways	km	0	73,3
	Primary Road	km	0	147,1
	Secondary Road	km	0	96,6
	Local Road	km	0,01	1 181,1
	Cart Track	km	0,01	1 153,3
	Long-distance railways	km	0	151,9
Facilities	Settling Basin	ha	0	35,4
	Constructions for mining or extraction	ha	13,1	69,7
	Power plant constructions	ha	0	7,7
	Sport and recreation constructions	ha	1,7	733,4
	Other civil engineering works not elsewhere classified	ha	0	57,4
	Long-distance pipelines, communication and electricity lines	km	0,5	159,3
	Local pipelines and cables	km	0	15,8
Land use	Dams	km	0	0,2
	Arable land	ha	39,0	36 575,6
	Pastures	ha	11,5	30,9
	Other	ha	1,6	5 890,1
	Heterogeneous agricultural areas	ha	0	1 813,1
	Forests	ha	0	81,0
	Shrub and/or herbaceous vegetation association	ha	0	483,9
	Open spaces with little or no vegetation	ha	0	1,2

* 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/en/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.

Access to 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.

Data Sources:

Base Vector Layers: OpenStreetMap © OpenStreetMap contributors (2024), Wikimapia.org, GeoNames 2015,

Corine Land Cover (CLC) 2018, EuroBoundaryMap 2017 ©EuroGeographics.

Tinetti 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).