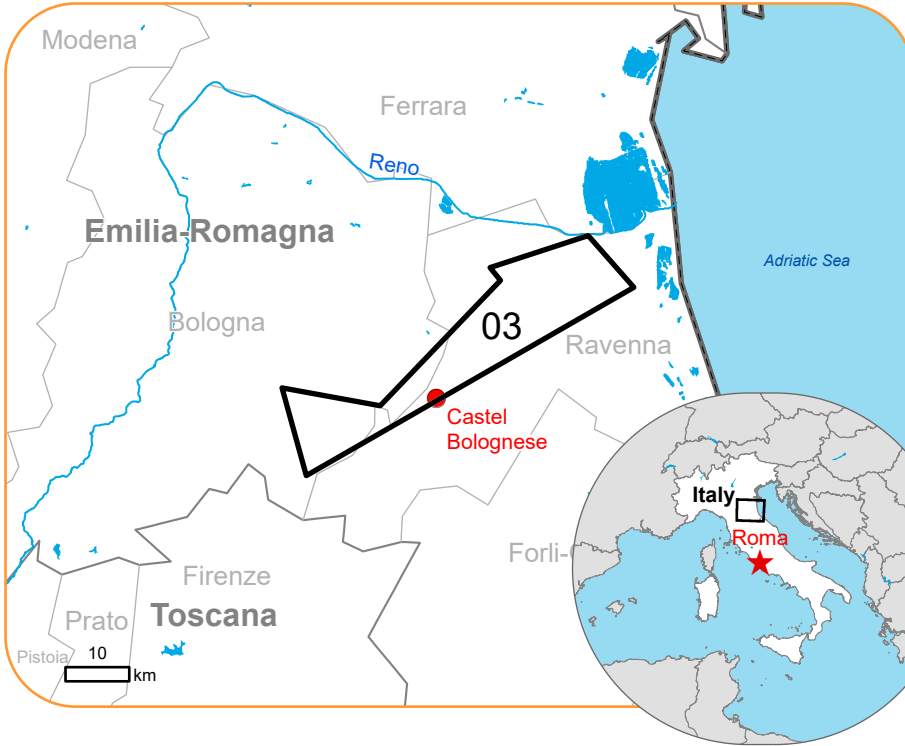




EMSR762 - AOI03
Flood in Italy
CASTEL BOLOGNESE

Situation as of 19/09/2024 17:04 UTC
Delineation - Overview map 01



Flooded area
1,094.0 ha



Potentially affected
population
~ 300

Potentially Affected Built-up and Transportations



Road
23.6 km



Railway
1.4 km



Built-Up
0.2 ha

Estimated flood depth (m)

- Below 0.50
- 0.50 - 1.00
- 1.00 - 2.00
- 2.00 - 4.00
- 4.00 - 6.00

General Information

- Area of Interest
- Detail map
- Image Footprint
- Not Analysed

Administrative Boundaries

- Province
- Municipality

Placenames

- Placename

Built-Up Area

- Residential
- Non residential
- School, university and research buildings
- Hospital or institutional care buildings

Hydrography

- Lake, River

Transportation

- Airfield
- Helipad

Event Since the early morning of 18 September 2024, intense rainfall is affecting the Emilia-Romagna region in Italy. The situation is ongoing with several rivers at red alert level and local floods are reported in some areas of Rimini, Brisighella and Cesena. Flooding is foreseen in several areas in the next hours. Copernicus EMS Rapid Mapping is requested to provide estimation of flood extents 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: RADARSAT 2 Data and products © MacDonald, Dettwiler and Associates Ltd. (2024) (acquired on 19/09/2024 at 17:04 UTC, resolution 5 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 flooded area corresponds to the water observed in the most recent satellite imagery, excluding the permanent water.

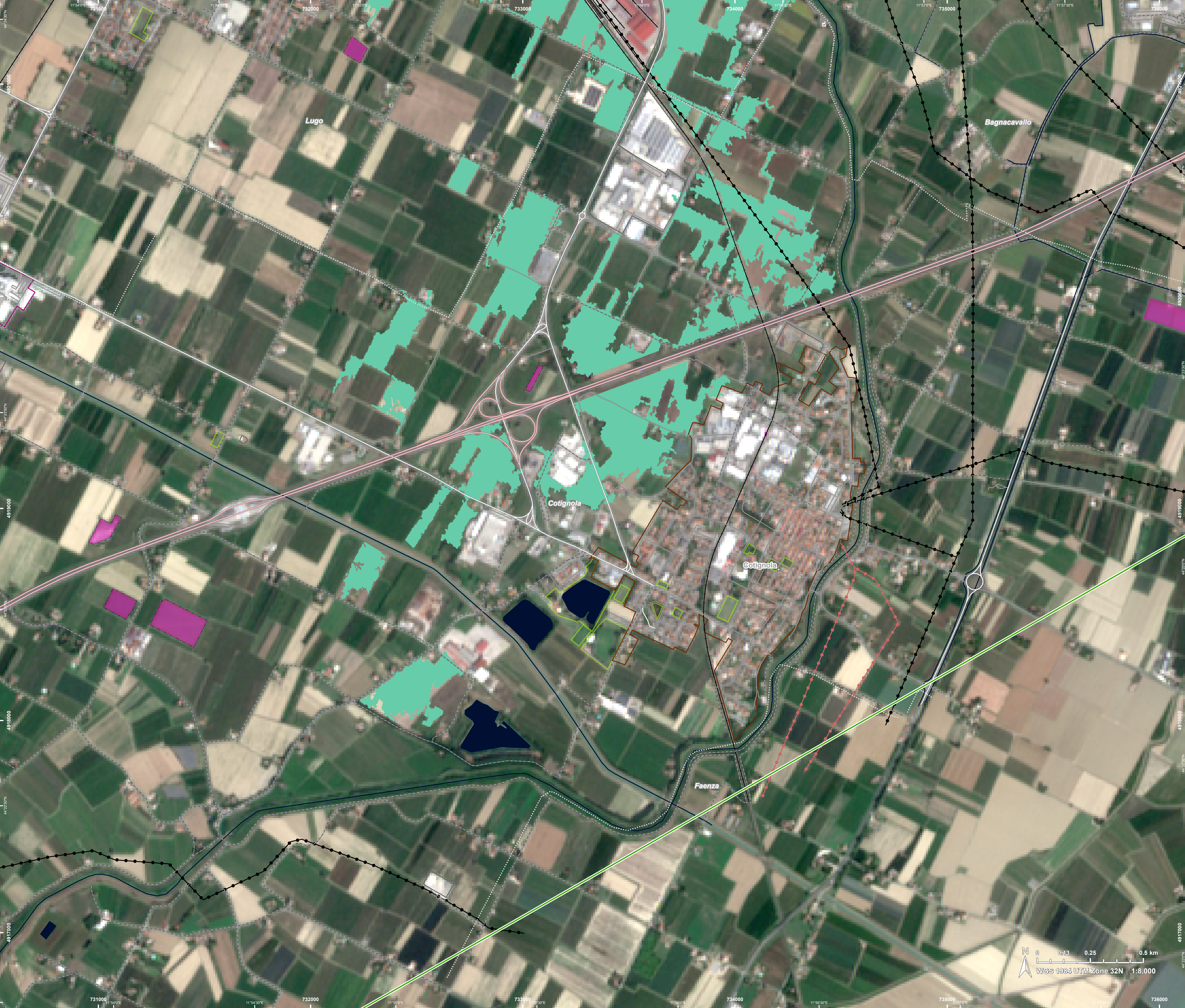
Map produced by GAF AG released by SERTIT on the 20/09/2024.


Details on this activation and service conditions available through the QR code or at the link: <https://rapidmapping.emergency.copernicus.eu/EMSR762>



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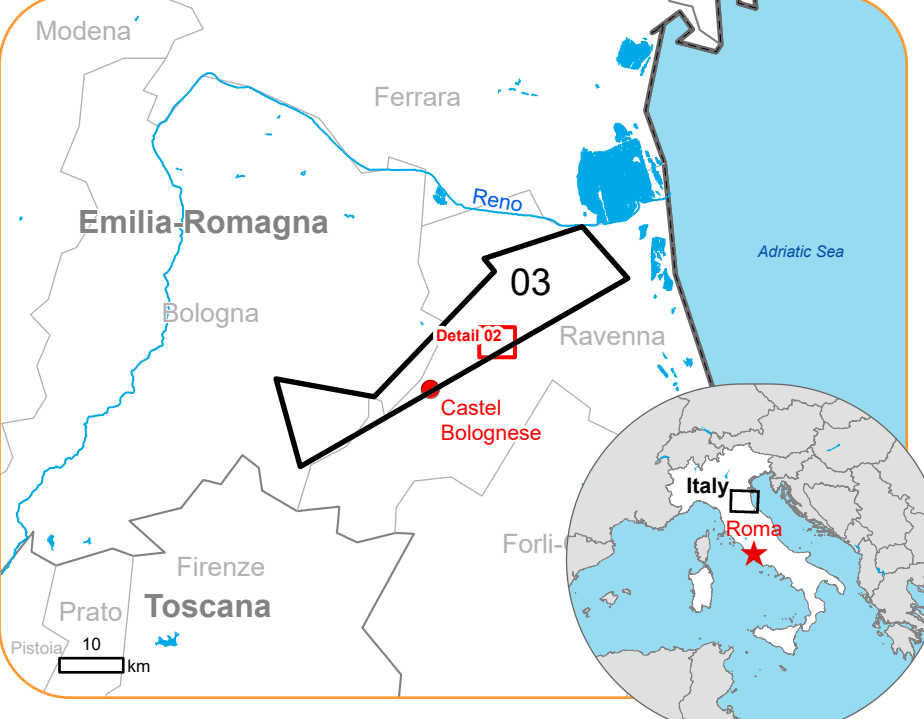






EMSR762 - AOI03
Flood in Italy
CASTEL BOLOGNESE

Situation as of 19/09/2024 17:04 UTC
Delineation - Detail map 02



- Estimated flood depth (m)**
Below 0.50
1.00 - 2.00

General Information
Area of Interest

Administrative Boundaries
Municipality

Placenames
Placename

Built-Up Area
Residential
Non residential
Hospital or institutional care buildings
- Hydrography**
Lake, River

Facilities
Long-distance pipelines or lines
Local pipelines or
Power plant
Sport and recreation constructions

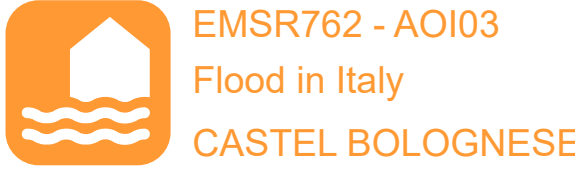
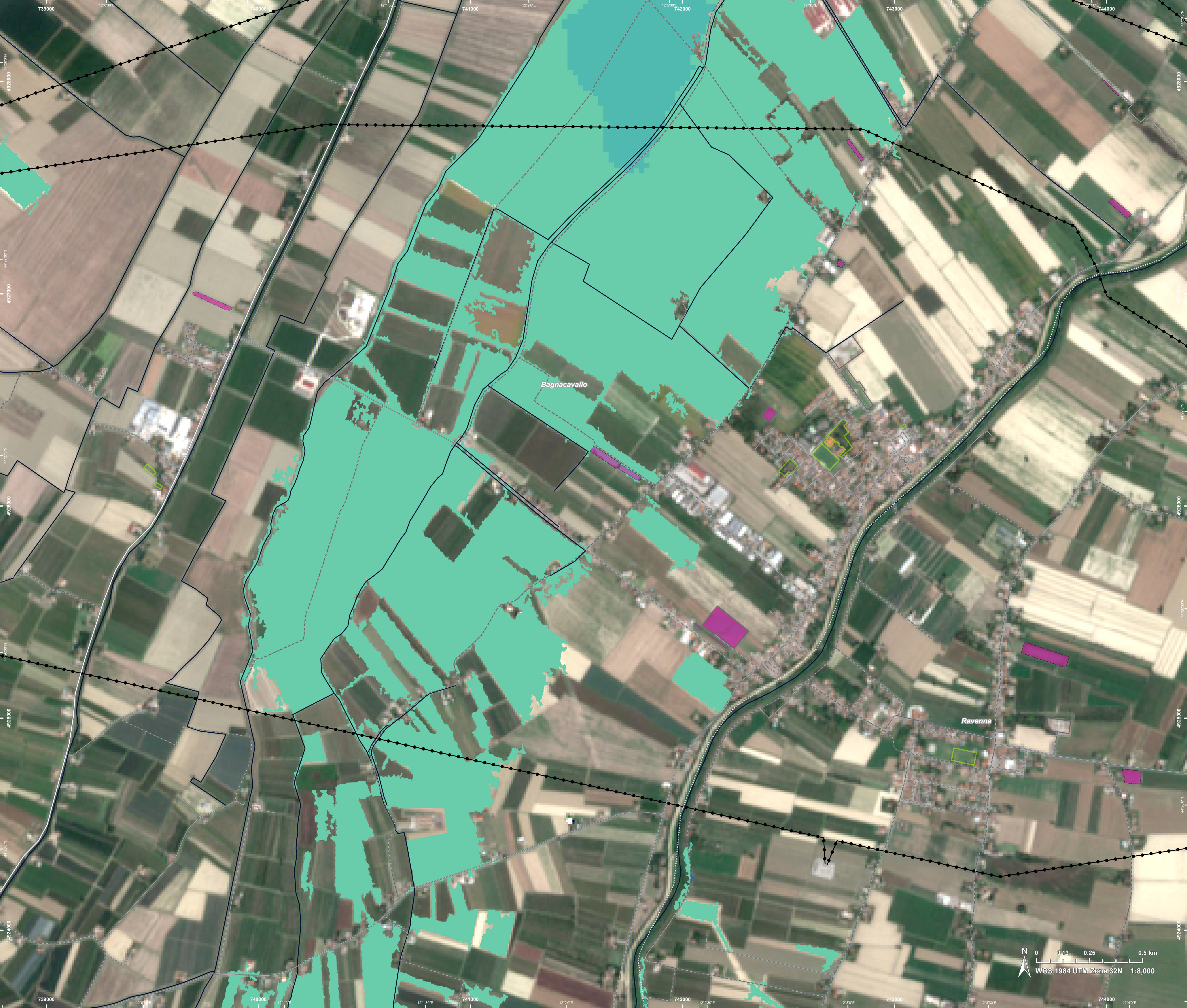
Transportation
Highway
Main road
Local road
Track
Railway

Event Since the early morning of 18 September 2024, intense rainfall is affecting the Emilia-Romagna region in Italy. The situation is ongoing with several rivers at red alert level and local floods are reported in some areas of Rimini, Brisighella and Cesena. Flooding is foreseen in several areas in the next hours. Copernicus EMS Rapid Mapping is requested to provide estimation of flood extents and damage assessment emergency mapping.

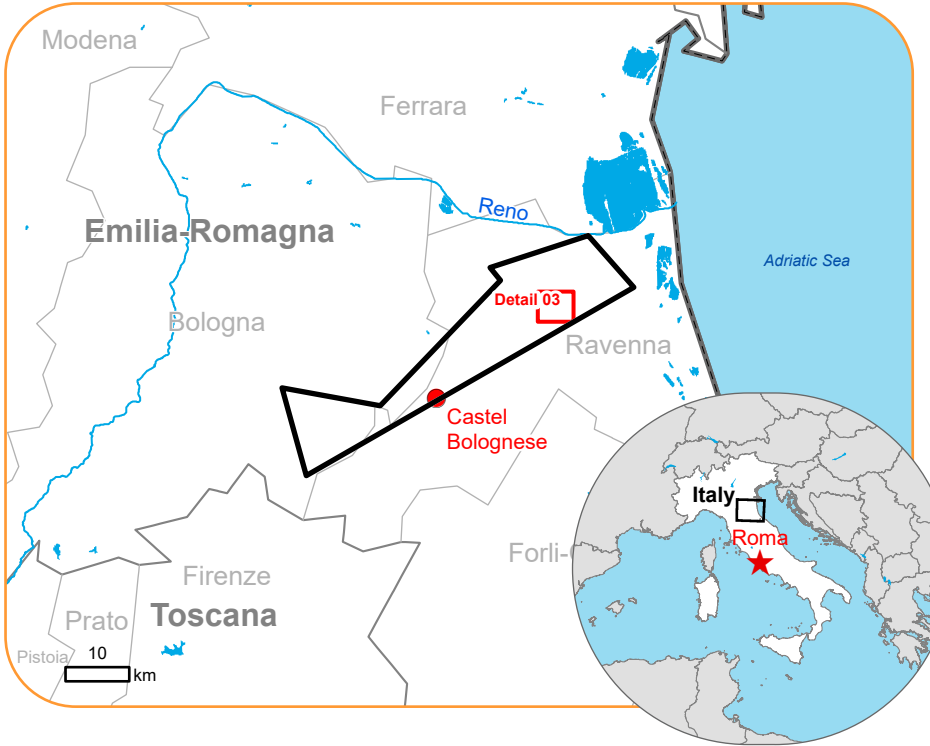
Data sources and analysis: Pre-event image: Sentinel-2A/B (2024) (acquired on 30/08/2024 at 10:18 UTC, resolution 10 m). This image is used as background image. Post-event image: RADARSAT 2 Data and products © MacDonald, Dettwiler and Associates Ltd. (2024) (acquired on 19/09/2024 at 17:04 UTC, resolution 5 m). All images are provided under COPERNICUS by the European Union and ESA, all rights reserved.

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Situation as of 19/09/2024 17:04 UTC
Delineation - Detail map 03



- | | |
|----------------------------------|------------------------------------|
| Estimated flood depth (m) | Facilities |
| Below 0.50 | Long-distance pipelines or lines |
| 0.50 - 1.00 | Power plant |
| 1.00 - 2.00 | Sport and recreation constructions |
| 2.00 - 4.00 | Transportation |
| General Information | Main road |
| Area of Interest | Local road |
| Administrative Boundaries | Track |
| Municipality | |
| Built-Up Area | |
| Non residential | |

Event Since the early morning of 18 September 2024, intense rainfall is affecting the Emilia-Romagna region in Italy. The situation is ongoing with several rivers at red alert level and local floods are reported in some areas of Rimini, Brisighella and Cesena. Flooding is foreseen in several areas in the next hours. Copernicus EMS Rapid Mapping is requested to provide estimation of flood extents and damage assessment emergency mapping.

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Consequences within the AOI				
		Unit of measurement	Affected	Total in AOI
Flooded area		ha		1,094.0
Estimated population	Number of inhabitants		~ 300	~ 100,000
Built-up	Residential Buildings	ha	0.1	1,316.7
	Wholesale and retail trade buildings	ha	0	8.1
	Industrial buildings	ha	0.1	631.6
	School, university and research buildings	ha	0	9.6
	Hospital or institutional care buildings	ha	0	11.2
	Cemetery	ha	0.01	28.2
Transportation	Airfield runways	ha	0	43.0
	Helipad	ha	0	0.04
	Airfield runways	km	0	1.7
	Highways	km	0.1	59.1
	Primary Road	km	0	59.8
	Secondary Road	km	0.5	89.8
	Local Road	km	5.4	726.4
	Cart Track	km	17.6	1,164.3
Facilities	Long-distance railways	km	1.4	71.7
	Settling Basin	ha	0	8.7
	Constructions for mining or extraction	ha	0.5	109.1
	Power plant constructions	ha	0.7	146.9
	Sport and recreation constructions	ha	0	228.6
	Other civil engineering works not elsewhere classified	ha	0	2.0
Land use	Long-distance pipelines, communication and electricity lines	km	6.5	186.3
	Local pipelines and cables	km	0	6.2
	Arable land	ha	722.2	17,710.5
	Heterogeneous agricultural areas	ha	332.2	26,777.0
	Permanent crops	ha	32.7	1,608.4
	Other	ha	7.0	2,833.7
	Forests	ha	0	1,432.0
	Shrub and/or herbaceous vegetation association	ha	0	2,259.1
	Open spaces with little or no vegetation	ha	0	413.4

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.

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.

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).



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