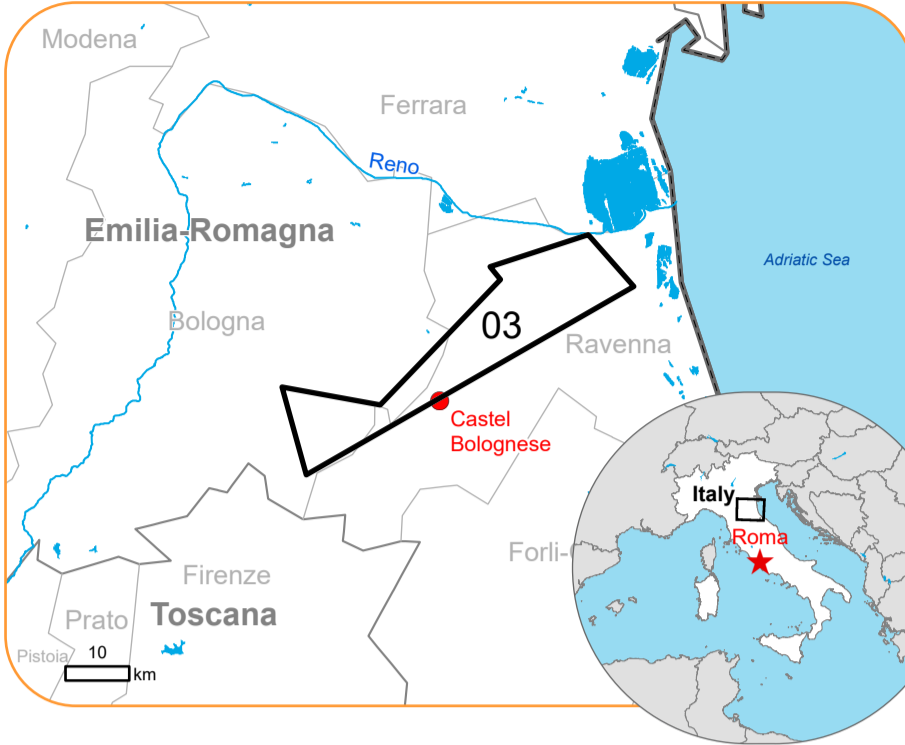




EMSR762 - AOI03  
Flood in Italy  
CASTEL BOLOGNESE

Situation as of 20/09/2024 05:27 UTC  
Delineation MONIT01 - Overview map 01



Flooded area  
716.9 ha



Potentially affected  
population  
~ 150

Potentially Affected Built-up and Transportations



Road  
7.4 km



Railway  
0.1 km

Estimated flood depth (m)

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

Crisis Information

Maximum Flood Extent

Area of Interest

Detail map

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

Highway

Main road

Local road

Track

**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: PAZ satellite image © Hisdesat Servicios Estratégicos S.A., 2024 (acquired on 20/09/2024 at 05:27 UTC, resolution 18.5 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 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.

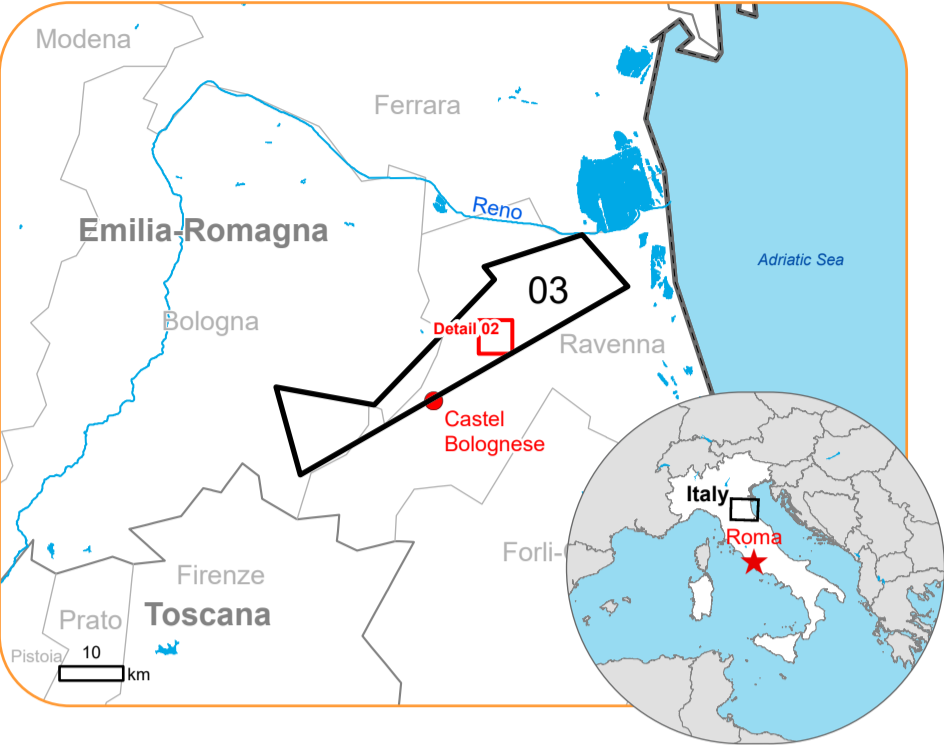
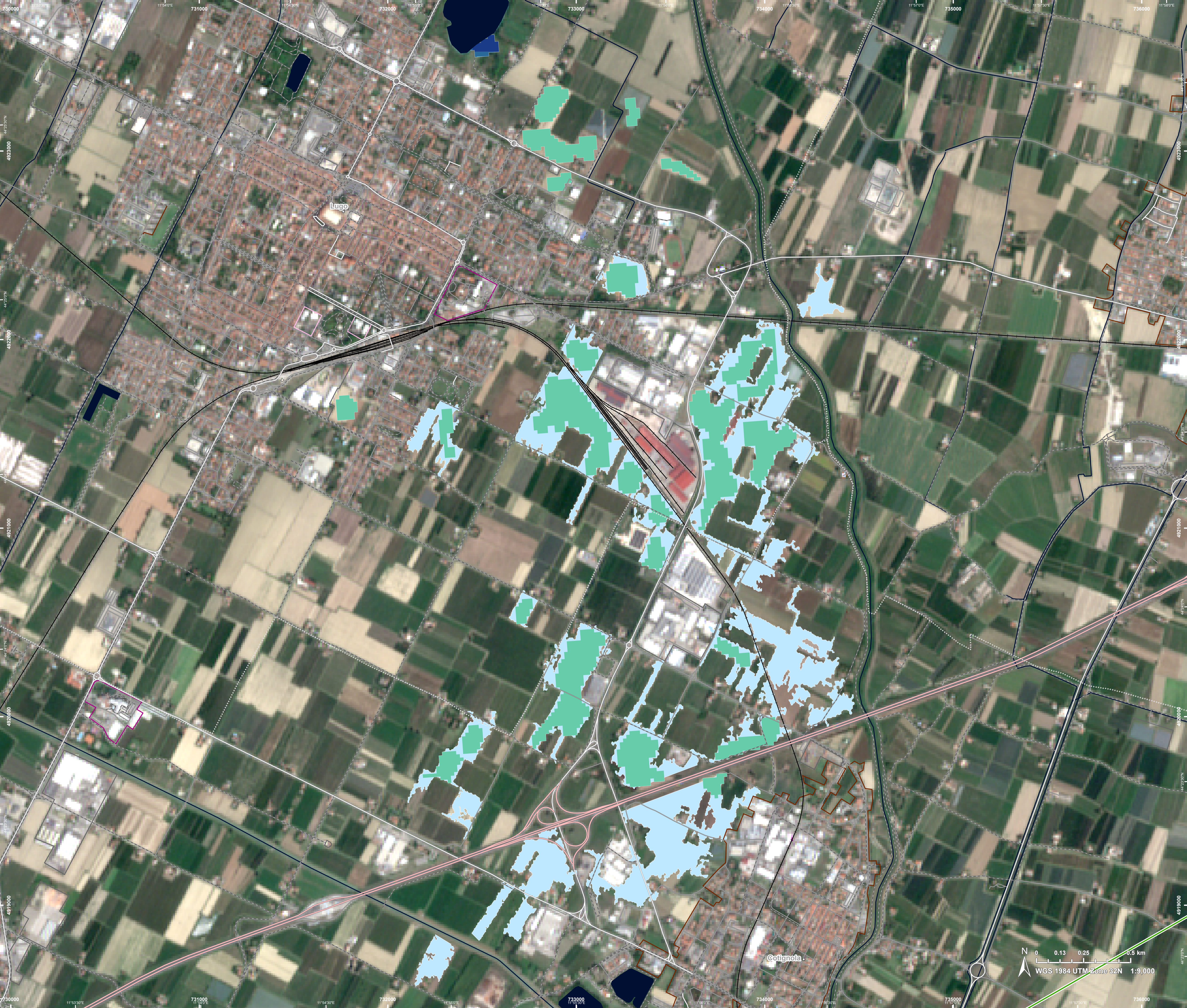
Map produced by IABG released by e-GEOS on the 20/09/2024.

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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- Estimated flood depth (m)**

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

**Crisis Information**

  - Maximum Flood Extent

**General Information**

  - Area of Interest

**Administrative Boundaries**

  - Municipality

**Placenames**

  - Placename
- Built-Up Area**

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

**Hydrography**

  - Lake, River

**Transportation**

  - Highway
  - Main road
  - Local road
  - Track
  - Railway

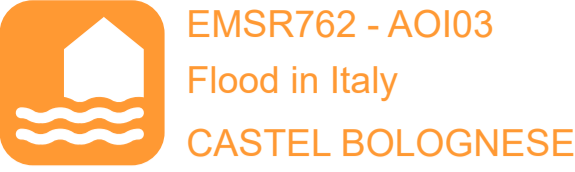
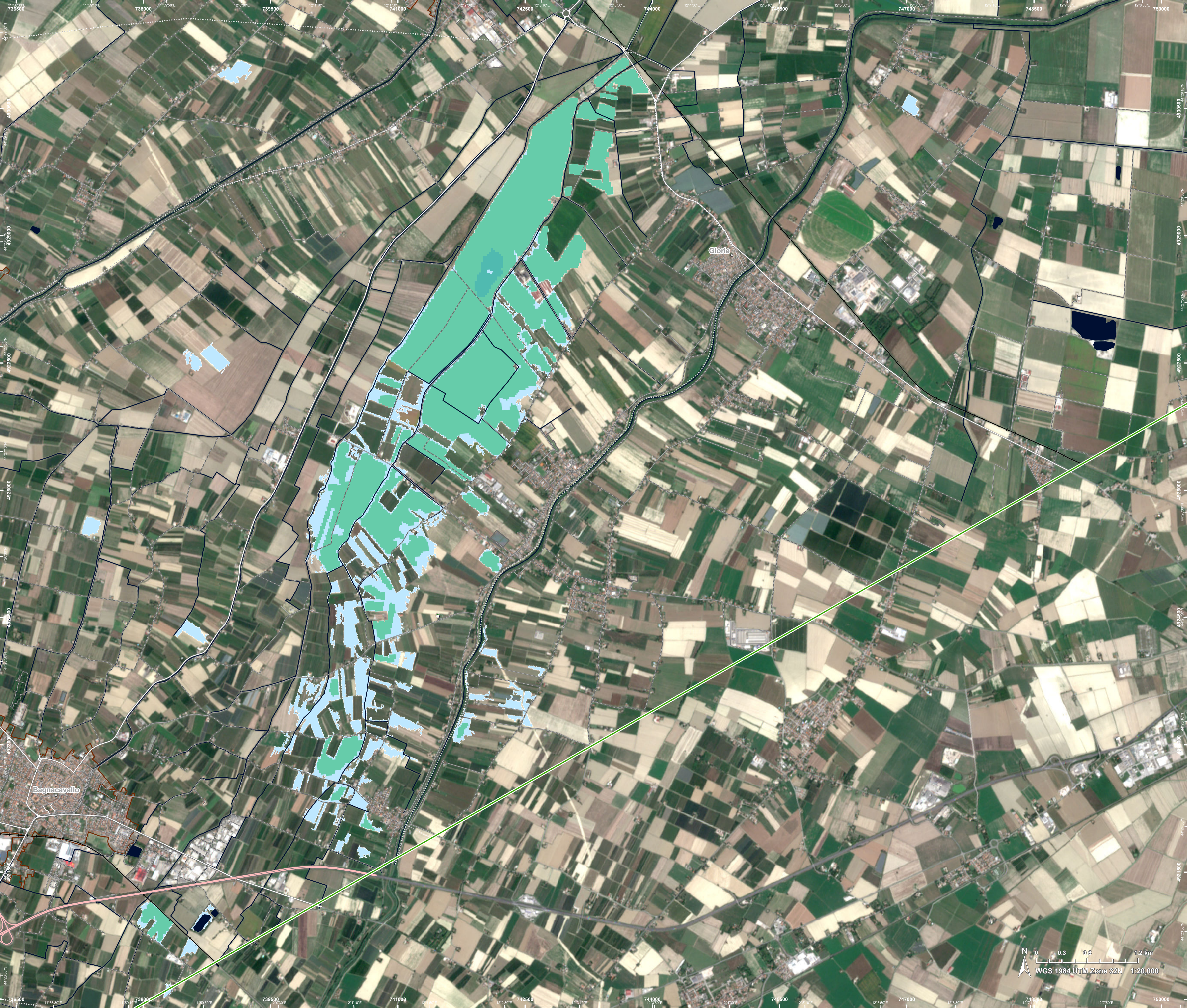
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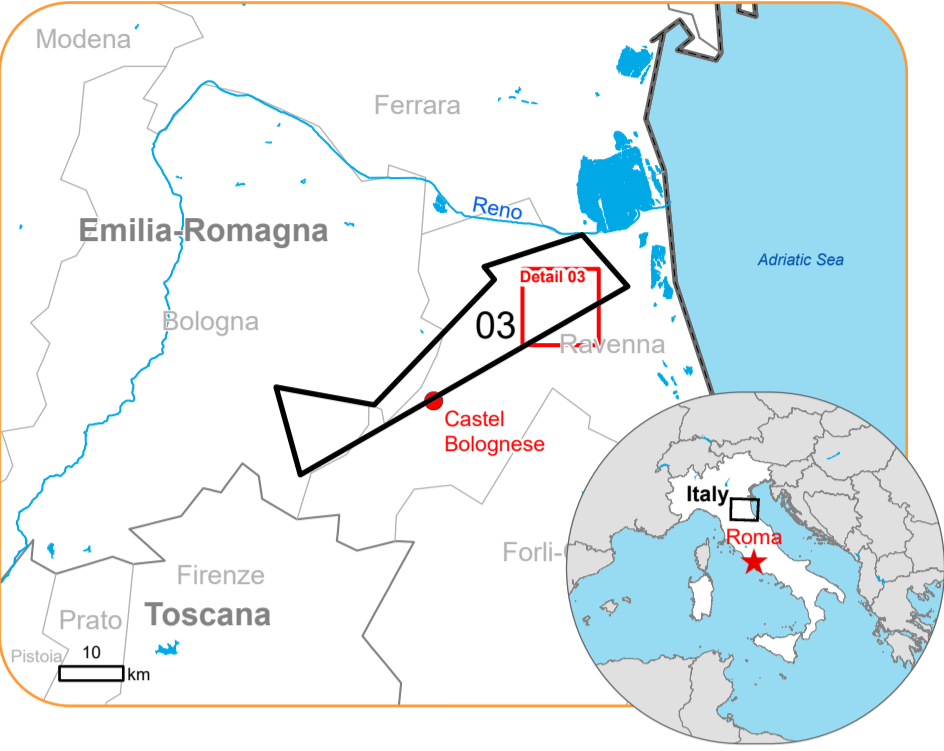
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**Situation as of 20/09/2024 05:27 UTC**  
Delineation MONIT01 - Detail map 03



- |   |   |
|---|---|
| <b>Estimated flood depth (m)</b>                              | <b>Built-Up Area</b>                                |
| <span style="color: green;">■</span> Below 0.50               | <span style="color: brown;">■</span> Residential    |
| <span style="color: teal;">■</span> 0.50 - 1.00               | <span style="color: grey;">■</span> Non residential |
| <b>Crisis Information</b>                                     | <b>Hydrography</b>                                  |
| <span style="color: lightblue;">■</span> Maximum Flood Extent | <span style="color: darkblue;">■</span> Lake, River |
| <b>General Information</b>                                    | <b>Transportation</b>                               |
| <span style="color: green;">■</span> Area of Interest         | <span style="color: brown;">—</span> Highway        |
| <b>Administrative Boundaries</b>                              | <span style="color: grey;">—</span> Main road       |
| <span style="color: grey;">---</span> Municipality            | <span style="color: grey;">—</span> Local road      |
| <b>Placenames</b>   | <span style="color: grey;">—</span> Track           |
| <span style="color: grey;">○</span> Placename                 | <span style="color: grey;">—</span> 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.

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Map produced by IABG released by e-GEOS 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>

Consequences within the AOI			
	Unit of measurement	Affected	Total in AOI
Flooded area*	ha		716.9
Maximum flood extent**	ha		1,210.8
Estimated population	Number of inhabitants	~ 150	~ 100,000
Built-up	Residential Buildings	ha 0.03	1,316.7
	Wholesale and retail trade buildings	ha 0	8.1
	Industrial buildings	ha 0	631.6
	School, university and research buildings	ha 0	9.6
	Hospital or institutional care buildings	ha 0	11.2
	Cemetery	ha 0	28.2
Transportation	Airfield runways	ha 0	43.0
	Helipad	ha 0	0.04
	Airfield runways	km 0	1.7
	Highways	km 0	59.1
	Primary Road	km 0.02	59.8
	Secondary Road	km 0	89.8
	Local Road	km 1.0	726.4
	Cart Track	km 6.3	1,164.3
Facilities	Long-distance railways	km 0.1	71.7
	Settling Basin	ha 0	8.7
	Constructions for mining or extraction	ha 0.2	109.1
	Power plant constructions	ha 1.4	146.9
	Sport and recreation constructions	ha 0	228.6
	Other civil engineering works not elsewhere classified	ha 0	2.0
	Long-distance pipelines, communication and electricity lines	km 4.6	186.3
Land use	Local pipelines and cables	km 0	6.2
	Arable land	ha 559.3	17,710.5
	Heterogeneous agricultural areas	ha 142.9	26,777.0
	Permanent crops	ha 10.8	1,608.4
	Other	ha 3.9	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

\* 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>

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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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