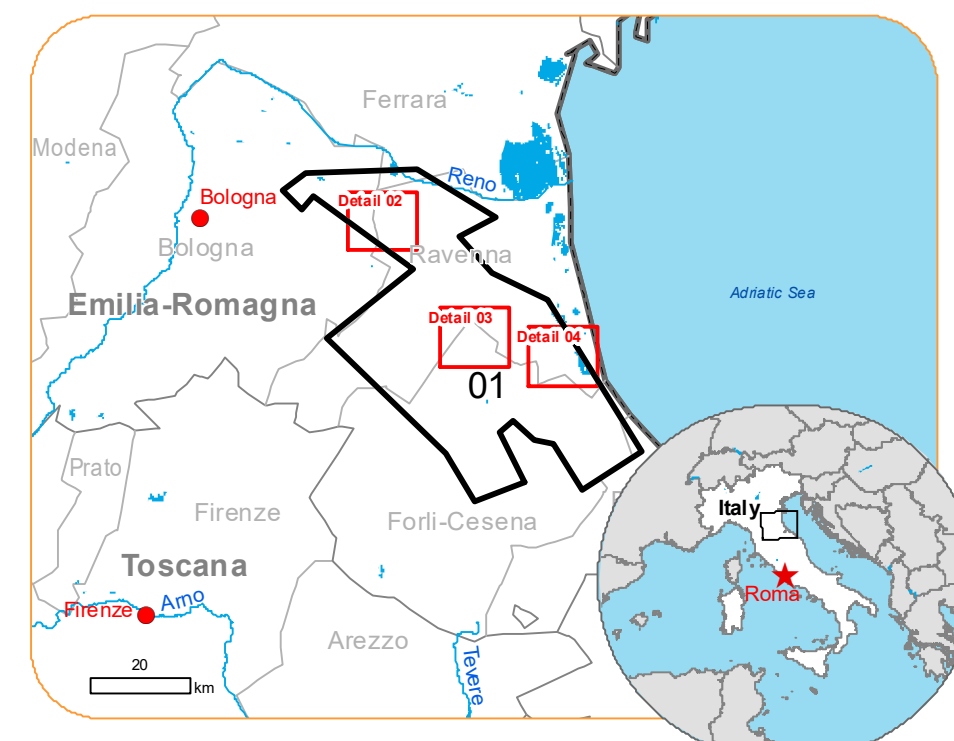




Situation as of 17/05/2023 16:56 and 17:14 UTC
Delineation - Overview map 01



Flooded area 8,797.2 ha
Potentially affected population ~ 2900

Potentially Affected Built-up and Transportations

Built-Up 37.7 ha
Road 155.7 km
Airport 0.5 km
4.1 ha

Crisis Information

General Information

- Flooded Area
- 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
- Military

Hydrography

- River
- Stream
- Lake
- Land Subject to Inundation
- Reservoir
- River

Facilities

- Long-distance pipelines or lines
- Local pipelines or lines
- Mining or extraction site
- Water Well
- Power plant
- Sport and recreation constructions
- Dump Site
- Water or Aquatic infrastructure
- Dam

Transportation

- Highway
- Main road
- Local road
- Track
- Railway
- Airfield runway
- Airfield
- Helipad

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). All products and data are also available for download on the activation webpage.

Event:
A new wave of severe weather has hit again the areas in the south-eastern Emilia-Romagna region in Italy. The same area was faced with floods already on 2 May 2023, which resulted in three deadly victims. These rains also caused landslides in the areas of the middle Apennines, which have left hundred people displaced. On 16 May 2023, a new perturbation has raised river levels again. The hydrometric threshold was reached in the basins of the Idice, Savena, Savio, Marzeno, Volte, Marecchia, Pisciatello, Ausa, and Montone rivers. New floods are expected in the areas as well as possible evacuations. Copernicus EMS Rapid Mapping is requested to provide initial rough estimation, flood and landslide extent identification and monitoring.

Data sources and analysis: Pre-event image: Sentinel-2A/B (2021) (acquired on 06/08/2022 at 10:06 UTC, resolution 10.0 m). This image is used as background image.

Post-event image: COSMO-SkyMed © ASI (2023), distributed by e-GEOS S.p.A. (acquired on 17/05/2023 at 16:56 UTC and 17:14 UTC, resolution 3.0 m). All images are provided under COPENICUS by the European Union and ESA, all rights reserved.

Base vector layers: OpenStreetMap © OpenStreetMap contributors (2023), Wikimapia.org, GeoNames 2015, Corine Land Cover (CLC) 2018, EuroBoundaryMap 2017 © EuroGeographics, refined by the producer.

Inset maps: JRC 2013, GISCO 2010 © EuroGeographics, Natural Earth 2012, CCM River DB © EUJRC2007, GeoNames 2015.

Population data: GHS Population Grid © European Commission, 2022
https://ghsl.jrc.ec.europa.eu/ghs_pop2022.php
Digital Elevation Model: SRTM (90 m) or (30 m) (NASA/USGS).

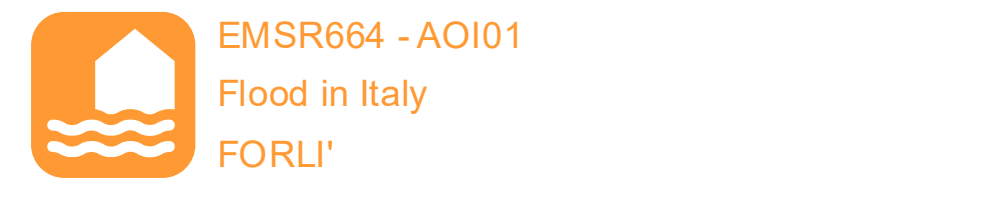
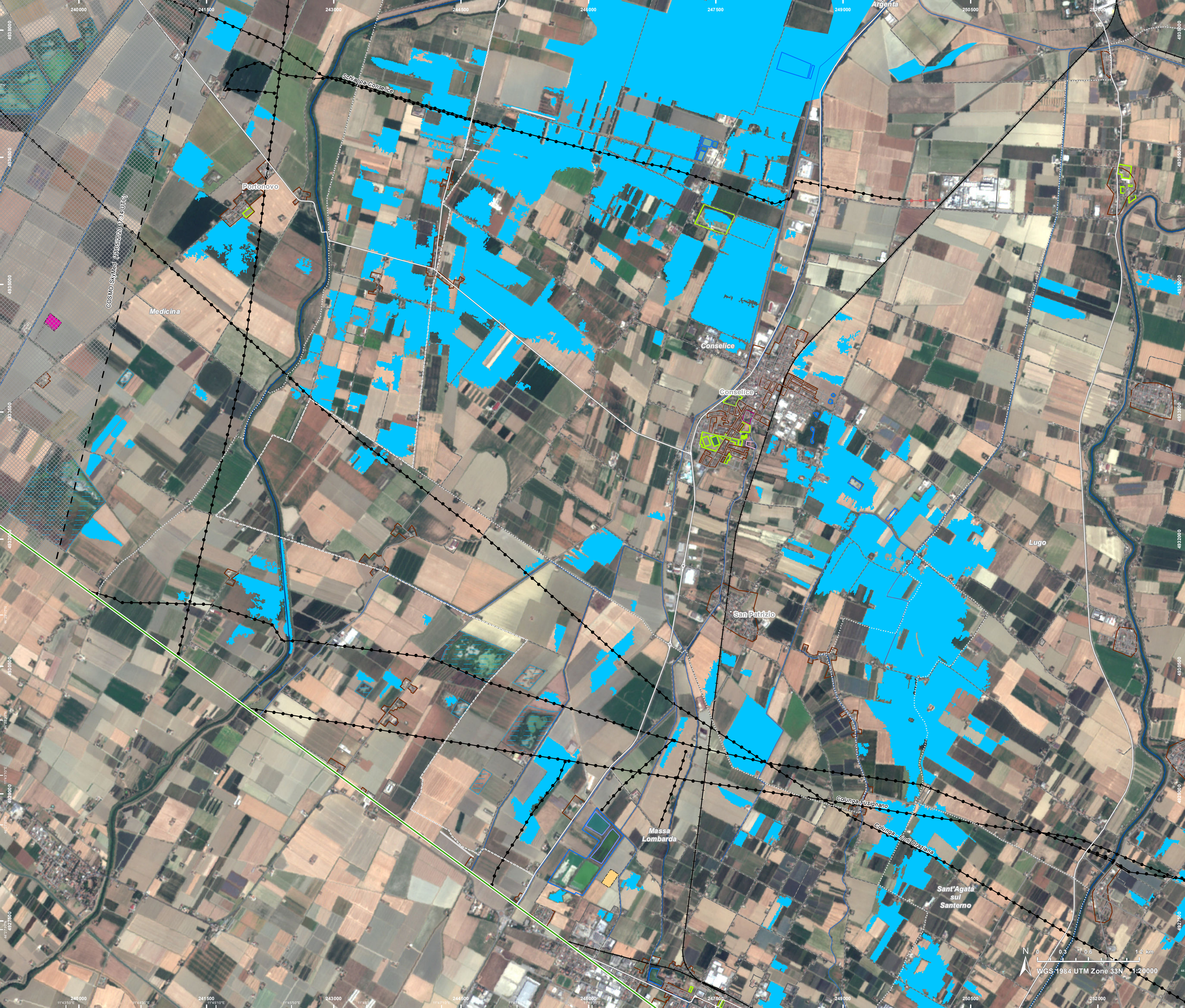
The thematic layer has been derived from post-event satellite image using a semi-automatic approach. Please be aware that the thematic accuracy might be lower in urban areas due to inherent limitations of the SAR analysis technique.

The scale of analysis is 1:25000. The estimated geometric accuracy (RMSE) is 6.25 m or better, from native positional accuracy of the background satellite image. The minimum mapping unit (MMU) is 625 sq. m.

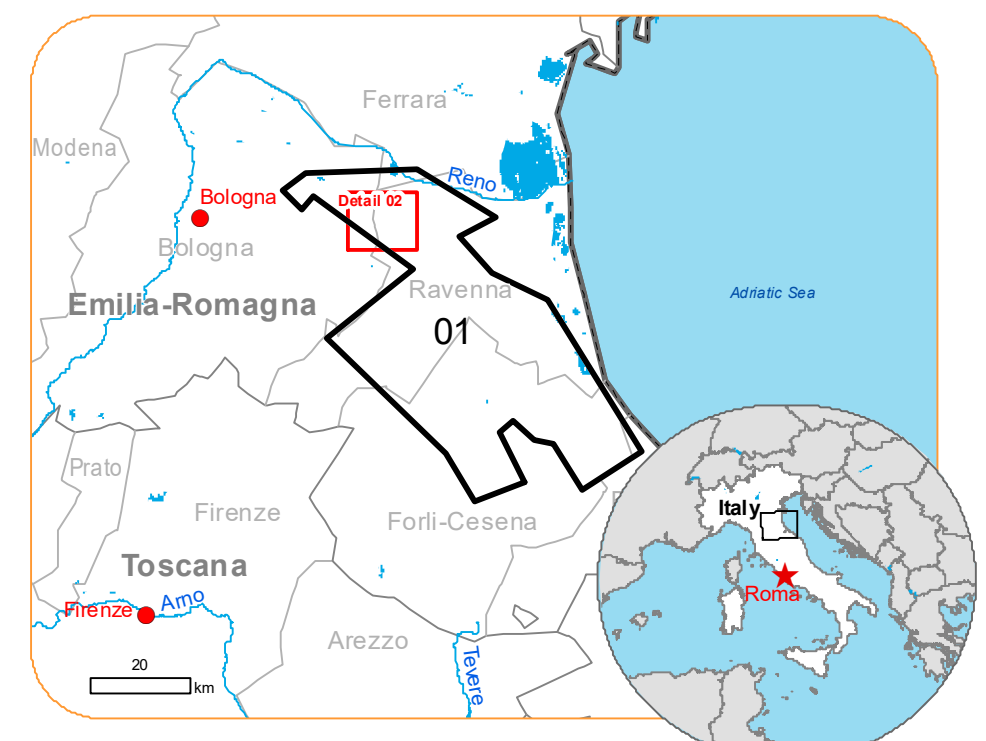
Map produced by e-GEOS released by e-GEOS on the 19/05/2023.

Details on this activation and service conditions available through the QR code or at the link:
<https://emergency.copernicus.eu/EMSR664>





Situation as of 17/05/2023 16:56 and 17:14 UTC
Delineation - Detail map 02



Flooded area 1,980.3 ha
22.5% of total in AOI

Potentially affected population
~ 250
8.6% of total affected

Potentially Affected Built-up and Transportations

Built-Up
2.0 ha
5.3% of total affected

Road
18.7 km
12 % of total affected

Airport
0.1 km
20% of total affected

Crisis Information

- Flooded

General Information

- Area of Interest
- Image Footprint
- Not

Administrative boundaries

- Province
- Municipality

Placenames

- Placename

Built-Up Area

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

Hydrography

- River
- Stream
- Lake
- Land Subject to Inundation
- Reservoir

Facilities

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

Transportation

- Main road
- Local road
- Track
- Railway
- Airfield runway

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). All products and data are also available for download on the activation webpage.

Event:
A new wave of severe weather has hit again the areas in the south-eastern Emilia-Romagna region in Italy. The same area was faced with floods already on 2 May 2023, which resulted in three deadly victims. These rains also caused landslides in the areas of the middle Apennines, which have left hundred people displaced. On 16 May 2023, a new perturbation has raised river levels again. The hydrometric threshold was reached in the basins of the Idice, Sargoggia, Savio, Marzeno, Voltre, Marecchia, Pisciatello, Ausa, and Montone rivers. New floods are expected in the areas as well as possible evacuations. Copernicus EMS Rapid Mapping is requested to provide initial rough estimation, flood and landslide extent identification and monitoring.

Data sources and analysis: Pre-event image: Sentinel-2A/B (2021) (acquired on 06/09/2022 at 10:06 UTC, resolution 10.0 m). This image is used as background image.
Post-event image: COSMO-SkyMed © ASI (2023), distributed by e-GEOS S.p.A. (acquired on 17/05/2023 at 16:56 UTC and 17:14 UTC, resolution 3.0 m). All images are provided under COPERNICUS by the European Union and ESA, all rights reserved.

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Inset maps: JRC 2013, GISCO 2010 © EuroGeographics, Natural Earth 2012, CCM River DB © EUJRC2007, GeoNames 2015.

Population data: GHS Population Grid © European Commission, 2022
https://ghsl.jrc.ec.europa.eu/ghs_pop2022.php
Digital Elevation Model: SRTM (90 m) or (30 m) (NASA/USGS).

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 areas due to inherent limitations of the SAR analysis technique).
The scale of analysis is 1:25000. The estimated geometric accuracy (RMSE) is 6.25 m or better, from native positional accuracy of the background satellite image. The minimum mapping unit (MMU) is 625 sq m.

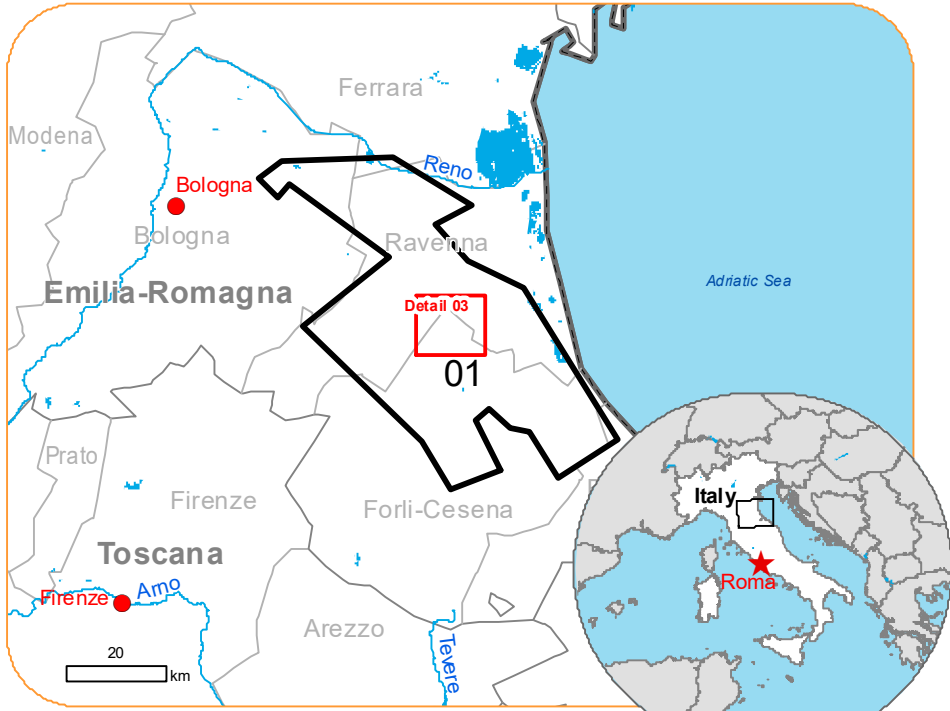
Map produced by e-GEOS released by e-GEOS on the 19/05/2023.

Details on this activation and service conditions available through the QR code or at the link:
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Situation as of 17/05/2023 16:56 and 17:14 UTC
Delineation - Detail map 03



Flooded area 2,080.4 ha
23.6% of total in AOI

Potentially affected population
~ 950
32.8% of total affected

Potentially Affected Built-up and Transportations

Built-Up
1.0 ha
2.7% of total affected

Road
41.3 km
26.5% of total affected

Airport
0.5 km
3.1 ha
100%, 75.6%
of total affected respectively

Crisis Information	Facilities
Flooded	Long-distance pipelines or lines
Area of Interest	Local pipelines or lines
Image Footprint	Power plant
Administrative boundaries	Sport and recreation constructions
Province	Highway
Municipality	Main road
Placename	Local road
Built-Up Area	Track
Residential	Railway
Non residential	Airfield runway
School, university and research buildings	Airfield
Hydrography	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). All products and data are also available for download on the activation webpage.
River	
Stream	
Lake	
Reservoir	

Event:
A new wave of severe weather has hit again the areas in the south-eastern Emilia-Romagna region in Italy. The same area was faced with floods already on 2 May 2023, which resulted in three deadly victims. These rains also caused landslides in the areas of the middle Apennines, which have left hundred people displaced. On 16 May 2023, a new perturbation has raised river levels again. The hydrometric threshold was reached in the basins of the Idice, Marecchia, Savio, Marzeno, Volte, Marecchia, Pisciatello, Ausa, and Montone rivers. New floods are expected in the areas as well as possible evacuations. Copernicus EMS Rapid Mapping is requested to provide initial rough estimation, flood and landslide extent identification and monitoring.

Data sources and analysis: Pre-event image: Sentinel-2A/B (2021) (acquired on 06/08/2022 at 10:06 UTC, resolution 10.0 m). This image is used as background image.
Post-event image: COSMO-SkyMed © ASI (2023), distributed by e-GEOS S.p.A. (acquired on 17/05/2023 at 16:56 UTC and 17:14 UTC, resolution 3.0 m). All images are provided under COPERNICUS by the European Union and ESA, all rights reserved.

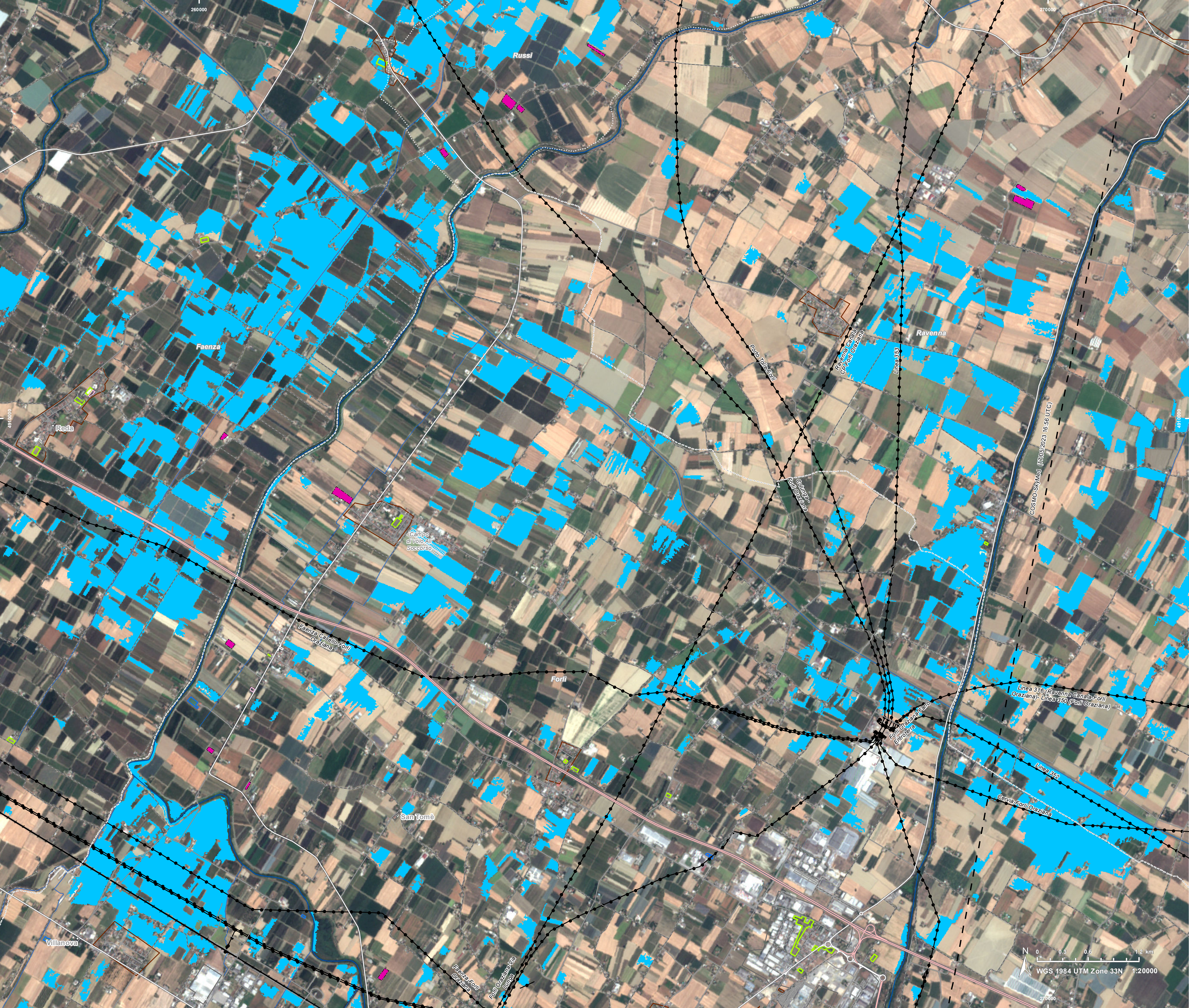
Base vector layers: OpenStreetMap © OpenStreetMap contributors (2023), Wikimapia.org, GeoNames 2015, Corine Land Cover (CLC) 2018, EuroBoundaryMap 2017 © EuroGeographics, refined by the producer.
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Digital Elevation Model: SRTM (90 m) or (30 m) (NASA/USGS).

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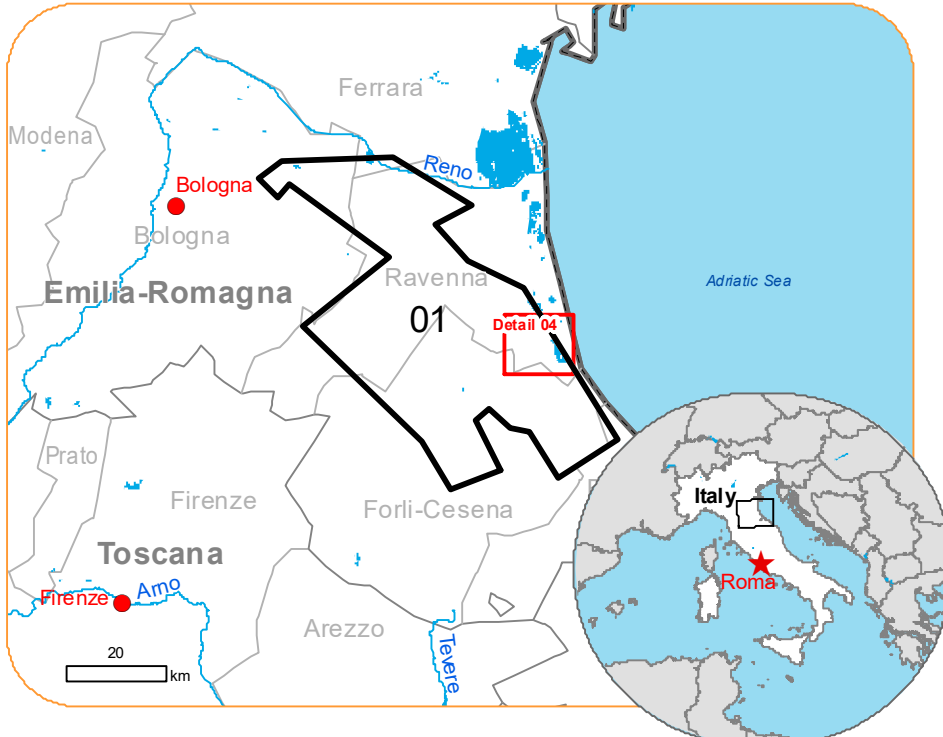
Map produced by e-GEOS released by e-GEOS on the 19/05/2023.

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Situation as of 17/05/2023 16:56 and 17:14 UTC
Delineation - Detail map 04



Flooded area 1,573.6 ha
17.9% of total in AOI

Potentially affected population ~ 400
13.8% of total affected

Potentially Affected Built-up and Transportations

Built-Up 14.2 ha
37.7% of total affected

Road 41.9 km
26.9% of total affected

Airport 1.0 ha
24.4% of total affected

Crisis Information

- Flooded Area

General Information

- Area of Interest
- Image Footprint

Administrative boundaries

- Province
- Municipality

Placenames

- Placename

Built-Up Area

- Residential
- Non residential
- Military

Hydrography

- River
- Stream
- Lake
- Land Subject to Inundation
- Reservoir
- River

Facilities

- Long-distance pipelines or lines
- Mining or extraction site
- Power plant
- Sport and recreation constructions
- Dump Site

Transportation

- Highway
- Main road
- Local road
- Track
- Airfield runway
- Airfield

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Event:
A new wave of severe weather has hit again the areas in the south-eastern Emilia-Romagna region in Italy. The same area was faced with floods already on 2 May 2023, which resulted in three deadly victims. These rains also caused landslides in the areas of the middle Apennines, which have left hundred people displaced. On 16 May 2023, a new perturbation has raised river levels again. The hydrometric threshold was reached in the basins of the Idice, Sarnogio, Savio, Marzeno, Volte, Marecchia, Pisciatello, Ausa, and Montone rivers. New floods are expected in the areas as well as possible evacuations. Copernicus EMS Rapid Mapping is requested to provide initial rough estimation, flood and landslide extent identification and monitoring.

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Post-event image: COSMO-SkyMed © ASI (2023), distributed by e-GEOS S.p.A. (acquired on 17/05/2023 at 16:56 UTC and 17:14 UTC, resolution 3.0 m). All images are provided under COPERNICUS by the European Union and ESA, all rights reserved.

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EMSR664 AOI: 01 Forli Delineation

Consequences within the AOI				
		Unit of measurement	Affected	Total in AOI
Flooded area		ha		8,797.2
Estimated population	Number of inhabitants		~ 2,900	~ 550,000
Built-up	Residential Buildings	ha	11.3	7,968.9
	Office buildings	ha	0.0	34.3
	Wholesale and retail trade buildings	ha	0.0	26.1
	Industrial buildings	ha	14.3	2,062.8
	School, university and research buildings	ha	0.0	86.1
	Hospital or institutional care buildings	ha	0.0	34.2
	Other non-residential buildings	ha	0.0	139.6
	Military	ha	11.2	245.8
	Cemetery	ha	0.9	98.2
Transportation	Airfield runways	ha	4.1	471.5
	Helipad	ha	0.0	0.2
	Airfield runways	km	0.5	11.9
	Highways	km	4.9	337.5
	Primary Road	km	1.7	293.6
	Secondary Road	km	6.2	500.9
	Local Road	km	23.3	2,956.7
	Cart Track	km	119.7	4,473.1
	Long-distance railways	km	2.2	295.1
Facilities	Settling Basin	ha	0.0	45.3
	Dams	ha	0.0	0.0
	Constructions for mining or extraction	ha	12.7	135.8
	Power plant constructions	ha	12.3	144.4
	Sport and recreation constructions	ha	18.6	902.8
	Other civil engineering works not elsewhere classified	ha	0.0	20.7
	Long-distance pipelines, communication and electricity lines	km	46.7	744.7
	Local pipelines and cables	km	0.0	22.5
Land use	Arable land	ha	5,913.7	101,499.4
	Heterogeneous agricultural areas	ha	2,593.4	88,050.9
	Permanent crops	ha	136.4	3,090.9
	Coastal wetlands	ha	81.9	718.4
	Other	ha	62.0	13,510.0
	Inland wetlands	ha	4.0	1,917.9
	Pastures	ha	3.0	221.2
	Forests	ha	2.8	2,503.8
	Shrub and/or herbaceous vegetation association	ha	0.0	2,371.2
	Open spaces with little or no vegetation	ha	0.0	385.4

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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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