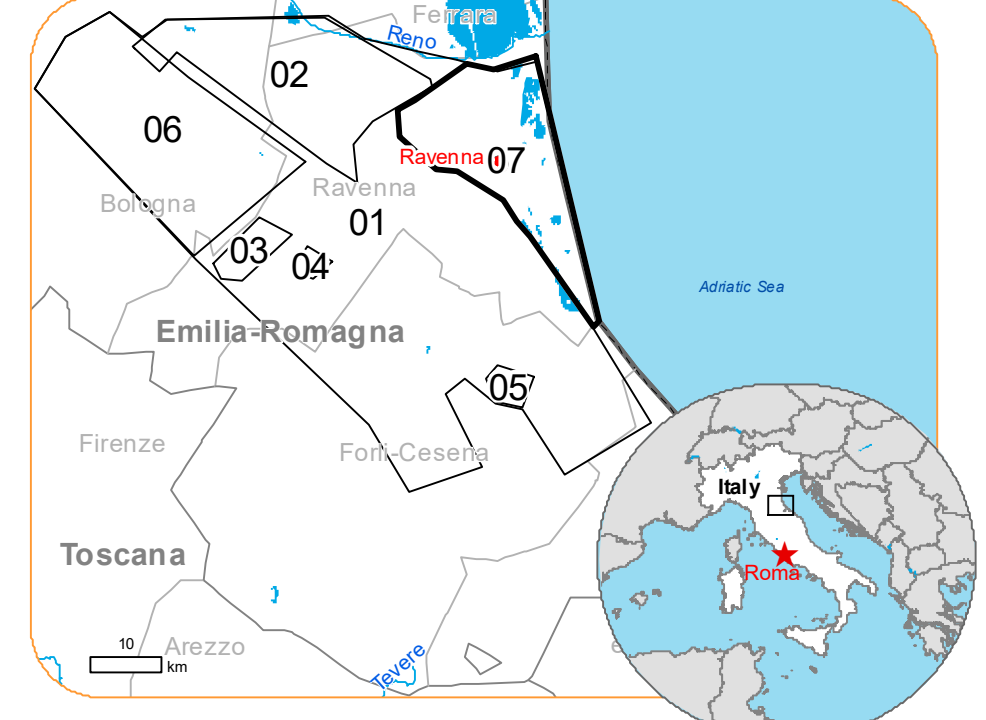


 **EMSR664 - AOI07**
Flood in Italy
RAVENNA

Situation as of 21/05/2023 10:08 UTC
Grading - Overview map 01



 Flood trace 3,537.3 ha
Flooded area 2,846.7 ha

 Potentially affected population 7,000

Affected Built-up, Facilities and Transportations

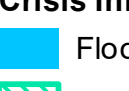

 Built-Up 3,232 No.

 Facilities 127.5 ha

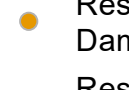
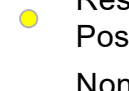
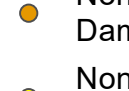



 Road 46.1 km

 Railway 9.8 km



Crisis Information

-  Flooded Area
-  Flood trace

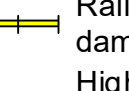
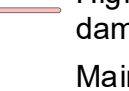
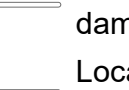
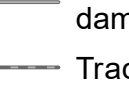
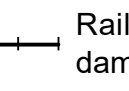

Built-Up Grading

-  Residential Building, Damaged
-  Residential Building, Possibly damaged
-  Non residential Building, Damaged
-  Non-residential Building, Possibly damaged
-  Unclassified Building, Damaged
-  Unclassified Building, Possibly damaged




Facilities Grading

-  Damaged
-  Possibly damaged

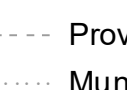
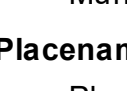
Transportation Grading

-  Railway, Possibly damaged
-  Highway, No visible damage
-  Main road, No visible damage
-  Local road, No visible damage
-  Track, No visible damage
-  Railway, No visible damage

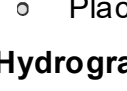
General Information

-  Area of Interest
-  Detail map
-  Not Analysed

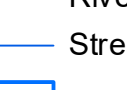


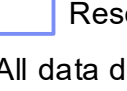
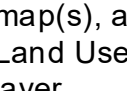
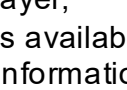
Administrative boundaries

-  Province
-  Municipality

Placenames

-  Placename

Hydrography

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

All data displayed on the map(s), as well as the Land Use -Land Cover layer, is 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, Sarnoglia, 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: SPOT6 © Airbus DS (2023), (acquired on 03/04/2023 at 09:37 UTC, resolution 1.5 m). SPOT7 © Airbus DS (2022), (acquired on 10/04/2022 at 09:41 UTC, resolution 1.5 m). Post-event image: SPOT6 © Airbus DS (2023), (acquired on 21/05/2023 at 10:08 UTC, resolution 1.5 m). This image is used as background image. All images are provided under COPERNICUS by the European Union and ESA, all rights reserved.

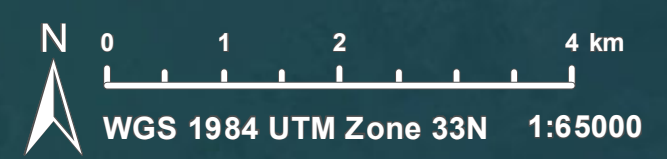
Base vector layers: OpenStreetMap © OpenStreetMap contributors (current year), Wikimapia.org, GeoNames 2015, Corine Land Cover (CLC) 2018, EuroBoundaryMap 2017 © EuroGeographics, Inset maps: JRC 2013, GISCO 2010 © EuroGeographics, Natural Earth 2012, CCM River DB © EUJRC2007, GeoNames 2015.

Population data: GHS Population Grid © European Commission, 2022 https://ghsl.jrc.ec.europa.eu/ghs_pop2022.php

The thematic layer has been derived from post-event satellite image by means of visual interpretation. The scale of analysis is 1:10000. The estimated geometric accuracy (RMSE) is 3 m or better, from native positional accuracy of the background satellite image. The minimum mapping unit (MMU) is 225 sq. m.

Map produced by CLS released by e-GEOS on the 22/05/2023.

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

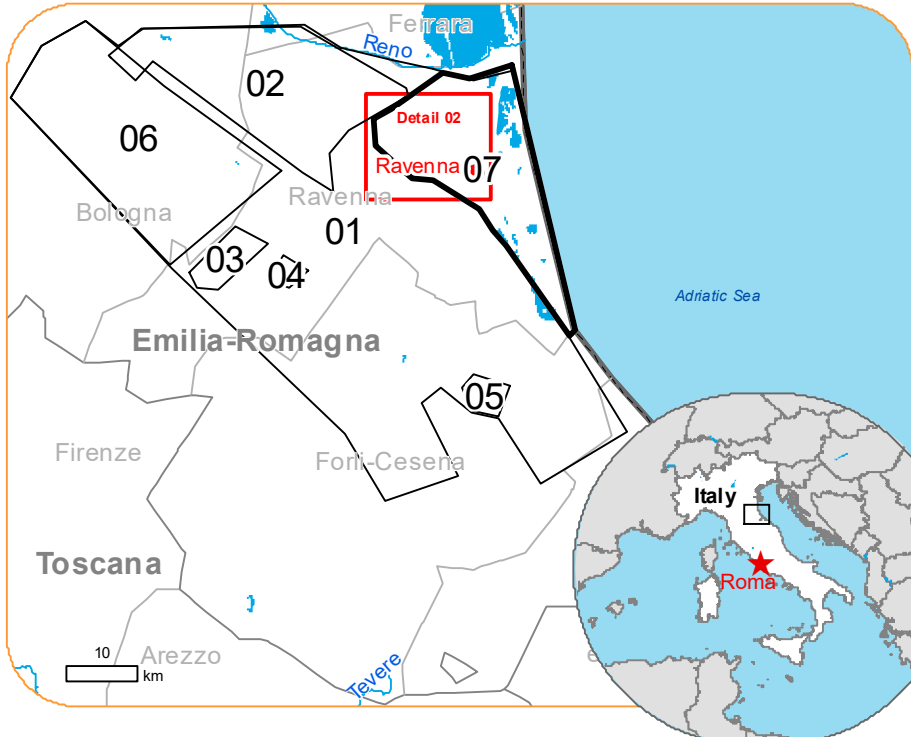




EMSR664 - AOI07
Flood in Italy
RAVENNA

Situation as of 21/05/2023 10:08 UTC

Grading - Detail map 02



Flood trace 2,629.2 ha
69% of potentially affected
Flooded area 1,951.5 ha
69% of potentially affected

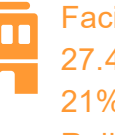


Potentially affected population 4100
59% of potentially affected

Affected Built-up, Facilities and Transportations



Built-Up
2,280 No.
71% of potentially affected
Road
37 km
80% of potentially affected



Facilities
27.4 ha
21% of potentially affected
Railway
9.8 km
100% of potentially affected

Crisis Information

Flooded Area
Flood trace

Built-Up Grading

Residential Building, Possibly damaged
Non residential Building, Damaged
Non-residential Building, Possibly damaged
Unclassified Building, Damaged
Unclassified Building, Possibly damaged

Facilities Grading

Damaged
Possibly damaged

Transportation Grading

Road, Possibly damaged
Railway, Possibly damaged
Highway, No visible damage
Main road, No visible damage
Local road, No visible damage
Track, No visible damage
Railway, No visible damage

General Information

Area of Interest
Not Analysed

Administrative boundaries

Municipality
Placename

Hydrography

River
Stream
Lake
Land Subject to Inundation
Reservoir

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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, Sarnoglia, 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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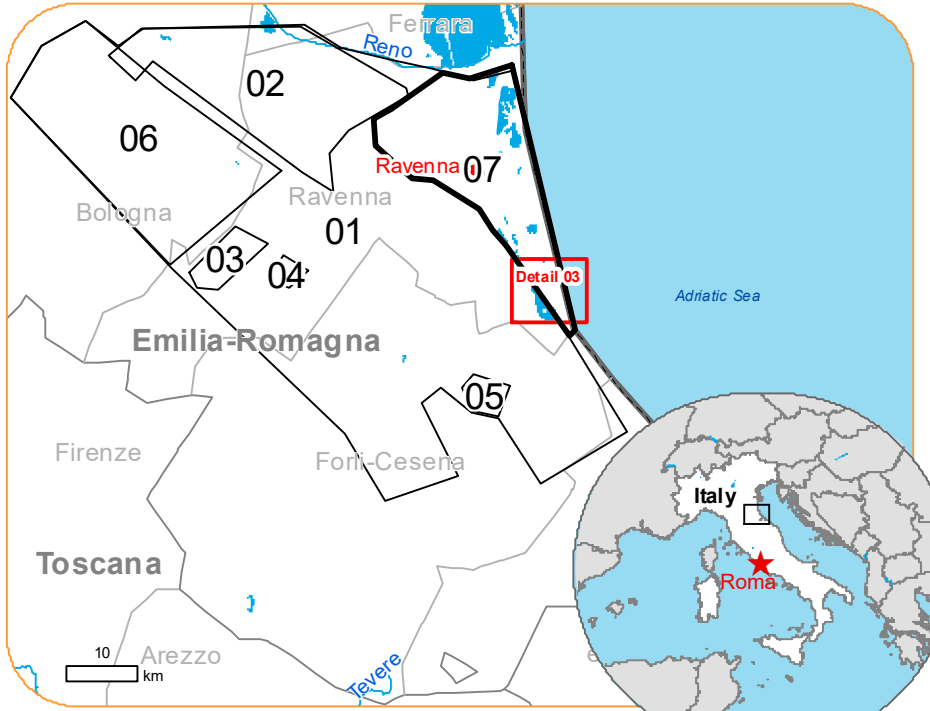
PROGRAMME OF THE
EUROPEAN UNION





Situation as of 21/05/2023 10:08 UTC

Grading - Detail map 03



Flood trace 492.2 ha
14% of potentially affected
Flooded area 260.5 ha
9% of potentially affected

Potentially affected population 2,500
36% of potentially affected

Affected Built-up, Facilities and Transportations

Built-Up
661 No.
20% of potentially affected

Road
8.5 km
18% of potentially affected

Facilities
81.7 ha
64% of potentially affected

Crisis Information

Flooded Area

Flood trace

Built-Up Grading

- Residential Building, Damaged
- Residential Building, Possibly damaged
- Non residential Building, Damaged
- Non-residential Building, Possibly damaged
- Unclassified Building, Damaged
- Unclassified Building, Possibly damaged

Facilities Grading

- Damaged
- Possibly damaged

Transportation Grading

- Main road, No visible damage
- Local road, No visible damage
- Track, No visible damage
- Railway, No visible damage

General Information

Area of Interest

Administrative boundaries

Municipality

Placenames

Placename

Hydrography

Stream

Lake

Land Subject to Inundation

Open Water

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Event

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Consequences within the AOI								
	Unit of measurement		Destroyed	Damaged	Possibly damaged*	Total affected**	Total in AOI	
Flood trace	ha						3 537,3	
Flooded area	ha						2 846,7	
Estimated population	Number of inhabitants					~ 7 000	~ 180 000	
Built-up	Residential Buildings	No.	0	1	8	9	627	
	Office buildings	No.	0	0	0	0	12	
	Administrative	No.	0	0	0	0	1	
	Institutional	No.	0	0	0	0	3	
	Police station	No.	0	0	0	0	2	
	Fire station	No.	0	0	0	0	1	
	Wholesale and retail trade buildings	No.	0	1	8	9	50	
	Industrial buildings	No.	0	149	325	474	3 935	
	Industrial buildings and warehouses	No.	0	1	0	1	1	
	Reservoirs, silos and warehouses	No.	0	0	0	0	6	
	Public entertainment buildings	No.	0	0	0	0	2	
	Museums and libraries	No.	0	0	1	1	1	
	School, university and research buildings	No.	0	0	0	0	42	
	Hospital or institutional care buildings	No.	0	0	0	0	17	
	Other non-residential buildings	No.	0	8	13	21	21	
	Non-residential farm buildings	No.	0	0	1	1	4	
	Buildings used as places of worship and for religious activities	No.	0	0	2	2	120	
	Other buildings not elsewhere classified	No.	0	0	2	2	7	
	Hotel buildings	No.	0	0	0	0	111	
	Other short-stay accommodation buildings	No.	0	0	0	0	1	
	Communication buildings, stations, terminals and associated buildings	No.	0	0	0	0	14	
	Garage buildings	No.	0	0	0	0	4	
	Unclassified	No.	0	404	2 308	2 712	48 671	
Transportation	Airfield runways	ha	0,0	0,0	0,0	0,0	37,9	
	Helipad	ha	0,0	0,0	0,0	0,0	1,6	
	Airfield runways	km	0,0	0,0	0,0	0,0	2,0	
	Highways	km	0,0	0,0	1,6	1,6	38,1	
	Primary Road	km	0,0	0,0	0,6	0,6	113,9	
	Secondary Road	km	0,0	0,0	1,0	1,0	58,2	
	Local Road	km	0,0	0,0	13,4	13,4	1 110,6	
	Cart Track	km	0,0	0,0	28,1	28,1	670,0	
	No Driveway	km	0,0	0,0	1,5	1,5	482,0	
	Long-distance railways	km	0,0	0,0	9,8	9,8	148,8	
Facilities	Settling Basin	ha	0,0	0,0	8,0	8,0	17,9	
	Constructions for mining or extraction	ha	0,0	18,3	0,0	18,3	34,1	
	Power plant constructions	ha	0,0	2,3	0,0	2,3	159,9	
	Sport and recreation constructions	ha	0,0	81,9	14,9	96,8	1 324,9	
	Other civil engineering works not elsewhere classified	ha	0,0	0,0	2,2	2,2	135,4	
	Long-distance pipelines, communication and electricity lines	km	0,0	0,0	0,0	0,0	247,6	
	Local pipelines and cables	km	0,0	0,0	0,0	0,0	43,7	
	Breakwater	km	0,0	0,0	0,0	0,0	6,2	
			Very high damage	High damage	Moderate damage	Negligible to slight damage	Total affected**	Total in AOI
Land use	Arable land	ha	NA	NA	NA	NA	4 489,9	23 483,8
	Other	ha	NA	NA	NA	NA	787,6	8 709,2
	Heterogeneous agricultural areas	ha	NA	NA	NA	NA	599,6	4 232,9
	Coastal wetlands	ha	NA	NA	NA	NA	356,2	1 826,8
	Forests	ha	NA	NA	NA	NA	78,8	3 098,4
	Open spaces with little or no vegetation	ha	NA	NA	NA	NA	31,8	257,5
	Shrub and/or herbaceous vegetation association	ha	NA	NA	NA	NA	24,8	164,0
	Inland wetlands	ha	NA	NA	NA	NA	15,2	156,7
* Presence of damage proxies and proximity with destroyed/damaged asset								
** Sum of all damage classes								

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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