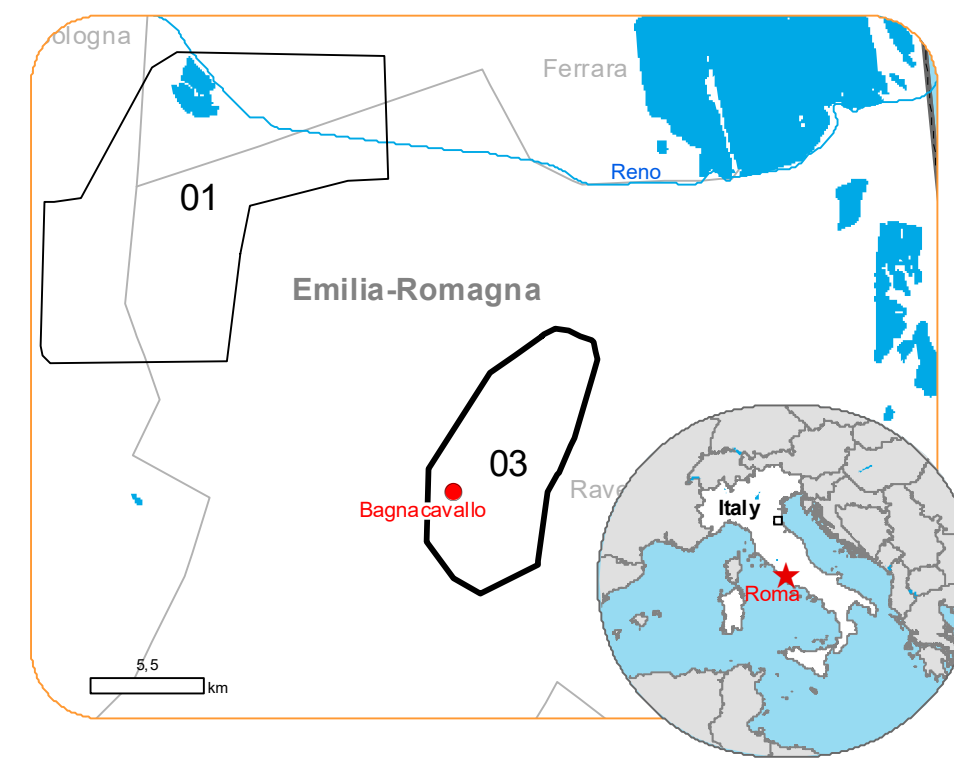


Situation as of 05/05/2023 10:08 UTC
Grading Consolidation - Overview map 01



Flood trace 538.7 ha
Flooded area 727.4 ha
Potentially affected population ~ 550

Affected Built-up, Transportations and Facilities

Built-Up 724 No.
Road 32.1 km
Railway 2 km
Power 1.5 ha

- Crisis Information**
- Flooded Area
 - Landslide
 - Flood trace
- Built-Up Grading**
- Residential Building, Damaged
 - Residential Building, Possibly damaged
 - Non residential Building, Damaged
 - Non-residential Building, Possibly damaged
 - Unclassified Building, Destroyed
 - Unclassified Building, Damaged
 - Unclassified Building, Possibly damaged
- Facilities Grading**
- Damaged
 - Possibly damaged
- Transportation Grading**
- Road, Possibly damaged
 - Railway, Possibly damaged
- General Information**
- Area of Interest
 - Detail map
 - Image Footprint
- Administrative boundaries**
- Municipality
- Placenames**
- Placename
- Hydrography**
- River
 - Stream
 - Lake
- 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:
On the 02 May 2023, an intense phase of bad weather, with considerable rainfall, hit Emilia-Romagna, Italy. The event is on-going with river levels very high, the breaking of the Sillaro River embankment and the overflow of the Lamone River producing flooding close to the cities of Massa Lombarda and Conselice. 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: ESRI World Imagery © DigitalGlobe (acquired on 21/06/2021, resolution 0.6 m).
Post-event image: Aerial data @ European Commission (acquired on 05/05/2023 10:00 UTC, resolution 0.20 m) provided under Copernicus by CGR, Compagnia Generale Ripresearee (S.P.A.), all rights reserved. This image is used as background image.
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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

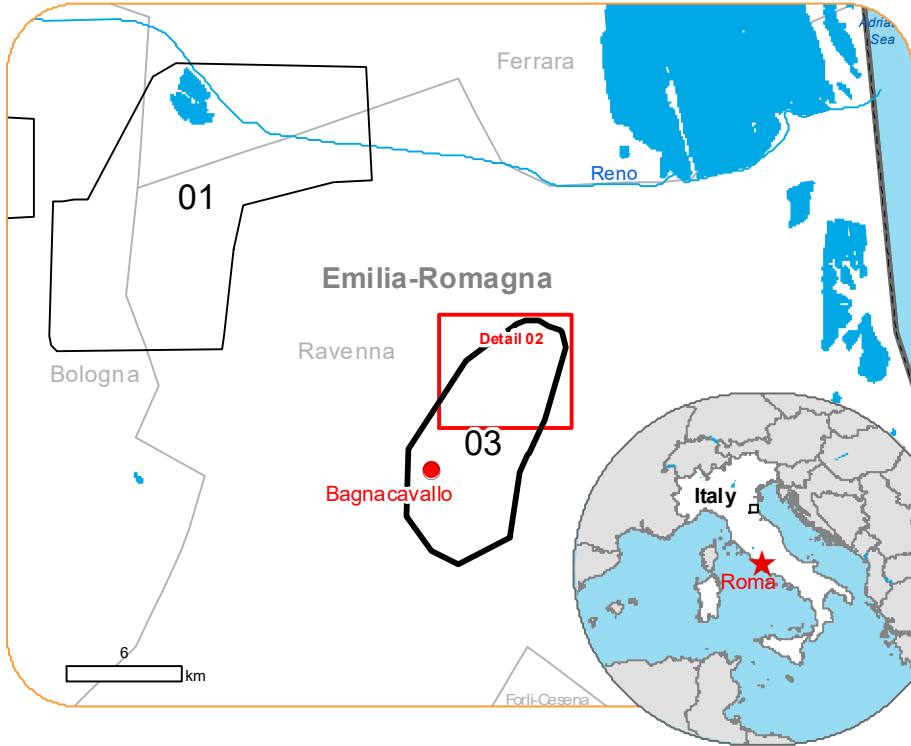
The thematic layer has been derived from post-event satellite image using a semi-automatic approach.
The scale of analysis is 1:10000. The estimated geometric accuracy (RMSE) is 2.5 m or better, from native positional accuracy of the background satellite

Map produced by CLS released by e-EGEOS on the 07/05/2023.
Details on this activation and service conditions available through the QR code or at the link:
<https://emergency.copernicus.eu/EMSR659>





Situation as of 05/05/2023 10:08 UTC
Grading Consolidation - Detail map 02



Flood trace 3.8 ha
0.7% of potentially affected
Flooded area 593.2 ha
81.6% of potentially affected

Potentially affected population
~ 150

Affected Built-up, Transportations and Facilities

Built-Up
197 No.
44.8% of potentially affected

Road
18.6 km
57.9% of potentially affected

Power
1.3 ha
86.7% 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

- Road, Possibly damaged
- Main road, No visible damage
- Local road, No visible damage
- Track, No visible damage

General Information

- Area of Interest
- Image Footprint

Administrative boundaries

- Municipality

Placenames

- Placename

Hydrography

- River
- Stream

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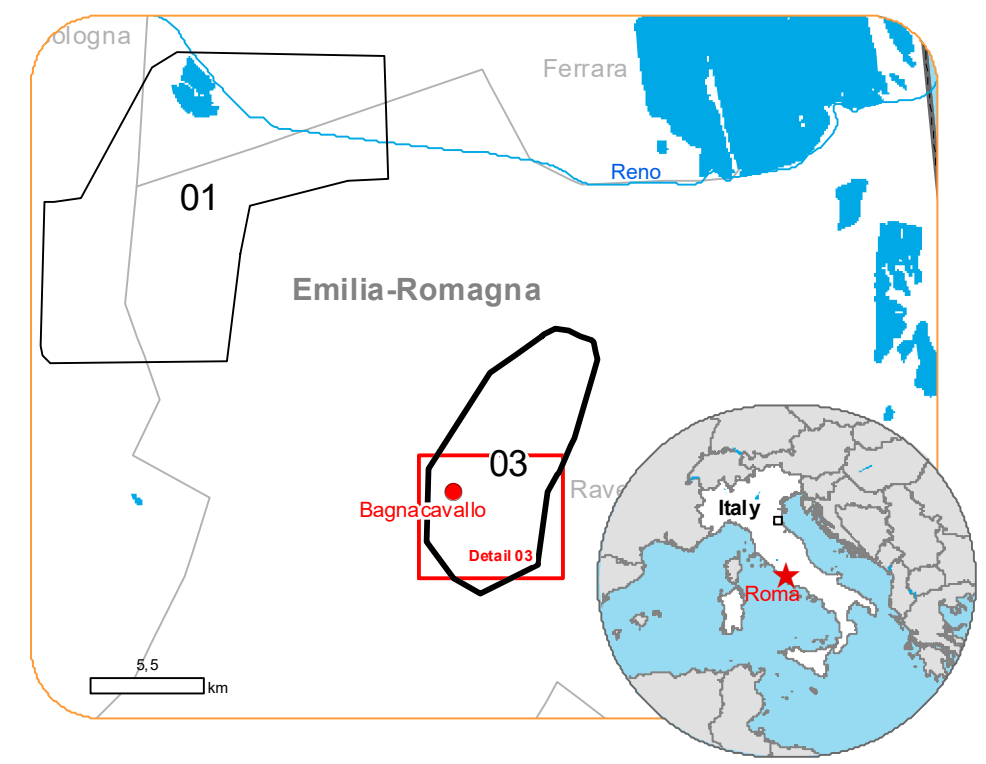
Population data: GHS Population Grid © European Commission, 2022
https://ghsl.jrc.ec.europa.eu/ghs_pop2022.php

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Flood trace 534.8 ha
99.3% of potentially affected
Flooded area 124 ha
17% of potentially affected

Potentially affected population ~ 400

Affected Built-up, Transportations and Facilities

Built-Up
510 No.
70.4% of potentially affected

Road
12.8 km
39.9% of potentially affected

Power
0.2 ha
13.3% of potentially affected

Railway
2 km
100% of potentially affected

Crisis Information

- Flooded Area
- Landslide
- Flood trace

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

Built-Up Grading

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

General Information

- Area of Interest
- Image Footprint

Administrative boundaries

- Municipality

Placenames

- Placename

Hydrography

- River
- Stream
- Lake

Facilities Grading

- Damaged
- Possibly damaged

Transportation Grading

- Road, Possibly damaged
- Railway, Possibly damaged

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EMSR659 AOI: 03 Bagnacavallo Grading

Consequences within the AOI								
	Unit of measurement			Destroyed	Damaged	Possibly damaged*	Total affected**	Total in AOI
Landslide		ha						0,2
Flooded area		ha						727,4
Flood trace		ha						538,7
Estimated population	Number of inhabitants						~ 550	~ 12 000
Built-up	Residential Buildings	No.		0	25	23	48	48
	Industrial buildings	No.		0	27	17	44	44
	Unclassified	No.		2	476	154	632	632
Transportation	Local Road	km		0,0	0,0	2,7	2,7	2,7
	Cart Track	km		0,0	0,0	29,4	29,4	29,4
	Long-distance railways	km		0,0	0,0	2,0	2,0	2,0
Facilities	Settling Basin	ha		0,0	3,9	2,6	6,4	6,4
	Power plant constructions	ha		0,0	1,5	0,0	1,5	1,5
	Sport and recreation constructions	ha		0,0	0,0	0,4	0,4	0,4
			Very high damage	High damage	Moderate damage	Negligible to slight damage	Total affected**	Total in AOI
Land use	Heterogeneous agricultural areas	ha	NA	NA	NA	NA	637,2	3 612,9
	Arable land	ha	NA	NA	NA	NA	595,4	2 035,2
	Permanent crops	ha	NA	NA	NA	NA	25,6	390,2
	Other	ha	NA	NA	NA	NA	7,3	407,4
* Presence of damage proxies and proximity with destroyed/damaged asset								
** Sum of all damage classes								

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<https://emergency.copernicus.eu/mapping/ems/online-manual-rapid-mapping-products>

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