



**EMSR720 - AOI03**  
**Flood in Rio Grande Do Sul State, Brazil**  
**ROCA SALES**

**Situation as of 05/05/2024 22:15 UTC**  
Delineation - Overview map 01



**Flooded area 199.1 ha**  
**Potentially affected population ~ 150**

**Potentially Affected Built-up and Transportations**

**Road 2.8 km**  
**Built-Up 7 No.**

**Estimated water depth (m)**  
0.15 - 0.50  
0.50 - 1.00  
1.00 - 2.00  
2.00 - 4.00  
4.00 - 6.00

**Hydrography**  
River  
Island  
Lake  
River  
River Bank

**General Information**  
Area of Interest  
Placenames  
Placename  
Built-Up Area  
Residential  
Non residential  
School, university and research buildings  
Unclassified

**Facilities**  
Long-distance pipelines or lines  
Sport and recreation constructions

**Transportation**  
Main road  
Local road  
Track  
Railway

**Event:** Authorities in Brazil Rio Grande do Sul State declared a state of emergency on Thursday, 2 May 2024 after floods and mudslides caused by torrential rains left at least 30 people dead and 60 missing. Storm damage has affected nearly 150 municipalities, forcing over 15,000 people to flee from their homes. In some areas, the flood is so severe that entire communities have been completely cut off from road infrastructures and network. 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 17/11/2022, resolution 0.6 m). This image is used as background image.

Post-event image: PAZ satellite image © Hisdesat Servicios Estratégicos S.A., 2021 (acquired on 05/05/2024 at 22:15 UTC, resolution 3.3 m).

Base vector layers: OpenStreetMap © OpenStreetMap contributors (2024), Wikimapia.org, GeoNames 2015. Global Administrative Areas (2012), refined by the producer. Copernicus Global Land Service: Land Cover (2019).  
Inset maps: JRC 2013, Natural Earth 2012, GeoNames 2015.

Population data: GHS Population Grid © European Commission, 2023  
[https://ghsl.jrc.ec.europa.eu/ghs\\_pop2023.php](https://ghsl.jrc.ec.europa.eu/ghs_pop2023.php)  
Digital Elevation Model: FABDEM (ForestAndBuildingsremovedCopernicusDEM) removes building and tree height biases from the Copernicus GLO 30 Digital Elevation Model (DEM) (Airbus,2020)

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 water extent and water 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.

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Map produced by CLS released by e-GEOS on the 06/05/2024.

Details on this activation and service conditions available through the QR code or at the link: <https://rapidmapping.emergency.copernicus.eu/EMSR720>



Consequences within the AOI				
		Unit of measurement	Affected	Total in AOI
Flooded area*		ha		199,1
Water Extent**		ha		306,8
Permanent Water		ha		107,7
Estimated population		Number of inhabitants	~ 150	~ 7 300
Built-up	Residential Buildings	No.	0	134
	Office buildings	No.	0	1
	Institutional	No.	0	1
	Police station	No.	0	1
	Wholesale and retail trade buildings	No.	0	1
	Industrial buildings	No.	0	11
	School, university and research buildings	No.	0	4
	Buildings used as places of worship and for religious activities	No.	0	2
	Cemetery	No.	0	3
	Building point	No.	0	25
	Communication buildings, stations, terminals and associated buildings	No.	0	3
	Unclassified	No.	7	3 600
Transportation	Primary Road	km	0,02	6,7
	Secondary Road	km	0,3	3,4
	Local Road	km	1,3	49,0
	Cart Track	km	1,2	20,5
	Long-distance railways	km	0	4,6
Facilities	Sport and recreation constructions	ha	0,2	2,2
	Long-distance pipelines, communication and electricity lines	km	0,5	4,4
Land use	Inland wetlands	ha	89,7	110,4
	Heterogeneous agricultural areas	ha	75,8	340,6
	Other	ha	58,3	221,1
	Forests	ha	55,6	1 103,5
	Shrub and/or herbaceous vegetation association	ha	27,3	166,8

\* Corresponds to the water observed in the most recent satellite imagery, excluding permanent water

\*\* Corresponds to the water observed in the most recent satellite imagery, including permanent water

#### 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



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