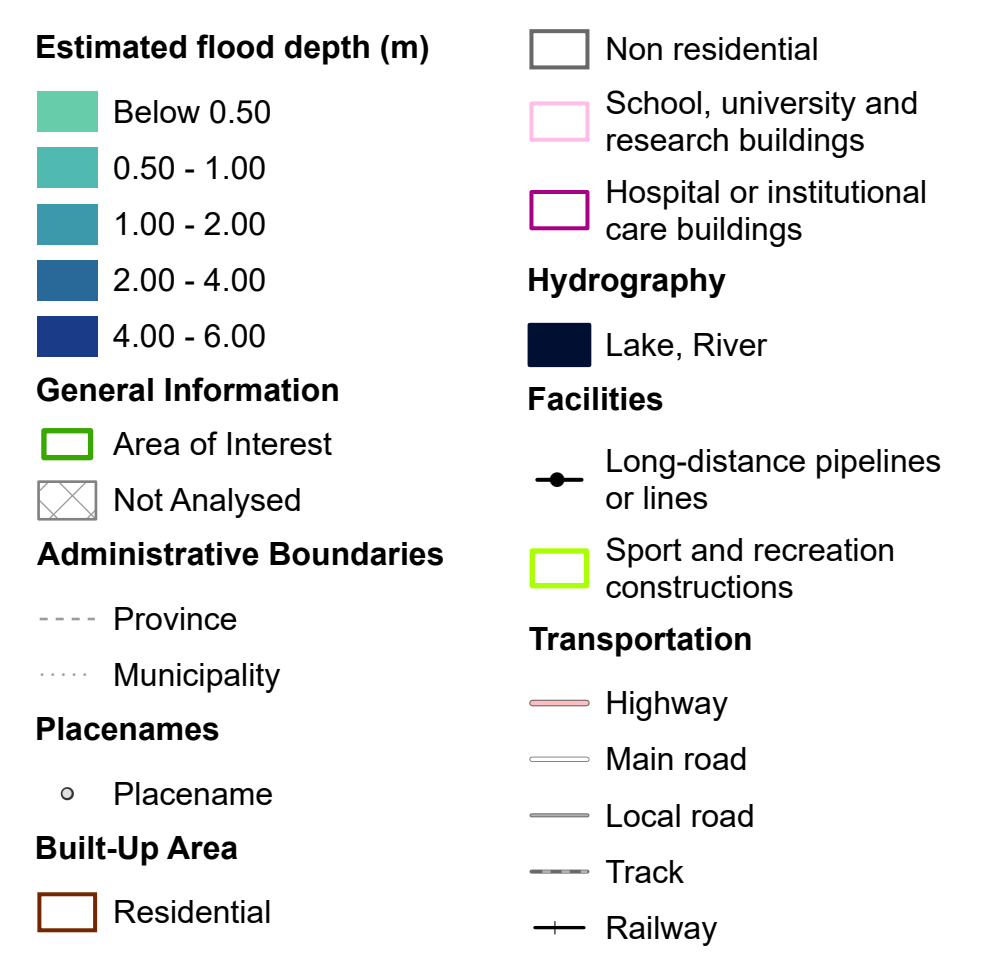


Potentially Affected Built-up and Transportations



**Event:** On the 09 September 2024 at 06:00, typhoon YAGI passed over central and northern Philippines, Hainan island and Guangdong province, southern China, and the regions of the north of Viet Nam and caused hefty rainfall, floods and landslides that have resulted in an increased number of casualties. The combined effects of the monsoon and tropical disturbances have caused flooding and flash floods in northern Laos and Thailand. In Viet Nam, the authorities have reported, as of 11 September, 127 fatalities, approximately 54 people still missing, more than 750 injured and over 52,000 evacuated people across northern provinces. Quang Ninh and Hai Phong provinces are the worst affected. Three provinces have declared emergencies: Lao Cai, Tuyen Quang and Yen Bai. Copernicus EMS Rapid Mapping is requested to provide an initial rough estimation and flood extent emergency mapping.

**Data sources and analysis:** Pre-event image: PlanetScope © Planet, 2024 (acquired on 28/08/2024 at 03:43 UTC, resolution 3.0 m). Post-event image: WorldView-2 © Maxar Technologies, Inc. (2024), (acquired on 14/09/2024 at 03:45 UTC, resolution 2.0 m). This image is used as background image. All images are provided under COPENICUS 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.

The flood depth information is based on the analysis of post-event satellite imagery and Digital Elevation Model data. The flooded area corresponds to the water observed in the most recent satellite imagery, excluding the permanent water.

Map produced by GAF AG released by SERTIT on the 14/09/2024.

Details on this activation and service conditions available through the QR code or at the link: <https://rapidmapping.emergency.copernicus.eu/EMSR754>



Consequences within the AOI				
		Unit of measurement	Affected	Total in AOI
Flooded area		ha		49.0
Estimated population	Number of inhabitants		~ 150	~ 330,000
Built-up	Residential Buildings	ha	0	2,193.5
	Office buildings	ha	0	3.3
	Industrial buildings	ha	1.4	190.1
	School, university and research buildings	ha	0	24.9
	Hospital or institutional care buildings	ha	0	4.1
Transportation	Highways	km	0	78.2
	Primary Road	km	0	15.3
	Secondary Road	km	0	68.9
	Local Road	km	0.03	1,012.5
	Cart Track	km	0	56.8
	Long-distance railways	km	0	18.3
Facilities	Sport and recreation constructions	ha	0	56.1
	Long-distance pipelines, communication and electricity lines	km	0	21.2
Land use	Heterogeneous agricultural areas	ha	32.1	6,471.7
	Other	ha	8.8	5,573.4
	Inland wetlands	ha	5.0	298.3
	Shrub and/or herbaceous vegetation association	ha	3.1	290.7
	Forests	ha	0.1	660.6
	Open spaces with little or no vegetation	ha	0	23.2

**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,

Global Administrative Areas (2012), refined by the producer, Globe Land 30 (2010), Copernicus Global Land Service: Land Cover (2019).

Inset maps: JRC 2013, Natural Earth 2012, GeoNames 2015.

Digital Elevation Model: FABDEM (ForestAndBuildingsremovedCopernicusDEM) removes building and tree height biases from the Copernicus GLO 30



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