

NEPAL

PROVINCE 1

IMAGERY ANALYSIS: 04/07/2021 PUBLISHED 06/07/2021 V1.

ANALYZED AREA 4,060km ²	OBSERVED FLOODS [1 JULY 2021] 440km ²	OBSERVED FLOODS [4 JULY 2021] 240km ²	POPULATION POTENTIALLY EXPOSED [1 JULY 2021] 448,000	POPULATION POTENTIALLY EXPOSED [4 JULY 2021] 290,000
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FLOOD
FL20210630NPL

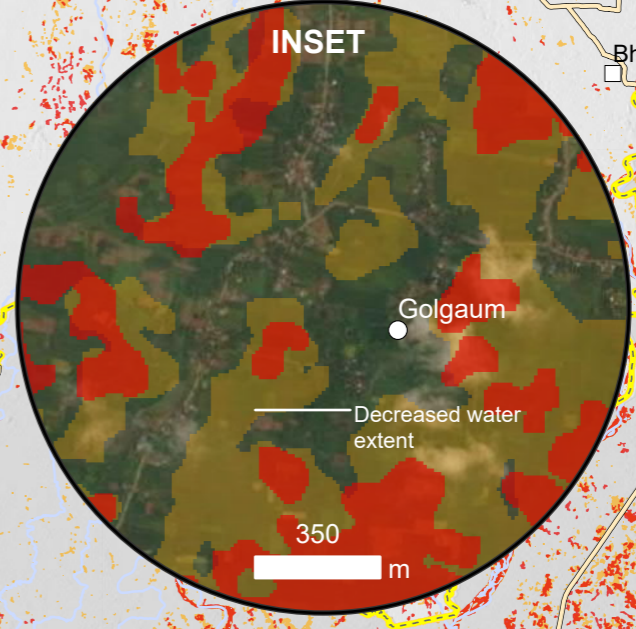


Satellite detected water extent over Province 1, Nepal as of 4 July 2021.

This map illustrates satellite-detected surface waters in Province 1, Nepal as observed from a Sentinel-1 image acquired on 4 July 2021 at 05:48 local time and using an automated analysis with Machine learning method. Within the analyzed area of 4,060 km², about 240 km² of lands appear to be flooded. The water extent appears to have decreased of about 200 km² since 1 July 2021 and moved toward India. Based on Worldpop population data and the detected surface waters in the analyzed area, the potentially exposed population is mainly located in the district of Sunsari with ~186,000 people, Morang with ~83,630 people, and Jhapa with ~21,700 people.

This is a preliminary analysis and has not yet been validated in the field. Please send ground feedback to United Nations Satellite Centre (UNOSAT).

Important note: Flood analysis from radar images may underestimate the presence of standing waters in built-up areas and densely vegetated areas due to backscattering properties of the radar signal.

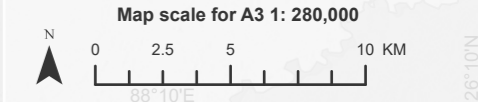


See inset for close up view

Province	District	Analyzed area (km ²)	Flood Extent as of 1 July 2021 (km ²)	Flood Extent as of 4 July 2021 (km ²)	Changing of water extent	Population in AOI	Population Potentially Exposed to Floods as of 1 July 2021	Population Potentially Exposed to Floods as of 4 July 2021	Changing of Population Potentially Exposed to Floods between 1 & 4 July 2021
Province 1	Ilam	426	1.20	0.85	-0.35	60,600	420	170	-250
	Jhapa	1,468	141.25	49.32	-91.93	846,290	65,910	21,670	-44,240
	Morang	1,673	246.99	129.42	-117.57	1,190,280	138,820	83,630	-55,190
	Sunsari	497	54.99	57.50	+2.51	2,495,370	243,130	186,040	-57,090
Total		4,064	444.43	237.09	-207.34	4,592,540	448,280	291,510	-156,770

Legend

- Village
- City/Town
- Primary road
- International boundary
- District boundary
- River
- Analysis extent
- Reference water
- Satellite detected water [1 July 2021]
- Satellite detected water [4 July 2021]



Spatial Reference
Name: WGS 1984 UTM Zone 45N
PCS: WGS 1984 UTM Zone 45N
GCS: GCS WGS 1984
Datum: WGS 1984

Satellite Data: Sentinel-1
Imagery Dates: 4 July 2021 at 00:03 UTC
Resolution: 10 m
Copyright: Contains modified Copernicus Sentinel Data [2021]
Source: ESA

Administrative boundaries: Boundary data: Survey Department of Nepal, UN Resident Coordinators Office in Nepal, HDX
Population data: WorldPop [2020]
Reference Water: Sentinel-1/ 10 June 2021
Populated place: OpenStreetMap

Road data: OpenStreetMap
Waterways: OpenStreetMap
Background: ALOS Global DSM, ESRI World Imagery
Analysis: United Nations Satellite Centre (UNOSAT) Machine learning method
Production: United Nations Satellite Centre (UNOSAT)