

6 November 2023

PRELIMINARY SATELLITE-DERIVED DAMAGE ASSESSMENT JAJARKOT EARTHQUAKES (3 Nov 2023, M 5.7)



Musikot & Sani Bheri Municipalities of Rukum West District and
Nalagad Municipality of Jajarkot District, Karnali Province, Nepal

 Status: Damaged structures observed

 Further action(s): Full assessment to be conducted

NEPAL

6 Nov. 2023



M 5.7 JAJARKOT EARTHQUAKES, NEPAL OF 3 NOVEMBER 2023 (18:02 UTC)

Population potentially exposed by intensity zone in Nepal
(VI to VII Intensity zones)

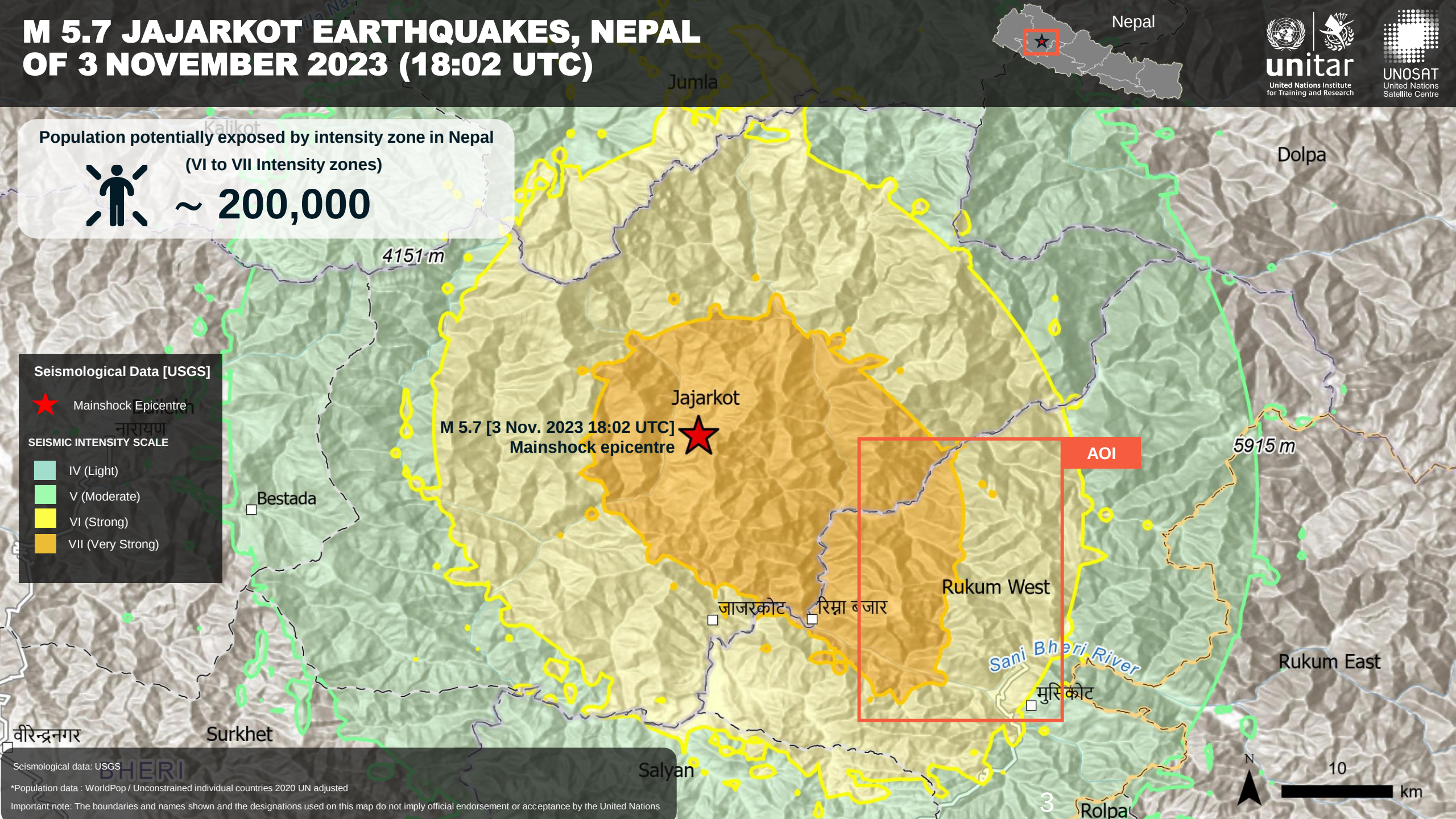
 ~ 200,000

Seismological Data [USGS]

★ Mainshock Epicentre

SEISMIC INTENSITY SCALE

- IV (Light)
- V (Moderate)
- VI (Strong)
- VII (Very Strong)



AOI 1 – 1: Musikot Town, Musikot Municipality, Rukum West District, Karnali Province

Potentially damaged structure

Image center:
82°27'19"E
28°37'47"N



BEFORE

Worldview-3 / 27 October 2023



AFTER

Potentially
damaged
structure

Pléiades / 5 November 2023

AOI 1 – 2: Musikot Town, Musikot Municipality, Rukum West District, Karnali Province

Damaged structure

Image center:
82°28'43"E
28°36'41"N



Worldview-3 / 27 October 2023



Pléiades / 5 November 2023

AOI 1 – 3: Sani Bheri Municipality, Rukum West District, Karnali Province

Damaged structure

Image center:
82°21'11"E
28°39'27"N



Worldview-3 / 3 November 2021



Pléiades / 5 November 2023

AOI 1 – 5: Nalagad Municipality, Jajarkot District, Karnali Province

Landslides

Image center:
82°17'7"E
28°46'3"N



Worldview-3 / 3 November 2021



Pléiades / 6 November 2023

SUMMARY OF FINDINGS

- Based on seismic intensities MMI (USGS) [Last information as of 2023-11-05 at 01:42 UTC] and population data (Worldpop), about 200,000 people were exposed to strong to very strong shaking mainly in Karnali Province;
- Damaged structures observed up to 37km from the mainshock epicentre in Musikot town, Musikot Municipality, Rukum West District, Karnali Province as of 5 November 2023;
- Potentially damaged structures observed up to 37km from the maishock epicentre in Aathbiskot Municipality, Rukum West District, Karnali Province as of 5 November 2023;
- Landslides observed 13km SE of the mainschock epicentre in Nalagad Municipality, Jajarkot District, Karnali Province as of 6 November 2023.

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Data sources:

(1) Satellite Image (Post-event): Pléiades

Acquisition date : 5 & 6 November 2023

Resolution: 50cm

Copyright: Includes Pleiades material © AIRBUS DS (2023)

Source: Airbus D&S

(2) Satellite Image (Pre-event): ESRI Basemap

(3) Ancillary data

Administrative boundaries: Survey Department of Nepal (<http://ngiip.gov.np/index.php>),

UN Resident Coordinators Office in Nepal (<https://un.org.np/>)

Populated place: OpenStreetMap

Population data : WorldPop / Unconstrained individual countries 2020 UN adjusted

Road data: OpenStreetMap

Analysis: United Nations Satellite Centre (UNOSAT)

Production: United Nations Satellite Centre (UNOSAT)

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