

Understanding spatio-temporal variation of landslides for disaster risk reduction in the Nepal Himalayas



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Landslide distribution



(a) Landslides in the Chure Region, Nigali, Kailali district; (b) Complex Ramche Landslide, Rasuwa district; (c) Rotational landslide at Phukot, Kalikot district; (d) Rainfall triggered Jure landslide, Sidhupalchowk district; (e) Reactivation of Kalopani landslide due to toe cutting by Kalidangaki River, Mustang district; (f) Co-seismic landslides after Gorkha earthquake-2015, Sinchupalchowk district.

Landslides in the News

Landslide again blocks Narayangadh-Muglin road section

Published On: © July 22, 2020 09:30 AM NPT



Facebook



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Road to Rasuwagadhi border point disrupted for last three days

Published On: © July 22, 2020 11:15 AM NPT By: Him Nath Devkota



Facebook



Twitter

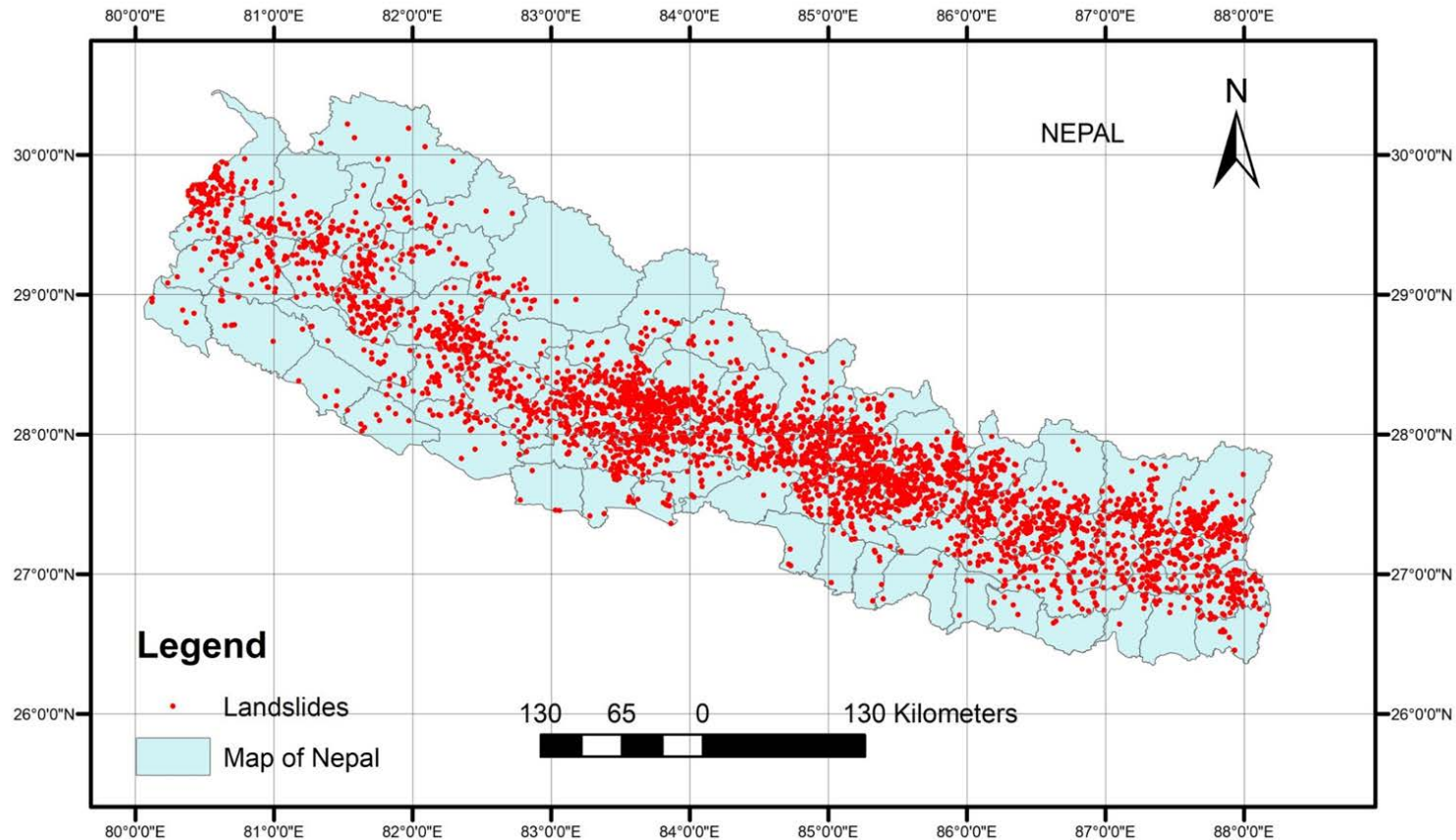


Messenger



RASUWA, July 22: The road connecting Rasuwagadhi border point is still disrupted due to landslides along the road.

Landslide distribution



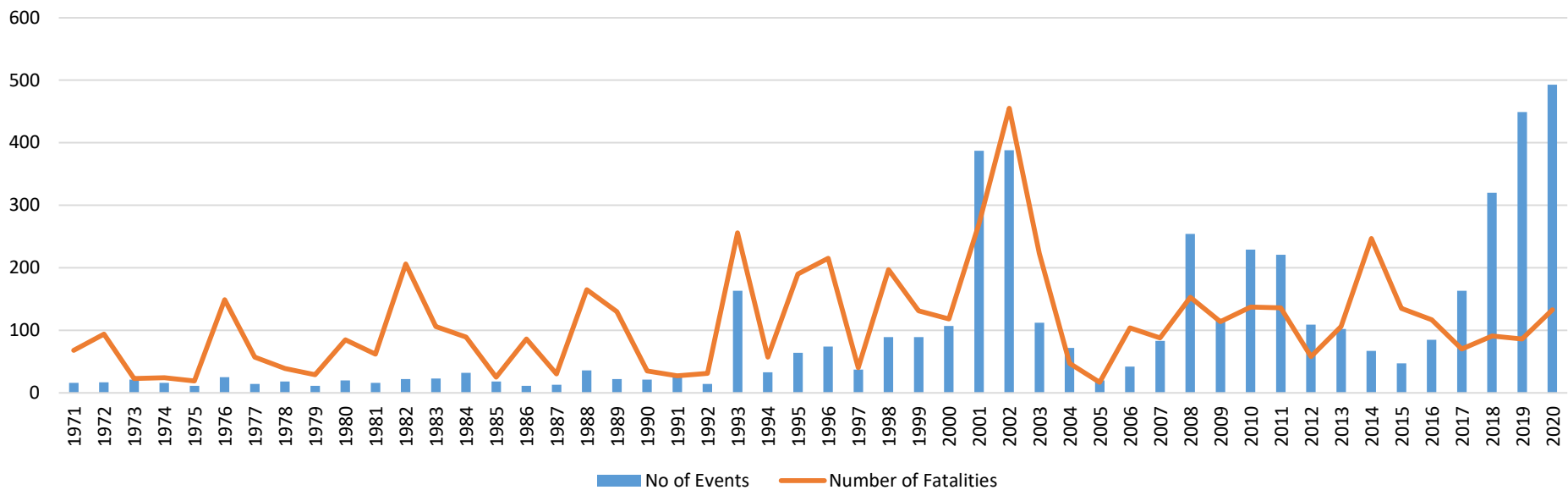
More than 4351 landslide events recorded
with over 5437 fatalities

Over the 49 years data,
~ 111 death per year

1971 - 2016, Data from DesInventar, 2017- 2019, Data from MoHA

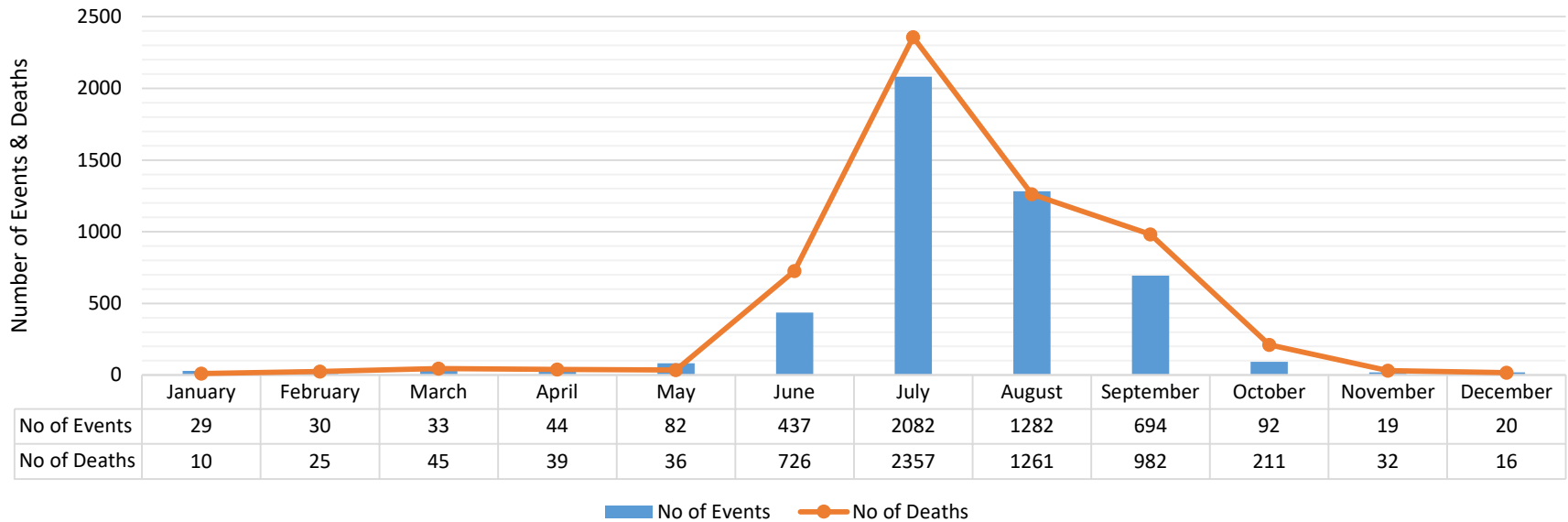
Landslide distribution

Year wise Landslide occurrences in Nepal: 1971-2020



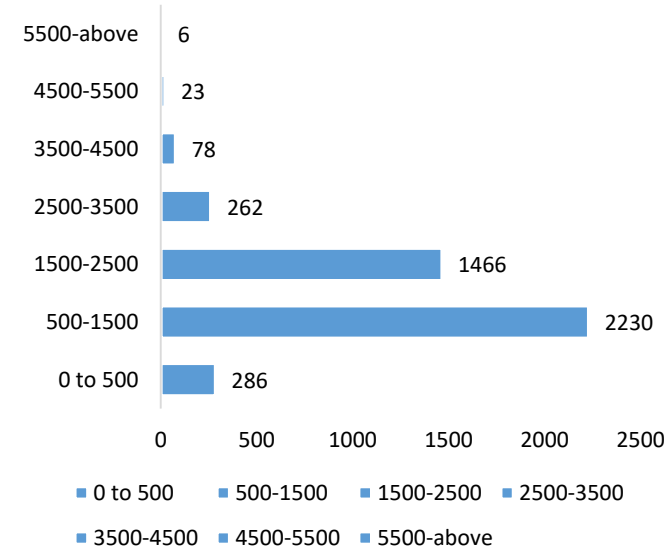
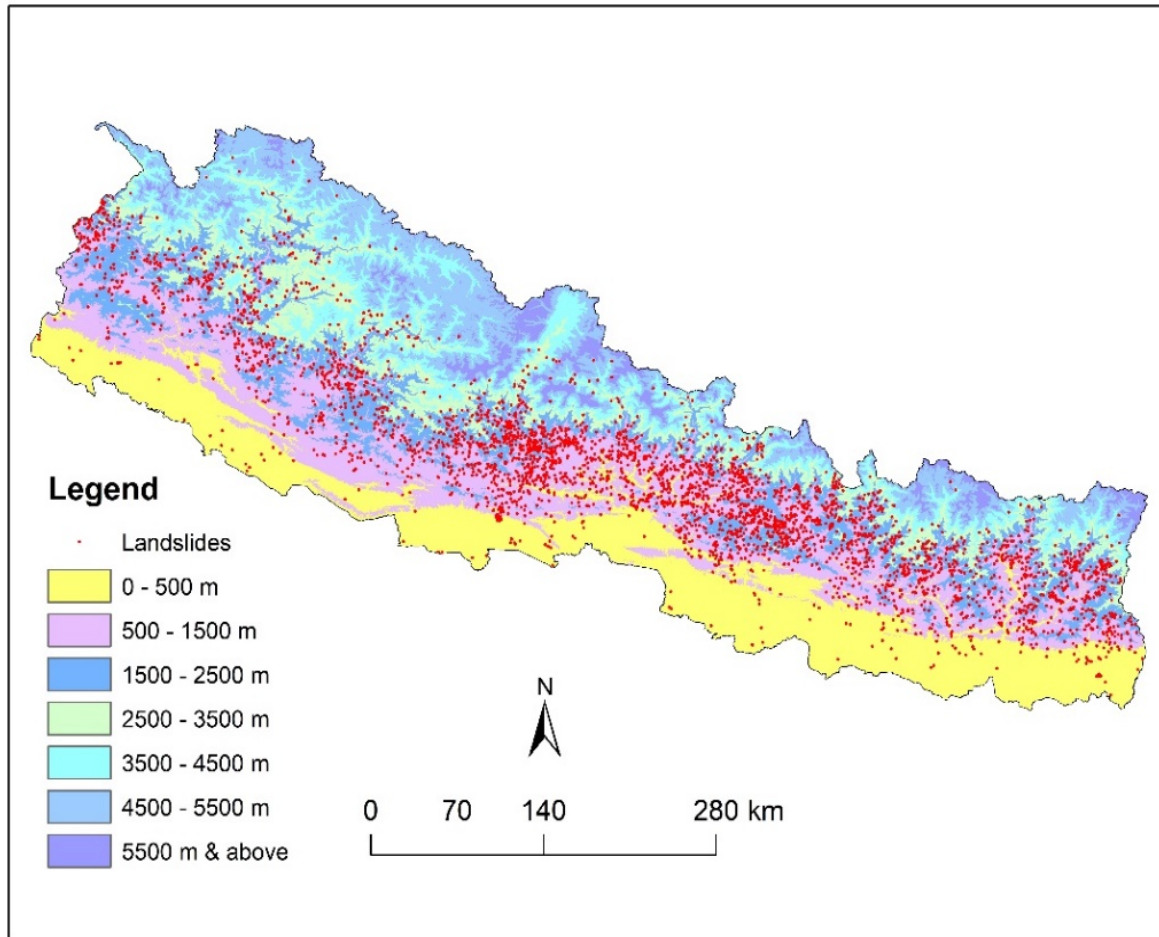
1971 - 2016, Data from DesInventar, 2017- 2020, Data from MoHA

Landslide distribution



1971 - 2016, Data from DesInventar, 2017- 2020, Data from MoHA

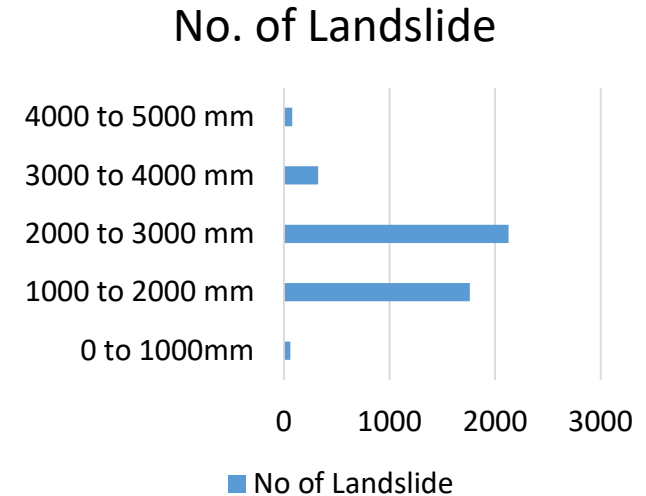
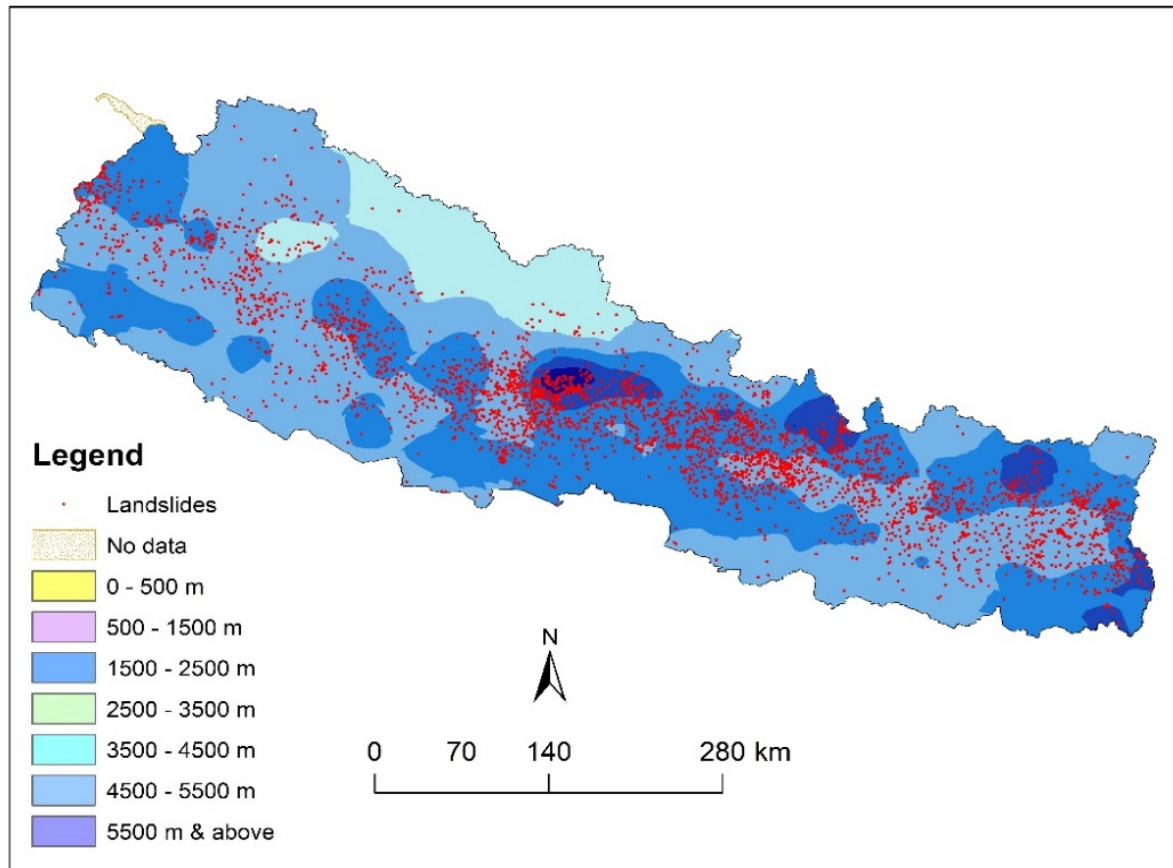
Landslide distribution (elevation)



Elevation in meter

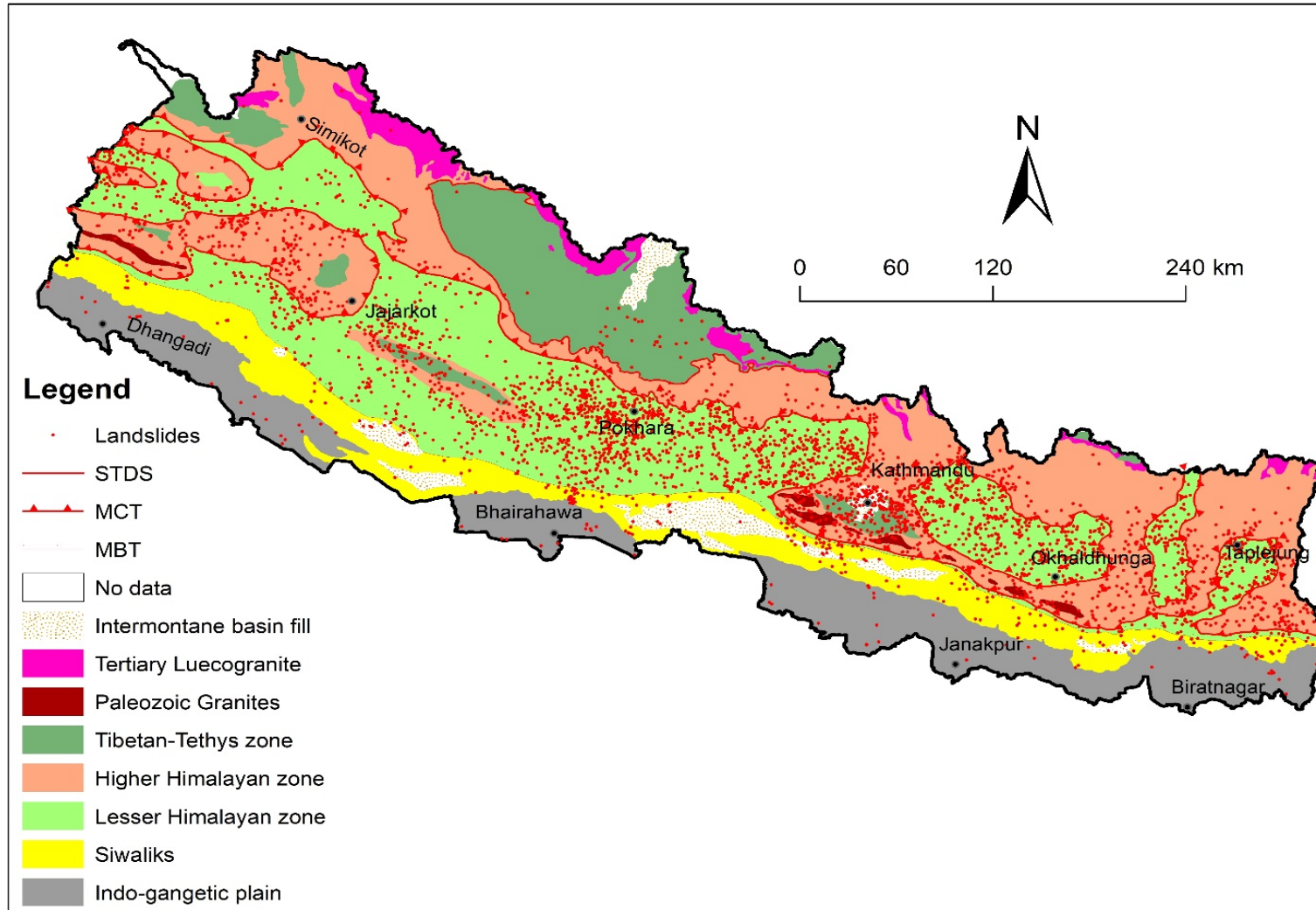
1971 - 2016, Data from DesInventar, 2017- 2020, Data from MoHA

Landslide distribution (rainfall)



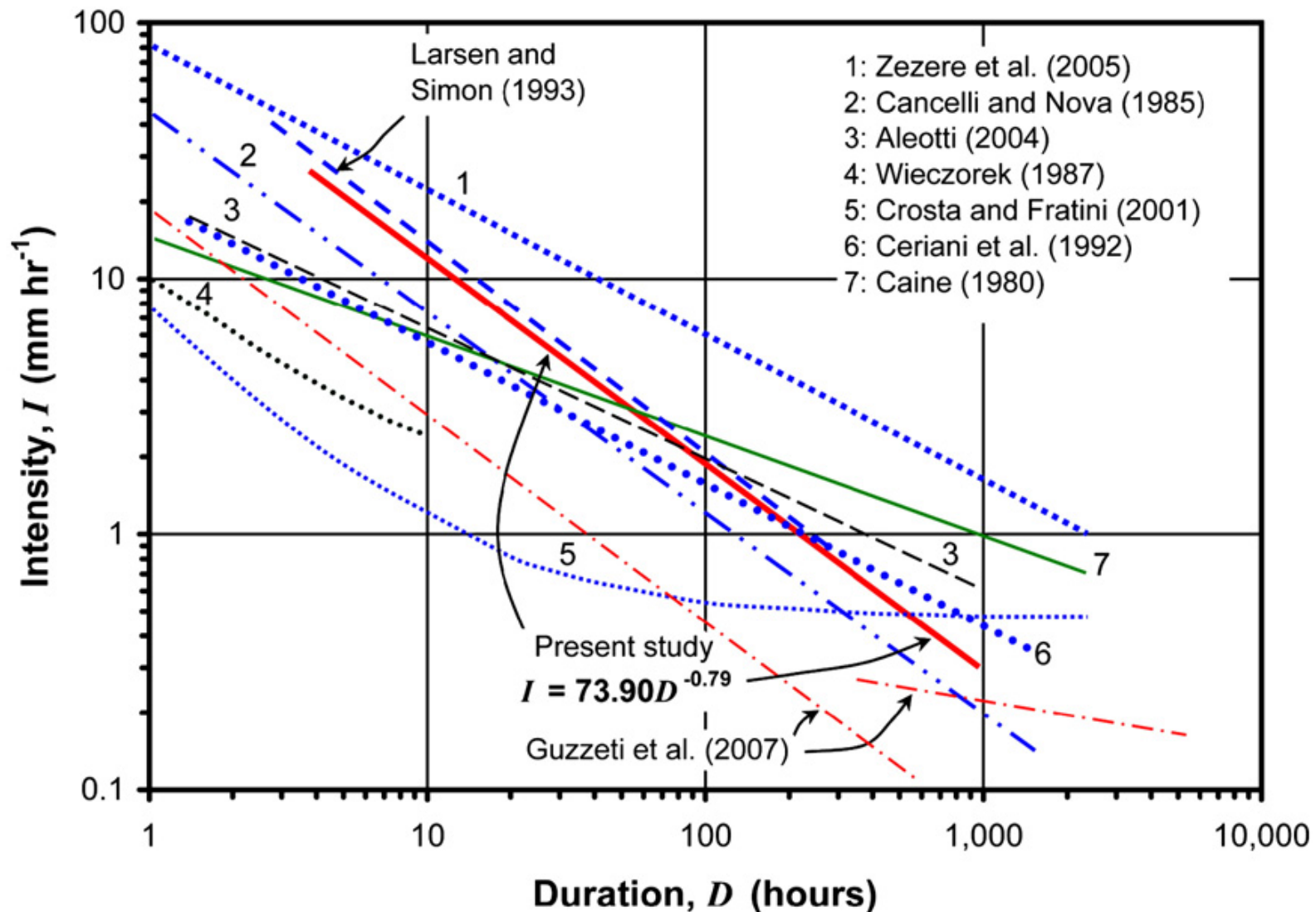
1971 - 2016, Data from DesInventar, 2017- 2020, Data from MoHA, DHM (2017)

Landslide distribution (Geology)

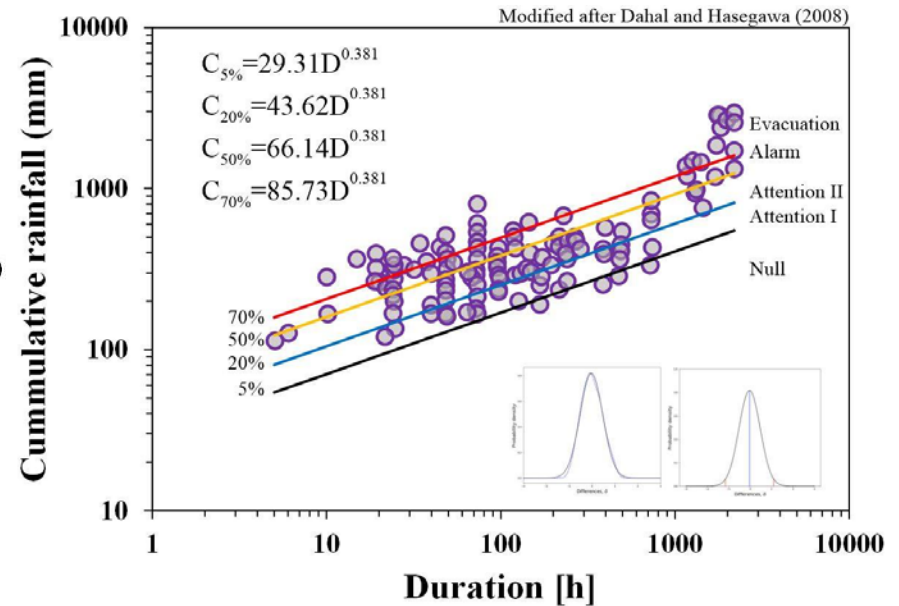
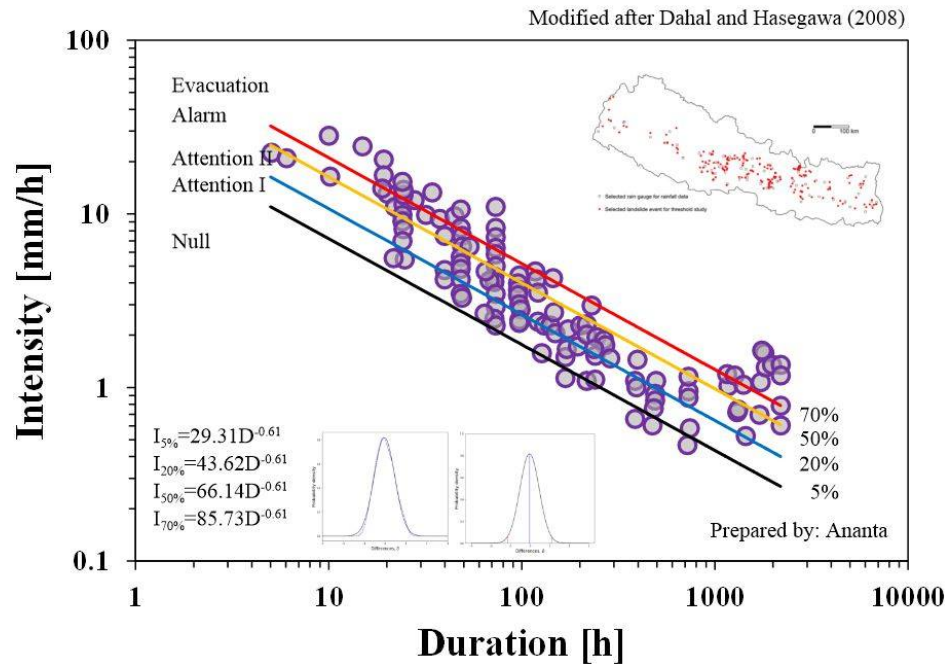


1971 - 2016, Data from DesInventar, 2017- 2020, Data from MoHA,

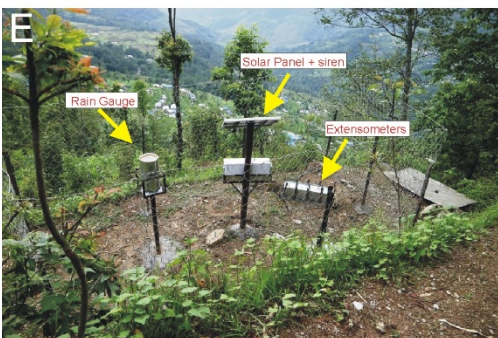
Landslide Early warning system



Landslide Early warning system



Landslide Early warning system



(A) Measuring landslide displacement by moving peg method;

(B) LEWS installation in Bijulikot, Rameshchhap
(Source: Shreelal Poudel);

(C&D) Automatic rain gauge and rainfall display board in Kailali;

(E) LEWS in Sundrawati village, Dolakha;

(F) LEWS installation in the Khani Gau, Gorkha
(Source: Lalu Sinjali)

Frontier technologies in Landslides



Google earth image



UAV image of landslide

What next?

- Nationwide landslide inventory: Spatial and temporal
- Dynamic landslide risk assessment
- Regional rainfall threshold identification for Landslide EWS
- Innovation and replication of low-cost and low-tech Landslide EWS in the Nepal Himalayas
- Technology transfer and capacity development



Thank you

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