



Activity Report 2024 – Task Forces / Coordination Committees

Project Title: **Lithospheric Seismicity and Tectonics in the Himalaya**

Project No.: 2019-CC2

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1. Highlights of recent ILP Task Force work/results

Members of the Coordinating Committee had planning meetings to discuss activities.

Members of the Coordinating Committee received a new National Science Foundation grant to support seismology research in Bhutan and signed a Memorandum of Understanding for research and education with the Department of Geology and Mines in Bhutan.

Members of the Coordinating Committee expanded our contacts and partnerships with individuals and agencies in the U.S., Nepal, Bhutan, and other countries.

2. Presence at international meetings/workshops (this year)

American Geophysical Union Fall Meeting (Dec. 2024, Washington DC, USA)

International Thwaites Glacier Collaboration Science Meeting (Sept. 2024, Cambridge, UK)

Seismological Society of America Annual Meeting (April 2024, Anchorage, AK, USA)

3. Important publications of ILP Task Force members (max. five)

Li, S., Schulte-Pelkum, V., Barnhardt, W., Chen, L., **Karplus, M.**, Oncken, O. (2024), A weak, vertically stronger plate boundary in the India-Asia collision. *Geophysical Research Letters*, 51, <https://doi.org/10.1029/2024GL110222>.

Karplus, M., Kaip, G. M., Harder, S. H., Veitch, S. A., Gonzalez, L. F.*, Nakata, N., Booth, A., Walter, J., Christoffersen, P. (2024), Signal characteristics of surface seismic explosive sources near the West Antarctic Ice Sheet divide. *Journal of Glaciology*, 1–11, <https://doi.org/10.1017/jog.2024.41>.

Qin, L., Zhang, Z., Qiu, H., Nakata, N., **Karplus, M. S.**, Kaip, G. M. (2024), High-resolution imaging of the firn layer near the West Antarctic Ice Sheet Divide camp. *Geophysical Research Letters*, 51, e2024GL108933, <https://doi.org/10.1029/2024GL108933>.

Zhang, Z., Nakata, N., **Karplus, M. S.**, Kaip, G. M., Qin, L., Li, Z., Shi, C., Chen, X. (2024), Seismic full-wavefield imaging of the West Antarctic Ice Sheet's interior near the ice flow divide. *Earth and Planetary Science Letters*, 636, 118701, <https://doi.org/10.1016/j.epsl.2024.118701>.

Faith, J.*, **Karplus, M.**, Veitch, S., Doser, D., Savvaidis, A. (2024), The Pecos Array: A Temporary Nodal Seismic Experiment in the Pecos, Texas Region of the Delaware Basin. *Seismological Research Letters*, 95, 1, 544-555, <https://doi.org/10.1785/0220230108>.

4. New contacts (this year)

We strengthened contacts and made new contacts with scientists at the International Center for Integrated Mountain Development (ICIMOD), Seismology at School in Nepal, Department of Geology and Mines (Bhutan), National Center for Hydrology and Meteorology (Bhutan), National Seismological Center (Nepal).

Some new or strengthened contacts this year included: Karma Namgay, Nedrup Wangmo, Nityam Nepal, Karma Dupchu, Karma, Bhutanese students at University of Texas at El Paso, Miriam Jackson, Knut Christianson, Julien Chaput, Yeshey Seldon, Sagarika Mukhopadhyay, Xiaohan Song, Axel Wang, David Young, and more.

5. Usage of ILP funding (this year)

We funded Shiba Subedi of Seismology at School in Nepal to attend the American Geophysical Union Fall Meeting in 2023 to present on developing earthquake early warning systems in Nepal.

We funded early career Bhutanese scientist Yeshey Seldon to travel to Bhutan to meet with Bhutanese colleagues and give several educational presentations at schools during October 2023.

6. Activities planned for 2025

Members of the Coordinating Committee are planning an upcoming Seismic Data Processing Workshop in Bhutan in March 2025, a seismic field deployment in March 2025, and a Geoscience of the Bhutan Himalaya Educational Study Abroad Trip for students planned for May to June 2025.

Members of the Coordinating Committee will attend and conduct meetings at the Nepal Geological Society Meeting in March 2025. The Coordinating Committee plans to support several early career Bhutanese scientists to attend and present at the Nepal Geological Society Meeting.

Members of the Coordinating Committee are planning to continue to work with scientists in Nepal and Bhutan and conduct further joint activities and field work during Sept. to Oct. 2025.

Members of the Coordinating Committee are launching a Geoscience of the Bhutan Himalaya Seminar in El Paso during Spring 2025 to educated students and community members about Geoscience in Bhutan.

We plan to spend all of the remaining ILP CC funds during the final term of this project in 2025.