



## **A Quaternary fault and landslide database for Central Asia**

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Earthquakes and mass wasting events represent the highest risk in terms of potential loss of lives and economic damage for countries located in the region of Silk Road. Knowledge of fault location and behavior as well as landslide inventory data are essential in calculating and mapping hazards, and reducing the risks of disasters. Previous studies have produced a large quantity of fault-related data that enhance our understanding of regional and continental-scale tectonics as well as seismic hazards in this region. However, these data are documented in a wide range of formats (e.g., digital, texts, maps, and images) and are often published in non-open access journals, making access, usage and dissemination of fault data a time-consuming and resource-intensive task, particularly for non-academic users and the general public.

To address this issue, we have developed an open-access, web-based interactive map and an online database for Quaternary faults in Central Asia (including but not limited to Pakistan, Afghanistan, Tajikistan, Kyrgyzstan, northern India and China). The interactive map displays the locations of Quaternary faults and includes user-controlled earthquake and mass movement data layers that organize data by event parameters such as magnitude, depth, and source. Clicking on a fault trace brings up an information page that is linked to the fault attribute and reference tables. Each attribute table contains data from published literature on the geographic, seismic and structural characteristics of each fault including slip rates, earthquake history, paleoseismic data, and fault geometry. The search tool allows users to query the database using specific fields listed in the attribute table. The queries can be simple (e.g., fault name and country location) and more complex (e.g., sorted by slip rate, earthquake history, etc.).

The current version of the interactive map displays >1000 fault traces, >34,000 earthquake locations, and six digitally available earthquake-induced landslide inventories for large events such as the 2015 Gorkha earthquake, the 2008 Wenchuan earthquake, and the 2005 Kashmir earthquake. The online database contains attributes for more than 100 faults, with Quaternary and geodetic slip rates reported for more than 60 faults, and earthquake history reported for >40 faults. All data are accessible for viewing and download via <https://esdynamics.geo.uni-tuebingen.de/faults/>.