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Pamir-Hindukush Seismicity

Located on the northeastern part of the Asia-India continental collision zone, Afghanistan is one of the seismically most active countries in the world. Destructive earthquakes occur frequently, mostly beneath the Afghan Hindu Kush mountains at crustal and sub-crustal levels, and pose a large threat to the Afghan community. Sub-crustal seismicity forms a worldwide unique zone of intense intermediate depth seismicity, which has been interpreted as intracontinental subduction with different polarity beneath the Tajik Pamir and the Afghan Hindu Kush mountains. The lithospheric slab currently subducting beneath the Hindu Kush seems to be in the state of breaking-off as all large sub-crustal Mw>7 earthquakes within the last century occurred exclusively beneath the Hindu Kush. It is unclear how and if earth's surface reacts to these deep lithospheric processes. seismic stations are operating within the Hindu Kush Mountains within a joint project, forming the largest seismic network in Afghanistan. The network is situated on top of the nest of intermediate depth seismicity and further west in the Afghan platform, aiming to resolve the crustal structure and seismicity within this remote region. Here, we present the purpose of the project, goals and station description alongside with the first results on seismicity distribution.

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