perform increasing porosity. The development of trenches on surface may be interpreted as the collapse of the range whereby the fabric of the host rock controlls the kind of manner of that offset structures. Mechanical anisotropic properties of the ridge-building rock mass reveal chaotic offset structures, mechanical isotropic properties of the rock mass reveal distinct offset structures.

Formation of spreading mountain ridges generates accompanying surface features on slopes. (i) Runoff processes change: On the upper slope portions open tension gashes preserve runoff. Also the asymmetric slope trenches (uphills) where the gentle sides are concordant with the slope operate for an effective infiltration. On the contrary, in middle slope portions, the external lower branches of somewhat oblique oriented uphills as well as the points of intersecting uphills, are connected with run over springs. These observations point out that all the faults on spreading slopes reveal high porosity. (ii) Spreading ridges provoke secondary mass movements: If spreading has developed into a slow mass movement, then predominantly the lateral portions show higher mobility and consequently form large landslides. This preferably is the case if spreading occurs on slopes build up of phyllite or other strongly foliated lithology . If spreading acts on massive rocks then the ridge is prone to rock fall. Especially lower slope portions are prone to debris flow and shallow landslide activity.

Is there a seismic slip deficit along the Vienna Basin Transform Fault System?

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Current seismic hazard estimates for the Vienna Basin Transform Fault (VBTF), a sinistral strike-slip fault between the Eastern Alps and the Carpathians, are solely based on probabilistic analyses of historical and instrumental earthquakes. In regions with low geological deformation rates, like the Alps and their foreland, strong earthquakes may have longer recurrence times than covered by the catalogues in use. Geologically and geodetically determined deformation rates suggest 1-2 mm/yr of movement across the VBTF. In this study we use the Austrian earthquake catalogue (courtesy of ZAMG, W. Lenhardt) to calculate deformation rates from seismic moment summations in order to check for possible seismic slip deficits. Calculated rates for the generalized fault system vary from 0.1 - 0.3 mm/yr for brittle fault depths between 6 and 10 km. Splitting the fault into segments reveals significant variations of the slip velocities along strike. Segments with less than 0.02 mm/yr seismic slip contrast from segments moving at 0.2 - 0.5 mm/yr. For all segments seismic slip rates are significantly smaller than the geological strain rates. Although several reasons may explain the seismic slip deficit, earthquakes larger than those previously recorded seem to be possible. (Paleo)seismological investigations as well as mechanical modeling are suggested to improve the understanding of the seismogenic behaviour of the VBTF.

Integrative Ansätze zur Verbesserung des seismischen Gefährdungspotentials im Osten Österreichs

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Die Abschätzung des seismischen Gefährdungspotentials in Österreich beruht derzeit hauptsächlich auf der statistischen Auswertung historischer und instrumentell aufgezeichneter Erdbeben. Für Regionen mit geringen rezenten Deformationsraten wie in den Alpen und deren Vorland, besteht die Gefahr, dass stärkere Erdbeben mit Wiederholzeiten auftreten, die deutlich über der historischen Beobachtungszeit liegen. Ziel dieser Studie ist es, durch die Integration geologischer, geophysikalischer und geomorphologischer Methoden und Datensätze eine Verbesserung der Abschätzung der Erdbebengefahr im Osten Österreichs zu ermöglichen. Entlang des Wiener Becken Transfersystems wird zunächst überprüft, ob ein seismischen Slip-Defizit besteht. Die Interpretation des von der OMV zur Verfügung gestellten reflexionsseismischen 3-D Datensatzes Moosbrunn ermöglicht eine Strukturmodellierung der Störungsgeometrien im Untergrund des südlichen Wiener Beckens, woraus Hinweise auf die Kinematik und Mechanik des Störungssystems gezogen werden