Geophysical Research Abstracts
Vol. 12, EGU2010-11187, 2010
EGU General Assembly 2010

Sedimentation of loess-like sediments on fluvial terraces in the high mountains of Taiwan and its implications for assessing Quaternary morphodynamics.

Dirk Wenske (1), Margot Böse (1), Manfred Frechen (2), and Christopher Lüthgens (1)

(1) Freie Universitaet Berlin, Institute of Geographical Sciences, Malteserstr. 74-100, D-12249 Berlin (d.wenske@fu-berlin.de / +49 30 83870751), (2) Leibniz Institute for Applied Geophysics, Section 3: Geochronology and Isotope Hydrology, Stilleweg 2, 30655 Hannover, Germany

Loess-like sediments have been found at numerous locations in the summit areas of the high mountains of Taiwan. Their occurrence has been interpreted indicating a relative morphodynamic stability in the uppermost parts of the mountain belt under present day climate conditions (Wenske et al., in press).
Previously the occurrence of these sediments seemed to be limited to areas not influenced by fluvial morphodynamics. Now, a section studied near the town of Sung Mao in the upper catchment of the Tachia river exposes sandy loess overlaying fluvial sands and gravels of an accumulation terrace at approximately 50m above the present channel.
Three different outcrop locations along a forestry road crossing the fluvial terrace have been studied and sampled for optically stimulated luminescence dating. This will give a timeframe for the deposition of these sediments in relation to the aggradation of the fluvial terrace sediments. Sediment properties such as grain size distribution and the geochemical characteristics of the sandy loess and the over- and underlaying sediments are analyzed in order to reconstruct the sedimentation regime.
Silty soil material on the near Fushoushan plateau has been sampled to complement the study and give a better understanding of the transport and sedimentation pattern of aeolian sediments to the area.

References

Wenske, D., Böse, M., Frechen, M., Lüthgens, C. (2009): Late Holocene mobilisation of loess-like sediments in Hohuan Shan, high mountains of Taiwan, Quaternary International, doi:10.1016/j.quaint.2009.10.034