



## **Pleistocene uplift evidences and geomorphological processes, along the Daghmar-Dibbab coastal area, (NE Oman)**

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The study coastal area between Daghmar and Dibab (NE Oman) was uplifted up to 200 m due to different tectonic processes which can be detected on different elevations of the coastal terraces cascading. The terraces formed due to Neogene to Quaternary tectonic movements which continued into the Upper Pleistocene and may be active during the Holocene.

The combination of methods such as geodatabase creation, multi-criteria analysis of the landforms through the processing of the study's area DEM, field work-samplings and laboratory analysis (XRF, thin sections, dating's, OSL-14C), combined with semi-automated geomorphological mapping and the differential GPS profiles and measurements, and SAR interferometry (InSAR), contributed in the data processing. The results of the multi proxy and interdisciplinary methodological approach are used as tools for understanding the geomorphological evolution of the Neogene to Quaternary landscape, where landforms are presented as indicators of the area's evolution and define the processes that formed the current situation of the relief. At least three tectonic terraces were detected. A karstified planation surface of Eocene rocks is well developed. This planation surface is attached to the marineterraces and marks an elevation of 160-135m. The mapped terraces (depending on the locations) are at altitudes of about 120-90m. (T3), 75-45 m. (T2) and 35-20 m. (T1) with their foreheads (cliffs) vary in elevations from 15 to 30m.

The preliminary results of this study area indicate an along strike the terraces, divided into different at least two tectonic blocks, with estimated uplift rate from 2.3mm/year (northern part) to 2.9 mm/year (southern part) respectively. The blocks are separated by perpendicular to the terraces striking faults. However, the kinematic of faults ,i.e. normal, reverse or strike-slip, could not be estimates

Uplift and the sedimentary cover of the terraces (e.g. conglomerates, screes) confirm a swift transformation of the coastline area form at least the MIS 3 (24-59 ka) until the mid-late Holocene, accepting the global sea level chnanges.