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them works the abrasion of the wind, the run off of the water and its infiltration in the lines of weakness, the weathering of the rocks by meteoric agents and, even, the seismic action. The lithological nature of the volcanic formations, characterized by high fracturing as well as fault plane and fractures, which also isolate blocks of considerable size, determines conditions of great danger with frequent falls involving rock masses from small to extremely large sizes. The danger is usually heightened, when the top of the cliff is mantled by epiclastic deposits from loose to weakly cemented. These deposits, due to the flow of water and the physical action of plant roots, can become unstable, resulting in slidings and rapid flows. In these mass movements are also involved other volcanic material detached from the cliffs. The continuous retreat of the cliff is proved by: the constant presence of significant accumulation of debris at their foot, despite the wave action; absence or lack of evidence, on the exposed face of the cliff, of notches or sea terraces immediately above to the present sea level, related to eustatic sea level changes occurred in the latest Pleistocene (this phenomenon shows a low coefficient of morphological preservation and thus a "high speed of erosion"; the presence of truncated valleys; the uncovering of the underground ducts of the Roman age.

Structural evidence of recent uplift at a small coastal area (S. Paio , Vila do Conde, NW Portugal)

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Variscan granite and undeformed pegmatite veins intrude a metamorphic complex probably derived from a Precambrian-Lower Proterozoic crustal terrane (ZOM) accreted to the east to the core of the variscan orogen (ZCI) along a large deep crustal suture zone (ZCPT) that is recognized as a major neotectonic feature. Granite was affected by tectonic events from ductile-brittle mid-crustal to pure brittle stages in high-crustal settings. High-crustal faults and joints postdate lamprophyre dikes. 5 kilometres to the NE a low angle reverse fault cuts through a probable Pliocene-Pleistocene deposit. The fault has a granite footwall overlaying sediments demonstrating a horizontal compressive regime. It is concordant with present regional tectonic stress. If similar faults were able to reach the nearby coast we would expect previous geofoms to be vertically dislocated from their original or normal position to a higher one in a short distance. We could also anticipate that a leveled geofom could maintain its normal position a short distance from the fault trace. Because faulting as usual is polycyclic it is possible to accept, giving the right local conditions, that geofoms built by coastal processes can also be dislocated in altimetric steps, the older in the top. This conceptual model is being confronted with detailed geomorphologic and geologic observations. This area is the highest point on this coastal stretch, culminating at 20m amsl with rectilinear rocky cliffs. It supports several small remains of marine deposits at different elevations. The lower one consists of a complex outcrop where an aeolian deposit dated of ca 84.ka BP is covering a solifluidal and a marine deposit, lying at 5m. As it is superposed by a 84k deposit, the underlying marine deposit must be from last interglacial (probably MIS 5e). 90 m to the south,

fossilizing an almost fresh granite notch there is another marine deposit at 10m. At 19m, the same granite outcrop, almost unaltered, supports the remains of another marine deposit. 18 km to the South (Lavadores, Vila Nova de Gaia) we find a staircase of 3 distinct marine levels, ca 26, 18 and 5m high. However, at Lavadores the bedrock alteration is much stronger in the higher levels than in the highest level at S. Paio, indicating that the southern staircase probably represents marine levels from MIS 5e till at least MIS 9. At S. Paio the several benches organized in a staircase fashion seem to correspond to a younger age, possibly to different relative positions of the sea level included into last interglacial. This could mean that this area had suffered a localized uplift, producing a clear relationship between topography and tectonics. We are focusing on the study of rock structures, trying to identify fragile neotectonic movements responsible for the topographic development of the area.