Pleistocene sea-level record in low latitude settings: the Cape Verde Islands.

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The volcanic Cape Verde archipelago constitutes one of the few sites in low latitude eastern Atlantic Ocean, where a long record of Pleistocene sea-level indicators develops, particularly beach deposits and marine terraces. The extreme aridity of the easternmost islands (Sal, Boa Vista and Maio) allows the exposure of long sedimentary sequences, the altitudinal and spatial distribution of which must be related both to sea level behaviour in low latitude settings and also to the volcanic nature of the archipelago.

The particular case of Maio Island reveals the occurrence of a flight of at least 18 marine terraces, between +85 and 0m. The chronology has been approached by a paleomagnetic sequence (Early - Middle Pleistocene transition), U-series measurements (Last Interglacial deposits) and 14C (Holocene units).

The results have revealed a differential behaviour in the vertical motion of the island along the Pleistocene, with unequal uplift rates during Early and Middle Pleistocene. An anomalously low-lying MIS5 unit in this island fits well with the predictions done by GIA models of Crevelling et al., (2017) although the proper evolution of volcanic islands cannot be discarded.

A comparison with Sal (Zazo et al., 2007, 2010) and Boa Vista islands is done, especially in what the MIS5 sea level record is concerned. MIS 5e deposits are scarce along the coasts of Maio and Boa Vista, and always at very low heights above mean sea level (0-0.5 m). On the island of Sal the deposits corresponding to the MIS 5e are located at a maximum height of +2.5m asml, in its most southern sector, being also very frequent to find them at 0m (Zazo et al., 2010).

The geomorphological distribution of the Pleistocene sedimentary sequences along these three islands reveals a complex history of uplift and subsidence that must be conciliated with the far-field sea level behavior, especially for the MIS5 units.

Creveling et al., 2017. QSR 163.
Zazo et al., 2007. QSR 26.
Zazo et al., 2010. GPCh 72.
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