# Building the Anguilla Bank (NE Caribbean): tectonic subsidence and coral reef growth regimes across the Mid-Pleistocene Transition

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**Résumé**

The Caribbean region is an important area to study the interplay between geodynamic, climatic and biological interactions. Whereas the E-Caribbean comprises a chain of separate islands at the present-day, the evolutionary record suggests that land bridges provided pathways for species migration at several points in geological history. Connection and isolation between islands was probably driven by a mix of tectonic vertical motion and eustatic sea-level changes. The key to decipher these processes lies in the geological archive provided by (fossil) coral reefs around the Antilles, providing geomorphic sea-level markers through time. We focus on the NE Lesser Antilles, where the Anguilla Bank presents a peculiar morphology, with a $> 1$ km thick, ~60 km wide carbonate platform topped by a sequence of submerged coral reef terraces between 0 and 60 m depth below present sea-level. We explore the combination of processes that could have created this morphology, with an emphasis on reef growth, subsidence rates, and sea-level history. In particular, we explore the effect of 1) the Mid-Pleistocene Transition around ~1 Ma as a sea-level driver of changing reef building modes and 2) cyclic tectonic vertical motion as a subduction driver of changing reef building modes. We discuss our results in the broader framework of Caribbean reef evolution.

**Mots-Clés:** Mid Pleistocene Transition, modelisation, corals, Caribbean

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