



Side Event 3

COASTVAR: understanding the processes responsible for the observed large coastal variability and quantifying their impact

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Abstract

This project is an important step to not only improving our understanding of coastal dynamics in vulnerable and non-documented tropical environments, but more generally providing fundamental insight in the functioning of coastal zones. It enable to validate 3D wave-current models and 2D morphological models in challenging conditions. COASTVAR has three key scientific objectives: 1) Bridging the knowledge gap in event-scale beach evolution and more specifically on hydro-sedimentary mechanisms linking the upper beach and surf-zone dynamics. This includes the study of extreme events and crucial but mostly unknown beach recovery. 2) Identifying the hydrodynamic processes involved in cross-shore exchanges between nearshore and shelf zones and the role of transient currents. There is still no consensus on the origin and effect of these currents, on their 2D or 3D dynamics and their relation to the stratification of shelf waters. 3) Understanding the sources of coastal variability at various scales, in particular the link between short-term (event scale) and long-term evolution. This includes determining the long-term impact of individual events (*i.e.*, resilience?) and the coastal response to oceanic forcing with seasonal modulation of wave conditions or regional climatic modes.



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Extended book of Abstract

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