

Late Quaternary High-Resolution Stratigraphy of a Deep Water Carbonate Sand Drift (Northern Inner Sea of the Maldives)

Karem Lopez

Rice University, Department of Earth Sciences, Houston, Texas, United States.

Karem.lopez@rice.edu

The analyses and interpretation of recently acquired data-cores, multi-beam bathymetry, and high-resolution seismic, allow, among many other opportunities, to connect the Quaternary evolution of the atolls and their deep surroundings, including the evolution of the deep water late Pleistocene 200 m-thick carbonate sand drift. Biostratigraphic analyses will assign the carbonate system age of initiation, isotope stages, and the most important fossil markers, based on foraminifers and nannofossils. Lithologic interpretation will provide the depositional environments. Seismic stratigraphic interpretation allow a better understanding of the general evolution of the carbonate system, and the integration of a high-resolution elemental analyses (XRF) to the seismic lines of the sand drift

Globally, the last phase of growth of modern barriers reefs in the mid to late Brunhes ages (~ last 0.5 Ma) corresponds to a series of five to six stacked interglacial highstand deposits separated by distinct exposure horizons. Based on preliminary interpretation of seismic grids and biostratigraphic markers, a large section of the carbonate sand drift are down-lapping (5-6 distinct wedges) on a major unconformity and with the analyses of the cores located on its toe of slope, these wedges down-lapping onto the unconformity may correspond to the five glacial/interglacial intervals aforementioned. Therefore, this carbonate sand drift could be interpreted also as a large sedimentary body deposited in a very short period of time.