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# New Insights into the Sedimentary Dynamics along Carbonate Slopes

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Hydroacoustic, sedimentological and seismic data of the leeward slope of Great Bahama Bank and the windward slope of the adjacent Cay Sal Bank provide new insights into carbonate platform slope sedimentation. Our study focuses on the diversity and complexity of the slope morphologies and sedimentary patterns which characterize the youngest high-frequency sequence, forming since the Last Glacial Maximum. It is shown that both carbonate platform slopes are dissected by furrows, gullies and channels which are genetically not related. Along the windward slope of Cay Sal Bank, toe of slope erosion, in conjunction with the local tectonic regime is responsible for channel incisions. Our data show that these channels were active during the regression after the last interglacial highstand of sea level. During this regression, downwelling transported platform sediment downslope, which was redistributed along the slope by contour currents. It is also shown that large mass transport complexes at the leeward slope of Great Bahama Bank formed during the last sea level lowstand, probably triggered by the release of pore-water pressure. These MTC created a complex slope morphology of gullies and scarps. These gullies act as a point source by confining the exported platform sediments during the present day sea level highstand.