

# Neoproterozoic Sedimentary Structures of Shallow Marine to Shoreline Sedimentary Rocks: The Avalon Zone, Bonavista Peninsula, Newfoundland, Canada

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Regional bedrock mapping on the Bonavista Peninsula, northeast Newfoundland (Avalon Zone) reveal spectacular preservation of a variety of Neoproterozoic sedimentary structures. The marine Neoproterozoic era, with its absence of trace fossils, invertebrates and lack of vegetation, relies on sedimentary structures for determination of depositional environment. Coarse-grained ripples and hummocky cross-stratification indicate a storm-dominated shoreface environment whereas a general coarsening upwards succession, large-scale low-angle cross-bedding, bedding-confined convolute bedding and flame structures indicate a prograding deltaic environment with rapid deposition. The rare occurrence of herring-bone cross-bedding suggests a tidal influence. The sedimentary rocks of the Rocky Harbour Formation, Musgravetown Group, provide a window into Neoproterozoic shallow-marine sedimentation.



Figure 1: Coarse-grained ripples in the Rocky Harbour Formation, Musgravetown Group, located on Knight's Point, Bonavista Bay, Newfoundland