

Hanson, Ross (1983). "Hydrodynamics and Tidal Deltas of Morse River Inlet, Phippsburg, Maine".
Standard Theses.

Two, well developed flood-tidal deltas exist in the Morse River tidal inlet. The morphology of the deltas is controlled by the hydrography and overall geometry of the inlet. The largest delta is located close to the inlet throat and is connected to the beach along its western edge. It contains a dominant bedform type as well as preferred bedform orientations which indicate a landward transport direction. The other delta I located further upstream and exists as a ramp coming to a head at the marsh. It is subject to extensive ebb-current modification because of its position relative to the main channel. The bedforms reflect this by being primarily ebb oriented with only minor flood features.

The sediment distribution on the deltas reflects hydrographic patterns characteristic of flood current dominance. Furthermore, the sediments show a net upstream transport direction with a coarsening of the sand in the winter.

The hydrography of the inlet shows distinct velocity asymmetry as well as differences in tidal duration. Nearly complete flood-tidal current dominance exists in the inlet, with five out of six hydrography stations showing stronger flood currents. The station with stronger ebb currents is located well seaward of the inlet throat.

(summary)