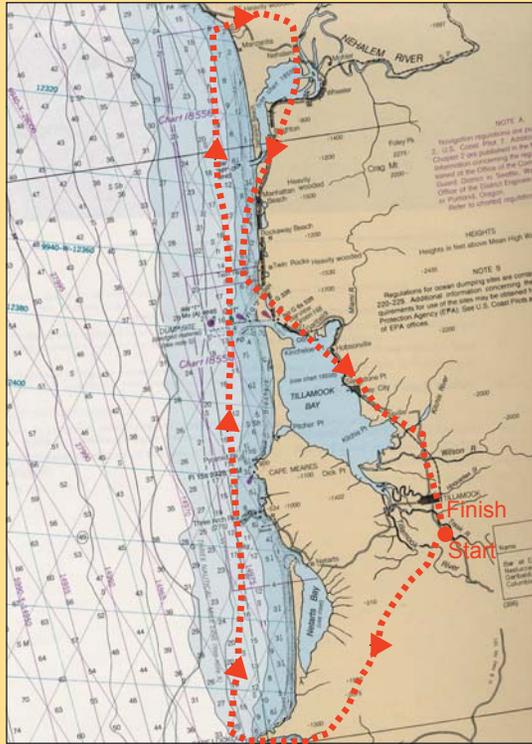


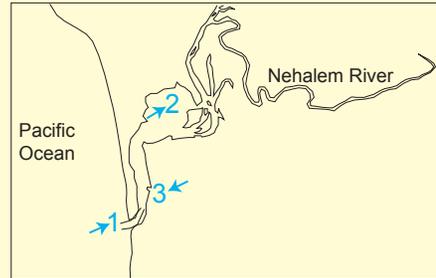
OVERFLIGHT OF THE NORTHERN OREGON COAST TO EXAMINE THE NETARTS, NEHALEM AND TILLAMOOK ESTUARIES



Part of the bathymetric chart of the Oregon coast showing the positions of the Netarts, Nehalem and Tillamook estuaries. The planned overflight route is shown (dashed red line).

NEHALEM ESTUARY

This estuary has a large drainage basin and river system and hence high fluvial input. The strong longshore drift, however, still deflects the river mouth to the south.



Oblique aerial view of the mouth of the Nehalem Estuary. Note the waves breaking along Manhattan Beach (right of the inlet).



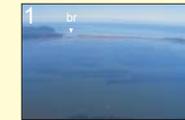
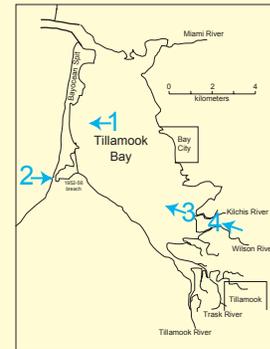
View to the northeast looking across the barrier spit into the Nehalem Estuary. Note the bay head delta deposits at the far end of the estuary.



Detail of the mouth of the Nehalem Estuary. Note the subaqueous dunes along the northern edge of the inlet.

TILLAMOOK BAY

This estuary has a tripartite system which juxtaposes the bayhead delta with the seaward mouth, separated by a relatively small central basin.



View oceanward across Tillamook Bay. Note the subtidal channels in the bay and the position of the old breach (br), near where the spit attaches to the volcanic headland.



Bayhead delta deposits at the head of Tillamook Bay. The major rivers forming the delta complex in the photo are the Kilchis and the Wilson (arrows).



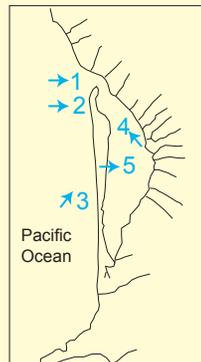
Northeast oblique view across the Bayocean Spit into Tillamook Bay. Note the area where the spit was breached in 1952-56 (br).



The Kilchis and Wilson Rivers rework the coastal plain and feed the bayhead delta complex at the head of Tillamook Bay.

NETARTS BAY

Netarts is a classical lagoonal estuary that has no major river draining into it.



Waves breaking on the ebb delta complex at the inlet of the Netarts Estuary.



Ebb delta complex at the mouth of the Netarts Estuary. Note the northward (left) accretion of the barrier spit and the small secondary channels reworking the delta.



View northward along the Netarts spit. Note the lateral juxtaposition of high energy shoreface deposits (left) and low energy estuarine sediments (right).



Flood tidal delta complex within Netarts Bay. Note the one large tidal channel (center).



East-looking view across the Netarts spit into the bay. Note the subtidal channels in the flood tidal delta deposits.