

## **Investigation of Internal Waves in the Penobscot River Estuary, Maine**

In many marine systems, internal waves are common and contribute to vertical mixing, bringing both nutrients and suspended sediment into the surface mixed layer. Previous studies examining internal waves on the East Coast have not involved the Penobscot River Estuary, the largest estuary in Maine and the second largest on the United States East Coast. This study aimed to determine whether internal waves exist within the Penobscot River Estuary, and if they were present, to characterize them based on their wave height and period, and to speculate on mechanisms for generation and propagation. Thermistor chains were used at four sites throughout the Penobscot River Estuary to examine the thermocline as waves passed. Internal waves were observed at all stations studied in the Penobscot River Estuary. However, due to the abundance of waves at the control station and the similarities of waves among stations, it is likely the waves are generated elsewhere and are propagating in to the Penobscot River.

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