Graphing Tides

Solution Set

Martin B. Farley

Department of Geology & Geography

University of North Carolina at Pembroke

Pembroke, NC 28372

martin.farley@uncp.edu

(910) 521-6478

The graphs that are part of the student work are shown (as Excel graphs rather than plotted by hand) in Tides exercises.xlsx.

The tab “All four graphs” shows the graphs for all four locations.

The tabs with the location names have the raw data and the graph for just that location.

Tides

Plot the tidal record from each of the locations on the graph paper. You can plot multiple locations on one graph by marking data points with W,P,S,J.

What tide type occurs at What is the elevation of mean high water?

Wilmington Beach

 *Semi-Diurnal 4.4 ft*

Pensacola

 *Diurnal 1.6 ft*

Seattle

 *Mixed 10.8 ft*

Joggins Wharf

 *Semi-Diurnal 38 ft*

Which location has the smallest tidal range and which the largest? What is the tidal range at these locations?

*Pensacola is smallest (roughly 1.5 ft range), Joggins Wharf is largest (roughly 34 ft range)*

What is the significance of the negative tidal heights at some times?

*The tidal datum is MLLW (mean lower low water), which by definition is not the lowest level the ocean can reach.*