



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE  
Silver Spring, Maryland 20910

**TIDE NOTE FOR HYDROGRAPHIC SURVEY**

**DATE:** November 30, 1999

**HYDROGRAPHIC BRANCH:** Pacific  
**HYDROGRAPHIC PROJECT:** OPR-P337-RA-99  
**HYDROGRAPHIC SHEET:** H-10912

**LOCALITY:** Womens Bay to Kodiak Harbor and Approaches,  
AK

**TIME PERIOD:** August 2 - August 9, 1999

**TIDE STATION USED:** 945-7292 Kodiak, AK  
Lat. 57° 43.8'N Lon. 152° 30.8'W

**PLANE OF REFERENCE (MEAN LOWER LOW WATER):** 0.000 meters  
**HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE:** 2.399 meters

**REMARKS: RECOMMENDED ZONING**  
**Use zone(s) identified as:** SWA2 & SWA3.

Refer to attachments for zoning information.

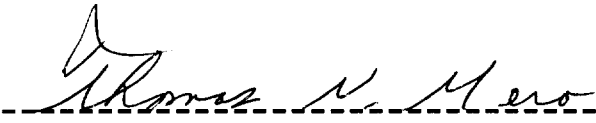
**Note 1:** Provided time series data are tabulated in metric units (Meters), relative to MLLW and on Greenwich Mean Time.

**Note 2:** Kodiak, AK was used for datum control and tidal zoning in this hydrographic survey. Accepted datums for this station have been updated recently and have changed significantly from previous values.

The current National Tidal Datum Epoch (NTDE) used to compute tidal datums is the 1960-78 NTDE. Traditionally, NTDEs have been adjusted when significant changes in Mean Sea Level (MSL) trends are found through analyses among the stations of the National Water Level Observation Network (NWLON). Epochs are updated to ensure that tidal datums are the most accurate and practical for navigation, surveying and engineering applications and reflect the existing local sea level conditions. For instance, analyses of sea level trends show that a new NTDE is necessary and efforts are underway to update the 1960-78 NTDE to a more recent 19-year time period.

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However, analyses also show that there are several geographic areas which are strongly anomalous from the average sea level trends found across the NWLON and must be treated differently. One of these areas includes the region surrounding Kodiak Island. Relative sea level in this area is decreasing at an anomalous rate due to land emergence from the retreat of glaciers over recent geological time. NOS has adopted a procedure of computing accepted tidal datums for these anomalous regions by using an MSL value calculated from the last several years of data rather than the 19-year NTDE. The accepted range of tide is still based on the 19-year NTDE and, when applied to the updated MSL, will result in updated values for Mean High Water (MHW) and Mean Lower Low Water (MLLW) derived through standard datum calculation procedures. For Kodiak, the MSL value was computed from the period of 1994-1998. This resulted in a lowering of the MLLW datums relative to land by up to -0.56 ft compared to MLLW elevations used in previous surveys. Subordinate tide stations in the area used for hydrographic surveys and controlled by Kodiak will be affected similarly. Accepted datums have been computed and may be accessed on the Internet through the URL specification <http://www.co-ops.nos.noaa.gov>.

 11/30/99  
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**CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION**

Final tide zone node point locations for OPR-P337-RA-99,  
Sheet H-10912.

Format: Longitude in decimal degrees (negative value denotes  
Longitude West),  
Latitude in decimal degrees  
Tide Station (in recommended order of use)  
Average Time Correction (in minutes)  
Range Correction

	Tide Station Order	AVG Time Correction	Range Correction
Zone SWA2			
-152.398958 57.790749	945-7292	0	1.00
-152.430862 57.78665			
-152.48236 57.76518			
-152.503015 57.736076			
-152.47823 57.7222			
-152.475115 57.718136			
-152.446622 57.726453			
-152.417935 57.743023			
-152.402983 57.766936			
-152.388275 57.777842			
-152.383931 57.781897			
-152.386842 57.794828			
-152.398958 57.790749			
Zone SWA3			
-152.290852 57.760019	945-7292	-6	1.00
-152.279861 57.763544			
-152.313664 57.781426			
-152.337172 57.796228			
-152.355834 57.811007			
-152.386842 57.794828			
-152.383931 57.781897			
-152.388275 57.777842			
-152.402983 57.766936			
-152.417935 57.743023			
-152.446622 57.726453			
-152.475115 57.718136			
-152.529456 57.646896			
-152.492274 57.629746			
-152.402467 57.684398			
-152.290852 57.760019			