



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

**TIDE NOTE FOR HYDROGRAPHIC SURVEY**

**DATE:** December 22, 1999

**HYDROGRAPHIC BRANCH:** Pacific  
**HYDROGRAPHIC PROJECT:** OPR-P342-RA-99  
**HYDROGRAPHIC SHEET:** H-10908

**LOCALITY:** 5 NM South of West Foreland, AK

**TIME PERIOD:** July 16 - August 19, 1999

**TIDE STATION USED:** 945-5732 North Kalgin Island, AK  
Lat. 60° 30.5'N Lon. 151° 56.8'W

**PLANE OF REFERENCE (MEAN LOWER LOW WATER):** 0.000 meters

**HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE:** 5.460 meters

**REMARKS: RECOMMENDED ZONING**

**Use zone(s) identified as:** CK487, CK488, CK505, CK506, CK507, CK508, CK512, CK513, CK514, CK515, CK516, CK527, CK528, CK529, CK530 & CK531.

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:** Nikiski, AK served as datum control for subordinate tide stations and for 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 at tide stations is the 1960-78 NTDE. Traditionally, NTDEs have been adjusted when significant changes in mean sea level (MSL) trends were found through analyses amongst the National Water Level Observation Network (NWLON) stations. 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.

However, analyses also show that there are several geographic areas whose sea level trends are strongly anomalous from the average trends found across the NWLON and thus, must be treated differently. One of these areas is in Cook Inlet, Alaska. Nikiski has shown a significant relative sea level change due to continued vertical land movement after the 1964 earthquake. NOS has adopted a procedure for computing accepted tidal datums for this anomalous region 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 Nikiski, the MSL value was computed from the period of 1994-1998. This resulted in a lowering of the MLLW datums relative to land by approximately 1.0 ft at Nikiski compared to the previous MLLW elevations used in surveys prior to January 1, 1998. Subordinate tide stations in the area used for hydrographic surveys and controlled by Nikiski 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>.

For -----  
CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION

Final tide zone node point locations for OPR-P342-RA-99,  
Sheet H-10908.

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
<b>Zone CK487</b>			
-151.955565 60.577684	945-5732	+18	1.00
-151.872271 60.552967			
-151.823874 60.527289			
-151.821595 60.534167			
-151.800231 60.568418			
-151.955565 60.577684			
<b>Zone CK488</b>			
-151.800231 60.568418	945-5732	+18	1.01
-151.821595 60.534167			
-151.823874 60.527289			
-151.815256 60.522705			
-151.751148 60.509313			
-151.748222 60.519468			
-151.73482 60.566075			
-151.776345 60.566988			
-151.800231 60.568418			
<b>Zone CK505</b>			
-151.632089 60.595213	945-5732	+24	1.03
-151.67296 60.596304			
-151.677955 60.564828			
-151.634031 60.563875			
-151.632089 60.595213			
<b>Zone CK506</b>			
-151.67296 60.596304	945-5732	+24	1.02
-151.724888 60.59769			
-151.726948 60.593415			
-151.734817 60.566074			
-151.677955 60.564828			

-151.67296 60.596304

Zone CK507

-151.724888 60.59769	945-5732	+18	1.01
-151.777375 60.599095			
-151.790397 60.584178			
-151.800231 60.568418			
-151.776345 60.566988			
-151.73482 60.566075			
-151.726948 60.593415			
-151.724888 60.59769			

Zone CK508

-151.955565 60.577684	945-5732	+18	1.00
-151.800231 60.568418			
-151.790397 60.584178			
-151.777375 60.599095			
-151.915342 60.602792			
-151.955565 60.577684			

Zone CK512

-151.868015 60.629027	945-5732	+24	1.00
-151.824304 60.628901			
-151.752788 60.627273			
-151.777375 60.599095			
-151.915342 60.602792			
-151.907858 60.606931			
-151.868015 60.629027			

Zone CK513

-151.752788 60.627273	945-5732	+24	1.01
-151.777375 60.599095			
-151.724888 60.59769			
-151.71115 60.626314			
-151.752788 60.627273			

Zone CK514

-151.71115 60.626314	945-5732	+24	1.02
-151.724888 60.59769			
-151.67296 60.596304			
-151.668302 60.625343			
-151.71115 60.626314			

Zone CK515

-151.668302 60.625343	945-5732	+24	1.03
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-151.67296 60.596304  
-151.632089 60.595213  
-151.630296 60.624468  
-151.668302 60.625343

Zone CK516

-151.630296 60.624468	945-5732	+24	1.05
-151.632089 60.595213			
-151.585235 60.593956			
-151.58659 60.604545			
-151.587476 60.623493			
-151.630296 60.624468			

Zone CK527

-151.627537 60.653603	945-5732	+30	1.05
-151.630296 60.624468			
-151.587476 60.623493			
-151.588881 60.653376			
-151.627537 60.653603			

Zone CK528

-151.663716 60.653821	945-5732	+30	1.03
-151.668302 60.625343			
-151.630296 60.624468			
-151.627537 60.653603			
-151.663716 60.653821			

Zone CK529

-151.697787 60.654024	945-5732	+30	1.02
-151.71115 60.626314			
-151.668302 60.625343			
-151.663716 60.653821			
-151.697787 60.654024			

Zone CK530

-151.729236 60.654211	945-5732	+30	1.01
-151.752788 60.627273			
-151.71115 60.626314			
-151.697787 60.654024			
-151.729236 60.654211			

Zone CK531

-151.818931 60.654493	945-5732	+30	1.00
-151.829169 60.650502			
-151.868015 60.629027			

-151.824304 60.628901  
-151.752788 60.627273  
-151.729236 60.654211  
-151.804818 60.654663  
-151.818931 60.654493