



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-10909

LOCALITY: Redoubt Bay, 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: CK449, CK450, CK458, CK459, CK460, CK461, CK462, CK463, CK487, CK488, CK507, CK508, CK509 & CK512.

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-10909.

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 CK449			
-152.069899 60.533247	945-5732	0	0.98
-152.056661 60.504686			
-152.038497 60.506267			
-151.973506 60.504202			
-151.978047 60.529571			
-152.042844 60.534136			
-152.069899 60.533247			
Zone CK450			
-152.165424 60.530106	945-5732	0	0.97
-152.134542 60.497898			
-152.056661 60.504686			
-152.069899 60.533247			
-152.165424 60.530106			
Zone CK458			
-152.070087 60.561408	945-5732	+6	0.97
-152.215499 60.57016			
-152.165424 60.530106			
-152.069899 60.533247			
-152.074801 60.543878			
-152.070087 60.561408			
Zone CK459			
-151.974189 60.548139	945-5732	+6	0.98
-152.032696 60.559125			
-152.070087 60.561408			
-152.074801 60.543878			
-152.069899 60.533247			
-152.042844 60.534136			
-151.978047 60.529571			

-151.979771 60.539222
-151.974189 60.548139

Zone CK460

-151.897755 60.496823	945-5732	+6	0.99
-151.87827 60.495344			
-151.899334 60.519132			
-151.941371 60.541992			
-151.974189 60.548139			
-151.979771 60.539222			
-151.978047 60.529571			
-151.961666 60.528421			
-151.921078 60.514844			
-151.897755 60.496823			

Zone CK461

-152.056232 60.593996	945-5732	+12	0.97
-152.105174 60.60192			
-152.119578 60.588376			
-152.142382 60.578629			
-152.215499 60.57016			
-152.070087 60.561408			
-152.062739 60.588693			
-152.056232 60.593996			

Zone CK462

-151.955565 60.577684	945-5732	+12	0.98
-152.056232 60.593996			
-152.062739 60.588693			
-152.070087 60.561408			
-152.032696 60.559125			
-151.974189 60.548139			
-151.955565 60.577684			

Zone CK463

-151.823874 60.527289	945-5732	+12	1.00
-151.872271 60.552967			
-151.955565 60.577684			
-151.974189 60.548139			
-151.941371 60.541992			
-151.899334 60.519132			
-151.87827 60.495344			
-151.850049 60.480521			
-151.83992 60.479585			
-151.823874 60.527289			

Zone CK487

-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			

Zone CK488

-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			

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 CK509

-152.012809 60.629246	945-5732	+18	0.98
-152.056232 60.593996			
-151.955565 60.577684			
-151.915342 60.602792			
-151.907858 60.606931			
-152.012809 60.629246			

Zone CK512

-151.868015 60.629027
-151.824304 60.628901
-151.752788 60.627273
-151.777375 60.599095
-151.915342 60.602792
-151.907858 60.606931
-151.868015 60.629027

945-5732

+24

1.00