



**U.S. DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL OCEAN SERVICE

**TIDE NOTE FOR HYDROGRAPHIC SURVEY**

**DATE:** February 12, 1999

**HYDROGRAPHIC BRANCH:** Pacific

**HYDROGRAPHIC PROJECT:** OPR-0340-RA  
**HYDROGRAPHIC SHEET:** H-10736

**LOCALITY:** Lutak Inlet, AK  
**TIME PERIOD:** April 21 - May 28, 1998

**TIDE STATION USED:** 945-2400 Skagway, AK  
Lat. 59° 27.0'N Lon. 135° 19.5'W  
**PLANE OF REFERENCE (MEAN LOWER LOW WATER):** 0.000 meters  
**HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE:** 4.799 meters

**TIDE STATION USED:** 945-2434 Tiayasanka Harbor, AK  
Lat. 59° 17.9'N Lon. 135° 26.1'W  
**PLANE OF REFERENCE (MEAN LOWER LOW WATER):** 0.000 meters  
**HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE:** 4.824 meters

**REMARKS: RECOMMENDED ZONING**  
Use zone(s) identified as: SEA1, SEA1D, SEA1F & SEA1G.

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: Use tide data from the appropriate station for each zone according to the order in which they are listed in the Tidezone corrector files. For example, tide station one (TS1) would be the first choice for an applicable zone followed by TS2, etc. when data are not available. All zones within a survey sheet may not have the same order of applicable tide stations.

*Thomas N. Mero* 2/12/99  
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CHIEF, REQUIREMENTS AND ENGINEERING BRANCH



Final tide zone node point locations for OPR 0340-RA-98,  
Sheet H-10736.

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 SEA1</b>				
-135.430336	59.213684	945-2400	-6	1.01
-135.387161	59.18722			
-135.303335	59.200565			
-135.351351	59.272134			
-135.403119	59.288988			
-135.412317	59.296248			
-135.421584	59.295129			
-135.428148	59.296314			
-135.471448	59.258189			
-135.430336	59.213684			
<b>Zone SEA1D</b>				
-135.31633	59.45583	945-2400	0	1.00
-135.330076	59.450301			
-135.335279	59.452373			
-135.325555	59.482326			
-135.339823	59.483217			
-135.346609	59.476037			
-135.349706	59.476919			
-135.351254	59.476904			
-135.363299	59.479614			
-135.3659	59.479662			
-135.365621	59.478717			
-135.371399	59.477693			
-135.405623	59.316041			
-135.403119	59.288988			
-135.351351	59.272134			
-135.31633	59.45583			
<b>Zone SEA1F</b>				
-135.471448	59.258189	945-2434	0	1.00
-135.579036	59.32089	945-2400	-6	1.02
-135.526904	59.331963			
-135.433296	59.3			
-135.428148	59.296314			
-135.471448	59.258189			

Zone SEA1G

-135.428148	59.296314	945-2434	0	1.00
-135.433296	59.3	945-2400	-6	1.02
-135.446425	59.317043			
-135.432251	59.330231			
-135.420297	59.319083			
-135.412317	59.296248			
-135.421584	59.295129			
-135.428148	59.296314			



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

**TIDE NOTE FOR HYDROGRAPHIC SURVEY**

**DATE:** October 6, 1999

**HYDROGRAPHIC BRANCH:** Pacific  
**HYDROGRAPHIC PROJECT:** OPR-0340-RA  
**HYDROGRAPHIC SHEET:** H-10736

**LOCALITY:** Lutek Inlet, Lynn Canal, AK  
**TIME PERIOD:** April 26, 1999

**TIDE STATION USED:** 945-2400 Skagway, AK  
Lat. 59° 27.0'N Lon. 135° 19.5'W  
**PLANE OF REFERENCE (MEAN LOWER LOW WATER):** 0.000 meters  
**HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE:** 4.799 meters

**REMARKS: RECOMMENDED ZONING**  
**Use zone(s) identified as:** SEA74.

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:** Juneau, AK and Skagway, AK were used as datum control for subordinate tide stations and for tidal zoning in this hydrographic survey. Accepted datums for these two stations 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 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.



**TIDE NOTE FOR HYDROGRAPHIC SURVEY SHEET H-10736 cont.**

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 is in southeast Alaska covering the Lynn Canal, Icy Strait, and Glacier Bay region. Juneau and Skagway show relative sea level trends of -0.038 ft/yr and -0.052 ft/yr, respectively 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 a 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 both Juneau and Skagway, the MSL values were computed from the period of 1994-1998. This resulted in a lowering of the MLLW datums relative to land by -0.40 ft at Juneau and -0.53 ft at Skagway compared to the previous MLLW elevations used in last year's surveys. Subordinate tide stations in the area used for hydrographic surveys and controlled by Juneau or Skagway 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>.

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CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION

Final tide zone node point locations for OPR-O340-RA-99,  
Sheet H-10736.

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 SEA74			
-135.262771 59.162603	9452400	0	1.00
-135.334123 59.151404			
-135.364789 59.169708			
-135.463039 59.243268			
-135.447721 59.278484			
-135.427282 59.295342			
-135.407735 59.295667			
-135.362768 59.289021			
-135.303335 59.200565			
-135.289805 59.19791			
-135.270989 59.19686			
-135.262771 59.162603			