



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE  
Office of Ocean and Earth Sciences  
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: July 14, 1997

HYDROGRAPHIC BRANCH: Pacific

HYDROGRAPHIC PROJECT: OPR-N219-PHP

HYDROGRAPHIC SHEET: FE-430

LOCALITY: Washington/Oregon, Columbia River,  
Peacock Spit to Tongue Point

TIME PERIOD: December 13 - April 8, 1997

TIDE STATION USED: 943-9040 Astoria, Oregon  
Lat.  $46^{\circ} 12.5' N$  Lon.  $123^{\circ} 46.0' W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 m  
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.362 m

TIDE STATION USED: 944-0572 Jetty "A", Cape Disappointment, Wa  
Lat.  $46^{\circ} 16.1' N$  Lon.  $124^{\circ} 2.2' W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 m  
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.309 m

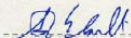
REMARKS: RECOMMENDED ZONING

Use Astoria, Oregon (943-9040) for zone(s) identified as:  
CR5, CR6, CR7, CR10, CR12 & CR13

Use Jetty "A", Washington (944-0572) for zone(s) identified as:  
WC9, CR1, CR2, CR3 & CR4

Refer to attachment(s) for zoning information.

Note: Provided time series data are tabulated in metric  
units (meters) and on Greenwich Mean Time.

  
CHIEF, TIDAL ANALYSIS BRANCH



## Final tide zone node point locations for OPR N219-PHP-96.

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 WC9				
-124.065673	46.278258	944-0572	-24	0.99
-124.082755	46.267663	943-9040	-78	0.92
-123.924248	46.016838			
-123.890732	46.016887			
-123.927154	45.479525			
-125.741574	45.483907			
-125.765189	46.280156			
-124.065673	46.278258			
Zone CR1				
-124.060674	46.282321	944-0572	-12	0.99
-124.042477	46.276946	943-9040	-66	0.92
-124.040454	46.272576			
-124.03843	46.267113			
-124.022236	46.228866			
-124.008308	46.225288			
-123.990774	46.198756			
-123.939103	46.108923			
-123.928723	46.060516			
-123.924248	46.016838			
-124.082592	46.268222			
-124.065528	46.278841			
-124.060674	46.282321			
Zone CR2				
-124.040454	46.272576	944-0572	0	1.00
-124.027644	46.274143	943-9040	-48	0.93
-124.016856	46.273211			
-124.007416	46.264316			
-123.991908	46.262606			
-123.988088	46.263076			
-123.971007	46.261522			
-123.971224	46.210629			
-123.968358	46.198542			
-123.990774	46.198756			
-124.008308	46.225288			
-124.022236	46.228866			
-124.03843	46.267113			
-124.040454	46.272576			

## Zone CR3

-124.060674	46.282321	944-0572	+18	1.00
-124.051696	46.303481	943-9040	-36	0.93
-123.996638	46.329888			
-123.930561	46.307593			
-123.922012	46.252176			
-123.971007	46.261522			
-123.988088	46.263076			
-123.991908	46.262606			
-124.007416	46.264316			
-124.016856	46.273211			
-124.027644	46.274143			
-124.040454	46.272576			
-124.042477	46.276946			
-124.060674	46.282321			

## Zone CR4

-123.922012	46.252176	944-0572	+24	1.04
-123.913471	46.251243	943-9040	-30	0.97
-123.907403	46.246563			
-123.911699	46.182318			
-123.916181	46.175783			
-123.929174	46.180824			
-123.971224	46.210629			
-123.971007	46.261522			
-123.922012	46.252176			

## Zone CR5

-123.907403	46.246563	943-9040	-18	0.96
-123.874161	46.242373			
-123.866195	46.251742			
-123.79816	46.191534			
-123.859443	46.183207			
-123.906672	46.18124			
-123.911699	46.182318			
-123.907403	46.246563			

## Zone CR6

-123.927138	46.147999	943-9040	-18	0.97
-123.913659	46.164006			
-123.906672	46.18124			
-123.911699	46.182318			
-123.916181	46.175783			
-123.931478	46.160406			
-123.927138	46.147999			

## Zone CR7

-123.913659	46.164006	943-9040	-18	1.02
-123.869859	46.157097			
-123.837723	46.154533			
-123.819183	46.178463			
-123.859443	46.183207			
-123.906672	46.18124			
-123.913659	46.164006			

## Zone CR10

-123.717886	46.247975	943-9040	0	1.00
-123.746433	46.203415			
-123.768652	46.20302			
-123.776268	46.196028			
-123.79816	46.191534			
-123.866195	46.251742			
-123.80553	46.293274			
-123.763854	46.279244			
-123.717886	46.247975			

## Zone CR12

-123.667942	46.269069	943-9040	+12	0.96
-123.680503	46.255015			
-123.717886	46.247975			
-123.746433	46.203415			
-123.67351	46.199077			
-123.687372	46.205202			
-123.671208	46.214158			
-123.654398	46.214158			
-123.63249	46.212877			
-123.666099	46.242676			
-123.643767	46.247629			
-123.667942	46.269069			

## Zone CR13

-123.67351	46.199077	943-9040	+30	0.96
-123.6903	46.1653			
-123.757707	46.163455			
-123.768652	46.20302			
-123.746433	46.203415			
-123.67351	46.199077			