

1:100 000-scale metric
topographic-bathymetric map



- 30 X 60 MINUTE QUADRANGLE
SHOWING
- Contours and elevations in meters
 - Highways, roads and other manmade structures
 - Water features
 - Woodland areas
 - Geographic names
 - Bathymetric contours in meters



Produced by the United States Geological Survey and the National Ocean Service
U.S. portion compiled from USGS 1:250 000 scale topographic maps dated 1953-1981
Bathymetry compiled by the National Ocean Service from tide-coordinated hydrographic surveys. This information is not intended for navigational purposes. Mean lower low water (MLLW) line and mean high water (MHW) line (dotted line) compiled by NOAA from tide-coordinated aerial photographs. Apparent shoals (outer edge of vegetation shown by light blue line) Projection and 30 000 meter grid, zone 18 UTM Transverse Mercator 23 800 foot grid, based on Washington coordinate system, north zone and Oregon coordinate system, north zone 1957 North American Datum.
Limited revision and bathymetry added 1989
There may be private inholdings within the boundaries of National or State reservations shown on this map.
CONTOUR INTERVAL 50 METERS
SUPPLEMENTARY CONTOUR INTERVAL 25 METERS
NATIONAL GEODETIC VERTICAL DATUM OF 1929 IN U.S.
ELEVATIONS SHOWN TO THE NEAREST METER
BATHYMETRIC CONTOUR INTERVALS 10 METERS TO 200 METERS
DEPTHS WITH UNDERLINES IN METERS CONTAIN THE PLACE OF CONTOUR-CROSSING IN MEAN LOWER LOW WATER
THE RELATIONSHIP BETWEEN THESE VALUES IS VARIABLE
U.S. PORTION OF BASE MAP COMPLETES WITH NATIONAL MAP ACTIVITY STANDARDS. BATHYMETRIC SURVEY DATA CONFORMS WITH INTERNATIONAL HYDROGRAPHIC ORGANIZATION (IHO) SPECIAL PUBLICATION IN ACCORDANCE WITH INTERNATIONAL STANDARDS LISTED AS OF THE DATE OF THE SURVEYS

Meters	Feet
1	3.2808
2	6.5617
3	9.8425
4	13.1234
5	16.4042
6	19.6850
7	22.9659
8	26.2467
9	29.5275
10	32.8084

To convert meters to feet multiply by 3.2808
To convert feet to meters multiply by 0.3048

FOR SALE BY U.S. GEOLOGICAL SURVEY
DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
AND NATIONAL OCEAN SERVICE, ROCKVILLE, MARYLAND 20852

Topographic Map Symbols

- Primary highway, hard surface
- Secondary highway, hard surface
- Light duty road, principal street, hard or improved surface
- Other road or street, trail
- Road marker: interstate, U.S. State
- Railroad: standard gauge, narrow gauge
- Bridge: overpass, underpass
- Tunnel: road, railroad
- Built up area: locality, elevation
- Airport; landing field; landing strip
- National boundary
- State boundary
- County boundary
- National or State reservation boundary
- Land grant boundary
- U.S. public lands survey: range, township, section
- Range: township, section line: protected
- Power transmission line, pipeline
- Dam; dam with lock
- Cemetery; building
- Windmill; water well; spring
- Mine shaft; ash or cave; mine, quarry, gravel pit
- Campground; picnic area; U.S. location monument
- Ruins: cliff dwelling
- Distorted surface: strip mine, land, sand
- Contours: index, intermediate, supplementary
- Bathymetric contours: index, intermediate
- Stream, lake, general; intermittent
- Rapids, large and small; falls, large and small
- Area to be submerged; marsh, swamp
- Land subject to controlled inundation, woodland
- Scrub; mangrove
- Orchard; vineyard

ROCHE HARBOR, WASHINGTON-BRITISH COLUMBIA



SCALE 1:100 000
1 CENTIMETER ON THE MAP REPRESENTS 1 KILOMETER ON THE GROUND
CONTOUR INTERVAL 50 METERS
SUPPLEMENTARY CONTOUR INTERVAL 25 METERS

HYDROGRAPHIC SURVEY INFORMATION

SURVEY NUMBER	SURVEY DATE	SURVEY SCALE	SURVEY LINE SPACING (NAUT. MILES)	SURVEY NUMBER	SURVEY DATE	SURVEY SCALE	SURVEY LINE SPACING (NAUT. MILES)
1197-L	1961-10	1:12,000	02-10	1198-S	1962	1:5,715	01-03
1198-L	1961-10	1:12,000	02-11	1199-S	1962	1:5,715	01-04
1199-L	1961-10	1:12,000	02-13	1200-S	1962	1:5,715	01-05
1200-L	1961-10	1:12,000	02-14	1201-S	1962	1:5,715	01-06
1201-L	1961-10	1:12,000	02-15	1202-S	1962	1:5,715	01-07
1202-L	1961-10	1:12,000	02-16	1203-S	1962	1:5,715	01-08
1203-L	1961-10	1:12,000	02-17	1204-S	1962	1:5,715	01-09
1204-L	1961-10	1:12,000	02-18	1205-S	1962	1:5,715	01-10
1205-L	1961-10	1:12,000	02-19	1206-S	1962	1:5,715	01-11
1206-L	1961-10	1:12,000	02-20	1207-S	1962	1:5,715	01-12
1207-L	1961-10	1:12,000	02-21	1208-S	1962	1:5,715	01-13
1208-L	1961-10	1:12,000	02-22	1209-S	1962	1:5,715	01-14
1209-L	1961-10	1:12,000	02-23	1210-S	1962	1:5,715	01-15
1210-L	1961-10	1:12,000	02-24	1211-S	1962	1:5,715	01-16
1211-L	1961-10	1:12,000	02-25	1212-S	1962	1:5,715	01-17
1212-L	1961-10	1:12,000	02-26	1213-S	1962	1:5,715	01-18
1213-L	1961-10	1:12,000	02-27	1214-S	1962	1:5,715	01-19
1214-L	1961-10	1:12,000	02-28	1215-S	1962	1:5,715	01-20
1215-L	1961-10	1:12,000	02-29	1216-S	1962	1:5,715	01-21
1216-L	1961-10	1:12,000	02-30	1217-S	1962	1:5,715	01-22
1217-L	1961-10	1:12,000	02-31	1218-S	1962	1:5,715	01-23
1218-L	1961-10	1:12,000	02-32	1219-S	1962	1:5,715	01-24
1219-L	1961-10	1:12,000	02-33	1220-S	1962	1:5,715	01-25
1220-L	1961-10	1:12,000	02-34	1221-S	1962	1:5,715	01-26
1221-L	1961-10	1:12,000	02-35	1222-S	1962	1:5,715	01-27
1222-L	1961-10	1:12,000	02-36	1223-S	1962	1:5,715	01-28
1223-L	1961-10	1:12,000	02-37	1224-S	1962	1:5,715	01-29
1224-L	1961-10	1:12,000	02-38	1225-S	1962	1:5,715	01-30
1225-L	1961-10	1:12,000	02-39	1226-S	1962	1:5,715	01-31
1226-L	1961-10	1:12,000	02-40	1227-S	1962	1:5,715	01-32
1227-L	1961-10	1:12,000	02-41	1228-S	1962	1:5,715	01-33
1228-L	1961-10	1:12,000	02-42	1229-S	1962	1:5,715	01-34
1229-L	1961-10	1:12,000	02-43	1230-S	1962	1:5,715	01-35
1230-L	1961-10	1:12,000	02-44	1231-S	1962	1:5,715	01-36
1231-L	1961-10	1:12,000	02-45	1232-S	1962	1:5,715	01-37
1232-L	1961-10	1:12,000	02-46	1233-S	1962	1:5,715	01-38
1233-L	1961-10	1:12,000	02-47	1234-S	1962	1:5,715	01-39
1234-L	1961-10	1:12,000	02-48	1235-S	1962	1:5,715	01-40
1235-L	1961-10	1:12,000	02-49	1236-S	1962	1:5,715	01-41
1236-L	1961-10	1:12,000	02-50	1237-S	1962	1:5,715	01-42
1237-L	1961-10	1:12,000	02-51	1238-S	1962	1:5,715	01-43
1238-L	1961-10	1:12,000	02-52	1239-S	1962	1:5,715	01-44
1239-L	1961-10	1:12,000	02-53	1240-S	1962	1:5,715	01-45
1240-L	1961-10	1:12,000	02-54	1241-S	1962	1:5,715	01-46
1241-L	1961-10	1:12,000	02-55	1242-S	1962	1:5,715	01-47
1242-L	1961-10	1:12,000	02-56	1243-S	1962	1:5,715	01-48
1243-L	1961-10	1:12,000	02-57	1244-S	1962	1:5,715	01-49
1244-L	1961-10	1:12,000	02-58	1245-S	1962	1:5,715	01-50
1245-L	1961-10	1:12,000	02-59	1246-S	1962	1:5,715	01-51
1246-L	1961-10	1:12,000	02-60	1247-S	1962	1:5,715	01-52
1247-L	1961-10	1:12,000	02-61	1248-S	1962	1:5,715	01-53
1248-L	1961-10	1:12,000	02-62	1249-S	1962	1:5,715	01-54
1249-L	1961-10	1:12,000	02-63	1250-S	1962	1:5,715	01-55
1250-L	1961-10	1:12,000	02-64	1251-S	1962	1:5,715	01-56
1251-L	1961-10	1:12,000	02-65	1252-S	1962	1:5,715	01-57
1252-L	1961-10	1:12,000	02-66	1253-S	1962	1:5,715	01-58
1253-L	1961-10	1:12,000	02-67	1254-S	1962	1:5,715	01-59
1254-L	1961-10	1:12,000	02-68	1255-S	1962	1:5,715	01-60
1255-L	1961-10	1:12,000	02-69	1256-S	1962	1:5,715	01-61
1256-L	1961-10	1:12,000	02-70	1257-S	1962	1:5,715	01-62
1257-L	1961-10	1:12,000	02-71	1258-S	1962	1:5,715	01-63
1258-L	1961-10	1:12,000	02-72	1259-S	1962	1:5,715	01-64
1259-L	1961-10	1:12,000	02-73	1260-S	1962	1:5,715	01-65
1260-L	1961-10	1:12,000	02-74	1261-S	1962	1:5,715	01-66
1261-L	1961-10	1:12,000	02-75	1262-S	1962	1:5,715	01-67
1262-L	1961-10	1:12,000	02-76	1263-S	1962	1:5,715	01-68
1263-L	1961-10	1:12,000	02-77	1264-S	1962	1:5,715	01-69
1264-L	1961-10	1:12,000	02-78	1265-S	1962	1:5,715	01-70
1265-L	1961-10	1:12,000	02-79	1266-S	1962	1:5,715	01-71
1266-L	1961-10	1:12,000	02-80	1267-S	1962	1:5,715	01-72
1267-L	1961-10	1:12,000	02-81	1268-S	1962	1:5,715	01-73
1268-L	1961-10	1:12,000	02-82	1269-S	1962	1:5,715	01-74
1269-L	1961-10	1:12,000	02-83	1270-S	1962	1:5,715	01-75
1270-L	1961-10	1:12,000	02-84	1271-S	1962	1:5,715	01-76
1271-L	1961-10	1:12,000	02-85	1272-S	1962	1:5,715	01-77
1272-L	1961-10	1:12,000	02-86	1273-S	1962	1:5,715	01-78
1273-L	1961-10	1:12,000	02-87	1274-S	1962	1:5,715	01-79
1274-L	1961-10	1:12,000	02-88	1275-S	1962	1:5,715	01-80
1275-L	1961-10	1:12,000	02-89	1276-S	1962	1:5,715	01-81
1276-L	1961-10	1:12,000	02-90	1277-S	1962	1:5,715	01-82
1277-L	1961-10	1:12,000	02-91	1278-S	1962	1:5,715	01-83
1278-L	1961-10	1:12,000	02-92	1279-S	1962	1:5,715	01-84
1279-L	1961-10	1:12,000	02-93	1280-S	1962	1:5,715	01-85
1280-L	1961-10	1:12,000	02-94	1281-S	1962	1:5,715	01-86
1281-L	1961-10	1:12,000	02-95	1282-S	1962	1:5,715	01-87
1282-L	1961-10	1:12,000	02-96	1283-S	1962	1:5,715	01-88
1283-L	1961-10	1:12,000	02-97	1284-S	1962	1:5,715	01-89
1284-L	1961-10	1:12,000	02-98	1285-S	1962	1:5,715	01-90
1285-L	1961-10	1:12,000	02-99	1286-S	1962	1:5,715	01-91
1286-L	1961-10	1:12,000	03-00	1287-S	1962	1:5,715	01-92
1287-L	1961-10	1:12,000	03-01	1288-S	1962	1:5,715	01-93
1288-L	1961-10	1:12,000	03-02	1289-S	1962	1:5,715	01-94
1289-L	1961-10	1:12,000	03-03	1290-S	1962	1:5,715	01-95
1290-L	1961-10	1:12,000	03-04	1291-S	1962	1:5,715	01-96
1291-L	1961-10	1:12,000	03-05	1292-S	1962	1:5,715	01-97
1292-L	1961-10	1:12,000	03-06	1293-S	1962	1:5,715	01-98
1293-L	1961-10	1:12,000	03-07	1294-S	1962	1:5,715	01-99
1294-L	1961-10	1:12,000	03-08	1295-S	1962	1:5,715	02-00
1295-L	1961-10	1:12,000	03-09	1296-S	1962	1:5,715	02-01
1296-L	1961-10	1:12,000	03-10	1297-S	1962	1:5,715	02-02
1297-L	1961-10	1:12,000	03-11	1298-S	1962	1:5,715	02-03
1298-L	1961-10	1:12,000	03-12	1299-S	1962	1:5,715	02-04
1299-L	1961-10	1:12,000	03-13	1300-S	1962	1:5,715	02-05
1300-L	1961-10	1:12,000	03-14	1301-S	1962	1:5,715	02-06
1301-L	1961-10	1:12,000	03-15	1302-S	1962	1:5,715	02-07
1302-L	1961-10	1:12,000	03-16	1303-S	1962	1:5,715	02-08
1303-L	1961-10	1:12,000	03-17	1304-S	1962	1:5,715	02-09
1304-L	1961-10	1:12,000	03-18	1305-S	1962	1:5,715	02-10
1305-L	1961-10	1:12,000	03-19	1306-S	1962	1:5,715	02-11
1306-L	1961-10	1:12,000	03-20	1307-S	1962	1:5,715	02-12
1307-L	1961-10	1:12,000	03-21	1308-S	1962	1:5,715	02-13
1308-L	1961-10	1:12,000	03-22	1309-S	1962	1:5,715	02-14
1309-L	1961-10	1:12,000	03-23	1310-S	1962	1:5,715	02-15
1310-L							