NOAA encourages users to submit inquiries, discrepancies or comments about this chart at http://www.nauticalcharts.noaa.gov/staff/contact.htm.

Formerly C&GS 5021, 1st Ed., Apr. 1948 G-1948-712 KAPP 1853

SOUNDINGS IN FATHOMS

(FATHOMS AND FEET TO 11 FATHOMS)

18010

THE NATION'S CHARTMAKER SINCE 1807

UNITED STATES - WEST COAST

CALIFORNIA - OREGON

MONTEREY BAY TO COOS BAY

(For offshore navigation only)

Mercator Projection
Scale 1:811,980 at Lat 40° 00'

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FATHOMS
(FATHOMS AND FEET TO ELEVEN FATHOMS)
AT MEAN LOWER LOW WATER

Additional information can be obtained at nauticalcharts.noaa.gov.

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)
Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical	G green	N nun	R TR radio tower
Al alternating	IQ interrupted quick	OBSC obscured	Rot rotating
B black	Iso isophase	Oc occulting	s seconds
Bn beacon	LT HO lighthouse	Or orange	SEC sector
C can	M nautical mile	Osc oscillating	St M statute miles
DIA diaphone	m minutes	Q quick	VQ very quick
F fixed	MICRO TR microwave tower	R red	W white
Fl flashing	Mkr marker	Ra Ref radar reflector	WHIS whistle
	Mo morse code	R Bn radiobeacon	Y yellow

Bottom characteristics:

Blds boulders	Co coral	gy gray	Oys oysters	so soft
bk brown	G gravel	h hard	Rk rock	Sh shells
Cy clay	Grs grass	M mud	S sand	sy sticky

Miscellaneous:
AUTH authorized; Obstn obstruction; PD position doubtful; Subm submerged; ED existence doubtful; PA position approximate; Rep reported
(2)ₓ Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
(2) Rocks that cover and uncover, with heights in feet above datum of soundings.

HEIGHTS
Heights in feet above Mean High Water.

AUTHORITIES
Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, U.S. Coast Guard, and National Geospatial-Intelligence Agency.

CAUTION
Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

NOTE D
NATIONAL MARINE SANCTUARIES
National Marine Sanctuaries are protected areas, administered by NOAA, which contain abundant and diverse natural resources such as marine mammals, seabirds, fishes and tidepool invertebrates. These areas are particularly sensitive to environmental damage such as spills of oil and other hazardous materials, discharges, and groundings. Exercise particular caution and follow applicable Sanctuary regulations when transiting these areas to avoid environmental impacts. A full description of Sanctuary regulations may be found in 15 CFR Part 922 and in Coast Pilot.

MAGNETIC VARIATION
Magnetic variation curves are for 2012 derived from 2010 World Magnetic Model and accompanying secular change. If annual change is in same direction as variation it is additive and the variation is increasing. If annual change is opposite in direction to variation it is subtractive and the variation is decreasing.

VESSEL TRANSITING
The U.S. Coast Guard and the Pacific States/British Columbia Oil Spill Task Force endorse a system of voluntary measures and minimum distances from shore for certain commercial vessels transiting along the coast anywhere between Cook Inlet, Alaska and San Diego, California. See U.S.Coast Pilot 7, Chapter 3 for details.

NOTE X
Within the 12-nautical mile Territorial Sea, established by Presidential Proclamation, some Federal laws apply. The Three Nautical Mile Line, previously identified as the outer limit of the territorial sea, is retained as it continues to depict the jurisdictional limit of the other laws. The 9-nautical mile Natural Resource Boundary off the Gulf coast of Florida, Texas, and Puerto Rico, and the Three Nautical Mile Line elsewhere remain in most cases the inner limit of Federal fisheries jurisdiction and the outer limit of the jurisdiction of the states. The 24-nautical mile Contiguous Zone and the 200-nautical mile Exclusive Economic Zone were established by Presidential Proclamation. Unless fixed by treaty or the U.S. Supreme Court, these maritime limits are subject to modification.

NOTE C
CHEMICAL MUNITIONS DUMPING AREA-RESTRICTION
Site was formerly used or designated for U.S. Chemical Munitions dumping. Such use has been discontinued. Designation of such area in no way constitutes authority for dumping.

HORIZONTAL DATUM
The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System of 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 do not require conversion to NAD 83 for plotting on this chart.

NOTE S
Regulations for Ocean Dumping Sites are contained in 40 CFR, Parts 220-229. Additional information concerning the regulations and requirements for use of the sites may be obtained from the Environmental Protection Agency (EPA). See U.S. Coast Pilots appendix for addresses of EPA offices. Dumping subsequent to the survey dates may have reduced the depths shown.

POLLUTION REPORTS
Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

RADAR REFLECTORS
Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

NOTE E
The U.S. Coast Guard operates a mandatory Vessel Traffic Services (VTS) system in the San Francisco Bay and surrounding areas. Vessel operating procedures and designated radiotelephone frequencies are published in 33 CFR 161, the U.S. Coast Pilot, and/or the VTS User's Manual. Mariners should consult these sources for applicable rules and reporting requirements. Although mandatory VTS participation is limited to the navigable waters of the United States, certain vessels are encouraged or may be required, as a condition of port entry, to report beyond this area to facilitate advance vessel traffic management within the VTS area.

The U.S. Coast Guard operates a Vessel Traffic Service Offshore Vessel Movement Reporting System covering the seaward approaches to San Francisco Bay. Vessels are requested to monitor VTSSF on Channel 12 at 15 and 45 minutes past each hour for broadcast reports of known shipping traffic in the area.

NOTE K
MARINER ACTIVATED SOUND SIGNAL (MRASS)
Horn is activated by keying the mic 5 times on VHF-FM Ch 81A - horn will operate for thirty minutes.

NOTE F
IMO - adopted Recommended Tracks for vessels carrying hazardous cargo in bulk (including ore concentrates, explosives, munitions, chemicals, liquefied gases, refined products, distillates or other non-persistent cargo). Vessels using these tracks should use the Western TSS when entering or leaving San Francisco.

NOTE G
IMO - adopted Recommended Tracks for vessels 300 gross tons and above (except those carrying hazardous cargo in bulk or crude oil).

SUPPLEMENTAL INFORMATION
Consult U.S. Coast Pilot 7 for important supplemental information.

WARNING
The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

AIDS TO NAVIGATION
Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

CAUTION
Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Geospatial-Intelligence Agency Publication 117.
Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.
Station positions are shown thus:
⊙(Accurate location) o(Approximate location)

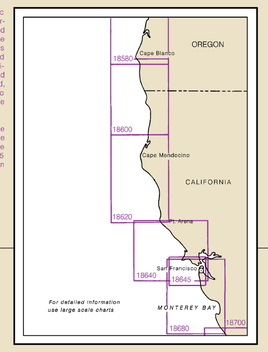
NOTE B
TRAFFIC SEPARATION SCHEME
Recommended traffic lanes have been established for the approaches to San Francisco Bay. See charts 18645, 18680, and 18640.

CAUTION
SUBMARINE PIPELINES AND CABLES
Charted submarine pipelines and submarine cables and submarine pipeline and cable areas are shown as:

Pipeline Area — *Cable Area*

Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths of water comparable to their draft in areas where pipelines and cables may exist, and when anchoring, dragging, or trawling.
Covered wells may be marked by lighted or unlighted buoys.

NOTE A
Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 13th Coast Guard District in Seattle, Wash., and the 11th Coast Guard District in Long Beach, California or at the Office of the District Engineer, Corps of Engineers in San Francisco, California; Portland, Oregon; and Seattle, Washington.
Refer to charted regulation section numbers.



CONTINUED ON CHART 18007
CONTINUED ON CHART 18020
JOINS CHART 18003
JOINS CHART 18022
128° 127° 126° 125° 124° 123° 122° 121°
40° 20° 43° 42° 41° 39° 38° 37°

18010

CAUTION
This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Geospatial-Intelligence Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner. Chart updates corrected from Notice to Mariners published after the dates shown in the lower left hand corner are available at nauticalcharts.noaa.gov.

22nd Ed., Sep. 2012. Last Correction: 12/8/2016. Cleared through:
LNM: 4916 (12/6/2016), NM: 5116 (12/17/2016), CHS: 1116 (11/25/2016)

To ensure that this chart was printed at the proper scale, the line below should measure six inches (152 millimeters).
If the line does not measure six inches (152 millimeters), this copy is not certified safe for navigation.

SOUNDINGS IN FATHOMS
(FATHOMS AND FEET TO 11 FATHOMS)

Published at Washington, D.C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
COAST SURVEY

This chart was distributed as a PDF (Portable Document Format). Printing PDFs may alter the chart scale, color, or legibility that may impact suitability for navigation. Printed charts provided by NOAA certified Print on Demand (POD) providers fulfill a vessel's requirement to carry a navigational chart "published by the National Ocean Service" in accordance with federal regulations, including but not limited to 33 C.F.R. 164.33(a), 33 C.F.R. 164.72(b), and 46 C.F.R. 28.225(a). POD charts meet stringent print standards and can be recognized by an official certification of authenticity printed on the chart. A list of POD providers can be found at: nauticalcharts.noaa.gov/pod

FATHOMS	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
FEET	0	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102
METERS	0	2	3	5	6	8	9	10	11	13	14	16	17	18	19	21	22	23

Monterey Bay to Coos Bay
SOUNDINGS IN FATHOMS - SCALE 1:811,980

18010

1049.0 X 753.7 mm