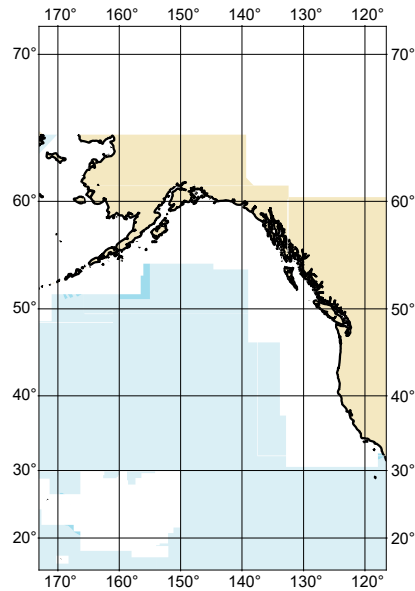


Zone of Confidence (ZOC) Diagram



ZOC CATEGORIES

ZOC	COLOR	POSITION ACCURACY	DEPTH ACCURACY	SEAFLOOR COVERAGE
A1		$\pm 5 \text{ m} + 5\% \text{ depth}$ $\pm 16.4 \text{ ft} + 5\% \text{ depth}$	$= 0.50 \text{ m} + 1\% \text{ d}$ $= 1.6 \text{ ft} + 1\% \text{ d}$ $= 0.3 \text{ fm} + 1\% \text{ d}$	All significant seafloor features detected.
A2		$\pm 20 \text{ m}$ $\pm 65.6 \text{ ft}$	$= 1.00 \text{ m} + 2\% \text{ d}$ $= 3.3 \text{ ft} + 2\% \text{ d}$ $= 0.6 \text{ fm} + 2\% \text{ d}$	All significant seafloor features detected.
B		$\pm 50 \text{ m}$ $\pm 164.0 \text{ ft}$	$= 1.00 \text{ m} + 2\% \text{ d}$ $= 3.3 \text{ ft} + 2\% \text{ d}$ $= 0.6 \text{ fm} + 2\% \text{ d}$	Uncharted features hazardous to surface navigation are not expected but may exist.
C		$\pm 500 \text{ m}$ $\pm 1640.4 \text{ ft}$	$= 2.00 \text{ m} + 2\% \text{ d}$ $= 6.6 \text{ ft} + 2\% \text{ d}$ $= 1.1 \text{ fm} + 2\% \text{ d}$	Depth anomalies may be expected.
D		Worse than ZOC C	Worse than ZOC C	Large depth anomalies may be expected.
U		Unassessed - The quality of the bathymetric data has yet to be assessed.		

NOAA CUSTOM CHART
NOTES GEOSPATIAL DATABASE
VERSION 3.0B - 20 FEBRUARY 2025

The records of the NOAA Custom Chart Notes Geospatial Database are current as of February 20, 2025. Subsequent additions and refinements are to be expected. Please refer to all available navigational publications for complete information about the charted area.

CAUTION
CHART UPDATES

This NOAA Custom Chart contains up-to-date information only as of the time of creation, and will become outdated. Mariners are advised to visit <https://distribution.charts.noaa.gov/navigation-updates/> to check for critical and routine updates, and to render a new NOAA Custom Chart when the ENC data used to make the chart is updated. Notices to Mariners are not issued for corrections to this NOAA Custom Chart.

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.

COMMENTS REQUESTED

NOAA encourages users to submit inquiries, discrepancies, or comments about this chart via NOAA's ASSIST tool at <https://nauticalcharts.noaa.gov/customer-service/assist/>.

CAUTION
AUTOMATED CHART GENERATION

This NOAA Custom Chart has been automatically rendered from NOAA Electronic Navigational Chart (NOAA ENC®) data. Mariners using this NOAA Custom Chart are advised that this is a static reproduction of the NOAA ENC®. This NOAA Custom Chart has not been individually quality checked or adjusted for optimal use for navigation. The portrayal may be at a different scale from that of the original NOAA ENC®. Mariners are advised to use caution when using this NOAA Custom Chart for navigation and are encouraged to use the latest NOAA ENC® to access the most up-to-date information. Mariners must also comply with all applicable regulatory requirements.

HEIGHTS

Heights of fixed aids to navigation and vertical clearances of overhead obstructions will be shown in feet if the units are set to feet or fathoms. If units are set to meters, heights will be shown in meters. Land elevation values are shown in meters only.

WATER LEVELS, CURRENTS, AND TIDES

Real-time water levels, tide predictions, and tidal current predictions are available on the internet from NOAA's Center for Operational Oceanographic Products and Services (CO-OPS) at https://tidesandcurrents.noaa.gov/water_level_info.html and https://tidesandcurrents.noaa.gov/currents_info.html.

ABBREVIATIONS

For complete list of Symbols and Abbreviations, see Chart No. 1.

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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).

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.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 10 and NGA Publication 126 for supplemental information.

Refer to charted regulation section numbers.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 8 for important supplemental information.

Refer to charted regulation section numbers.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 8 and Canadian Sailing Directions, Western Arctic for important supplemental information.

Information concerning Canadian Nautical Charts, Sailing Directions, Tide Tables, and other Government publications of interest to mariners may be obtained on request to the Dominion Hydrographer, Canadian Hydrographic Service, Department of Fisheries and Oceans, Ottawa.

AIDS TO NAVIGATION

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

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.

ADDITIONAL INFORMATION

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

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 7 and NGA Publication 153 for supplemental information.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 8 and Canadian Sailing Directions, Hecate Strait, Dixon Entrance, Portland Inlet and Adjacent Waters and Haida Gwaii for important supplemental information.

Information concerning Canadian Nautical Charts, Sailing Directions, Tide Tables, and other Government publications of interest to mariners may be obtained on request to the Dominion Hydrographer, Canadian Hydrographic Service, Department of Fisheries and Oceans, Ottawa.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 9 for important supplemental information.

Refer to charted regulation section numbers.

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SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 9 and NGA Publication 155 for supplemental information.

Refer to charted regulation section numbers.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 10 for important supplemental information.

Refer to charted regulation section numbers.

SOUNDING DATUM

In Canadian waters, soundings are referred to Lowest Normal Tide.

VERTICAL DATUM

Overhead clearances are referred to Mean High Water (MHW).

VERTICAL DATUM

In Canadian waters, overhead clearances are referred to Higher High Water Large Tides.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7. Additions or revisions to Chapter 2 are published in the Notices to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 11th Coast Guard District in Alameda, CA or at the Office of the District Engineer, Corps of Engineers in Portland, OR.

Refer to charted regulation section numbers.

SUPPLEMENTAL INFORMATION

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

Refer to charted regulation section numbers.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 10 for important supplemental information.

SOUNDING DATUM

Soundings referred to Mean Lower Low Water (MLLW).

SOUNDING DATUM

Soundings in the Columbia River east of Harrington Point are referred to Columbia River Datum, or Mean Lower Low Water (MLLW) during lowest river stages.

VERTICAL DATUM

Overhead clearances in the Columbia River east of Harrington Point are referred to Columbia River Datum.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7. Additions or revisions to Chapter 2 are published in the Notices to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 11th Coast Guard District in Alameda, CA or at the Office of the District Engineer, Corps of Engineers in Walla Walla, WA.

Refer to charted regulation section numbers.

Refer to charted regulation section numbers.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7. Additions or revisions to Chapter 2 are published in the Notices to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 11th Coast Guard District in Alameda, CA or at the Office of the District Engineer, Corps of Engineers in Los Angeles, CA.

Refer to charted regulation section numbers.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7. Additions or revisions to Chapter 2 are published in the Notices to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 11th Coast Guard District in Alameda, CA or at the Office of the District Engineer, Corps of Engineers in Sacramento, CA.

Refer to charted regulation section numbers.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 8. Additions or revisions to Chapter 2 are published in the Notices to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 17th Coast Guard District in Juneau, AK or at the Office of the District Engineer, Corps of Engineers in Anchorage, AK.

Refer to charted regulation section numbers.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7. Additions or revisions to Chapter 2 are published in the Notices to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 11th Coast Guard District in Alameda, CA or at the Office of the District Engineer, Corps of Engineers in San Francisco, CA.

Refer to charted regulation section numbers.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 10. Additions or revisions to Chapter 2 are published in the Notices to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 14th Coast Guard District in Honolulu, HI or at the Office of the District Engineer, Corps of Engineers in Honolulu, HI.

Refer to charted regulation section numbers.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 9. Additions or revisions to Chapter 2 are published in the Notices to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 17th Coast Guard District in Juneau, AK or at the Office of the District Engineer, Corps of Engineers in Anchorage, AK.

Refer to charted regulation section numbers.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 10. Additions or revisions to Chapter 2 are published in the Notices to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 13th Coast Guard District in Seattle, WA or at the Office of the District Engineer, Corps of Engineers in San Francisco, CA.

Refer to charted regulation section numbers.

Refer to charted regulation section numbers.

Refer to charted regulation section numbers.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 10. Additions or revisions to Chapter 2 are published in the Notices to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 13th Coast Guard District in Seattle, WA or at the Office of the District Engineer, Corps of Engineers in Seattle, WA.

Refer to charted regulation section numbers.

COPYRIGHT

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NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 10. Additions or revisions to Chapter 2 are published in the Notices to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 13th Coast Guard District in Seattle, WA or at the Office of the District Engineer, Corps of Engineers in Portland, OR.

Refer to charted regulation section numbers.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 10. Additions or revisions to Chapter 2 are published in the Notices to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 13th Coast Guard District in Seattle, WA or at the Office of the District Engineer, Corps of Engineers in Walla Walla, WA.

Refer to charted regulation section numbers.

CANADIAN
AIDS TO NAVIGATION

See Canadian List of Lights, Buoys and Fog Signals for information not included in the U.S. Coast Guard Light List.

MARITIME BOUNDARY

Maritime boundary provisionally applied pending formal exchange of instruments of ratification.

According to Article 3 of the Agreement Between the United States of America and Russia on the Maritime Boundary, signed June 1, 1990:

“1. In any area east of the maritime boundary that lies within 200 nautical miles of the baseline from which the breadth of the territorial sea of Russia is measured but beyond 200 nautical miles of the baselines from which the breadth of the territorial sea of the United States is measured (“eastern special area”), Russia agrees that henceforth the United States may exercise the sovereign rights and jurisdiction derived from exclusive economic zone jurisdiction that Russia would otherwise be entitled to exercise under international law in the absence of the agreement of the Parties on the maritime boundary...

3. to the extent that either Party exercises the sovereign rights or jurisdiction in the special area or areas on its side of the maritime boundary as provided for in this Article, such exercise of sovereign rights or jurisdiction derives from the agreement of the Parties and does not constitute an extension of its exclusive economic zone. To this end, each Party shall take the necessary steps to ensure that any exercise on its part of such rights or jurisdiction in the special area or areas or its side of the maritime boundary shall be so characterized in its relevant laws, regulations, and charts.”

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, Chapter 3 for details.

NOTE

Maritime boundary provisionally applied pending formal exchange of instruments of ratification.

According to Article 3 of the Agreement Between the United States of America and Russia on the Maritime Boundary, signed June 1, 1990:

"1. In any area east of the maritime boundary that lies within 200 nautical miles of the baseline from which the breadth of the territorial sea of Russia is measured but beyond 200 nautical miles of the baselines from which the breadth of the territorial sea of the United States is measured ("eastern special area"), Russia agrees that henceforth the United States may exercise the sovereign rights and jurisdiction derived from exclusive economic zone jurisdiction that Russia would otherwise be entitled to exercise under international law in the absence of the agreement of the Parties on the maritime boundary...

3. to the extent that either Party exercises the sovereign rights or jurisdiction in the special area or areas on its side of the maritime boundary as provided for in this Article, such exercise of sovereign rights or jurisdiction derives from the agreement of the Parties and does not constitute an extension of its exclusive economic zone. To this end, each Party shall take the necessary steps to ensure that any exercise on its part of such rights or jurisdiction in the special area or areas on its side of the maritime boundary shall be so characterized in its relevant laws, regulations, and charts."

JUAN DE FUCA CVTS

A Cooperative Vessel Traffic Services (CVTS) system has been established by the United States and Canada within the adjoining waters in the Juan de Fuca Region. The appropriate Vessel Traffic Center (VTC) (Prince Rupert Traffic, Seattle Traffic, Victoria Traffic) administers the rules issued by both nations, however it will enforce only its own set of rules within its jurisdiction.

OFFSHORE VESSEL MOVEMENT REPORTING SYSTEM (OVMRS)

The U.S. Coast Guard operates an Offshore Vessel Movement Reporting System (OVMRS) covering the seaward approaches to San Francisco Bay. All commercial vessels over 300 gross tons and all tugs with tows are requested to contact Vessel Traffic Service San Francisco on VHF-FM channel 12 (156.60 MHz) when entering this area. All vessels in the area are encouraged to listen on channel 12 at fifteen and forty-five minutes past each hour for broadcast reports of known shipping traffic in the area. Additional information on the OVMRS is published in Coast Pilot 7 and information concerning specific operation procedures is available from the VTS.

CAUTION

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

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CAUTION LIMITATIONS ON THE USE OF RADIO SIGNALS

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.

CAUTION DISPUTED AREA

This area is disputed by United States and Canada.

Cette zone est l'objet d'un désaccord entre les États-Unis et le Canada.

CAUTION DISPUTED AREA

This area is disputed by United States and Canada.

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CAUTION RADIO NAVIGATIONAL AIDS

Radio navigational aids on the Russian Arctic coast and adjacent islands north of the Arctic Circle have been omitted due to the lack of reliable information.

CAUTION

Numerous shoals in Rowan Bay and along the edges of the entrance channel cannot be adequately. Mariners should exercise caution. Use larger scale charts.

CAUTION DISPUTED AREA

This area is disputed by United States and Canada.

Cette zone est l'objet d'un désaccord entre les États-Unis et le Canada.

AREA TO BE AVOIDED

All vessels solely in transit should avoid the area surrounding Papahānaumokuākea Marine National Monument Special Preservation Areas (MSC IMO SN.1 / Circ. 263).

SHIP REPORTING SYSTEM

The following vessels entering or departing any U.S. port or place and in transit through the reporting area are required to report into the System: all vessels 300 gross tons or greater and all vessels in the event of a developing emergency. The following vessels in transit through the reporting area should report into the System: all vessels 300 gross tons or greater, fishing vessels, and all vessels in the event of a developing emergency. See IMO SN. 1, Circ. 273. Information concerning the Ship Reporting System is also published in the U.S. Coast Pilot 10, Chapters 2 and 14, and updated through Notices to Mariners. Information may also be obtained at the Office of the Commander, 14th Coast Guard District in Honolulu or at the Office of the District Engineer, Corps of Engineers, in Honolulu.

NOTE

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.

HAWAIIAN ISLANDS HUMPBACK WHALE
NATIONAL MARINE SANCTUARY
(PROTECTED AREA: 15 CFR 922; SEE NOTE A)

PARTICULARLY SENSITIVE SEA AREA

A Particularly Sensitive Sea Area (PSSA) is an environmentally sensitive area around which mariners should exercise extreme caution. See U.S. Coast Pilot volumes for information regarding this area.

AREA TO BE AVOIDED

All ships 400 gross tonnage and upwards solely in transit should avoid the Area. This Area is IMO-Adopted (MSC IMO SN.1/Circ.331).

RECOMMENDED TWO-WAY ROUTES

The two-way routes are recommended for ships of 400 gross tonnage and upwards. CAUTION: Full bottom coverage surveys have not been conducted within the entire routes, so uncharted dangers may exist. The two-way routes and precautionary areas are IMO-Adopted (MSC IMO SN.1/Circ.336).

CHEMICAL MUNITIONS DUMPING
AREA DISUSED

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.

NOTE

IMO-adopted Recommended Tracks for vessels 304.8 metric tons/300 gross tons and above (except those carrying hazardous cargo in bulk or crude oil).

KAHO‘OLawe ISLAND RESERVE

Kaho‘olawe Island Reserve surrounds the island of Kaho‘olawe.

LAYSAN ISLAND
SPECIAL PRESERVATION AREA(PROTECTED
AREA: 50 CFR 404; SEE NOTE A)

MARO REEF
SPECIAL PRESERVATION AREA(PROTECTED
AREA: 50 CFR 404; SEE NOTE A)

GARDNER PINNACLES
SPECIAL PRESERVATION AREA
(PROTECTED AREA: 50 CFR 404; SEE NOTE
A)

NIHOA ISLAND
SPECIAL PRESERVATION AREA
(PROTECTED AREA: 50 CFR 404; SEE NOTE
A)

HAWAI'IAN ISLANDS
NATIONAL WILDLIFE REFUGE

The Hawai'ian Islands from longitude 161°W to 176°W are part of the Hawai'ian Islands National Wildlife Refuge, and under the jurisdiction of the U.S. Fish and Wildlife Service, Department of the Interior.

The islands and atolls in the refuge include Nihoa, Necker Island, French Frigate Shoals, Gardner Pinnacles, Maro Reef, Laysan Island, Lisianski Island, Pearl and Hermes Atoll. National Wildlife Refuge System regulations pertaining to these islands and atolls are contained in CFR 50, parts 25-32.

Entry to the refuge is strictly prohibited without prior approval from the Refuge Manager, Pacific Remote Islands National Wildlife Refuge Complex, U.S. Fish and Wildlife Service, 300 Ala Moana Blvd Honolulu, Hawaii 96850.

The restrictions apply to all civilian and military agencies as well as individuals.

MINERAL DEVELOPMENT STRUCTURES

Obstruction lights and sound (fog) signals are required for fixed mineral development structures, subject to approval by the District Commander, U.S. Coast Guard (33 CFR 67).

PERIL STRAIT AND SERGIUS NARROWS

Some aids, channels, and dangers are not shown. Use larger scale charts.

FRENCH FRIGATE SHOALS
SPECIAL PRESERVATION AREA(PROTECTED
AREA: 50 CFR 404; SEE NOTE A)

NECKER ISLAND
SPFCIAL PRESERVATION AREA
(PROTECTED AREA: 50 CFR 404; SEE NOTE
A)

PAPAHĀNAUMOKUĀKEA
MARINE NATIONAL MONUMENT
(PROTECTED AREA: 50 CFR 404)

See Chapter 2, U.S. Coast Pilot 10 for more information about the Papahānaumokuākea Marine National Monument.

NATIONAL MARINE SANCTUARIES
(PROTECTED AREA: 15 CFR 922; SEE NOTE
A)

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 the Coast Pilot.

POSSIBLE PINNACLE ROCKS

A study by the Canadian authorities within the dashed outlined area indicates hazardous pinnacle-like features which may reduce the depths to as little as 30 percent of the charted depth. For example, where a depth of 29.26 meters/16 fathoms is charted, a depth of 8.68 meters/4.75 fathoms may exist nearby. An echo sounder may provide little if any warning when approaching these features.

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NEVA STRAIT

Most features, including bathymetry, are omitted in this area. The minimal depiction of detail in this area does not support safe navigation. Use larger scale charts.

RACON

Radar Transponder Beacons, or RACONS, are activated by radars operating on the X-Band, frequencies 9300 to 9450 MHz and, when activated will emit an international Morse code character which will be visible on the radar screen that activated the RACON. The effective range of the RACONS will be 8 miles.

SITKA AREA

Some aids, channels, and dangers are not shown. Use larger scale charts.

KEKU STRAIT

Most features, including bathymetry, are omitted in this area. The minimal depiction of detail in this area does not support safe navigation. Use larger scale charts.

LOCAL MAGNETIC DISTURBANCE

Differences of as much as 4° from the normal variation have been observed north of Kendrick Islands at 54°54.4'N, 131°58.6'W.