



NOAA
Coast Survey

NOAA Custom Chart Development

<https://devgis.charttools.noaa.gov/pod>

9th Meeting of the Nautical Cartography Working Group

27 Nov – 1 Dec 2023 / Taunton, UK

Christie Ence ~ Colby Harmon

Office of Coast Survey – Marine Chart Division
U.S. National Oceanic and Atmospheric Administration

Chart Settings

Use these settings to enter your chart parameters. More information about chart scale, depth zone shades and other settings is in the [User Guide](#).

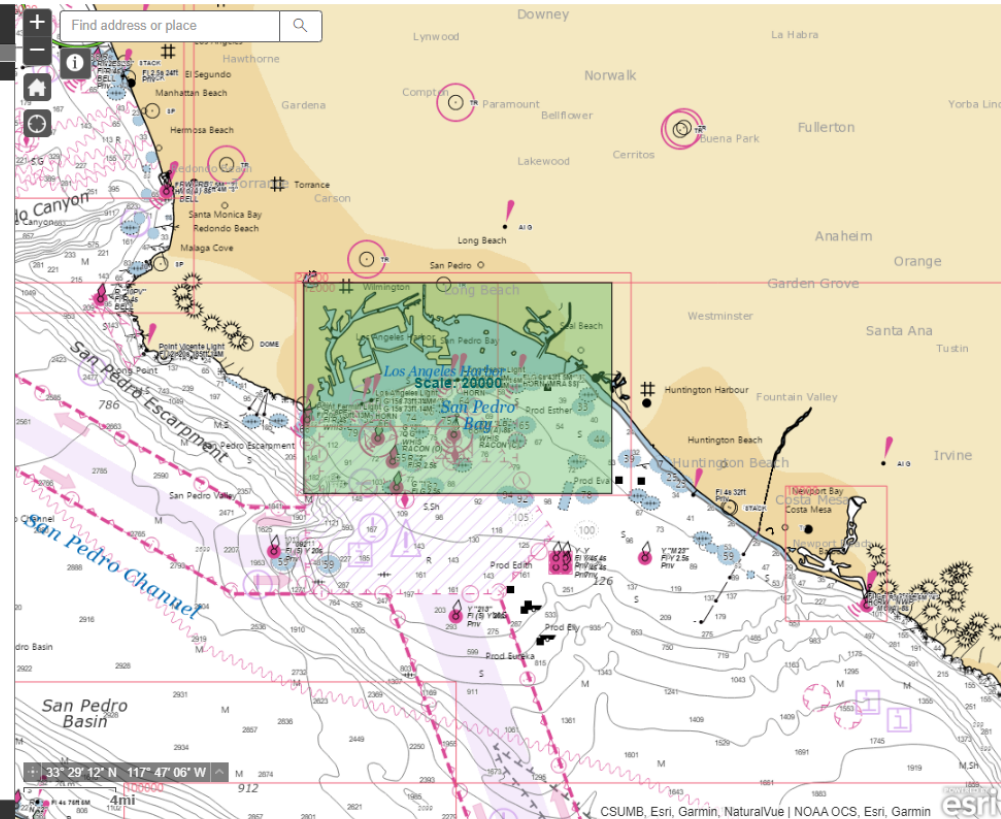
Name:	Los Angeles and Lang Beach Harbors
Scale:	20000
Page size:	ANSI E (34in x 44in)
Orientation:	Landscape

Chart units:	Feet						
Depth zones:	Four						
Depth zone shades:	<table border="1"> <tr> <td>Shallow:</td> <td>Safety:</td> <td>Deep:</td> </tr> <tr> <td>5</td> <td>11</td> <td>17</td> </tr> </table>	Shallow:	Safety:	Deep:	5	11	17
Shallow:	Safety:	Deep:					
5	11	17					

Depth zones shallower than the entered values are tinted in the shade of blue shown. If no contour for the value exists in the ENC data, the next deeper contour is used. Depth zones deeper than the "Deep" value are displayed as white.

[Create New Chart](#) [Move Chart](#)

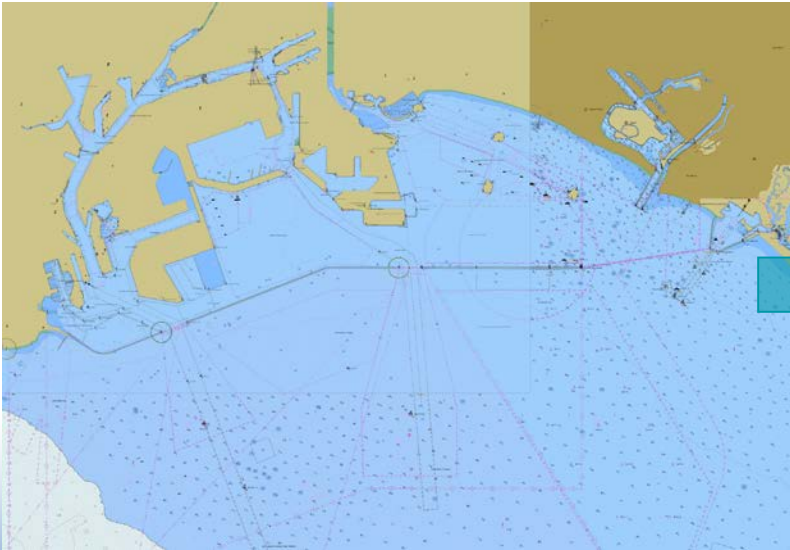
After populating all fields, click [Create New Chart](#), then click the map once at the center of your chart. Click [Move Chart](#), then click and drag the chart outline to refine its position.



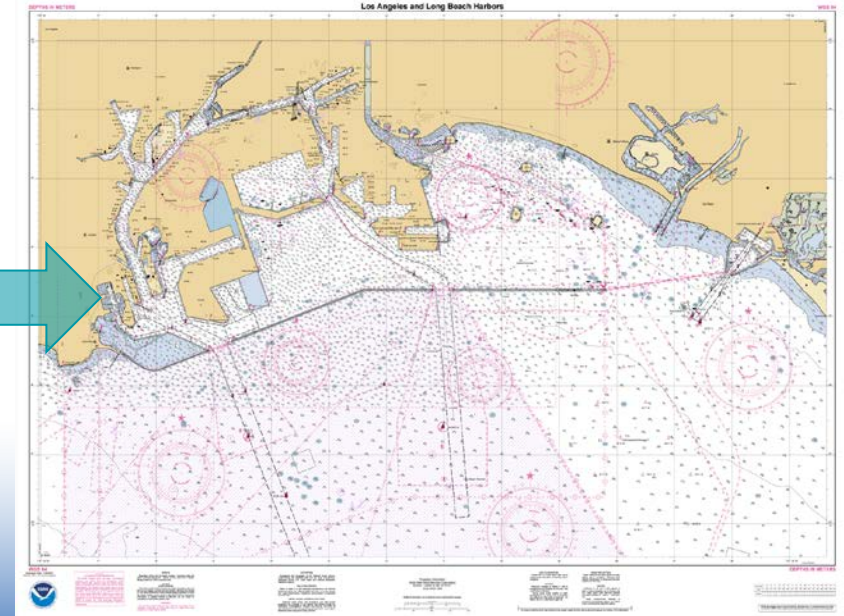
- Automates the creation of customized nautical charts from ENC data
- Users select chart:
 - Location
 - Scale
 - Paper Size / Orientation
- Customizable:
 - Shallow water tints
 - Depths units
 - Feet, Fathoms, Meters
 - Height Units
 - Feet, Meters
 - Compass rose display

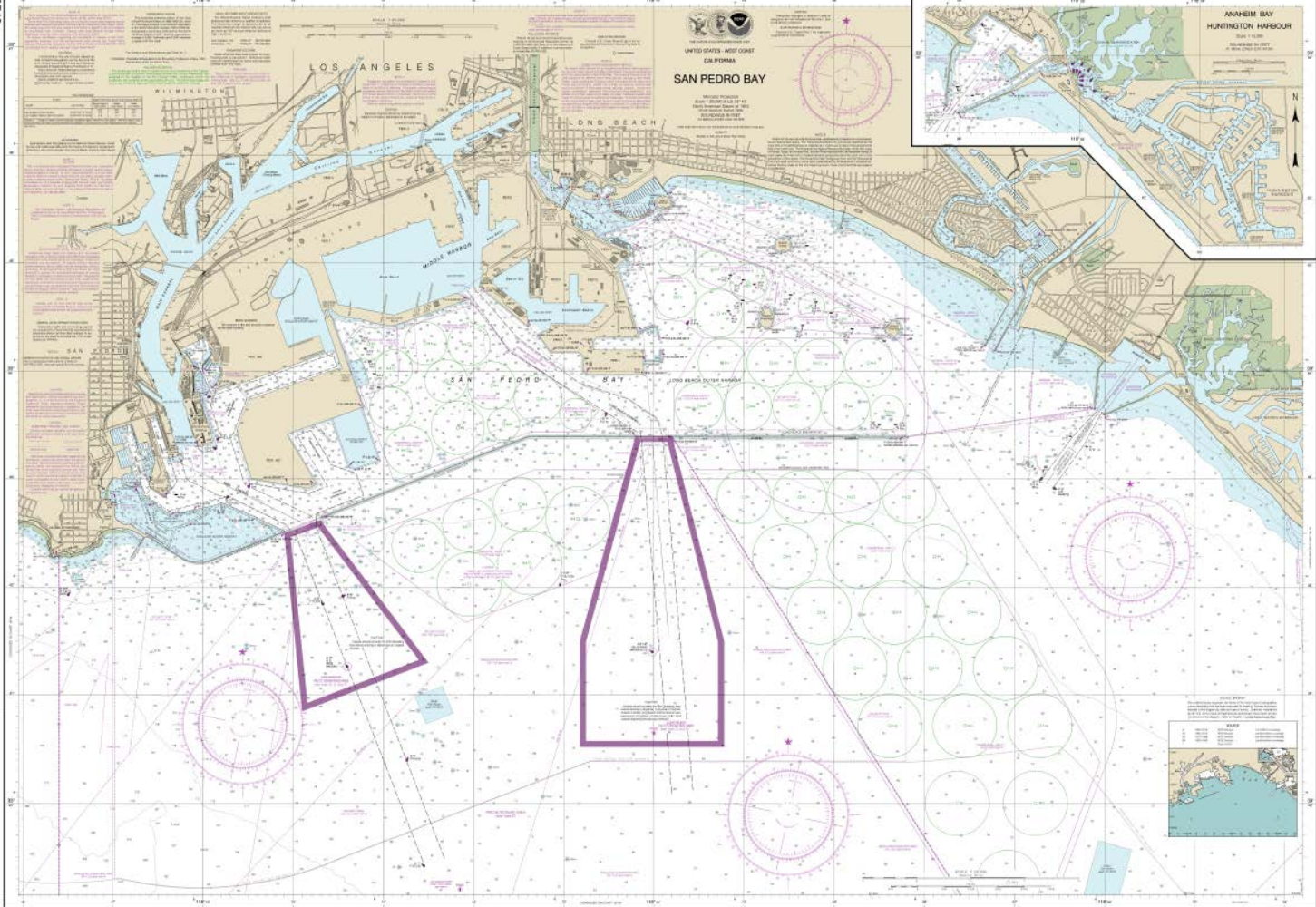
Application selects ENC data in the scale closest to the user's selected custom chart scale. Customized nautical charts are created as PDFs directly from ENC data.

NOAA ENC Data

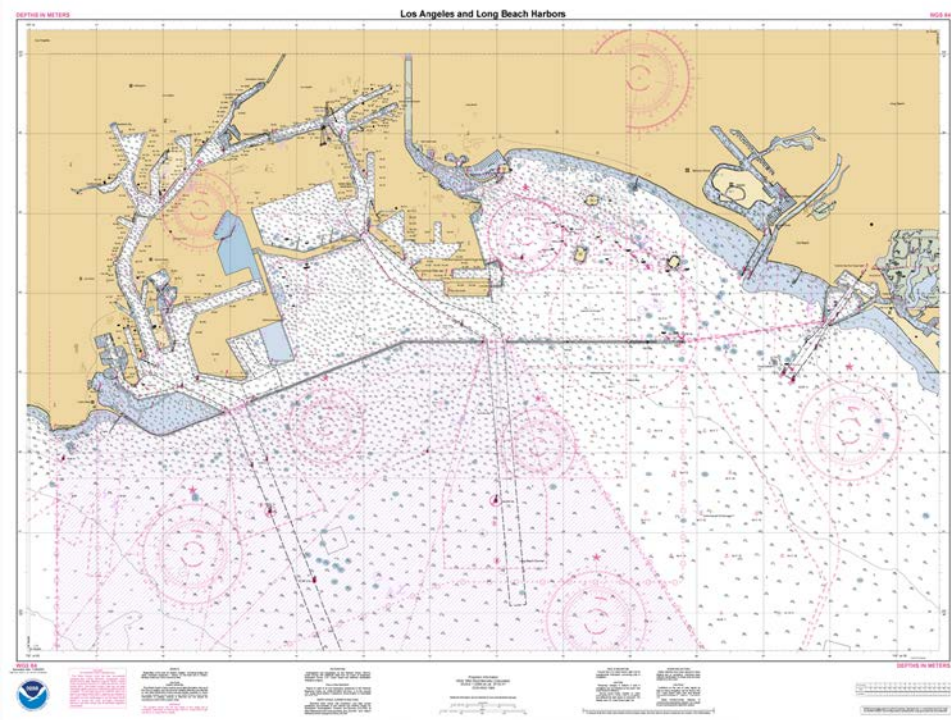


PDF rendered with Paper Chart Symbology



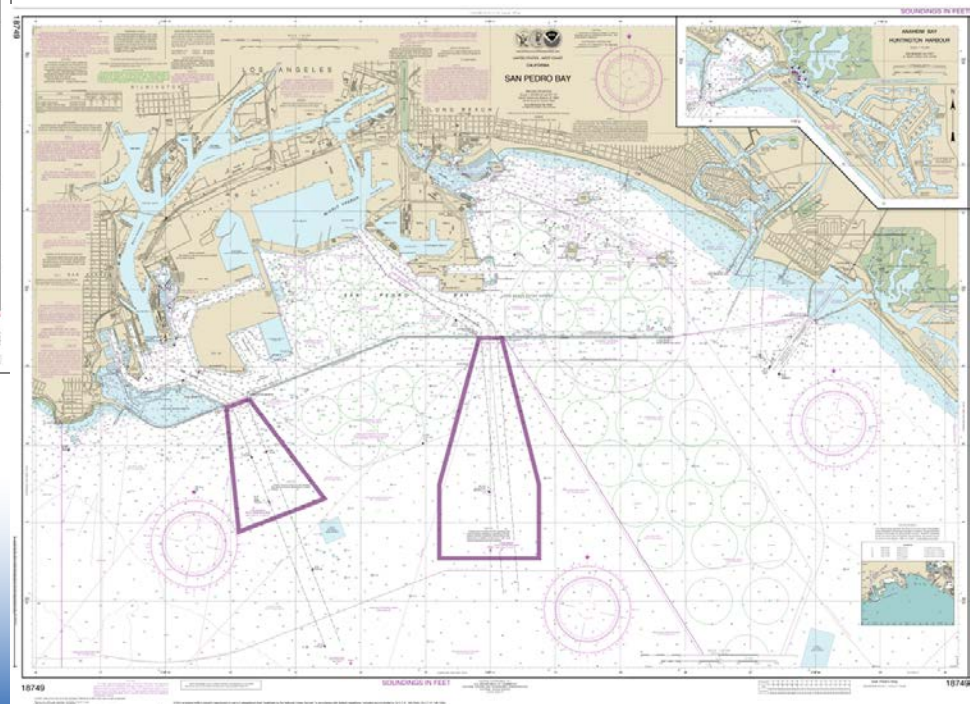


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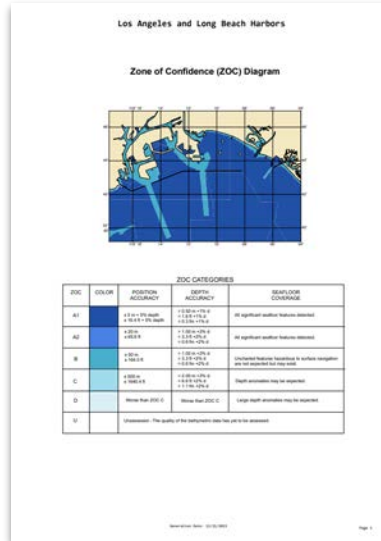
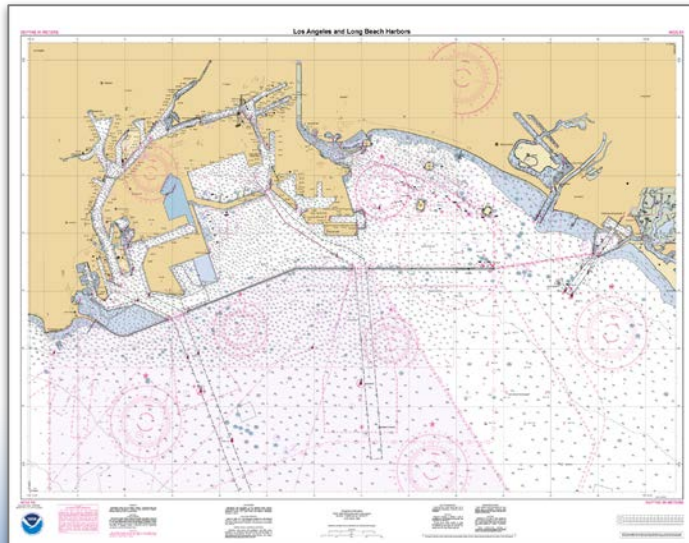
NOAA Custom Chart

NOAA Chart 18749



Output PDF file has 3 components

Main Chart



Zone of Confidence (ZOC) Diagram

Los Angeles and Long Beach Harbors

NOAA CUSTOM CHART
NOTES (SEAPATH DATABASE)
 VERSION 2.4 - 27 NOVEMBER 2021

The records of the NOAA Custom Chart Notes (Seapath Database) are current as of November 27, 2021. Subsequent additions and refinements may be requested. 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://distribocean.charts.noaa.gov/> weekly updates to check for weekly updates, and to request a new NOAA Custom Chart when information is updated. Notices to Mariners are not issued for corrections to this NOAA Custom Chart.

CAUTION
NOTES (SEAPATH DATABASE)

This NOAA Custom Chart has been electronically generated from NOAA Electronic Navigational Chart (ENC) data. Mariners using this NOAA Custom Chart are advised that this is a strictly navigational product of the NOAA ENC. This NOAA Custom Chart has not been individually quality checked or adjusted for optimal use for navigation. The charted area may be 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

Regardless of the units for depths, heights - including bridge and other overhead clearances - shown on this chart are in meters. Multiply meters by 3.28 to convert to feet.

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 REQUIRED

NOAA encourages users to submit inquiries, discrepancies, or comments about this chart via ENC@NOAA.gov or <https://distribocean.charts.noaa.gov/submit/>.

ABBREVIATIONS

For complete list of symbols and abbreviations, see Chart No. 1.

Chart Notes

Los Angeles and Long Beach Harbors

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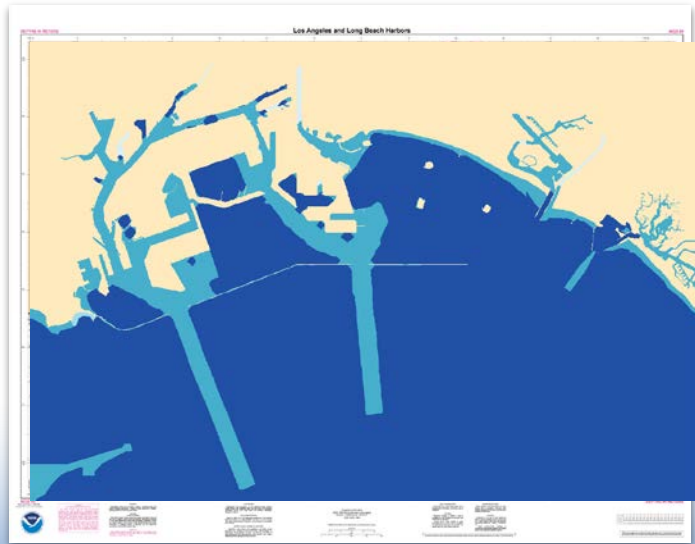
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For complete list of symbols and abbreviations, see Chart No. 1.

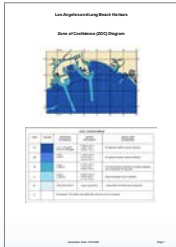
ZOC Diagram is created from Category of Zone of Confidence (CATZOC) attribute values from Quality of Data (M_QUAL) features

1:20,000

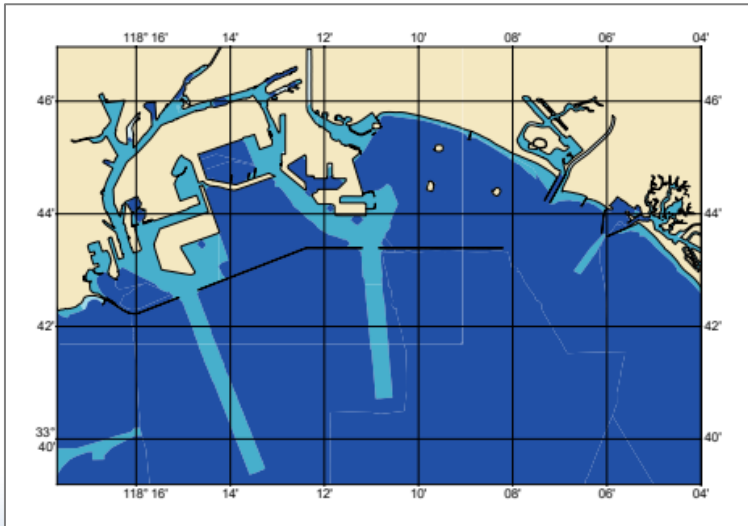







ZOC Diagram is 10% of the scale of the chart
Placed on a separate page with the category legend

1:200,000



ZOC categories are portrayed as different shades of blue



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.		

- Chart notes are stored in a file geodatabase
 - - Global notes are displayed on all charts
 - - Local notes apply to specific areas or features

OBJECTID	SHAPE	Color	Title	Notes	minScale	maxScale	State	Source	Date	Type	SHAPE_Length	SHAPE_Area
0	Area	0, 0, 0	NOAA CUS	The re	0	10000000	All	Inspect	11/17/2022	Global	1253546	4.045404
1	Area	219, 73	CAUTION	This N	0	10000000	All	L-184-	8/5/2022	Global	1253546	4.045404
53	Area	94, 153	STELLWAG	The fol	0	10000000	MA	Inspect	10/5/2022	Local	274304.2	4018771

NOAA CUSTOM CHART NOTES GEOSPATIAL
DATABASE VERSION 2.0 - 17 NOVEMBER
2022

The records of the NOAA Custom Chart Notes Geospatial Database are current as of November 17, 2022. Subsequent additions and refinements are to be expected. Please refer to all available navigational publications for complete information about the charted area.

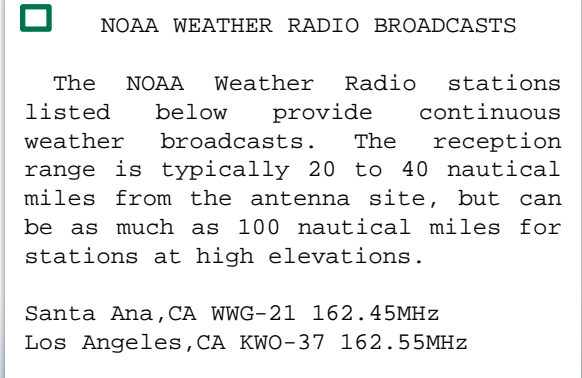
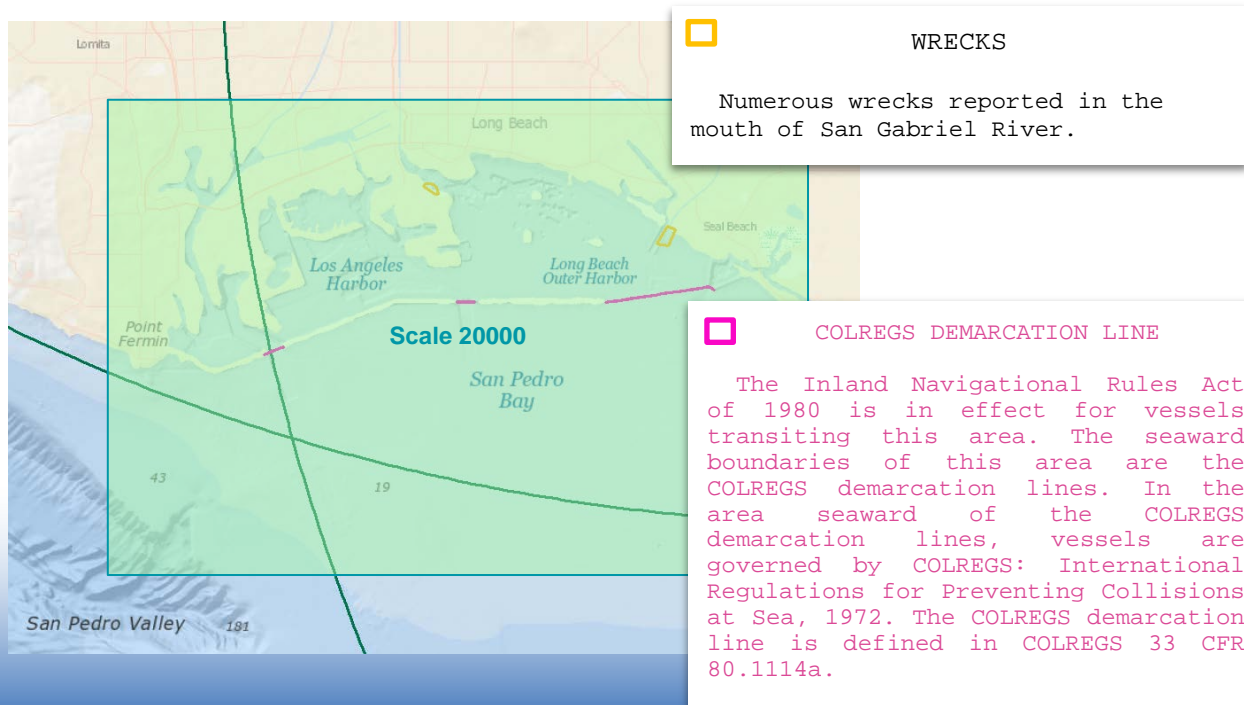
**CAUTION
AUTOMATED CHART GENERATION**

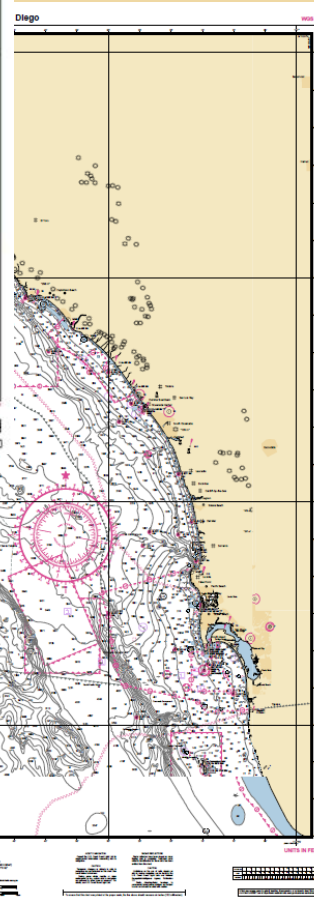
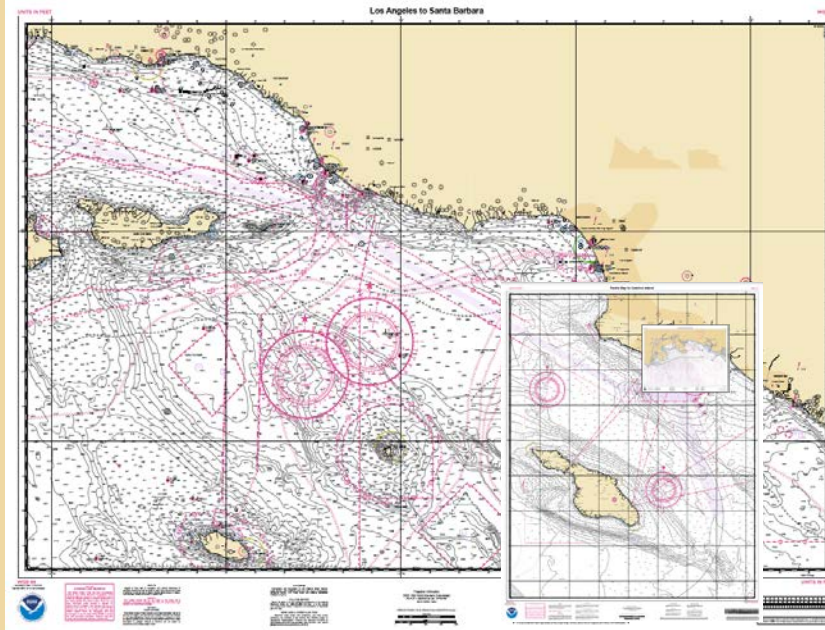
This NOAA Custom Chart has been automatically rendered from NOAA Electronic Navigational Chart (NOAA ENC®) data. Mariners using this NOAA Custom Chart are advised that this is a static reproduction of the NOAA ENC®. This NOAA Custom Chart has not been individually quality checked or adjusted for optimal 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.

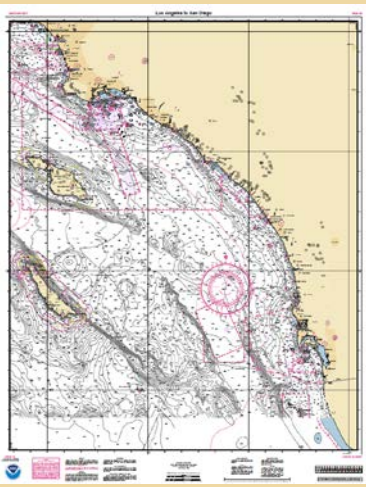
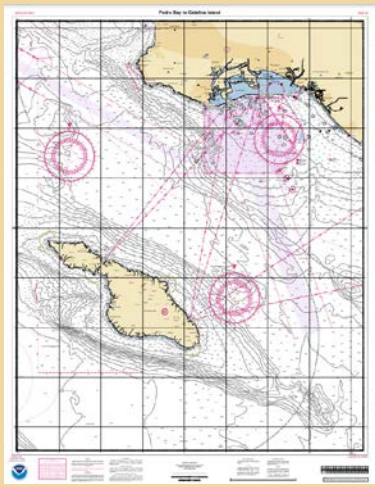
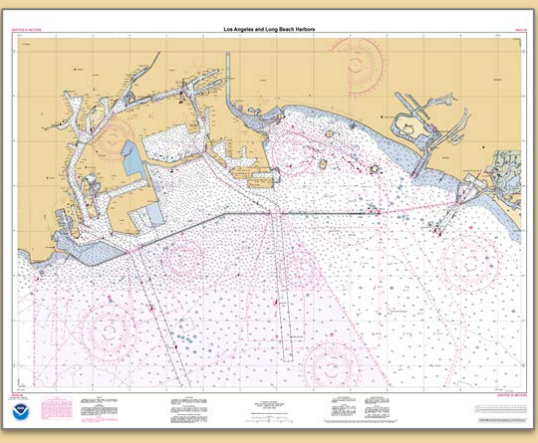
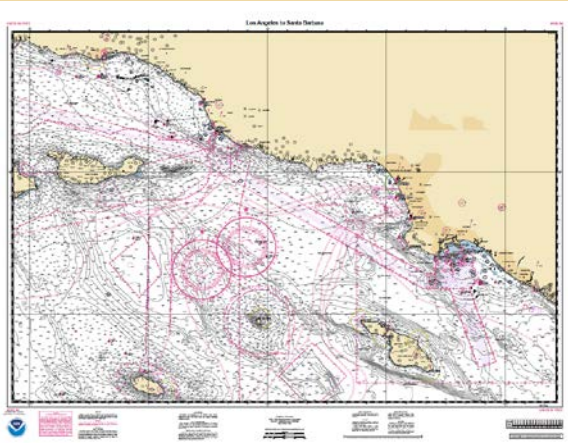
**STELLWAGEN BANK NATIONAL MARINE
SANCTUARY (protected area: 15 CFR 922)**


The following activities are prohibited within Stellwagen Bank Marine Sanctuary: certain discharging or dumping, industrial exploring or developing, drilling and dredging, removing historical artifacts, lightering. Refer to 15 CFR 922 for details of sanctuary regulations.

- Notes are added to the Chart Notes pages, if the Custom Chart's ...
 - Extent and note polygon overlap, and ...
 - Chart scale falls within the note's minimum and maximum scales









Office of Coast Survey
National Oceanic and Atmospheric Administration
U.S. Department of Commerce

Southern California Catalog.geojson

Title	Scale	Page Size	Orientation
Los Angeles and Long Beach Harbors	20000	ANSI E	Landscape
Pedro Bay to Catalina Island	80000	ANSI E	Portrait
Los Angeles to San Diego	200000	ANSI E	Portrait
Los Angeles to Santa Barbara	200000	ANSI E	Landscape

NOAA Custom Chart Version 2.0
Choose your own chart scale and location
Save charts to a personal chart catalog

Export Functions

New charts and charts retrieved from Chart Catalog are shown in this list. You can delete, or move selected charts into another chart catalog by clicking the associated button.

Chart Catalog

Open Chart Catalog View

Active Catalog: Southern California Catalog (geojson)

Chart Queue

Los Angeles and Long Beach Harbors

Pedro Bay to Catalina Island

Los Angeles to San Diego

Los Angeles to Santa Barbara

Search

Items	Shallow Tint	Safety Tint	Deep Tint
1	5.0	11.0	17.0
2	5.0	11.0	17.0
3	5.0	11.0	17.0
4	5.0	11.0	17.0

Export Selected Charts Delete Selected Charts

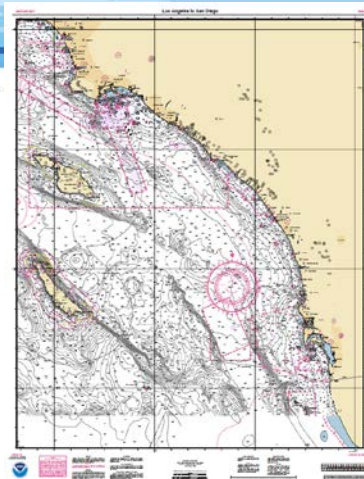
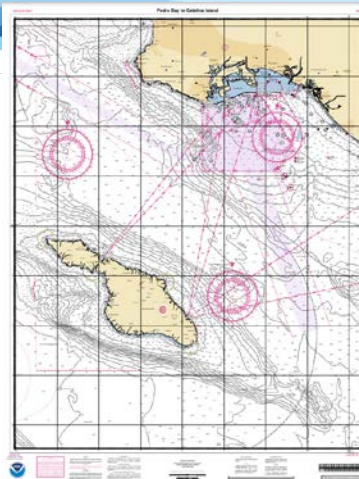
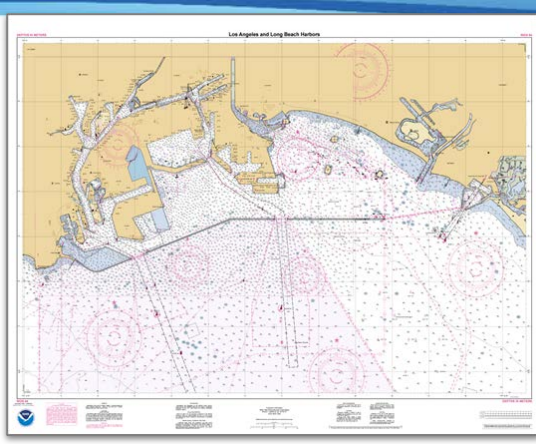
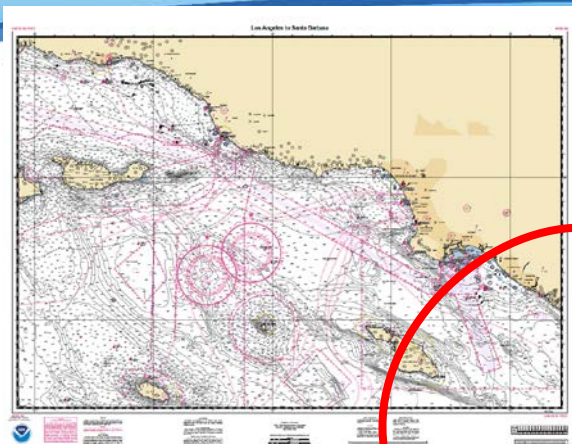
Add Selected Charts to Chart Catalog →

Select All Clear Selection

← Add Selected Charts to Chart Queue

4 of 4 Selected






Catalog changes will be lost if you close the application before clicking "Save Chart Catalog".



Southern California Catalog.geojson

Title	Scale	▲	Page Size	▼	Orientation
Los Angeles and Long Beach Harbors	20000		ANSI E		Landscape
Pedro Bay to Catalina Island	80000		ANSI E		Portrait
Los Angeles to San Diego	200000		ANSI E		Portrait
Los Angeles to Santa Barbara	200000		ANSI E		Landscape

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Name	Date modified	Type	Size
 Southern California Catalog.geojson	11/22/2023 2:44 PM	GEOJSON File	4 KB
 Los Angeles and Long Beach Harbors.pdf	11/22/2023 2:43 PM	Adobe Acrobat Document	31,967 KB
 Los Angeles to Santa Barbara.pdf	11/22/2023 1:49 PM	Adobe Acrobat Document	20,365 KB
 Pedro Bay to Catalina Island.pdf	11/22/2023 1:47 PM	Adobe Acrobat Document	23,428 KB
 Los Angeles to San Diego.pdf	11/22/2023 1:47 PM	Adobe Acrobat Document	26,346 KB

- User controlled Compass Rose placement
- Improved Text & Label placement control
 - Anchorages / Restricted Areas, etc.
- Interface with ENC update status website
 - Identifies when associated ENC data has changed and custom chart should be recreated

- NOAA is considering creating about 80 fixed, coastal 1:350,000 and 1:180,000 scale charts
- Will be downloadable by the public as NCC Chart Catalogs, not as PDFs or POD paper charts



Sunset of Traditional NOAA Paper Nautical Charts

By the way...

... the last of NOAA's 1000
traditional paper nautical charts
will be canceled on
5 December 2024



Questions?

