Entrance to San Francisco Bay
NOAA Chart 18649

A reduced-scale NOAA nautical chart for small boaters
When possible, use the full-size NOAA chart for navigation.

- Complete, reduced-scale nautical chart
- Print at home for free
- Convenient size
- Up-to-date with Notices to Mariners
- Compiled by NOAA’s Office of Coast Survey, the nation’s chartmaker
Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America’s commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

**What are Nautical Charts?**

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**What is a BookletChart?**

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.


This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

**Notice to Mariners Correction Status**

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.


(Selected Excerpts from Coast Pilot)

**Bolinas Bay**

Bolinas Bay, E of Duxbury Point, is an open bight 3.5 miles wide between Duxbury Point and Rocky Point. The bay affords shelter in NW weather in 24 to 36 feet, sandy bottom. Care must be taken to avoid Duxbury Reef and the dangers extending up to 0.7 mile E of it. Bolinas Lagoon is separated from the bay by a narrow strip of sandy beach that is cut by a narrow shifting channel. The lagoon is shoal and entered only by small boats with local knowledge. The entrance has a depth of less than 3 feet.

**Rocky Point**

Rocky Point is 100 feet high and shelving. Numerous detached rocks are within 200 yards of the cliffs on the S side of the point.

**Point Bonita**

Point Bonita, on the N side of the entrance to Golden Gate, is a sharp black cliff 100 feet high, increasing to 300 feet on its seaward face, 0.3 mile N. From NW it shows as three heads. Point Bonita Light (37°48'56"N., 122°31'46"W.), 124 feet above the water, is shown from a 33-foot white tower on the S head. A sound signal is at the light.

**Bonita Cove**

Bonita Cove, E of Point Bonita, is occasionally used as an anchorage by small vessels. Anchorage is close under Point Bonita in about 36 feet.

**San Francisco Approach Lighted Whistle Buoy SF**

San Francisco Approach Lighted Whistle Buoy SF (37°45'00"N., 122°41'34"W.) is 9 miles WSW of San Francisco Bay entrance. The buoy is red and white and is equipped with a racon.

**San Francisco Bar**

San Francisco Bar, a semicircular shoal with depths less than 36 feet, is formed by delta deposits carried to the ocean by the Sacramento and San Joaquin River systems. The bar extends from 3 miles S of Point Lobos to within 0.5 mile of Point Bonita off the southern coast of Marin Peninsula; the extreme outer part is about 5 miles WSW of San Francisco Bay entrance. Potatopatch Shoal, the N part of the bar on Fourfathom Bank, has reported depths of less than 23 feet. The name is said to have originated from the fact that schooners from Bodega Bay frequently lost their deck load of potatoes while crossing the shoal. The S part of the bar has depths of 31 to 36 feet.

**Golden Gate**

Golden Gate, the passage between the ocean and San Francisco Bay, is 2 miles wide at the W end between Point Bonita and Point Lobos, but the channel is reduced in width to 1.5 miles by Mile Rocks and to less than 0.7 mile by the Golden Gate Bridge pier. Depths in the passage vary from 108 feet to over 300 feet.

**Warning**

Very dangerous conditions develop over San Francisco Bar whenever large swells, generated by storms far out at sea, reach the coast. A natural condition called shoaling causes the large swells to be amplified and increase in height when they move over the shallow water shoals. This piling up of the water over the shoals is worsened during times when the tidal current is flowing out (ebb)ing) through the Golden Gate. Outbound tidal current is strongest about 4 hours after high water at the Golden Gate Bridge and attains a velocity in excess of 6 knots at times. The incoming large swells are met by outbound tidal current causing very rough and dangerous conditions over the bar. Steep waves to 20 or 25 feet have been reported in the area. Mariners should exercise extreme caution as the bar conditions may change considerably in a relatively short period of time.

**The most dangerous part of the San Francisco Bar is considered to be Fourfathom Bank. Bonita Channel, between the shoal and the Marin coast, can also become very dangerous during large swell conditions. The safest part of the bar is the Main Ship Channel through the center of the bar. But even that area can be extremely dangerous when the tidal current is ebbing.**

**Caution**

Vessels departing San Francisco Bay through Bonita Channel on the ebb current must use extreme caution when crossing the tide rip off Point Bonita. When the bow passes the rip the stern is thrown to port and, unless promptly met, the vessel will head straight for the rocks off the point. Vessels favoring Potatopatch Shoal too closely have reported a set toward it.

Bonita Channel should not be used by large vessels.
Lateral System As Seen Entering From Seaward
on navigable waters except Western Rivers

PORT SIDE
ODD NUMBERED AIDS
- LIGHT
- LIGHTED BUOY
- CAN
- DAYBEACON

PREFERRED CHANNEL
NO NUMBERS – MAY BE LETTERED
- PREFERRED CHANNEL TO STARBOARD
- TOPMOST BAND GREEN
- GREEN LIGHT ONLY
- COMPOSITE GROUP FLASHING (2+1)

PREFERRED CHANNEL
NO NUMBERS – MAY BE LETTERED
- PREFERRED CHANNEL TO PORT
- TOPMOST BAND RED
- RED LIGHT ONLY
- COMPOSITE GROUP FLASHING (2+1)

STARBOARD SIDE
EVEN NUMBERED AIDS
- RED LIGHT ONLY
- FLASHING (2)
- OCCULTING QUICK FLASHING
- ISO

For more information on aids to navigation, including those on Western Rivers, please consult the latest USCG Light List for your area. These volumes are available online at http://www.navcen.uscg.gov

To make suggestions, ask questions, or report a problem with a chart, go to https://www.nauticalcharts.noaa.gov/customer-service/assist/
This BookletChart was reduced to 70% of the original chart scale. The new scale is 1:57142. Barscales have also been reduced and are accurate when used to measure distances in this BookletChart.
The plans are laid out on the chart for reference.

**Lights:**
- A fixed red light on each corner of the north and south sides of the bridge.
- A fixed white light on each side of the bridge.

**Towers:**
- Two towers on the north and south sides of the bridge.
- A signal tower with a light on the west side of the bridge.

**Other标记s:**
- The bridge has a series of markers and lights along its length.

**Clearances:**
- The bridge has clearance for boats and ships.
- Vessel clearance: 150 ft.
- Bridge clearance: 200 ft.

**Additional Information:**
- The bridge is part of the Oakland-Oakland Bay Bridge system.
- The bridge is part of the San Francisco-Oakland Bay Bridge system.

**Note:**
- The bridge is a critical part of the transportation network for the region.

**Table:**

<table>
<thead>
<tr>
<th>Place</th>
<th>Mean Height</th>
<th>Mean Low Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oakland Outer Harbor</td>
<td>6.0</td>
<td>5.8</td>
</tr>
<tr>
<td>Oakland Inner Harbor</td>
<td>6.0</td>
<td>5.4</td>
</tr>
<tr>
<td>San Francisco (Golden Gate)</td>
<td>6.0</td>
<td>5.2</td>
</tr>
<tr>
<td>Rincon Point, Pier 22</td>
<td>6.0</td>
<td>5.7</td>
</tr>
<tr>
<td>Hunters Point, California</td>
<td>8.0</td>
<td>5.3</td>
</tr>
<tr>
<td>Terminal Island, California</td>
<td>8.0</td>
<td>5.5</td>
</tr>
</tbody>
</table>

**Note:**
- The table above provides mean high and low water levels.
- The bridge has clearance for vessels up to 200 ft.

**Additional Information:**
- The bridge is a critical part of the transportation network for the region.
- The bridge is part of the San Francisco-Oakland Bay Bridge system.

**Legend:**
- The legend provides a key to the symbols used on the map.
- The map includes a scale and direction arrows.

**Scale:**
- The map is drawn to scale, with 1 inch representing 1 nautical mile.

**Direction:**
- The map includes a compass rose.
- The map includes a scale and direction arrows.

**Notes:**
- The map includes notes on the construction and maintenance of the bridge.
- The map includes notes on the jurisdiction and legal status of the bridge.

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VHF Marine Radio channels for use on the waterways:

- **Channel 6** – Inter-ship safety communications.
- **Channel 9** – Communications between boats and ship-to-coast.
- **Channel 13** – Navigation purposes at bridges, locks, and harbors.
- **Channel 16** – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.
- **Channel 22A** – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.

**Channels 68, 69, 71, 72 and 78A** – Recreational boat channels.

**Getting and Giving Help** — Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

**Distress Call Procedures**

- Make sure radio is on.
- Select Channel 16.
- Press/Hold the transmit button.
- Clearly say: “MAYDAY, MAYDAY, MAYDAY.”
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
- Release transmit button.
- Wait for 10 seconds — If no response Repeat MAYDAY call.

**Quick References**

- Nautical chart related products and information — [http://www.nauticalcharts.noaa.gov](http://www.nauticalcharts.noaa.gov)
- Chart updates (LNMs and NM corrections) — [http://www.nauticalcharts.noaa.gov/mcd/updates/LNM_NM.html](http://www.nauticalcharts.noaa.gov/mcd/updates/LNM_NM.html)
- Coast Pilot online — [http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm](http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm)
- Tides and Currents — [http://tidesandcurrents.noaa.gov](http://tidesandcurrents.noaa.gov)
- Contact Us — [http://www.nauticalcharts.noaa.gov/staff/contact.htm](http://www.nauticalcharts.noaa.gov/staff/contact.htm)

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