



MARINERS GUIDE

2022

THE PORT
OF LOS ANGELES





PORT OF LOS ANGELES
425 S. Palos Verdes Street
San Pedro, CA 90731
Phone/TDD: (310) 732-3508
portoflosangeles.org



@portofla

The data contained herein is provided only for general informational purposes and no reliance should be placed upon it for determining the course of conduct by any user of the Port of Los Angeles. The accuracy of statistical data is not assured by this Port, as it has been furnished by outside agencies and sources.

Acceptance of Port of Los Angeles Pilot Service is pursuant to all the terms, conditions and restrictions of the Port of Los Angeles Tariff and any amendments thereto.

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INTRODUCTION



WELCOME TO THE PORT OF LOS ANGELES

The Port of Los Angeles is America's Port®, the nation's premier gateway for international commerce and the busiest seaport in the Western Hemisphere. Located in San Pedro Bay, 25 miles south of downtown Los Angeles, the Port encompasses 7,500 acres of land and water along 43 miles of waterfront. The Port is a global model of innovation, security and sustainability.

As a department of the City of Los Angeles governed by the Los Angeles Board of Harbor Commissioners, the Port's jurisdiction is the Harbor District, which includes property in San Pedro, Wilmington and on Terminal Island. In accordance with the Public Trust Doctrine, the Port conducts operations which promote maritime, commerce, navigation, fisheries and public access to the waterfront.

Handling diverse commodities from avocados to zinc, the Port of Los Angeles has both passenger and cargo terminals, including cruise, container, automobile, breakbulk, dry and liquid bulk and warehouse facilities, that handle billions of dollars' worth of cargo each year.

North America's leading seaport by container volume and cargo value, the Port of Los Angeles facilitated \$259 billion in trade during 2020. San Pedro Bay port complex operations and commerce facilitate one in nine jobs across the counties of Los Angeles, Orange, Riverside, San Bernardino and Ventura.

The Port of Los Angeles has remained open with all terminals operational throughout the COVID-19 pandemic. In May 2021, the Port processed more than 1 million TEUs— the busiest month ever in the Port's 114-year history and the first time a Western Hemisphere port has reached the 1 million milestone in one month. In June 2021, the Port of Los Angeles became the first port in the Western Hemisphere to process 10 million container units in a 12 month period, closing out Fiscal Year 2020/2021 with nearly 10.9 million TEUs.



Development and construction have continued at the Port of Los Angeles, despite the challenges of the global pandemic and the historic cargo surge over the past two years. The Port will invest \$2.6 billion in infrastructure improvement projects through 2025, with a focus on improving the efficiency of goods movement across the supply chain. With this commitment to upgraded infrastructure, the Port is at the forefront of new technologies, environmental initiatives, progressive security measures and remains firmly committed to community engagement. With more than \$600 million in public access development projects built over the last decade, the Port plans to invest an additional \$400 million in the next five years.

Welcome to America's Port®.



For more information on Port of Los Angeles:
portoflosangeles.org

For more information on LA Waterfront:
lawaterfront.org

LOS ANGELES PILOT SERVICE

Berth 68 • San Pedro
(310) 732-3805 dispatcher@portla.org
VHF Radio Channel 73 (156.675 MHz)
Call: KEB260 Los Angeles Pilots

LOS ANGELES PILOTS ARE AVAILABLE 24 HOURS A DAY.

Pilots board arriving vessels from the pilot boat in the vicinity of Los Angeles Channel RACON Buoy #3. Tank vessels will be boarded at least two nautical miles from the Los Angeles entrance. Deep-draft vessels (more than 55 feet) will be boarded in the vicinity of Los Angeles Channel Buoy #1.

Under normal weather conditions, the pilot ladder should be rigged on the starboard side two meters above water.

PILOTS REQUIRE A MINIMUM OF TWO HOURS' NOTICE FOR PORT SERVICE.

Masters or agents are requested to advise the Los Angeles Pilot Station when there is a change in the arrival or sailing time.

Chief Port Pilots

John Dwyer
Craig Flinn

Port Pilots

John Betz
Jacob Crawford
Richard Crowley
Erik Cutforth
Kyle Hamill
Justin Jabuka
John Mayer
Joseph Mayer
Richard Rauhut
Jeffrey White

Trainee Port Pilots

Duncan Calvin
Casey Kaercher
Josh Knight

Dispatchers

Beth Adamik
Kimberly Andrews
Tamara Armstrong
Cherie Ivers

Boat Captains

Raymond Maese
Lindsay Magnall
Ryan Ruppert
Alex Suarez

Deck Hands

Robin Craigen
Logan Gardiner
Garrick Gilham
Johnny Kostich

Management Analyst

Jeremy Karmelich



Los Angeles Pilot Traffic:
lapilots.org

Founded in 1907, the Los Angeles Pilot Service is a team of 28 dedicated professionals including pilots, dispatchers, boat captains, and deck hands whose mission is to provide safe, reliable and efficient vessel movements for Port of Los Angeles customers. The Service provides around-the-clock pilotage services 365 days per year.

The Los Angeles Pilot Service is the only pilotage group in the nation operated by a City and staffed by City employees. Pilot candidates, recruited by the service, are highly experienced captains from both the offshore shipping and local tugboat sectors of the maritime industry. After a rigorous two-year training program, pilots continue to enhance their skills through both biennial ship simulator training at domestic training facilities, and manned model ship handling training, conducted every four years, in Grenoble, France. Over the past decade, these highly trained professionals have safely completed more than 45,000 vessel movements within Los Angeles Harbor.



TELEPHONE DIRECTORY

EMERGENCY 911

Los Angeles Port Police (310) 732-3500

Los Angeles Fire Department 911

Fire Station 49 (Berths 194-195) (310) 548-7549

Fire Station 110 (Berth 44) (310) 548-7545

Fire Station 111 (Fish Harbor). (310) 548-7541

Fire Station 112 (Berths 85-86). (310) 548-7542

Pilots

Los Angeles Pilot Service. (310) 732-3805

Long Beach Pilots c/o Jacobsen Pilot Service (562) 432-0664

Marine Exchange of Southern California (310) 832-6411

Port of Los Angeles Administration

Executive Offices (310) 732-3456

Environmental Management (310) 732-3675

Public Relations. (310) 732-3508

Real Estate (310) 732-3860

Security. (310) 732-3360

Wharfinger (310) 732-3810

Bridges (Cerritos Channel Drawbridges)

Henry Ford (Badger Avenue) Bridge (310) 830-0660

California Department of Fish & Wildlife

Marine Region 7 (858) 467-4201

U.S. Coast Guard

24-Hour Emergency (800) 221-USCG

Captain of the Port (310) 521-3600

Environmental Response (310) 521-3780

Facilities/Container Inspections (310) 521-3745

Investigations (310) 521-3770

Regional Exam Center (562) 495-1480

Vessel Inspections (Domestic) (310) 521-3725

Vessel Inspections (International) (310) 521-3705

Waterways Management (310) 521-3860

U.S. Department of Homeland Security

Customs and Border Protection-Service Port (562) 366-5555
Immigration & Customs Enforcement. (562) 624-3800
Customs-Marine Section (562) 980-3220

U.S. Department of Agriculture

Long Beach (562) 628-8900
El Segundo (310) 955-3258

Vessel Services

Jankovich Company (310) 547-3305

FACILITIES FOR VISITING SEAFARERS

Catholic Maritime Ministry

(c/o Mary Star of the Sea Catholic Church)
World Cruise Center
Berth 93A, Level 1
(310) 833-3541

Norwegian and Swedish Seamen's Church

1035 South Beacon Street
San Pedro, CA 90731
(310) 832-6800







SAFETY

BOATING SAFETY INFORMATION

The California Department of Boating and Waterways offers a home study boating course. The course, which includes a colorful handbook, can be completed at one's own pace. Upon successful completion of the optional final examination, the student will receive a certificate from the State of California.

California Division of Boating and Waterways
One Capitol Mall, Suite 500
Sacramento CA 95814
(888) 326-2822



California Division of Boating and Waterways:
email: pubinfo@parks.ca.gov
dbw.ca.gov

Those interested in taking boating safety classes in Southern California may contact the U.S. Coast Guard Auxiliary at (310) 521-6172, or U.S. Power Squadron at (888) 367-8777. Most courses have received approval from the National Association of State Boating Law Administrators (NASBLA). Many marine insurance providers will honor a NASBLA approved course to reduce their clients' premiums.

For general safety information, contact the Los Angeles Port Police, (310) 732-3500.

SMALL (RECREATIONAL) VESSEL SAFETY

Recreational vessels should follow the Standards of Care (listed on page 21) to ensure the safe operation of craft while in and around the Port. Recreational vessel operators should be sensitive to the fact that large commercial vessels are severely limited in the ability to stop or alter course, and many times are limited in the ability to see small vessels due to "blind spots" that extend more than 1/2 mile ahead. These large commercial vessels cannot easily avoid a collision with a smaller, more maneuverable recreational vessel.

1. Ensure vessel is safe before getting underway.
2. Ensure vessel is seaworthy.
3. Keep flares and distress calling equipment readily accessible.
4. Be extra careful in fog.
5. Comply with "Rules of the Road, Rule 9": Small vessels remain clear of large vessels that must navigate within a narrow channel.
6. Avoid passing larger vessels close aboard.
7. Pass tugs with caution.
8. Know the locations of traffic lanes and the regulated navigational area.
9. Know how and when to monitor VHF Channels 16, 14, and 13.
10. Know vessel's position.
11. Be an informed mariner: Know the "Rules of the Road," read Coast Guard Notices to Mariners, monitor the weather and listen to Channel 16 for Coast Guard information broadcasts.

DIVING SAFETY

Swimming or diving for recreational purposes is prohibited in the Port of Los Angeles. Any diving for commercial, environmental, or scientific purposes within the Port jurisdiction requires a diving permit. All requirements are outlined in the dive permit application. To apply, divers will need to provide identification, a photo and their applicable diving certification. Fees apply for first-time applicants and for renewals. Permits are non-transferable and must be renewed annually. You can find the diving permit application at portoflosangeles.org/business/permits.

Mariners are required to report diving incidents to Coast Guard Sector Los Angeles-Long Beach via VHF channel 16 or by calling (310) 521-3801.

MARINERS GUIDE FOR EMERGENCY CALLS FOR SERVICE

Be prepared to provide the following information

Your Name/Name of Vessel

Phone number or VHF channel

Location of Incident i.e GPS/Berth/Terminal/Waterway

What is the emergency?

Be prepared to answer the following questions

1. Persons involved or Person on Board
(clothing, physical features)
2. Vessel Description
(type of vessel, length, color, unique features)
3. What happened or is occurring?

Types of activity Los Angeles Port Police respond to, but are not limited to, include suspicious activity, drone/plane activity, security breaches or attempts, USCG safety/security/protection zone violations, crimes on land and water, navigation rule violation, vessels in distress, rescues, fires and emergencies.

See Something, Say Something

Los Angeles Port Police

VHF 16 or (310) 732-3500

HORIZONTAL AND VERTICAL CLEARANCES

Vertical clearances are given above Mean High Water (+4.7 feet)

Vincent Thomas Bridge

Horizontal usable width (of channel): 1150 feet

Vertical clearance: 165 feet

Middle 500 feet width: Vertical clearance 185 feet

Cerritos Channel Drawbridge Consolidated Requirements

The U.S. Coast Guard has consolidated the requirements for drawbridge operations, including Cerritos Channel, as contained in Code 33 of Federal Regulations, Part 117.

Radio telephones are installed to enable the drawtender at the Henry Ford Avenue Railroad Bridge to communicate with vessels on radio telephone frequency 156.65 MHz (Channel 13), or such other frequency as may be assigned by the Federal Communications Commission.

Henry Ford (Badger Avenue) Railroad Bridge

(310) 830-0660 VHF Channels 13 and 16 Call Sign: WXJ-947

Horizontal clearance: 180 feet

Vertical clearance: 6.7 feet (bridge down); 165 feet (bridge up)

Draw to remain in the open-to-navigation position except when a train is crossing or maintenance work is being performed.

Whistle Signals

Opening signal:	2 short, 1 long	- - —
Acknowledging Signal:	2 long, 1 short	— — - - -
Bridge cannot open:	5 short	- - - - -

Gerald Desmond Bridge

Horizontal usable width (of channel): 220 feet

Vertical clearance: 205 feet @ MHHW

The Gerald Desmond Bridge Replacement Project was finished in October 2020 and demolition is scheduled to start in May 2022.

Updates will be available on newgdbbridge.com.

Southern California Edison Co. Overhead Power Cables

Vertical clearance: 155 feet

Commodore Schuyler F. Heim Highway Bridge

Horizontal usable width (of channel): 75 feet

Vertical clearance: 45 feet @ MHHW

Navigational clearances through the Cerritos Channel are as indicated in the weekly US Coast Guard Local Notice to Mariners. Updates are available on navcen.uscg.gov.

UNDERKEEL CLEARANCE

Underkeel clearance (UKC) is the minimum clearance available between the deepest point on the vessel and the bottom in still water.

$$\text{UKC} = (\text{Charted Depth of Water} + \text{Height of Tide}) - (\text{Static Deep Draft})$$

Masters and pilots should use their vessel's deepest draft in still water when calculating UKC. Masters and pilots should apply a plus or minus allowance for the tide when calculating depth of water, and consider the following factors:

1. Vessel's trim and list characteristics
2. Depth of the transit area
3. Depth at the facility or anchorage
4. Tide and current conditions
5. Weather impact on water depth

The master should discuss the vessel's anticipated UKC with the pilot. Within the ports of Los Angeles and Long Beach, actual tide heights do not normally vary significantly from predicted tide heights.



NOAA Tides & Currents:
Meteorological information for Los Angeles/Long
Beach PORTS®
tidesandcurrents.noaa.gov/ports/

Minimum Underkeel Clearance Guidelines for All Vessels

These guidelines for minimum UKC apply during normal weather for the ports of Los Angeles and Long Beach (POLA/POLB). Severe weather or other abnormal conditions may demand case-by-case evaluation. Masters and pilots shall use prudent seamanship at all times when piloting vessels in the POLA/POLB harbors and approaches.

Port of Los Angeles

Between the Los Angeles Approach Channel Lighted Buoy #1 and the Los Angeles Main Channel Buoy #11, minimum underkeel

clearance before correction for roll and pitch is 10% of the vessel's draft.

In the channel between the Los Angeles Main Channel Buoy #11 and a position off the designated berth, minimum underkeel clearance is:

- 2.0' (.61m)
- In the final approach to the berth, and while at berth, the vessel must always remain afloat.

At anchorages inside the breakwater, minimum underkeel clearance is 2.5' (.76m).

For shifts via outer harbor between Los Angeles and Long Beach, minimum underkeel clearance is 3' (.91m).

Port of Long Beach

Between the Long Beach Seabuooy and the Long Beach Channel Buoy #3, minimum underkeel clearance before correction for roll and pitch is 10% of the vessel's draft.

In the channel between the Long Beach Channel Buoy #3 and a position off the designated berth, minimum underkeel clearance is:

- 2.0' (.61m)
- In the final approach to the berth, and while at berth, the vessel must always remain afloat.

At anchorages inside the breakwater, minimum underkeel clearance is:

- 4' (1.22m) for anchorages B-7 and B-11 when vessels draft is 50' (15.24m) or more
- 2.5' (0.76m) for all other anchorages

For shifts via outer harbor between Long Beach and Los Angeles, minimum underkeel clearance is 3' (.91m).

Tank Vessels

The above guidelines are intended to include safety margins for sinkage due to squat and for an increase in draft due to pitch and roll during the weather and sea state conditions normally encountered in the Los Angeles and Long Beach harbors and approaches.

The pilot organization management, the vessel's master/operator,

Port of Los Angeles

and the USCG Captain of the Port (COTP) should concur with any deviation below the above guidelines. Terminal or vessel operators may require minimum underkeel clearances that are more restrictive than the above guidelines. Vessel masters should be aware of this and should consider terminal policy, fleet operating requirements, and the guidelines contained in the Los Angeles/Long Beach Harbor Safety Plan when deciding upon their minimum allowable underkeel clearances. Tank vessel masters and operators should also be guided by the underkeel clearance regulations for tank vessels contained in 33 CFR 157.455. C.

The pilot organization management, the vessel's master/operator, and the USCG Captain of the Port (COTP) should concur with any deviation below the above guidelines.

Terminal or vessel operators may require minimum underkeel clearances that are more restrictive than the above guidelines. Vessel masters should be aware of this and should consider terminal policy, fleet operating requirements, and the guidelines contained in the Los Angeles Long Beach Harbor Safety Plan when deciding upon their minimum allowable underkeel clearances.

Evaluating Underkeel Clearance

While the above guidelines should ensure adequate UKC under normally encountered circumstances of weather, sea state and vessel configuration, the LA/LB Harbor Safety Committee recommends that all vessel masters should estimate the anticipated UKC that they expect their vessel will encounter during the various phases of the transit, particularly during severe weather or other abnormal conditions. In complying with the above guidelines, the master should consider sea state conditions that might cause an increase in draft due to pitch and roll and plan/adjust transit speeds with regard to vessel squat characteristics. Studies indicate that swell crests and troughs affect vessel immersion (heave) when a vessel is rising and falling with swells off the beam. However, the studies also indicate that vessels will normally experience significant and measurable roll before increased draft due to heave becomes a problem. Therefore, the sound practice of measuring roll and calculating the corresponding increase to vessel draft before entering port helps the master evaluate safe underkeel clearance.

CONTROLLED NAVIGATION AREAS

Controlled Navigation Areas (CNAs) have been added to Tariff No. 4, restricting entry into certain areas of the Port by recreational boats without a Port Police-issued permit. Creation of the CNAs will help to ensure navigational safety for large commercial vessels by reducing non-essential boating traffic, while also increasing waterside security by limiting access to commercial or permitted vessels. The Main Channel and other primary waterways will remain open to recreational boaters, but those areas best kept for commercial-only vessels will be restricted. (See map on pages 44-45.)

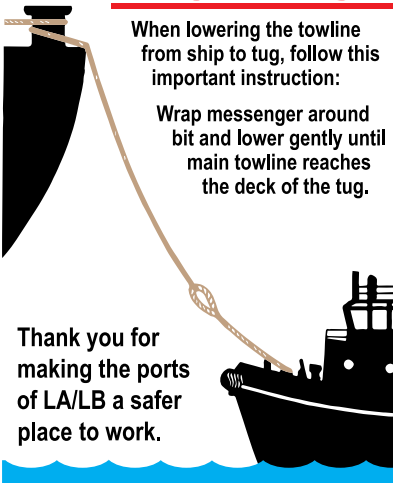
Controlled Navigation Areas, part of the Port of Los Angeles Responsible Marina Program, are identified with posted signs and enforced by the Los Angeles Port Police. Recreational vessel owners/operators may request to enter a CNA by contacting the Port Police at (310) 732-3500.

BEWARE- BE CAREFUL.

**When lowering the towline
from ship to tug, follow this
important instruction:**

**Wrap messenger around
bit and lower gently until
main towline reaches
the deck of the tug.**

**Thank you for
making the ports
of LA/LB a safer
place to work.**



DEPTH OF WATER ALONGSIDE BERTHS

(In Feet) Mean Lower Low Water = 0.0 Feet

Berth	Depth	Berth	Depth	Berth	Depth
45/47	47.4	163	37.3	232/234	39.7
49/50	48.9.2	164	38.2	235/236	39.9
51/52	36.2	165	35.3/37.4	238	34.1
53.....	35.2	168	39.7	239	34.7
54.....	36.0	169	38.3	240B	35.0
55.....	34.5	171/172	28.7	240C	26.7
68.....	19.4	173	30.3	240Z	26.3
70/71	30.7	174	41.0	301	49.1
72.....	14.4	175/176	41.0	302	49.8
73A	16.8	177/179	33.4	303	49.7
74.....	24.1	180/181	32.7	304	48.4
87/89	38.4	187	36.4	305	49.5
90/92	36.9	189	44.4	306	50.0
93 A-E.....	34.8	191	30.1	401	52.4
100	48.7	195/197	31.6	402	51.0
102	50.5	198	32.3	403	50.1
118	35.8	199	32.3	404	50.5
120	30.9	200 A-B	31.0	405	47.9
121/124	44.5	200 C-D	15.7	406	52.2
126/127	39.9	207	43.3	Fish Harbor	17.2
127/129	40.9	209	40.3	L.B. 76	33.5
130/131	40.0	210	35.6	L.B. 77	41.0
136/137	43.1	212	45.0	L.B. 78	41.0
138/139	41.5	214	52.9		
142	27.0	216/217	45.2		
143	33.5	218/219	46.3	Channel	Depth
144	49.1	220	41.0	Main Channel	53.0
146/147	52.7	221	33.3	East Basin Ch. ..	52.0
149	33.8/36.2	222/223	28.0		
150	32.0/33.5	224/225	30.2		
153	34.5	226/227	52.4		
154	34.1	230	47.7		
155	34.1	231	47.5		

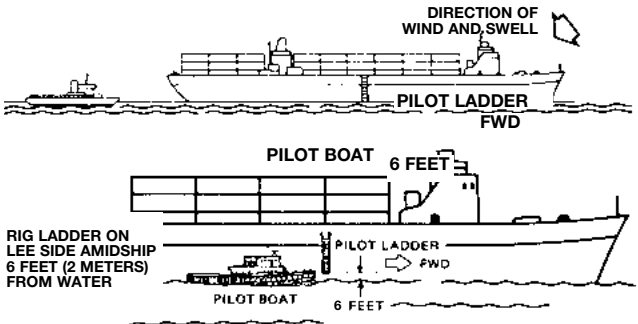
The information provided here is based upon sources deemed to be reliable and is believed to be correct as of October 2021, but the accuracy is not guaranteed.

Whenever a vessel is scheduled which would approach the depth of a particular berth, the Pilot Station management should be contacted so that an individual judgment can be made.

PILOT LADDER REQUIREMENTS

Pilot Ladder Requirements for Los Angeles Pilots in Addition to SOLAS Regulation 17, Chapter 5.

- a) Please contact Los Angeles Pilots KEB260 by VHF Radio Channel 73 a minimum of two hours prior to arrival to confirm estimated time of arrival and for information regarding desired lee.
- b) Rigging of the pilot ladder, as well as the embarking or disembarking of the pilot, should be under supervision of a responsible officer.
- c) The ladder should be made in one length and fitted with spreaders approximately 10 feet apart to comply with SOLAS, Chapter V, Regulation 23.
- d) The area of the deck where the pilot boards should be clear of obstacles to ensure a safe passage for the pilot.
- e) Trailing lines or retrieving lines should not be attached to the lower end of the ladder.
- f) Ladders should be rigged well clear of discharge and water outlets and at a place near midship clear of the finer lines of the vessel. At no time should the ladder be rigged near the stern of the ship.
- g) The ladder should be in good condition and rigged so that the steps remain horizontal when used.
- h) Accommodation ladders must not be used for pilot boarding or disembarking.



RIGGING FOR FREEBOARDS OF 9 METERS OR LESS

HANDHOLD STANCHIONS

Min. diam. 32mm
120cm above bulwark
min. 70cm max. 80cm apart

NO MAN-ROPE

SPREADER

Min. 180 cm long

STEPS

Must rest against ship side. Always on flat side of ship.

Steps must be min. 40 cm wide and 30 cm to 38 cm apart.

5th step must be a spreader.

Max. 8 steps between spreaders

HEIGHT
2 meter above water

PILOT

INCLEMENT WEATHER STANDARDS OF CARE FOR VESSEL MOVEMENTS

Inclement weather requires heightened awareness and vigilance.

This section is intended to provide clear guidance to mariners as to what is expected of them when navigating in inclement weather in the area covered by the LA-LB Harbor Safety Plan (HSP). Nothing in this section shall be construed to require the master of a vessel to commence a transit during inclement weather, nor does this section replace compliance with the Convention on the International Regulations for Preventing Collisions at Sea, 1972 (72 COLREGS). It is recognized; however, under certain circumstances, vessels may safely transit during inclement weather provided that equivalent safety levels are applied.

This section defines inclement weather (both reduced visibility and high winds), provides guidance for determining whether or not to commence a vessel transit, and outlines minimum equivalent safety levels to be applied when transiting during inclement weather.

Standards of Care for Vessel Movements During Reduced Visibility

Reduced visibility requires that all mariners apply extra vigilant attention. This section is intended to provide clear guidance to mariners as to what is expected of them when navigating in reduced visibility in the area covered by the HSP. Nothing in this section shall be construed to require the Master of a vessel to commence a transit in reduced visibility, nor does this section replace compliance with 72 COLREGS. It is recognized, however, that under certain circumstances, vessels may safely transit in reduced visibility provided that equivalent safety levels are employed. This section defines reduced visibility, provides guidance for use in determining whether or not to commence a vessel transit and outlines minimum equivalent levels of safety to be used when transiting in reduced visibility.

Background

It is important to understand the dynamics of the ports of Los Angeles and Long Beach, and their vessel traffic systems in order to anticipate what is expected from all levels of port users. Under a memorandum of agreement, vessel traffic management in the LA-LB area is divided into three zones, each handled by a separate vessel traffic center (VTC). The jointly operated Marine Exchange of Southern California/U.S. Coast Guard Vessel Traffic Service functions as the VTC for traffic outside the federal breakwater, and out to 25 nautical miles from Point Fermin. Each respective pilot station (LA and LB) function as the VTC for traffic inside the breakwater.

Definition of Inclement Weather

High Winds

Whenever the National Weather Service issues a “small craft advisory” for sustained winds of 21 to 33 knots potentially in combination with wave heights exceeding 10 feet (or wave steepness values exceeding local thresholds).

Restricted Visibility

Whenever conditions of visibility fall below the following:

- Tankers 150,000 DWT or greater: 1 nautical mile
- Tankers greater than 60,000 DWT, but less than 150,000 DWT: .75 nautical mile
- All other vessels 45’ draft or more: .75 nautical mile
- All other tankers and petroleum barges: 0.5 nautical mile
- All other vessels: 3 times vessel’s LOA

Guidelines for Commencing a Transit During Inclement Weather

Vessel characteristics, navigational equipment and the availability of shoreside support must be considered when a movement is undertaken during inclement weather. Conditions of visibility and wind can vary considerably throughout the port complex at any given time and may impact the decision to proceed. While specific movement parameters are difficult, if not impossible, to define, it is recommended that mariners carefully consider commencing vessel movements inside the federal breakwater when conditions reach the defined thresholds listed above.

Piloted Vessel Guidelines

When inclement weather exists along a vessel's intended route:

The respective pilot station management will be notified, and prior to commencing a transit, the operating pilot will conduct a risk analysis that includes consultation with a second pilot.

This expanded participation is a key risk reduction measure.

Reduced Visibility

When visibility inside the federal breakwater is less than 0.5 mile, the respective vessel traffic center (VTC) will impose one-way traffic restrictions when and where appropriate.

When commencing a vessel movement in reduced visibility, as defined above, shoreside radar assistance and carry-on enhanced navigational tools, such as a Portable Pilot Unit (PPU) shall be readily available for use.

When reduced visibility is encountered after commencing a transit, the operating pilot should take appropriate precautions to minimize the risk of collision. Precautions may include but are not limited to: continuing the transit, anchoring, reducing speed, enlisting shore-based radar support, and securing additional tug assistance.

High Winds

Vessel movements will proceed on a case by case basis. Depending on direction and force of wind, type and characteristics of the vessel, movements requiring more than 50 tons of force to hold the vessel against a wind on the beam shall be carefully considered.

Below are examples of wind velocities acting on corresponding sail areas that would require 50 tons of counter force exerted by tugs and/or thrusters [formula: $(\text{total area}/1000) \times (V^2/18) = \text{wind effect in tons}$ where "V" is the wind speed in meters/second]:

- 1000 square meters – 60 knots
- 5000 square meters – 28 knots
- 10,000 square meters – 18 knots

Non-Piloted Vessel Guidelines

It is recommended all vessels develop and follow their own internal operating guidelines for inclement weather transits, including a provision for second opinion consultation.

Application of Equivalent Safety Levels

When a vessel master intends to commence a transit during inclement weather, at minimum, the following equivalent safety levels should be adhered to:

Vessels 1600 Gross Tons (GT) or greater:

When operating inside the federal breakwater, be under the control of a USCG-licensed pilot with the appropriate endorsement for the vessel and area of operation, and have shore-based radar immediately available to assist the vessel.

All vessel masters and pilots (if employed) should make a positive evaluation of the following:

- Number of vessels transiting within the harbor and expected traffic concentrations
- Planned transit speeds appropriate for prevailing conditions
- Maneuvering characteristics of the vessel
- Quality of the vessel's radar and navigation systems
- Vessel's size and draft in relation to the area to be transited
- Number, type, and power of assist tugs
- Number and power of bow/stern thrusters available
- Maneuvering room at various stages of the transit
- Quality of the vessel's bridge team
- Special circumstances to be encountered (e.g. dredging projects, obstructions)
- Wind direction in relation to planned maneuvers

“Captain of the Port” (COTP) Notification of Intention to Move in Inclement Weather Without Applying Equivalent Safety Levels

Vessels 1600 GT or greater that intend to commence a vessel transit during inclement weather without complying with the “Application of Equivalent Safety Levels” section above (including shore based

radar support) shall make the following broadcast to the VTC on VHF Channel 14 at least 15 minutes prior to getting underway:

“Vessel name/call sign, making our inclement weather Captain of the Port notification, as per guidance within the Harbor Safety Plan, that we intend to transit from vessel location to intended destination.”

In addition, a safety broadcast will be made on Channel 13 and the vessel will coordinate its movement with the appropriate vessel traffic center.

Summary of Other Existing Measures

The following are non-encompassing examples of regulations or internal standards of care already followed by entities within the port during inclement weather:

- Federal Anchorage Regulations under 33 CFR 110.210, require all vessels greater than 1600 GT to have a licensed deck officer on watch at all times and to maintain a continuous radio listening watch. When wind conditions exceed 40 knots, these vessels shall ensure their propulsion plant is placed in immediate standby and a second anchor is made ready to let go. Vessels unable to comply are required to notify the COTP and may be required to have stand-by tugs.
- When winds exceed 40 knots, VTC will maintain a heightened awareness for dragging anchors in federal anchorages.
- VTC will notify users of low visibility conditions (<1 nautical mile) along their intended track(s) outside the breakwater and advise them of targets they may encounter.

The following organizations have their own internal guidelines for inclement weather:

Pilots: Pilot Operations Manuals prescribe a variety of criteria specific to vessel size and berth/port area.

Ferry operators: High Speed Craft Operations Manuals contain guidance on wave heights.

Small passenger vessels: Some of these vessels have internal

Port of Los Angeles

guidelines to curtail operations in heavy winds.

Facilities regulated under 33 CFR Part 154 have wind criteria in their individual operations manuals for ceasing cargo operations and disconnecting cargo transfer equipment. In addition, the State of California has specific Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS) that include inclement weather guidelines.

NATIONAL WEATHER SERVICE

VHF Radio

Frequency 162.55 MHz; Station KW037 – Continuous, taped broadcast of public and marine forecasts and observations. Updated hourly.

Channel W1-Channel W10 – Reserved for weather transmissions. Channels W1-W4 are receive-only channels with weather broadcasts from NOAA.

National Oceanic and Atmospheric Administration (NOAA)

National Weather Service Los Angeles/Oxnard

Local forecast (recorded): (805) 988-6610



NOAA Tides & Currents:

Meteorological information for Los Angeles/
Long Beach PORTS®

tidesandcurrents.noaa.gov/ports/

National Weather Service Los Angeles/Oxnard:

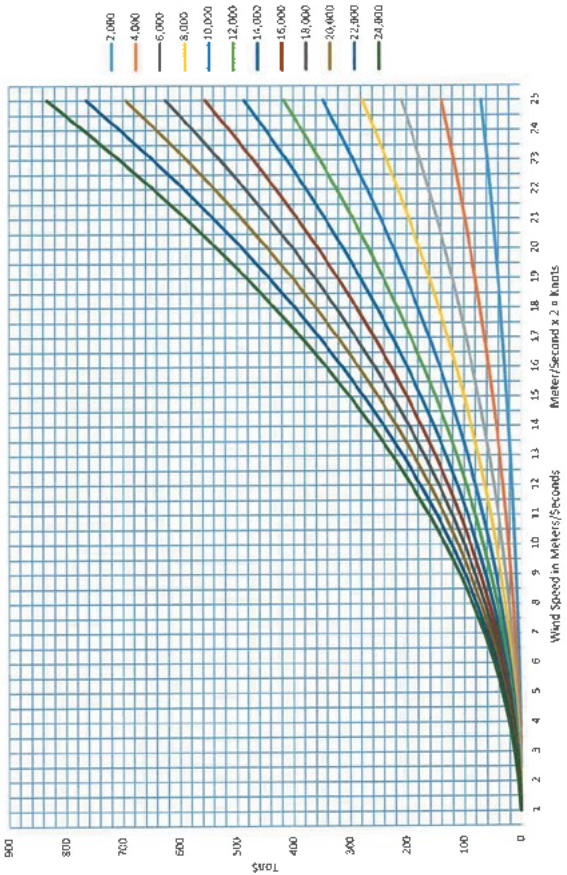
weather.gov/lox

United States Voluntary Observing

Ship Program: *vos.noaa.gov*

WIND FORCE CHART

"Force necessary to counter lateral wind pressure"
Wind Force in Tons



Sail Area in Square Meters

Wind Speed in m/s	2,000	4,000	6,000	8,000	10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000
1	0	0	0	0	1	1	1	1	1	1	1	1
2	0	1	1	2	2	3	3	4	4	4	5	5
3	1	2	3	4	5	6	7	8	9	10	11	12
4	2	4	5	7	9	11	12	14	16	18	20	21
5	3	6	8	11	14	17	19	22	25	28	31	33
6	4	8	12	16	20	24	28	32	36	40	44	48
7	5	11	16	22	27	33	38	44	49	54	60	65
8	7	14	21	28	36	43	50	57	64	71	78	85
9	9	18	27	36	45	54	63	72	81	90	99	108
10	11	22	33	44	56	67	78	89	100	111	122	133
11	13	27	40	54	67	81	94	108	121	134	148	161
12	16	32	48	64	80	96	112	128	144	160	176	192
13	19	38	56	75	94	113	131	150	169	188	207	225
14	22	44	65	87	109	131	152	174	196	218	240	261
15	25	50	75	100	125	150	175	200	225	250	275	300
16	28	57	85	114	142	171	199	228	256	284	313	341
17	32	64	96	128	161	193	225	257	289	321	353	385
18	36	72	108	144	180	216	252	288	324	360	396	432
19	40	80	120	160	201	241	281	321	361	401	441	481
20	44	89	133	178	222	267	311	356	400	444	489	533
21	49	98	147	196	245	294	343	392	441	490	539	588
22	54	108	161	215	269	323	376	430	484	538	592	645
23	59	118	176	235	294	353	411	470	529	588	647	705
24	64	128	192	256	320	384	448	512	576	640	704	768
25	69	139	208	278	347	417	486	556	625	694	764	833

TUG ESCORT/ASSIST INFORMATION



TUG ESCORT/ASSISTANCE

“Tug Escort” refers to stationing tugs in proximity to a vessel during port transits to provide immediate assistance should a steering or propulsion failure occur. “Tug Assist” refers to positioning tugs alongside a vessel and applying force to assist making turns, reducing speed, providing propulsion and docking.

TUG ESCORT/ASSISTANCE FOR TANK VESSELS

Tug Escort Applicability

State regulations require escort tug(s) to meet inbound, laden tank vessels (carrying 5,000 or more metric tons of oil in bulk as cargo) at the seaward limit of the applicable Tank Vessel Escort Zone. Also, all tank vessels shifting within the harbor(s) – including dock to anchor, anchor to anchor and dock to dock – must comply with the escort requirements. Assist tugs, in addition to the prescribed escort tugs, may be required during port transits. Outbound laden tank vessels are not required to use escort tugs once they have safely cleared the breakwater. Arrangements should be made via the vessel agent, tug company, or appropriate pilot service to ensure compliance with these regulations.

Three Tank Vessel Escort Zones are established as follows:

Zone 1: Upon all waters within 2.0 nautical miles to seaward of the Federal Breakwater, escort tugs required for all laden tank vessels.

Zone 2: Upon all waters in the approaches to the Port of Long Beach within 3.5 nautical miles to seaward of the Federal Breakwater, escort tugs required for all laden tank vessels with static deep draft greater than 16.5 meters.

Zone 3: Upon all waters in the approaches to the Port of Los Angeles within 4.0 nautical miles to seaward of the Federal Breakwater, escort tugs required for all laden tank vessels with static deep draft greater than 14.0 meters.

Except for tank barge/primary towing units that have total displacements of 20,000 metric tons or less, escort tugs must be tethered.

Inbound, laden Oil and Chemical Tank Vessels shall not proceed closer than the seaward limit of the applicable Tank Vessel Escort Zone, as described in 851.22(c), unless the prescribed escort tug(s) are in position at the seaward limit of the applicable Tank Vessel Escort Zone. Masters shall also ensure that anchors are ready for letting go prior to entering the applicable Tank Vessel Escort Zone.

Prior to commencing an escorted transit, the tank vessel master/pilot shall hold a “pre-escort conference” that should at a minimum include:

- Contacting the escort tug operator to confirm the number and position of escort tug(s)
- Establishing the radio frequency to be used
- Establishing the destination of the tank vessel
- Discussing any other pertinent information the master/pilot and escort tug operator deem necessary



TANKER FORCE SELECTION MATRIX

Tanker Displacement	Forces for Tug(s)* Tethered at the Stern**
Metric Tons	Short Tons
0 to < 60,000	10
60,000 to < 100,000	20
100,000 to < 140,000	30
140,000 to < 180,000	40
180,000 to < 220,000	50
220,000 to < 260,000	62
260,000 to < 300,000	75
300,000 to < 340,000	87
340,000 to < 380,000	105
380,000 to < 420,000	128

*Note 1: Ahead forces for tugs using stern lines, e.g., Voith-Schneider Propeller (VSP) tugs. Astern forces for tugs using headlines, e.g., Azimuth Stern Drive (ASD) tugs.

**Note 2: The “Forces For Tugs” described in the Tanker Force Selection Matrix were evaluated in a water depth equal to 1.2 times the tanker’s deep draft for tankers with a displacement of less than 260,000 metric tons, and in a water depth equal to 1.1 times the tanker’s deep draft for tankers with a displacement equal to or greater than 260,000 metric tons.

All the escort tugs required to satisfy the Tanker Force Selection Matrix shall be tethered on the tanker’s stern.

The force requirements contained in this subchapter reflect favorable circumstances and conditions. The tanker master/pilot shall arrange for additional escort tug(s) should adverse weather conditions, unusual port congestion, contemplated movement of the vessel, or as other conditions or circumstances occur.

TUGS EMPLOYED IN LOS ANGELES/LONG BEACH

Company Name Tug Name	Total HP (ADV)	Bollard Pull Ahead (Short Tons)	Bollard Pull Astern (Short Tons)
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AMNAV Maritime Corporation

Dr. Hank Kaplan	5350	68.30	64.00
Michelle Sloan	5150	69.00	65.40

Bay Delta Maritime Corporation

Delta Billie	6712	93.70	93.70
Delta Teresa	7032	90.31	88.68
Delta Audrey	6670	83.53	88.40

Centerline Logistics Corp

Millennium Dawn	4400	60.60	56.30
Millennium Falcon	4200	54.50	49.70

Crowley Maritime Corporation

Admiral	4730	54.40	44.72
Hercules	6008	88.19	84.77
Leader	4730	58.90	45.44
Master	4730	52.30	43.80

Foss Maritime Company

Edith Foss	1800	24.80	13.80
Jamie Ann	6866	92.46	90.68
Lela Franco	5150	67.34	60.30
Rich Padden	5350	71.00	63.00

Starlight Marine Services Inc.

Barbara Jean Mullholland	6850	89.00	91.00
Jamie Renea	6850	91.60	89.80
John Quigg	4022	52.30	48.30
Millennium Maverick	4200	51.70	49.80
Tim Quigg	3600	50.00	52.60

TUGS, WATER TAXIS, AND SALVAGE

American Marine Corp (310) 832-3321
Berths 270-271, 1500 S. Barracuda Street, Terminal Island

AmNav Marine Services (310) 901-3383
201 Burma Road, Oakland, CA

Baydelta Maritime (415) 693-5800
Pier 17, #300, San Francisco, CA 94111

Centerline Logistics Corp. (310) 831-9200
1610 Barracuda Street, San Pedro

Crowley Maritime Corporation (310) 732-6570
Berth 86, 300 S. Harbor Blvd., San Pedro

Curtin Maritime Corp. (562) 343-3170
Berth 57, 1500 Pier C, Long Beach

Foss Maritime Company (562) 435-0171
Berth 35, Pier D Avenue, Long Beach

Pacific Tugboat Service, Inc. (562) 590-8188
Berth C-58, 1512 W. Pier C Street, Long Beach

Sause Bros. Ocean Towing (562) 901-0365
1607 W. Pier D Street, Long Beach

SoCal Ship Services (310) 519-8411
Berth 240X, 971 S. Seaside Avenue, Terminal Island

Starlight Marine Services, LLC (310) 802-2101
222 W. 6th Street, Suite 570, San Pedro

SubSea Global Solutions (562) 436-2701
1725 W. Pier D. Street, Long Beach

U.S. Water Taxi (310) 519-8230
Berth 60, San Pedro

A large cargo ship is docked at night. The ship's hull is dark, and its upper decks are lit up with yellow lights. Several people are visible on the deck. In the background, a white building features the Los Angeles Port logo, which includes a stylized 'LA' and the text 'America's Port' and 'THE PORT OF LOS ANGELES'. The sky is dark blue.

VESSEL OPERATING PROCEDURES

RADIO COMMUNICATIONS

Operational communications in the Los Angeles-Long Beach harbor area are conducted by marine VHF radio and commercial telephone from five principal nodes: VTS, Los Angeles Port Pilot Service, Long Beach Pilots, Port of Long Beach Security, and U.S. Coast Guard Los Angeles-Long Beach. All users are encouraged to minimize voice traffic on all channels, maintain circuit discipline and broadcast on “low power” whenever possible.

FIRE ALARM SIGNAL

All Vessels Except Those Underway

Five prolonged blasts on whistle or siren. Repeat at intervals to attract attention.

In a non-emergency, call the Los Angeles Fire Department Dispatch Center at (213) 485-6185

IN AN EMERGENCY, CALL 911

PRINCIPAL OPERATING CHANNELS

Los Angeles/Long Beach Area VHF Radio

Station	Channel	Frequency
Bridge-to-Bridge	13	156.650 MHz
Distress Safety and Calling	16	156.800 MHz
Harbor Tugs	77 (Primary LA)	156.875 MHz
	5A (Primary LB)	156.250 MHz
	65A (Secondary)	156.275 MHz
Intership Safety	6	156.300 MHz
Los Angeles Port Pilots	73	156.675 MHz
	63A	156.175 MHz
Los Angeles Port Police	16	156.800 MHz
Long Beach Port Pilots	74	156.725 MHz
	12	156.600 MHz
	65A (Secondary)	156.275 MHz
Noncommercial Calling	9	156.450 MHz
Vessel Traffic Information Service	14	156.700 MHz
U.S. Coast Guard	16 (Primary)	156.800 MHz
	12 (Secondary)	156.600 MHz
U.S. Navy	12 (Primary)	156.600 MHz

VESSEL OPERATING PROCEDURES

The LA/LB Harbor Safety Plan (HSP) contains operating procedures for vessels. An electronic copy of the HSP can be seen on the Marine Exchange website at mxsocal.org. All of the procedures are considered Good Marine Practice, but some are regulations (local, state, and/or federal) while others are non-regulatory “Standards of Care.” These Vessel Operating Procedures have been extracted from the main text of the HSP in order to create a helpful “Quick Reference Guide” containing the most important information necessary for safe, reliable and environmentally sound vessel movements in and around the port area. These Vessel Operating Procedures list only the basics. Additional and more detailed information can be found in HSP chapters addressing each topic. Port tariffs also contain requirements for vessels operating in and around the port. Familiarization and compliance with the Harbor Safety Plan and the port tariff(s) are a must! Nothing in these procedures precludes a master and/or pilot from taking necessary and prudent actions to avoid or mitigate unsafe conditions.

Pilot Requirements

Local port tariffs require vessels of greater than 300 GT to use a federally-licensed pilot whenever navigating inside the Federal Breakwater. In most circumstances, vessels employ the services of a federally-licensed local pilot from the Los Angeles Pilot Service (for the Port of Los Angeles) or Jacobsen Pilot Service (for the Port of Long Beach). In instances where a local pilot is not used, Masters must have a local federal pilot license and receive approval from the U.S. Coast Guard Captain of the Port (COTP) prior to entering or departing port. Outbound vessels are required 15 minutes prior to getting underway and inbound vessels are required 15 minutes prior to entering the Federal Breakwater to establish communications and coordinate movements with the appropriate local pilot organization and Vessel Traffic Service (VTS).

Equipment Failures

Vessels are required by law to report navigational equipment, propulsion, steering, or other vital system failures as soon as possible to the U.S. Coast Guard via the COTP office or COTP representative

Port of Los Angeles

at VTS on Channel 14. The COTP will require appropriate “equivalent levels of safety” provided by:

- Directing vessels to outside anchorage pending verification of repairs
- Proceeding into port at safest slow speed with suitable tug escort/assist
- Second licensed navigation officer on the bridge for radar plotting, etc.
- Sea trials performed to the satisfaction of the Master, pilot and COTP



Vessel Traffic Service (VTS):
mxsocal.org

VESSEL TRAFFIC MANAGEMENT

Vessel traffic in the ports of and approaches to Los Angeles and Long Beach is managed by three entities:

1. Vessel Traffic Service for the port approaches (25 nautical miles from Point Fermin to the Federal Breakwater).
2. Los Angeles Pilot Service for the Port of Los Angeles.
3. Jacobsen Pilot Service for the Port of Long Beach.

Vessel Traffic Service (VTS)

A VTS is in operation on the approaches to Los Angeles and Long Beach harbors. Operated jointly by the U.S. Coast Guard and the Marine Exchange, the VTS provides information about commercial, other vessel traffic and navigation safety. Covered vessels are required to participate in the VTS.

“Covered Mandatory Full Participant” Vessels:

- Every power-driven vessel of 40 meters (131 feet) or more in length, while navigating.
- Commercial vessels 8 meters (26 feet) or more in length that are towing alongside, astern or by pushing ahead.
- Every vessel certificated to carry 50 or more passengers for hire, while engaged in trade, under sail or power.

“Mandatory Passive Participants” Vessels:

Every power-driven vessel 20 meters (65 feet) or more in length, every vessel 100 gross tons or more carrying one or more passengers for hire and every dredge or floating plant are required to monitor Channel 14 VHF/FM when operating in the VTS area.

Arriving Vessels Upon Entering the 25-Mile Outer Limit

The outer limit of the VTS AOR is defined by a 25-nm arc from Point Fermin (LAT 33 42.3’N, 118 17.6’W).

Call “San Pedro Traffic” on VHF/FM Channel 14 and provide the following information:

1. Vessel name/call sign
2. Position, course and speed
3. Vessel destination
4. State whether or not taking a pilot
5. Estimated time of arrival to the breakwater/anchorage
6. Tank vessels report their displacement

Contact Los Angeles Pilots on Channel 73 or Long Beach Pilots on Channel 12 to arrange pilot service. Limit speed to 12 knots or less upon entry to the Precautionary Area.

Upon Entering the Precautionary Area

Call “San Pedro Traffic” and provide the following information:

1. Confirm vessel speed is 12 knots or less.
2. Confirm master is on the bridge.
3. Confirm vessel is in hand steering.
4. Confirm main propulsion has been successfully tested ahead and astern.
5. Maintain a minimum vessel separation of 1/4 nm.

Code of Federal Regulations, CFR 33, Part 165, Subsection 165.1109, identifies portions of the Precautionary Area as a Regulated Navigation Area. A minimum vessel separation of 1/4 nm is required in the Precautionary Area.

Departing Vessels from Inside the Breakwater

15 minutes prior to getting underway, contact Los Angeles Pilots on Channel 73 or Long Beach Pilots on Channel 12 (depending on which harbor the vessel is in) to check into the traffic system. Provide vessel name, type, departure point, destination and intended route.

15 minutes prior to the breakwater entrance, call “San Pedro Traffic” on VHF/FM Channel 14. Breakwater entrances include Los Angeles Gate (LA), Long Beach Gate (LB) and Anaheim Bay (Naval Weapons Support Facility, Seal Beach).

Provide the following:

1. Vessel name/call sign
2. Destination
3. Acknowledge VTS traffic report
4. Report departure from Precautionary Area to VTS
5. If outbound, ETA to 25 nm from Point Fermin
6. Report departure from VTS at 25 nm limit

Maintain speed at 12 knots or less through Precautionary Area.

Sea Approaches – CAUTION

The Master's attention is directed to NOAA Chart Nos. 18746 & 18749 or BA 1063 & 1082 regarding regulations for:

- Passage of Los Angeles and Long Beach sea buoys
- Transit of Los Angeles and Long Beach pilot boarding areas
- Anchorage G, outside the Breakwater

VESSEL SPEED LIMITS

These speed restrictions do not preclude the master or pilot from adjusting speeds to avoid or mitigate unsafe conditions. Weather, vessel-maneuvering characteristics, traffic density, construction/ dredging and other possible items should also be taken into account.

Tank Vessels

Precautionary area (approach to port) 12.0 kts

Between the seaward limits of the tank vessel escort zones and
anywhere inside the Federal Breakwater (except where lower
speed limits apply):

Less than 60,000 metric tonne displacement 8.0 kts

60,000 metric tonnes displacement, or more. 6.0 kts

Other Than Tank Vessels

Precautionary area (approach to port) 12.0 kts

Port of Los Angeles

Between the breakwater and Reservation Point (if draft is greater
than 1.5 meters):

Outer Harbor 10.0 kts

Inner Harbor 6.0 kts

Fish Harbor, West Channel, marinas, and yacht anchorages. . 4.4kts

No Wake Zone 5 kts

No Wake Zone includes the portion of the Cabrillo Beach
recreation area extending from the launch ramp to an imaginary
line extending northwesterly from the west end of the municipal
fishing pier to the west end of Berth 47.

Port of Long Beach

Within the Main Channel, between the breakwater

and Long Beach Channel Lights 10.0 kts

Everywhere else in the harbor 6.0 kts



U.S. Coast Guard Los Angeles-Long Beach
dcms.uscg.mil/Our-Organization/Director-of-Operational-Logistics-DOL/Bases/Base-Los-Angeles-Long-Beach/

FOREIGN QUARANTINE

U.S. Public Health Service Center for Disease Control (CDC),
National Center for Infectious Diseases (NCID)
Division of Quarantine Los Angeles Quarantine Station
380 World Way, Box N-19, Los Angeles, CA 90045
Phone: (310) 215-2365 (24 hours) Fax: (310) 215-2285

Standard Procedures

Radio Free Pratique may clear a vessel to enter the harbor without inspection.

Inspection officer will board a vessel based on the following criteria:

1. 15 days prior to entering a U.S. port, if any crew member or passenger exhibits these symptoms:
 - Temperature of 100 degrees or higher for 48 hours, or any temperature accompanied by rash, jaundice, or glandular swelling.
 - Diarrhea severe enough to prevent performing normal duties.
 - Death aboard ship. Any ship visiting a plague-infested country within 60 days prior to entering a U.S. port.
2. Any ship that has requested a deratting inspection/exemption certificate.

If subject to inspection, regular vessel boarding hours are 0600 to 1800, Monday-Saturday. Overtime hours are 1800-0600, including Sundays and holidays.

Reporting or request for boarding must be relayed and received by the office 24 hours prior to a ship's arrival. Under conditions A and B above, the quarantine flag may be ordered flown.



CDC Los Angeles Quarantine Station:
cdc.gov/quarantine/stations/los-angeles.html

LOS ANGELES PILOT SERVICE COVID-19 SAFETY PRECAUTIONS

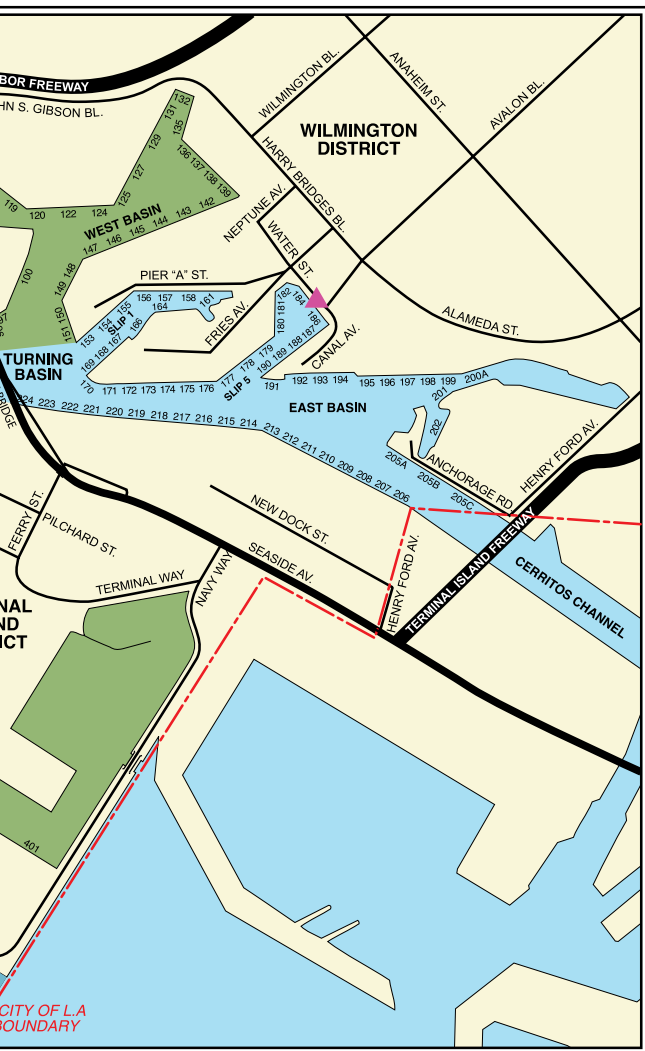
In order to mitigate the threat of transmission of COVID-19 to the Los Angeles Harbor maritime community, the Los Angeles Pilot Service respectfully requests vessel operators take the following measures during a vessel's transit to Los Angeles, prior to the Pilot boarding, and also during the vessel's transit within Los Angeles Harbor with a Port Pilot onboard:

- Cool and dry conditions should be maintained on the bridge. Avoid hot and humid conditions which may enable a virus to stay alive on surfaces.
- In the hour prior to the pilot boarding, wipe down the entire bridge with a 5% solution of bleach water (including the chart table, instruments, chairs, helm, entire console, handrails, windows, etc.)
- Please only allow essential personnel in the wheelhouse while a Pilot is onboard.
- Any crew member entering the bridge should thoroughly wash their hands and face prior to entering the bridge, and immediately sanitize their hands again, upon entering.
- All members of the Bridge Team and the Pilot should wear face masks/coverings while the pilot is onboard.
- Please maintain a supply of hand sanitizer on the bridge. Any member of the bridge team, including the Pilot, should use hand sanitizer on their hands immediately after touching their face.
- All coffee cups and utensils on bridge should be washed thoroughly.
- Pilots have been advised to bring their own coffee cups and not use the ship's.
- Pilots may make awareness of the above conditions a part of the Master/Pilot Exchange.
- If the helmsman or ship's officers see the Pilot fail to comply with any of the above conditions, they should speak up and remind the Pilot to do so.

For more information, visit portofla.org/covid19.

Port of Los Angeles







A close-up photograph of a weathered, rusty metal structure. The metal is a mix of dark grey and reddish-brown. A prominent circular hole is visible on the right side, revealing a dark interior. Below the hole, there is a rectangular patch of bright red paint or material. The overall texture is rough and corroded.

ENVIRONMENTAL POLICIES

ENVIRONMENTAL NOTICES TO SHIPS

Excessive Smoke/Boiler Tube Blowing

If boiler tube blowing results in soot being deposited in such quantities as to create a nuisance, Section 41700 of the California Health and Safety Code will be enforced. Section 41700 provides that no person shall discharge from any source whatsoever such quantities of air contaminants or other material, which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Furthermore, as provided in Section 41701 of the California Health and Safety Code, it shall be unlawful for any person from any source whatsoever to discharge into the atmosphere any contaminant, other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which is as dark, or darker in shade as that designated as No. 2 on the Ringelmann Chart, as published by the United States Bureau of Mines.

Ballast Water and Biofouling Management

The introduction of non-native organisms can create serious ecological, human health, and economic impacts in receiving environments. California state law requires ballast water and biofouling management for ships that arrive at California ports unless safety is threatened. A Ballast Water Management Report must be submitted in advance of each arrival at a California port. If a voyage is greater than 24 hours, the Ballast Water Management Report must be submitted 24 hours in advance of arrival. If the voyage is less than 24 hours, the Ballast Water Management Report must be submitted prior to departing the port of departure. Additionally, the Marine Invasive Species Program Annual Vessel Reporting Form must be submitted at <https://MISP.IO> at least 24 hours in advance of the first arrival of each calendar year. A Ballast Water Management Plan and Ballast Water Logbook must be maintained on board the vessel and made available for inspection. Vessel that are newly delivered or have a regularly scheduled

out-of-water maintenance on or after January 1, 2018, must also maintain a Biofouling Management Plan and Biofouling Record Book, and manage biofouling on wetted surfaces and niche areas. The California Department of Tax and Fee Administration collects a \$1,000 fee for each qualifying voyage arrival. Contact the California State Lands Commission (562-499-6312) or go to slc.ca.gov/misp/ for further information on state requirements.

In addition, a Ballast Water Management Report must be filed with the U.S. Coast Guard at every U.S. port of call. Federal ballast water discharge performance standards are in effect and other federal requirements may apply. Contact the U.S. Coast Guard at (310) 521-3600 or go to dco.uscg.mil for more information.

Water Pollution Regulation

Los Angeles Harbor is one of the cleanest in the world due to extensive efforts to combat water pollution. Source control and anti-pollution regulations to protect water and sediment quality at the Port of Los Angeles are strictly enforced through a variety of Federal, State and Regional permits. It is unlawful to discharge anything besides clean water into the harbor without a permit or permission from the Harbor Master. Please refer to Vessel Discharge Rules and Regulations for specifics as there are many restrictions and non-allowable discharges regarding deck washing, maintenance, contact water, and wastewater portofla.org/vessel-discharge. For questions please contact the Watch Commander at (310) 732-3491. All discharges of pollutants (or unauthorized discharges) must be reported immediately to the Watch Commander. For large spills please call the National Response Center (NRC) at (800) 424-8802. If unable to reach NRC, you can contact the local Coast Guard unit at (310) 521-3780 or on VHF/FM Channel 16. Also notify the California Office of Emergency Services at (800) 852-7550.

Low Sulfur Fuel Regulation

Beginning January 2014, the California Air Resources Board (CARB) requires vessels to use less than or equal to 0.1% sulfur fuel within 24 nm of the California coastline in main engines, auxiliary engines and boilers.

Port of Los Angeles

Shore Power Regulation

In July 2020, the California Air Resources Board (CARB) updated their At-Berth Regulation. Vessel operators (shipping lines) and terminal operators are responsible for complying with the regulation. All fleets calling at California ports must shut down their auxiliary engines and plug into the electrical grid while at berth or use a CARB approved emission control system. This regulation currently applies to container ships, cruise ships, and refrigerated cargo; regulations are scheduled to apply to all auto carrier ships, roll-on/roll-off ships (Ro-Ro), and tanker ships that call to the Ports of Los Angeles and Long Beach in 2025. Shore power at the Port of Los Angeles, is otherwise known as Alternative Maritime Power® (AMP®), the time-honored air quality program that focuses on reducing emissions from vessels docked at the Port of Los Angeles. The Port of Los Angeles became the first port in the world to use AMP® technology for in-service container ships in 2004.



Shore Power Regulations

arb.ca.gov/ports/shorepower/shorepower.htm

North American Emission Control Area

The North American Emission Control Area requires the use less than or equal to 0.1% sulfur (in main engines, auxiliary engines and boilers) fuel 200 nm from the North America coastline, excluding Mexico.

PORT OF LOS ANGELES ENVIRONMENTAL PROGRAMS

Vessel Speed Reduction Program

First established in 2001, the Vessel Speed Reduction Program is a voluntary program designed to reduce smog-forming emissions from ocean-going vessels that slow their speeds as they approach or depart the Port, at 20 nautical miles (nm) or 40 nm from Point Fermin. Vessel fleet operators are rewarded incentive funding by meeting annual VSR compliance at either 20 nm or 40 nm. No registration is required. Vessel speeds are monitored by the Marine Exchange of Southern California. For more information, visit portoflosangeles.org.

Environmental Ship Index Program

The Port of Los Angeles' voluntary Environmental Ship Index (ESI) program has been developed to reward vessel operators for reducing Diesel Particulate Matter (DPM) and nitrogen oxide (NOx) emissions from their ocean-going vessels (OGVs). This program rewards operators for going beyond compliance by bringing their newest and cleanest vessels to the Port and demonstrating technologies onboard their vessels. It also encourages use of cleaner technology and practices in advance of regulations.

OGVs are the single largest source of Southern California goods movement air emissions and make up approximately half of all port-related air emissions. Since 2005, voluntary emission reduction programs have yielded substantial reductions. However, based on current forecasts, the Port needs additional emission reductions to meet goals established in the Clean Air Action Plan. By 2023, this plan calls for 77 percent DPM reductions and 59 percent NOx reductions.

To be eligible for these incentives, operators must register with the international ESI. To receive the incentive payment, operators also must register with the Los Angeles Harbor Department (LAHD). Registration is free, and the incentive grant is paid on a quarterly basis. For registration information, visit portoflosangeles.org.

PORT OF LOS ANGELES CLEAN MARINA PROGRAM

The Port of Los Angeles worked with the Clean Marinas California Program to produce a guidebook as part of the Port's Clean Marina Program. The guidebook contains local resource guide, educational material, an overview of applicable government regulations, as well as the industry-developed Clean Marine Program, which guides marina managers through the Clean Marina certification process, local resource guide, educational material, and an overview of applicable government regulations.

The guidebook and Clean Marine certification are intended to guide and educate the boating community about environmentally

Port of Los Angeles

sound boating practices with the ultimate goal of improving Los Angeles Harbor water quality through the community's use of these recommendations and compliance with established regulations. The Port encourages marina managers and staff to help educate boaters about Best Management Practice (BMPs) and to implement BMPs specific to their marina's particular environmental needs.



Boater and Mariner Information
at the Port of Los Angeles:
portoflosangeles.org/community/boaters

PORT OF LOS ANGELES MARINA DIRECTORY

Al Larson's Marina	Berth 258	(310) 832-0526
Cabrillo Beach Yacht Club	Berth 35	(310) 519-1694
Cabrillo Way Marina	Berths 37-43	(310) 514-4985
California Yacht Marina - Cabrillo	Berth 29-33	(310) 732-2252
California Yacht Marina - Wilmington	Berth 202	(310) 834-7113
Cerritos Yacht Anchorage	Berth 205C	(310) 834-4737
Holiday Harbor-Cabrillo Marina	Berth 34	(310) 833-4468
Holiday Harbor-Wilmington	Berth 201	(310) 835-3952
Island Yacht Anchorage I	Berth 205D	(310) 830-1111
Island Yacht Anchorage II	Berth 200X	(310) 830-1111
Leeward Bay Marina	Berth 201	(310) 830-5621
Lighthouse Yacht Landing	Berth 205B	(310) 834-9595
Los Angeles Yacht Club	Berth 28-31	(310) 831-1203
Pacific Yacht Landing	Berth 203	(310) 830-0260
Yacht Centre - Newmarks	Berth 204	(310) 834-2830
Yacht Haven Marina	Berth 202	(310) 834-6892

MARINE MAMMAL VIEWING GUIDELINES

The following information is from NOAA Fisheries Marine Life Viewing Guide <https://www.fisheries.noaa.gov/>

Observing marine mammals in the wild can be a rewarding and educational experience, but we must respect them and their habitat. Whales, dolphins and pinnipeds are protected under the Marine Mammal Protection Act of 1972. It is a violation of Federal law to harass or harm them and penalties can include up to one year imprisonment and fines of up to \$20,000. Harassment includes pursuit, torment, or annoyance of a marine mammal or attempting to do so.

Distance

You should remain at least 100 yards (300 feet) from whales and at least 50 yards (150 feet) from dolphins, seals, and sea lions. Other species-specific rules may apply - know before you go.

Observation

When observing marine mammals at sea, make sure your actions do not cause any change in their behavior.

- Upon sighting marine mammals, stop your vessel, observe, and then attempt to parallel the animal's course. Do not approach head on.
- Avoid sudden changes to vessel speed and direction. Dolphins and whales may surface unpredictably at any time or location.
- Do not feed, or attempt to feed, any marine mammals. It is harmful and illegal.
- Do not swim with, ride, pet, touch, or attempt to interact with marine mammals in the wild.

Limit viewing time to 30 minutes to avoid creating unnecessary stress for the animals. They need our help to survive and flourish.

Ocean Friends in Peril

The ocean is a remarkable ecosystem, full of life and resources, but it's also a fragile world. Pollution, climate change and overfishing are only a few of the problems affecting our waters, but the real issue is the cumulative human impact on our oceans. Today, numerous species of marine mammals are threatened, endangered, or critically endangered and a few have already disappeared within the past several decades. Another significant threat to whales is vessel strikes. In recent years, endangered Blue Whales – reaching up to 90 feet in length – have become regular visitors to the Southern California Bight using this area as foraging grounds. These whales, unfortunately, tend to move along the same routes used by ships in commercial shipping lanes.

You can help marine mammals in distress. If you see a stranded animal, keep your distance and call National Marine Fisheries Service (NMFS) California Stranding Coordinator, Justin Viezbicke office: (562) 980-3230 and cell: (562) 506-4315. Please report injured, entangled or ship-struck whales to the 24-hour WET hotline at (877) SOS-WHALE (877-767-9425).





REFERENCE

METRIC CONVERSION TABLE

Meters	Feet	Meters	Feet	Meters	Feet
3.0	9.84	6.0	19.69	9.0	29.53
3.1	10.17	6.1	20.01	9.1	29.86
3.2	10.50	6.2	20.34	9.2	30.18
3.3	10.83	6.3	20.67	9.3	30.51
3.4	11.15	6.4	21.00	9.4	30.84
3.5	11.48	6.5	21.33	9.5	31.17
3.6	11.81	6.6	21.65	9.6	31.50
3.7	12.14	6.7	21.98	9.7	31.82
3.8	12.47	6.8	22.31	9.8	32.15
3.9	12.80	6.9	22.64	9.9	32.48
4.0	13.12	7.0	22.97	10.0	32.81
4.1	13.45	7.1	23.29	10.1	33.14
4.2	13.78	7.2	23.62	10.2	33.46
4.3	14.11	7.3	23.95	10.3	33.79
4.4	14.44	7.4	24.28	10.4	34.12
4.5	14.76	7.5	24.61	10.5	34.45
4.6	15.09	7.6	24.93	10.6	34.78
4.7	15.42	7.7	25.26	10.7	35.10
4.8	15.75	7.8	25.59	10.8	35.43
4.9	16.08	7.9	25.92	10.9	35.76
5.0	16.40	8.0	26.25	11.0	36.09
5.1	16.73	8.1	26.57	11.1	36.42
5.2	17.06	8.2	26.90	11.2	36.75
5.3	17.39	8.3	27.23	11.3	37.07
5.4	17.72	8.4	27.56	11.4	37.40
5.5	18.04	8.5	27.89	11.5	37.73
5.6	18.37	8.6	28.22	11.6	38.06
5.7	18.70	8.7	28.54	11.7	38.39
5.8	19.03	8.8	28.87	11.8	38.71
5.9	19.36	8.9	29.20	11.9	39.04

METRIC CONVERSION TABLE

Meters	Feet	Meters	Feet	Meters	Feet
12.0	39.37	15.0	49.21	18.0	59.06
12.1	39.70	15.1	49.54	18.1	59.38
12.2	40.03	15.2	49.87	18.2	59.71
12.3	40.35	15.3	50.20	18.3	60.04
12.4	40.68	15.4	50.52	18.4	60.37
12.5	41.01	15.5	50.85	18.5	60.70
12.6	41.34	15.6	51.18	18.6	61.02
12.7	41.67	15.7	51.51	18.7	61.35
12.8	41.99	15.8	51.84	18.8	61.68
12.9	42.32	15.9	52.17	18.9	62.01
13.0	42.65	16.0	52.49	19.0	62.34
13.1	42.98	16.1	52.82	19.1	62.66
13.2	43.31	16.2	53.15	19.2	62.99
13.3	43.64	16.3	53.48	19.3	63.32
13.4	43.96	16.4	53.81	19.4	63.65
13.5	44.29	16.5	54.13	19.5	63.98
13.6	44.62	16.6	54.46	19.6	64.30
13.7	44.95	16.7	54.79	19.7	64.63
13.8	45.28	16.8	55.12	19.8	64.96
13.9	45.60	16.9	55.45	19.9	65.29
14.0	45.93	17.0	55.77	20.0	65.62
14.1	46.26	17.1	56.10	20.1	65.94
14.2	46.59	17.2	56.43	20.2	66.27
14.3	46.92	17.3	56.76	20.3	66.60
14.4	47.24	17.4	57.09	20.4	66.93
14.5	47.57	17.5	57.41	20.5	67.26
14.6	47.90	17.6	57.74	20.6	67.59
14.7	48.23	17.7	58.07	20.7	67.91
14.8	48.56	17.8	58.40	20.8	68.24
14.9	48.88	17.9	58.73	20.9	68.57

METRIC CONVERSION TABLE

Meters	Feet	Meters	Feet	Meters	Feet
21.0	68.90	24.0	78.74	45.0	147.64
21.1	69.23	24.1	79.07	46.0	150.92
21.2	69.55	24.2	79.40	47.0	154.20
21.3	69.88	24.3	79.72	48.0	157.48
21.4	70.21	24.4	80.05	49.0	160.76
21.5	70.54	24.5	80.38	50.0	164.04
21.6	70.87	24.6	80.71	51.0	167.32
21.7	71.19	24.7	81.04	52.0	170.60
21.8	71.52	24.8	81.36	53.0	173.88
21.9	71.85	24.9	81.69	54.0	177.17
22.0	72.18	25.0	82.02	55.0	180.45
22.1	72.51	26.0	85.30	56.0	183.73
22.2	72.83	27.0	88.58	57.0	187.01
22.3	73.16	28.0	91.86	58.0	190.29
22.4	73.49	29.0	95.14	59.0	193.57
22.5	73.82	30.0	98.43	60.0	196.85
22.6	74.15	31.0	101.71	61.0	200.13
22.7	74.48	32.0	104.99	62.0	203.41
22.8	74.80	33.0	108.27	63.0	206.69
22.9	75.13	34.0	111.55	64.0	209.97
23.0	75.46	35.0	114.83	65.0	213.25
23.1	75.79	36.0	118.11	66.0	216.54
23.2	76.12	37.0	121.39	67.0	219.82
23.3	76.44	38.0	124.67	68.0	223.10
23.4	76.77	39.0	127.95	69.0	226.38
23.5	77.10	40.0	131.23	70.0	229.66
23.6	77.43	41.0	134.51	71.0	232.94
23.7	77.76	42.0	137.80	72.0	236.22
23.8	78.08	43.0	141.08	73.0	239.50
23.9	78.41	44.0	144.36	74.0	242.78

METRIC CONVERSION TABLE

Meters	Feet	Meters	Feet	Meters	Feet
75.0	246.06	105.0	344.49	135.0	442.91
76.0	249.34	106.0	347.77	136.0	446.19
77.0	252.62	107.0	351.05	137.0	449.48
78.0	255.91	108.0	354.33	138.0	452.76
79.0	259.19	109.0	357.61	139.0	456.04
80.0	262.47	110.0	360.89	140.0	459.32
81.0	265.75	111.0	364.17	141.0	462.60
82.0	269.03	112.0	367.45	142.0	465.88
83.0	272.31	113.0	370.73	143.0	469.16
84.0	275.59	114.0	374.02	144.0	472.44
85.0	278.87	115.0	377.30	145.0	475.72
86.0	282.15	116.0	380.58	146.0	479.00
87.0	285.43	117.0	383.86	147.0	482.28
88.0	288.71	118.0	387.14	148.0	485.56
89.0	291.99	119.0	390.42	149.0	488.85
90.0	295.28	120.0	393.70	150.0	492.13
91.0	298.56	121.0	396.98	151.0	495.41
92.0	301.84	122.0	400.26	152.0	498.69
93.0	305.12	123.0	403.54	153.0	501.97
94.0	308.40	124.0	406.82	154.0	505.25
95.0	311.68	125.0	410.11	155.0	508.53
96.0	314.96	126.0	413.39	156.0	511.81
97.0	318.24	127.0	416.67	157.0	515.09
98.0	321.52	128.0	419.95	158.0	518.37
99.0	324.80	129.0	423.23	159.0	521.65
100.0	328.08	130.0	426.51	160.0	524.93
101.0	331.36	131.0	429.79	161.0	528.22
102.0	334.65	132.0	433.07	162.0	531.50
103.0	337.93	133.0	436.35	163.0	534.78
104.0	341.21	134.0	439.63	164.0	538.06

METRIC CONVERSION TABLE

Meters	Feet	Meters	Feet	Meters	Feet
165.0	541.34	195.0	639.76	225.0	738.19
166.0	544.62	196.0	643.04	226.0	741.47
167.0	547.90	197.0	646.33	227.0	744.75
168.0	551.18	198.0	649.61	228.0	748.03
169.0	554.46	199.0	652.89	229.0	751.31
170.0	557.74	200.0	656.17	230.0	754.59
171.0	561.02	201.0	659.45	231.0	757.87
172.0	564.30	202.0	662.73	232.0	761.15
173.0	567.59	203.0	666.01	233.0	764.44
174.0	570.87	204.0	669.29	234.0	767.72
175.0	574.15	205.0	672.57	235.0	771.00
176.0	577.43	206.0	675.85	236.0	774.28
177.0	580.71	207.0	679.13	237.0	777.56
178.0	583.99	208.0	682.41	238.0	780.84
179.0	587.27	209.0	685.70	239.0	784.12
180.0	590.55	210.0	688.98	240.0	787.40
181.0	593.83	211.0	692.26	241.0	790.68
182.0	597.11	212.0	695.54	242.0	793.96
183.0	600.39	213.0	698.82	243.0	797.24
184.0	603.67	214.0	702.10	244.0	800.52
185.0	606.96	215.0	705.38	245.0	803.81
186.0	610.24	216.0	708.66	246.0	807.09
187.0	613.52	217.0	711.94	247.0	810.37
188.0	616.80	218.0	715.22	248.0	813.65
189.0	620.08	219.0	718.50	249.0	816.93
190.0	623.36	220.0	721.78	250.0	820.21
191.0	626.64	221.0	725.07	251.0	823.49
192.0	629.92	222.0	728.35	252.0	826.77
193.0	633.20	223.0	731.63	253.0	830.05
194.0	636.48	224.0	734.91	254.0	833.33

METRIC CONVERSION TABLE

Meters	Feet	Meters	Feet	Meters	Feet
255.0	836.61	285.0	935.04	315.0	1033.46
256.0	839.90	286.0	938.32	316.0	1036.75
257.0	843.18	287.0	941.60	317.0	1040.03
258.0	846.46	288.0	944.88	318.0	1043.31
259.0	849.74	289.0	948.16	319.0	1046.59
260.0	853.02	290.0	951.44	320.0	1049.87
261.0	856.30	291.0	954.72	321.0	1053.15
262.0	859.58	292.0	958.01	322.0	1056.43
263.0	862.86	293.0	961.29	323.0	1059.71
264.0	866.14	294.0	964.57	324.0	1062.99
265.0	869.42	295.0	967.85	325.0	1066.27
266.0	872.70	296.0	971.13	326.0	1069.55
267.0	875.98	297.0	974.41	327.0	1072.83
268.0	879.27	298.0	977.69	328.0	1076.12
269.0	882.55	299.0	980.97	329.0	1079.40
270.0	885.83	300.0	984.25	330.0	1082.68
271.0	889.11	301.0	987.53	331.0	1085.96
272.0	892.39	302.0	990.81	332.0	1089.24
273.0	895.67	303.0	994.09	333.0	1092.52
274.0	898.95	304.0	997.38	334.0	1095.80
275.0	902.23	305.0	1000.66	335.0	1099.08
276.0	905.51	306.0	1003.94	336.0	1102.36
277.0	908.79	307.0	1007.22	337.0	1105.64
278.0	912.07	308.0	1010.50	338.0	1108.92
279.0	915.35	309.0	1013.78	339.0	1112.20
280.0	918.64	310.0	1017.06	340.0	1115.49
281.0	921.92	311.0	1020.34	341.0	1118.77
282.0	925.20	312.0	1023.62	342.0	1122.05
283.0	928.48	313.0	1026.90	343.0	1125.33
284.0	931.76	314.0	1030.18	344.0	1128.61

METRIC CONVERSION TABLE

Meters	Feet	Meters	Feet
345.0	1131.89	375.0	1230.32
346.0	1135.17	376.0	1233.60
347.0	1138.45	377.0	1236.88
348.0	1141.73	378.0	1240.16
349.0	1145.01	379.0	1243.44
350.0	1148.29	380.0	1246.72
351.0	1151.57	381.0	1250.00
352.0	1154.86	382.0	1253.28
353.0	1158.14	383.0	1256.56
354.0	1161.42	384.0	1259.84
355.0	1164.70	385.0	1263.12
356.0	1167.98	386.0	1266.40
357.0	1171.26	387.0	1269.69
358.0	1174.54	388.0	1272.97
359.0	1177.82	389.0	1276.25
360.0	1181.10	390.0	1279.53
361.0	1184.38	391.0	1282.81
362.0	1187.66	392.0	1286.09
363.0	1190.94	393.0	1289.37
364.0	1194.23	394.0	1292.65
365.0	1197.51	395.0	1295.93
366.0	1200.79	396.0	1299.21
367.0	1204.07	397.0	1302.49
368.0	1207.35	398.0	1305.77
369.0	1210.63	399.0	1309.06
370.0	1213.91	400.0	1312.34
371.0	1217.19		
372.0	1220.47		
373.0	1223.75		
374.0	1227.03		

SUNRISE AND SUNSET TABLE

LOS ANGELES, CALIFORNIA

Pacific Standard Time (Time Meridian 120° West for

Latitude 33° 43' N., Longitude 118° 16' W.)

This table gives the time of the rising and setting of the sun's upper limb for every fifth day of the year. An allowance of five meters has been made for the elevation of the observer. The table is approximately correct for any year, as the declination of the sun varies but little from its mean value from year to year.

Add one hour for daylight-saving time where applicable.

Date	Sunrise	Sunset	Date	Sunrise	Sunset
Jan. 1	0658	1656	July 5	0448	1907
6	0659	1700	10	0450	1906
11	0658	1704	15	0453	1904
16	0658	1708	20	0457	1902
21	0656	1713	25	0500	1859
26	0654	1718	30	0503	1855
31	0651	1723			
Feb. 5	0647	1728	Aug. 4	0507	1851
10	0643	1733	9	0511	1846
15	0638	1737	14	0514	1841
20	0632	1742	19	0518	1835
25	0627	1746	24	0521	1829
			29	0525	1823
March 2	0621	1750	Sept. 3	0528	1816
7	0614	1754	8	0531	1810
12	0608	1758	13	0535	1803
17	0601	1802	18	0538	1756
22	0555	1806	23	0542	1749
27	0548	1810	28	0545	1742
April 1	0541	1814	Oct. 3	0549	1735
6	0534	1817	8	0552	1728
11	0528	1821	13	0556	1722
16	0522	1825	18	0600	1716
21	0516	1829	23	0604	1710
26	0510	1832	28	0608	1705
May 1	0505	1836	Nov. 2	0613	1700
6	0500	1840	7	0617	1656
11	0456	1844	12	0622	1652
16	0452	1848	17	0627	1649
21	0449	1851	22	0631	1647
26	0446	1855	27	0636	1645
31	0444	1858			
June 5	0443	1901	Dec. 2	0640	1644
10	0442	1903	7	0644	1644
15	0442	1905	12	0648	1645
20	0443	1906	17	0651	1647
25	0444	1907	22	0654	1649
30	0446	1908	27	0656	1652

The information provided here has been compiled from reliable government sources. The Port assumes no responsibility for its accuracy.



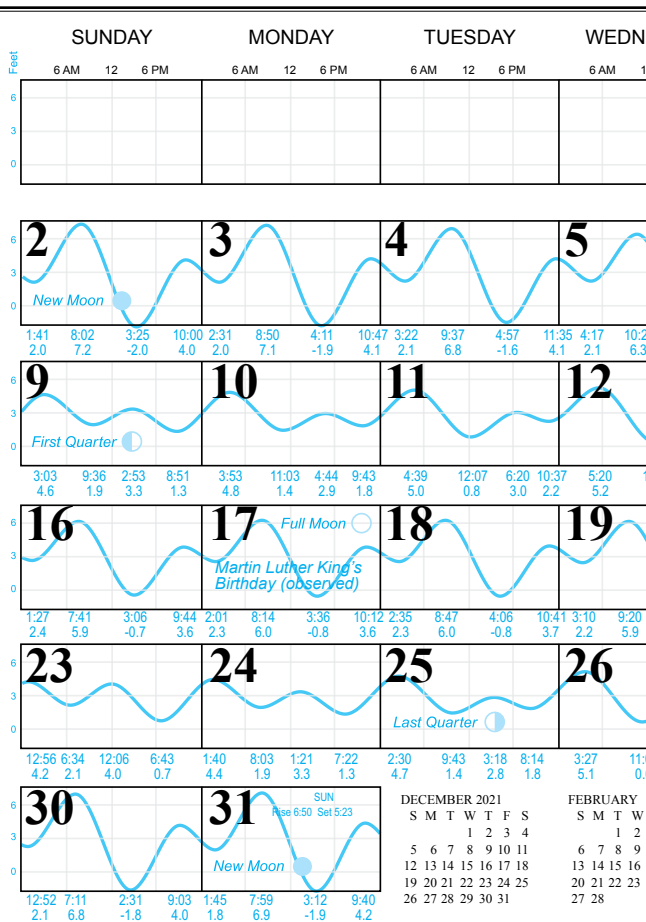


TIDE TABLES

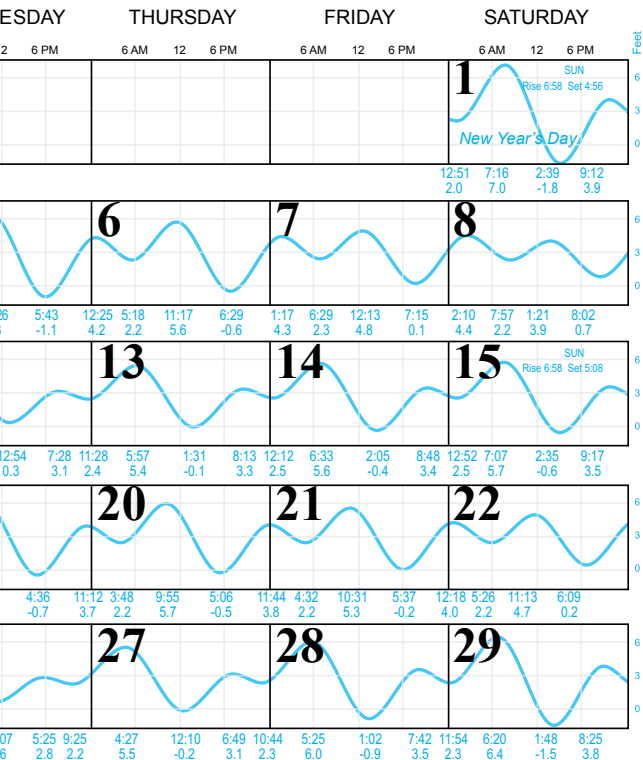
Tide Tables

LOS ANGELES
(Outer Harbor)
CALIFORNIA

Times and Heights of
High and Low Water
(heights in feet)



January 2022

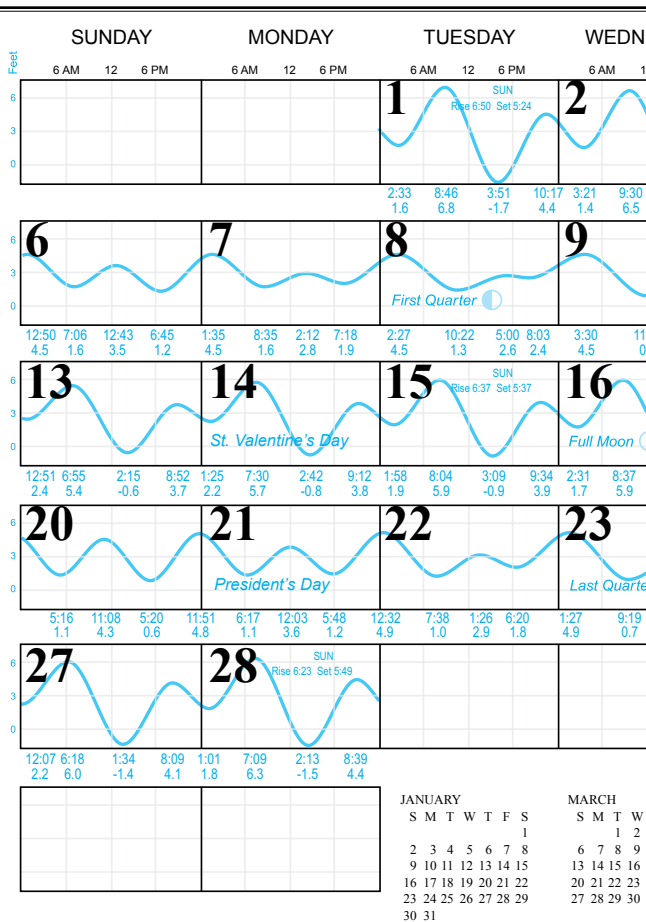


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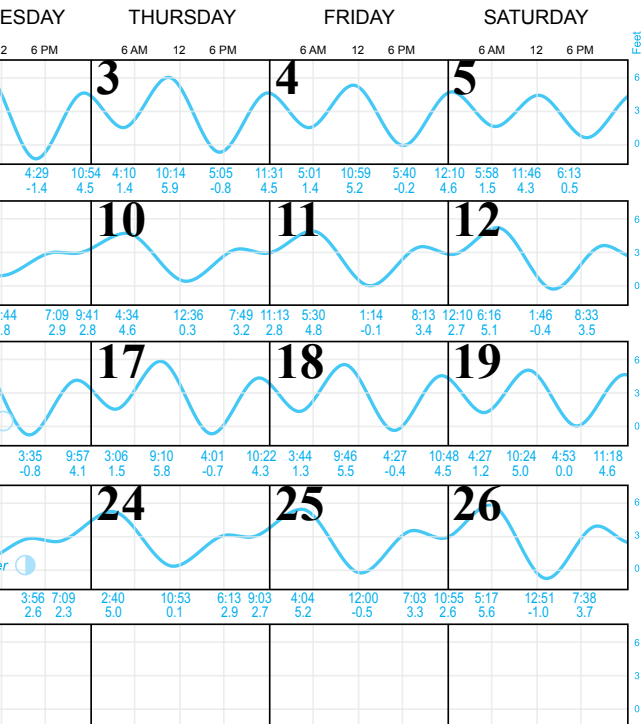
Tide Tables

LOS ANGELES
(Outer Harbor)
CALIFORNIA

Times and Heights of
High and Low Water
(heights in feet)



February 2022

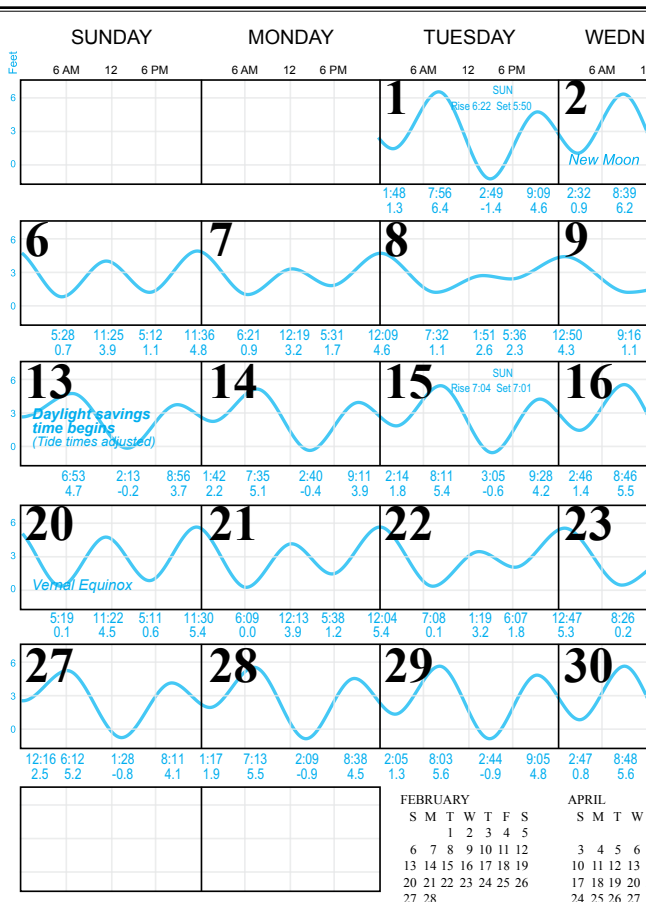


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24 25 26
31

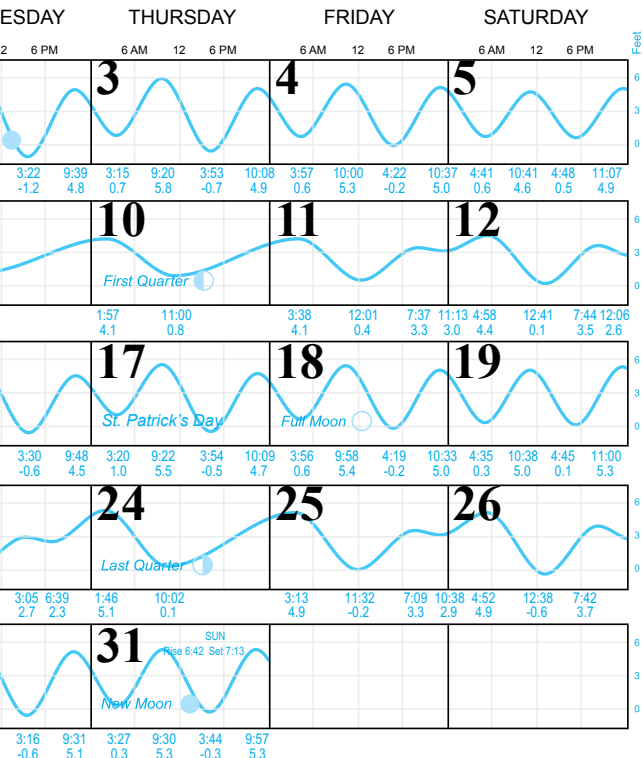
Tide Tables

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(Outer Harbor)
CALIFORNIA

Times and Heights of
High and Low Water
(heights in feet)



March 2022

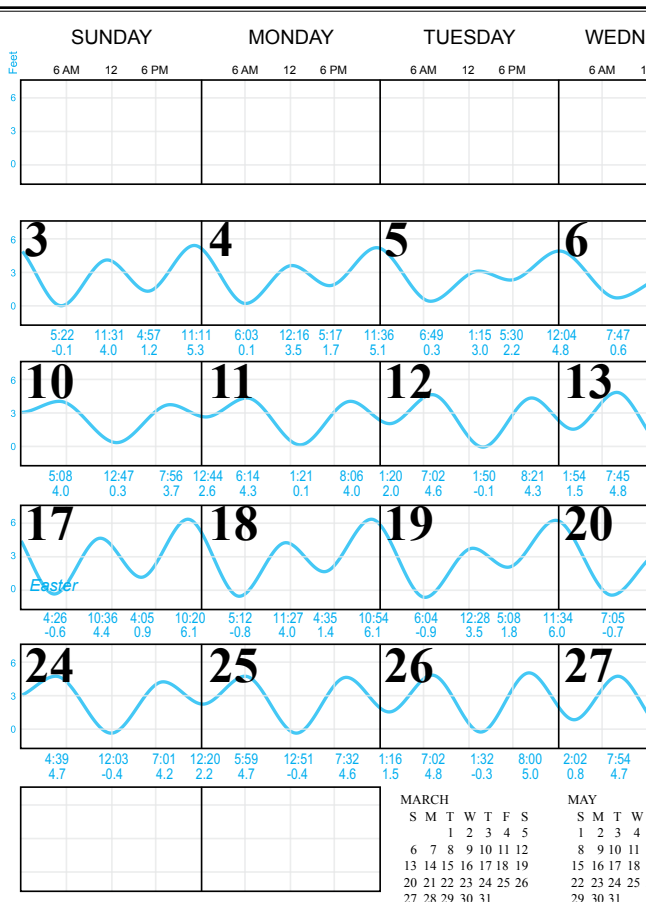


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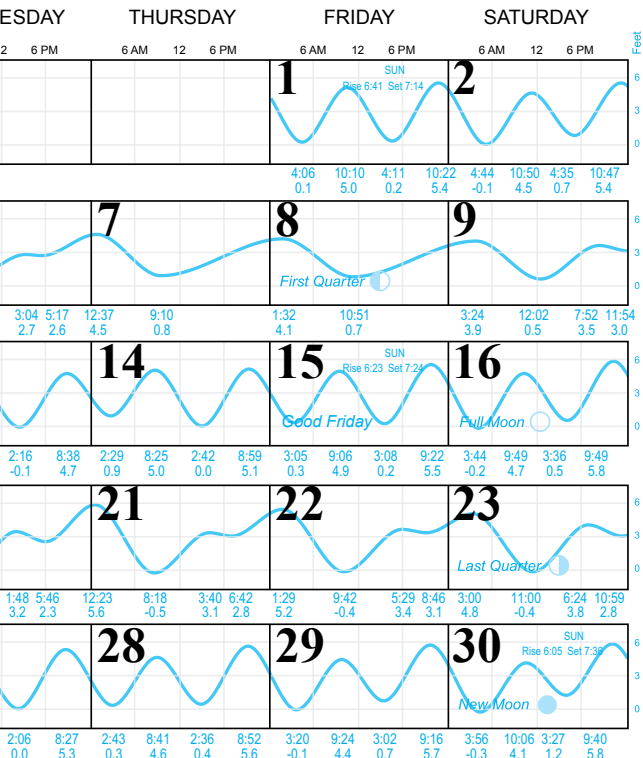
Tide Tables

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(Outer Harbor)
CALIFORNIA

Times and Heights of
High and Low Water
(heights in feet)



April 2022

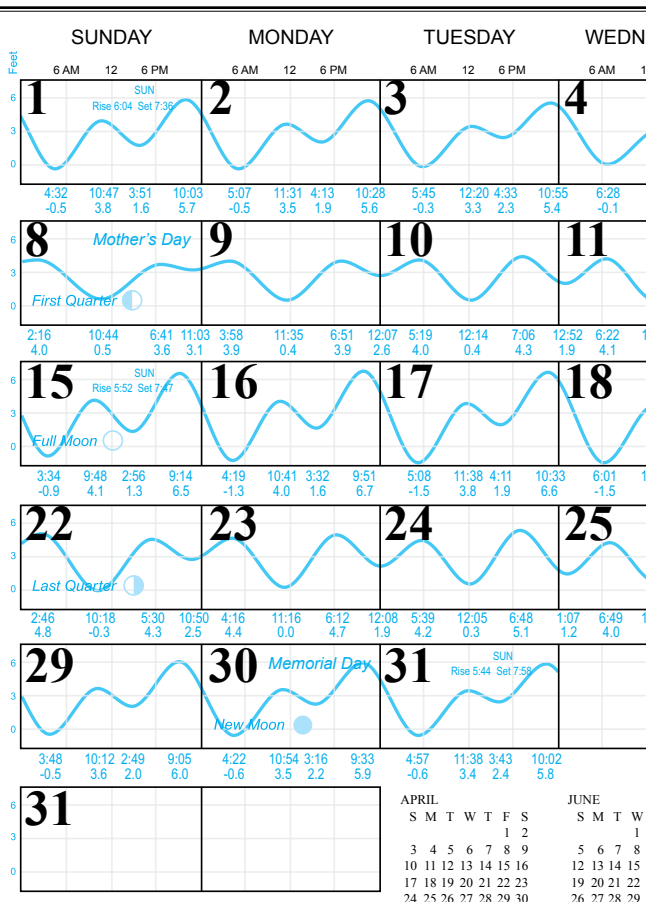


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 26 27 28

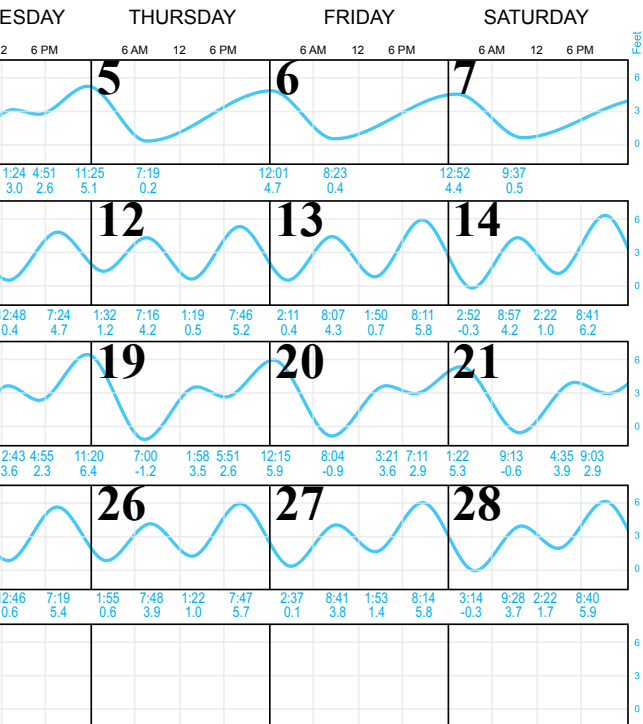
Tide Tables

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(Outer Harbor)
CALIFORNIA

Times and Heights of
High and Low Water
(heights in feet)



May 2022

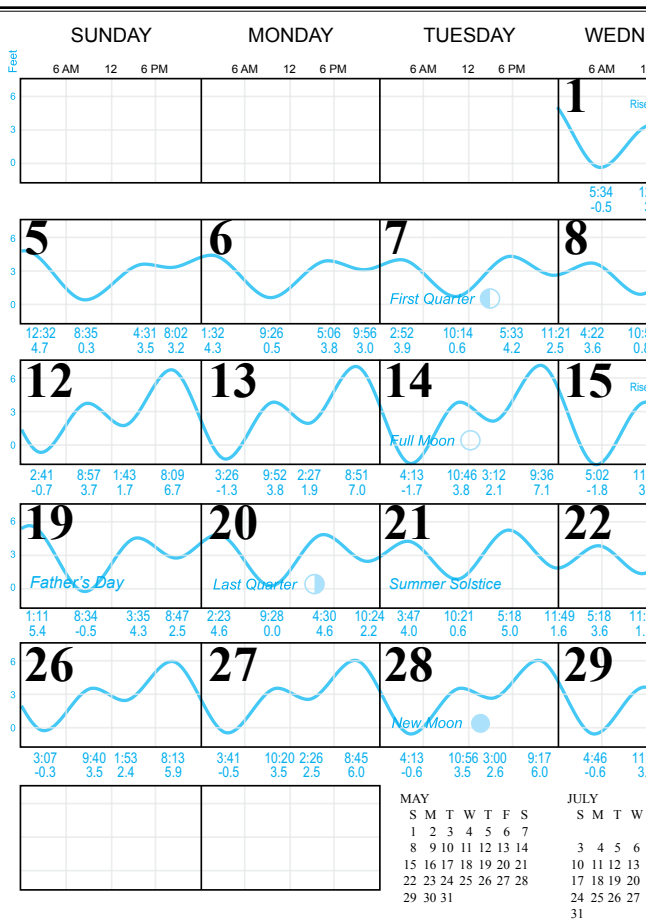


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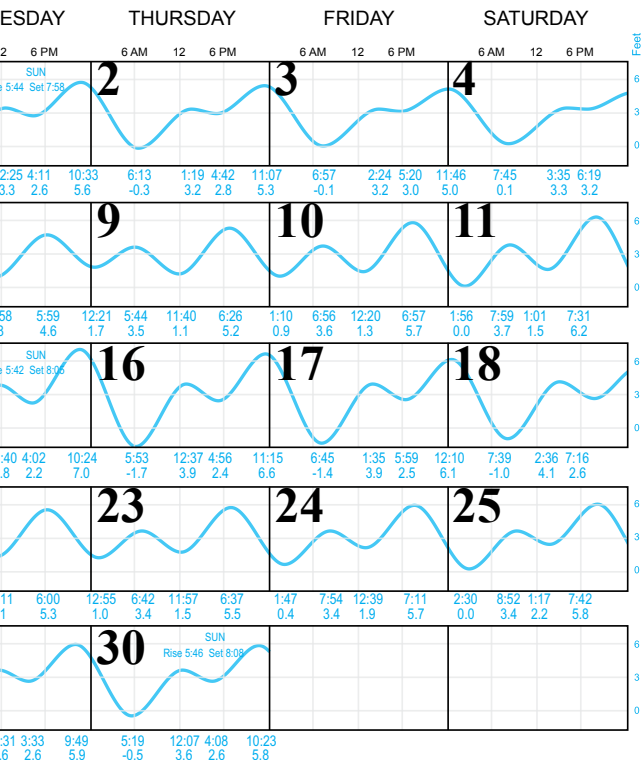
Tide Tables

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(Outer Harbor)
CALIFORNIA

Times and Heights of
High and Low Water
(heights in feet)



June 2022

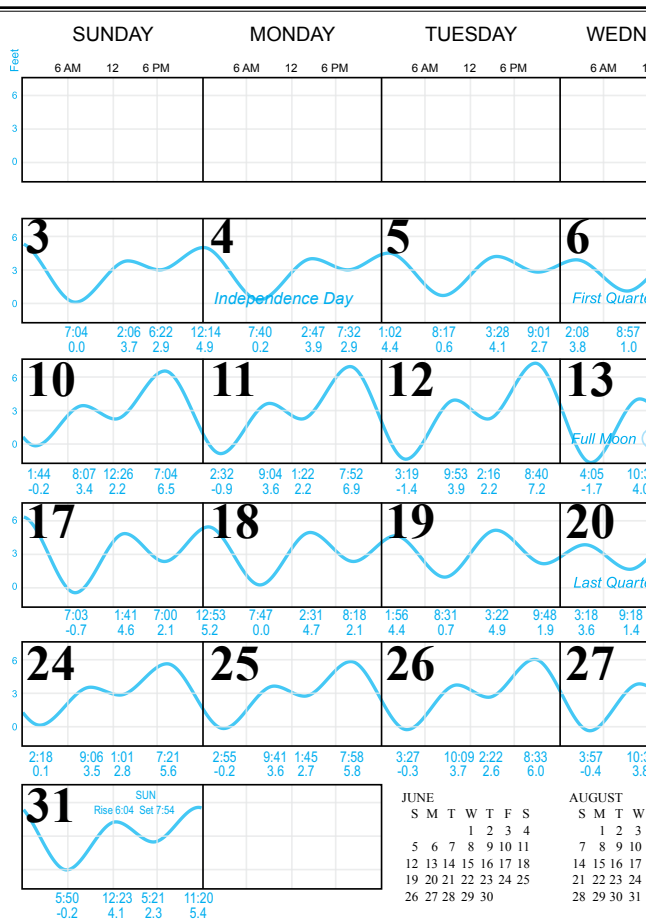


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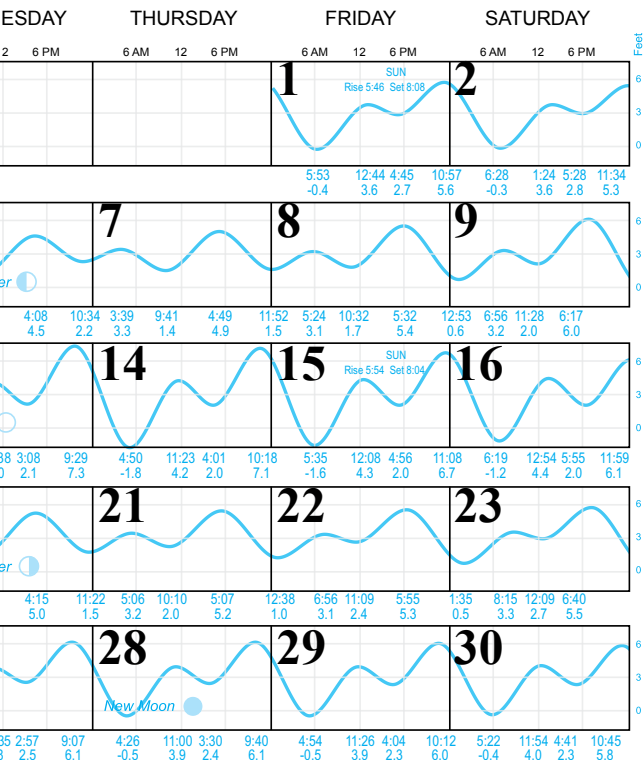
Tide Tables

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(Outer Harbor)
CALIFORNIA

Times and Heights of
High and Low Water
(heights in feet)



July 2022

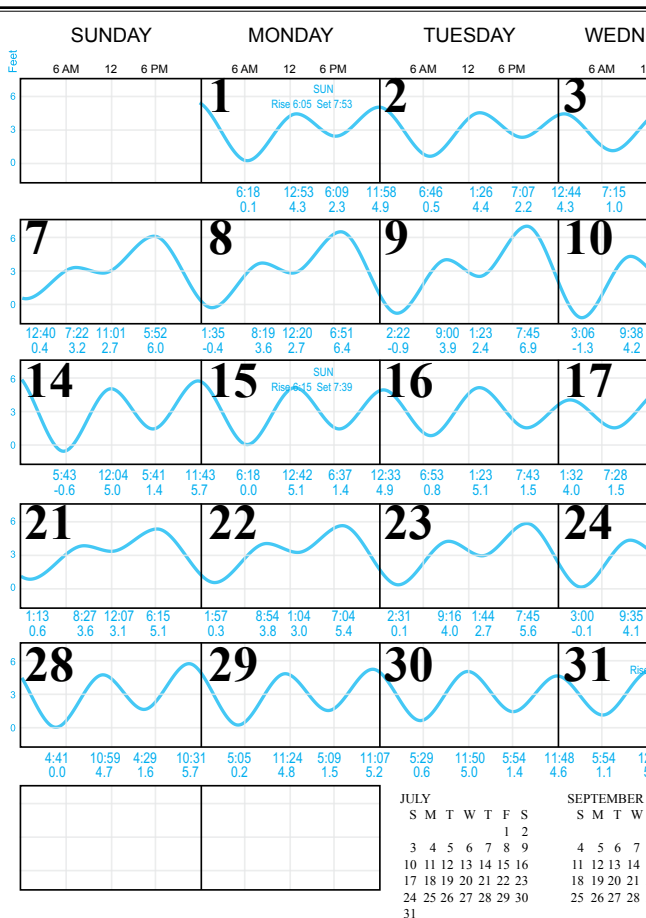


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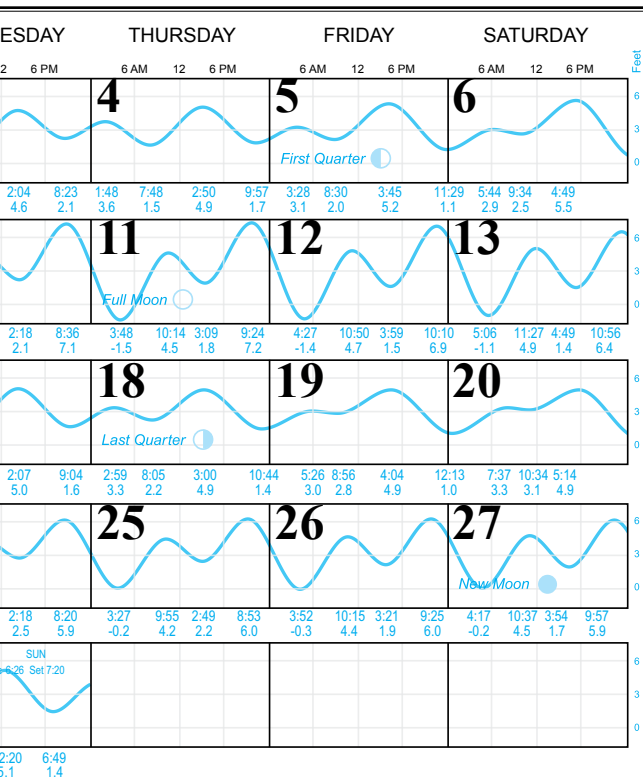
Tide Tables

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(Outer Harbor)
CALIFORNIA

Times and Heights of
High and Low Water
(heights in feet)



August 2022

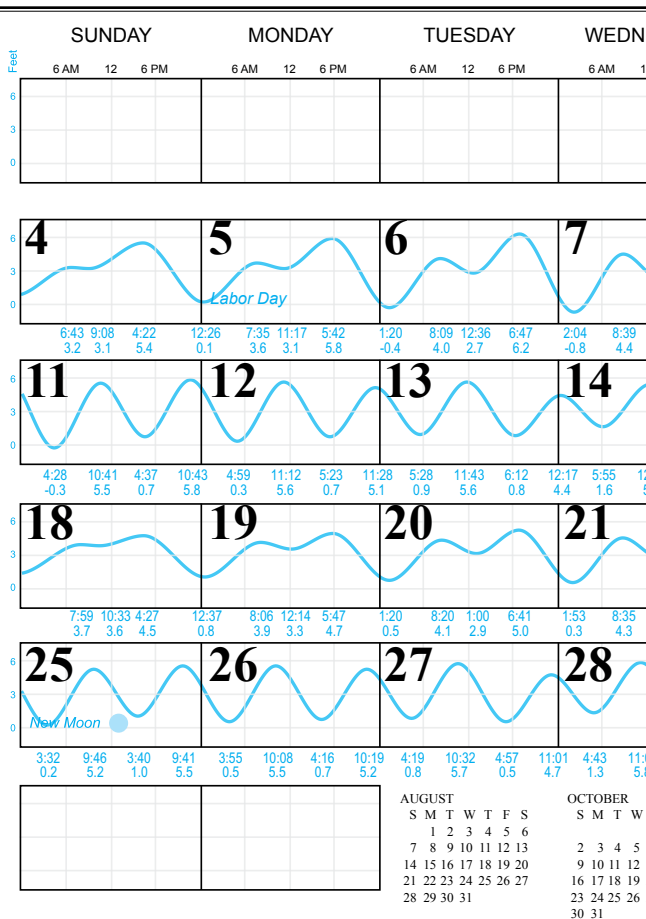


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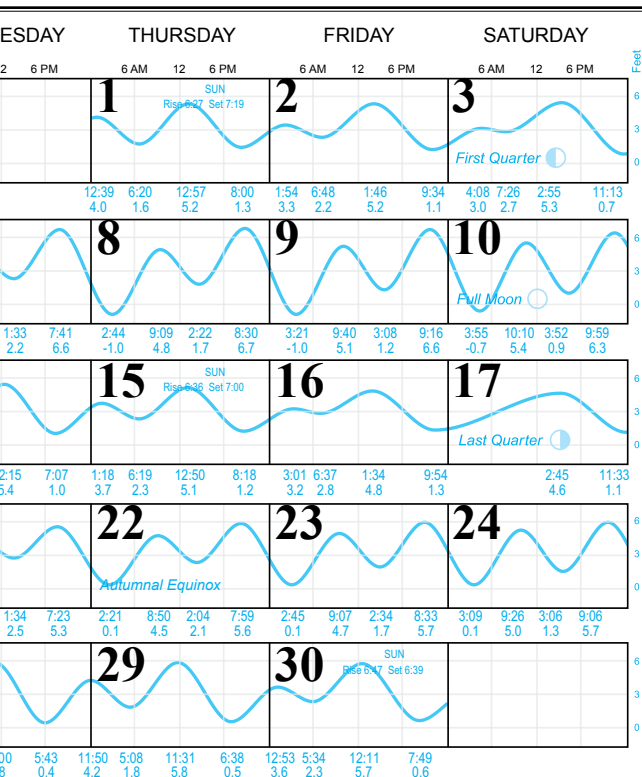
Tide Tables

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(Outer Harbor)
CALIFORNIA

Times and Heights of
High and Low Water
(heights in feet)



September 2022

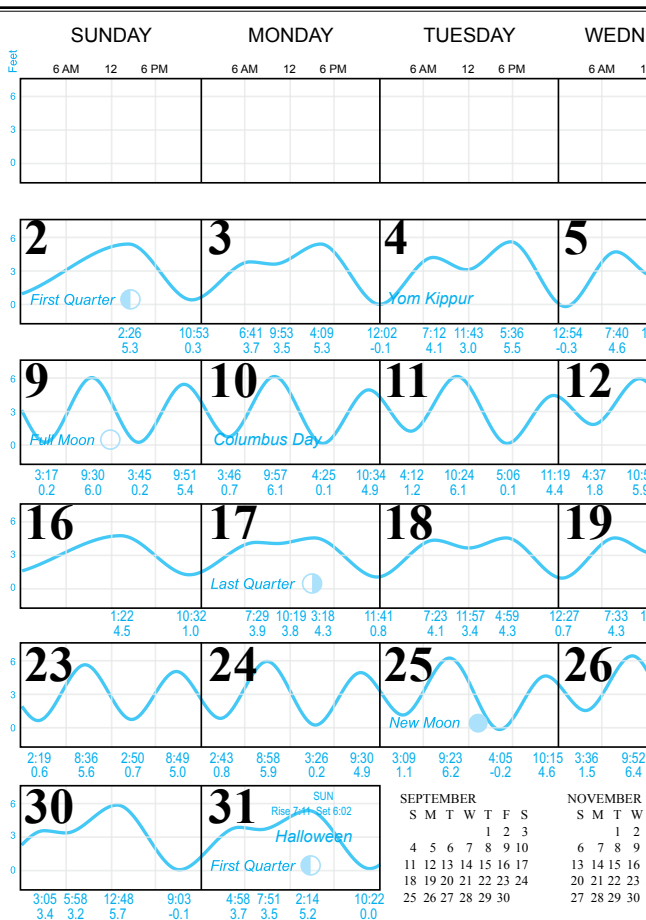


T F S
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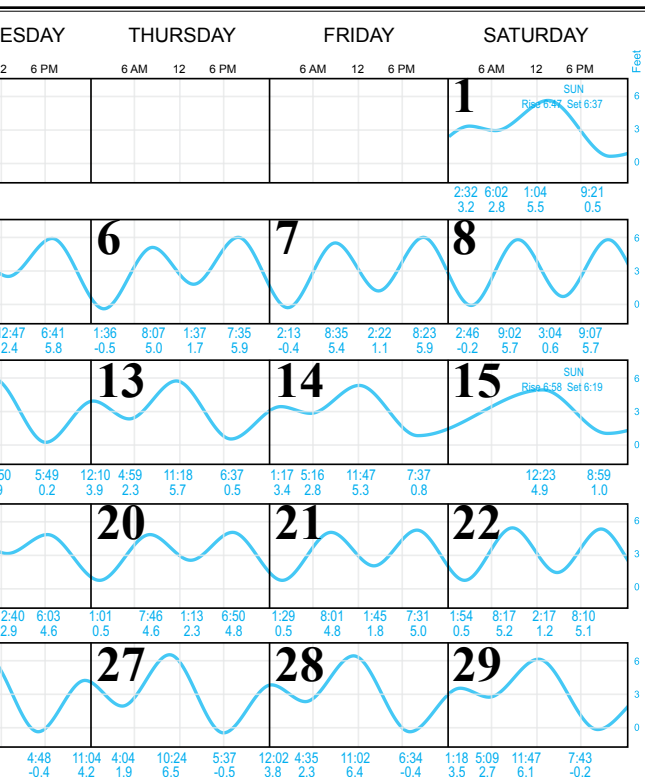
Tide Tables

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CALIFORNIA

Times and Heights of
High and Low Water
(heights in feet)



October 2022

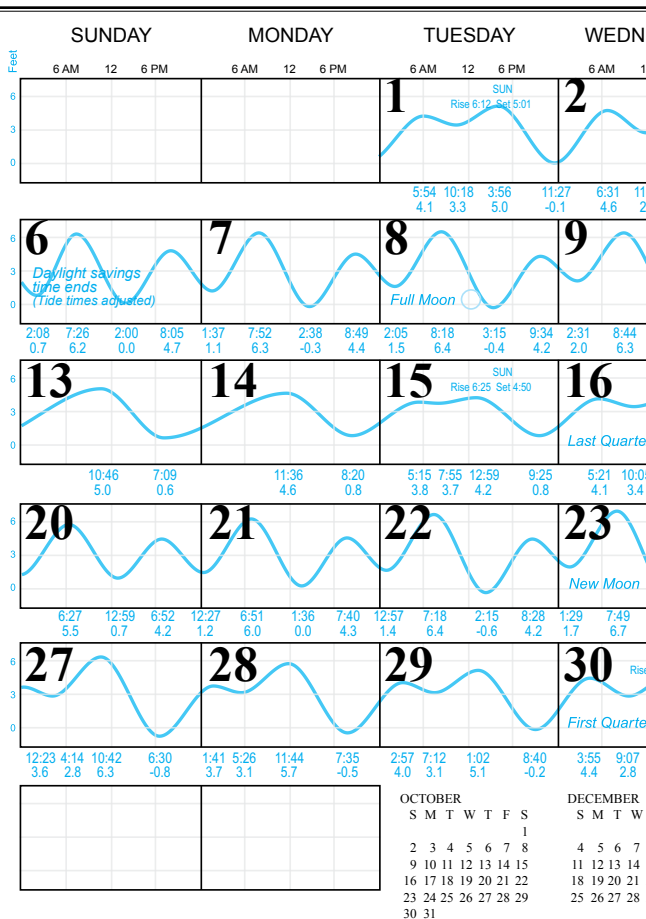


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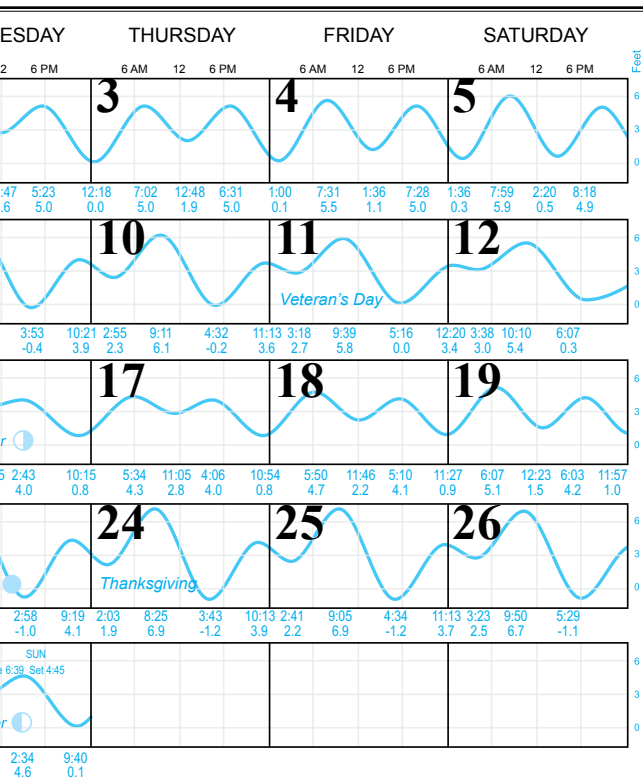
Tide Tables

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(heights in feet)



November 2022

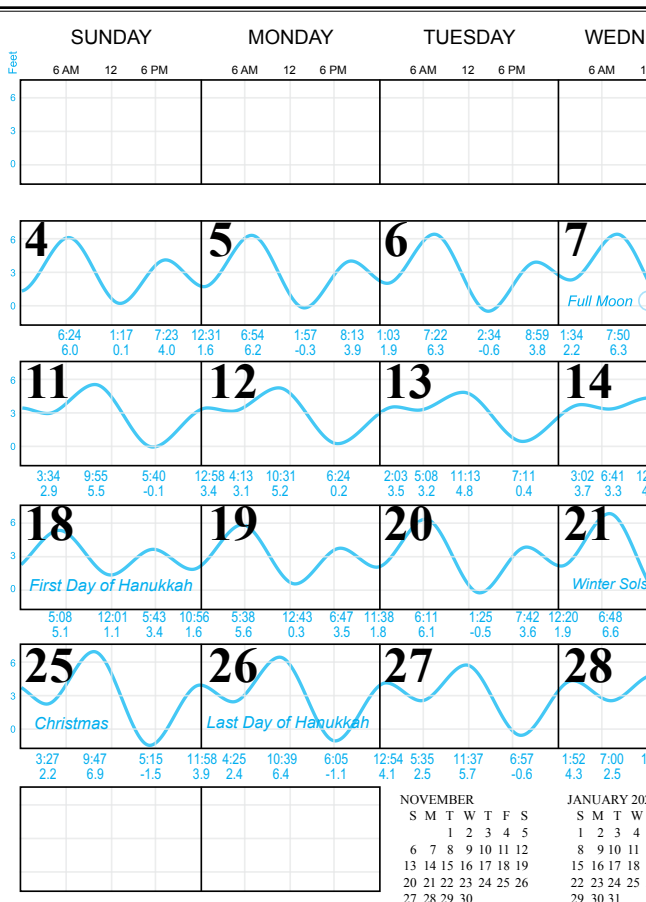


T F S
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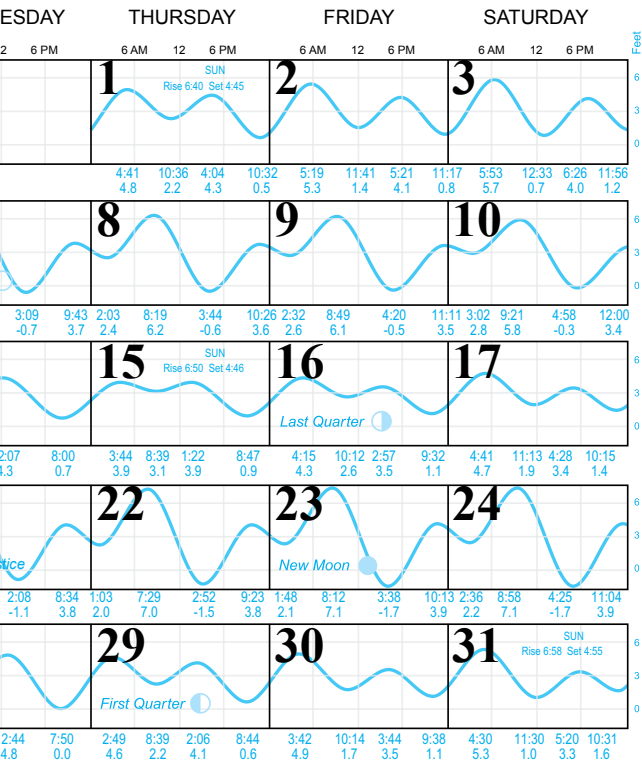
Tide Tables

LOS ANGELES
(Outer Harbor)
CALIFORNIA

Times and Heights of
High and Low Water
(heights in feet)



December 2022



23
 T F S
 5 6 7
 12 13 14
 19 20 21
 26 27 28

NOTES

THE PORT OF LOS ANGELES LA

Port of Los Angeles

425 S. Palos Verdes Street, P.O. Box 151

San Pedro, California 90733-0151

Tel/TDD: (310) SEA-PORT

portoflosangeles.org



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