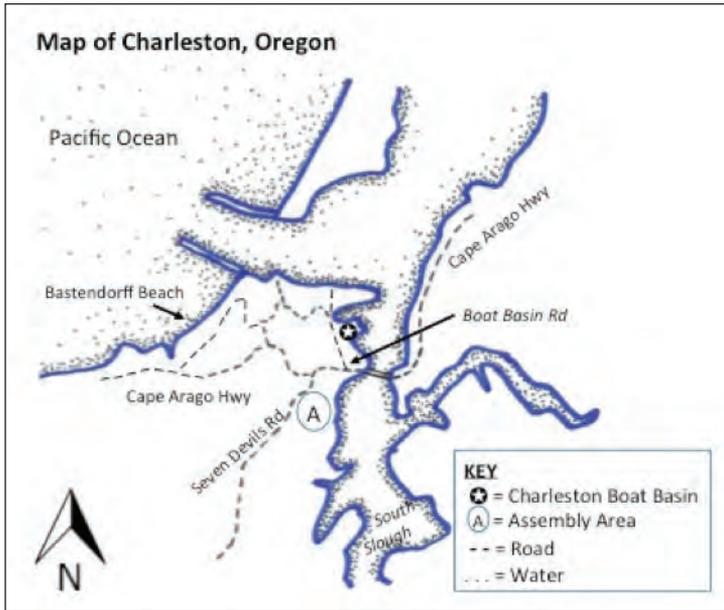
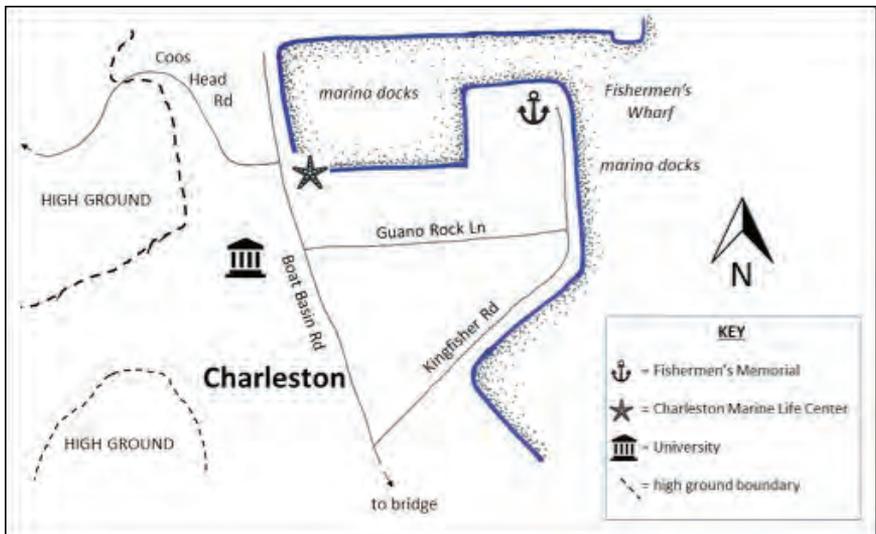


Charleston Tsunami Quest

Use these maps to help you solve the following Quest!



Overview of the area. Use this map to see where Charleston is located in relation to main roads and bodies of water.



This is a closer look at the Charleston Harbor area. Use this map to find your way along the Quest route. The Quest starts at the Fishermen's Memorial.

Charleston Tsunami Quest

Established: August 2017 by Charleston Marine Life Center team Dani Miller and Kathleen Hornstuen

Box Monitor: Charleston Marine Life Center

DRIVING DIRECTIONS

This Quest begins at the Charleston Fishermen's Memorial. To get there from Cape Arago Hwy in Charleston, turn north on Boat Basin Road, between Chuck's Seafood and Davey Jones' Locker. At Captain John's Motel, turn right onto Kingfisher Road. Drive down to the large boat basin and follow the lot as it curves to the left. Park at the north end of the parking lot near the memorial.

INTRODUCTION

If an earthquake were to strike at this moment, would you know what to do to stay safe? For both residents and visitors to the Oregon coast, it is very important to be aware of earthquake and tsunami safety. This area is in what is called a subduction zone, a place where two of the earth's tectonic plates meet, and one plate slides under the other. When these two plates move against each other, it can cause an earthquake!

If an earthquake happened right now, there are things you could do to stay safe. First, you should drop, cover, and

Did You Know?

In the year 1700, a magnitude 8 or 9 earthquake along the Cascadia Subduction Zone generated large tsunami waves that hit the Oregon coast. Tsunami waves also went the other direction and hit Japan many hours later. As no earthquake had been felt in Japan, it was dubbed an "orphan tsunami."



hold on so that you don't get injured during the shaking. Then, you will need to immediately evacuate from low-lying areas. An earthquake that occurs off our coast will displace a large amount of water, which means a tsunami will arrive in minutes and flood coastal areas.



Use this Quest to learn more about tsunamis and our local evacuation route, and you will be prepared! This Quest takes about 60 minutes to complete, walking on mostly paved surfaces at a leisurely pace and looking at sites along the way. However, after a real earthquake, we would want to evacuate quickly to get to 100 feet above sea level within 10 minutes.

Follow the directions and collect the letter clues to fill the numbered squares on page 209. At the end of your journey, the word will lead you to the hidden Quest Box. When you find the box, please sign the log book and let us know what you thought of this Quest. Stamp your page to prove that you made it, and then put everything back in the box and return the box back to its hiding place for the next person to find.

Did You Know?

This Quest focuses on tsunamis that are generated from an earthquake that would occur right off the Oregon coast. These are “near-shore” events. Tsunamis can also reach Oregon from earthquakes that occur very far away (that we wouldn’t even feel), but these “distant” tsunamis take hours to reach us and the flooding is less extensive.

Let's begin.

Start your Quest next to the Fishermen's Memorial. First, go inside the fenced Fishermen's Memorial and notice the bronze statue of the fisherman at the wheel. On the plaques below the statue are the names of commercial fishermen and women from Charleston who have lost their lives at sea. Also inside the fence are plaques of memory for others involved with the fishing industry. The brass buoy bell, donated by the Coast Guard, is rung every year on Memorial Day during the Blessing of the Fleet—two rings for each person lost during that year.



How high is this memorial site compared to the water level nearby? You are in a low-lying area that is in danger of flooding during a tsunami event. Look around. Where is the nearest high ground?

Find your position on the map. The second map uses an anchor symbol to indicate where you are. You can also use this map to find out where the closest high ground is located. In the event of a tsunami, you need to get AT LEAST 100 feet above sea level, and if possible, you would want to get even higher than that!

If an earthquake were to happen now, can you see anything you may want to hold on to? Can you see something you would want to avoid, such as heavy objects that could fall, powerlines, or large trees? Let's practice dropping and holding. Remember: the shaking could last for a few minutes!

Outside of the Charleston Fishermen's Memorial, do you see the small wooden shack that has two big letters on it? These letters are the names of two ___ ___ k s that stick out into the harbor. Write the first letter of the missing word in the square for clue #1.

Now leave the Memorial at your back and head south down the length of the parking lot, toward a blue restaurant. See the sign for it? The first letter of that restaurant is clue #2.

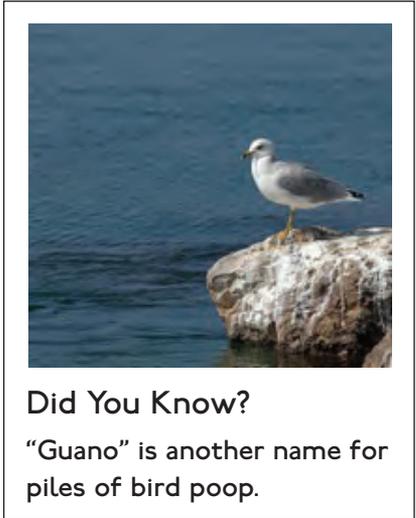
Question for the Curious

Can scientists predict when an earthquake is coming?
The answer is in the Quest Box at the end of your journey!

Turn right at a street named for bird poop. What color is the street sign? The last letter of that color is clue #3.

Continue west on that road until you come to the last stop sign. How long did it take you to get to this point? Do you think you could get here faster if you needed to? Notice that the route so far has been pretty flat. You'll need to keep going to find high ground.

Look to your right. Do you SEA a building with something "fishy" about it? Take the double letters in the company's name and write them in clue squares # 4 and 5.



Did You Know?

"Guano" is another name for piles of bird poop.

Use the crosswalk to cross Boat Basin Road, and step onto the sidewalk. You are now on a university campus! Do you know which one? Here is a hint: The mascot is a duck! Look at the large wooden sign with the crab on it. The second letter of the first word on the sign is clue #6.

Did You Know?

The Oregon Institute of Marine Biology (OIMB) is the University of Oregon's marine biology teaching and research station. The University started teaching and conducting research in marine biology on the Oregon coast in 1924. Back then, summer classes came to nearby Sunset Bay and used tents for dorms and labs!

Follow the sidewalk north until you get to the tall white wind turbine. Look across the road to see the humpback whale skull that sits in front of the Charleston Marine Life Center. When you are done with your Quest, you will want to visit this center to learn about sea life!

Did You Know?

The University of Oregon's Charleston Marine Life Center has aquaria with a variety of marine animals, full whale skeletons, deep-sea specimens, and more. Admission for children and students is FREE. *Learn more: www.charlestonmarinelifecenter.com*

Find the intersection of Boat Basin Road and Coos Head Road. Do you see a TSUNAMI EVACUATION ROUTE sign? You know you are on the right track now! What color is that sign? The third letter of the color is clue #7.



Follow the sign's arrow onto Coos Head Road. Be careful on this road, because cars and trucks drive up and down and there is no sidewalk. Walk on the edge of the road and listen for traffic so you can stay out of the way.

As you pass OIMB, see a small sign on your right that shows where students of the university can park. The fifth letter of the second word is clue #8.

You now have a semi-steep climb to make! Do you remember how high up you need to go? As you climb, look for things that might fall down during an earthquake, such as trees or rocks. To evacuate after a real earthquake, you might have to climb over or around tree-falls.

Just as the road curves to the left, you can get a glimpse of the water. Stop to look around! What are some of the things you notice? Once you're done, keep moving up. When you get to a sign on your right that looks like this, stop walking and catch your breath. The first letter of the second word on this sign is clue #9.



Congratulations—you have reached an elevation that is about 100 feet above sea level! Tsunami flooding will not reach areas at this height or greater. In the event of a real tsunami threat, you would want to have gotten to this point in less than ten minutes. Once you are here, it's not a bad idea to go even higher if you are able. Also, you should plan to STAY on high ground for 24 hours, because tsunami waves can keep coming for several hours.

Question for the Curious

Where is the closest Assembly Area, and how would you get there without going back down into the tsunami inundation zone? *The answer is in the Quest Box at the end of your journey!*

Look across the road to find the sign's twin, and use the hint your letters spell to locate the hidden Quest Box. After you are done with the box, please return everything to its hiding place for the next person to find.

Please remember to keep the location of the clues and box a secret, so the Quest stays fun for everyone. However, you are encouraged to share earthquake and tsunami safety information and the location of this evacuation route! Who do you think should know about this evacuation route and tsunami safety? Check all that apply:

- boaters using the Charleston Boat Basin
- restaurant patrons
- fishers using the Charleston Boat Basin
- university students and faculty
- tourists
- marine life center staff and visitors
- Charleston residents

Who else? _____

7	3	1	8	6

6	4	5	9	2

Stamp your page to record your find!

For more information about tsunami safety on the coast, visit www.oregontsunami.org

Quest Partners

University of Oregon's Charleston Marine Life Center
Coos County Emergency Management
Oregon Sea Grant

*If you enjoyed this Quest, check out *The Oregon Coast Quests Book*, which costs \$10 and contains maps and directions for 28 clue-directed hunts in seven Oregon counties. You can find the Quests Book for sale at the Charleston Marine Life Center and other area booksellers. Visit the website for more information.*