

This is Troy Nicolini with the National Weather Service with today's community comment.

This is the time of year when folks are going out to catch Dungeness crabs in the bay and in the ocean. Everyone knows that there are more and bigger crabs out in the ocean but everyone also knows that getting out into the ocean can be dangerous because it requires crossing our notorious Humboldt Bay Bar. This community comment is going to share a little bit about why our harbor entrance is so dangerous, and what the National Weather Service is doing to make it safer.

When folks talk about "crossing the bar" they are talking about going from the protection of Humboldt Bay out into the ocean by traveling between the north and south jetties. This region has a deep channel that is dredged once per year by the US army corps of engineers. Unfortunately, the Eel River dumps a lot of sand into the ocean during winter flood events and that sand is moved northward along the coast by wave action until it reaches the south jetty. As that sand hits the south jetty it is forced out into deeper water where it then settles to the sea floor and creates a sand bar the middle of the dredged channel. The sand bar causes the channel to become much shallower in that area so that larger incoming waves start to shoal up and break over the shallow area, much like they shoal up and break as they come onto a beach. This is part of what makes it so dangerous for boats traveling out into the ocean or returning from the ocean. The other factor is caused by the tides. When the tide is going out from Humboldt Bay then the current throughout the Harbor entrance is traveling in the opposite direction of the waves. This also causes the waves to become steeper and break, just like when a wave travels over a sand bar. So during outgoing tides, waves can be especially dangerous because they are being affected by both the shallow water over the sand bar, AND the outgoing tidal current.

Experienced boaters know which tide and wave combinations are dangerous and which are safe, but it's a complicated environment and less experienced boaters can struggle with the decision to go or not to go. The worst thing to do is to go out and check the conditions in a boat. The problem is that if the boater gets out into the entrance channel and sees that the waves are dangerous, then when they turn around to go back into the harbor they are forced to take the waves "broadside" and this makes it much easier for the waves to capsize the boat.

To address the dangers of the Humboldt Bay Bar, the National Weather Service office in Eureka developed a specialized forecast that predicts how the waves will interact with the sand bar and the tidal current. The forecast goes out three days and can help boaters decide if and when it is safe to travel out into the ocean. This was developed well over ten years ago and it remains the most innovative bar forecast in the nation. Boaters can access it at weather.gov/eureka

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