

Not My Fault: Survival tips for enjoying the North Coast's many beaches

Lori Dengler/For the Times-Standard
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What is my favorite thing about living on the North Coast? Beaches are near the top of my list. I'm not the only fan. The Lonely Planet Guide mentions our spectacular shoreline as one of the reasons they chose North Coast California as their number one US vacation destination for 2018.

We have no shortage of beaches. Humboldt County has the longest coastline of any California County and the three North Coast Counties comprise about 30% of the state's total. I have nearly a dozen beaches that are less than a twenty-minute drive from my house. Beach walks are a nearly daily ritual for me – drawn by their beauty and a very insistent border collie.

I can revisit the same beach day after day and never get tired of it. I enjoy the yearly changes in beach vegetation, shifting light patterns as the fog drifts in and out, magnificent driftwood logs, and the surprises of what I find on the beach. There is always something new. Yesterday it was the carcass of a four-foot long shark.

For a geologist, beaches are one of the few places where processes occur fast enough to observe them in action. The interaction of ocean, wind and sand create constantly changing surfaces. Summer waves build up sand berms and create a rounded beach profile while winter storms erode the sand and make the profile convex. Some beaches may grow for a number of years, adding hundreds of feet, only to be eaten away a few years later. Strong El Niños bringing higher ocean levels and large storms can have particularly dramatic impacts. During the 1982 – 83 El Niño, almost all the sand from Agate Beach eroded away allowing waves to erode more than 30 feet of the coastal bluff at Big Lagoon over a few week period.

Geologic processes are both beauty and beast. They create the scenery but also pose threats. Everyone who lives on or visits the coast needs to be aware of coastal hazards. Education is the key to preventing a beautiful day at the beach suddenly becoming a tragedy.

Some hazards apply to all of our beaches. Feel an earthquake while on the beach? A tsunami could soon follow. The shaking is your warning to immediately head away from the shore to higher ground or inland and stay away until you get official notification there is no tsunami hazard. See below for how to receive official tsunami text notifications.

Coastal bluffs are unstable, so keep away from steep edges and always be aware of the tides. It's tempting to climb a rock or explore hidden caves, but with a tidal range of about eight feet, rising tides could cut you off from a safe route back. Get an inexpensive tide table booklet, read the weather page of this paper, or get an App or bookmark the NOAA tides website on your phone.

Wave heights and inland penetration can be variable on any North Coast beach. Every surfer knows that many minutes may pass with only modest surf and then a set of much larger waves will come in. This set behavior is caused by interference of swells created by far off storms. The swells from different storms vary slightly in period and when they meet along our coast, they interfere with each other. Out of phase means smaller waves. Ten or twenty minutes later when they are in phase, the waves could double or triple in height and sneak up on you. Hence the term *sneaker wave*. Sneaker waves reach further inland than you expect and can possibly sweep you into the water.

Sneaker waves can occur anywhere along the coast, but there is one kind of beach where they are particularly deadly. Steep beaches. These are beaches with a steep profile. The water gets deep very quickly and the waves, called shorebreak, are right at the coast. The waves are very energetic and can break right on top of you if you are walking near the water. The beach is steep and the sand is loose and washes away beneath your feet when the water hits. It is nearly impossible to keep your footing when caught by a wave. Steep beaches are hazardous at any time, but even more so at high tide or under sneaker wave conditions when the wave runup may suddenly shift tens of feet further inland than you expect.

The National Weather Service and the Humboldt Water Safety Coalition have identified the ocean side of Big Lagoon, Dry Lagoon, and Freshwater Lagoon as the most hazardous beaches in Humboldt County. Ten people have died on these beaches over the past 15 years because they got too close to the water and were pulled into the surf. Other dangerous steep beaches around Humboldt County include Agate Beach at Patrick's Point and Black Sands beach at Shelter Cove.

I won't let my awareness of coastal hazards diminish my enjoyment of the coast. I avoid steep beaches completely. With so many other, safer beaches to choose from, I can enjoy my daily coastal explorations at Trinidad, Moonstone, Clam Beach, Ma'l-el, Mad River or along the Samoa Peninsula and never get bored. If I am leading a coastal field trip or have out of town visitors, they will get treated to my coastal safety spiel at no extra cost. "Always pay attention to what the ocean is doing. Keep children well away from the wave wash. Feel an earthquake – head to high ground." And if my dog is swept into the water, I'm not going in to rescue her. She is quite capable of getting out on her own and much more likely to survive than I am.

Note: To receive tsunami notifications directly from the National Tsunami Warning Center, send a text message to 40404 with 'follow NWS_NTWC'. SMS messages rates apply. Messages are typically sent within a few minutes of earthquakes large enough to be felt locally. More information at <https://www.tsunami.gov/?page=productRetrieval>

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