

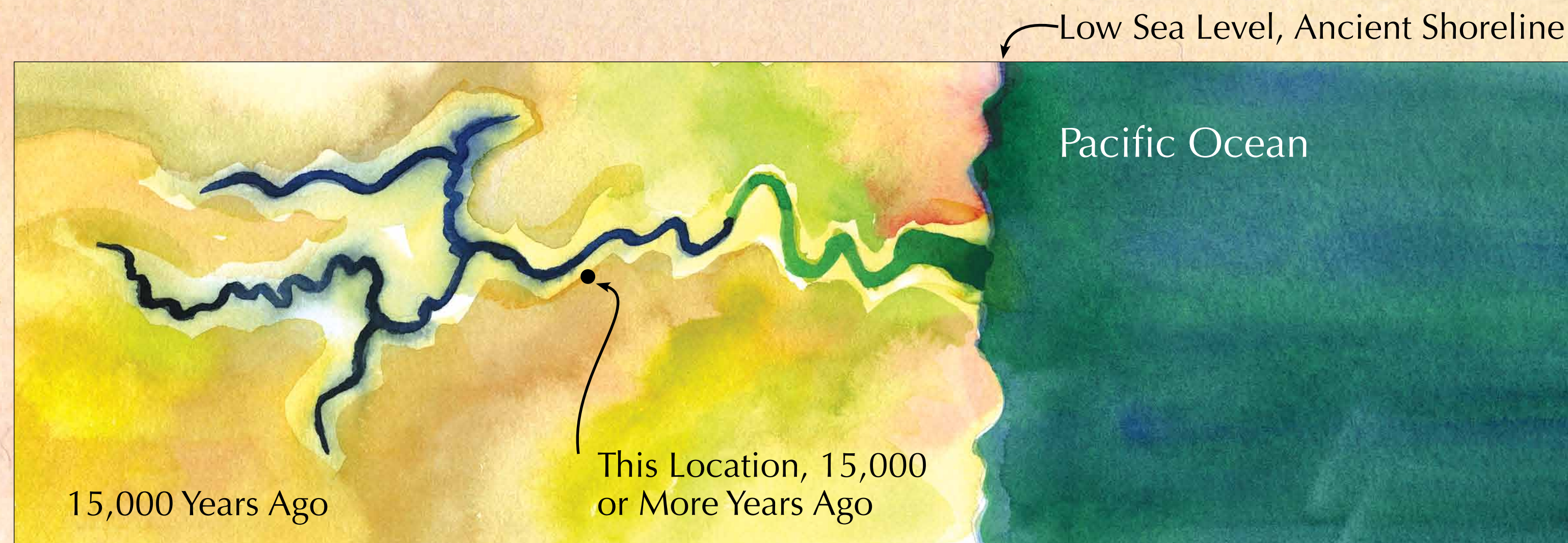
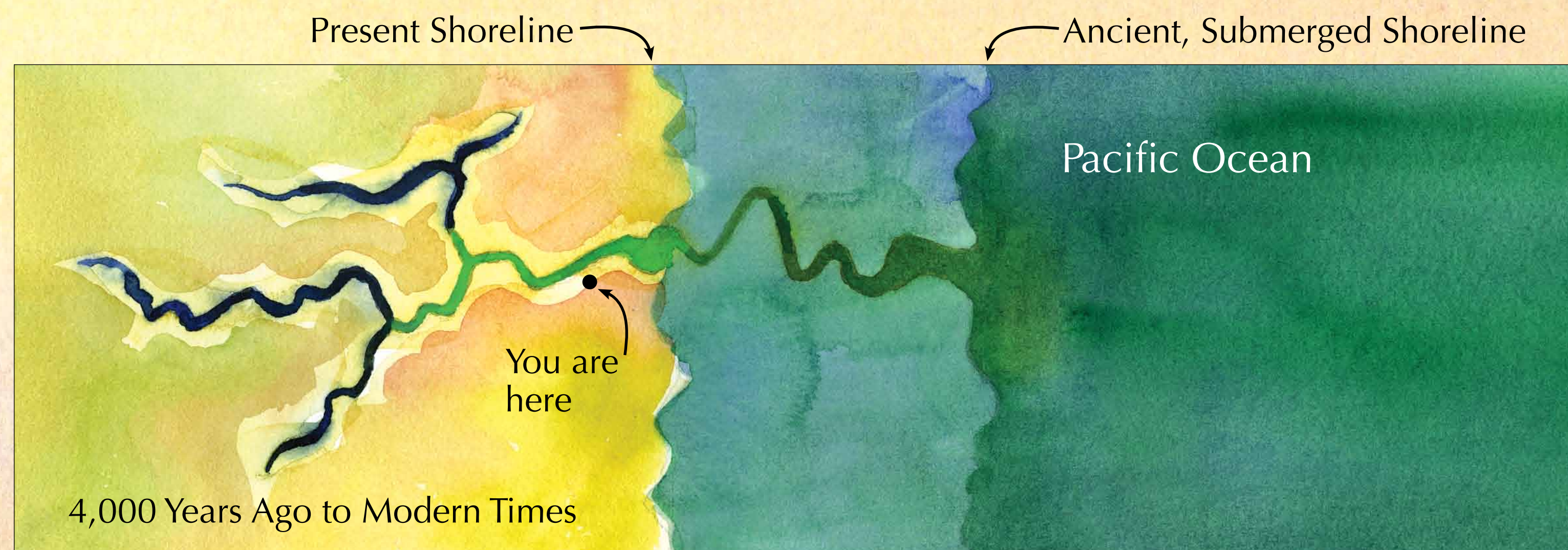
Water and Rock in Action

Western Gulls, *Larus occidentalis*, have been visiting this changing shoreline for a million years.



Photo Credit: Ron LeValley

Hypothetical Views of Sea Level Changes During the Past 15,000 Years.



Water and the Deep Freeze

Vast ice sheets, or glaciers, covered much of the earth, and then melted, at least five times in the last million years. Each ice age froze rivers and ocean waters so that sea level worldwide lowered about 300 feet. This means that if you lived during such a freeze, at least 15,000 years ago, you would have had to walk five miles west of Mendocino Village, through a deep canyon cut by an ancient Big River, to reach the shore.

Alternately, each glacial thaw raised sea level to where you see it now. Just like today, water covered low-lying areas and flooded the canyon to the west.

Rock and Uplift

As glaciers fluctuated, a vast plate of earth's crust dove beneath the continental shelf and lifted our coastline. The upward movement of the continental shelf, combined with the freeze and thaw of ocean waters, carved the coast into bluffs and terraces. The bluff you are standing on was formed in this way and still moves upward at an average rate of 100 feet every 100,000 years.