

West Coast sea levels rising

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The West Coast will see an ocean several inches higher in coming decades, with most of California expected to get sea levels a half-foot higher by 2030, according to a report released Friday.

The study by the National Research Council gives planners their best look yet at how melting ice sheets and warming oceans associated with climate change will raise sea levels along the country's Pacific coast. It is generally consistent with earlier global projections but takes a closer look at California, Oregon and Washington.

Although the 6 inches expected for California by 2030 seem minor, the report estimated that sea levels there will be an average of 3 feet higher by 2100. About 72 percent of the state's coast is covered by sandy cliffs, sand dunes, bays and estuaries.

Seaside cliffs will be cut back about 30 yards over the next 100 years, and sand dunes will be driven back even more, said Robert A. Dalrymple, a professor of civil engineering at Johns Hopkins University and chairman of the group that wrote the report. After about 50 years coastal wetlands will eventually be overwhelmed without new sources of sand or room to move inland.

That could be problematic in Northern California, though, since dams hold back about a third of the sand that once washed into the sea from the Klamath River, the report noted.

Northern California, Oregon and Washington can expect a less dramatic increase- about 4 inches by 2030 and 2 feet by 2100 - because seismic activity is causing land to rise north of the San Andreas Fault, offsetting increasing sea levels, and drop south of it. The fault runs out to sea at Cape Mendocino.

Oregon has the advantage of tough basalt formations on much of the coast, but long stretches of Washington are low-lying sandy beaches.

"Anything close to the sea is vulnerable," Dalrymple said.

Sea levels rise for two reasons because of climate change. Warmer water expands, which can cause as many as 23 inches of sea level rise by 2100, according to the Nobel Prize-winning Intergovernmental Panel on Climate Change.

Warmer temperatures also cause ice sheets in Greenland and west Antarctica to melt, adding another foot or more to sea levels by 2100, scientists said.