



A truck drives through floodwaters caused by the king tide along Harbor Drive in Sausalito on Jan. 2. Jessica Christian/S.F. Chronicle

BAY AREA

It's one of the wealthiest parts of the Bay Area — but can Marin fix its \$17 billion problem?

By **Tara Duggan**, Staff Writer

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Marin County got an alarming glimpse of its future earlier this month when it experienced some of the worst flooding in decades — and a reminder of the vast climate challenges that await.

With its 70 miles of coastline and 40 miles of bay shore, Marin is one of the counties most vulnerable to sea level rise in the Bay Area. The low-lying areas that flooded over New Year's weekend — during storms that coincided with king tides — will be inundated more frequently in the future, until some end up permanently underwater.

It will cost an estimated \$17 billion to protect Marin County from the 2 feet of sea level rise expected toward the end of the century, according to a recent study. That adds up to about \$65,000 per resident — and meanwhile federal grants for climate change projects have disappeared. The county has to balance both long-term and immediate needs that are increasingly overlapping, such as \$25 million to fix an aging levee in San Rafael that was damaged during the recent flooding.

“Sea level rise has crossed from future scenario into a balance sheet risk,” said Janelle Kellman, former mayor of Sausalito, founder of the nonprofit Center for Sea Rise Solutions and candidate for lieutenant governor. “What’s happening now is flooding. What’s coming later is permanent transformation.”

Sea level rise is already having an impact, adding up to about 3 inches in the past 30 years. It throws off tide predictions, which are based on earlier sea levels, and exacerbates flooding.



Curtis Havel of Clipper Yacht Club looks out onto floodwaters as they submerge a recently raised parking lot in Sausalito on Jan. 2.
Jessica Christian/S.F. Chronicle

Heath Ceramics, a factory and store on a low-lying part of Sausalito’s waterfront that floods often, experienced its worst inundation on Jan. 3 since 2003, said co-owner Robin Petravic. After a flood that same year, the company built a floodwall and coated the building with waterproof elastomeric paint.

The adaptations worked until the recent king tides, when waters surpassed the 2003 mark and breached the wall for the first time, damaging tens of thousands of dollars worth of raw materials and other property, Petravic said in an email.

“I expect we’ll all be raising our walls after this one,” he said.

The county is making strides in its plans for coastal resilience, said Rylan Gervase, director of legislative and external affairs at the Bay Conservation and Development Commission, the California agency that assists with such planning for communities around the San Francisco Bay, which the state requires individual jurisdictions to complete by 2034. (No Bay Area city has submitted a final plan.)

“Marin has a chance to be really innovative and look at some interesting solutions,” he said. “It is going to be expensive, and it’s not going to be easy.”

Despite Marin’s wealth, its most low-income communities are the most at risk, such as unincorporated Marin City and the densely populated Canal District in San Rafael, Gervase said. The latter is considered the community most impacted by sea level rise in the entire region.



The Canal District in San Rafael, seen here in November 2025, is sinking at a rate of 0.4 inches a year, which makes it one of the Bay Area’s most vulnerable communities when it comes to sea level rise.

Jonah Reenders/For the S.F. Chronicle

Along with its long stretches of coastline, Marin’s steep terrain means that most of its development is concentrated in its flatter, lowest-lying areas, compared to other parts of the region with more gradual-sloping landscapes, according to Jack Hogan, coastal resilience leader at Arup, a global engineering and design consulting firm that helped develop sea level rise plans for Marin’s transportation sector, published in May. Those areas were often built atop fill on former wetlands that are sinking, increasing flood risk even more.

The county is also prone to compound flooding, meaning that water comes from multiple fronts at once — in the form of high tides, groundwater, rainfall that swells creeks and rivers, and sometimes storm surge and waves coming off the bay, he said.

“That all coincides in areas where we have our infrastructure, our schools, our houses, our businesses,” said Hogan, who grew up in Marin and lives in San Rafael.

Complicating matters is the fact that so many different entities occupy Marin’s bay shoreline, including Caltrans, water treatment districts, unincorporated areas for which the county is responsible and multiple cities, from Sausalito to Novato, said Talia Smith, interim deputy county executive.

There is no single solution, such as a massive seawall, but the county is working on creating a governance structure, similar to the organization called OneShoreline in San Mateo County, that will help municipalities collaborate on projects.

One area of focus is transportation, since it impacts everyone — and many of the county’s most important highways and roads are prone to flooding. The Marin Transportation Authority identified the Highway 101 and Interstate 580 interchange at San Rafael, the Lucky Drive exit to Highway 101 at Larkspur — which flooded during the king tide — and Highway 37 and Highway 1 as some of its most vulnerable roadways in its [coastal adaptation report](#) published last year.

Solutions throughout the county range from what is called “gray” infrastructure — traditional levees and pump stations — to green, such as restored wetlands, said Hogan of Arup.

Hogan suggested that some projects could start small. Rather than spend tens of millions of dollars — and wait years for permit approval — to elevate a roadway 4 feet for end-of-century sea levels, officials could choose to elevate it 6 inches when doing a repaving project, and then elevate it again incrementally over the decades.

Smaller-scale projects may be the norm after the Trump administration killed funding for climate change-related infrastructure projects approved during the Biden administration. In Marin, [it blocked funding applications](#) for \$13.5 million to prevent flooding during high tides at the Highway 101 exit into Marin City and \$18 million to strengthen the San Rafael levee that was recently damaged, the Marin Independent Journal reported. Rep. Jared Huffman, D-San Rafael, vowed to “claw and scratch and fight for that funding” during a tour of flooded areas in Marin last week.

“We know that it’s been a scorched-earth campaign of cancellation and retraction for infrastructure funding by this administration,” he said.

One alternative is state funding such as from Prop. 4, a climate bond voters passed in 2024, with \$1.2 billion out of the \$10 billion bond set aside for coastal resilience projects in the San Francisco Bay — though Marin County’s slice of that would be a fraction of the \$17 billion it needs. (The total cost of preparing the Bay Area for sea level rise is estimated at \$110 billion, according to the Bay Conservation and Development Commission.) California’s Ocean Protection Council and the State Coastal Conservancy also offer related grants.

Under Prop. 4, 40% of funding must provide a meaningful benefit to disadvantaged communities. In Marin, that could include the Canal District, where residents are predominantly low-income and speak English as a second language.

Kristina Hill, a professor at UC Berkeley’s Department of Landscape Architecture & Environmental Planning, said the Bay Area should invest first in places like the Canal District where people can barely afford to live but that are critical for the workforce in the region.

“What happens to them is going to be a bellwether for other areas that are at risk,” she said.

The county has already suggested that individual communities like Stinson Beach increase parcel taxes to raise money for climate measures. San Rafael may need to do the same to fix its failing levee, though voters may be reluctant to do so, said Smith, the interim deputy county executive.

“It’s hard to sell flood infrastructure on a sunny summer day,” Smith said. However, she said, events like recent flooding “can reinforce the need to have more resilient infrastructure to protect people’s homes.”

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REPORTER



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