

Seawalls to protect US against rising oceans could cost \$416bn by 2040

Seawalls could cost as much as the initial investment in the interstate highway system, with Florida facing \$76bn, report finds

[Emily Holden](#) in Washington Thu 20 Jun 2019 Last modified on Thu 20 Jun 2019 08.58 EDT



Researchers estimated the cost of defending vulnerable infrastructure within portions of shoreline that could be at least 15% underwater by 2040. Photograph: Sean Rayford/Getty Images

Defending against rising seas could cost US communities \$416bn in the next 20 years, according to a new report.

Spending on seawalls alone could total almost as much as the initial investment in the interstate highway system, the authors said. And the billions involved will represent just a fraction of adaptation efforts governments in coastal states will have to fund if they do not want to simply retreat.

“I don’t think anybody’s thought about the magnitude of this one small portion of overall

adaptation costs and it’s a huge number,” said Richard Wiles, executive director of the [Center for Climate Integrity](#) (CCI), which published the report.

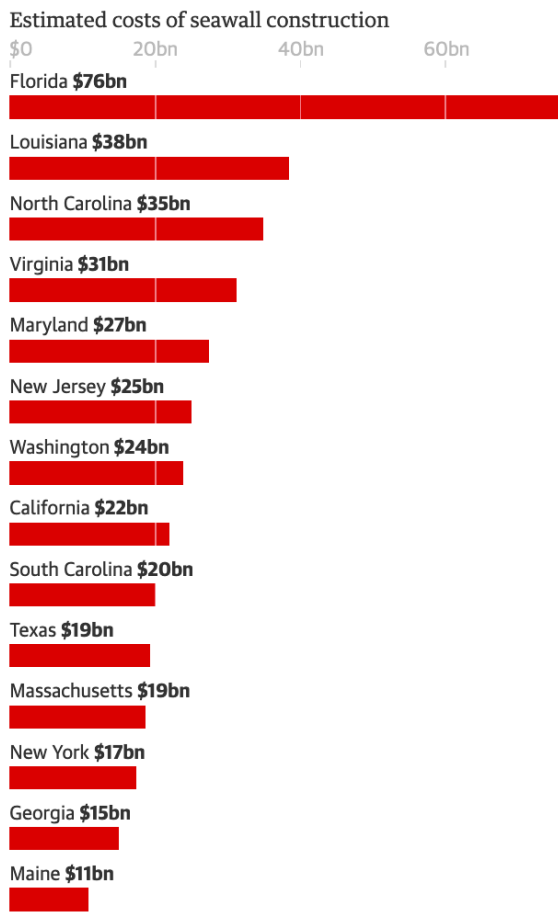
Estimates of how much sea-level rise will cost often focus on impacts by 2100, Wiles said, adding that people will be paying for the climate crisis much earlier.

“You’re looking at close to half a trillion spent over the next 20 years and no one has thought about that. So the question is, who’s going to pay for that? Is it really going to be taxpayers? The

current position of climate polluters is that they should pay nothing, and that’s just not tenable.”

According to the report, Florida faces the highest costs, \$76bn by 2040. Louisiana comes in second at \$38bn and North Carolina third at \$35bn. For cities, Jacksonville, Florida, New York and Virginia Beach could spend the most: \$3.5bn, \$2bn and \$1.7bn, respectively.

To protect against rising sea levels, 14 coastal states in the US are expected to pay at least \$10bn each in the next 20 years for seawall construction



Guardian Graphic | Source: The Center for Climate Integrity

Many places are starting to pay such bills. Staten Island in New York, for example, is planning a [\\$615m](#), five-mile seawall to withstand a 300-year storm. The federal government will pay \$400m.

As the planet heats up and land-based ice melts, the average global sea level has risen seven or eight inches since 1900, with about 3in of that rise occurring since 1993, according to a US government [report](#). Seas could be up to 3ft higher by 2100 under the scenario examined by the CCI.

The CCI published the report with analysis by lead scientist [Paul Chinowsky](#), director of the environmental design program at the University of Colorado Boulder and chief executive of the firm Resilient Analytics.

The cost figures in the CCI report are based on localized projections for sea-level rise under the UN Intergovernmental Panel on Climate Change (IPCC) scenario for moderate levels of pollution. In that scenario, called RCP 4.5, emissions would peak around 2040 and then begin to decline.

The projections in the report were calculated by the climate science and news organization [Climate Central](#).

The CCI report considered how much communities in the contiguous US would pay locally to build sea walls to protect against the storm surge expected in a given year, Wiles said, although many would spend more to build even stronger defenses.

Other communities might vanish rather than pay for new infrastructure. If so their governments could then be vulnerable to lawsuits from residents, Wiles argued.

Some communities examined would have to spend \$1m a person on needed defenses, the assessment found. For example, Fire Island, a barrier island off the mainland of Long Island in New York, would face \$1.5bn in investment to protect a few hundred ocean-front homes.

The group studied thousands of miles of coastline to determine where roads might be submerged. Researchers estimated the cost of defending vulnerable infrastructure within portions of shoreline that could be at least 15% underwater by 2040.