

Fighting waves

Report: Soon, it'll be NY-sea

THE ASSOCIATED PRESS

Water levels around New York City could rise by 2 feet or more in the coming decades and average temperatures are likely to go up 4 to 7.5 degrees, according to a report released yesterday by a panel of scientists convened by Mayor Michael Bloomberg.

The city must adapt to global warming or risk having to rebuild facilities after flooding, Bloomberg said in releasing the report by the New York City Panel on Climate Change.

"Planning for climate change today is less expensive than rebuilding an entire network after a catastrophe," Bloomberg said.

Bloomberg released the report at a wastewater treatment plant on the Rockaway peninsula where workers were preparing for climate change by raising equipment such as pump motors and circuit breakers from 25 feet below sea level to 14 feet above sea level.

"There is a growing recognition of the need for adaptation to climate change in urban areas, and this initiative of Mayor Bloomberg's puts New York City in the forefront of this global effort," said Cynthia Rosenzweig, a senior research scientist at NASA's Goddard Institute for Space Studies and co-chairwoman of the panel.

The report's predictions are in line with changes projected by scientists who have studied the global effects of deforestation and the burning of fossil fuels.

The New York City report, which was funded by a \$350,000 grant from the Rockefeller Foundation, predicts that sea levels will rise by 12 to 23 inches and possibly more by the end of the century.

According to the report, New York City can expect 2.5 to 4.5 times more days per year over 90 degrees than it experienced from 1971 to 2000.

■ Environmental advocates have hard time increasing awareness of sea level rise, which could flood low-lying South Shore

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It's hard to whip up concern for a creeping threat whose predicted advance can be compared to "being attacked by a giant snail."

That's how environmental advocate Sarah Newkirk of the Nature Conservancy, at a recent forum in Upton, described sea level rise.

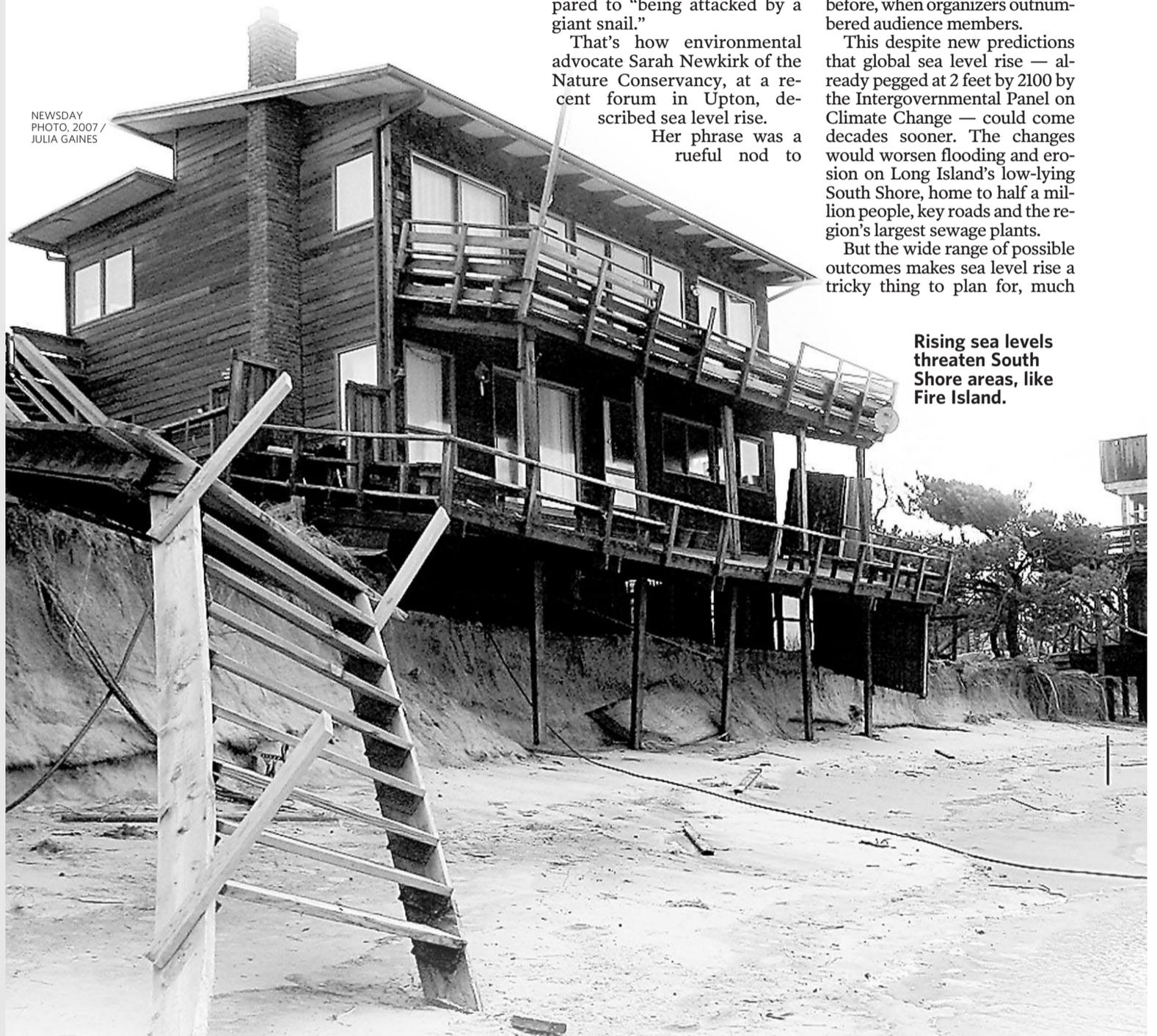
Her phrase was a rueful nod to

empty seats at the meeting, convened by state planners to seek public input on rising oceans. Just a few dozen residents had shown up, though the turnout was more than in Nassau the day before, when organizers outnumbered audience members.

This despite new predictions that global sea level rise — already pegged at 2 feet by 2100 by the Intergovernmental Panel on Climate Change — could come decades sooner. The changes would worsen flooding and erosion on Long Island's low-lying South Shore, home to half a million people, key roads and the region's largest sewage plants.

But the wide range of possible outcomes makes sea level rise a tricky thing to plan for, much

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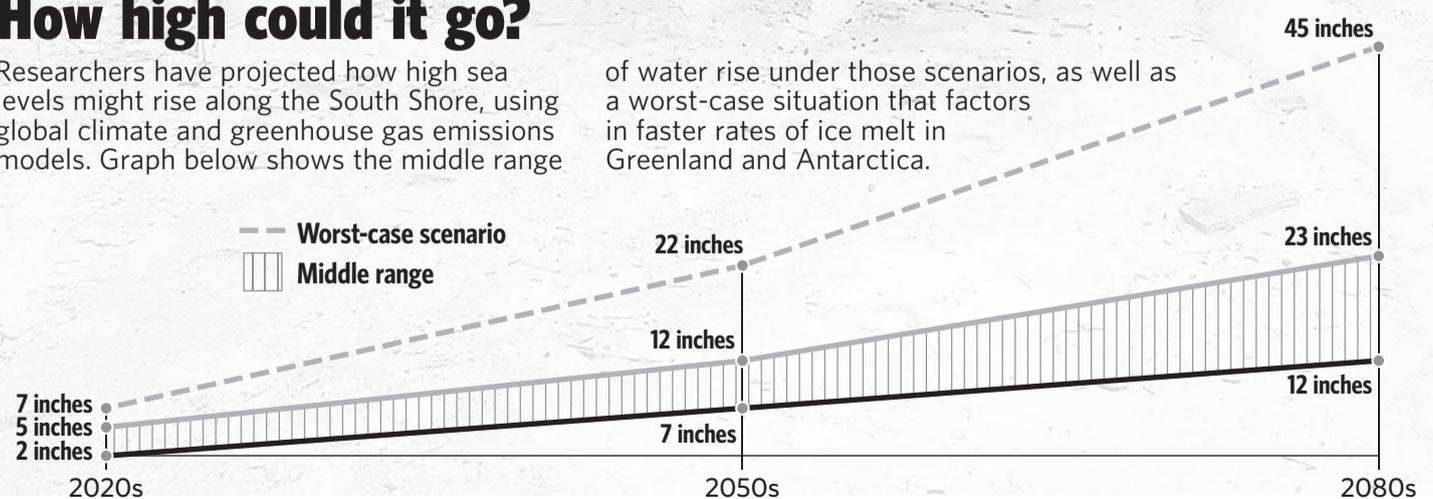


Rising sea levels threaten South Shore areas, like Fire Island.

How high could it go?

Researchers have projected how high sea levels might rise along the South Shore, using global climate and greenhouse gas emissions models. Graph below shows the middle range

of water rise under those scenarios, as well as a worst-case situation that factors in faster rates of ice melt in Greenland and Antarctica.



SOURCES: SOURCE: PROJECTIONS WERE DEVELOPED FOR THE NATURE CONSERVANCY BY THE GODDARD INSTITUTE FOR SPACE STUDIES AND THE COLUMBIA UNIVERSITY EARTH INSTITUTE.

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of indifference

less a popular public meeting topic. Local governments are still adjusting to revised federal flood maps that recalculated the risks coastal communities face now. Planners walk a tightrope: They could underestimate the ocean's advance, or overspend to protect buildings and shorelines that might face a relatively low risk of damage.

"No one is good enough to say, 'In 50 years, this is what it's going to look like,'" said Joseph Vietri, chief of planning and policy for the North Atlantic Division of the U.S. Army Corps of Engineers.

Looking ahead

Despite the uncertainty, a New York State task force that is readying recommendations on the best way to adapt to sea level rise soldiers on.

That work comes as a federal report released last month by the Environmental Protection Agency said coastal regions "need to rigorously assess vulnerability" to sea level rise and plan strategies to protect property, wetlands and barrier islands.

"The issue that all of us have to deal with is the reality that the projections contain some uncertainty," said Alan Belenz, a climate scientist with the state Department of Environmental Conservation, which is leading the task force. "So how do we plan given that fact?"

Among the advice the task force could deliver: direct development away from coastal areas; elevate roads and other infrastructure; or change wetlands regulations to increase

no-development zones so marshes threatened by sea level rise have room to migrate upland.

"If we're building an outfall pipe for a sewage treatment plant, obviously sea level rise is going to be a serious consideration," said task force member Brad Tito, Nassau's deputy director of environmental coordination. "But if we're going to build a new basketball court at a park on Long Beach, we're not going to build a big wall around it to protect it."

More evidence

At the recent Long Island forums, Newkirk, Belenz and others on the task force made an aggressive case for action.

Exhibit A: Tide gauge records showing sea level rising at faster rates at Montauk, Port Jefferson, Willets Point in Queens and New York City than the 20th century average.

Exhibit B: Before and after pictures of drowning wetlands at Goose Island in South Oyster Bay, where nearly one-fourth of the marsh was submerged between 1974 and 1998.

Exhibit C: New projections that sea level along Long Island's South Shore could rise 2 to 5 inches in the 2020s — and



a worst-case scenario of an almost 4-foot rise in the 2080s.

Those numbers were developed for the Nature Conservancy by the Goddard Institute for Space Studies and the Columbia University Earth Institute. The advocacy group is using the information to build inundation maps that will show the range of future risk faced by South Shore communities.

The Columbia estimates are based on seven global climate models and three

scenarios assuming low, medium and high greenhouse gas emissions. The high-end numbers factor in rapid ice melt in Greenland and the Antarctic.

Message reaches few

"We're not trying to scare anybody," said the DEC's Mark Lowery. "Sea level rise is very real, and it's important to understand the magnitude of the risk that these coastal communities face."

But few people heard the message that week. Organizers attributed low attendance to a winter storm and scheduling conflicts for local officials, including Suffolk County Executive Steve Levy's state of the county address.

And those who did show — mostly academics, environmental and civic advocates, and a handful of town staffers — seemed to be those least in need of philosophical conversation.

"You guys need to get Joe the Plumber to understand what this is all about," said Michael Bilecki, chief of natural resources at Fire Island National Seashore, at the Jan. 29 task force presentation at Brookhaven National Labs.

Some voiced concern that the task force's recommendations — due to the legislature at the end of the year — would be ignored by state lawmakers preoccupied with other matters.

Others wondered if local planners, who often have the final say on coastal projects, would heed state advice given Long Island's customary resistance to regional planning.

"It's kind of hard when you've got developers on a board making decision in favor of what they do," Walter Bundy, Southampton Town's storm water manager, said later. "It's a problem."

Robert Wieboldt, a consultant for the Long Island Builders Institute, said New York needs a comprehensive plan for sea level rise and erosion, but that it's too early to make hard decisions.

"It may well be that within the next few years we decide that we're going to assume a 2-foot rise in the ocean, and we'll deal with it," Wieboldt said. "But we need a few more years of ice-cap measurement to really know what we're going to be dealing with here."



How far will it go?

Map shows areas of Ocean Beach that would be flooded if sea levels were to rise 1, 2, 3 and 4 feet above the current levels. It only shows rising water under those scenarios and does not include flooding from storm surges.

