

Impact of rise in sea level studied

Some bay areas may see more serious damage from storm flooding, report says

By Tom Pelton
Sun Staff

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As sea levels rise over the next century, some Chesapeake Bay communities will face much more damage from storm flooding, which is expected to inflict tens of millions of dollars in losses and grow progressively more destructive as water creeps inland, according to a new report.

The Maryland Department of Natural Resources released a study last week of the possible economic impact of sea level rise to three waterfront towns: Shady Side in Anne Arundel County, the Hoopers Islands in Dorchester County, and Piney Point in St. Mary's County.

The report by Jeffrey A. Michael, an assistant professor of economics at Towson University, was the first to estimate how many houses, roads and acres of wetlands might be destroyed in selected areas of the state if waters rise by 2 or 3 feet by the year 2100, as many scientists worldwide predict.

Michael concluded that a 2-foot rise would cause problems during hurricanes or tropical storms like Isabel. The winds would drive waves farther inland as the water levels rose, damaging 903 existing homes in Shady Side worth about \$44 million.

A 3-foot rise - a worst-case scenario - would cause at least another \$20 million in losses and swallow a half-mile of roadway.

"The potential effects of sea level rise are significant, but not catastrophic, except for in a few low-lying communities on the Eastern Shore," said Kerry Kehoe, manager of the coastal program at the state Department of Natural Resources, which paid Michael \$30,000 for the study. "And we are trying to plan for and anticipate the problems, so that we are not caught flat-footed."

State planners hope to meet with officials in Anne Arundel, St. Mary's, Worcester and other counties to discuss the possible impact on roads, sewers, wells, bridges and planning for storms and development, Kehoe said.

Preparing for the rising waters isn't just important for people who live near the Chesapeake Bay, although the problem is expected to be worse there because scientists have found the land is also slowly sinking as a bulge left from the retreat of glaciers thousands of years ago subsides.

Worldwide, a panel of scientists called the Intergovernmental Panel on Climate Change has projected that sea levels will rise by up to about 3 feet by 2100. The panel said this rise will be caused in part by global warming, with the burning of oil and other fuels creating gases that contribute to the melting of ice caps and glaciers.

The damage estimates for the Chesapeake Bay communities were based on new topographical maps created with a high-tech system that aims laser beams from airplanes to get precise elevation measurements. The state released laser maps of the Middle Hooper Island last month, and last week gave the economic impact estimates.

Of the three communities - selected for their geographic diversity - the Hoopers Islands are the most vulnerable because they are the lowest, with most areas less than 3 feet above sea level.

In the case of a 2-foot rise over the next century, this slender peninsula south of Cambridge would have about 19 existing homes, worth about \$1.9 million, inundated by rising waters, which would wipe out almost half its roads and cover about 1,144 acres of wetlands.

Storm surges would damage another 456 properties on the three Hoopers Islands, with a total economic impact of about \$33 million, Michael estimated. That damage would nearly double to about \$64 million if the waters rose by 3 feet.

In Piney Point, a small village on the Potomac River in southern Maryland, a 2-foot rise would mean two houses worth about \$563,500 would be inundated by the slowly rising waters, which would also eat a mile of roadway and require the lengthening of a bridge. But flood waters whipped up by storms could wreck another 314 homes, with a total of about \$16 million in damage. A 3-foot rise would more than double that figure, raising it to at least \$40 million.

Michael said these numbers are only rough approximations that don't take into account inflation, future construction, the historic value of some properties and other factors.

Residents of Shady Side said last week that they were not surprised to hear about the potential damage from future storms. Many pointed to the dozens of homes still being rebuilt from Tropical Storm Isabel, which caused millions of dollars in damage in September.

Ed McAllister, a 59-year-old retired police officer who lives a few doors from the harbor in Shady Side, said he hopes Anne Arundel County will use the new report and elevation maps to restrict development in waterfront areas like his.

"This makes it clear why the county should absolutely limit development around here," McAllister said. "If you keep on intensifying the population in flood-prone areas like this, you are begging for more disasters like Isabel, which really did a lot of damage here."

Pam Jordan, a spokeswoman for Anne Arundel County's land-use planning office, said that county officials look forward to studying the new report. "Absolutely, we'd be interested in looking at that report," said Jordan. "We were one of the communities that were worst hit by Isabel, and we wouldn't want Isabel-like conditions again."

Jordan added, however, that the county's recently revised zoning laws already limit the density of development in waterfront areas such as Shady Side.

James Lowman, a 61-year-old retired mechanic who lives across the street from the harbor in Shady Side, said people who want to sell homes won't want anyone to hear about the report.

"This could be really bad news for the real estate people, because if people see this, they'll know the properties they're looking at will be gone in 25 years," Lowman said.

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