Municipal Credit Downgrade Threat as a Non-regulatory Driver for Flood Risk Mitigation and Adaptation

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Master of Environmental Studies – Env. Policy
A major credit-rating agency has reached out to a number of Hampton Roads cities, asking about the effect that sea rise, flooding and increased storm activity may have on infrastructure, budgets and tax bases.

The questionnaires, from Moody’s Investors Service, are one more indicator of the growing fiscal realities associated with climate change. The company’s expectations in Hampton Roads could be factored into bond ratings, determining how much interest taxpayers pay when local governments borrow money for major projects.

"First time I've seen it anywhere in the country," said Skip Stiles, executive director of the Norfolk-based Wetlands Watch. "I think that this is going to get more and more detailed, and it's going to spread."

Fellow ratings agency Standard & Poor’s has been tracking sea level rise as an economic factor since at least 2007, but this appears to be a narrowed focus, targeting specific coastal cities, with specific questions. Moody's did not respond to interview requests.

But Hampton said it received, and answered, Moody’s queries. Norfolk, Portsmouth and Virginia Beach also got questions, according to Randy Keaton, interim director of the
Virginia's Hampton Roads Region Responds to Flood Risk

The Hampton Roads region in southeastern Virginia (Aaa stable), which includes Virginia Beach (Aaa stable) and Norfolk (Aa2) as its largest cities, is at risk of flooding by virtue of its geography. Flooding risk from inland rainfall, storm surges, and high tides challenge the region due to its location at the confluence of the Atlantic Ocean, Chesapeake Bay, and the James and York rivers. Land use planning, building codes, risk planning and preventative investments have thus far prevented any significant credit impact from flooding, but continued development coupled with sinking land, and recurring strong storms, will require further capital investment and effective planning to mitigate negative credit effects on the Hampton Roads coastal municipalities.

The region faces significant flooding risks associated with weather-related and tidal flooding, exacerbated by intensive development. Damage costs from a future
Credit Rating and Freeboard Higher Standards

Local Government
Virginia's Hampton Roads Region Responds to Flood Risk

Exhibit 3
Hampton Roads Municipalities Exceed National Flood Insurance Program's (NFIP) Minimum Standard for Distance from Waterline to Base Level of a Property (aka Freeboard)

Sources: Cities of Chesapeake, Portsmouth, Virginia Beach, Norfolk and Hampton
<table>
<thead>
<tr>
<th></th>
<th>Moody's</th>
<th>Standard &amp; Poor's</th>
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<tr>
<td>Highest quality</td>
<td>Aaa</td>
<td>AAA</td>
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<td>A-1, A</td>
<td>A</td>
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<tr>
<td>Medium</td>
<td>Baa-1, Baa</td>
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<tr>
<td>Default</td>
<td>Ca, C</td>
<td>D</td>
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Investment grade

Not investment grade
Bond, Municipal Bond

- Municipal Issuer
- Broker/Underwriter
- Credit Rating Company
- Investor

http://www.nyc.gov
Rising Seas May Wipe Out These Jersey Towns, but They're Still Rated AAA

By Christopher Flavelle
May 25, 2017, 4:00 AM EDT
From

- Cities at most risk from extreme weather still get top ratings
- Storms, floods could diminish tax revenue and raise costs
N.Y. / REGION

Jersey Shore Towns Scramble for Revenue as Sandy Aid Dries Up

By NICK CORASANITI   JULY 30, 2017

TOMS RIVER, N.J. — The streets of Ortley Beach here were once considered ground zero for the destruction from Hurricane Sandy in 2012, with houses and debris strewn about for months. Today, vacant lots still dot the blocks, but they are outnumbered by new homes and a beach as crowded as ever.

Though many of the visible wounds from Sandy’s assault have healed, nearly five years later the storm is still exacting a less visible though no less brutal blow, not just to this town but also to many communities up and down the Jersey Shore.

When the storm wiped out buildings, it wiped out badly needed tax revenue. Now, with federal aid drying up, towns are confronting the financial pain.

In Ocean County, home to many of those hardest hit by the storm, towns were a total of $7.8 billion short of their prestorm tax base at the beginning of this year, or about 8 percent of their prestorm totals, a review by The New York Times of the most recent property tax data available from New Jersey found. Twenty-four of the county’s 33 towns were faced with smaller tax bases than they had before the storm. Slow rebuilding, abandoned lots, fleeing families and businesses, and property reassessments were cited as causes for the smaller tax base.

For three years after the storm, the towns had been propped up by hundreds of millions of dollars in federal aid distributed by the state, including more than $132 million through a grant program that was intended to help towns burdened with much less tax revenue provide essential services, such as police and fire protection and trash pickup. Last year, the grants were distributed for half the year.
Credit FAQ:
Understanding Climate Change Risk And U.S. Municipal Ratings

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Frequently Asked Questions
S&P Global Ratings' Climate-Related Research
On Tuesday [10/17/17] S&P revised its outlooks on five Texas municipal utility districts to negative due to impacts of Hurricane Harvey.
New Orleans, LA, Galveston, TX, Toms River and Seaside Heights, NJ and Rockport, TX credit ratings were downgraded due to residual economic effects of major storms.
Local government - New Jersey

Jersey Shore counties well prepared to handle next superstorm

In the five years since Superstorm Sandy pummeled coastal New Jersey in October 2012, the most severely impacted counties have largely recovered and are at least as, if not better, prepared for a storm of similar strength. Infrastructure improvements, healthy economies and strong finances combine to demonstrate both the strength of the recovery and the level of preparedness for future storms. Accordingly, the credit quality of Ocean County (Aaa stable), Monmouth County (Aaa stable) and Atlantic County (Aa2 stable) and most of their hard-hit municipalities look to remain healthy.

» New Jersey coastal local governments are benefiting from federal infrastructure investment, while building codes are tighter. Even after the most extensive preparation, communities will forever face the risk of mass storm damage. But the Army
As Table 6 reveals, under the 2050 sea-level rise scenario, 271 of the Borough’s 1,362 parcels (20%) and slightly over 12% of the total area of the community, representing approximately 17% of total market value, will be either partially or entirely inundated. Although only a relatively small portion of the market value of the community will be affected, it is important to note that over 43% of the current total market value of the commercial areas of the community will be inundated.
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<th>Date</th>
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<tr>
<td>March 6, 2015</td>
<td>Moody’s Questionnaire returned by Virginia Beach</td>
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<tr>
<td>June 18, 2015</td>
<td>Moody’s issues report on Hampton Roads, Virginia municipalities</td>
</tr>
<tr>
<td>September 16, 2015</td>
<td>Fitch: sea level rise may play greater role in rating</td>
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<tr>
<td>October 17, 2017</td>
<td>Standard &amp; Poor’s issues FAQ on municipal ratings and climate change</td>
</tr>
<tr>
<td>November 28, 2017</td>
<td>Moody’s issues report describing how climate change is evaluated in rating</td>
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<tr>
<td>January 8, 2018</td>
<td>Breckinridge Capital issues press release on sea level rise score</td>
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Climate Changed

Cities Threatened by Climate Risk Still Getting AAA Bond Ratings

By Christopher Flavelle
November 2, 2018, 4:00 AM EDT

▶ One year later, no climate downgrades from Moody’s, S&P, Fitch
▶ Investors say ratings still overlook risks of extreme weather

Last fall, after a trio of deadly hurricanes, ratings companies warned vulnerable coastal cities to get ready for climate change -- or face higher borrowing costs on the $3.9 trillion municipal bond market. Climate advocates cheered, hoping the prospect of downgrades would push local officials to better protect their residents from the effects of global warming.

Twelve months, two catastrophic storms and thousands of credit ratings later, those companies have yet to downgrade a single city because of climate change. The companies, which include Moody’s Corp. and Fitch
Research Announcement: Moody's - Largest US cities take proactive steps to mitigate credit risk from climate change
17 January 2019

New York, January 17, 2019 --

- US municipalities are accelerating efforts to mitigate the impact of climate events and reduce credit risk, survey says

- Flood mitigation efforts account for 60% of reported climate change resilience projects

More US cities are taking credit positive steps to address long-term risks caused by climate change, according to a new study from Moody’s Investors Service. 82% of surveyed US cities report they will have a climate risk action plan in place by the end of 2019.

"Cities are increasingly adopting plans that detail specific projects designed to strengthen infrastructure and minimize economic disruption from natural disasters and long-term climate change," Michael Wertz, a Moody’s vice president says. "Cities' increasing focus on climate risks is a credit positive, particularly as climate change is forecast to increase the frequency and severity of extreme weather events."

Roughly 60% of the cities' reported climate mitigation or adaptation projects are aimed at managing flood risks. The figure increases to 83% when including projects intended for mitigating multiple climate risks, including flooding. Drought, storms, and heat account for a combined 17% of climate mitigation projects.

Efforts to mitigate climate change risks carry a substantial cost relative to outstanding debt, but cities anticipate sharing this burden with federal and state governments. 54% of respondents plan to issue debt to fund climate initiatives, and climate-driven bond issuance will be driven by the availability of additional funding sources, including federal and state aid.

The survey is based on feedback from 28 of the 50 largest Moody's-rated US cities by debt outstanding.
Key Findings

• Credit rating companies are beginning to look at the climate change threats to municipal revenue; interest will increase especially in coastal areas;

• Investors are asking questions about climate change as a material risk and will be driving transparency, detail and refinement in climate change risk evaluation; expect investors to demand more detailed assessments;

• Local government must start planning and being proactive in adaptation; they should have answers for credit agencies and investors questions on vulnerability and climate change impacts on property value and revenue.
Credit Downgrades Imminent for Cities Unprepared for Climate Impacts, Study Says

Cape May, N.J., is among the coastal communities dealing well with sea level rise and forestalling credit downgrades. Photo credit: Mark Wilson/Getty Images
Hurricane Florence caused record flooding at water and wastewater plants in North Carolina. Saltwater intrusion from rising sea levels is wreaking havoc on Florida’s water supplies. The nearly two decades of drought afflicting the Colorado River Basin will soon require southern California to cut its draw from the river by as much as 8%.

Climate resiliency is becoming an increasingly material issue for utilities that manage water infrastructure and investors who buy the bonds to finance these assets. As climate risks rise, utilities and their bond buyers must address growing questions about the long-term resilience of existing and planned water infrastructure, to prevent these investments being left high and dry.
Climate change bringing long-term credit risks to states and municipalities

12 December 2018

Debtwire

An Acuris company

While several major ballot measures targeting climate change failed during the midterm election, reality will catch up with spiraling costs, which have not been fully captured by the credit rating agencies, according to several market sources.

Although Fitch Ratings said in a report in May that credit downgrades on municipal credits due to climate change have been rare except for the instance of the State of Louisiana and New Orleans after Hurricane Katrina, it will be hard to raise money on the bond market if the risks get worse, said Rachel Cleatus, lead economist and policy director with the Climate and Energy program at the Union of Concerned Scientists.

"The financial sector has to incorporate the risks to make better decisions, but the signals are not available now," Cleatus said.

Meanwhile, Moody's Investors Service embeds climate risks in its existing credit factors but doesn't address it as a credit risk, although it warned about the increasing
What type of Failure?

https://www.myodesie.com/
“Penn credit downgrade Miller”
Acknowledgements

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Municipal Credit Downgrade Threat as a Non-regulatory Driver for Flood Risk Mitigation and Adaptation

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