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Municipal Bonds 101
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How Climate Change Will Influence Municipal Bonds?

[Justin Kuepper](#) Feb 03, 2021
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California's largest utility filed for Chapter 11 bankruptcy in 2019 after massive wildfires across the state created insurmountable liabilities following an extended period of drought. *The Wall Street Journal* called it the "first climate change bankruptcy," and it could be a sign of what's to come as temperatures rise and extreme weather events become more frequent.

Let's take a look at how climate change could affect municipal bonds and why investors should consider climate change risks when building their portfolios.

Be sure to check out our [Education](#) section to learn more about municipal bonds.

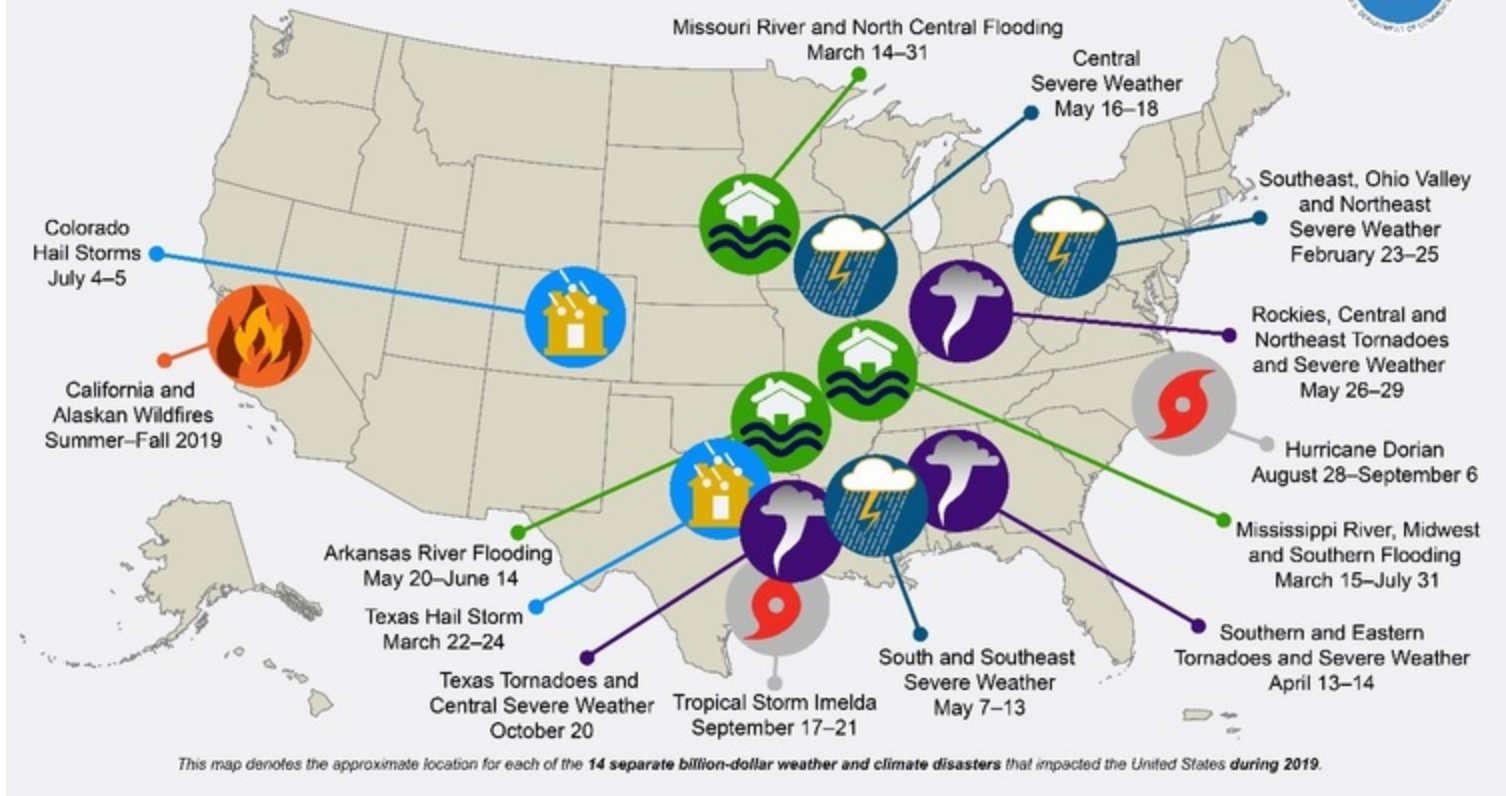
Climate Change Risks

Climate change may be a controversial topic for politicians, but there's little doubt that investors will see an increase in climate-related risk. As average global temperatures rise, heat waves, floods, droughts and other severe weather events will intensify and possibly have a widespread impact on everything from habitability to food security.

A [McKinsey report](#) highlights some key impacts:

- **Habitability:** Heat stress and other climate-driven changes could affect the ability for humans to work outdoors while shifting disease vectors toward the poles.
- **Food Systems:** Food production could be disrupted by drought conditions, extreme temperatures or flooding in some regions.
- **Physical Assets:** Physical assets like buildings could be damaged or destroyed by extreme flooding, fires and other hazards.
- **Infrastructure:** Infrastructure assets could experience disruption and have a knock-on effect on other sectors that rely on them.
- **Nature:** Climate change could destroy glaciers, forests and ocean ecosystems that humans rely on for habitat and economic activity.

U.S. 2019 Billion-Dollar Weather and Climate Disasters



Weather Events in 2019 – Source: NOAA

These impacts are evidenced by increased wildfire activity in the West, stronger hurricanes in the Southeast and bigger winter storms in the Northeast. In fact, weather disasters in 2018 and 2019 [reached a combined \\$136 billion](#) in direct and associated costs. These figures followed a record-breaking \$306.2 billion in 2017 costs from 16 separate billion-dollar weather events.

As these risks rise, investors are increasingly pricing them into financial assets. With nearly a third of institutional investors (according to a [recent study](#) by the European Corporate Governance Institute) considering physical climate risks important for portfolio management decisions, there's little doubt that their actions are impacting the risk premiums assigned to affected corporate bonds, municipal bonds and other assets.

Impact on Muni Bond Prices

Marcus Painter published a paper in the *Journal of Financial Economics*, February 2020, showing that counties more likely to be affected by climate change pay more in underwriting fees and initial yields to issue long-term municipal bonds compared to counties unlikely to be affected by climate change – an effect that's especially prevalent in bonds with lower credit ratings.

A separate paper, *Sea Level Rise Exposure and Municipal Bond Yields*, found that municipal bond investors can expect a one standard deviation increase in sea level rise (SLR) exposure to correspond with a reduction of 2 to 5% in the present value, or an increase of 1 to 3% in the volatility of local government cash flows supporting debt repayment.

Investor attention appears to be a driving factor since the difference in issuance costs on bonds issued by climate- and non-climate-affected counties increased after the release of the 2006 Stern Review on climate change. In addition, an upward revision in SLR projections in 2013 led muni bond markets to price in increased risk of SLR exposure.

The effects of climate change have been limited to long-term municipal bonds, according to Painter, with short-term muni bonds showing a negligible impact. Of course, these dynamics could change in the future as extreme weather events become more common and the risk of climate change becomes a near-term concern.

How to Hedge Your Portfolio

Investors can prepare their portfolios for the impact of climate change by incorporating these risks into their analyses. When building a municipal bond portfolio, investors should look at the municipality's exposure to climate risks as well as how they plan to mitigate those risks. These analyses are especially important when looking at impacted revenue bonds.

Aside from avoiding climate-impacted bonds, investors may also want to consider adding green municipal bonds to their portfolios. These bonds are issued by municipalities to finance projects designed to mitigate or adapt to climate change. Fixed income investors can use these bonds as part of a socially responsible investment (SRI) strategy.

Don't forget to check out [this](#) article to know more about the recent wave of green debt.

The Bottom Line

There's a growing consensus that climate change will have a significant impact on people, the planet and businesses over the coming years. In fact, nearly a third of institutional investors consider physical climate risks important for portfolio management decisions. These sentiments are evidenced in the pricing of municipal bonds and other securities.

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