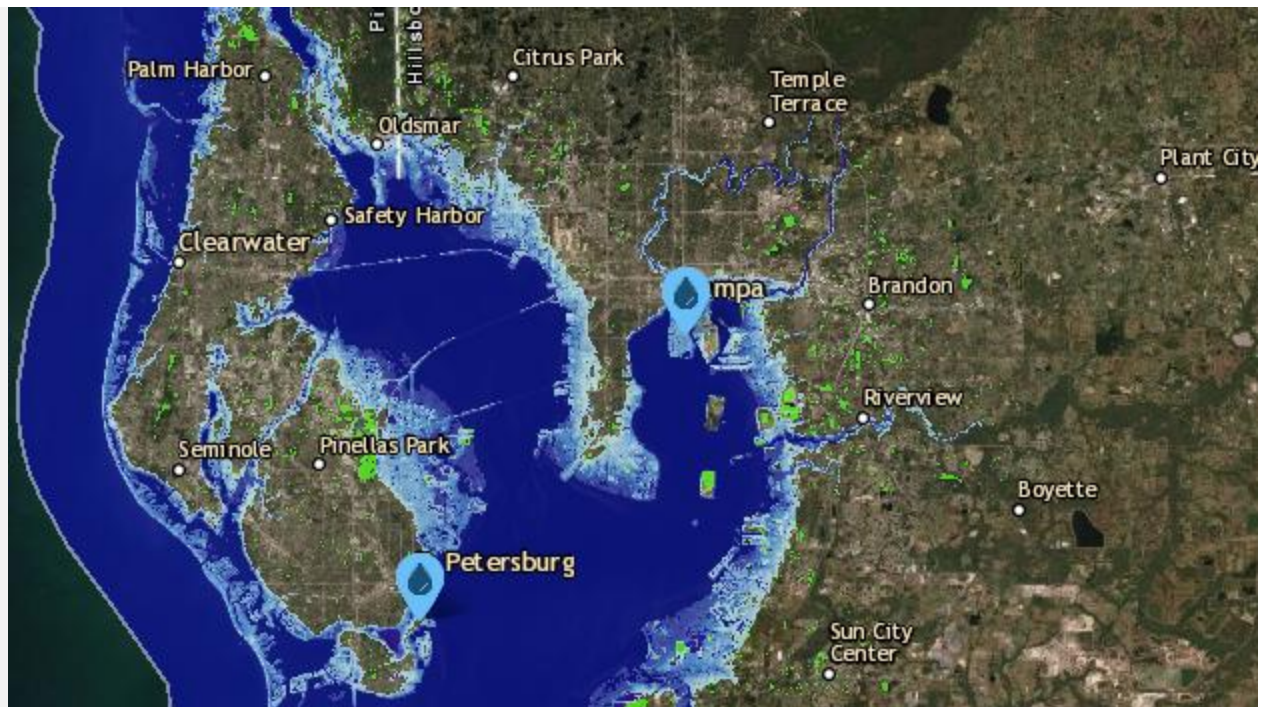


# Tampa Bay Times

[Opinion](#)

## We'll be measuring sea level rise in feet, not inches | Editorial

The real-world impacts of climate change are accelerating for us in Tampa Bay.



Using a tool provided by NOAA, this map shows what parts of the Tampa Bay region would be underwater if sea levels rose 8 feet, which could happen by 2100. [NOAA]

By [Tampa Bay Times Editorial Board](#)

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Take out a 30-year mortgage on a house in the Tampa Bay area, and by the time it is paid off the sea level will have likely risen 1 or even 2 feet, according to the [Tampa Bay Climate Science Advisory Panel](#). Climate change is no abstract concept. It is here, it is getting worse and it's coming harder and faster than scientists expected even a few years ago. The only uncertainty now is just how bad it will get and when.

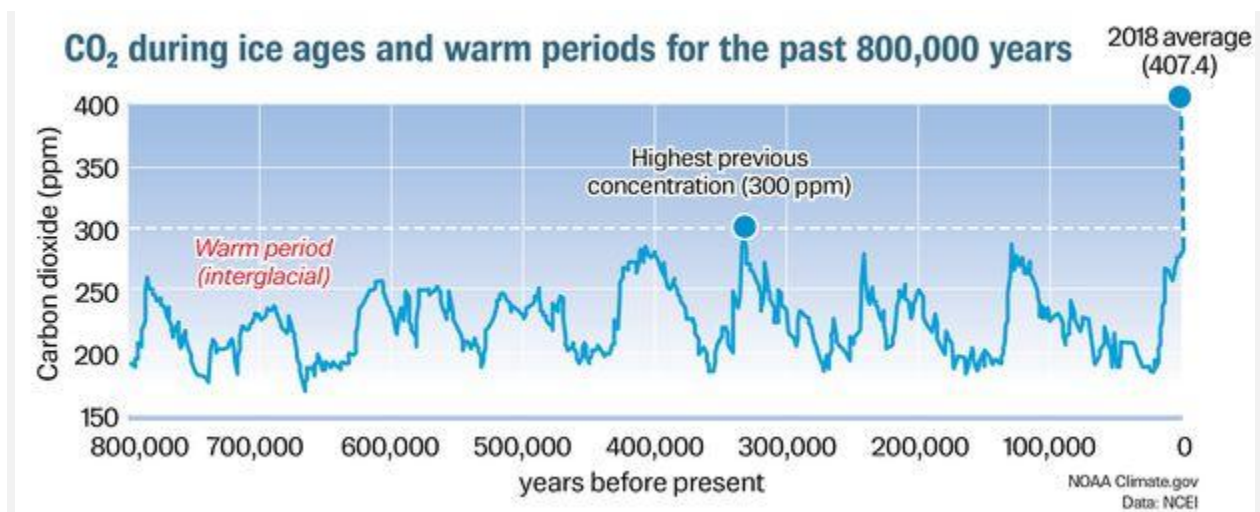
Those who fail to act -- or worse, continue to deny it -- will have to answer to their children and grandchildren, who will be forced to live with the effects of their elders' folly.

A recent poll of Floridians by [Florida Atlantic University](#) captures this new reality, with 68 percent agreeing that climate change "has them concerned about the well-being of future generations in Florida." Just 28 percent said government is doing enough to address it. Even 44 percent of Florida Republicans now agree that climate change is real and primarily caused by human activities. That should wake up politicians in Washington and Tallahassee.

It was singularly unhelpful for President Donald Trump to formally announce this month that the United States is abandoning the Paris Accords, leaving nearly 200 other nations to figure out how to cut greenhouse emissions without the support of the world's largest economy, as Trump continues to favor fossil fuels over renewable energy and deny that climate change is even a worry. Until national leadership changes, Florida and the Tampa Bay region are effectively on their own. Meanwhile, sunny day flooding will become more common, and hurricanes will become more powerful as their storm surges pile walls of water on to already elevated sea levels. It's been only a year since Hurricane Michael blew up into a Category 5 as it slammed the Panhandle, a hurricane that wasn't supposed to be able to grow in strength so quickly.

For a long time, climate reports focused on moderate estimates of the effects of climate change. But now researchers are discovering that the effects are snowballing, that the seas aren't just rising but are rising at a faster rate, that the climate isn't just warming but it's doing so more quickly.

Additional effects such as the magnifying impacts of ice sheet instabilities are adding new layers of worry to the science. Predictions that seemed extreme not long ago are coming to pass, and the new normal is decidedly abnormal. As the science becomes more precise and more sophisticated, the numbers are bigger and more worrisome, and the timeline for action grows shorter.



Carbon dioxide levels are higher than they've been in more than 3 million years, when Florida was underwater. Atmospheric carbon dioxide is currently 407.4 parts per million and rising. Because of all the fossil fuels we're burning, greenhouse gases are causing change to occur not in geological time of millions of years but on a human time scale. Last time carbon dioxide levels were this high, the seas were 50 to 80 feet higher than today, because warming temperatures had melted the ice sheets. All that is saving us right now is the time lag between sea level and atmospheric CO<sub>2</sub>—today's sea level has not yet "caught up" with CO<sub>2</sub> and our soon-to-come hotter temperatures. Long-range planning should assume sea level rise of yards, not inches. It won't happen in the next few decades, but it is likely to happen in the next century.

The Tampa Bay Climate Science Advisory Panel says that the water levels have increased by 7.8 inches since 1946, when they were first recorded at the St. Petersburg tide gauge. That's cold comfort, because the projected rise is now being measured in feet, not inches. The group says that actual measurements, not just models, show that sea-level rise is accelerating.

By 2100, the sea level on the Tampa Bay area's nearly 700 miles of coast could be 8½ feet higher than it was at the turn of this century. Numbers from the Intergovernmental Panel on Climate Change, the U.S. National Climate Assessment and the [National Oceanic and Atmospheric Administration are similarly alarming](#). Carbon dioxide levels have risen by nearly a third in just the past 50 years. There is a lag, but hotter temperatures and [faster-rising seas](#) will follow.

The Trump administration argues it's too expensive to consider climate change and that the economy will take too big of a hit. The science is increasingly saying exactly the opposite: It's too expensive *not* to deal with it, particularly right here in Tampa Bay.

Polluters, via a carbon tax, should pay their fair share of the bill. In some areas, sea walls will have to rise. In others, people will have to retreat from the waterfront. Houses, bridges and roads will have to be higher and more resilient. None of this will be easy. Nor will it be cheap. But if we don't act, underwater mortgages will take on a whole new meaning. And it won't be funny. The longer planners and politicians wait, the harder and more expensive it will become.

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*Editorials are the institutional voice of the Tampa Bay Times*