

BOOK REVIEW

The water will come, by Jeff Goodell, New York Little, Brown and Company, 2017, 340 pp., \$25.98, ISBN 978-1-47890-404-5, <https://www.hachettebookgroup.com/titles/jeff-goodell/the-water-will-come/9781478904045/>

I'm thinking you may already know the narrative: All over Terra, ice melts, seas rise, and – more quickly now – the outlines of terra firma itself diminish.

Projections diverge on how fast the inundation will proceed if nations stay on a “business as usual” path in their greenhouse gas emissions. The most recent report from the Intergovernmental Panel on Climate Change projects a maximum of about three feet by the year 2100 (Church et al. 2013); James Hansen and colleagues project several times that much over the same time frame (Hansen et al. 2016); a recent research paper that recalculates the dissolution of Antarctic ice warns of five feet as a median estimate (Kopp et al. 2017). Sea level rise on such a scale would submerge an area inhabited, just now, by 153 million people. For an indefinite number of decades or centuries after that, the rise would continue.

As former presidential science advisor John Holdren once pointed out, human beings have three options: reduce the amount of climate disruption they are causing, adapt as intelligently as possible to the change they can't avoid, and suffer. “The question – the issue that's up for grabs – is what the mix going forward is going to be,” Holdren has said.

Under a “work and hope” scenario – one in which the world cuts emissions with extreme speed and hopes that the more optimistic climate change projections are the accurate ones – sea level rise might be limited to something like two feet. But even that more modest figure would imply worldwide consequences exceeding our ability to comprehend them. “Staggering,” “catastrophic,” and other alarm words have lost much of their voltage. In these busy times, “trillions” are the new “millions” – and thus rather negligible. But two feet of sea level rise are, beyond question, coming.

And that's the trouble in public policy conversations: how to retell the story in a way that engages people – as a “call to action,” as marketers would put it. The atmospheric polluter-in-chief, the United States, ought to be leading the rest of the world to move as aggressively as possible. As all know well, American political leaders are marching with firm resolve in the opposite direction for now.

The story has not been hidden from the citizenry. The sea level-rise Cassandra of the Environmental Protection Agency (EPA), James Titus, began telling it in 1982. Since that time Titus has, despite his agency's timidity and inertia, shepherded onto government shelves a long series of research reports and policy recommendations. He has made dozens of speeches to planners in coastal communities

and told them to awaken. He's still at it. “This is like trying to sell a supercomputer, not a PC,” he once told me. “You are not expecting an immediate sale.”

Coastal geologists Rob Young and Orrin Pilkey wrote the persuasive book *The Rising Sea* in 2009 for general audiences. They argued that the world should plan for seven feet of ocean rise, but their pre-Hurricane Sandy message did not register much. “We tried to hit a nerve,” Pilkey told me, “but we must have been a little early.” Since then, several more strong books have delivered urgent warnings about sea level rise – joining many other volumes that describe sea level rise as one calamity in the catalogue of global warming impacts.

Enter *The Water Will Come*, a new book by the journalist Jeff Goodell. It is conversational but meticulous. It skillfully weaves together science research, engineering (seawalls, pumps, floating cities, carbon dioxide extractors, and so on), and legal conundrums (who owns the deed to land that submerges, more or less forever?). The narrative moves from Miami to Venice to Lagos and, of course, to Manhattan. These are shoreline cities whose leaders seem, despite some halting first steps, determined for the most part to pretend that a buoyant real estate market and, in the United States, an inattentive electorate can somehow keep the future dry. Goodell also reports from places such as Rotterdam and Copenhagen, which commit significant resources to adaptation and mitigation. They are inspiring examples.

Sharp-edged pictures remain in a reader's mind well after the last chapter of Goodell's book concludes. This is the result of the author's patient shoe-leather reporting, unrelenting focus, and keen ear for authentic speech. Discussing tiny, fast-disappearing islands such as the Marshalls in the South Pacific, for example, Goodell evokes the mounting claustrophobia of encroaching salt water as it menaces agriculture, drinking water sources, and safe shelter. He also succinctly illustrates the question of US complicity in the fate of such places. As one island leader told Western polluters, “You can drastically reduce your greenhouse gas emissions so that the seas do not rise so much. Or, when we show up on your shores in our boats, you can let us in. Or, when we show up on your shores in our boats, you can shoot us. You pick.”

Goodell introduces readers to some vivid characters, including many who practice willful deception or self-deception. After all, the unstable line between land and water in the United States is still being furiously built upon, sold, and resold. Goodell doesn't pause to villainize – he doesn't have to. He recites bland answers to awkward questions, and those answers are noose enough.

At a social event, for example, he sticks with the suave Miami real estate developer Jorge Pérez – a man with a net worth of \$2.8 billion and a big donor to Hillary Clinton and

Barack Obama's presidential campaigns – to ask, politely but pointedly, about the water, the new shoreline construction, and the future. “I believe that in 20 or 30 years, someone is going to find a solution for this,” Pérez offers. “Besides, by that time I'll be dead, so what does it matter?” Pérez had been avoiding Goodell for weeks.

A Miami Beach scientist named Henry Briceño got curious about the health effects of the floodwaters that frequently flow into Biscayne Bay, so he measured those effects and gave the results to the local civic leadership. He was stonewalled for a year, until the *Miami Herald* reported his data. Then he was vilified as a liar by some of the same leaders.

Wading in these luxe waters with Goodell one floody day, Briceño sampled fecal bacteria counts at a thousand times the safe level for human health. Standing at an outfall pipe, he explained a physical process that illustrates the forgetful nature of the political process: Sewage mixes with street-level floodwater that humans paddle around in – or the city clears the streets by pumping the effluent into the Bay.

“But at the end of the day, what's happening is not very complicated,” Briceño said, pointing up at an apartment building. “There is a guy up there who is shitting, and it is coming out here.”

Goodell hews, to strong effect, to this kind of show-don't-tell strategy. He avoids tragic tones and shrill indignation. This allows readers, without prodding, to feel the burn, the anguish, and the fear.

The author gets face time with then-President Obama and gently keeps him on the hook until Obama admits that his considerable power seems mooted by the scope and intensity of the problem and by enfeebled US governance. The two men had been on Air Force One, flying over the island of Kivalina, Alaska, where a village of 400 people is succumbing to the North Pacific and can't be rescued for less than \$100 million.

“If I howl at the moon without building a political consensus, nothing's going to get done,” Obama explains. Goodell, a little abashed at his own audacity, nonetheless presses the case that delay means baking more climate disruption into an already precarious future. “The warming of the planet is not waiting for consensus building,” he reminds POTUS. Obama concurs ruefully, but insists that unilateral action, without political support, would be a hollow victory. Meanwhile, Norfolk is the new Kivalina and Boston is the new Marshall Islands. These are but two locations along the thousands of miles of heavily populated US shoreline that are flooded ever more frequently.

Orrin Pilkey is working on a new book about sea level rise that will focus on the United States. James Titus is still on the job at his EPA office, though recently his state-by-state descriptions of the impacts of sea level rise have been wiped – along with other climate-change content – from the agency's websites.

Titus gives a talk to local officials in coastal towns titled “The Sea Is Rising – So What's the Plan?” He likes to quote Matthew 7:26 as he PowerPoints the way forward at meetings of this kind: “And every one that heareth these sayings of mine, and doeth them not, shall be likened unto a foolish man, which built his house upon the sand.”

Goodell's powerful storytelling takes its place, then, in the big, chaotic discourse of US democracy. Because of public disengagement, it's a tale that the sea itself is writing, in perhaps the only way that will command people's distracted attention.

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Notes on contributor

Stephen Nash is a visiting senior research scholar at the University of Richmond. His book *Virginia Climate Fever* won the American Institute of Physics award for science writing in 2015. His new book, *Grand Canyon for Sale: Public Lands Versus Private Interests in the Era of Climate Change*, was published by the University of California Press.

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