



Within 30 years the United States could be seeing serious health threats resulting from climate change, according to scientists speaking at an [American Association for the Advancement of Science](#) meeting on February 19.

Three studies were presented that examined the dangers that changes in ocean and freshwater environments could cause to people. The studies were funded by the [National Oceanic and Atmospheric Administration](#) (NOAA).

[NEWS: Achoo! Allergy Aggravations to Grow With Climate Change](#)

“Understanding climate change on a local level and what it means to county beach managers or water quality safety officers has been a struggle,” said Juli Trtanj, director of NOAA’s [Oceans and Human Health Initiative](#), in a NOAA news release.

“These new studies and models enable managers to better cope and prepare for real and anticipated changes in their cities, and keep their citizens, seafood and economy safe,” said Trtanj.

Longer Red Tides

Toxic algae blooms, or red tides, caused by the species *Alexandrium catenella* could last longer. That means more

Projected changes to the harmful algal bloom season in a future warmer climate

risk to humans of poisoning from contaminated shellfish, according to researchers at the NOAA and the University of Washington.

“Changes in the harmful algal bloom season appear to be imminent and we expect a significant increase in Puget Sound and similar at-risk environments within 30 years, possibly by the next decade,” said Stephanie Moore of NOAA in a news release by that organization.

“Our projections indicate that by the end of the 21st century, blooms may begin up to two months earlier in the year and persist for one month later compared to the present-day time period of July to October,” Moore said.

[BLOG: Don't Eat the Blue Shellfish](#)

Saxitoxin, a poison released by the red tide, accumulates in shellfish. If a person eats contaminated shellfish, they could suffer vomiting, muscle paralysis, and even death.

Iron Dust Fuels Ocean Bacteria Growth



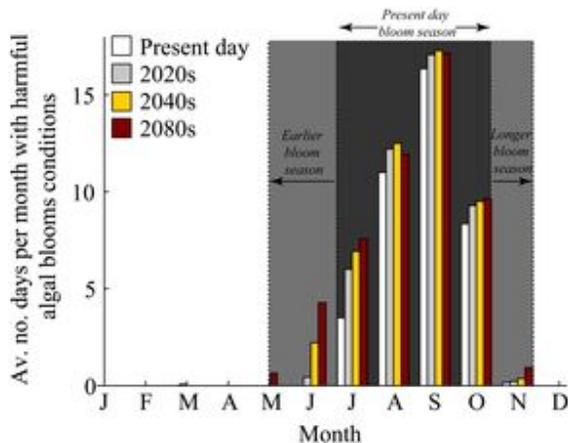
A more of the world dries out and deserts expand, wind may pick up more dust into the atmosphere. Iron in that dust may fuel the growth of harmful bacteria in the ocean.

Researchers at the University of Georgia presented evidence that increased amounts of dust from West Africa blowing into the oceans fuels a population boom in *Vibrio* bacteria, a group of bacteria that can cause gastroenteritis

and infectious disease in people.

“Within 24 hours of mixing weathered desert dust from Morocco with seawater samples, we saw a 10-1000-fold growth in *Vibriosis*, including one strain that could cause eye, ear, and open wound infections, and another strain that could cause cholera,” said Erin Lipp of the University of Georgia in a NOAA news release.

“Our next round of experiments will examine the response of the strains associated with seafood-related infections,” Lipp said.



Wetter Wisconsin's Water

Last year was the [wettest year on record](#), according to NOAA's Global Historical Climatology Network. Wisconsin in particular had its wettest year ever, and climate change predictions say it's going to get even soggy.

[BLOG: Why Am I A Football Fan?](#)

Sewer systems weren't built to handle all that water. The last 10 years have seen more severe storms causing sewer overflows.

Sandra McLellan and her colleagues at the University of Wisconsin used climate models to predict that spring rains in Wisconsin are likely to increase over the next 50 years. That's bad news for sewer systems. Under worst case scenarios, an average 20 percent increase in the volume of overflows is possible, and those overflows will last longer.

“Hundreds of millions of dollars are spent on urban infrastructure, and these investments need to be directed to problems that have the largest impact on our water quality,” said McLellan. “Our research can shed light on this dilemma for cities with aging sewer systems throughout the Great Lakes and even around the world.”

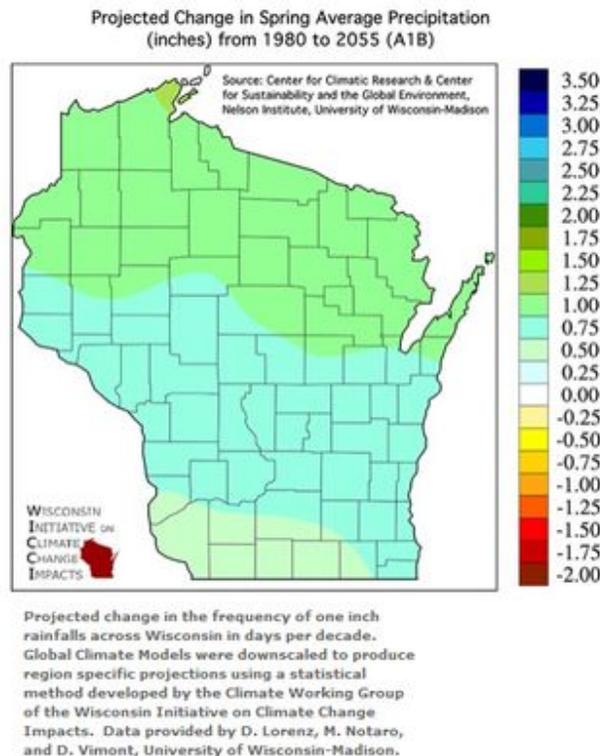


IMAGE 1: *A red tide in La Jolla, California (Wikimedia Commons)*

IMAGE 2: *Projected changes to the harmful algal bloom season in a future warmer climate. (S. Moore, NOAA)*

IMAGE 3: *Aerosolized dust is clearly visible in the satellite image and stretches across the Atlantic Ocean nearly continuously from Western Africa into the Caribbean and Gulf of Mexico. (SeaWiFS Project, NASA/Goddard Space Flight Center and ORBIMAGE.)*

IMAGE 4: *Projected change in the frequency of one inch rainfalls across Wisconsin in days per decade. (NOAA, Data provided by D. Lorenz, M. Notaro, and D. Vimont, University of Wisconsin-Madison.)*

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