

National climate report details how our weather is already changing

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Five report takeaways

1. Water is premium

From farm to city, rising temperatures are likely to boost the need for water, resulting in increased competition and conflict, especially in the western U.S.

2. More erosion

Heavier rains and snowier winter storms are expected to accelerate erosion, increasing the risk of flooding and reducing water quality.

3. Evaporation

Hotter weather could negate the benefits of increased rainfall through evaporation and heavier consumption by plants and people.

4. A reversal of fortunes

Current agricultural benefits of the warming world — longer growing seasons, expanded planting ranges — most likely will be lost as heat becomes more intense and weather more capricious.

5. Higher highs

The number of triple-digit days is expected to rise, doubling to quadrupling in the Plains by midcentury.

Source: National Climate Assessment 2014

Q&A

Why should we care?

Climate change is accelerating, according to the National Climate Assessment.

Changes in the future will exceed what people have gotten used to seeing in the past 100 years, according to the report's authors.

How is this report different from others?

The report details climate change already occurring and breaks down the changes regionally.

What's next?

Politically contentious debate at the national level as President Barack Obama pursues reductions in greenhouse gases.

Climate change is no longer a distant worry, but instead it has begun to change life across the United States, according to a federal report released Tuesday.

Overall, sea levels are rising, winters are becoming shorter, the timing and rate of rainfall are changing, and nights are becoming warmer.

Each of these changes has different implications. Warmer nights, for example, can reduce the productivity of crops, while higher sea levels produce devastating storm surges and taint coastal fresh waters with saltwater.

[The National Climate Assessment](#), an 840-page report, is the result of three years' work by more than 300 climate scientists and others. Information was gathered during meetings across the country, including in Nebraska.

The report acknowledges that a warming world has had benefits — some winter heating bills have been lessened, and farm yields have risen significantly. In the long term, though, according to the assessment, climate change's harm will outweigh the benefits.

In Nebraska and Iowa, climate change is exaggerating the climatic differences between the two states: Nebraska is seeing a steeper increase in temperatures, which, if it continues, will most likely make the state more arid.

Iowa has seen ill-timed, excess precipitation. Farmers in the Hawkeye State, for example, are averaging three fewer days for spring fieldwork because of wet conditions.

Nebraska saw the politically charged nature of climate change play out in the Legislature last year, when lawmakers failed to agree on how to study its impact on the state. Lawmakers who question whether humans are causing climate change were concerned that the study would force that view on the state.

The University of Nebraska-Lincoln decided instead to do its own report. Those findings are due out this fall.

Don Wilhite, a university climatologist leading the UNL's effort, said its report will incorporate the federal report, which he described as “the state of the science as applied to the U.S.”

As part of the drafting of the federal report, Lincoln hosted a regional town hall meeting. It was among the best attended in the nation.

Martha Shulski, director of the High Plains Regional Climate Center, housed at UNL, is among those helping to write UNL's report. She said she hopes the state report will become a vehicle for more open dialogue between the state's scientists and policymakers.

One of the key points in the national report is that change is possible — both to lessen the steep increases in temperature that are forecast as well as preparing communities so that they can be more resilient.

This report includes material from the Associated Press.

Extreme weather events expected to increase

Shortly after the National Climate Assessment came out Tuesday, President Barack Obama used several television weathermen to make his point about the bad weather news and a need for action to curb carbon pollution before it is too late.

“We want to emphasize to the public, this is not some distant problem of the future. This is a problem that is affecting Americans right now,” Obama told “Today” show weathercaster Al Roker.

The American Southeast is “exceptionally vulnerable” to rising sea levels, extreme heat events, hurricanes and decreased water resources, the report said. Seven major ports in that region are vulnerable to sea level rise.

Even though the nation's average temperature has risen by between 1.3 and 1.9 degrees since record-keeping began in 1895, it's in the big, wild weather where the average person feels climate change the most, said co-author Katharine Hayhoe, a Texas Tech University climate scientist. Extreme weather hits us in the pocketbooks and can be seen with our own eyes, she said.

The report says the intensity, frequency and duration of the strongest Atlantic hurricanes have increased since the early 1980s, but it is still uncertain how much of that is from man-made warming. Winter storms have increased in frequency and intensity and have shifted northward since the 1950s, it says. Also, heavy downpours are increasing by 71 percent in the Northeast. Droughts in the Southwest are expected to get stronger. Sea level has risen 8 inches since 1880 and is projected to rise between 1 foot and 4 feet by 2100.

Despite the warnings, White House science adviser John Holdren struck an optimistic tone: “It's a good-news story about the many opportunities to take cost-effective actions to reduce the damage.”

Not everyone is persuaded.

Skeptics of climate change attacked the report. The Cato Institute, a Washington-based libertarian research center, sent out its assessment Monday, saying the report “overly focuses on the supposed negative impacts from climate change while largely dismissing or ignoring the positives from climate change.”