

National Editorial Board/Opinion Page Briefer:

**OUR CHANGING CLIMATE: SCIENTISTS TO WARN OF  
STARK IMPACTS FOR AGRICULTURE AND HEALTH  
THE LONGER WE DELAY CURBING CARBON POLLUTION**

*Prepared by the Natural Resources Defense Council  
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Unseasonable warming followed by cold snaps in 2012 led to the worst year in recorded history for Michigan's cherry crop, while biblical floods last year scoured Colorado and killed eight people, and massive wildfires destroyed hundreds of Colorado homes.

Last spring severe storms pounded the Southeast and Midwest causing several billions of dollars in damages, while California continues to struggle with a historic multi-year drought that has hit its farm economy especially hard—losses now exceed \$5 billion. And globally, the 15 hottest years on record have occurred since 1998.

What's happening?

In short, this is what climate change looks like.

Similar to the effect of steroids on athletes' performance, the effect of global warming on our climate has set the stage to supercharge storms, and is already fueling more intense heat, dry conditions and extreme weather.

As Iowa farmer Matt Russell has aptly put it: it's causing the wrong weather at the wrong time.

And there are signs things will get much worse if we don't address climate change now.

**More evidence is expected in the next couple weeks with release of the National Climate Assessment from the U.S. Global Change Research Program.** Congressionally mandated and with participation from 13 federal agencies, more than 240 scientists contributed to this definitive source for climate information in the United States.

The National Climate Assessment is expected to conclude that climate change, once considered a far-off issue for the future, is here now. People across our country are seeing and feeling its effects already. And the impacts will get much worse if we don't substantially curb the carbon pollution driving climate change, the report is expected to say.

The NCA, based on preliminary findings in the January, 2013, public review draft, is expected to show climate change isn't just about warming temperatures. Carbon pollution ringing our Earth is expected to lead to climate disruptions that will affect our health, agriculture and food systems.

This alarming news comes on the heels of warnings from other scientific panels making the case for action now.

**The American Association for the Advancement of Science recently said:** “The evidence is overwhelming: Levels of greenhouse gases in the atmosphere are rising. Temperatures are going up. Springs are arriving earlier. Ice sheets are melting. Sea level is rising. The patterns of rainfall and drought are changing. Heat waves are getting worse, as is extreme precipitation. The oceans are acidifying.”

**The World Health Organization says air pollution is already killing millions now:** In 2012, about 7 million people died—one-eighth of the total global deaths—from exposure to air pollution—more than double previous estimates, according to WHO estimates. Reducing carbon pollution leads to lower levels of other associated air pollutants, and reduced risks of climate change and its threats to health.

**And a recent report from the Intergovernmental Panel on Climate Change forecast global climate disruption ahead:** “Throughout the 21st century, climate-change impacts are projected to slow down economic growth, make poverty reduction more difficult, further erode food security, and prolong existing and create new poverty traps, the latter particularly in urban areas and emerging hotspots of hunger.”

The National Climate Assessment will help provide additional critical information that can help you communicate with your readers and viewers about climate change, the gravest environmental challenge of our time.

Here are some key NCA draft report findings from January 2013 for the nation that will be finalized in the upcoming final report. See more here: <http://ncadac.globalchange.gov/>

### **On Agriculture and Food Security:**

- Climate disruptions to agricultural production have increased in the recent past and are projected to increase further over the next 25 years. By mid-century and beyond, these impacts will be increasingly negative on most crops and livestock.
- Many agricultural regions will experience declines in crop and livestock production from increased stress due to weeds, diseases, insect pests, and other climate change-induced stresses.
- Agriculture has been able to adapt to recent changes in climate, however, increased innovation will be needed to ensure the rate of adaptation of agriculture and the associated socioeconomic system can keep pace with future climate change.
- Climate change effects on agriculture will have consequences for food security both in the U.S. and globally, not only through changes in crop yields, but also changes in the ways climate affects food processing, storage, transportation, and retailing, as well as the ability of consumers to purchase food.

### **On Health and the Environment:**

#### **Heat**

- The United States has warmed 1.5 degrees Fahrenheit since 1895, and more than 80% of that warming has happened since 1980.
- If carbon pollution levels continue to rise, average temperatures across much of the country could increase up to 8 degrees Fahrenheit by the year 2100. This would be a dramatic change, with impacts that are wide-ranging and harmful.
- Heat waves are getting more common, longer, and more intense. The widespread extreme heat of 2011 and 2012 was unprecedented in the last 130 years.
- Hospital admissions and death rates soared after recent heat waves in many American cities, including St. Louis, Cincinnati, and Chicago.

- Extreme heat already impacts our ability to move around the country. Roads deteriorate more quickly, railway tracks buckle, and flights can be delayed or cancelled.

### **Floods and Droughts**

- Very heavy rainstorms and snowstorms are getting more intense in most parts of the country. The largest increases in the amount of heavy precipitation have been in the Midwest (a 45 percent increase since 1958) and the Northeast (a 74 percent increase).
- Flooding has increased in many parts of the Great Plains, Midwest, and Northeast.
- Widespread drought may become more common over much of the central and southwestern United States.
- In some areas, the combination of drought and heat is making the wildfire season earlier, longer, and more severe.

### **Sea Level Rise**

- Two feet of sea level rise – which could happen by 2050 – could put more than 5,790 square miles underwater in America. That's bigger than the state of Connecticut. New Orleans, Miami, and Virginia Beach are some of the most vulnerable cities in the nation.
- Long before permanent flooding happens, sea level rise makes us more vulnerable to storm surges and extreme weather. During Superstorm Sandy, nearly 14 feet of storm surge flooded all three New York City-area airports and much of Manhattan's subway system.
- Hurricanes and other extreme storms like Sandy are expected to get stronger as the climate changes.

### **Permafrost and Sea Ice**

- Much of Alaska is covered by frozen ground called permafrost. As permafrost thaws, the cost of replacing worn-out pipelines, roads, and other infrastructure could increase up to \$6 billion by 2030.

The good news is that most Americans know we're in trouble – and that there's something we can do about it. We recognize this is the most urgent and dangerous environmental crisis of our time. In fact, seven in 10 Americans favor the U.S. Environmental Protection Agency putting limits on carbon pollution from power plants, a new [Greenberg Quinlan Rosner Research poll](#) shows.

That's exactly what President Obama directed the EPA to do in the National Climate Action Plan he announced last June. EPA Administrator Gina McCarthy has promised standards that will give states maximum flexibility to reduce carbon pollution in the most cost-effective way.

Using its authority Congress approved under the Clean Air Act, the EPA has already proposed carbon pollution limits for future power plants. **And this June, EPA is expected to follow with proposed limits on the roughly 1,000 power plants in the U.S. that emit carbon pollution, a key milestone in our country's efforts to reduce the threat of climate change.**

NRDC has plenty of resources to help with your ongoing coverage. For starters, see:

Our Web site dedicated to global warming and climate change: <http://www.nrdc.org/globalwarming/>

NRDC President Frances Beinecke's recent blog on climate change in America and beyond:  
[http://switchboard.nrdc.org/blogs/fbeinecke/climate\\_change\\_hits\\_home\\_with.html](http://switchboard.nrdc.org/blogs/fbeinecke/climate_change_hits_home_with.html)

NRDC Senior Scientist Kim Knowlton's blog on extreme weather in 2013 here:  
[http://switchboard.nrdc.org/blogs/kknowlton/extreme\\_weather\\_events\\_in\\_2013.html](http://switchboard.nrdc.org/blogs/kknowlton/extreme_weather_events_in_2013.html)

NRDC's proposal for how the EPA can set standards cutting carbon pollution by more than 25 percent, create jobs and expand clean energy: <http://www.nrdc.org/air/pollution-standards/>

**FOR MORE INFORMATION CONTACT:** Jake Thompson, Natural Resources Defense Council 202-289-2387, [jthompson@nrdc.org](mailto:jthompson@nrdc.org); or Elizabeth Heyd, NRDC, 202-289-2424; [ehyd@nrdc.org](mailto:ehyd@nrdc.org)

*The Natural Resources Defense Council (NRDC) is an international nonprofit environmental organization with more than 1.4 million members and online activists. Since 1970, our lawyers, scientists, and other environmental specialists have worked to protect the world's natural resources, public health, and the environment. NRDC has offices in New York City, Washington, D.C., Los Angeles, San Francisco, Chicago, Livingston, Montana, and Beijing. Visit NRDC at <http://www.nrdc.org>.*