

Scientists price out costs of climate change Scientists price out costs of climate change

The Bismarck Tribune

April 10, 2019 Wednesday

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Section: C; Pg. 4

Length: 545 words

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Body

By the end of the century, the manifold consequences of unchecked **climate change** will cost the U.S. hundreds of billions of dollars per year, according to a new study by scientists at the Environmental Protection Agency.

Those costs will come in the form of water shortages, crippled infrastructure and polluted air that shortens lives, among others, according to the study in a recent edition of Nature **Climate Change**. No part of the country will be untouched, the EPA researchers warned.

However, they also found that cutting emissions of carbon dioxide and other greenhouse gases, and proactively adapting to a warming world, would prevent a lot of the damage, reducing the annual economic toll in some sectors by more than half.

Experts called the report the most comprehensive analysis yet of the staggering diversity of societal impacts that **climate change** will have on the American economy.

"It is an extraordinarily ambitious project," said Solomon Hsiang, an economist at UC Berkeley who was not involved in the study.

The analysis is not the first to calculate the costs of global warming and the benefits of curtailing emissions. There have been numerous prior attempts, including a 2006 report commissioned by the British government that found unmitigated warming could reduce global gross domestic product by as much as 20%.

Many more have followed, but all reach the same general conclusion, said Brenda Ekwurzel, director of **climate** science at the Union of Concerned Scientists: "The cost of inaction is really high, and (the cost of) reducing emissions pales in comparison."

What sets the new study apart, she said, is its astonishing level of detail. It explores how 22 different impacts of **climate change** - from rising sea levels to longer pollen seasons to the economic prospects of ski resorts - will play out across the nation.

"There are no regions that escape some mix of adverse impacts," wrote authors Jeremy Martinich and Allison Crimmins.

The report summarizes years of work by scores of scientists as part of the EPA's **Climate Change** Impact and Risk Analysis.

For each type of impact, researchers modeled the effects of **climate change** under a scenario in which the world took no serious actions to reduce emissions. They also considered a more moderate scenario - one not ambitious

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enough to meet international goals of keeping warming to about 1.5 degrees C above pre-industrial levels but aggressive enough to limit global temperature rise to about 2 degrees C.

Some of the results came out in the Fourth National **Climate** Assessment, released last year.

Among them were the sobering projections that damage to coastal property, primarily on the Gulf and East coasts, will reach \$120 billion per year by 2090; lost labor productivity due to hotter temperatures, particularly in the South and Midwest, will cost \$155 billion per year; and deaths from extreme heat waves and cold snaps will equal \$140 billion per year.

When asked about those conclusions in November 2018, Trump told reporters, "I don't believe it."

The new study offers an even richer picture of the EPA's analysis, said Ekwurzel, who contributed to the **climate** assessment. It shows how many of the effects of **climate change** break down by state - and often by individual county or watershed.

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: CLIMATOLOGY (91%); SCIENCE & TECHNOLOGY (91%); **CLIMATE CHANGE** (90%); CONSERVATION (90%); EARTH & ATMOSPHERIC SCIENCE (90%); ECOLOGY & ENVIRONMENTAL SCIENCE (90%); ECONOMY & ECONOMIC INDICATORS (90%); EMISSIONS (90%); ENVIRONMENTAL DEPARTMENTS (90%); EXPERIMENTATION & RESEARCH (90%); RESEARCH REPORTS (90%); EXTREME TEMPERATURES (89%); GLOBAL WARMING (89%); ENVIRONMENT & NATURAL RESOURCES (78%); GREENHOUSE GASES (78%); HEAT WAVES (78%); POLLUTION & ENVIRONMENTAL IMPACTS (78%); COASTAL AREAS (77%); ECONOMICS (77%); NEGATIVE NEWS (77%); GROSS DOMESTIC PRODUCT (76%); AIR POLLUTION (72%); SOCIETY, SOCIAL ASSISTANCE & LIFESTYLE (72%); ECONOMIC NEWS (68%); PRODUCTIVITY (66%); WRITERS (61%); HEAT STRESS DISORDERS (60%); WATER CRISES & SHORTAGES (57%)

Organization: US ENVIRONMENTAL PROTECTION AGENCY (84%); UNION OF CONCERNED SCIENTISTS (54%)

Industry: EMISSIONS (90%); GLOBAL WARMING (89%); WRITERS (61%); RESORTS (51%)

Geographic: MIDWEST USA (78%); UNITED STATES (92%)

Load-Date: April 10, 2019