

[View this email in your browser](#)

Climate & Health News

Newsletter of the JHU-UPF Public Policy Center Climate Change Working Group



JOHNS HOPKINS
UNIVERSITY

PUBLIC POLICY CENTER



upf. Universitat
Pompeu Fabra
Barcelona

NOVEMBER 2017

Welcome to the November edition of *Climate and Health News*!

To watch for this month -- the American Public Health Association (APHA) annual meeting will look at how “Climate Changes Health.” See the Science section below for several articles on the topic in the APHA’s journal in advance of the meeting, including [one written by PPC colleagues](#).

And be sure to review the just-released [2017 report](#) in The Lancet’s “Tracking Climate and Health” series, which provides a new summary of impacts and sets out 40 indicators to monitor climate change and health. See also interesting news of solutions emerging from city networks, including [12 large cities that aim to be emissions-free](#) and [nature-based solutions in China’s urban areas](#).

Finally, the PPC hosts this month the annual [Fall Institute](#) of the JHSPH Health Policy and Management Department, where a growing number of courses now address the impacts of climate change on population health.

See you next month.

NEWS

EXTREME HEAT, DROUGHT, WILDFIRES

reached 41 people, thousands more are homeless. Public health officials warn that fire debris may be toxic or hazardous, potentially including building materials that contain asbestos and lead as well as any pesticides or chemicals that burned. -- *Press Democrat*

[Wildfires a greater risk in urban areas than perceived in the US](#)

The US Forest Service reports that more than a third of American homes, some 44 million residents, are in what firefighters call the "Wildland Urban Interface," where they risk burning in wildfires. Many people who have no idea they face a wildfire threat. --*New York Times*



An aerial view of homes destroyed by fires in Santa Rosa, Calif., this month. Credit: Jeff Chiu/Associated Press

[Cape Town water reservoirs near zero](#)

Cape Town, South Africa's second largest city moves to ration water through water "blackouts" for its 4 million residents as city reservoirs near zero capacity, in response to historic drought. -- *Circle of Blue*



After three consecutive dry years, Cape Town resorts to water “blackouts” to conserve water. [Photo by Public Domain.](#)

HURRICANES, STORMS & FLOODING

[Five years after Hurricane Sandy, is New York better prepared?](#)

Much of the region’s inundated infrastructure has been repaired and some of it has been improved. But most of the big plans to stormproof New York City remain just plans. And the city has continued to advance toward the water. – *New York Times*



Con Ed has installed curtains made of Kevlar around the power plant that can be deployed to prevent flooding. Credit Todd Heisler/The New York Times

[Nurses in Puerto Rico see first-hand health crisis](#)

One observer found “children, hungry and sick, clinging to their crying mothers, who were begging for food to feed their families. Frail elders exposed to excessive heat and rain,” forced to “suffer dehydration or drink from contaminated rivers and streams...” – *Climate Central*.

[Solutions: Tesla brought solar to a hospital in Puerto Rico](#)

Solar panel and battery manufacturer Tesla announced it had restored power to a children’s hospital in Puerto Rico. -- *Vox*



Tesla solar panels will provide power to a children's hospital, Hospital del Niño, in Puerto Rico. *Tesla*

CITIES AND LOCAL GOVERNMENTS

[Solutions: Twelve cities plan for emissions-free neighborhoods](#)

The mayors of Auckland, Barcelona, Cape Town, Copenhagen, London, Los Angeles, Mexico City, Milan, Paris, Quito, Seattle and Vancouver (roughly 80 million combined population) aim to buy only zero-emissions buses starting in 2025, and make major portions of their metros fossil fuel-free by promoting walking, cycling and public transportation and limiting the use of private vehicles. – *UK Independent*



Los Angeles, Paris, New York City, Barcelona and Milan are among the major cities aiming to expand green, urban spaces REUTERS

[US cities most vulnerable to flooding and sea-level rise](#)

Of the 25 US cities most vulnerable to coastal flooding, New York City is number 1 and Miami number 2, while 22 others are in Florida. Of the 25 cities projected to be most vulnerable to flooding in 2050, New York remains number 1, Miami number 3, and 20 are in Florida, but Boston and Virginia Beach join the list. – *Climate Central*

[Solutions: With storms intensifying and oceans on the rise, Boston weighs strategies for staying dry](#)

Today a Category 1 hurricane with a few feet of surge on top of a high tide could flood a quarter of a million Boston residents. A multi-billion-dollar seawall similar to the Thames Barrier is among climate adaptation options under consideration. – *Ensis*

[Solutions: Sponges, urban forests and air corridors: how nature can cool cities](#)

Thirty Chinese cities are piloting efforts to trap, store and filter more water (and release when needed for use) as a means to combat climate change. The goal is to turn more than 80% of China's cities to "sponges" by 2030. Flood control and water conservation are goals, but reduced urban heat island is also a co-benefit. Other pilot efforts are constructing urban forests, and green ventilation corridors. – *Thomson Reuters*

[Solutions: How cities are defending themselves against sea-level rise](#)

From Los Angeles' cool paving to London's Thames Barrier Floodgate, to China's "sponge cities" the answer, some cities have decided, is a mixture of hard and soft barriers; green infrastructure to capture rain and absorb storm water; temporary storage space for runoff; and drastically increased pumping measures. – *Washington Post*



FILE - This Thursday, May 8, 2014 file photo shows a sector gate on the Thames Barrier reopening for one of its monthly tests on the River Thames in east London. It is designed to block exceptionally high tides or storm surges from the North Sea. (Matt Dunham, File/Associated Press)

POLICY AND RESEARCH REPORTS

[Climate change already bringing disease, air pollution, heatwaves](#)

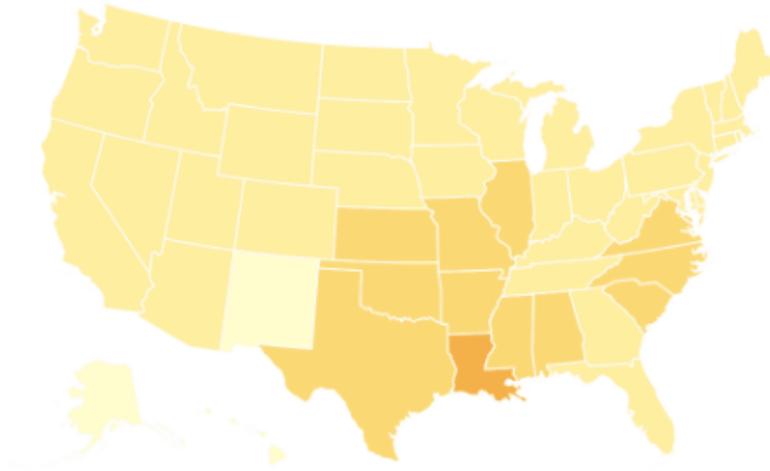
The health of hundreds of millions of people worldwide is being damaged by climate change, according to the new Lancet report, [Tracking the connection between public health and climate change](#). The [report](#) tracks 40 indicators and concludes heatwaves are affecting many more vulnerable people particularly those over 65; global warming is boosting the transmission of dengue fever, the world's most rapidly spreading disease; air pollution from fossil fuel burning is causing millions of early deaths each year; damage to crops from extreme weather threatens hunger for millions of children. – *The Guardian*



Pakistani heatstroke victims at a government hospital in Karachi, June 2015. The report found a huge increase in the number of people over 65 who are exposed to extreme heat. Photograph: Asif Hassan/AFP/Getty Images

[Hidden costs of climate change](#)

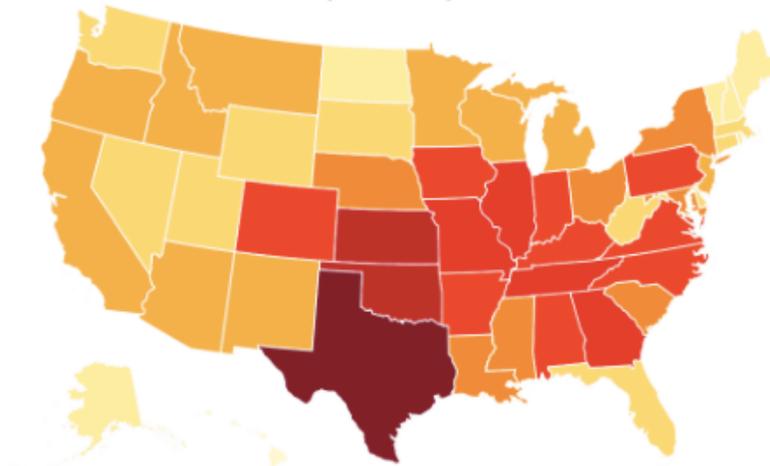
A new report from the Universal Ecological Fund [The Economic Case for Climate Action in the United States](#) finds the health impacts of fossil fuel burning has cost the US \$240 billion per year over the past 10 years. Health costs plus losses from hurricane damage in the US suggest costs of \$360 billion per year. – *National Geographic*



0 events 1-5 events 6-10 events 11-15 events

Source: NOAA NCEI. U.S. Billion-Dollar Weather and Climate Disasters (2017). <https://www.ncdc.noaa.gov/billions>

Extreme weather events causing at least \$1 billion in economic losses by state: Last decade (2007-2016)



0 events 1-5 events 6-10 events 11-15 events 16-20 events 21-25 events 26-30 events 31-35 events >40 events

Source: NOAA NCEI. U.S. Billion-Dollar Weather and Climate Disasters (2017). <https://www.ncdc.noaa.gov/billions>

EXTREME HEAT, DROUGHT, WILDFIRES

[Systematic Review: The association between ambient temperature and childhood asthma](#)

While there was discrepancy in the significance and shape of the relationship between ambient temperature and childhood asthma, this systematic review (over 20 studies, all in urban areas) concluded that increasing evidence suggests a non-linear relationship between absolute temperature and childhood asthma.

[Mortality during heatwaves 2003-2015 in Frankfurt: 2003 heatwave and implications](#)

[The impact of daily temperature on renal disease incidence: an ecological study](#)

[Current and projected burden of disease from high ambient temperature in Korea](#)

[Relationship between emergency care use, temperature, and pollution index in Taiwan](#)

[Classification of heat-related illness symptoms among Florida farmworkers](#)

[Impact of drought on crime in California: A synthetic control approach](#) [An assessment of climate change impacts on Los Angeles hospitals, wildfires highest priority](#)



Richard Vignone and his neighbor Joe Montano greet one another after returning to their Lakefield homes on Monday (KENT PORTER/The Press Democrat)

[Projecting temperature-related years of life lost under different climate change scenarios in Tianjin, China](#)

[Is ambient temperature associated with risk of infant mortality? A multi-city study in Korea](#)

[Projected temperature-related deaths in ten large U.S. metropolitan areas under different climate change scenarios](#)

INFECTIOUS DISEASE

Review: [Global hotspots and correlates of emerging zoonotic diseases](#)

After accounting for reporting effort, we show that zoonotic EID risk is elevated in forested tropical regions experiencing land-use changes and where wildlife biodiversity (mammal species richness) is high. We present a new global hotspot map of spatial variation in our zoonotic EID risk index, and partial dependence plots illustrating relationships between events and predictors.

Solutions: [Environmental suitability of Vibrio infections in a warming climate: An early warning system](#)

This study monitored and projected the suitability of marine conditions for Vibrio infections in Sweden (Baltic Sea) under climate change scenarios. The estimated exposure-response relationship for Vibrio infections at a threshold of 16°C revealed a relative risk (RR)=1.14 (95% CI: 1.02, 1.27; p=0.024) for a lag of 2 weeks. This platform can serve as an early warning system as the risk of further Vibrio infections increases in the 21st century due to climate change.

[Emerging mosquito species in Germany-a synopsis after 6 years of mosquito monitoring \(2011-2016\)](#)

Review: [Climate change and vector-borne diseases of public health significance](#)



Patients queue for treatment following an outbreak of dengue fever in Bhopal, India this month. Photograph: Sanjeev Gupta/EPA

[Effect of climatic variability on childhood diarrhea and its high risk periods in northwestern parts of Ethiopia](#)

AIR QUALITY

[Review: The interplay of climate change and air pollution on health](#)

Climate change could alter the dispersion of primary pollutants, particularly particulate matter, and intensify the formation of secondary pollutants, such as near-surface ozone. Results are highly dependent on the climate change scenario used and on projections of future air pollution emissions, with relatively high uncertainty. Studies primarily focused on mortality; projections on the effects on morbidity are needed.



Los Angeles (stock image). Visible pollutants can react with sunlight to create invisible ozone pollution, which frequently reaches unhealthy levels in major cities like Los Angeles. New research indicates that the pollution may worsen in coming decades due to chemical reactions in the air associated with climate change. *Credit: © trekandphoto / Fotolia*

[Solutions: A new air quality monitoring and early warning system](#)

Air pollution in many countries is worsening with industrialization and urbanization, resulting in climate change and affecting people's health, thus, making the work of policymakers more difficult. We propose a new air quality monitoring and early warning system, including an assessment module and forecasting module, verified with pollutant data for two cities in China, Xi'an and Jinan, using PM10 and PM2.5 respectively.

[Comparative long-term trend analysis of daily weather conditions with daily pollen concentrations in Brussels, Belgium](#)

[Perception of climate change in patients with chronic lung disease](#)

OTHERS: PRECIPITATION, CO-BENEFITS, NATURAL CLIMATE SOLUTIONS

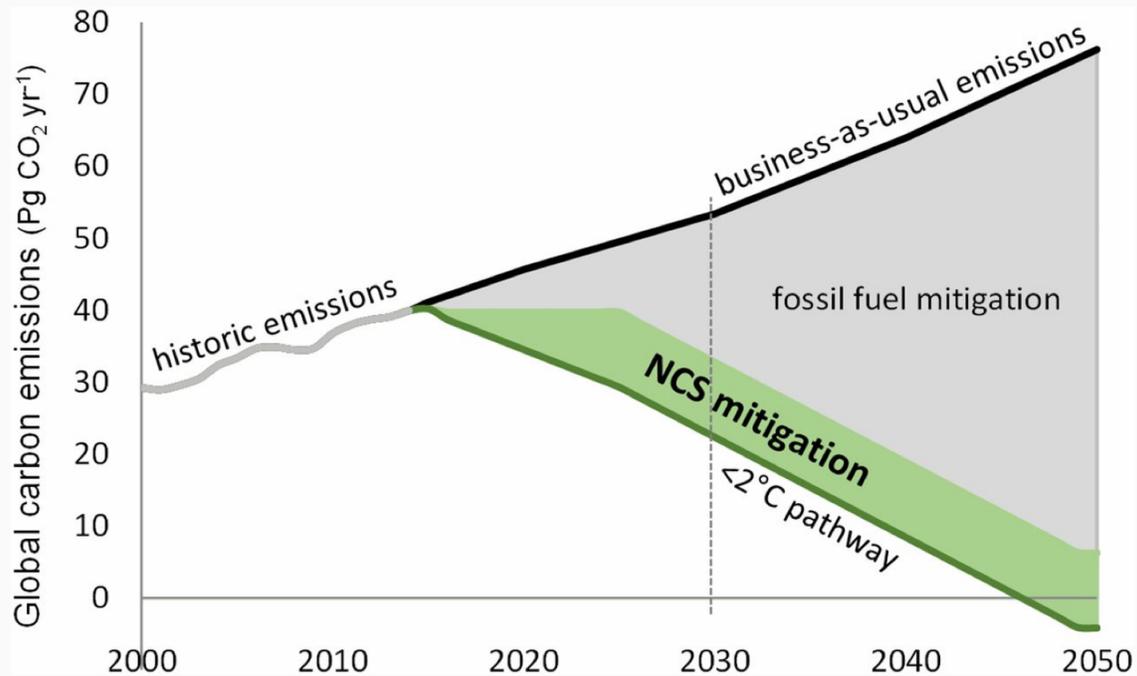
[Systematic Review: Global warming and obesity](#)

This paper constructed a conceptual model linking global warming and the obesity epidemic. The fossil fuel economy, population growth and industrialization impact land use and urbanization, transport and agriculture contribute to both greenhouse gas emission and obesity. Policies that endorse deployment of clean and sustainable energy sources and urban designs that promote active lifestyles are likely to alleviate the societal burden of global warming and obesity.

[Solutions: Natural climate solutions](#)

We identify and quantify natural climate solutions: 20 conservation, restoration, and improved land management

2030 for a >66% chance of holding warming to below 2 °C.



Contribution of natural climate solutions (NCS) to stabilizing warming to below 2 °C. Historical anthropogenic CO₂ emissions before 2016 (gray line) prelude either business-as-usual (representative concentration pathway, scenario 8.5, black line) or a net emissions trajectory needed for >66% likelihood of holding global warming to below 2 °C (green line). The green area shows cost-effective NCS (aggregate of 20 pathways), offering 37% of needed mitigation through 2030, 29% at year 2030, 20% through 2050, and 9% through 2100. Bronson W. Griscom et al. PNAS 2017;114:11645-11650.

[Extreme precipitation and emergency room visits for influenza in Massachusetts: a case-crossover analysis'](#)

[Climate change-induced precipitation increase reducing potential for solar UV to inactivate pathogens in surface waters](#)

[Climate, birth weight, and agricultural livelihoods in Kenya and Mali](#)

[Climate change-contaminant interactions in marine food webs: Toward a conceptual framework](#)

[Solutions: Using local knowledge and sustainable transport to promote a greener city: The case of Bucharest, Romania](#)

[Transport and public health in China: the road to a healthy future](#)

POLICY AND RESEARCH

[The APHA's 2017 Year of Climate Change and Health: Time for Action](#)



[Estimated global disease burden from US health care sector greenhouse gas emissions](#)

[The US health care sector's carbon footprint: Stomping or treading lightly?](#)

[Global to local: Public health on the front lines of climate change](#)

[Bridging climate, health, and equity: A growing imperative](#)

[The need for climate and health education](#)

[Climate change, public health, and policy: A California case study](#)



Copyright © 2017 Climate Change and Wellbeing Research Group, All rights reserved.

Want to change how you receive these emails?

You can [update your preferences](#) or [unsubscribe from this list](#)

MailChimp

Climate & Health News Editor: Mary Sheehan (msheeh10@jhu.edu).

Managing Editor: Eileen McRae (emcrae4@jhu.edu)