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Climate & Health News

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



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Welcome to the first half August *Climate and Health News*. Perhaps it's just the hot, humid Northern hemisphere summer, but extreme heat continues to dominate news and research; see the [report](#) on poorly recognized already-occurring impacts of heat on health, and a [projection](#) of heat-related deaths in 10 large US cities.

In policy developments, Britain joins others who will [ban](#) gasoline and diesel car sales by 2040; California's Marin and San Mateo Counties have filed a [lawsuit](#) against oil companies over sea-level rise; and Columbia Earth Institute's James Hansen and colleagues estimate children face a [bill](#) of \$535 trillion for climate change clean-up.

Actor and filmmaker Robert Redford has added his voice to urge climate change activism; see his [editorial](#) in *Time*. And Watch for Al Gore's new film, [An Inconvenient Sequel: Truth to Power](#), released last week.

This month please also take a moment to complete a short HIA survey being compiled by our colleagues at IS Global by clicking here: https://goo.gl/forms/T9I5K5AqE_R4deKqI3 The survey seeks to obtain an international perspective of knowledge surrounding "Health Impact Assessment" from the members of Health Professionals Associations. Many thanks!

NEWS

EXTREME HEAT & DROUGHT

[Climate change Is killing us right now](#)



AFP/Getty Images

[Worst drought in 16 years threatens food supplies in North Korea](#)

North Korea is facing severe food shortages due to the worst drought since 2001 with food imports needed to ensure children and the elderly do not go hungry, the United Nations' food agency said on Thursday. *MSN News*



[Thirsty city: after months of rationing Nairobi may run dry](#)

Water-rationing has been going on in Kenya's capital since 1 January, and supplies might run dry by September. For the city's 3.4 million residents, the possibility of the entire city running dry is beyond their control; most soldier on, storing water in jerry cans when taps flow. But the problem is getting harder to ignore. On 14 July, Nairobi City County declared a cholera outbreak, citing among causes "irregular supply of potable water". *The Guardian*



The Nairobi skyline in the background as hartebeests graze at the national park. Photograph: Baz Ratner/Reuters

[The world's most-populated city, Shanghai, just had its hottest day in recorded history](#)

The 24-million-plus inhabitants of Shanghai last month witnessed the temperature skyrocket to 105.6 degrees (40.9 Celsius), its hottest day ever recorded. The Chinese city, which has more people than any in the world, has tracked temperatures since 1872. *Washington Post*



Children cool off from hot weather in a fountain in Shanghai on Friday. (Aly Song/Reuters)

[How a warming climate will trouble air travel](#)

A new study of 19 world airports finds that more frequent heat waves could force up to 30 percent of airplanes to delay takeoffs in the coming decades, and fuel capacities and weight on aircraft will have to be reduced by as much as 4 percent on the hottest days. For a plane with 160 seats, that would typically mean cutting a dozen passengers. Airports with shorter runways and in hotter countries will have the most difficulty. *NYTimes*

EXTREME PRECIPITATION

[How Climate Change Will Worsen Algae and Dead Zones](#)

Intensifying rainfall linked with warmer temperatures is increasing nitrogen pollution in rivers and oceans, exacerbating algae growth and expanding dead zones in coastal areas. If countries continue to pump out greenhouse gases, a new study shows the amount of nitrogen going into American rivers could surge 19 percent by the end of the century – with water quality in the Northeast, Upper Mississippi River Basin and Great Lakes suffering the most. *Inside Climate News*



Water quality in the Northeast, Upper Mississippi River Basin and Great Lakes Basin are at the highest risk in the U.S. as nitrogen runoff increases with more intense rainfall, a new study shows. Credit: Robert Ashworth/CC-BY-2.0

[Floods, reef loss and migration: Asia's future on a hotter planet](#)

Of the top 20 cities with the largest projected increase in annual flood losses between 2005 and 2050, 13 are in Asia. A new report by the Asian Development Bank and Potsdam Institute for Climate Impact Research outline risks in Asia. *Thomson Reuters*



A man makes his way with a wooden boat through a flooded area in Liuzhou, Guangxi province, China July 2, 2017. REUTERS/Stringer

OCEANS

[Madagascar: No more fish? We'll farm seaweed instead](#)

The collapse of fisheries, decline of coral reefs and drought are all hitting Madagascar hard. But fishermen are

POLICY

[Marin, San Mateo counties sue Big Oil over climate change](#)

Two Bay Area counties and a Southern California city concerned about rising sea levels sued 37 of the world's biggest oil and coal companies, claiming the fossil fuel giants should pay for damages wrought by climate change — a first-of-its-kind challenge that some liken to the high-stakes litigation of the tobacco industry in the 1990s. *SFGate*

[New York Mayor de Blasio calls on mayors to 'push a little harder' on climate change](#)

Delivering opening remarks at the 100 Resilient Cities' Global Resilience Summit, de Blasio reflected on the impact of the Superstorm Sandy of 2012 and stressed that President Trump's decision to withdraw from the Paris climate accord demonstrated the need for mayors to take a bigger role on climate change. *NY Observer*

[More New Yorkers opting for life in the bike lane](#)

Biking has become part of New York's commuting infrastructure as bike routes have expanded and a fleet of 10,000 Citi Bikes has been deployed to 600 locations. Today there are over 450,000 daily bike trips, an increase that has outpaced population and employment growth, according to city officials. About one in five bike trips is by a commuter. *NY Times*



On the Brooklyn Bridge. Today there are more than 450,000 daily bike trips in the city, up from 170,000 in 2005, an increase that has outpaced population and employment growth, according to city officials. Credit: Justin Gilliland/The New York Times

[Electric cars? Britain to ban new petrol and diesel cars from 2040](#)

Britain will ban the sale of new petrol and diesel cars from 2040 in an attempt to reduce air pollution. The mayors of Paris, Madrid, Mexico City and Athens have said they plan to ban diesel vehicles from city centers by 2025, while the French government also aims to end the sale of new gasoline and diesel vehicles by

[California Legislature extends state's cap-and-trade program in rare bipartisan effort to address climate change](#)

California legislators voted to extend until 2030 the state's cap and trade program, the only one of its kind in the U.S. and has been considered an international model for using financial pressure to prod industry to reduce emissions. *LATimes*

[World's young face \\$535 trillion bill for climate](#)

"Continued high fossil fuel emissions would saddle young people with a massive, expensive cleanup problem and growing deleterious climate impacts, which should provide incentive and obligation for governments to alter energy policies without further delay," says James Hansen of the Columbia Earth Institute in the US, who led the study. *Climate News Network*



New York, September 2014: Young people protest against climate change. *Image: By Thomas Good via Wikimedia Commons*

SCIENCE

EXTREME HEAT

[REVIEW: Heat Exposure and Maternal Health in the Face of Climate Change](#)

Systematic review of recent literature that investigates increasing heat and extreme temperatures on pregnancy outcomes globally finds evidence that temperature extremes adversely impact changes in length of gestation, birth weight, stillbirth, and neonatal stress.

[Health Impacts of Climate Change-Induced Subzero Temperature Fires](#)

Four recent subzero temperature Arctic fires are studied with respect to health impacts. The health impacts range from stress related to loss of jobs, psychological effects of lost possessions, exposure to smoke and heat as well as immediate, or delayed, loss of lives. The combination of subzero temperature dry weather, strong



Matt Snyder / Alaska Division of Forestry / AP

[Exploring the association between heat and mortality in Switzerland between 1995 and 2013](#)

We assessed the effect of heat on daily mortality in eight Swiss cities and population subgroups from 1995 to 2013 using different temperature metrics. Significant temperature-mortality relationships were found for all temperature indicators. Mortality risks were higher at the beginning of the summer, with the age group > 74 years remaining the population at highest risk.

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

Across cities in Korea, we found significantly positive associations between ambient temperature during 1 month before death or 2 weeks before death and infant mortality from total or SIDS. The overall hazard ratio of infant mortality from total deaths and SIDS for a 1°C increase during 1 month before death was 1.52 (95% CI, 1.46-1.57) and 1.50 (95% CI, 1.35-1.66), respectively.

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

In each of 10 metropolitan areas, projected future temperatures were associated with lower rates of cold-related deaths and higher rates of heat-related deaths. Under the higher-emission RCP 8.5 scenario, 8 of the 10 metropolitan areas are projected to experience a net increase in annual temperature-related deaths per million people by 2086-2095, ranging from a net increase of 627 deaths per million in Los Angeles to a net decrease of 59 deaths per million in Boston.

[Characterizing prolonged heat effects on mortality in a sub-tropical high-](#)

consecutive hot nights contribute to higher mortality risk while the number of consecutive hot days does not have significant association with excess mortality.



A thick fog due to pollution blankets the centre of Hong Kong. The levels of CO₂, methane, and nitric oxide in the atmosphere have reached unprecedented levels © Alex Ogle/AFP/Getty Images

[Development and Validation of a Behavioural Index for Adaptation to High Summer Temperatures among Urban Dwellers](#)

This study aimed at developing and validating a 12-behavior summer heat adaptation index for residents of the 10 largest cities in the province of Québec, Canada, that distinguishes between individuals who adapt well to high temperatures and those who do not adapt as well.

INFECTIOUS DISEASES

[Brave New Worlds: The Expanding Universe of Lyme Disease](#)

Lyme disease is the most common reported tick-borne illness in the United States and is prevalent throughout much of central Europe. In recent years, the worldwide burden of Lyme disease has increased and extended. We discuss the trends for increasing Lyme disease, and examine the factors driving Lyme disease expansion, including the effect of climate change.



Source: en:User:Jongarrison

[Airborne Bacterial Communities in Three East Asian Cities of China, South Korea, and Japan](#)

The global diversity of airborne bacteria has not been studied, despite its importance in human health and climate change. We focus on the diversity of airborne bacteria and their correlations with meteorological/environmental conditions in China, South Korea, and Japan. Beijing (China) had more diverse airborne bacteria, followed by Seoul (South Korea) and Nagasaki (Japan), and seasonal variations were observed. Among meteorological/ environmental variables, temperature and humidity were highly correlated with the diversity of airborne bacteria on the measurement day.

WATER

[Climate Change Impacts on Harmful Algal Blooms in U.S. Freshwaters: A Screening-Level Assessment](#)

Cyanobacterial harmful algal blooms have serious adverse effects on human and environmental health. Our projections indicate that these harmful algal bloom concentrations are likely to increase primarily due to water temperature increases tempered by increased nutrient levels resulting from changing demographics and climatic impacts on hydrology that drive nutrient transport. The largest increases occur in the Northeast U.S., while the greatest impacts to recreation, in terms of costs, are in the Southeast.



English Wikipedia, original upload 13 August 2005 by Intersofia

CITIES

[REVIEW: Biometeorology for cities](#)

Biometeorologists study the impact of weather and climate on living creature. We reviewed articles published in the International Journal of Biometeorology over 1974-2017 to understand if and how biometeorologists have researched urban areas. We found interest in urban areas has rapidly accelerated; urban-oriented articles accounted for more than 20% of all articles published in in the most recent decade, and span five themes: measuring urban climate, theoretical foundations and models, human thermal comfort, human morbidity and mortality, and ecosystem impacts.

RESEARCH

[REVIEW: The past and future in understanding the health risks of and responses to climate variability and change](#)

Climate change and health was established as a formal field of endeavor in the early 1990s, with the number of publications increasing since the mid-2000s. IPCC assessment reports indicate progress in understanding the magnitude and pattern of the health risks of a changing climate. Current research needs include to: understand how climate and development pathways could interact to alter health risks over time, better understand upstream drivers of climate-sensitive health outcomes, project aggregate health impacts to understand the breadth and depth of challenges that may need to be managed at geographic scales of interest, and project the time of emergence of changes in the geographic range and intensity of transmission of infectious diseases and other climate conditions. Engagement with other sectors is needed to ensure that their mitigation and adaptation activities also promote and protect health and take the health sector's needs into account.



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