

# GLOBAL IMPACT

Columbia's leadership in climate research

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## U.S. Names Columbia as Lead Institution on Climate Risk and Adaptation Assessment in Urban Northeast

The U.S. Department of Commerce and the National Oceanic and Atmospheric Administration (NOAA) have named Columbia University as one of six institutions to lead regional scientific assessments of climate risks and impacts throughout the U.S. Columbia will head the Consortium on Climate Risk in the Urban Northeast (CCRUN), a team of researchers who will focus on climate issues affecting the urban corridor encompassing Boston, New York and Philadelphia.

The University will share with five other institutions a total of \$23.6 million over five years, as part of the Regional Integrated Sciences and Assessments (RISA), part of NOAA's Climate Program, to improve the nation's ability to anticipate and adapt to climate variability and change. The entire award to fund the CCRUN and its efforts is \$3.8 million spanning a five-year period.

The Columbia-led consortium expects to serve stakeholder needs in assessing and managing risks from climate variability and change and disseminating climate-risk information in a coordinated way. The effort will aim to address the complex challenges associated with densely populated, highly interconnected urban areas, including heat islands, poor air quality and intense coastal development in diverse and, in some cases, fragile socioeconomic communities.

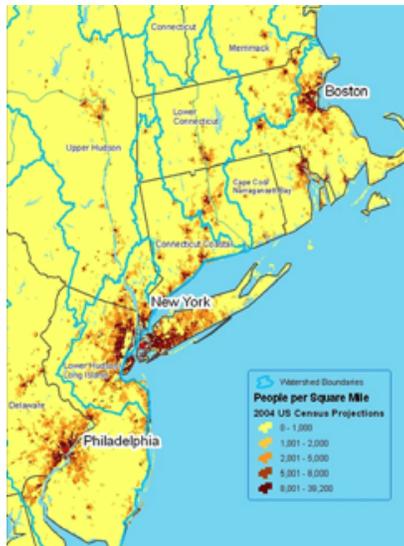
The consortium builds on the long-established expertise of researchers from across the University, many of them part of Columbia's [Earth Institute](#), working with local city governments to understand, assess and prepare for climate-related risks. In New York City, researchers predict that, as a result of climate change, temperatures are expected to increase up to five degrees Fahrenheit by 2050, and sea level to rise at least two feet by the 2080s. These impacts could affect public health and infrastructure such as electricity demand and transmission and water supply. While it is difficult to know with absolute certainty just how climate change will affect urban areas, using science to better understand the risks and prepare for these uncertainties is a critical part of the consortium's mission.

"It is very exciting that six units of Columbia's Earth Institute will be working together with colleagues and stakeholders to provide co-developed climate information for decision makers in the Northeast Urban Corridor," said [Cynthia Rosenzweig](#), head of the Climate Impacts Group and senior research scientist at the [NASA/Columbia Goddard Institute for Space Studies](#) and the [Center for Climate Systems Research](#). She is also one of three principal investigators from Columbia leading the effort. In addition to Rosenzweig, the other two principle investigators are [Upmanu Lall](#), the Alan and Carol Silberstein Professor of Earth & Environmental Engineering and Civil Engineering and [Patrick Kinney](#), professor of environmental health sciences at the [Mailman School of Public Health](#).

CCRUN plans to conduct regional climate risk research that integrates socioeconomic and environmental information, specific needs of local institutions and climate analyses to assist decision-makers. Such an approach is crucial for understanding the way that urban risks are networked and for designing risk management strategies for diverse communities and multiple jurisdictions.

"In the northeast urban corridor, transportation, energy, communications, water and waste systems and their vulnerabilities are highly integrated, so climate risk management needs to be integrated as well," said [Radley Horton](#), CCRUN's research coordinator and an associate research scientist at Columbia University's Center for Climate Systems Research. Collaborations are already contributing to specific adaptations, including the raising of critical infrastructure in a wastewater treatment plant in New York City.

"CCRUN will develop strategies for assessing and managing risks of multi-year droughts and severe storms using scenarios developed to look at the past and projected future climate," said Lall, who is



**Population centers in the Northeast urban corridor**

Image credit: Center for International Earth Science Information Network

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*National Geographic*, April 5  
[Oil-Eating Bacteria Engineered](#)

*The Economist*, Dec. 9  
[Vertical Farming: Does It Really](#)

also the director of the [Columbia Water Center](#), “and to help small and large urban utilities in the region develop resilience to climate risk.”

Other Columbia researchers on the CCRUN team are [Robert Chen](#), director of the [Center for International Earth Science Information Network](#); [Yochanan Kushnir](#), Lamont research professor in the [Lamont-Doherty Earth Observatory](#); and [Shiv Someshwar](#), research scientist at the [International Research Institute for Climate and Society](#). The CCRUN team also includes researchers from four additional institutions: University of Massachusetts Amherst, City College/CUNY, Stevens Institute of Technology and Drexel University.

Other institutions awarded RISA grants representing specific regional areas of the U.S. include: Oregon State University, University of Michigan and Michigan State University, the East-West Center in Hawaii, the University of Florida and the University of Colorado.

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