
THE POLITICS AND BUSINESS OF CLIMATE CHANGE

ADAPTATION:

New research initiative aims at making cities more resilient to climate change

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The National Science Foundation has bankrolled a \$12 million initiative called the Urban Resilience to Extreme Weather-Related Events Sustainable Research Network (UREx SRN), which launched Friday. The five-year effort is a collaboration between Arizona State University and the Forest Service and brings together experts from different fields to explore how to make cities more resilient to extreme weather and other climate change threats.

Cities are not just recognized as major contributors to greenhouse gases emissions but also are disproportionately affected by extreme weather events, being densely packed clusters of human population. UREx SRN is a wide-reaching collaborative effort to build a body of knowledge that will inform the reimagining of cities better adapted to deal with these catastrophes.

Extreme weather phenomena like storm surges in coastal cities, heat waves, droughts and hurricanes are believed to be occurring with increasing frequency in recent years, exposing vulnerabilities in the way cities today are designed and function.

"The failing in these extreme weather events was that people built and trained themselves to think that events of this magnitude will never happen," said Charles Redman, director of the School of Sustainability at Arizona State University, in a statement. "It happens now, and we can expect them to happen more frequently in the future!"

The project will be steered by a five-member core committee led by Redman, an anthropologist at ASU. He will be joined by Nancy Grimm, an ecologist at ASU; Mikhail Chester, an engineer at ASU; P. Timon McPhearson, an ecologist from the New School in New York City; and Tischa Munoz-Erickson, a scientist with the Forest Service.

This network will "provide methods and tools to help cities rethink their urban infrastructure and develop novel solutions that put a city on a more sustainable path," said Elizabeth Larry, who leads urban research at the Forest Service, in an emailed response.

9 cities involved

The research network will be active in nine cities, mostly concentrated in the United States, with a handful in Latin America. The core group will coordinate with 50 researchers from 15 institutions in Portland, Ore.; Phoenix; Syracuse, N.Y.; New York City; Baltimore; Miami; Hermosillo, Mexico; San Juan, Puerto Rico; and Valdivia, Chile. But as the initiative unfolds, the principal collaborators hope to rope in other researchers, a host of students, city planners, industry representatives, nongovernmental organizations and other stakeholders to move the ideas forward.

The engagement of scientists from both the Americas is being touted as one of the strengths of the undertaking. "Cities that represent alternative cultural backgrounds can offer new ideas about socio-ecological-technological infrastructure," Georgia Kosmopoulou, program director in economics at the National Science Foundation, said in a release.

The research carried out in Puerto Rico, Mexico and Chile will "capture Latin American attitudes in order to understand the cultural value placed on environmental amenities and financial efficiency," a release from ASU noted. The Latin America connection is important, Redman suggested, not just as a way of understanding how different cultures respond to challenges but also because of the growing Latino influence in American cities.

But the larger goal remains to envision cities of the future, across the globe.

"From the first day of designing something like highways and power grids we're going to talk about how Earth's systems work and how human institutions react. And we're going to build for that," Redman said in the statement. "We're going to build infrastructure to be more resilient and equitable and not just more efficient."

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