

EXTREME HEAT RESILIENCE ALLIANCE

With rising temperatures – particularly in cities – inflicting negative health and economic impacts across the globe, the Adrienne Arsht-Rockefeller Foundation Resilience Center formed the *Extreme Heat Resilience Alliance* to protect people from extreme heat. The growing frequency, duration, and intensity of heat waves – which align with the last decade being the hottest ever recorded – will affect more than 3.5 billion people by 2070, 1.6 billion of whom will live in dense urban areas, according to some projections. By the turn of the next century, without preventive measures, projections suggest that heat waves may affect 75% of people on the planet.

As temperatures rise, the urban poor will likely remain susceptible, suffering from a combination of medical conditions (e.g., cardiovascular or respiratory diseases) that are exacerbated by heat, and living in communities with insufficient means to reduce the effects of high heat (e.g., inadequate resources to invest in tree cover).

The result of these rising threats and vulnerabilities is the need for a concerted effort to address impacts of rising temperatures. Building on the results of an Adrienne Arsht-Rockefeller Foundation Resilience Center convening at The Rockefeller Foundation's Bellagio Center in December 2019, the Extreme Heat Resilience Alliance (EHRA) represents a multi-sectoral coalition committed to achieving results.

***Our Vision: A world without heat-related deaths and loss of livelihoods.
Our Goal: To protect lives and livelihoods from extreme urban heat with a focus on
the most vulnerable people and communities.***

Creation of EHRA reflects widespread agreement that a lack of awareness of heat risks and impacts among decision makers is a critical problem. Another barrier to mitigating heat risk is a lack of targeted policies and formalized governance around extreme heat. For cities that have identified extreme heat as a key risk, lack of heat event cost data and available funding both for long-term heat-reduction investments as well as for short-term preparation and response to extreme heat represents yet another major roadblock.

EHRA is comprised of global city leaders, experts in public health, finance, humanitarian assistance, disaster management, climate science and risk, insurance and public infrastructure. Further, the Alliance recognizes the imperative of science-based decision-making and will be supported by expert scientists from a range of fields and experiences including climate, human health, medicine, social and behavioral science and more. We will focus our collective capabilities and reach through the following workstreams:

- **Educating decisionmakers** linked to vulnerable communities about the risks and impacts of extreme heat and how to reduce them;
- Developing **policy recommendations** to create the enabling conditions for effective heat risk reduction interventions;
- Providing better access to **affordable capital for long-term interventions** and to extreme heat risk transfer products to build physical and financial resilience to heat;
- Implementing replicable, effective **on-the-ground extreme heat reduction interventions**

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Recognizing that heat represents one of the greatest climate-related threats to human health but rarely commands the same attention as more visible disasters such as hurricanes, one of the EHRA's likely first initiatives will be to spearhead the ranking and naming of heat waves. Other key activities may include: providing a standard assessment of the cost of heat waves to cities; creating pre-heat wave, forecast-based public insurance and financing mechanisms; launching a campaign to engage decision makers about reducing the risks of extreme heat to vulnerable people; and building new access to capital for cities to invest in heat-reducing interventions.

The Resilience Center, alongside our partners, proposes to establish the Extreme Heat Resilience Alliance, a working coalition to address extreme urban heat through the following workstreams:

Educating Decisionmakers Linked to Vulnerable Communities

There is widespread agreement that a lack of awareness and understanding of the risk and impacts associated with extreme heat must be addressed in conjunction with meaningful on-the-ground action. Extreme heat is known as the “silent killer” – we must raise awareness about the silent nature of the threat to effectively reduce it. Thus, our first, foundational, workstream for the Alliance will be education of key decisionmakers and stakeholders around extreme heat. This work will include:

- Identification of the gaps in science and knowledge around the impact of extreme heat on the human body
- Research around the health, social, economic, and environmental impacts of heat (e.g., how heat effects water and food, government services, a functioning political system, etc.)
- Quantification of risks and impacts of extreme heat in urban areas, and subsequent education of decision makers around heat risks and impacts in their region
- Identification of key decisionmakers and development of a strategy for a targeted campaign to increase risk-literacy around heat
- Outreach efforts to share research findings and existing guidance to influence and inform policy, investment and behavior change

Policy and Governance

Another key barrier to mitigating heat risk is the lack of targeted policies and formalized governance around the extreme heat issue. Extreme heat is not always identified as a natural disaster or declarable emergency, nor is one government agency usually responsible for addressing extreme heat at various levels of government. As a coalition, we will focus on creating the enabling conditions for policy action on extreme heat by addressing these issues. This work will include:

- Developing guidance to establish well-defined administrative or government ownership of the extreme urban heat threat, or of elements of this threat
- Through changes in policy, both at global and national levels, formalizing the identification of extreme heat as a disaster or emergency, which may include the official naming of heat storms, as hurricanes and cyclones are named, to help better emphasize their deadly impacts
- Identification of best practices and informing new policies to promote clearer, more effective extreme heat governance and increased public funding and action
- A set of sustainable solutions that encompass the innovation that emerges from this coalition in addition to existing solutions that can easily be shared and scaled

Finance and Risk Transfer

For cities that have identified extreme heat as a key risk, lack of available funding both for long-term investments to reduce urban heat as well as for short-term preparation and response to extreme heat events remains a barrier to addressing this risk. Extreme heat response efforts often require cities to use funds allocated to other important efforts, reducing cities’ overall financial resilience. The coalition will seek to create financial and risk transfer products to build financial resilience to heat, which will include:

- For better access to affordable capital, identifying and/or designing innovative financing approaches to unlock resources for undertaking specific, on-the-ground and often long-term interventions that reduce heat risk, such as urban forests and installing cooler surfaces
- Designing risk-transfer parametric products and other solutions, such as a risk pool facility that could offer affordable city-level insurance covering extreme heat events
- Exploring “forecast-based triggers” for insurance products that would pay out before the worst point of an extreme heat event to allow for liquidity for cities to deploy immediate response and preparation activities, such as evacuation of vulnerable populations and cooling station set-up

Implementation of On-the-Ground Extreme Heat Mitigation Measures

Finally, the coalition will support implementation of on-the-ground heat mitigation measures – identified by experts and long-time practitioners in the field – by:

- Leveraging an existing evidence-base of heat interventions to educate decisionmakers and key stakeholders on potential heat-reduction interventions
- Providing technical assistance on implementation projects
- Supporting ongoing initiatives and scaling existing efforts to new locations
- Mobilizing and empowering communities to engage and proactively take effective action toward individual, family and community resilience to extreme heat

EXTREME HEAT RESILIENCE ALLIANCE MEMBERS

CITIES

- City of Athens, Greece*
- City of Chennai, India*
- City of Melbourne, Australia*
- City of Mexico City, Mexico*
- City of Miami, Florida*
- City of Miami Beach, Florida*
- City of Tel Aviv, Israel*

**Member of Resilient Cities Network*

INDIVIDUALS

- **Annette Detken**, Director, Climate Risk Solutions Management
- **Dr. Aaron Bernstein**, Director, Center for Climate, Health, and the Global Environment at Harvard T.H. Chan School of Public Health (Harvard Chan C-CHANGE)
- **Jeff Goodell**, *New York Times* Best Selling Author & Contributing Editor, *Rolling Stone*
- **The Honorable Ricardo Lara**, California Insurance Commissioner (*elected*), California Department of Insurance

ORGANIZATIONS

- **Adrienne Arsht-Rockefeller Foundation Resilience Center at the Atlantic Council**
- **American Forests**
- **Bechtel**
- **CCRIF SPC**
- **The Centre for Disaster Protection** (*Quality Assurance Partner*)
- **City Climate Finance Leadership Alliance**
- **Climate Policy Initiative**
- **Climate Resolve**
- **ETH Zurich, Weather & Climate Risks Group**
- **Global Infrastructure Basel**
- **International Federation of Red Cross and Red Crescent Societies** (*including representation from the Red Cross Red Crescent Climate Center & the Global Disaster Preparedness Center*)
- **Insurance Development Forum**
- **Resilient Cities Network**
- **The Risk-informed Early Action Partnership (REAP)**
- **The Rockefeller Foundation**
- **Swiss Re**
- **University of Pennsylvania, Cities Climate-Resilient Infrastructure Financing Initiative**

EHRA HEAT HEALTH SCIENCE ADVISORY PANEL

- **Dr. Caspar Ammann**, Project Scientist III, National Center for Atmospheric Research
- **Dr. Aaron Bernstein**, Director, Center for Climate, Health, and the Global Environment at Harvard T.H. Chan School of Public Health (Harvard Chan C-CHANGE)
- **Dr. Larry Kalkstein**, CEO, Applied Climatologists & Professor Emeritus, University of Delaware
- **Dr. Simon Mason**, Columbia University, International Research Institute for Climate & Society
- **Dr. Madeleine Thomson**, Senior Science Lead for Climate Change and Health and Interim Head, Our Planet our Health, Wellcome Trust
- **Dr. V. Kelly Turner**, Assistant Professor, Urban Planning, Luskin Center for Innovation, University of California Los Angeles
- **Dr. Gregory A. Wellenius**, Professor of Environmental Health, Boston University School of Public Health

EXECUTIVE COMMITTEE

- **Kathy Baughman McLeod**, Director and Senior Vice President, Arsht-Rock, Atlantic Council
- **Tiziana Bonzon**, Manager, Climate, Migration and Resilience, International Federation of Red Cross and Red Crescent Societies
- **Xavier Castellanos**, Under Secretary General, National Society Development and Operations Coordination, International Federation of Red Cross and Red Crescent Societies
- **Jad Daley**, President and CEO, American Forests
- **Guy Deknuydt**, Climate Action Plan Officer, City of Tel Aviv, Israel
- **Sophie Evans**, Head of Country Programmes, The Centre for Disaster Protection
- **Jorge Gastelumendi**, Director, Global Policy, Arsht-Rock
- **Eleni Myrivili**, Advisor, City of Athens, Greece & Senior Fellow, Arsht-Rock
- **Mauricio Rodas**, Former Mayor of Quito, Ecuador & Senior Fellow, Arsht-Rock
- **Rebecca Scheurer**, Director, Humanitarian Initiatives, Arsht-Rock
- **Vikram Widge**, Senior Advisor, Climate Finance, Climate Policy Initiative

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