

PROGRESS REPORT

2017–2020



Global Heat Health Information Network, 2020

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About the Global Heat Health Information Network

The Global Heat Health Information Network is an independent, voluntary, and member-driven forum of scientists, practitioners, and policy makers focused on improving capacity to protect populations from the avoidable health risks of extreme heat in our changing climate.

The Network is spearheaded by the World Health Organization and World Meteorological Organization Joint Office for Climate and Health and the United States National Oceanic and Atmospheric Administration, and it includes health and meteorological practitioners and scientists from all populated continents.

www.ghhin.org

Overview

The Global Heat Health Information Network is an independent, voluntary, and member-driven forum of scientists, practitioners, and policy makers focused on improving capacity to protect populations from the avoidable health risks of extreme heat in our changing climate.



The Network was initiated in June 2016 by experts from over a dozen founding institutions, following repeated calls for harmonization and improvement of our common understanding and decision tools for the management of the health risks of extreme heat and rising temperatures. It officially launched with a call to action in December 2018 at the **1st Global Forum for Heat and Health** (Hong Kong, China).

Since its inception, the Network has achieved much in working toward five common goals:

- + to urgently **improve awareness** of the disaster that increasing extreme heat pose to human health, wellbeing, and productivity worldwide;
- + to **catalyse and sustain interdisciplinary partnerships and co-learning** between research and practitioners across relevant government, academic, private sector and civil society actors;
- + to **synthesize and advance science and technology** available for decision-making and risk reduction across sectors and time scales;
- + to **improve access to expert resources and opportunities** for learning, exchange, and engagement;
- + to **identify and promote action to address critical gaps** in research, knowledge and action.

This report covers what we have accomplished, learned, and identified as driving priorities for the Network.

Network Milestones

2016



Decision among experts to mobilize the network

2017



Inception Phase:
Interim Steering Committee;
Foundational documents;
Website;
Forum commitments

2018



Scoping and Engagement at International Congress for Biometeorology



1st Global Forum on Heat and Health, formal launch of Network

2019



Published:
Call to Action
Forum Report: Priorities and Gaps in Heat Health
Monthly Global Heat Health Digest

2020



South Asia Heat Health Summit



Hot but Habitable Workshop



Heat and COVID-19 Information Series



Masterclass series



2nd Global Forum Virtual Events



New and improved website launch

2021



1. Awareness

Goal: Urgently improve awareness of the disaster that increasing extreme heat pose to human health, wellbeing, and productivity worldwide.

A key network goal is effective risk communication, policy advocacy, and outreach to improve awareness of the risk that hot weather poses to human health, wellbeing, and productivity worldwide.

Five main approaches have been employed to increase awareness and engagement: a monthly heat health digest, a new and improved website, social media, press engagement, and joint advocacy efforts with like-minded partners.

Since applying these approaches, the Network has seen strong growth in subscribers and engagement of new partners and experts.

Media Coverage

The Network has been mentioned regularly in reputable and global news outlets. The Network has become recognized as a credible and trusted source of information, and our messages are endorsed and promoted by

UN agencies and government authorities.

Highlights include:

- Our [Heat and COVID-19 Information Series](#) received over 800 media mentions.
- Reporters from the Thomson Reuters Foundation moderated and covered the 2020 Heat Health Dialogues '[Heat in the City](#)' and '[Heat in the Workplace](#).'
- 'Heat Health in the News' is gathered and disseminated as part of the monthly [Digest](#) and added to the website,
- A strong increase in media coverage of heat risks and impacts have been observed since 2018 in some regions, the new website features and promotes such media coverage, including investigative series on heat and health.

Partner Advocacy efforts

Many network partners have strong capacity in advocacy including NRDC, Red Cross Red Crescent Society, Future Earth, WMO, WHO, C40, NOAA, Health Canada, Public Health England and others have co-produced articles, hosted blogs, publications and hosted webinars in collaboration with the Network.

Publications and Presentations

The Network has collaborated extensively in producing timely and useful publications that are aligned with our priorities. These have included reports and foundation documents including our call to action and summary reports from our Heat Health Dialogues, as well as guidance materials, such as the Technical Brief and Checklist on protecting health from hot weather during the COVID-19 Pandemic.

Network branded publications include:

- [Call to Action on Heat and Health](#)
- [Report from the 1st Global Forum on Heat and Health](#)
- [Heat Health in Hong Kong](#)
- [COVID-19 and Extreme Heat Series Technical Brief and Management Checklist](#)
- Briefs on [Heat in the City](#) and [Workplace](#)

Affiliate and co-publications where the Network provided substantive input include:

- [COVID-19 and thermoregulation related problems: Practical recommendations](#)
- [Evidence Review of Heat Action Plans in the European Region](#)
- [WMO State of the Climate 2018 – Heat and Health Impacts feature](#)
- [Future Earth Heatwave Issue Brief](#)
- [NRDC regular blog series on heat impacts](#)
- [USAID Heat Waves and Human Health Emerging Evidence and Experience to Inform Risk Management in a Warming World](#)
- [Heatwave Guide for Cities \(Red Cross Red Crescent Climate Centre\)](#)
- Heatshield, WMO/WHO Technical Report on Occupational Heat Health (in preparation)

Network representatives have presented our work at numerous conferences and technical bodies, including the International Congress for Biometeorology (2018), American Geophysical Union 2018, American Meteorological Society (2017, 2018, 2019), AMS - Urban Climate (2018), GEO (2018), UNISDR Global Platform for DRR (2019), World Urban Forum (2020), International Commission on Occupational Health - Scientific Committee on Thermal Factors, the Working Group on Health in Climate Change (HIC) of the European Environment and Health Task Force, and the Thematic Platform for Health Emergency and Disaster Risk Management Research Network.



Website

As a result of driving traffic to the Network website from social media, monthly digests and events, web visits have drastically increased.

Global Heat Health Digest

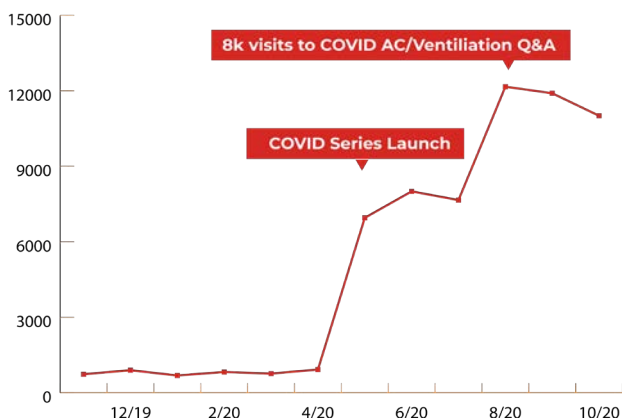
The Global Heat Health Digest is a monthly compilation of Network and partner news, media coverage, research, opportunities and events. Since 2019, 15 issues of the digest have been published, and subscribership has risen from 371 (January 2019) to 1,376 (November 2020).

Social Media

The Network became active on Twitter in July 2019 and has steadily increased its reach since to 810 followers (November 2020) with reach regularly exceeding 20,000 people per month. Social media has become an important mechanism for discovery of new activities and issues in the network and media. Activities focus on sharing new research, highlighting impacts, and amplifying partner and media messaging around heat health and Network priorities.

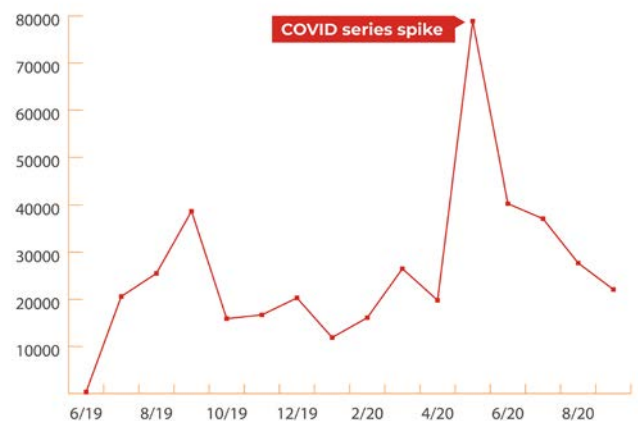
Website Visits

www.ghhin.org / November 2019 - October 2020



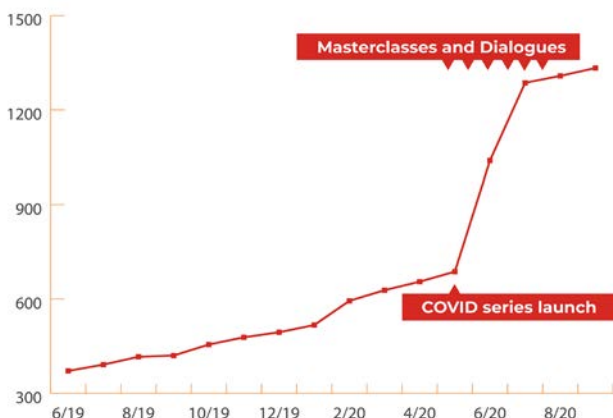
Twitter Impressions

@heathealth_info / June 2019 - September 2020



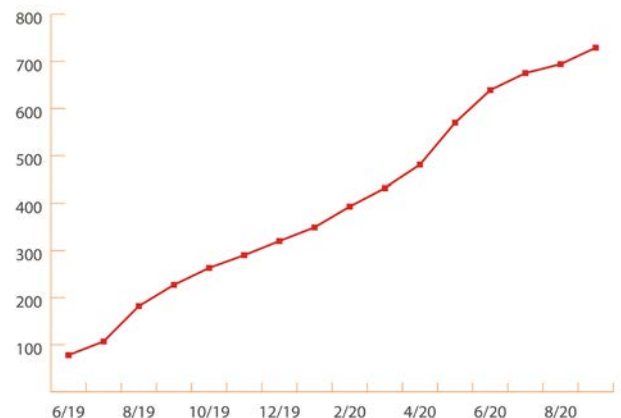
Mailing List Subscribers

June 2019 - September 2020



Twitter Followers

@heathealth_info / June 2019 - September 2020





1ST GLOBAL FORUM ON HEAT AND HEALTH

The 1st Global Forum on Heat and Health (Hong Kong, China, 17-20 December 2018) brought together over 150 interdisciplinary experts and practitioners from 33 countries.

The Forum formally launched the Global Heat Health Information Network - its parent inter-agency coordination body and governance mechanism - and informed a global common action agenda for heat risk management to human health.

This inaugural biannual event provided an international platform to promote the integrated use of climate, weather, and health information for evidence based policy and actions to improve the management of extreme heat risks. The Forum enabled a global community of experts and practitioners to share experiences, identify priorities in five key areas, and strengthen interdisciplinary cooperation to develop the capacity of governments, organizations, and professionals to protect populations from the avoidable health risks of extreme and ambient heat.

Outcome documents, presentations, posters, and video recordings are available on our website.

+ ghhin.org/forum-2018/



GLOBAL CALL TO ACTION ON HEAT AND HEALTH

The Global Call to Action on Heat and Health was launched during the UNDRR Global Platform for Disaster Risk Reduction May 2019 to highlight critical issues and priorities to strengthen global action on heat and health.

The call to action formally established the Global Heat Health Information Network and its defining priorities, including:

- Key Issues
- Solutions
- Challenges
- Recommended action agenda

+ ghhin.org/resources/call-to-action-from-the-first-global-forum-on-heat-and-health/



2. Partnerships and Co-learning

Goal: Catalyze and sustain interdisciplinary partnerships and co-learning between research and practitioners across relevant government, academic, private sector and civil society actors.

The capacity to develop and drive diverse partnerships from global and local levels is critically needed to address the multifaceted and multidimensional risks extreme heat poses for health.

Integrated heat management occurs through multi-sectoral partnerships. The case-studies of the US NIHHS and Hong Kong Partnership were identified as key examples and showcased on the website. A dedicated publication was developed to describe the journey of establishing an effective multi-sectoral approach in Hong Kong.

Despite the postponement and shift to online activities of the 2nd Global Forum on Heat and Health due to the global pandemic, multiple Network-hosted and affiliated events brought partners together in person and virtually

for sharing and learning in 2019 and 2020, including:

- Public Health Agencies of Canada / UK exchanges (Virtual / August 2019)
- 2019 Heat Season Debrief – 10 country survey and discussion (Virtual / October 2019)
- Adaptation Community Meeting: Understanding and Addressing the Risks of Heat on Human Health (USAID / April 2019)
- [Heat Health Advisory and Readiness Actions for Chile](#): Technical Exchange with PAHO, NOAA, Chile, and Argentina (Santiago, Chile / August 2019)
- [Sahel Regional Training Workshop on Heatwaves and Health](#) (Senegal / 3-5 December 2019)

- [South Asia Heat Health Summit](#) (Pune, India / 14 February 2020)
- [Hot but Habitable Lorentz Workshop](#) (Leiden, Netherlands / 8-13 March 2020)
- 2nd Global Forum on Heat and Health virtual events
- [Heat in the City Dialogue](#) (Online / 28 July 2020)
- [Heat in the Workplace Dialogue](#) (Online / 29 July 2020)
- [Heat Health Masterclass Series](#) (Online / June – July 2020)
- Caribbean heat and health scoping – (Online / October 2020)
- Red Cross World Conference: Heat Sessions (France / April 2019)

These events catalyzed action including: additional US-Senegal training exchange by NOAA, the inception of a Heat Health Information Network (SAHHIN), the development of technical resources and publications by the Hot but Habitable Workshop working group, and pilot activities in the Americas led by PAHO.

Training resources produced by Network partners have also contributed to our shared partnerships and co-learning objectives, including:

- **DWD Training Center for Heat and Health:** In partnership with the Network, DWD have established a training center is to assist and provide capacity building for professionals from meteorological services, research institutions related to meteorological services and international organizations.
- **NOAA Heat Exchange Programme:** Technical Training from NOAA/ANACIM in December 2019 offered a training on heat prediction and early warning, and led to a staff exchange programme between Senegal to Washington DC.
- **Masterclasses:** A series of 4 classes were developed and delivered to provide durable and practical learning resource. Classes describe heat health tools and methods in practice by leading experts.



SOUTH ASIA HEAT HEALTH SUMMIT

The South Asia Heat Health Summit took place on 14 February 2020 in Pune, India, in conjunction with the International Conference on Climate Services 6. The Summit was co-organized by the Global Heat Health Information Network, the Indian Institute of Tropical Meteorology, IRADe, India Meteorological Department, Indian Ministry of Earth Sciences, WHO, WMO, NRDC, and IDRC to build capacity, promote sharing, and encourage evidence-based policy and actions to improve the management of extreme heat risks.

The regional summit brought together interdisciplinary experts and practitioners to share experience and concerns, learn from each other, identify new solutions and opportunities, and raise awareness of the urgent need to protect ourselves and communities from extreme heat in a warming world. It helped inform the creation of a South Asia Heat Health Information Network.

+ ghhin.org/news/south-asia-heat-health-summit

New Partnerships

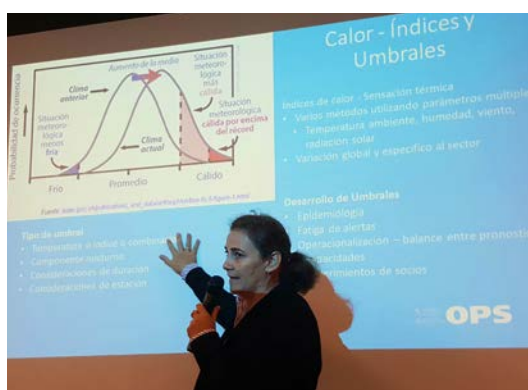
In 2019 and 2020, new collaborations were developed around specific activities with a range of partners, particularly related to urban and occupational heat risks, which were identified as the thematic priorities for the network.

New partners have included C40, WONCA, Thomson Reuters Foundation, HIWeather, International Commission on Occupational Health - Scientific Committee on Thermal Factors (SCTF), Lancet Countdown, Heatshield and EXHAUSTION project consortiums, and Wellcome Trust, and others.

To share learning and activities, the Network participated in quarterly coordination of other networks such as GEO Health, the Climate Services for Resilient Development – Heat Focus, Risk Early Action Partnership (REAP), the Canadian Heat Health Community of Practice, and others.



EXHAUSTION



HEAT HEALTH ADVISORY AND READINESS ACTIONS FOR CHILE

Chile is increasingly impacted by frequent heatwaves. In August 2019, experts gathered in Santiago to review current mechanisms for predicting and responding to heatwaves in Chile, and to identify opportunities to improve forecasting, preparedness, and policy frameworks such as the country's climate change adaptation policy and emergency preparedness and response system which can be leveraged to address heat risks to health. Experts from Argentina were invited to share their experience, tools, and approaches and build relationships between the neighboring countries.

The two-day event, organized by the Pan American Health Organization (PAHO/WHO), together with the Global Heat Health Information Network and the Government of Chile, explored opportunities to improve preparedness for extreme heat, using guidance developed by PAHO, the World Health Organization (WHO) and the World Meteorological Organization (WMO).

+ ghin.org/news/heat-health-advisory-and-readiness-actions-for-chile/



3. Science and Technology

Goal: Synthesize and advance science and technology available for decision-making and risk reduction across sectors and time scales.

Data, science, and research are needed to understand the health risks of heat in our changing climate, and accurate and timely climate and weather information is necessary to enable effective decision making and action to protect health and save lives.

The Network has led and supported activities actions that highlight needs and address gaps identified in the Action Agenda to enhance knowledge on human vulnerability and impacts of extreme ambient heat, including the production of guidance materials, heat impact metrics, surveillance systems, research and operational systems for monitoring and modelling heat-health risks, research addressing knowledge gaps.

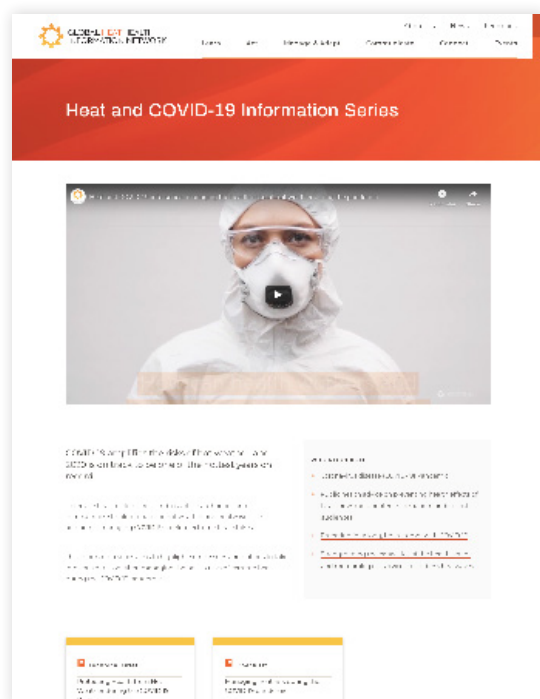
In 2020 in what has been the Network's most ambitious project to date, it coordinated inputs from over 70 experts from around the world to develop rapid response guidance materials on managing the combined risks of COVID-19

and heat, and called for stronger preparation to keep people safe in hot weather without increasing the risk of the spread of COVID-19.

Partners Heatshield, WHO, WMO are collaborating on a technical report synthesizing "Global Heat Exposure of Working People and the impact of Climate Change", expected for release in 2021. WMO and WHO will also lead in collaboration with the Network, the revision of the 2015 publication, Heatwaves and Health: Heat Health Warning Systems guidance.

Network affiliated experts work in collaboration with the Lancet Countdown on Health and Climate on monitoring products related to heat exposure and impacts on health from climate change.

A prototype of Regional Heat Health Synthesis Report was developed for North America, as a model for other regional synthesis products.



HEAT AND COVID-19 INFORMATION SERIES

In the spring of 2020, as the Northern hemisphere simultaneously entered a period of record-breaking heat and increasing global spread of COVID-19, our network of health and climate experts came together to call for stronger heat preparation to keep people safe in hot weather without increasing the risk of the spread of COVID-19.

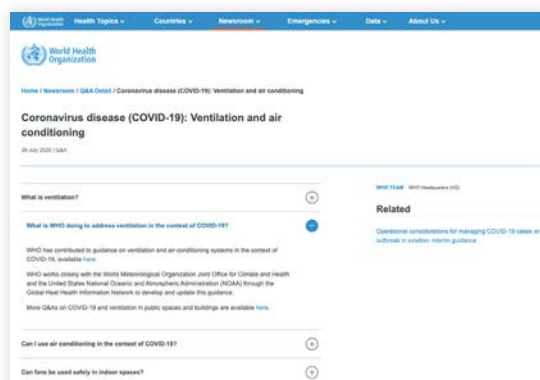
The pandemic amplifies the health risks of hot weather for many people, including those also at risk of COVID-19. Countries and communities were called on to urgently prepare for a hot summer. Adjusted communications and outreach strategies were needed, as common actions to reduce heat-related illness and death – such as leaving dangerously hot homes for cooler air-conditioned public spaces, home visits to check on vulnerable people, and receiving urgent medical attention for signs of heat stroke – may be impossible or in contradiction to public health recommendations and protocols to reduce the transmission of COVID-19.

To help governments and health professionals prepare for these compounding threats to public health, the Network developed an information series to help local decision-makers manage the health risks of hot weather during COVID-19.

The information series features a technical brief, questions and answers on key issues, and a planning checklist for managing heat risk during the pandemic. It was launched on 26 May 2020 during a WHO Regional Office for Europe webinar on the prevention of heat health effects in the context of COVID-19, and as of October 2020 the series pages have been visited 55,000 times.

Along with the WHO / WMO Joint Office for Climate and Health and the United States National Oceanic and Atmospheric Administration (NOAA) Climate Program Office, collaborating partners in developing this information series include the International Federation of Red Cross and Red Crescent Societies, US Centers for Disease Control, Natural Resources Defense Council, C40 Cool Cities Network, as well as academic, public health agencies, and meteorological services from dozens of countries.

[+ ghin.org/heat-and-covid-19](https://ghin.org/heat-and-covid-19)





4. Expert resources and opportunities

Goal: Improve access to expert resources and opportunities for learning, exchange, and engagement.

The Network is working to harmonize and improve information and opportunity sharing across the burgeoning local communities of health professionals, decision makers and scientists motivated to address this issue. Brokering Conversations and Website are two ways we do this.

Brokering conversations: The Network has helped establish contacts and conversations between a broad range of participating experts and partners, for training, research, and policy purposes.

For example, in Nov 2019, a stocktaking survey and sharing conversation was held between 10 public health agencies from North America and Europe to exchange approaches and experiences managing the 2019 heat season.

Heat health experts from Canada were invited to participate in a European review process of Heat Health Action Plans. Experts from Argentina and the USA were supported to travel to Chile to share heat planning and action experience. These types of exchanges have received positive feedback as being valuable experiences for the participants.

“We find GHHIN’s work useful on a daily basis, and share it extensively with our partners and stakeholders.”

Health Canada Heat Division, 21.10.2020

Website Upgrade

The temporary [GHHIN website](#) was upgraded in 2020 to improve access to heat health resources and opportunities, with the latest version launching in November 2020. In addition to a much more user-friendly and robust administration platform, new features for users include the following:

Resource Library

The newly improved resource library features a searchable and filterable collection of heat health publications, action plans, case studies, research, outreach, presentations and posters.

Expert database

Our new expert database is a searchable and filterable directory of affiliated heat health experts from around the world, with the goal of making it easier for people to connect with specialists in specific locations or on a specific heat-related topic.

Case studies and action plans map

The library case studies and action plans have been included on a new world map viewer, allowing users to find content in their city or region, and a birds-eye view of where plans exist.

Projects and Studies directory / map

The first of its kind on this topic, our project and studies directory is a compilation of efforts from around the world to better understand or address the impacts of heat on health. It enables researchers to find and connect with related projects.

Tools, Products and Service directory

Our tools, products and services listings provide users with a searchable and filterable directory of operational resources that they can apply in their work to understand or address heat risk.

Opportunities listings

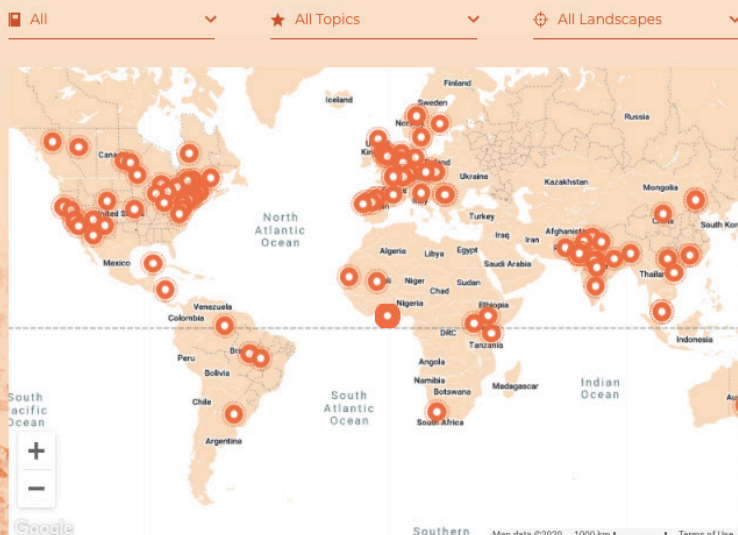
A compilation of opportunities including job vacancies, conference calls, and funding calls is maintained on the Network's websites to serve as a central place for partners and stakeholders to share information on these offerings.

E-learning and courses directory

The Network website also contains a growing directory of live and online courses and trainings, including webinar recordings, educational programmes, and more. Time-specific learning opportunities are also regularly added to our events calendar.

Case Studies, Action Plans And Projects

Explore heat health resources by location. Filter your results to narrow your search and learn more by clicking on the resource pins on the map.



Weather and Climate Information Services for Africa

The UK Met Office's Weather and Climate Information Services for Africa (WISER)...

[VIEW PROJECT](#)



5. Promoting Action

Goal: To identify and promote action to address critical gaps in research, knowledge and action.

The Network was created to help rapidly scale up efforts to manage the complex human health risks introduced by extreme and increasing ambient heat.

Heat Action Plans

Heat Action Plans and the process of bringing together multi-sectoral stakeholders is a key policy instrument promoted by the Network. The new website features a searchable inventory of Heat Health Action Plans. This repository also helps generate metrics of policy action on heat being taken worldwide.

Communities of Practice

Heat risks to health are managed in specific settings and often by diverse and specific interest groups. To help people better find resources and information of interest, the new website features Manage and Adapt sections for 6 themes:

- **In the body** (focused on personal impacts and actions, and interest of physiological researchers)

- **At home** (focused on personal actions, often supported by community actors, public health and clinical practitioners)
- **In sports** (focused on exertional heat risks)
- **At work** (occupational health)
- **In the city** (planners, local governance, and urban multi-sectoral actors)
- **In the environment** (focused on cascading multi-hazard risks of interest to multi-sectoral actors including disaster managers)

Action Platform: *A conceptual heat action framework for taking action that works at different timescales, settings, and levels of intervention.*

The Network has developed the conceptual framework and online infrastructure to house a future Heat Action Platform, which will allow users to explore a comprehensive database of evidence-based interventions according to filters aligned.

5 Pillars of Integrated Action

Our Networks' 5 Pillars of Integrated Action support coordinated information and action to reduce the impact of heat on health worldwide.



HOT BUT HABITABLE LORENTZ CENTER WORKSHOP

From 9 - 13 March 2020, this workshop brought together an interdisciplinary team of practitioners and researchers to identify transdisciplinary systems-based solutions to minimize the impact of heat waves on the habitability of our cities, the enjoyment of the outdoors, and the health of our people.

Outcomes:

- New partnerships created for collaborative projects
- In-depth learning and thinking about solutions
- New projects identified

+ www.lorentzcenter.nl/hot-but-habitable.html

Network Contributors

The Network would like to thank its partners and collaborators for their financial and in-kind support to realize activities that improve capacity to protect populations from the avoidable health risks of extreme heat in our changing climate.



Boston University



C40 Cool Cities Network



CCOUC



City University of Hong Kong



Climate Services for Resilient Development



Columbia University



Deutscher Wetterdienst



Durham University



GEO Health Community of Practice



Global Cool Cities Alliance



Global Framework for Climate Services



Heat Relief Network



HIWeather



Hong Kong Observatory



Hong Kong Red Cross



Imperial College London



Indian Institute of Tropical Meteorology



Integrated Research and Action for Development



ICOH Scientific Committee on Thermal Factors



Lancet Countdown on Climate and Health



Lorentz Center



US National Oceanic and Atmospheric Administration



Natural Resources Defense Council



Public Health England



Red Cross Red Crescent Climate Centre



Risk-informed Early Action Partnership



The Chinese University of Hong Kong



The University of Hong Kong



UK Met Office



University of Copenhagen



University of Washington



USAID



Wellcome Trust



World Health Organization



World Meteorological Organization



WONCA Working Party: Environment

