

Planetary Health

Climate Change & Heat

The MEDBOX team publishes Issue Briefs on different topics, this time around Planetary Health and Climate Change. Registered MEDBOX users can find the latest documents in "MY NEWS" by selecting their personal preferences under "MY PROFILE".

Climate Change & Heat and Impacts on Health

This summer, too, we are experiencing more heat waves worldwide. Due to climate change, these are increasing in frequency, duration, and magnitude. Experts predict that heat waves will increase even more in the coming years. In 2022 alone, regions in Europe, North Africa, the Middle East, and Asia have reached temperatures of over 40° Celsius.

Prolonged heat can have a major impact on health, particularly affecting children, the elderly, and people with chronic diseases. Populations in both urban and rural areas are at risk from heat, and certain populations are better or worse able to adapt to extreme heat because of their geographic location. In general, however, the response to heat is dependent on an individual's ability to adapt, and severe consequences can suddenly occur, making heat waves one of the most dangerous natural hazards.

The intent of this Issue Brief is to raise awareness about heat waves as a result of climate change and its impact on health. More information around the topic climate change and planetary health you can find in our [PLANETARY HEALTH TOOLBOX](#).

Sources:

<https://www.theguardian.com/environment/2022/jul/11/why-so-hot-uk-europe-dangers-climate-crisis>

<https://earthobservatory.nasa.gov/images/150083/heatwaves-and-fires-scorch-europe-africa-and-asia>

https://www.who.int/health-topics/heatwaves#tab=tab_1

Climate Change & Heat

World Disasters Report 2020: Come Heat or High Water - Tackling the Humanitarian Impacts of the Climate Crisis Together. Executive Summary
International Federation of Red Cross and Red Crescent Societies IFRC (2020)

The failure to protect the people most vulnerable to climate change is especially alarming given the steady increase in the number of climate and weather-related disasters. According to the World Disasters Report, the average number of climate and weather-related disasters per decade has increased nearly 35 per cent since the 1990s. Over the past decade, 83 per cent of all disasters were caused by



extreme weather and climate-related events such as floods, storms, and heatwaves. Together, these disasters killed more than 410,000 people and affected a staggering 1.7 billion people.

<https://www.medbox.org/document/world-disasters-report-2020-come-heat-or-high-water-tackling-the-humanitarian-impacts-of-the-climate-crisis-together-excecutive-summay>

Heat Waves: Health Effects, Observed Trends and Climate Change

Martínez-Austria Polioptro, F and Bandala E. R (2018)

DOI: 10.5772/intechopen.75559 In book: Extreme Weather Publisher: IntechOpen

<https://www.medbox.org/document/heat-waves-health-effects-observed-trends-and-climate-change>

<https://www.intechopen.com/chapters/60156>



Heat Waves, Floods And The Health Impacts Of Climate Change

World Health Organization WHO (2010)

Training Workshop

<https://www.medbox.org/document/heat-waves-floods-and-the-health-impacts-of-climate-change>



Heat & Human Health

Effects of Heat

National Institute of Environmental Health Sciences (2022)

Over long periods of time, individuals and communities can adapt to their local climates. When both warmer and colder temperatures go above or below those norms rapidly, scientific evidence shows that people become vulnerable to associated health effects related to those extremes. Studies suggest that climate change will greatly increase the severity and frequency of extreme temperature conditions, leading to increases in temperature-related illness and death

<https://www.medbox.org/document/effects-of-heat>

https://www.niehs.nih.gov/research/programs/climatechange/health_impacts/heat/index.cfm



Heat and health

The Lancet (2021)

Lancet 2021; 398: Series: Heat and Health Hot weather and heat extremes harm human health, with poverty, ageing, and chronic illnesses as aggravating factors. As the global community contends with even hotter weather in a changing climate, there is a pressing need to better understand the most effective prevention and response measures, particularly in low-resource settings. In this two-paper series, the physiological, social, and environmental factors that contribute to individual heat vulnerability, and the megatrends affecting future heat-related morbidity and mortality at the population level, are comprehensively reviewed. Solutions to



address the physiological heat strain that underlies the negative health effects of heat extremes and hot weather, which can be employed across a range of settings at individual, building, and landscape scales, are presented.

<https://www.medbox.org/document/heat-and-health>
<https://www.thelancet.com/series/heat-and-health>

Heat waves and human health

Lee, V.; F. Zermoglio; K.L.Ebi; et al. (2019); USAID

Emerging evidence and experience to inform risk management in a warming world

<https://www.medbox.org/document/heat-waves-and-human-health>



Heat Exposure and Cardiovascular Health: A Summary for Health Departments

Halaharvi, H.; Schramm, P.J.; Vaidyanathan, A.; et al. (2020)

Extreme heat events (EHEs) are a leading cause of weather-related injury and death in the United States, and under a changing climate, these meteorological episodes are predicted to increase in both frequency and intensity. Prolonged heat exposure from EHEs places an increased strain on the heart and may lead to heat-related illness if the cardiovascular system fails to properly thermoregulate internal body temperature. This document gives an overview of our current understanding of heat exposure and its impact on cardiovascular health outcomes, an overview of the medications that may exacerbate heat-related cardiovascular illness, and a summary of the interaction between extreme heat and air pollutants, and their collective impact on cardiovascular health.

<https://www.medbox.org/document/heat-exposure-and-cardiovascular-health-a-summary-for-health-departments>



Seniors at risk: Heat and climate change

Climate central (2020)

Heat is the top killer among all types of weather hazards, including hurricanes and tornadoes. But hospitals and health care providers do not always report heat-related illnesses or heat as an underlying cause of a death, making it hard to measure the actual impact of extreme heat on health.

<https://www.medbox.org/document/seniors-at-risk-heat-and-climate-change>



The Impact of Climate Change on Health: Reducing Risks and Increasing Resilience in the Era of COVID-19

Machalaba, C.; Bouley, T. A.; Nunziata, K. R.; et al. (2021)

The climate crisis has many consequences – among them widespread health impacts that will lead to immense societal, ecological, and economic harm. Over the past two decades multiple large-scale reviews on climate change and health have made clear the need for a multi-sectoral approach to target the drivers and impacts of climate change, biodiversity loss, and ecosystem degradation. Despite this abundance of scientific evidence underscoring urgency of action, policy implementation responses lag behind. Even at COP26, itself delayed due to an ongoing pandemic, health continues to be considered by many countries a problem independent from climate and environment.

<https://www.medbox.org/document/the-impact-of-climate-change-on-health-reducing-risks-and-increasing-resilience-in-the-era-of-covid-19>



Actions Plans, Strategies & Reports

Heatwaves: A Guide for Health-based Actions Pan American Health Organization PAHO (2021)

This publication presents a comprehensive methodology to support the Member States of the Pan American Health Organization (PAHO) in preparing for and responding to heat-health risks in the Region of the Americas. It builds on World Health Organization and the World Meteorological Organization global documents, as well as on the disaster preparedness methodologies employed throughout the countries of the Region. This publication is part of an effort coordinated by PAHO to support Member States in multihazard preparedness, and includes: early warning system strengthening; threat characterization; activation and deactivation procedure definition; and institutional coordination. It engages different disciplines and recognizes the importance of intersectoral collaboration to respond to heat-health risks. It aims to bring awareness of the impacts of heat on the health of people of the Americas to public health decisionmakers, and thereby strengthen health service provision.

<https://www.medbox.org/document/heatwaves-a-guide-for-health-based-actions>



Public Health Advice on preventing health effects of heat World Health Organization WHO, Regional Office for Europe (2011)

New and updated information. Adverse health effects of hot weather and heat-waves are largely preventable. Prevention requires a portfolio of actions at different levels: from health system preparedness, coordinated with meteorological early warning systems, to timely public and medical advice and improvements to housing and urban planning. This publication offers detailed information for various target audiences, and on medical advice and treatment practices.

<https://www.medbox.org/document/public-health-advice-on-preventing-health-effects-of-heat>



Handlungsempfehlungen für die Erstellung von Hitzeaktionsplänen zum Schutz der menschlichen Gesundheit

Straff, W.; H.G. Mücke, et al. (2017); Umweltbundesamt

Die durch den Klimawandel verursachte globale Erwärmung hat in vielen Regionen der Welt, so auch in Deutschland, eine vermehrte Häufigkeit und Dauer von Hitzeereignissen zur Folge. Hitze kann den menschlichen Organismus gesundheitlich stark belasten und auch für das Gesundheitswesen können Hitzeperioden ein Problem darstellen. Abhilfe können hier - neben Klimaschutzmaßnahmen - gemeinsame Anstrengungen zur Prävention von Hitzeauswirkungen auf die Bevölkerung schaffen.

<https://www.medbox.org/document/handlungsempfehlungen-fur-die-erstellung-von-hitzeaktionsplanen-zum-schutz-der-menschlichen-gesundheit>



Climate Change & Mental Health

Mental health and climate change: policy brief
World Health Organization WHO (2022)

We need to be concerned about mental health in the context of climate change

<https://www.medbox.org/document/mental-health-and-climate-change-policy-brief>



Climate Change and Mental Health
Climate Central (2022)

Climate Central communicates climate change science, effects, and solutions to the public and decision-makers.

<https://www.medbox.org/document/climate-change-and-mental-health>
<https://www.climatecentral.org/climate-matters/climate-change-and-mental-health>



The impact of climate change on mental health and emotional wellbeing: current evidence and implications for policy and practice
Lawrence, E.; R. Thompson, G. Fontana, et al. (2021)

<https://www.medbox.org/document/the-impact-of-climate-change-on-mental-health-and-emotional-wellbeing-current-evidence-and-implications-for-policy-and-practice>

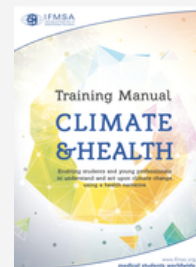


Capacity Building & Resource Platforms

Training Manual: Climate and Health
International Federation of Medical Students' Associations (IFMSA) (2016)

The project was developed by the International Federation of Medical Students' Associations (IFMSA), in line with the Federation's statement "a world in which students are equipped with knowledge, skills and value to take on health leadership roles locally and globally so to shape a sustainable future". This was supported by an ongoing and vital engagement from the World Health Organization (WHO) and their work the United Nations Alliance on Climate Change Education, Training and Public Awareness. The overall objective was to create a "all in one" type of resource to bring together climate change, health and youth advocacy.

<https://www.medbox.org/document/training-manual-climate-and-health>



Climate Change for Health Professionals: A Pocket Book

Pan American Health Organisation PAHO (2020)

With this quick reference guide, providers can easily recognize diseases and side effects related to climate change, implement appropriate management and provide guidance to exposed populations, provide up-to-date information on the relationship between the adverse effects of certain drugs and the worsening of climate-sensitive health conditions, and determine the possible consequences of climate change for health services. This book addresses key meteorological risks, as well as the health conditions which they may influence, grouped by specific clinical areas.

<https://www.medbox.org/document/climate-change-for-health-professionals-a-pocket-book>



Heatwaves

World Health Organization WHO (2022)

Heatwaves, or heat and hot weather that can last for several days, can have a significant impact on society, including a rise in heat-related deaths. Heatwaves are among the most dangerous of natural hazards, but rarely receive adequate attention because their death tolls and destruction are not always immediately obvious

<https://www.medbox.org/document/heatwaves>
https://www.who.int/health-topics/heatwaves#tab=tab_1



Extreme Weather Toolkits

Climate Central (2022)

Each toolkit includes science explainers and curated resources to help understand extreme events—from their links to our warming climate to their local impacts.

<https://www.medbox.org/document/extreme-weather-toolkits>
<https://www.climatecentral.org/special-topics>



Hitzefolgekrankheiten

Robert-Koch-Institut RKI (2022)

Informationsplattform des RKI

<https://www.medbox.org/document/hitzefolgekrankheiten>
https://www.rki.de/DE/Content/GesundAZ/H/Hitzefolgekrankheiten/Hitzefolgekrankheiten_node.html



Climate Action Tracker

New Climate Initiative; Climate Analytics (2022)

The Climate Action Tracker (CAT) is an independent scientific analysis produced by two research organisations tracking climate action since 2009. We track progress towards the globally agreed aim of holding warming well below 2°C, and pursuing efforts to limit warming to 1.5°C.

<https://www.medbox.org/document/climate-action-tracker>
<https://climateactiontracker.org/>



Medical Society Consortium on Climate and Health Website

Medical Society Consortium on Climate and Health (2022)

Climate change is one of the most important issues of our time and has major health and healthcare implications. As some of the most respected professionals in America, doctors and nurses have a crucial part to play in raising awareness of the public about these issues. To facilitate the medical community's awareness-raising efforts, the Medical Society Consortium on Climate and Health (Consortium) brings together associations representing over 600,000 clinical practitioners

<https://www.medbox.org/document/medical-society-consortium-on-climate-and-health-website>

<https://medsocietiesforclimatehealth.org/>



The Health Effects of Climate Change

Harvard University (2022)

<https://www.medbox.org/document/the-health-effects-of-climate-change>

<https://pll.harvard.edu/course/health-effects-climate-change?delta=0>



UNDP Climate Box

United Nations Development Programme UNDP (2022)

Climate Box is a comprehensive learning toolkit that educates school children about climate change and inspires them to take action. Designed to make learning fun and interesting, the Climate Box provides up-to-date information on climate change with a range of creative tasks, games, quizzes and experiments, as well as resources for teachers/educators.

<https://www.medbox.org/document/undp-climate-box>

<https://climate-box.com/>



Fact Sheets & Videos

Extreme heat can impact our health in many ways

Centers for Disease Control and Prevention CDC (2021)

Climate change also affects human health by increasing the frequency and intensity of extreme heat events. Increases in the overall temperature of the atmosphere and oceans associated with climate change cause changes in wind, moisture, and heat circulation patterns. These changes contribute to shifts in extreme weather events, including extreme heat events.

<https://www.medbox.org/document/extreme-heat-can-impact-our-health-in-many-ways>



Heat and Health Fact Sheet

World Health Organization WHO (2022)

Global temperatures and the frequency and intensity of heatwaves will rise in the 21st century as a result of climate change. Extended periods of high day and



nighttime temperatures create cumulative physiological stress on the human body which exacerbates the top causes of death globally, including respiratory and cardiovascular diseases, diabetes mellitus and renal disease. Heatwaves can acutely impact large populations for short periods of time, often trigger public health emergencies, and result in excess mortality, and cascading socioeconomic impacts

<https://www.medbox.org/document/heat-and-health-fact-sheet>

<https://www.who.int/news-room/fact-sheets/detail/climate-change-heat-and-health>

What is the impact of heatwaves on human health

Pan American Health Organisation PAHO (2021) Video

Video

<https://www.medbox.org/document/what-is-the-impact-of-heatwaves-on-human-health>

<https://youtu.be/dJL4-Yw-wXY>



Heat Stress

The Lancet Commission (2022) Video

The global proportion of people at risk to heat stress is increasing. The Lancet Countdown is tracking our exposure and vulnerability to changes in heat caused by climate change.

<https://www.medbox.org/document/heat-stress>

<https://youtu.be/str9o7sHd9E>



Europe's climate in 2050

Centre national de la recherche scientifique (CNRS) (2021) Video

This film provides the keys to understand how climate will reshape our landscapes and lifestyles over the coming decades. ... and to enable us to better anticipate the need for human societies to adapt to this partly inevitable climate change.

<https://www.medbox.org/document/europes-climate-in-2050>

<https://youtu.be/n9Ej5E47TNI>



How to Survive Extreme Heat

Climate Psychiatry Alliance (2022)

- Posters in English

<https://www.medbox.org/document/how-to-survive-extreme-heat>

<https://www.climatepsychiatry.org/coping-with-extreme-heat-english>



Klimawandel und Gesundheit - Wenn Hitze zum Risiko wird

Kassenärztliche Bundesvereinigung (2021)

Patienteninformation

<https://www.medbox.org/document/klimawandel-und-gesundheit-wenn-hitze-zum-risiko-wird>



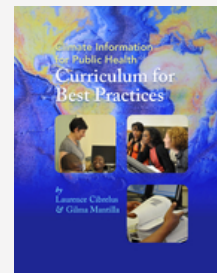
Best Practice Examples & Solutions

Climate Information For Public Health: A Curriculum For Best Practices

Laurence Cibrelus; Gilma Mantilla (2011); International Research Institute for Climate and Society

CIPH Curriculum for Best Practices. Putting Principles to Work

<https://www.medbox.org/document/climate-information-for-public-health-a-curriculum-for-best-practices>



WHO Guidance for Climate Resilient and Environmentally Sustainable Health Care Facilities

World Health Organization WHO (2020)

The aim of this guidance is to enhance the capacity of health care facilities to protect and improve the health of their target communities in an unstable and changing climate; and to empower health care facilities to be environmentally sustainable, by optimizing the use of resources and minimizing the release of waste into the environment. Climate resilient and environmentally sustainable health care facilities contribute to high quality of care and accessibility of services, and by helping reduce facility costs also ensure better affordability. They are, therefore, an important component of universal health coverage (UHC).

<https://www.medbox.org/document/who-guidance-for-climate-resilient-and-environmentally-sustainable-health-care-facilities>



Medical promise of climate solutions

Medical Society Consortium on Climate and Health (2022)

The Faster We Go, the Health We'll Be. The report outlines five climate solutions that research shows will deliver immediate, often localized, health and equity benefits. Our focus is on the solutions that proactively advance both health and health equity, recognizing that some of us face greater health risks than others.

<https://www.medbox.org/document/medical-promise-of-climate-solutions>



Climate–Poverty Connections: Opportunities for synergistic solutions at the intersection of planetary and human well-being. Fact Sheet

Project Drawdown (2022)

Project Drawdown (2022) provides evidence of how climate solutions can also be win-win opportunities for meeting development and human well-being needs while boosting prosperity for rural communities in sub-Saharan Africa and South Asia. The report summarizes the co-benefits of five groups of a subset of Project Drawdown climate solutions (28 total solutions) for advancing human well-being in rural areas of low- and middle-income countries

<https://www.medbox.org/document/climatepoverty-connections-opportunities-for-synergistic-solutions-at-the-intersection-of-planetary-and-human-well-being-fact-sheet>



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