



Public Health
England

Protecting and improving the nation's health



IRDR
Integrated Research on Disaster Risk



**International
Science Council**



**UNITED NATIONS
UNIVERSITY**



SUSTAINABLE DEVELOPMENT
SOLUTIONS NETWORK
A GLOBAL INITIATIVE FOR THE UNITED NATIONS

TR_ENDS
Thematic Research Network
on Data and Statistics



**World Health
Organization**

First Global Forum for Heat and Health to take place in Hong Kong December 17-20,
2018

Making a difference in context of disaster risk reduction

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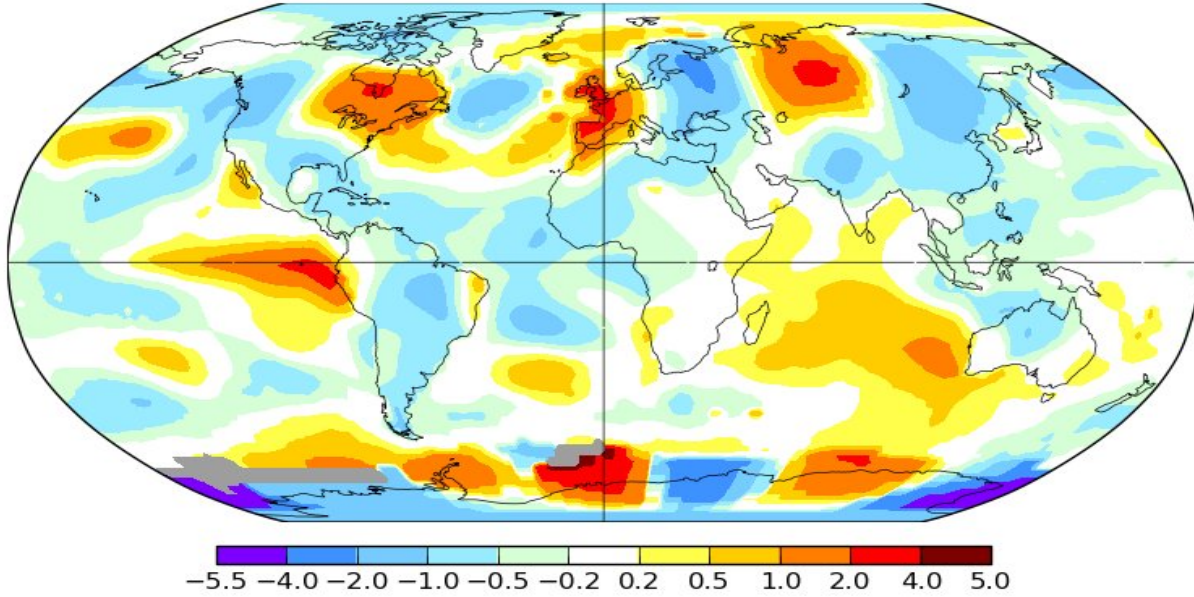
Member of the UN Sustainable Development Solutions TReNDS Network

Member of the WHO Collaborating Centre on Mass Gatherings and Global Health Security

Co-Chair of WHO Thematic Platform on Health and Emergency Disaster Risk Management Research Network

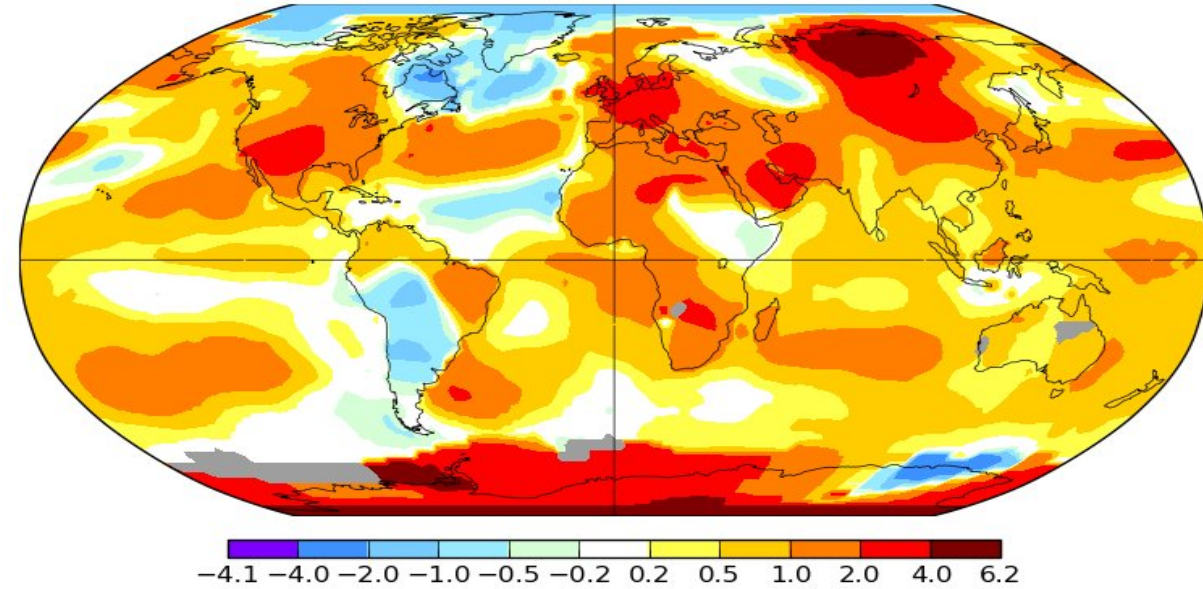
June 1976

June 1976 L-OTI(°C) Anomaly vs 1951-1980 -0.15



June 2018

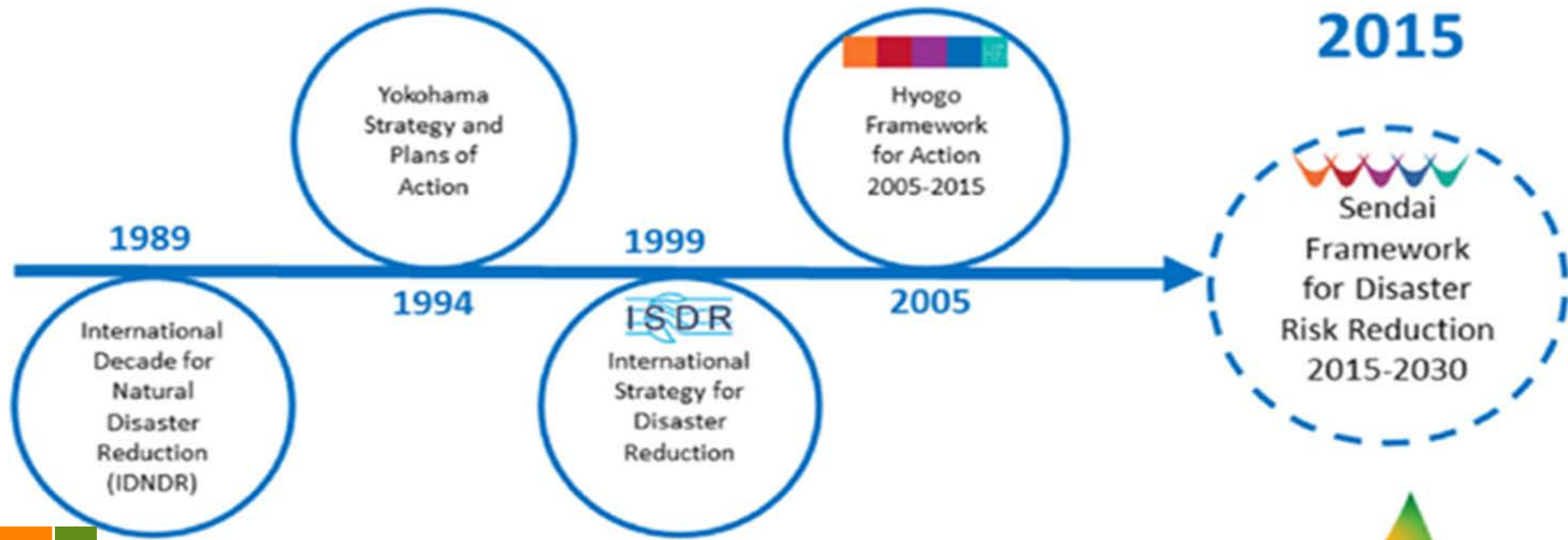
June 2018 L-OTI(°C) Anomaly vs 1951-1980 0.78



The 1976 heatwave resulted in a particularly large number of deaths in comparison with other hot periods.

Hajat, S., Kovats, R. S., Atkinson, R. W. & Haines, A. *Impact of hot temperatures on death in London: a time series approach.* *J. Epidemiol. Commun. Health* **56**, 367–372 (2002)

Source: NASA GISS



INTERNATIONAL
HEALTH

REGULATIONS

(2005)

THIRD EDITION



World Health Organization

1992



United Nations
Framework Convention on
Climate Change



PARIS2015
ON CLIMATE CHANGE CONFERENCE
COP21-CMP11

2000







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Sendai Framework for Disaster Risk Reduction 2015 - 2030



United Nations



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Sendai Framework for Disaster Risk Reduction 2015-2030

The substantial reduction of disaster risk and losses in **lives, livelihoods and health** and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries

Health resilience is strongly promoted throughout.



Sendai Framework for Disaster Risk Reduction 2015-2030

1 Global Outcome

13 Guiding Principles

4 Priorities for Action at all levels

7 Global Targets

7 GLOBAL TARGETS

Reduce

**Mortality/
global population**

2020-2030 Average << 2005-2015 Average

**Affected people/
global population**

2020-2030 Average << 2005-2015 Average

**Economic loss/
global GDP**

2030 Ratio << 2015 Ratio

**Damage to critical infrastructure
& disruption of basic services**

2030 Values << 2015 Values

Increase

**Countries with national
& local DRR strategies**
2020 Value >> 2015 Value

**International
cooperation
to developing countries**
2030 Value >> 2015 Value

**Availability and access
to multi-hazard early warning
systems & disaster risk
information and assessments**
2030 Values >> 2015 Values



Sendai Framework for Disaster Risk Reduction 2015-2030

Four priorities for action

1. **Understanding disaster risk;**
2. Strengthening disaster risk **governance** to manage disaster risk;
3. **Investing** in disaster risk reduction for resilience;
4. Enhancing **disaster preparedness** for effective response, and to “Build Back Better” in recovery, rehabilitation and reconstruction.

- at National and Local Levels*
- at Global and Regional levels*





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Sendai Framework for Disaster Risk Reduction 2015-2030

To strengthen technical and scientific capacity to capitalize on and consolidate existing knowledge and to develop and apply methodologies and models to assess disaster risks, vulnerabilities and exposure to **all hazards**;



Primary Categories of Macro-Threats



1 Financial Shock



2 Trade Dispute



3 Geopolitical Conflict



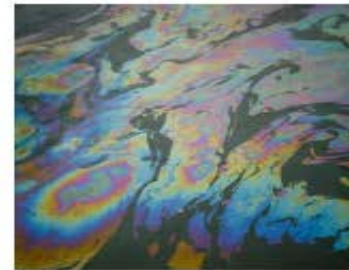
4 Political Violence



5 Natural Catastrophe



6 Climatic Catastrophe



7 Environmental Catastrophe



8 Technological Catastrophe



9 Disease Outbreak



10 Humanitarian Crisis



11 Externality



12 Other Shock



Sendai Framework for Disaster Risk Reduction 2015-2030

- To guide action at the regional level through agreed regional and subregional **strategies and mechanisms for cooperation for disaster risk reduction**, as appropriate, in the light of the present Framework, in order to **foster more efficient planning, create common information systems and exchange good practices and programmes** for cooperation and capacity development, in particular to address common and transboundary disaster risks; *(paragraph 28a)*





SENDAI FRAMEWORK
FOR DISASTER RISK REDUCTION

LOGIN

MEASURING IMPLEMENTATION OF THE SENDAI FRAMEWORK

ANNOUNCEMENT

The Sendai Framework Monitor system is now live!

After the adoption of Sendai Framework in 2015, 38 indicators were defined to measure progress in achieving its 7 Global targets. This system is the official tool to report these indicators to both the Sendai Framework and SDG's reporting processes.



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Many deaths can be avoided with better data: UN deputy chief

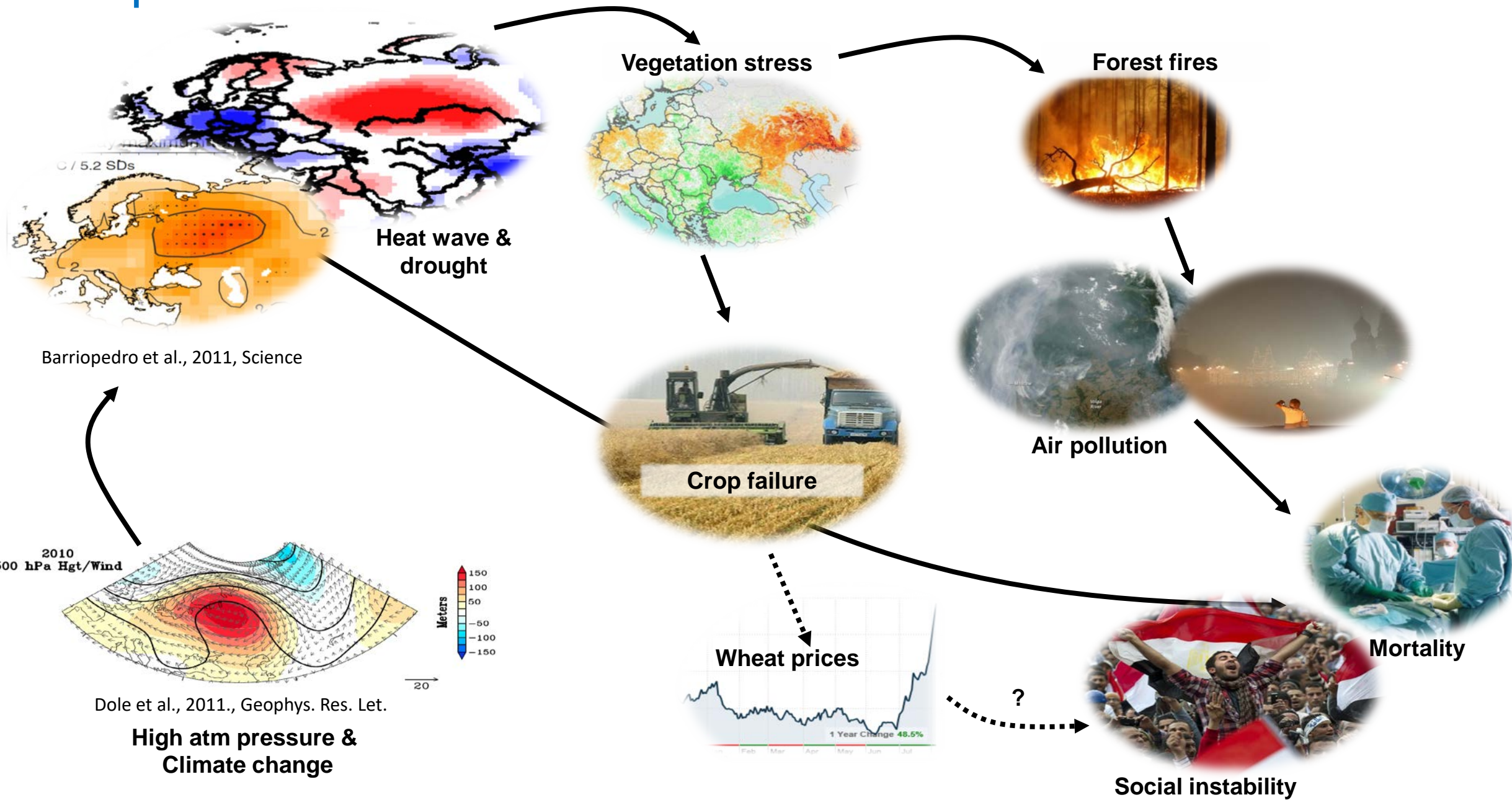


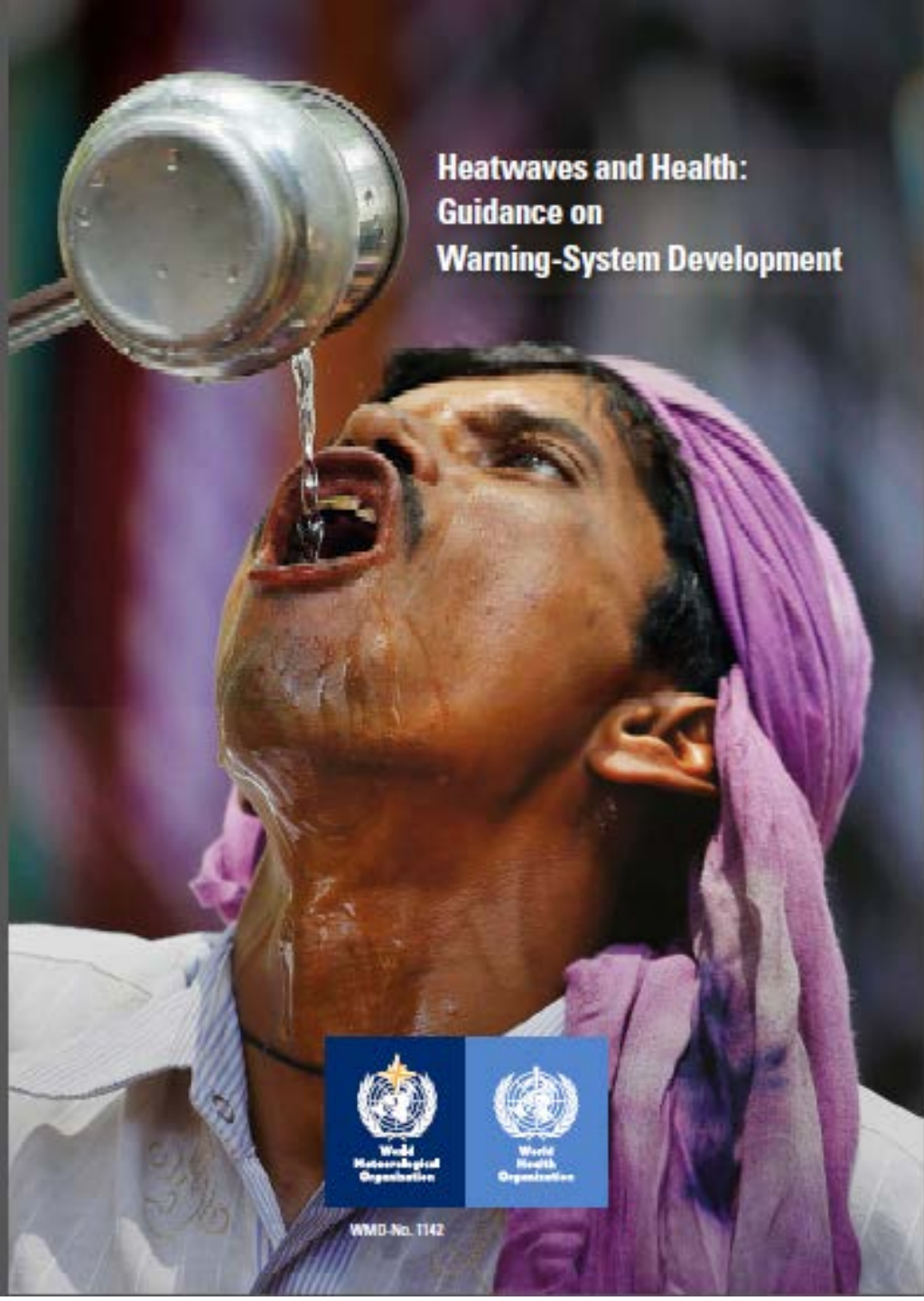
IISD/ENB | Kiara Worth | UN Deputy Secretary-General Aina J. Mohammed addressing the UN World Data Forum on 22 October 2018. Dubai, United / Emirates.



United Nations
**WORLD
DATA
FORUM**

Example: Russian heatwave 2010

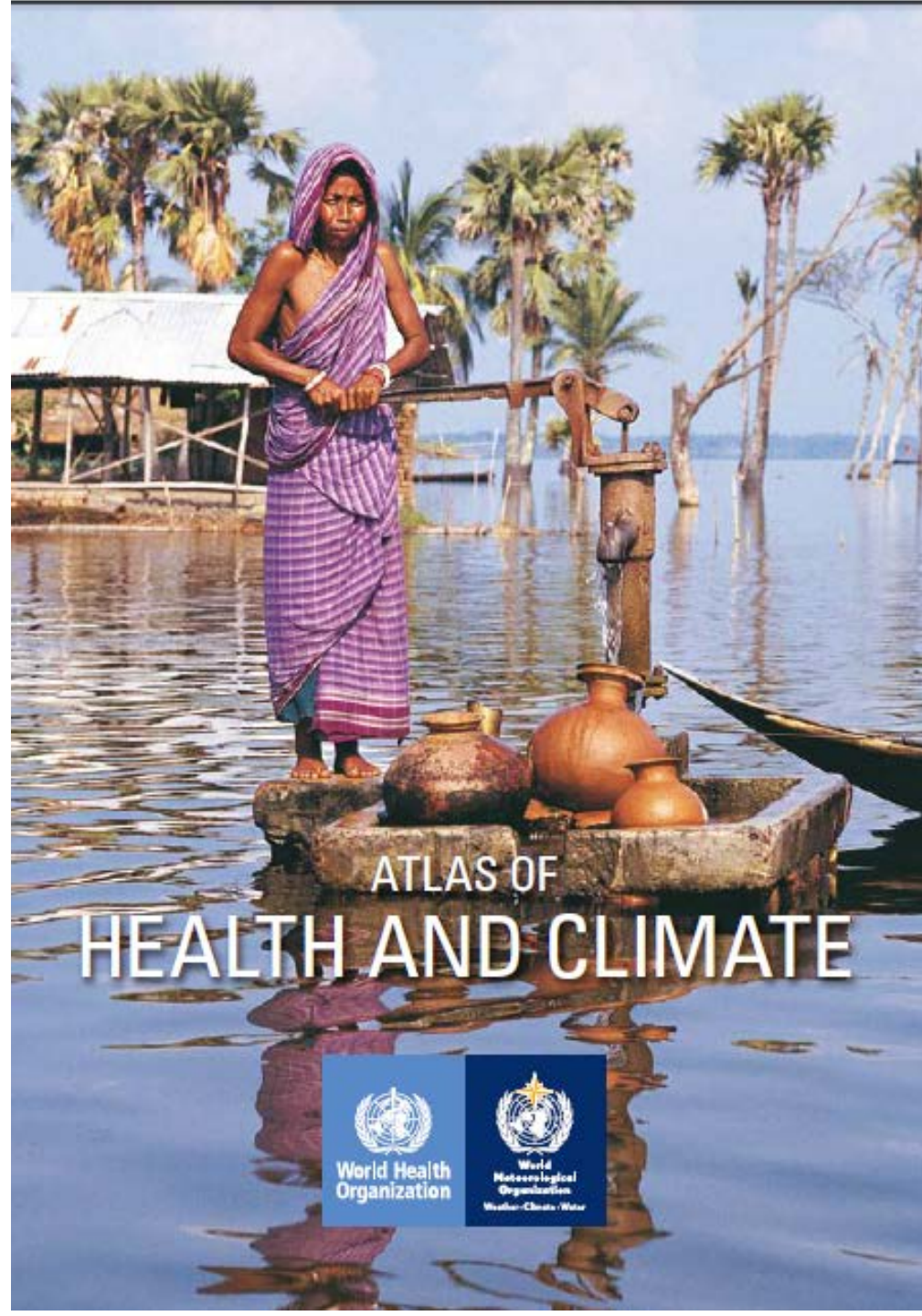


A close-up photograph of a man wearing a purple turban and a white shirt. He is drinking water from a silver metal pot that is being poured into his open mouth. The background is blurred.

**Heatwaves and Health:
Guidance on
Warning-System Development**



WMD-No. 1142



**A healthy community is
a resilient community.**

The best defense against health
emergencies is universal health
coverage, based on strong health
systems.





World Health Organization

WHO Thematic Platform for Health Emergency and Disaster Risk Management¹

Introduction

The Thematic Platform² was launched by WHO and UNISDR on the International Day for Disaster Reduction, 14 October 2009. The impetus came from both the 2008-2009 World Disaster Reduction Campaign on Hospitals Safe from Disasters and the 2009 Global Platform for Disaster Risk Reduction when participants supported a proposal to establish a thematic platform dedicated to protecting public health from the risks and consequences of emergencies and disasters and in support of the Hyogo Framework for Action 2005-2015.

Fast forward to 2015, the Thematic Platform has provided advice and recommendations on health issues to Member States for the development and agreement of the Sendai Framework for Disaster Risk Reduction 2015-2030 which puts health at the centre of local, national and global action on managing risks associated with emergencies in the overall goal, expected outcome, targets and priority actions. The Thematic Platform is guided by, and supports the implementation of, the Sendai Framework, the Sustainable Development Goals and the Paris Agreement on climate change, along with the International Health Regulations (2005). WHO

<https://www.who.int/hac/techguidance/preparedness/WHO-Thematic-Platform-Health-EDRM-Terms-Reference-2018.pdf>



Health



Emergency



Health Emergency and Disaster Risk Management CLIMATE RISK MANAGEMENT

Key Points

Climate risks have significant effects on public health including: injury, death, communicable diseases such as vector-borne and water-borne diseases, and non-communicable impacts such as malnutrition, heat stress and health effects of air pollution.

A combination of increasing vulnerability and risk of weather-related hazards are expected to result in more extreme events and disasters.

Measures to reduce the health impacts from climate risks, and associated climate change, include:

- enhancing capacity of health systems to reduce risks and respond to emergencies
- including climate-sensitive health risks in disaster risk reduction plans across all sectors
- protecting hospitals and other health infrastructure from climate risks and effects of climate change
- strengthening surveillance and control of infectious disease against climate risk
- improving the use of climate-informed early warning systems by the health sector
- building public health interventions at local level to increase community resilience

Examples

European heat waves (2003 and 2006): *The hot summers of 2003 and 2006 in Europe produced sustained record high temperatures which resulted in markedly higher death rates than normal, particularly amongst the elderly population. In total, 35,000 more deaths occurred in Western Europe during the 2003 summer than expected, and in 2006 an additional 2000 deaths occurred than expected in France alone.¹*

Storms and flooding: *Conservative estimates suggest that around 2.6 billion people were affected by floods between 1980 and 2009, causing more than 500,000 deaths. If no adaptation measures are taken, health losses associated with storms and floods are very likely to increase as extreme rainfall events, floods and tropical cyclones increase.²*

Why is this important?

Globally, the number of reported weather-related hazards is increasing^{1,2}:

- Reports of extreme weather events have more than doubled in the last 20 years and are expected to continue to increase in many parts of the world.
- Globally, the frequency of extreme weather events is increasing; the mortality associated with these events is also increasing, and the economic damage is declining.²

The last few decades have seen a significant increase in the number of populations living in flood-prone coastal areas, particularly in low-lying countries.³

Climate change has driven an increase in the frequency and intensity of extreme weather events, and has contributed to the increase in the number of tropical cyclones. Together, these changes have led to an increase in the number of weather-related hazards.

What are the health impacts?

Climate change is happening now and will continue to affect the basic requirements for human health: clean air, water, sufficient food and shelter. Without action, the world will face a future without clean air, water, sufficient food and shelter. Additional deaths are projected for 2030s: 38,000 due to heat, 48,000 due to diarrhoea, 95,000 due to childhood undernutrition.

Climate change brings new challenges to the control of infectious diseases. It increases the risk of vector-borne diseases sensitive to temperature and humidity, such as malaria and the diarrhoeal diseases, including schistosomiasis.³ Environmental changes are also a major factor for population displacement.

Climate change threatens the global public health system. It increases the risk of many diseases, and the impact of disasters. For the disaster risk management system to respond to natural, human-induced and combined hazards, it must be able to respond to natural, human-induced and combined hazards, and to the emergencies.²

Risk management considerations

Governments and communities can protect public health from climate-related risks, including climate change, by:

Strengthening health system resilience to manage climate risks^{4,5}

- Strengthening partnerships between emergency management actors, NGOs, private sector, and national health systems to address health risks in climate risk management plans and disaster risk reduction plans.
- Enhancing capacity of health systems for managing short- and long-term climate-related risks, including health risk assessment, early warning and enhanced emergency preparedness for rapid response and recovery from extreme weather events.
- Protecting critical health infrastructure from extreme weather events, ensuring functioning of core public health services during emergencies and making facilities climate-smart with access to sustainable energy (e.g. solar energy, low carbon, low waste)
- Building evidence of impacts and monitoring changes in risk trends over time.

Strengthening surveillance and control of infectious disease against climate risks⁶

- Effective disease surveillance and control become even more important under conditions of rapid environmental change and movement of people, disease vectors and infections.
- Rapid and accurate disease notification at local, national and international levels, in compliance with the International Health Regulations (2005), is the essential basis for planning disease control.
- Approaches such as Integrated Vector Management, which make the best use of proven interventions, such as bed nets, insecticide spraying and environmental management, to control malaria, dengue and other vector-borne tropical diseases, protect against climate risks.



Risk of sea-level rise, Caribbean Sea (B. Carby)

Developing forecasting for extreme weather and public health tailored early warning systems⁵

Developing heat-health action plans which use meteorological information to enhance early warning and effective response over a range of time scales⁶:

- from hours or days (for flood or heat wave warnings),
- to weeks (for seasonal epidemics of vector-borne disease),
- to months (seasonal forecasts of precipitation anomalies allowing planning for flooding or drought),
- to years (for drought and associated food insecurity).

Implementing local public health interventions to build community resilience^{6,7}

- Action on environmental and social determinants of health (e.g. air, water and food quality, housing safety) is critical to protecting populations from broader ranges of expected climate conditions.
- Improving social welfare in emergency situations, particularly educating and empowering women in developing countries, is a fundamental requirement for improving health. It is also essential to strengthening community resilience to disasters and to climate change.
- Screening for and managing cases of malnutrition is needed along with strengthening food security.
- Strategies need to be flexible enough to take into account the diverse composition of modern communities, and include migrants and people from different ethnic and cultural groups, and with different health-seeking behaviours.

References

1. IPCC. *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change. 582 pp (Cambridge University Press, Cambridge, UK, and New York, NY, USA., 2012).
2. IPCC. *Climate change 2014: Impacts, adaptation, and vulnerability: contribution of Working Group II to the Fifth Assessment report of the Intergovernmental Panel on Climate Change*. Vol. 1 (2014).
3. World Health Organization and World Meteorological Organization. *Atlas of health and climate* (2012).
4. World Health Organization. *Quantitative risk assessment of the effects of climate change on selected causes of death, 2030s and 2050s* (2014).
5. World Health Organization. *Operational framework for building climate resilient health systems* (2015).
6. World Health Organization & World Meteorological Organization. *Heatwaves and Health: Guidance on Warning-System Development* (2015).
7. World Health Organization. *Lessons learned on health adaptation to climate variability and change experiences across low- and middle-income countries* (2015).



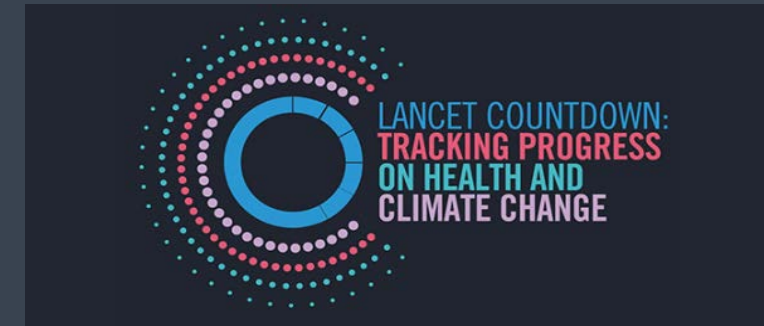
ABOUT US

THE LANCET COUNTDOWN ON HEALTH AND CLIMATE CHANGE

The Lancet Countdown: Tracking Progress on Health and Climate Change is an international research collaboration, dedicated to tracking the world's response to climate change, and the health benefits that emerge from this transition. Reporting annually in *The Lancet*, it will follow a series of indicators, demonstrating that this transition is possible, that it has already begun, but that more work is needed.

Just Released - Nov 28, 2018

The 2018 Report of The Lancet Countdown on health and climate change:



GLOBAL HEAT HEALTH
INFORMATION NETWORK

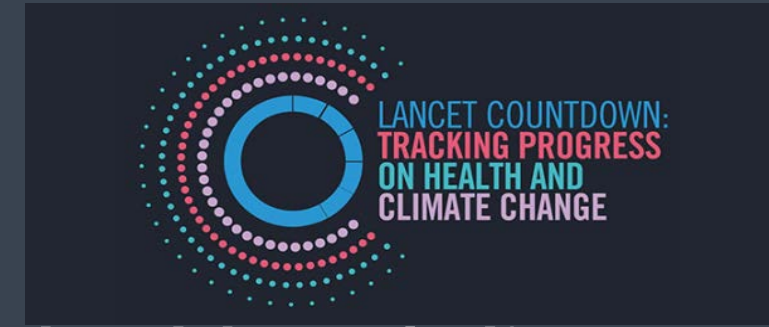




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*The 2018 Report of **The Lancet Countdown on health and climate change**:*

157 million more vulnerable people were subjected to a heatwave last year than in 2000, and 18 million more than in 2016.



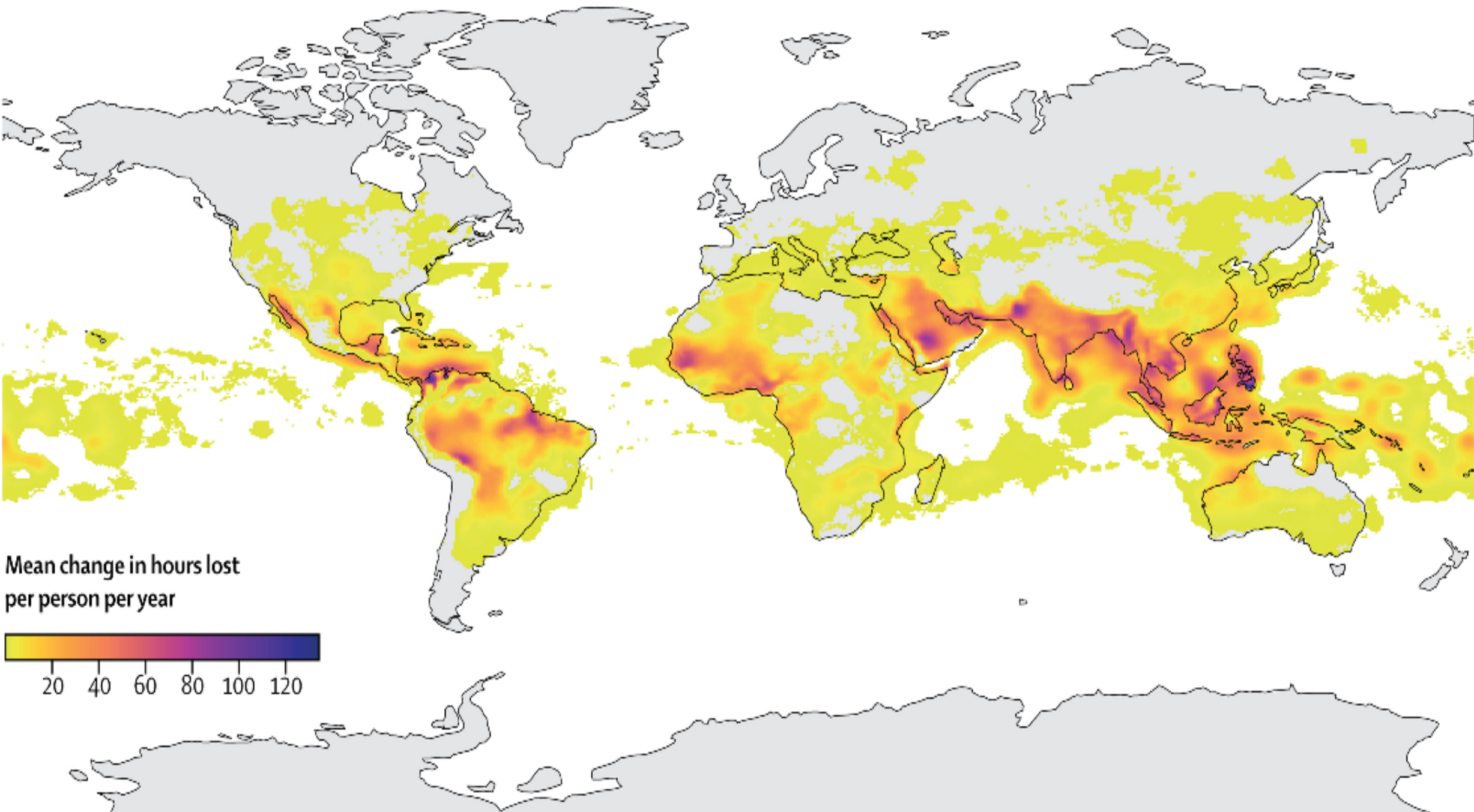
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153 billion hours of work were lost in 2017 due to extreme heat as a result of climate change. China alone lost 21 billion hours, the equivalent of a year's work for 1.4% of their working population.

Labour loss at activity level 400 W, mean change 2000-17 relative to baseline





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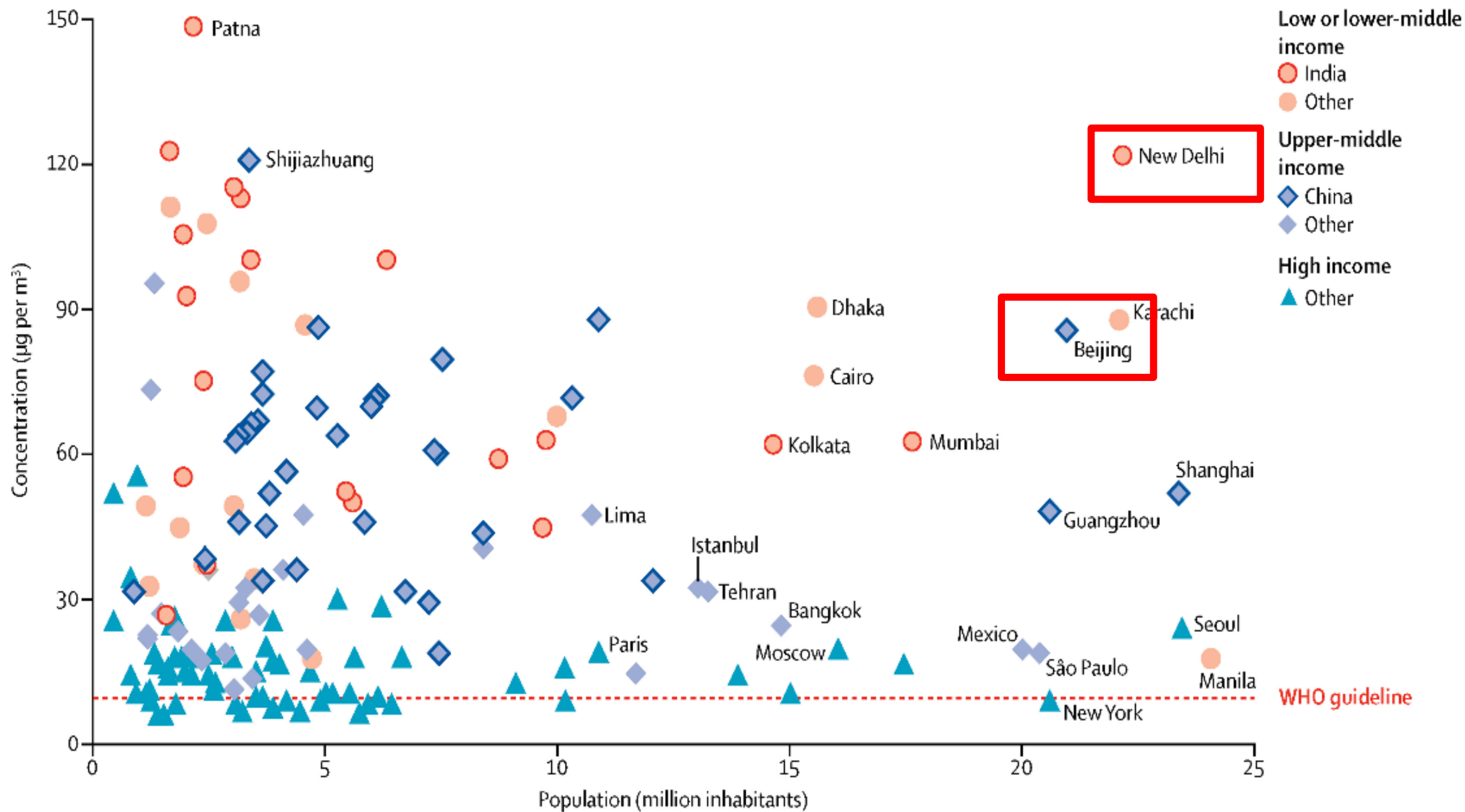
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Heat greatly exacerbates urban air pollution, with 97% of cities in low- and middle- income countries not meeting WHO air quality guidelines.

Average annual outdoor PM2.5 concentrations in selected urban areas



THE ADAPTATION GAP

HEALTH
REPORT





CHAPTER 6

HEAT AND EXTREME EVENTS

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Photo: © Wuttichai (Shutterstock)





Table 6.1: Regional distribution of heat–health action plans

| WHO Region | No. of countries identified as having heat–health action plans | Total heat–health action plans by Region | Countries with heat–health action plans | No. of countries in region |
|-----------------------|--|--|---|----------------------------|
| Eastern Mediterranean | 1 | 2% | 5% | 22 |
| Europe | 35 | 74% | 66% | 53 |
| Americas | 2 | 4% | 6% | 35 |
| South East Asia | 5 | 11% | 45% | 11 |
| Africa | 0 | 0% | 0% | 47 |
| Western Pacific | 4 | 9% | 11% | 37 |
| Total | 47 | - | 23% | 204 |

Source: Data in this table were obtained from the Global Heat Health Information Network Database. Information displayed was obtained through a systematic review of online heat–health action plans undertaken by the WHO and World Meteorological Organization Climate and Health Office in August 2017 (GHHIN, 2018).



Global Climate Action Events at COP24: Full Programme

Global Climate Action

United Nations Climate Change



Public Health
England

What was agreed at COP24? Countries settled on most of the tricky elements of the “rulebook” for putting the 2015 Paris agreement into practice.

When will that be agreed? The key deadline is 2020, when countries must show they have met targets set a decade ago for cutting their emissions, and when they must affirm new, much tougher targets.

What does the science say? IPCC, the global body of the world’s leading climate scientists, warned two months ago that allowing warming to reach 1.5C above pre-industrial levels would have grave consequences, including the die-off of coral reefs and devastation of many species.

How long have we got? If we extrapolate from the IPCC’s findings, the world has little more than a decade to bring emissions under control and halve them, which would help to stabilise the climate.



<https://www.theguardian.com/environment/2018/dec/16/what-was-agreed-at-cop24-in-poland-and-why-did-it-take-so-long>

12 YEARS

LEFT

#CLIMATE STRIKE



Making a difference in context of disaster risk reduction

- The Sendai Framework provides an agreed **method to enhance capabilities to plan and prepare for, respond to, and recover from heatwaves emergencies and disasters and other public health emergencies in partnership**
- **Offers an opportunity to engage at a global level with stakeholders on guidance and policy issues that could impact national and local preparedness**





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- Ritsuko Yamazaki-Honda, David Stevens, Ricardo Mena and others (UNISDR)
- And many others

