



JOINT OFFICE FOR CLIMATE AND HEALTH

Harnessing Climate Science and Services for Healthier Societies

**Pathways to Sustainable Growth Under a Changing Climate
APEC Climate Symposium, Punta Arenas Chile
August 20-22, 2019**

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Overview: Getting to Impact

- Health and climate in context the SDGs
- Four opportunities for climate services to help build healthier societies
- Four frontiers of public health and technology to shape next generation climate services



Health is at the **Beginning Center End** of development pathways



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Health of the biosphere:
water, climate, land and oceans
underlie healthy, prosperous, peaceful societies



Graphics by Jerker Lokra



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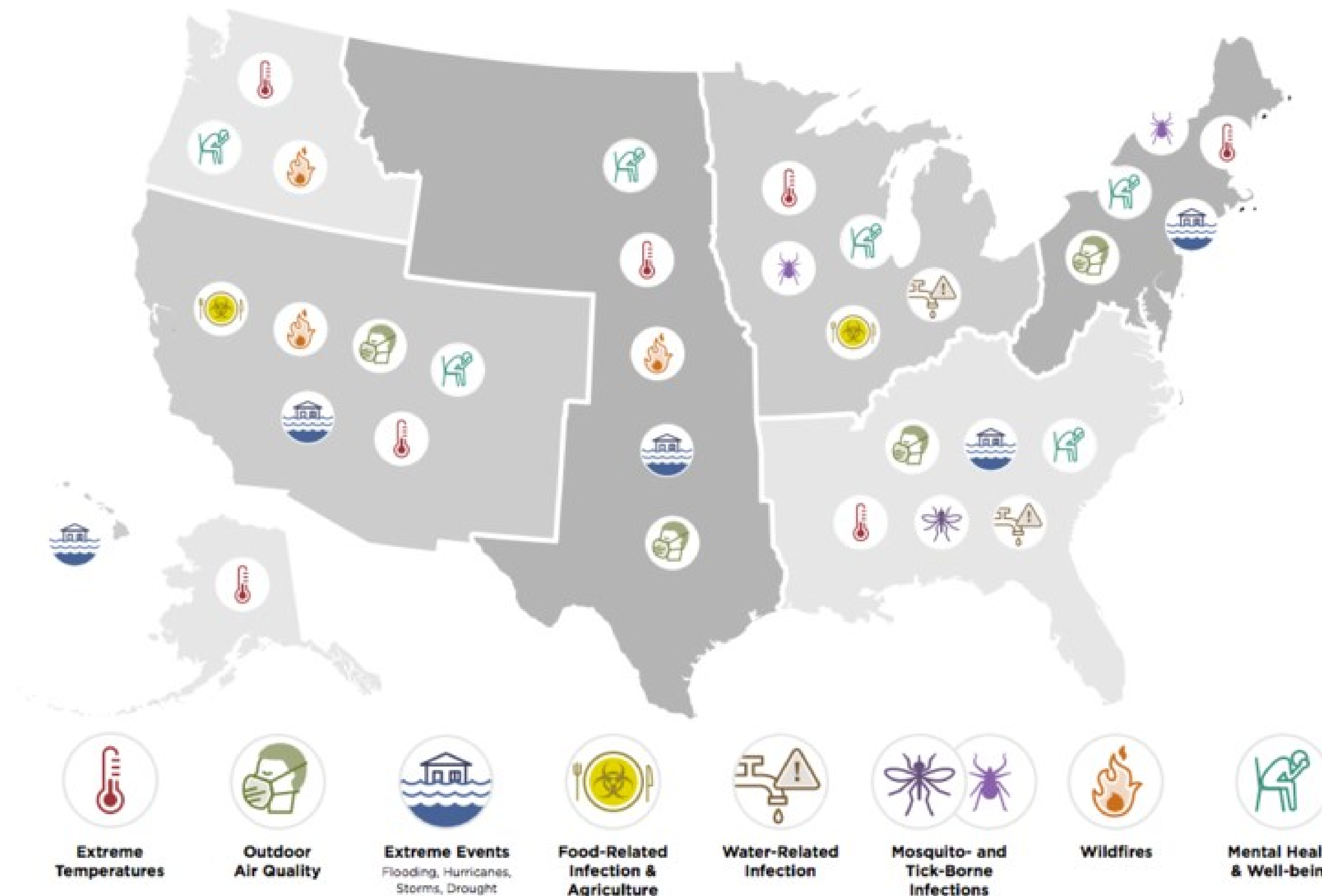
Climate services provide the **intelligence** to guide us to build healthy societies and protect them from setbacks.



How does climate influence health?

HOW OUR HEALTH IS HARMED BY CLIMATE CHANGE

Impacts Differ by Geographic Region



Source: USGCRP

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How does climate influence health?



Table 3. Highest priority climate-sensitive health risks in Pacific island countries

CLIMATE-SENSITIVE HEALTH RISK	COUNTRY												
	Cook Islands	Fiji	Kiribati	Marshall Islands	Micronesia (Federated States)	Nauru	Niue	Palau	Samoa	Solomon Islands	Tonga	Tuvalu	Vanuatu
Direct effects													
Health impacts of extreme weather events ¹	x	x		x	x	x	x	x	x	x	x	x	x
Heat-related illness ²	x					x	x			x			x
Indirect effects													
Water security & safety (including waterborne diseases) ³	x	x	x	x	x	x	x	x	x	x	x	x	x
Food security & safety (including malnutrition & foodborne diseases) ⁴	x	x	x	x	x	x	x		x	x	x	x	x
Vector-borne diseases ⁵	x	x	x	x	x	x	x	x	x	x	x	x	x
Zoonoses ⁶		x			x			x					
Respiratory illness ⁷	x			x	x	x	x	x		x		x	x
Disorders of the eyes, ears, skin and other body systems ⁸		x		x			x			x		x	x
Diffuse effects													
Disorders of mental/psychosocial health ⁹		x		x	x	x		x		x		x	x
Noncommunicable diseases (NCDs) ¹⁰		x		x	x		x	x		x	x	x	x
Health systems problems ¹¹		x	x										
Population pressures ¹²			x										



Climate Service Access and Use in the Health Sector

Status: underserved

2019 Indicator 2.5*

The National Meteorological Hydrological Services (**NMHS**) of **70/193 countries** report **engagement** (n=35) and **providing** (n=35) climate services to the health sector.



Review

2017 Regional Breakdown

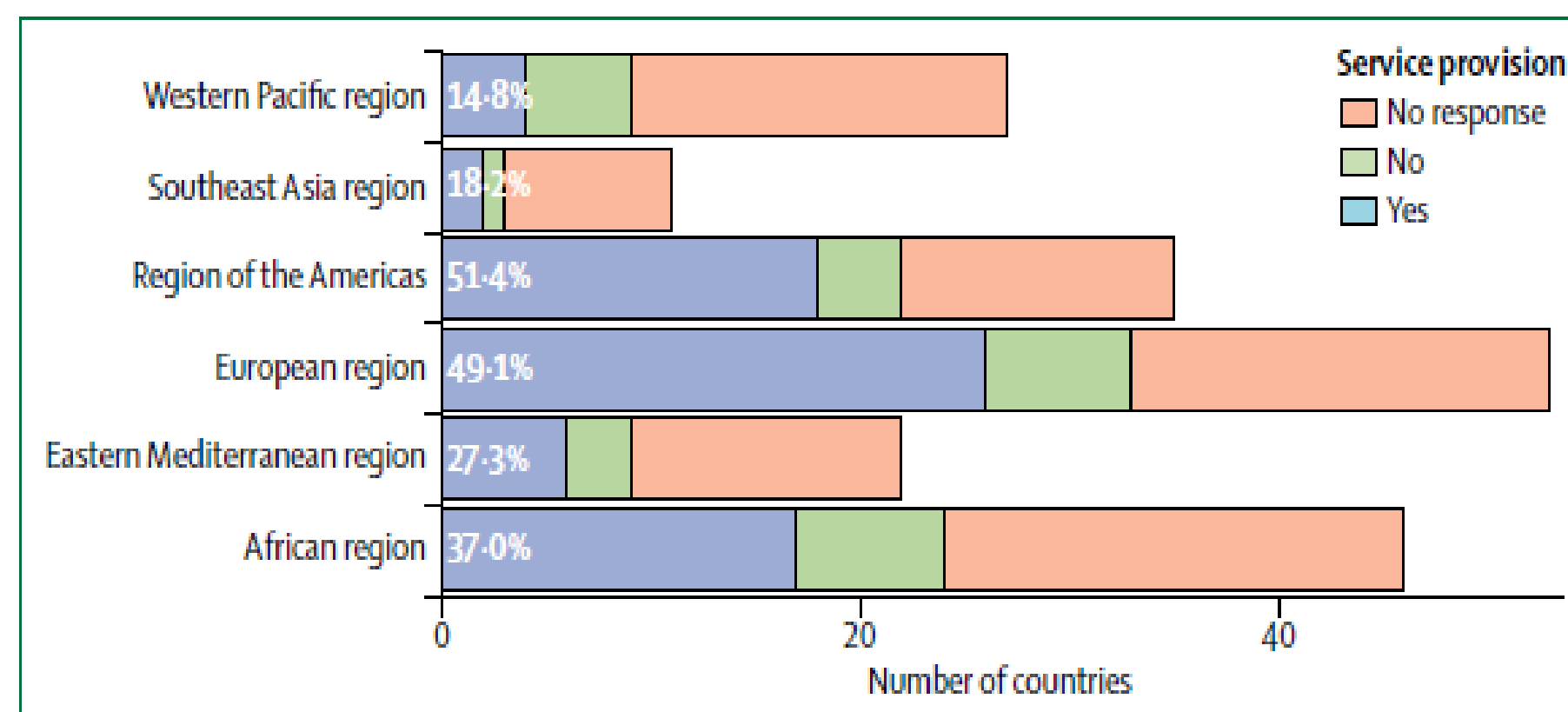


Figure 14: National Meteorological and Hydrological Services of WHO member states reporting to provide targeted or tailored climate information, products, and services to the health sector

*unpublished. Publication Nov 2019

The Lancet Countdown on health and climate change: from 25 years of inaction to a global transformation for public health

Nick Watts, Markus Amann, Sergio Abood, Kullervo Haahtela, Timothy B. Heffernan, Marcello D. Borrelli, Peter D. Jacob, Wenzhi Li, Clara M. Campbell-Lendrum, Jonathan Churcher, Peter M. Cox, Mounir Dohy, Nihar Dhanraj, Michael Davies, Michael Degradation, Anandana Dasgupta, Paulo Domingos, Sofia, Paul Drummond, Paul Ekins, Antonio Estay, Louise E. Fleming, Lucien Garschina, Montagu Ghezi, Dalia Grossi, Mary Graham, Rebecca Greenway, Andy Hayman, Ian Hamilton, Sudeep Khatiwala, Anne Johnson, Ben Kew, George Kremenetsky, Dominic Kruttschnitt, Li Liang, Malin Lind, Robert Lucas, Gergely Mészáros, Magyori Dániel, Suman Math, Mark Maslin, Suman Mishra, James M. Mearns, Ali M. Mousa, Li Qiang, Maria Neill, Karim Nisari, Eric Parag, Tara N. Srinivasan, Mark S. Timlin, Toshihiro Ueda, David P. Verzone, S. Venkatesh, M. V. Venkatesh, Elizabeth Robinson, Louise Robinson, Stefanie Schott, Jay Shrivastava, Gail Steiner, Rebecca Steinbach, Mervin T. Subramanian, Nicola Whitley, Paul Williams, Peng Gong, Hugh Montgomery, Anthony Costello

Executive summary
The Lancet Countdown tracks progress on health and climate change and provides an independent assessment of the health effects of climate change, the implementation of the Paris Agreement, and the health implications of these actions. It follows on from the work of the 2015 Lancet Commission on Health and Climate Change, which concluded that anthropogenic climate change threatens to undermine the past 50 years of gains in public health, and conversely, that a comprehensive response to climate change could be the greatest global health opportunity of the 21st century.

The Lancet Countdown is a collaboration between 24 academic institutions and intergovernmental organizations based in every continent and with representation from a wide range of disciplines. The collaboration includes climate scientists, ecologists, economists, engineers, experts in energy, food, and transport systems, geographers, mathematicians, social and political scientists, public health professionals, and doctors. It reports annual indicators across five sectors: climate change impacts, exposures, and vulnerability; adaptation planning and resilience for health; mitigation actions and health co-benefits; economics and finance; and public and political engagement.

The key messages from the 40 indicators in the Lancet Countdown's 2017 report are summarised below.

The human symptoms of climate change are unequivocal and potentially irreversible—affecting the health of populations around the world today. The impacts of climate change are disproportionately affecting the health of vulnerable populations and people in low-income and middle-income countries (LMICs), by undermining the social and environmental determinants that underpin good health; climate change exacerbates social, economic, and demographic inequalities, with the impacts unevenly felt by all populations.

The evidence is clear that exposure to more frequent and intense heatwaves is increasing, with an estimated 125 million additional vulnerable adults exposed to heatwaves between 2000 and 2016 (Indicator 1.2). During this time, increasing ambient temperatures have resulted in an estimated reduction of 1.3% in outdoor manual labour productivity worldwide (Indicator 1.3). As a whole, the frequency of weather-related disasters has increased by 46% since 2000, with no clear upward or downward trend in the lethality of these extreme events (Indicator 1.4), potentially suggesting the beginning of an adaptive response to climate change. Yet the impacts of climate change are projected to worsen with time, and current levels of adaptation will become insufficient in the future. The total value of economic losses resulting from climate-related events has been increasing since 1990, reaching US\$129 billion in 2016. 99% of these economic losses in low-income countries were uninsured (Indicator 4.4). Additionally, in the longer term, altered climatic conditions are contributing to growing vectorial capacity for the transmission of dengue fever by Aedes aegypti, reflecting an estimated 9.4% increase since 1950 (Indicator 1.6).

If governments and the global health community do not learn from the past experiences of HIV/AIDS and the recent outbreaks of Ebola and Zika viruses, another slow response will result in an irreversible and unacceptable cost to human health.

The delayed response to climate change over the past 25 years has jeopardised human life and livelihoods. Since the UN Framework Convention on Climate Change (UNFCCC) commenced global efforts to tackle climate change in 1992, most of the indicators tracked by the Lancet Countdown have either shown limited progress, particularly with regards to adaptation, or moved in the wrong direction, particularly in relation to mitigation. Most fundamentally, carbon emissions and global temperatures have continued to increase.

An increasing number of countries are assessing their vulnerabilities to climate change, developing adaptation and emergency preparedness plans, and providing climate information to health services (Indicators 2.1, 2.3–2.6). The same is seen at the city level, with more than 469 cities around the world

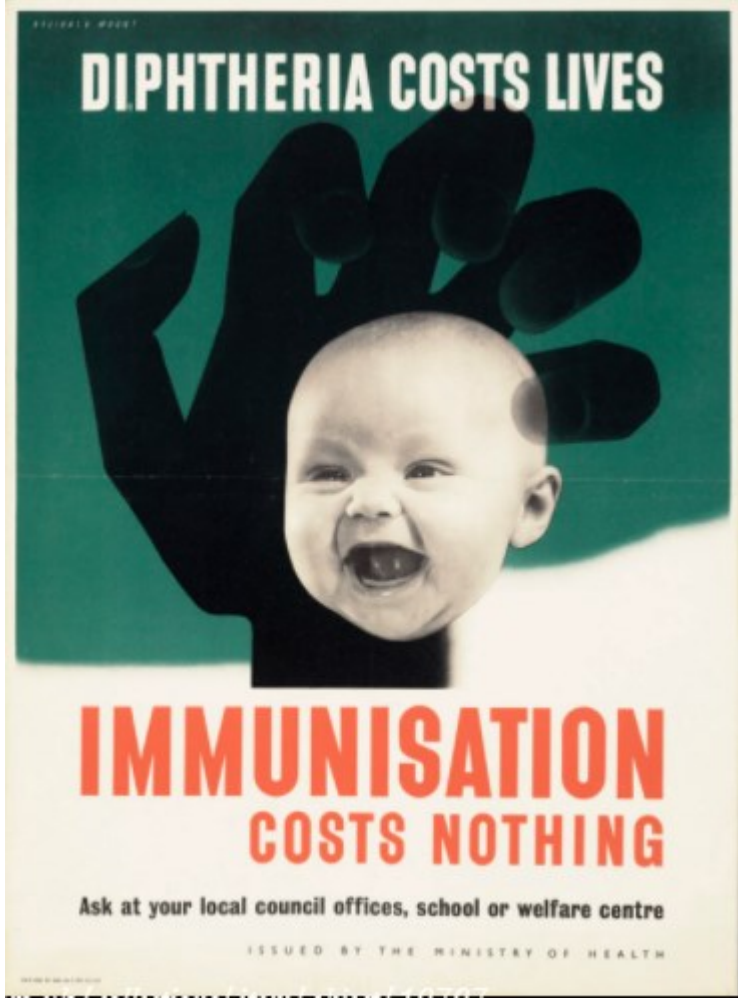
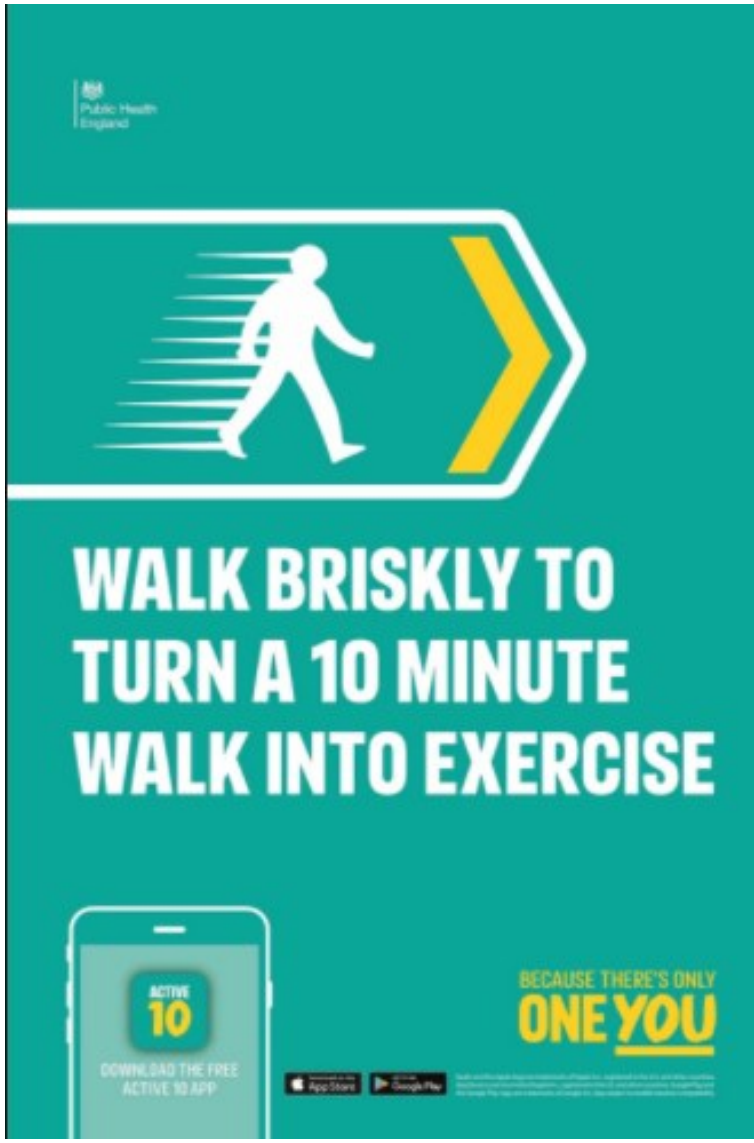
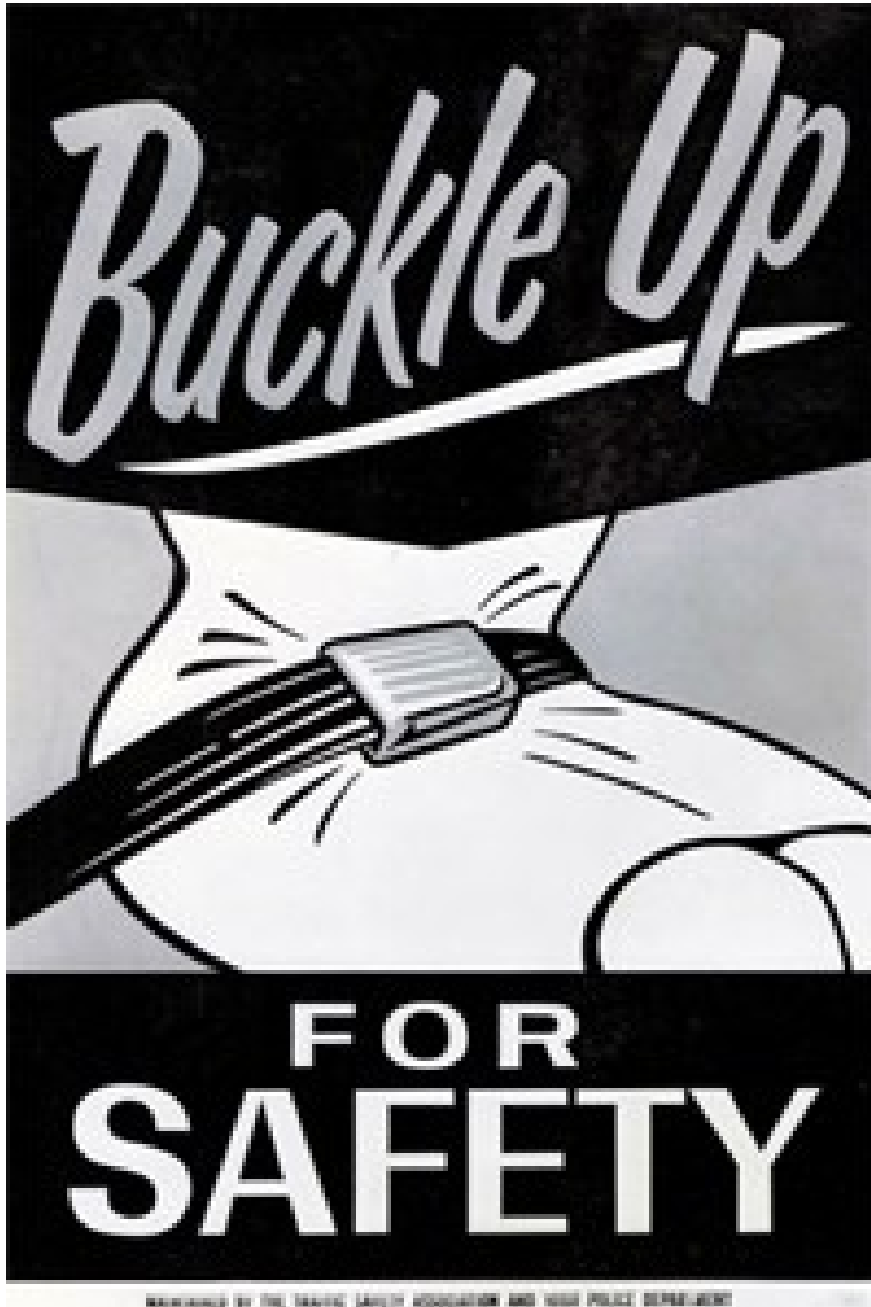


Four opportunities for climate science & services to build healthier societies



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Health sector has strong track record of successful evidence-based **advocacy, behavior change, policy change.**



Health sector has strong track record of successful evidence-based **advocacy, behavior change, policy change.**



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Doctors
are trusted
voices

YOUR HEALTH

Has Your Doctor Talked To You About Climate Change?

July 13, 2019 · 8:26 AM ET
Heard on Weekend Edition Saturday

MARTHA BEBINGER



People care
about their
health



US President Barack Obama at children's asthma ward, during launch of US national climate plan, May 2014.

Messages of health co-benefits of climate change mitigation resonate

#ClimateChange

WHAT CAN WE DO ABOUT CLIMATE CHANGE?

We can do a lot to protect ourselves, our families, and future generations.

Our transport systems are inefficient, polluting and drive CO2 into the atmosphere, which directly harms the environment and our health.

The same can be said of our energy and food systems. The livestock sector is responsible for significant greenhouse gas emissions.

CLEAN ENERGY
Cleaner, more efficient energy choices will go a long way to reducing emissions.

SUSTAINABLE TRANSPORT
Instead, we should walk, cycle and use public transit. This will clean the air, increase physical activity, and reduce additional diseases like obesity.

SUSTAINABLE FOOD SYSTEMS & HEALTHY DIETS
Cutting down on red and processed meat and increasing fruit and vegetable intake in high-consuming populations will reduce emissions and diseases like cancer and heart disease.

An infographic with a green and yellow background. It features icons for a factory, a car, a bicycle, a bus, a wind turbine, a solar panel, a cow, and a hamburger. Arrows point from the text boxes to these icons. The World Health Organization logo is in the bottom right corner.

World Health Organization



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Global advocacy movement of health and medical professionals

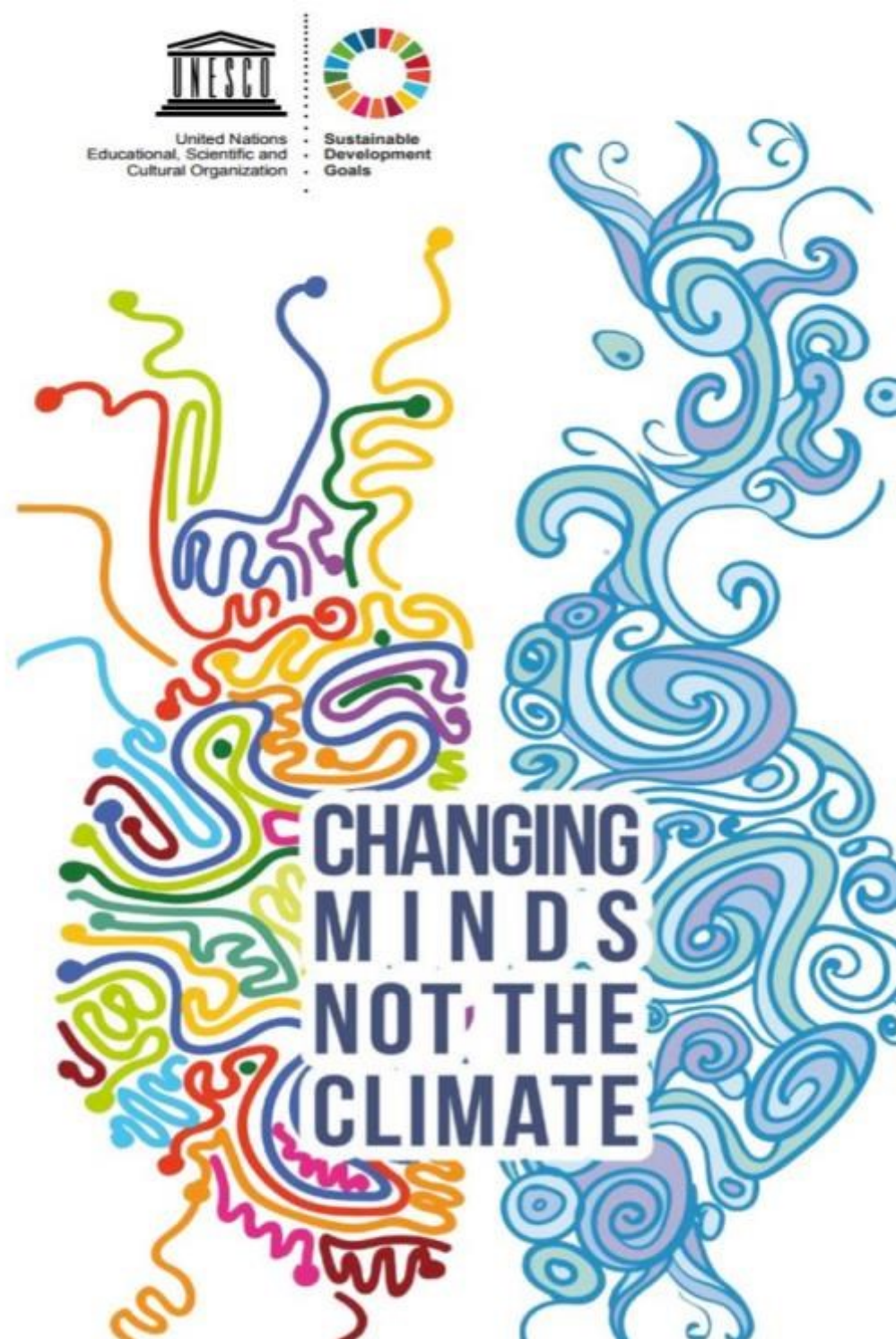


Your results are back. It's climate change. Just how many greenhouse gases have you been consuming?



1

Empower Educate and Inform people



We should all be concerned citizens using science for climate action

- ***Training***
- ***Impact assessments***
- ***Translation***
- ***Communicating to the public***



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WHO/UNFCCC Climate & Health Country Profiles

1 CURRENT AND FUTURE CLIMATE HAZARDS

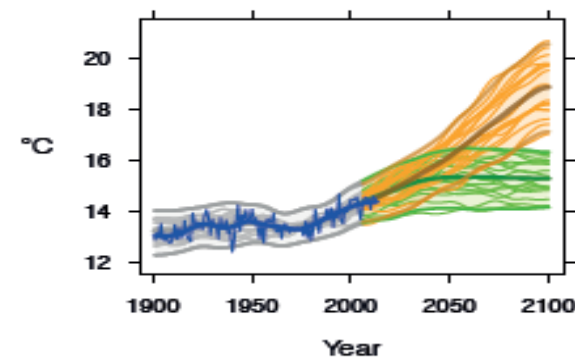
Due to climate change, many climate hazards and extreme weather events, such as heat waves, heavy rainfall droughts, could become more frequent and more intense in many parts of the world.

Outlined here are country-specific projections up to the year 2100 for climate hazards under a 'business as usual' emissions scenario compared to projections under a 'two-degree' scenario with rapidly decreasing global emissions. Most hazards caused by climate change will persist for many centuries.

COUNTRY-SPECIFIC CLIMATE HAZARD PROJECTIONS

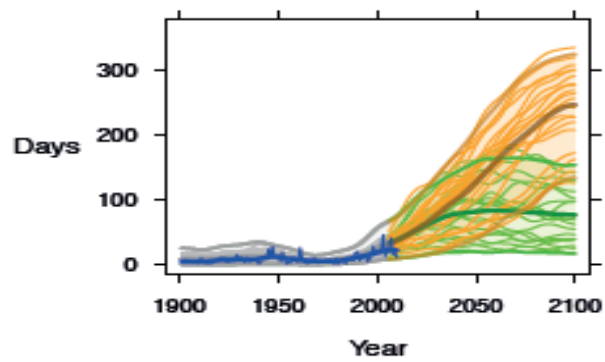
The model projections below present climate hazards under a high emissions scenario, Representative Concentration Pathway 8.5 [RCP8.5] (in orange) and a low emissions scenario, [RCP2.6] (in green). [1] The boxes describe the projected changes averaged across about 20 models (thick line). The figures also show model individually as well as the 90% model range (shaded) as a measure of uncertainty and, where available, the annual and smoothed observed record (in blue). [2,3]

MEAN ANNUAL TEMPERATURE



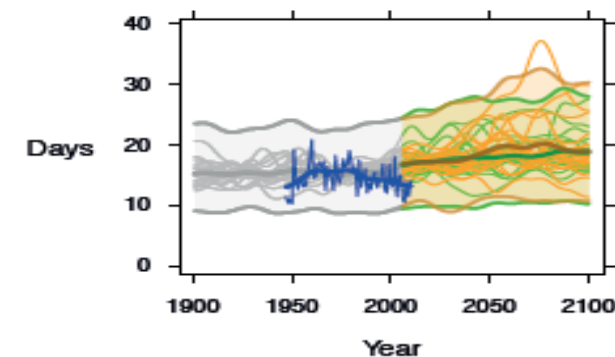
Under a high emissions scenario, mean annual temperature is projected to rise by about 5.1°C on average from 1990 to 2100. If global emissions decrease rapidly, the temperature rise is limited to about 1.6°C.

DAYS OF WARM SPELL ('HEAT WAVES')



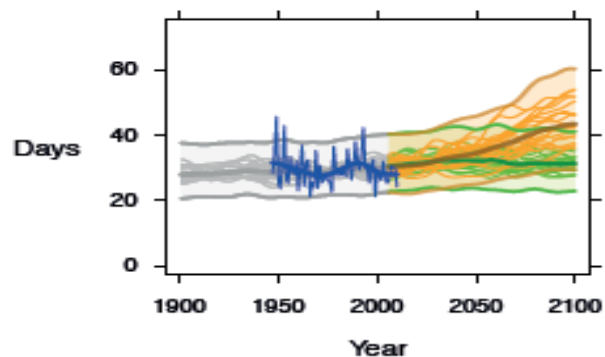
Under a high emissions scenario, the number of days of warm spell [4] is projected to increase from 10 days in 1990 to about 250 days on average. If global emissions decrease rapidly, the days of warm spell are limited to about 75 on average.

DAYS WITH EXTREME RAINFALL ('FLOOD RISK')



Under a high emissions scenario, the number of days with very heavy precipitation (20 mm or more) could increase by about 4 days on average from 1990 to 2100, increasing the risk of floods. Some models indicate increases outside the range of historical variability, implying even greater risk. If global emissions decrease rapidly, the risk is slightly reduced.

CONSECUTIVE DRY DAYS ('DROUGHT')



Under a high emissions scenario, the longest consecutive dry days is indicated to increase from an average of about 20 days to just under 45 days, with continuing large day-to-day variability. If global emissions decrease rapidly, there is little change in the length of dry spells.

2 CURRENT AND FUTURE HEALTH RISKS DUE TO CLIMATE CHANGE

Human health is profoundly affected by weather and climate. Climate change threatens to exacerbate health problems – deaths from extreme weather events, cardiovascular and respiratory diseases, and malnutrition – whilst undermining water and food supplies, infrastructure, and social protection systems.

HEAT-RELATED MORTALITY

In the international context, Italy has the highest heat-related effects on daily mortality considering both hot temperatures (from 90th to 99th percentile, 4 degrees on average) and overall summer temperatures (from minimum mortality temperature (MMT) to 99th percentile) [1]. However, there is heterogeneity among Italian cities both in the heat effect and in the MMT. Heat effects are greater in larger urban areas (Turin, Milan, Bologna, Florence, Rome, Naples) and a progressive increase in MMT levels can be observed from North to South of Italy and throughout summer, thus accounting for local climate and population physiological adaptation. A decreasing trend in heat-related mortality risk was observed in Italian cities after the introduction of the national heat prevention plan. In particular the reduction was shown for extreme temperatures when warnings were issued and prevention measures were activated [2]. The increase in frequency and intensity of heat waves together with population ageing will have a significant impact on health in the future. Summer 2015 was associated with a 13% increase in deaths attributable to heat among the population aged 65+ [3].

Fig 2.1. Pooled relative risks for the association of hot temperatures with deaths cumulated over lags of 0–21 days in 12 countries/regions

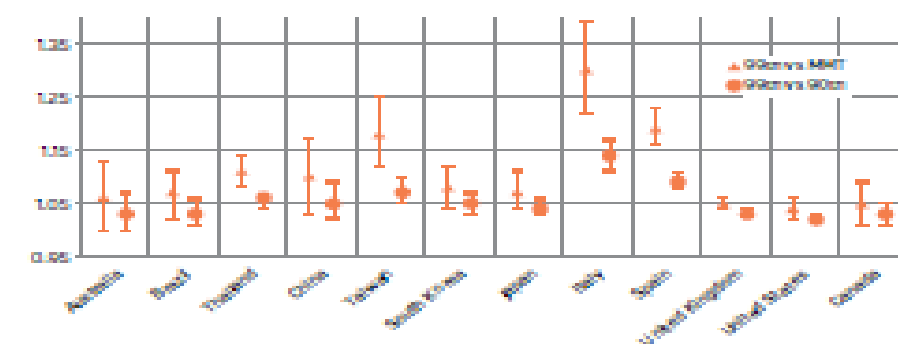


Figure adapted from: Guo, Yuming, et al. "Global variation in the effects of ambient temperature on mortality: a systematic evaluation." *Epidemiology* (Cambridge, Mass.) 25.6 (2014): 781.

KEY IMPLICATIONS FOR HEALTH

The greatest contribution to heat-related mortality is in terms of cardiovascular diseases on both fatal and non-fatal. High risk subgroups more affected by heat include the elderly, alone, residents of low-income areas, those affected by chronic diseases, COPD, mental disorders, or those taking medications [4]. Seasonal exposure to heat, air pollution and infectious diseases, in particular influenza, can increase heat-related mortality [3].

STRATEGY FOR PREVENTION OF HEAT-RELATED EFFECTS

Since 2004, the Department of Health, the Ministry of Health, have implemented a national program for the prevention of heat-related effects, focused on the elderly and on the most vulnerable populations (5). Starting from the largest cities, the program was gradually extended to reach national coverage, and 93% of urban residents.

- identification of lead bodies;
- city-specific warning systems;
- national prevention guide and communication campaign [7];
- preparedness and emergency and social care systems;
- registries for the identification of high risk subgroups;
- local prevention plans targeted to susceptible subgroups during heat waves a rapid "real time" mortality and morbidity surveillance;
- evaluation of warning systems and prevention programs introduced.

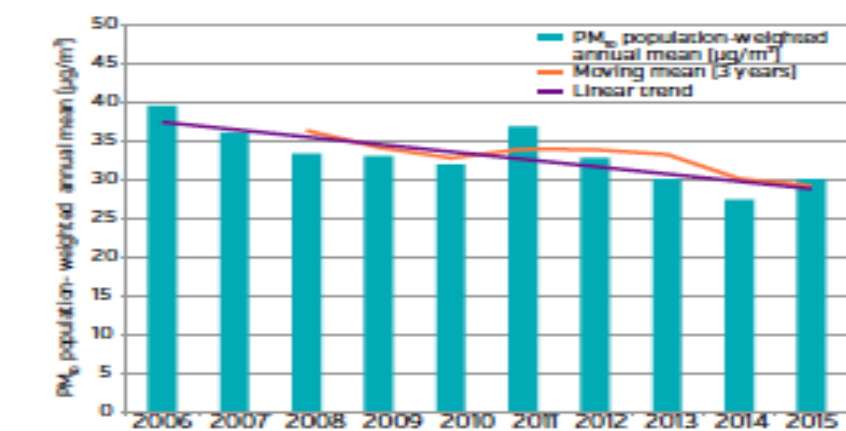
3 CURRENT EXPOSURES AND HEALTH RISKS DUE TO AIR POLLUTION

Many of the drivers of climate change, such as inefficient and polluting forms of energy and transport systems, also contribute to air pollution. Air pollution is now one of the largest global health risks, causing approximately seven million deaths every year. There is an important opportunity to promote policies that both protect the climate at a global level, and also have large and immediate health benefits at a local level.

OUTDOOR AIR POLLUTION: RECENT TRENDS IN EXPOSURE

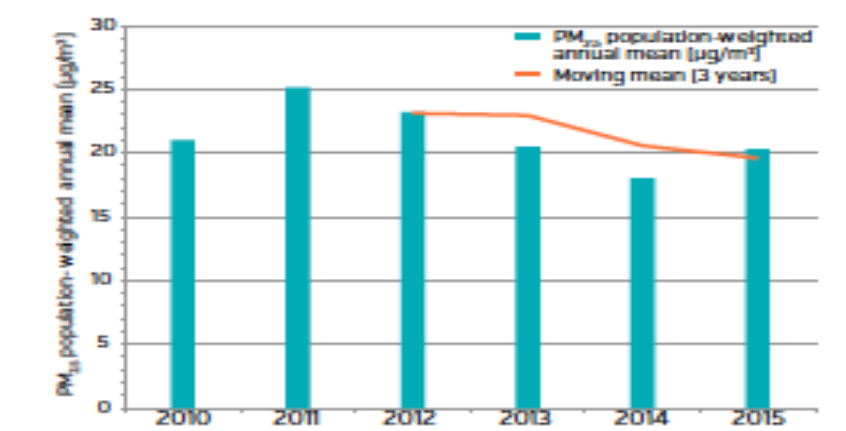
In Italy, significant progress has been achieved during the last decades in improving outdoor air quality. The adoption of specific measures and regulations, as in the rest of Europe, allowed a significant reduction of main pollutant emissions, determining, therefore, a coherent decrease in the measured concentration of primary pollutants (i.e. SO₂, CO, C₆H₆).

Fig 3.1. PM₁₀ exposure at national level, population-weighted annual mean (µg/m³).



Source: Environmental Data Yearbook ISPRA (2018). Data from urban background monitoring stations.

Fig 3.2. PM_{2.5} exposure at national level, population-weighted annual mean (µg/m³).



Source: Environmental Data Yearbook ISPRA (2018). Data from urban background monitoring stations.

KEY IMPLICATIONS FOR HEALTH

Both short- and long-term exposure to air pollution can have direct and sometimes severe consequences for health. Air pollutants, especially fine particulate matter, which penetrate deep into the respiratory tract subsequently increase risk of ischemic heart disease, stroke, chronic obstructive pulmonary disease, (COPD) and other respiratory diseases such as asthma in adults, and poses a considerable health threat to future generations. Outdoor air pollution is carcinogenic to humans, with the PM component of air pollution most closely associated with increased cancer incidence, especially lung cancer.

The health impacts of air pollution can be amplified in urban environments, where most of the Italian population lives. The population is exposed to a mix of chemical pollutants and physical stressors dangerous for health, mainly produced by traffic, domestic heating and, in some areas, by closeness to industrial plants.

The chemical composition of particulate matter, due to the spatial distribution of different sources in Italy (industrial, heating, transport, natural, etc.), could lead to differences in the incidence of specific pathologies in the exposed population.

PM₁₀ population weighted concentrations from 2006 to 2015, show a overall reduction trend at national level, (fig 3.1), while for PM_{2.5}, there is a lack of sufficient years available to evidence a statistically significant trend. In data observed by monitoring stations (Fig. 3.2). However it is evident that annual means at national level, in both PM₁₀ and PM_{2.5}, are above WHO guidelines values.



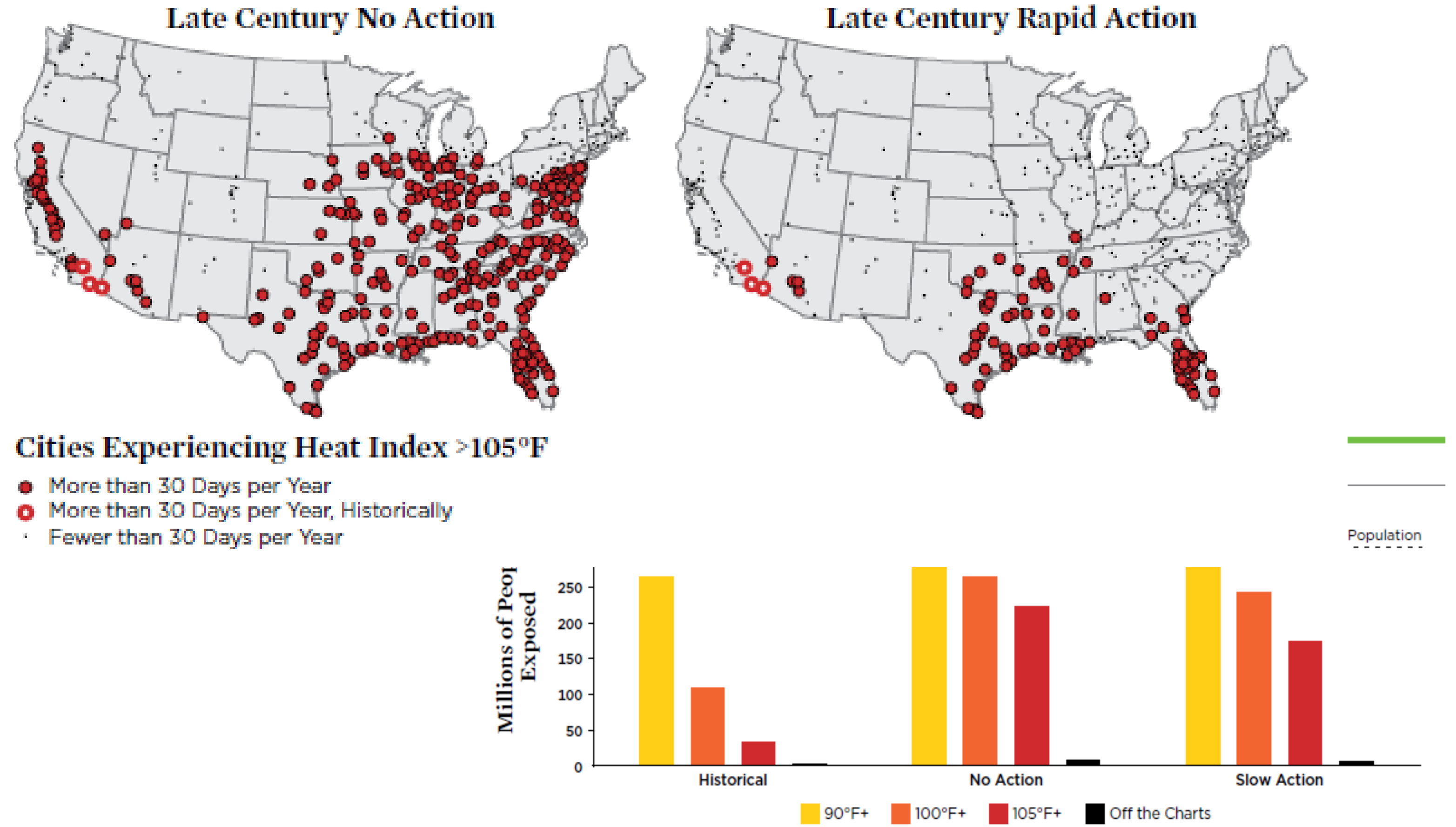
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Killer Heat in the United States

Climate Choices and the Future of Dangerously Hot Days



FIGURE 10. Urban Areas Face Frequent, Extreme Heat by Late Century



Taking no action or slow action to reduce global heat-trapping emissions would expose millions more US residents to an average of seven or more days per year of extreme heat index conditions by midcentury, even when assuming no changes in population.

2

Discover potential



Myth 1

"Health people don't know what climate information they want"



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Understand the mission and methods of public health



Preventing people from getting sick

- Prevent epidemics and spread of disease
- Protect against environmental hazards
- Prevent injuries
- Promote and encourage healthy behaviours
- Respond to disasters and assist communities in recovery
- Assure the quality and accessibility of services

Source: www.health.gov/phfunctions/public.htm



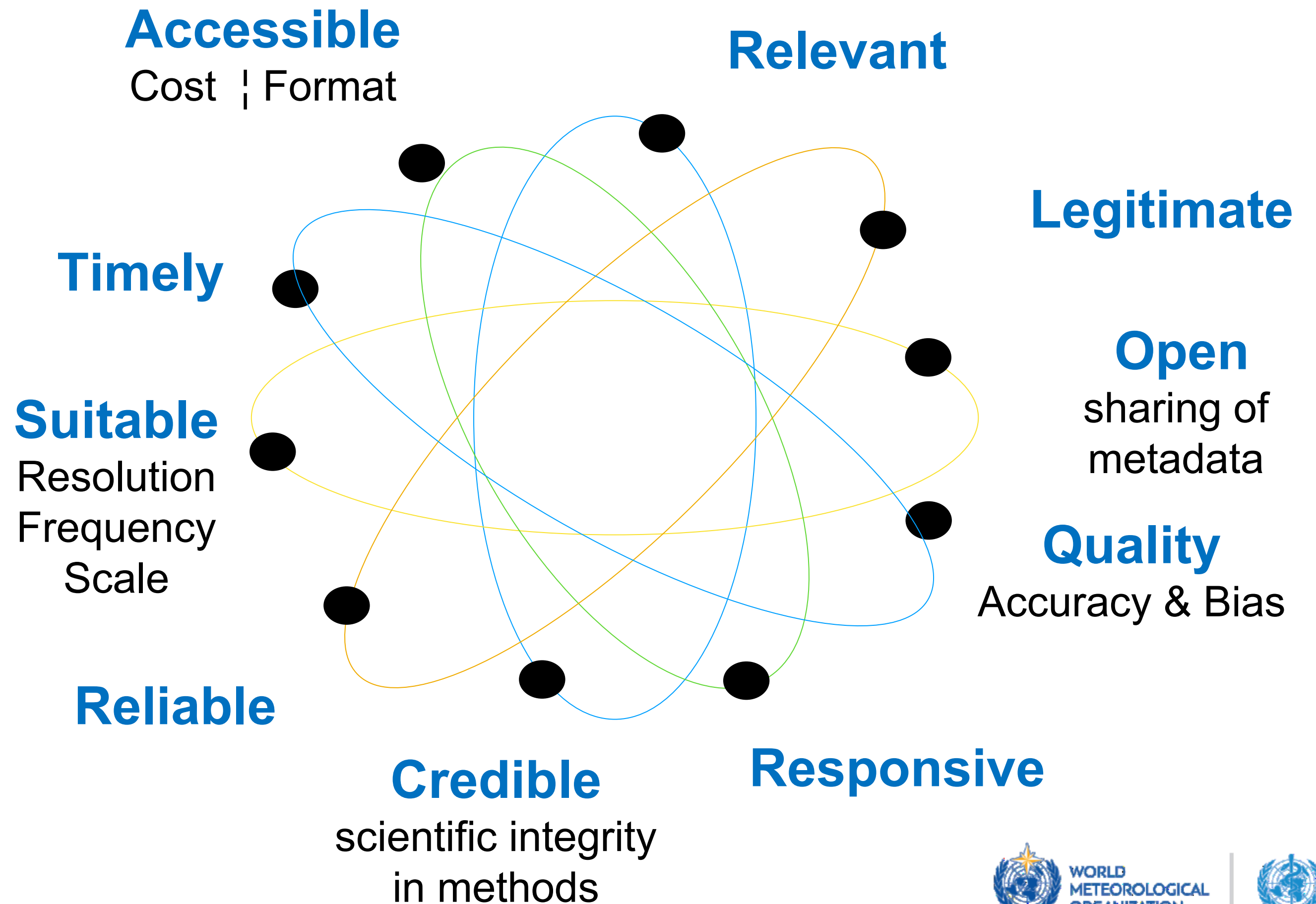
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	Toolbox	Requirements	Examples
Past UNDERSTAND	<ul style="list-style-type: none"> • Descriptive baselines of health outcomes and risks • Descriptive analyses of local climate conditions (climatology/seasonality, ENSO influence) • Spatial and temporal epidemiological analyses of sensitivity: mechanistic and ecological impact studies • Analysis of population exposure and vulnerability 	<ul style="list-style-type: none"> ✓ Climate Services to provide historical Climate Data ✓ Sufficient historical Epidemiological Data ✓ Analytical Capacity 	<ul style="list-style-type: none"> › V&A Assessment › Climate Profiles › Scientific Literature
Present MONITOR	<ul style="list-style-type: none"> • Indicators, Indices, Thresholds • Risk Assessments • Seasonal Climate Bulletins • Risk monitoring • Integrated surveillance systems 	<ul style="list-style-type: none"> ✓ Consistent Climate Data Access ✓ Systems based data collection ✓ Decision process to feed into 	<ul style="list-style-type: none"> › Meningitis Bulletin › Air Quality and UV Indices › Outbreak Monitor
Future ANTICIPATE	<ul style="list-style-type: none"> • Disease Modeling and Mapping • Environmental Suitability Modeling and Mapping • Severe Weather Alerts • Early Warning Systems • Seasonal Forecasts and Impact Calendars • ENSO prediction and Monitoring • Climate Projections • Climate Scenarios 	<ul style="list-style-type: none"> ✓ Weather and Climate Services to provide SW Alerts, forecasts, projections, scenarios ✓ Partnerships 	<ul style="list-style-type: none"> › Weather and Emergency Advisories › Seasonal Disease Calendar › ENSO Profiles
Future PREPARE	<ul style="list-style-type: none"> ✓ Action Plans ✓ Adaptation Plans ✓ Risk Management ✓ Resilience Building ✓ Awareness, Communications, and Mobilization 	<ul style="list-style-type: none"> ✓ Sufficient evidence and understanding ✓ Political and social will ✓ Resources 	<ul style="list-style-type: none"> › Heat Action Plans › Safe Hospitals › H-National Adaptation Plans



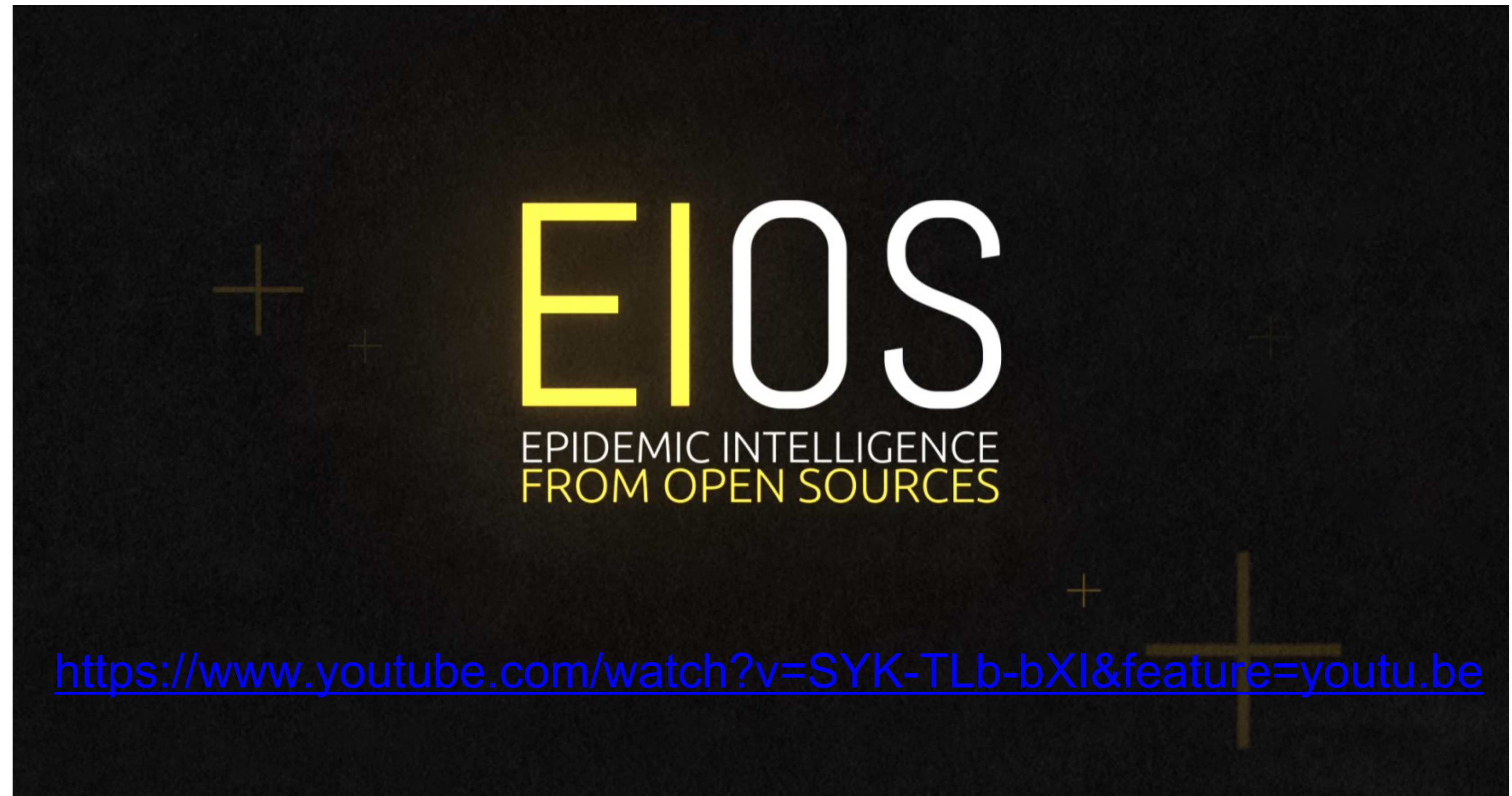
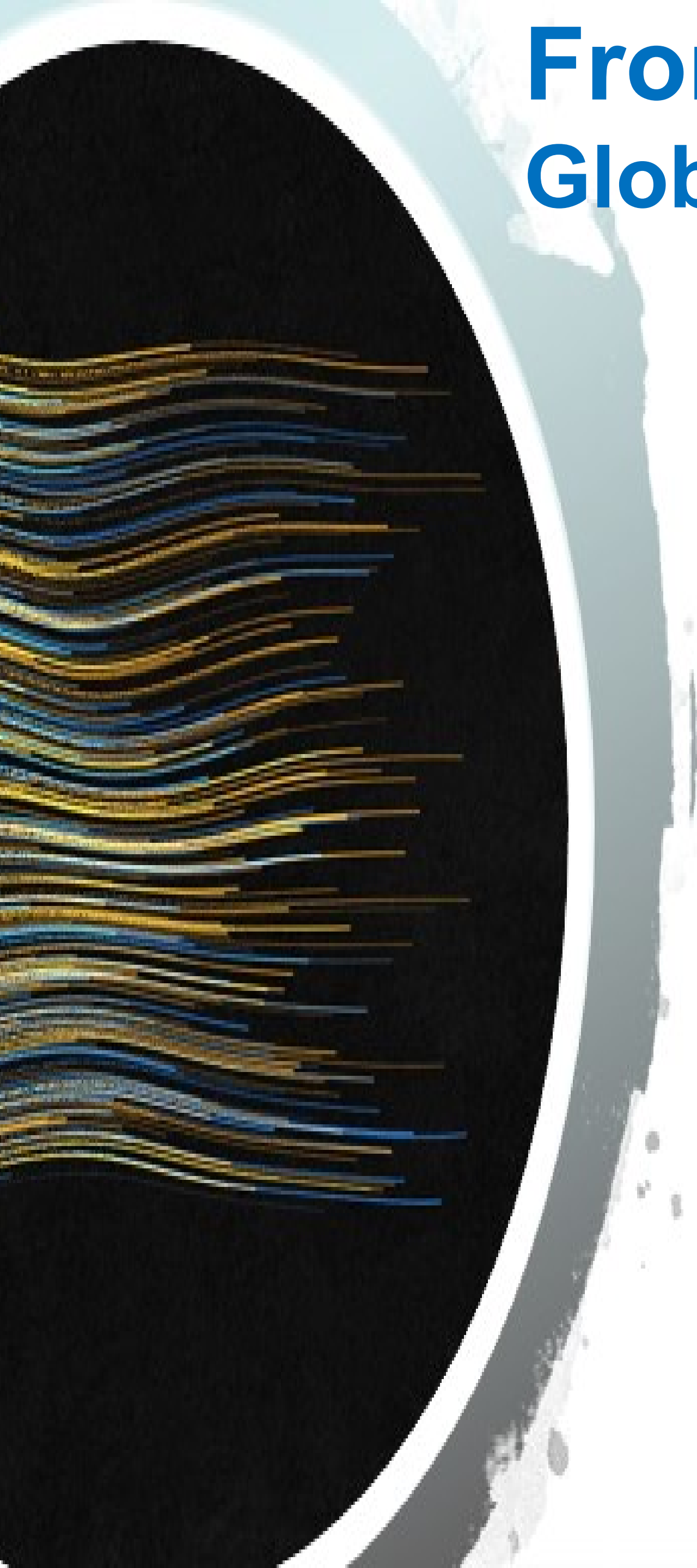
Health professionals are held to high ethical and professional standards to avoid malpractice and harm.

Understand expectations of climate information



Frontiers in health technology

Global Risk Detection & Early Warning



A unique collaboration between WHO and various stakeholders to create a unified **all-hazards, One Health approach to early detection, verification and assessment of public health risks and threats**, using open source information.



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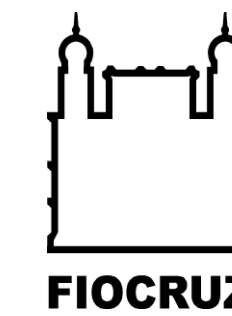
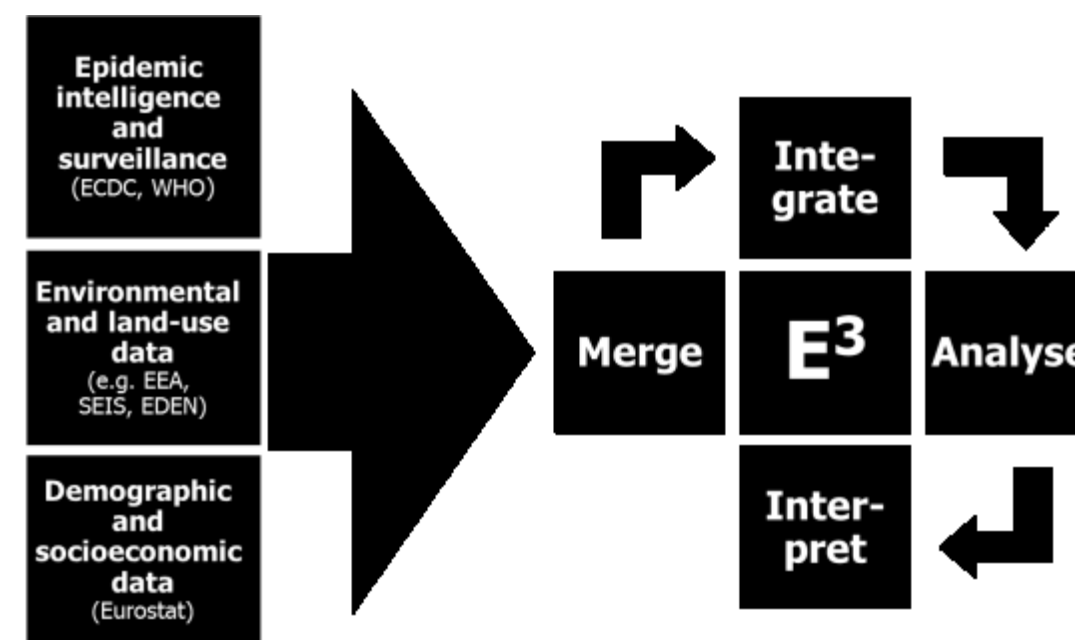
Frontiers in health technology

Integrated data management systems Risk Monitoring and Early Warning Tools

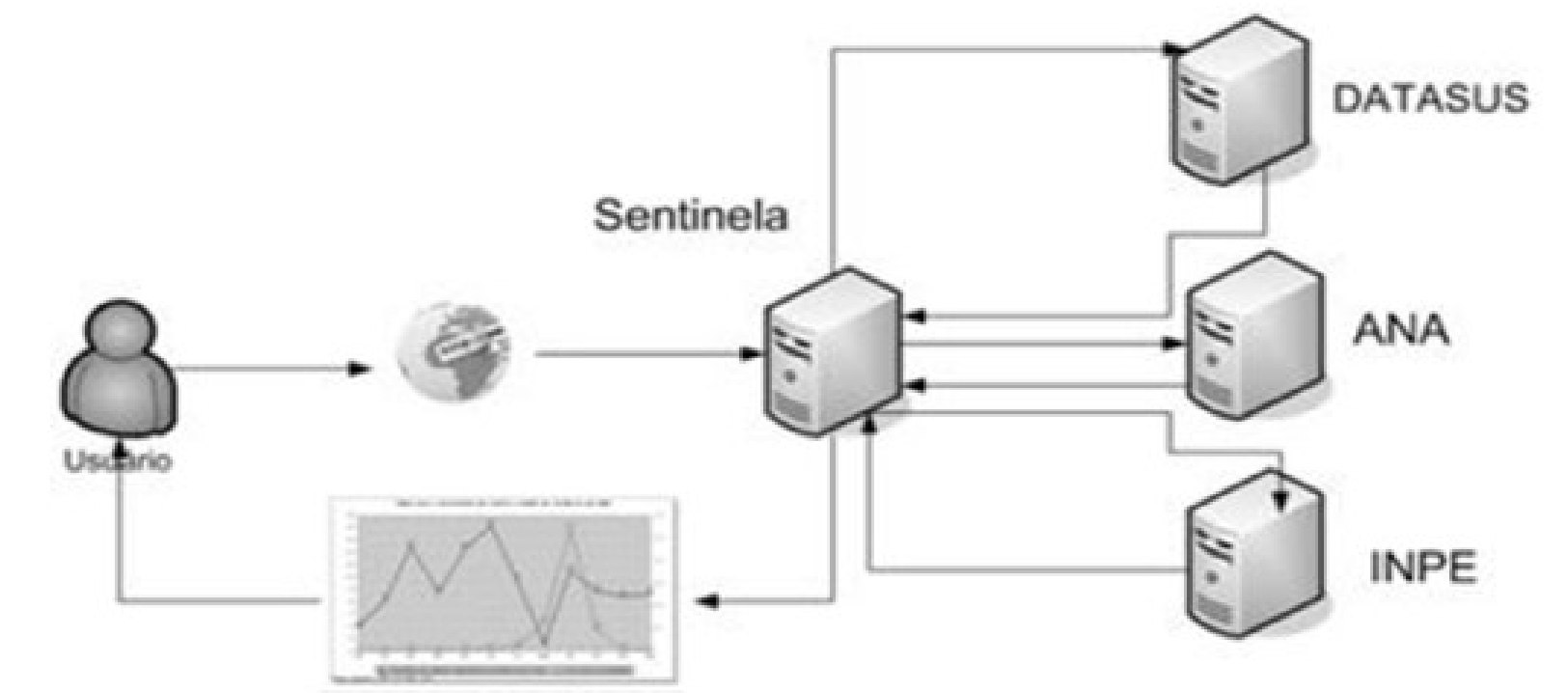
- interoperable
- real-time analytical tools,
- for integrated spatial and temporal analyses



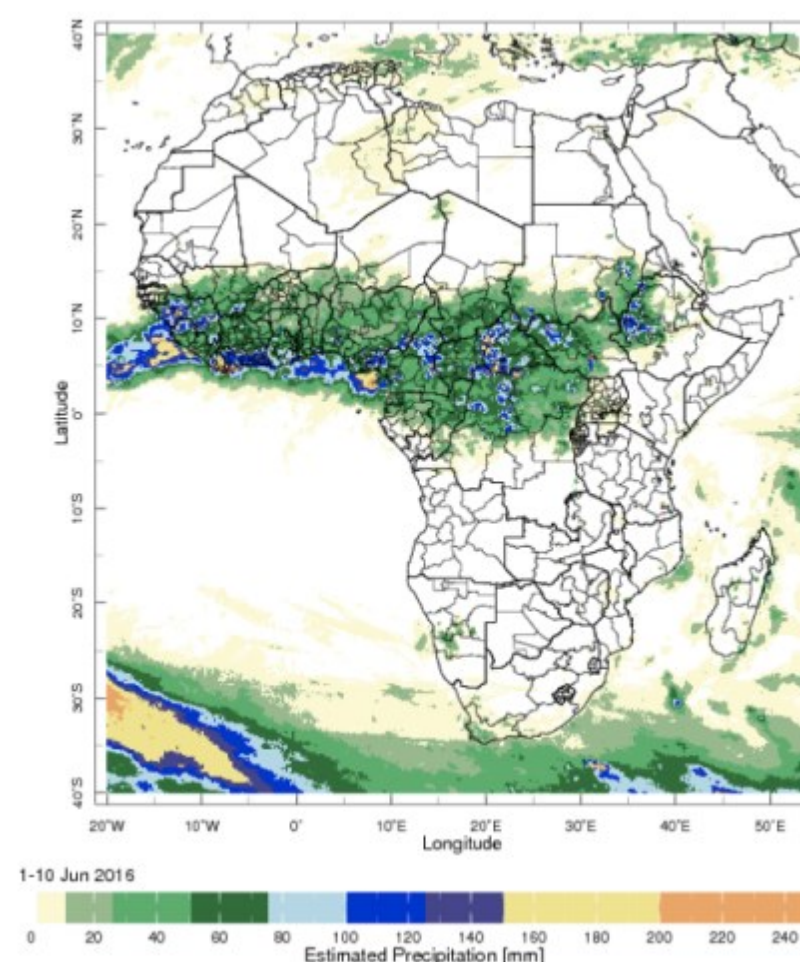
European Environment and Epidemiology (E3) Network



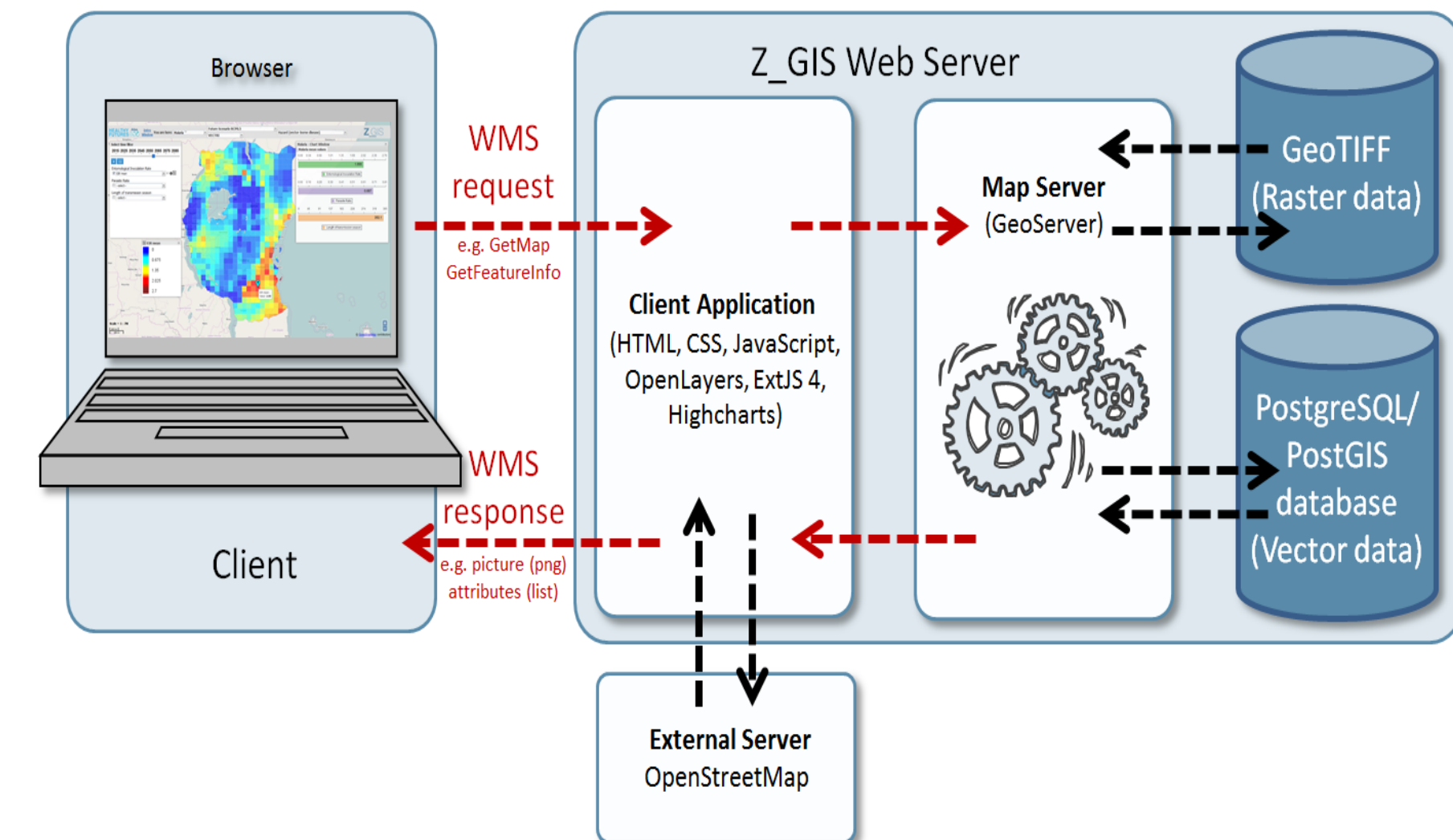
Brazil Climate and Health Observatory



Maprooms Climate Library



HEALTHY FUTURES



Frontiers in health technology

(Mobile) M-Health

Mobile technology changes how we provide health care and changes how we can use climate information

Today,

- **6 billion** mobile broadband subscriptions
- Mobile phone internet user penetration worldwide grew from 49 to **61%** between 2014 to 2018.

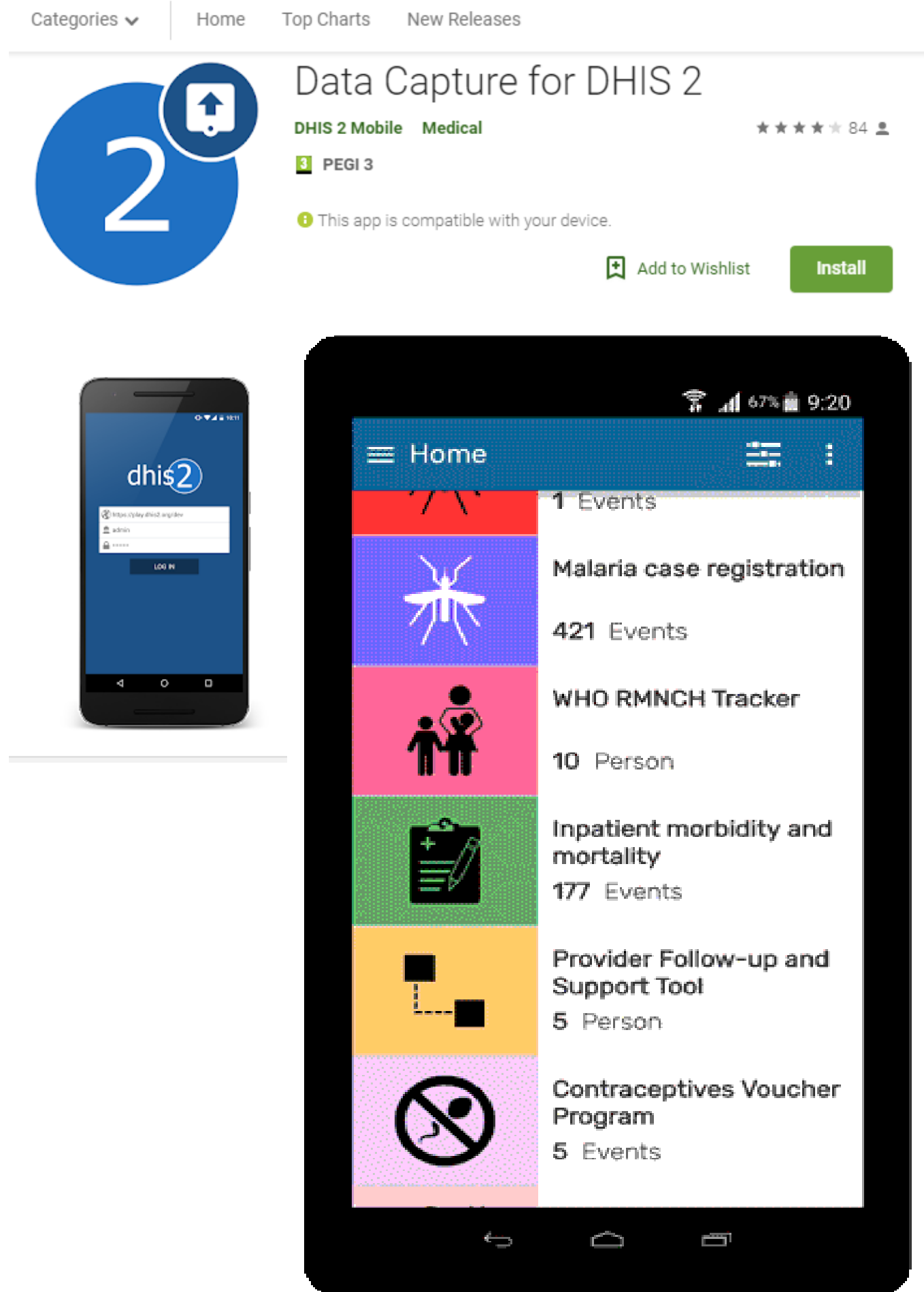


Inexpensive phones bring access to information to all.

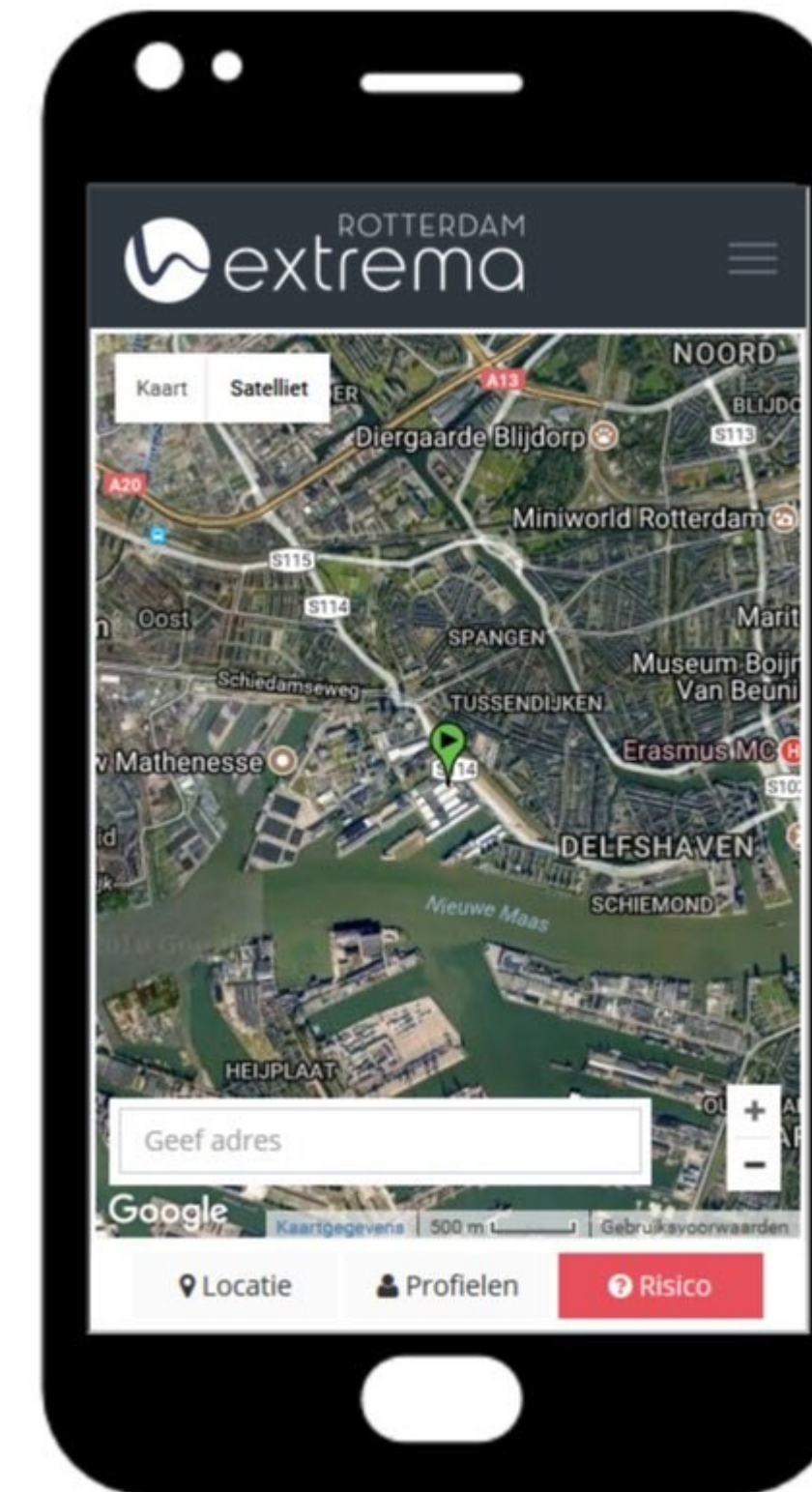
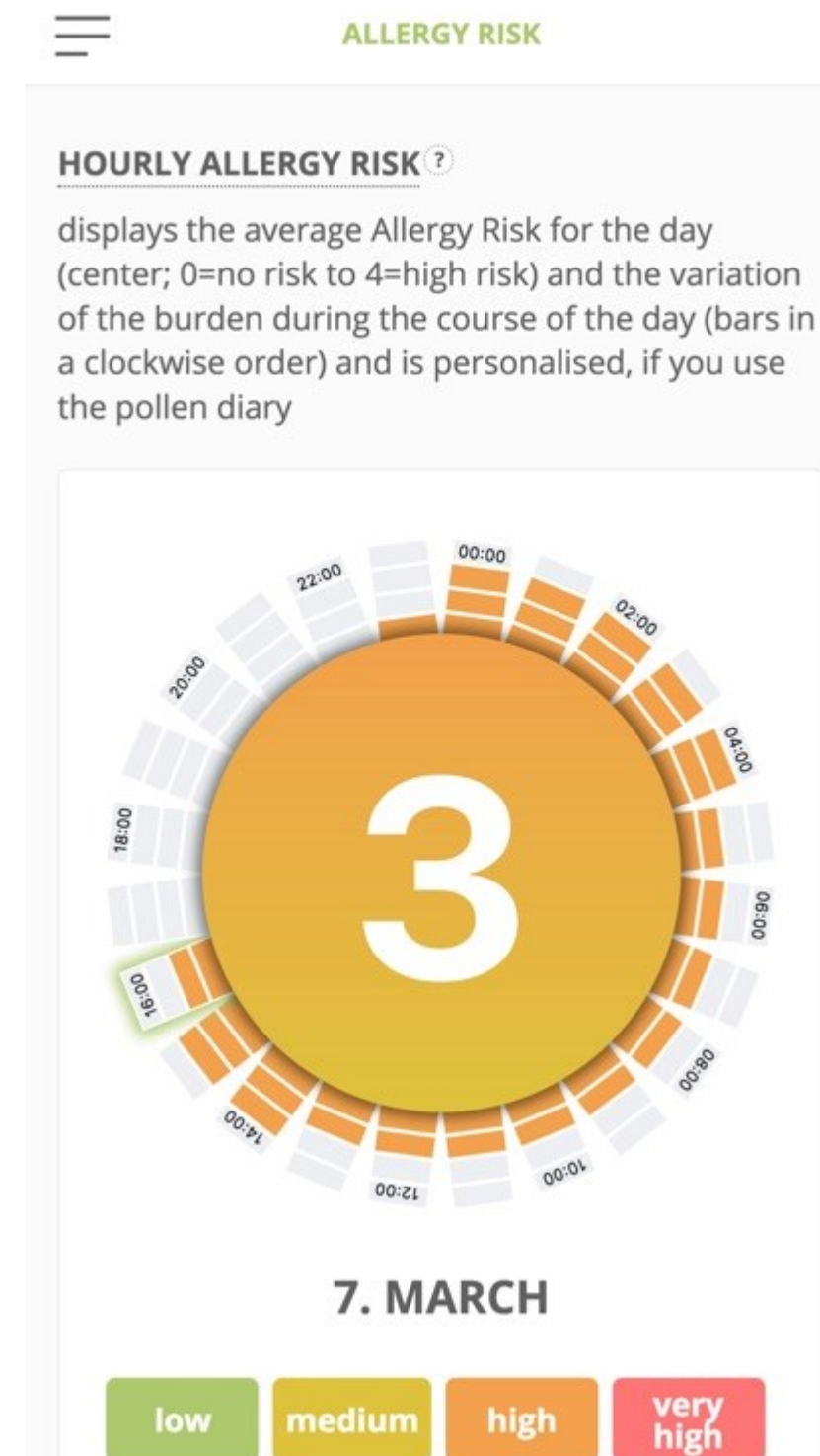


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Data Collection Service Management



Risk Advisory Apps



Virtual Medicine & Biosensors

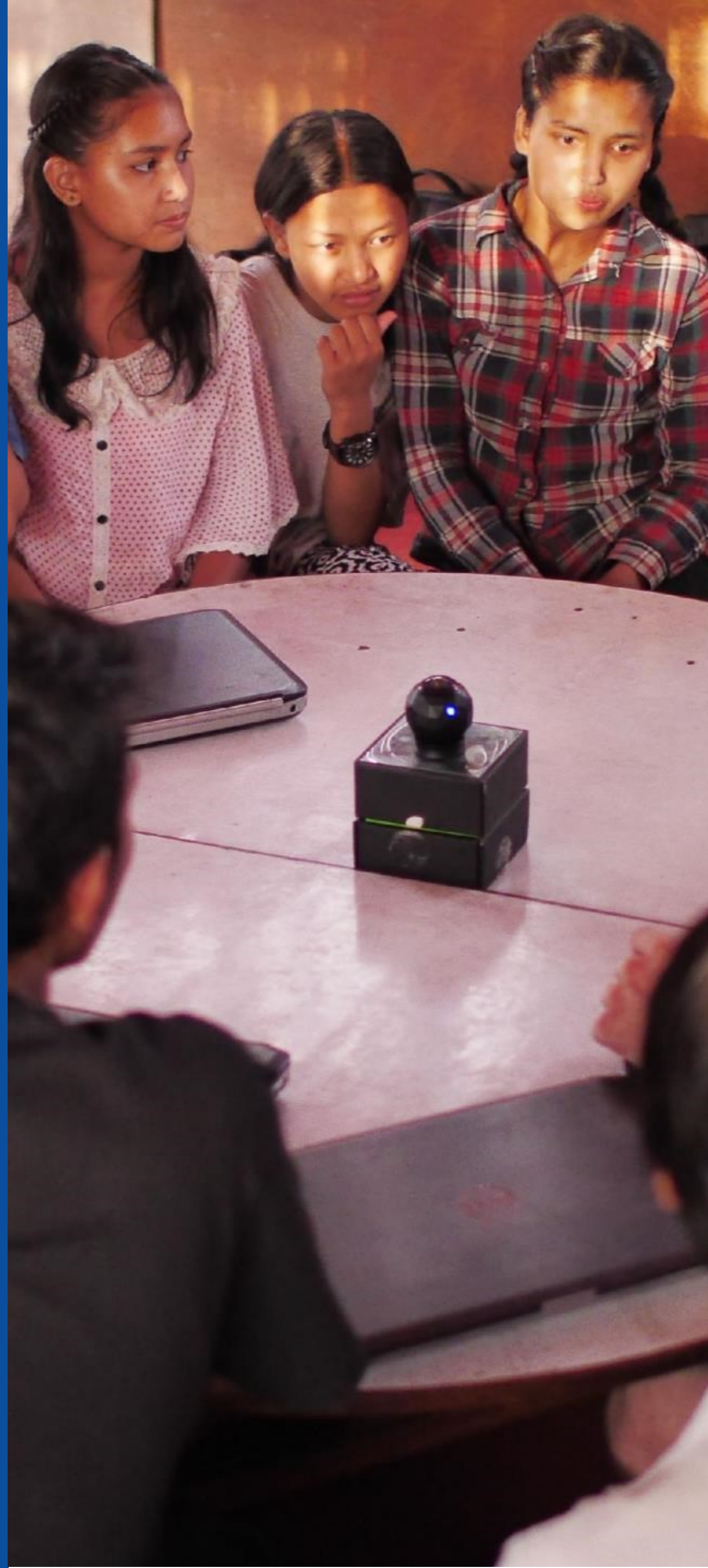
The advertisement features the logo of the Ministry of Health (وزارة الصحة) and the text 'Need a consultation during Hajj? Talk to your doctor online via Sehha App'. It includes a smartphone displaying a video call with a doctor. Below the phone, there are instructions to 'Download app now' with links to the App Store and Google Play. The text also mentions 'Working hours form 8:00 AM until 12:00 AM' and '**Requires registration from Saudi phone number'. The hashtag #HealthyHajj is also present.



Millions of health workers with trusted voices are now connected and accessible

3

Co-design
services to
meet needs



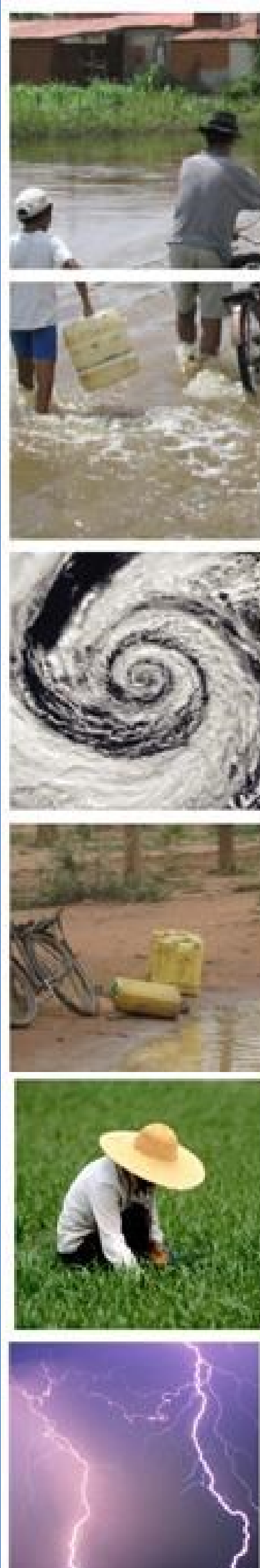
Myth 2

“Producers and users”



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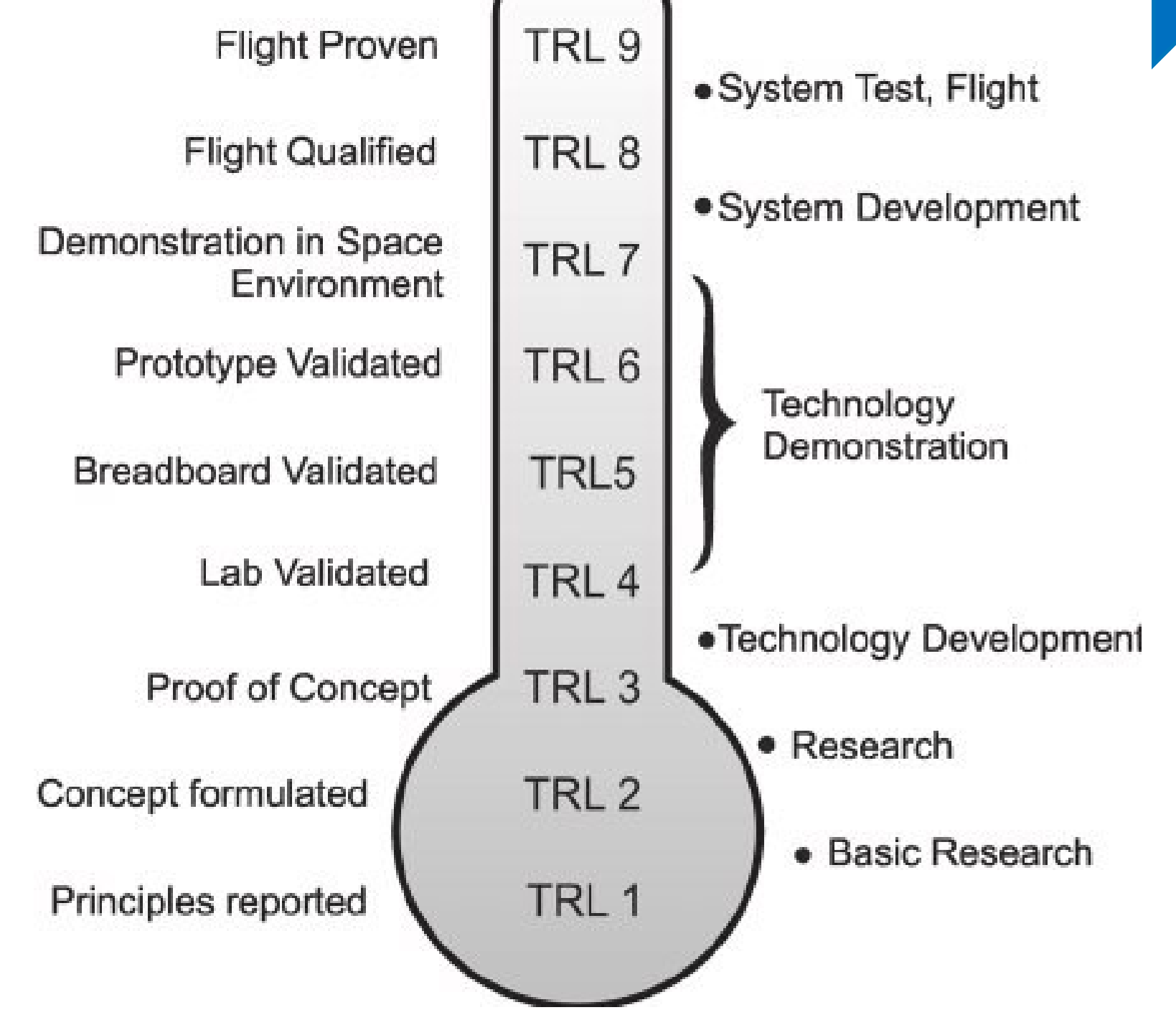
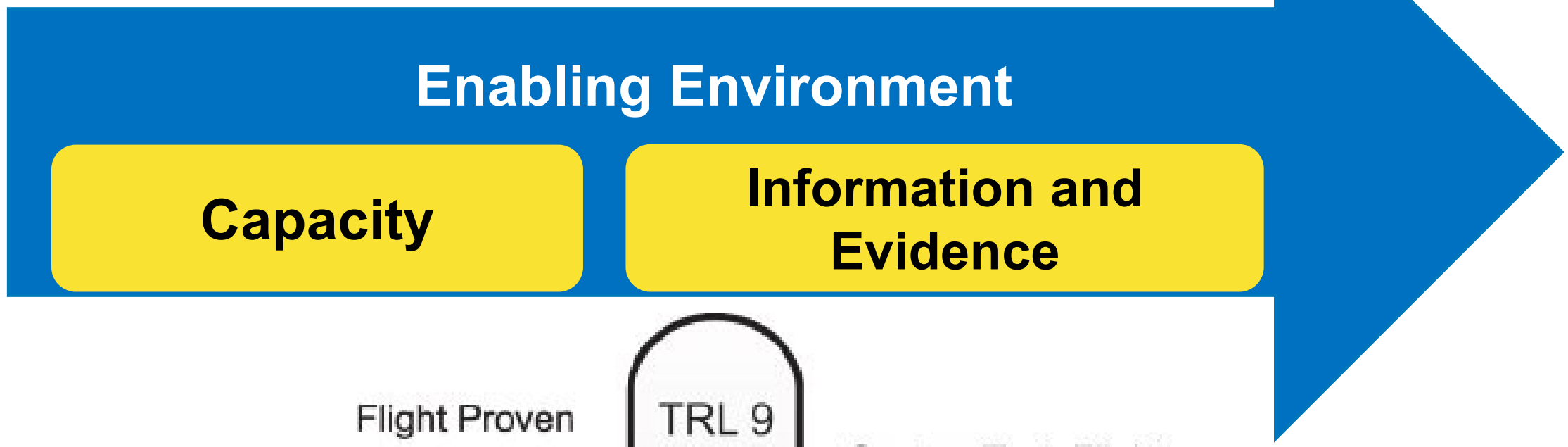
What are climate services?



mission-oriented **partnerships** driven by societal needs, which result in the **production and delivery of fit-for-purpose relevant, authoritative, timely and usable information about climate change, climate variability, trends, and impacts** to improve decision-making in climate sensitive sectors.

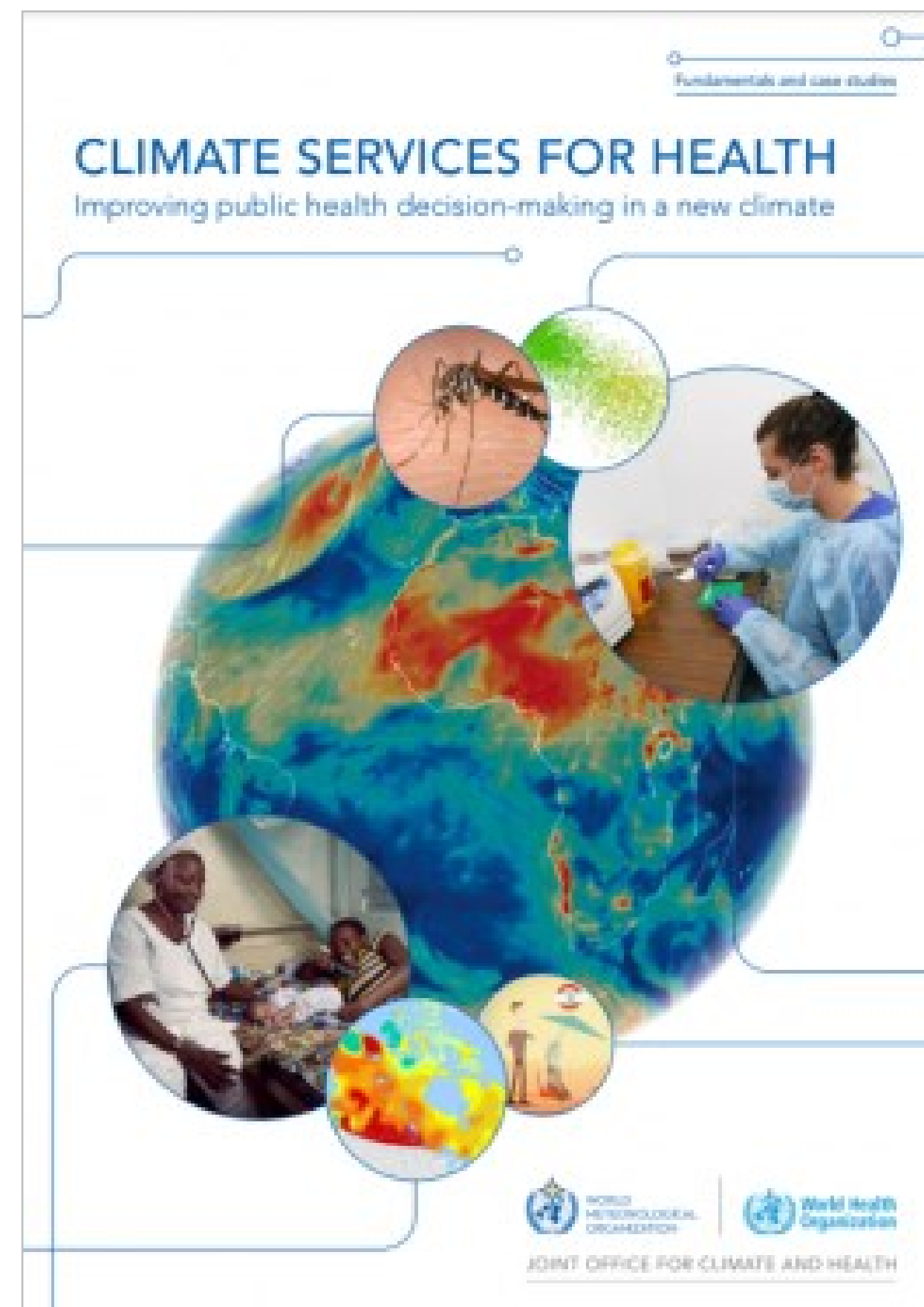


Identify
Readiness
to develop
and use
climate
knowledge



See what's Working

- Guidance
- Examples
- Solutions to bottlenecks
- Good practices



Diseases



Vector-borne disease



Water-borne disease



Hepatitis



Meningitis

Hazards



Heat stress



Air quality



Extreme events

Download at:

bit.ly/climateservicesforhealth



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4

Integrate
All sectors
are “health”
sectors



Water

Energy

Cities

Food

Climate Services for **all sectors** can help improve health.

Break the silos of sector-specific products/services



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New frontier of climate services is “integrated”

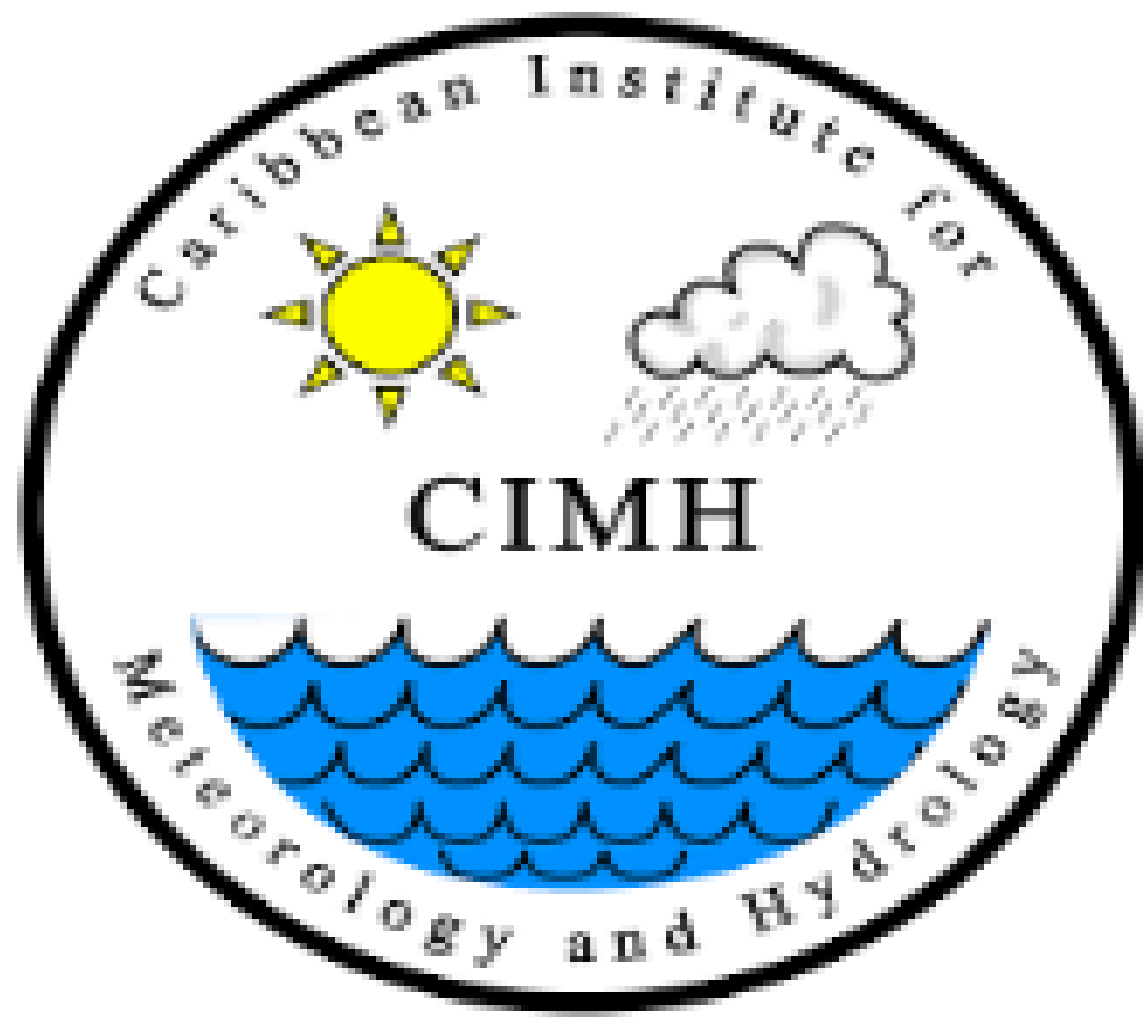
Integration of what?

- Risk across time-scales
- Continual evaluation throughout the science to service process
- Multi-hazard
- Multi-sectoral integrated knowledge
- Multi-disciplinary and cross-trained people

Portfolio

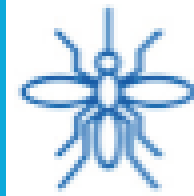
SCIENCE	SERVICES	APPLICATIONS	OUTREACH
Impact Research Product R&D Evaluation	Data Services Early Warning Systems Interpretation & Advisory	Air Quality (sand and dust, pollen, pollution) Climate UV Extreme Weather	Education & Training Awareness Advisories Policy Advising





Caribbean Integrated Health Services

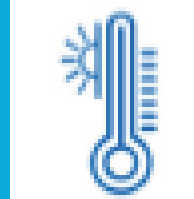
Health Priorities



Aedes Aegypti borne diseases including the dengue, Zika and Chikungunya viruses.



Dust concentrations and air quality.



Heat outlooks as a proxy for heat stress levels, particularly during heatwaves.



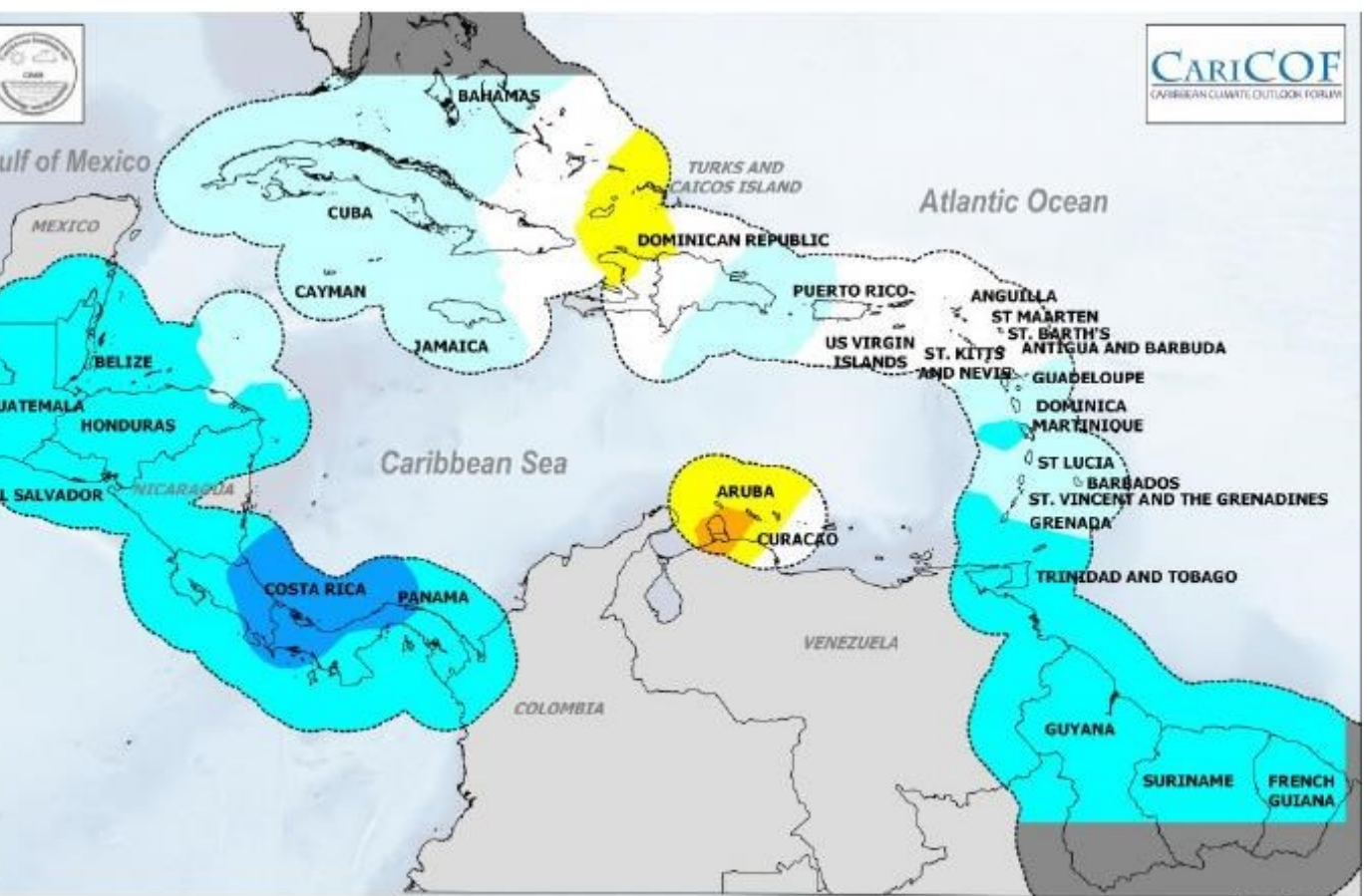
Climate watch implications for strategic and operational decisions related to the management of healthcare systems.

Quarterly Health-Climatic Bulletin for the Caribbean
<http://rcc.cimh.edu.bb/caribbean-health-climatic-bulletin/>

7-day dust and air quality forecasts and targeted health alerts
<http://sds-was.cimh.edu.bb/>

Heat outlooks (seasonal/monthly)
<http://rcc.cimh.edu.bb/heat-outlook-experimental>

Health Research Advisory



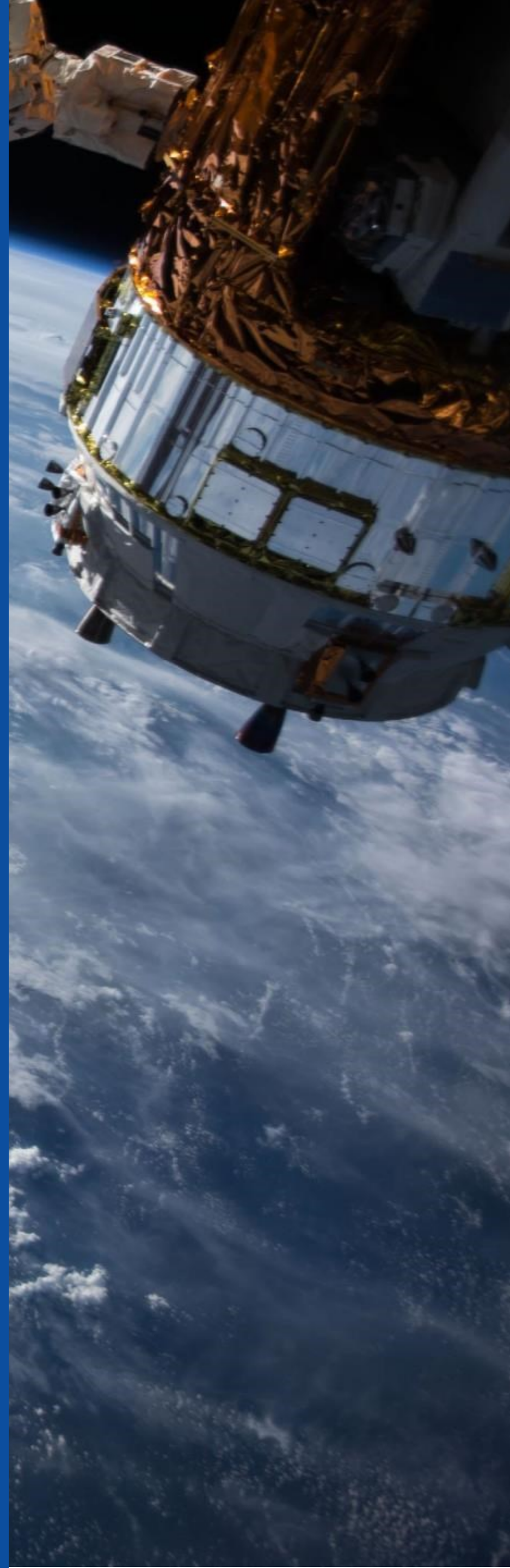
Multi-disciplinary team

(including health and social scientists)



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Benefits of Integration



- Cost-efficient
- Identify potential maladaptation
- New insights through cross-fertilization and shared climate knowledge
- Builds inter-sectoral relations
- Benefits from health sector outreach and communication capacity
- Greater impact



WMO Health Services

WMO recognizes the potential and need to strengthen capacity of NMHS and other actors to better work with the health sector

- Cg-18 Res. 33 (2019)

Advancing Integrated Health Services

- WHO/WMO Joint Office
- National and Regional Focal points
- New Expert Team
- Implementation Plan (EC-72)
- Online Climate and Health Portal (2020)
- UNSG Climate Action Summit
- WHO-WMO Supporting Coalition on Social and Political Drivers

INTEGRATED WEATHER, CLIMATE, HYDROLOGICAL
AND ENVIRONMENTAL SERVICES
WHO-WMO Health Environment and Climate Science to Services
Master Plan 2019-2023

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Cg-18/Doc. 5.5, APPROVED, p. 3

Draft Resolution 5.5/2 (Cg-18)

ADVANCING INTEGRATED HEALTH SERVICES

THE WORLD METEOROLOGICAL CONGRESS,

Recalling:

- (1) Resolution 1 (Cg-Ext 2012) – *Implementation of the Global Framework for Climate Services*, whereby health was deemed a priority sector,
- (2) Resolution 3 (EC-70) – *Integrated Health Services*,
- (3) Resolution 47 (Cg-17) – *Global Atmosphere Watch Programme*, and Decision 62 (EC-68) – *Global Atmosphere Watch Implementation Plan for the period 2016-2023*,

Considering the Sustainable Development Goal 3 – *Ensure healthy lives and promote well-being for all at all ages*, more specifically target 3.9, and the Sustainable Development Goal 11 – *Sustainable Cities and Communities*, the Sustainable Development Goal, more specifically SDG targets 11.5 and 11.6,

Recognizing that weather, climate, water and environmental phenomena affect human health outcomes in various ways, including through exposure to ultraviolet (UV) radiation, air pollution, including sand and dust, and environmentally transported chemicals, as well as to extreme events such as drought, flooding, storms, heat and cold waves that result in food, water, and nutritional insecurity, injury, exacerbation of mental health, communicable and non-communicable diseases, amongst other impacts,

Considering the experience gained and lessons learned over time in implementing WMO activities addressing weather, water, climate and environmental services within the health sector by Members' National Meteorological and Hydrological Services (NMHSs),

Commending the Collaboration Framework on Climate, Environment and Health agreed between the WMO and the World Health Organization (WHO) in May 2018 and commitments of WMO to collaborate with WHO to enhance global knowledge and action on air quality and to strengthen WMO efforts for research and service delivery for global health applications, through greater integration of its work on weather, water, climate and environment as related to health,

Noting that a Joint WMO/WHO Office for Climate and Health, established in 2014, is instrumental in assisting both Organizations to identify and develop closer collaboration and institutional arrangements in this field,

Noting further the ongoing collaboration between the climate and health sector at both regional and national levels,

Decides to endorse the seamless five-year WHO-WMO Master Plan on Health, Environment, and Climate Science to Services, developed jointly with WHO, as summarized in the *Annex*;

Requests:

- (1) The technical commissions and the Research Board to develop the Implementation and Resource Plan on Integrated Health Services; to co-design with research and health community products and services required to effectively support public health by all Members, and to assist in strengthening the capacities of health service providers and users;



**2019-2023
Joint WHO and WMO
Health, Environment,
and Climate
Action Plan**

4 themes



Air Quality



**Climate &
Climate Services**



**Small Island
Developing States**



Water



**Extremes &
Health Emergencies**



Urban Areas

2 geographic foci

10 Fast-track activities



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Where can you bring solutions to address global health challenges?



- Climate change
- Air quality risks
- Extreme heat and cold
- Sufficient and safe water
- Impacts research on infectious diseases
- Health equity
- Mental health



How can you
make social
impact
through climate
services for
health?



Empower
Discover
Co-Design
Integrate



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**Connect
to learn more.**

jshumake-guillemot@wmo.int



www.who.int/phe



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