

All You Need Is Health: Climate Services for Health

Wednesday, 1st October
9:30 - 11:00

Moderator



Mattia Scalas
CMCC, Italy

Keynote speakers



Sasha Mosky
EEA, EU



Lidija Kesar
UNICEF, Serbia

Panellists



Suzana Blesic
Institute for Medical
Research, Serbia



Marija Jevtic
Faculty of Medicine University of Novi Sad,
Institute of Public Health of Vojvodina, Serbia



Climate change impacts on health in Europe: Risks and responses

Sasha Mosky
European Environment Agency
01 October 2025

Climate change is the single biggest health threat facing humanity



COP26 SPECIAL REPORT ON
CLIMATE CHANGE AND HEALTH

**THE HEALTH
ARGUMENT
FOR CLIMATE
ACTION**



2021 report

Climate change is the single biggest health threat facing humanity

While this report is from 2021, we know that climate change has continued to intensify



COP26 SPECIAL REPORT ON
CLIMATE CHANGE AND HEALTH

**THE HEALTH
ARGUMENT
FOR CLIMATE
ACTION**

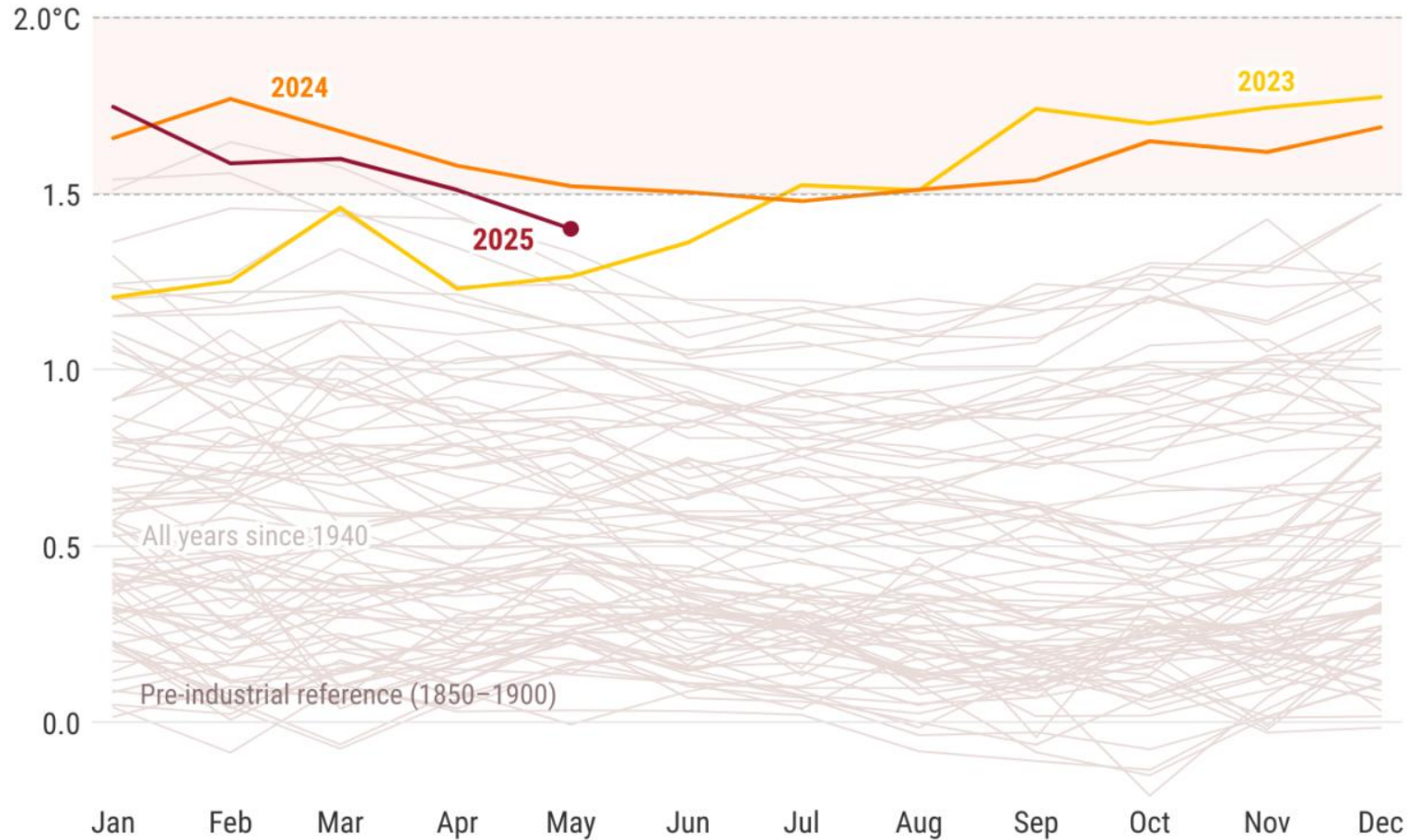


2021 report



Monthly global surface air temperature anomalies

Data source: ERA5 • Reference period: pre-industrial (1850–1900) • Credit: C3S/ECMWF



2024: the warmest year since records began

Between July 2023 and April 2024 the global temperatures exceeded 1.5°C over pre-industrial period



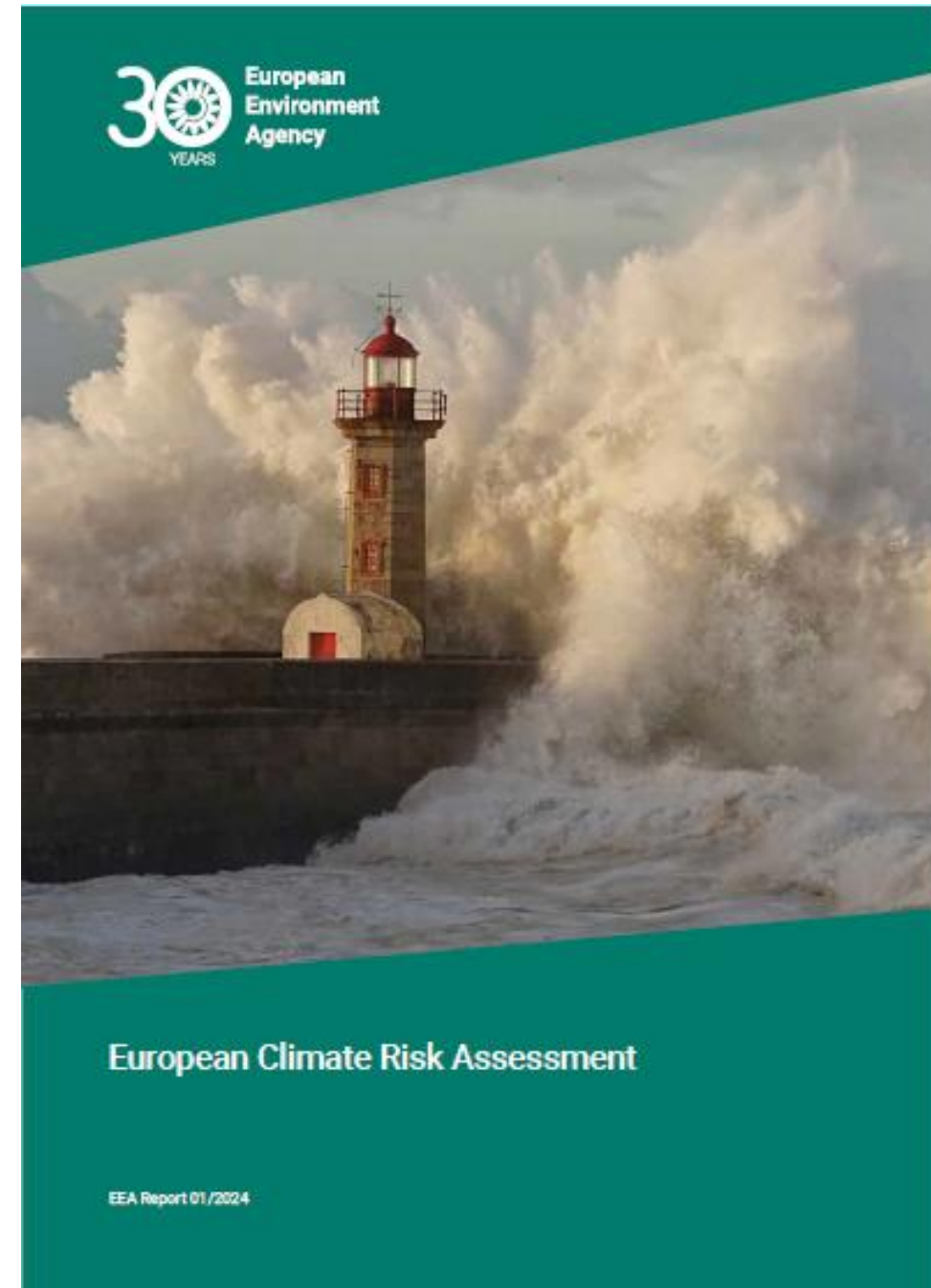
PROGRAMME OF THE EUROPEAN UNION



IMPLEMENTED BY ECMWF

Europe is the fastest warming continent

- **Heatwaves** are getting worse
- **Rain patterns** are changing:
 - downpours cause flooding
 - dry spells lead to droughts
- **Water scarcity** affects 34% Europeans annually
- **Wildfires** risk is increasing
- **Sea level rise** is accelerating



Climate change

Source: WHO

Health risk

Vulnerability factors

- Demographic
- Geographical
- Biological factors & health status
- Sociopolitical
- Socioeconomic
- Health system capacity
- Gender & equity

Climate-related hazards

- Extreme weather events
- Heat
- Sea level rise
- Air pollution
- Vector distribution & ecology
- Water scarcity
- Reduced food production

Exposure

- People & communities
- Health workforce
- Infrastructure
- Energy systems
- Water systems
- Food systems
- Health systems

Environmental threats and GHG emissions

Health outcomes

Health systems & facilities



Injury and mortality from extreme weather events



Heat-related illness



Respiratory illness



Water-borne diseases and other water-related health impacts



Zoonoses



Vector-borne diseases



Malnutrition and food-borne diseases



Noncommunicable diseases (NCDs)



Mental and psychosocial health



Impacts on health care facilities



Effects on health systems

Climate risks for health: medium preparedness

Climate risks for 'Health' cluster	Urgency to act	Risk severity			Policy characteristics		
		Current	Mid-century	Late century (low/high warming scenario)	Policy horizon	Policy readiness	Risk ownership
Heat stress – general population	Urgent action needed	High	Critical	Critical	Long	Medium	National
Population/built environment due to wildfires (hotspot region: southern Europe)	Urgent action needed	High	Critical	Critical	Medium	Medium	Co-owned
Population/built environment due to wildfires	More action needed	High	Substantial	Substantial	Medium	Medium	Co-owned
Well-being due to non-adapted buildings (*)	More action needed	Medium	Substantial	Substantial	Long	Medium	Co-owned
Heat stress – outdoor workers (hotspot region: southern Europe)	More action needed	High	Critical	Critical	Short	Medium	Co-owned
Heat stress – outdoor workers	Watching brief	High	Substantial	Substantial	Short	Medium	Co-owned
Pathogens in coastal waters	Further investigation	Low	Substantial	Substantial	Medium	Medium	Co-owned
Health systems and infrastructure	Further investigation	High	Substantial	Substantial	Medium	Medium	National
Infectious diseases	Sustain current action	High	Substantial	Substantial	Short	Advanced	Co-owned

Legends and notes

Urgency to act

- Urgent action needed
- More action needed
- Further investigation
- Sustain current action
- Watching brief

Risk severity

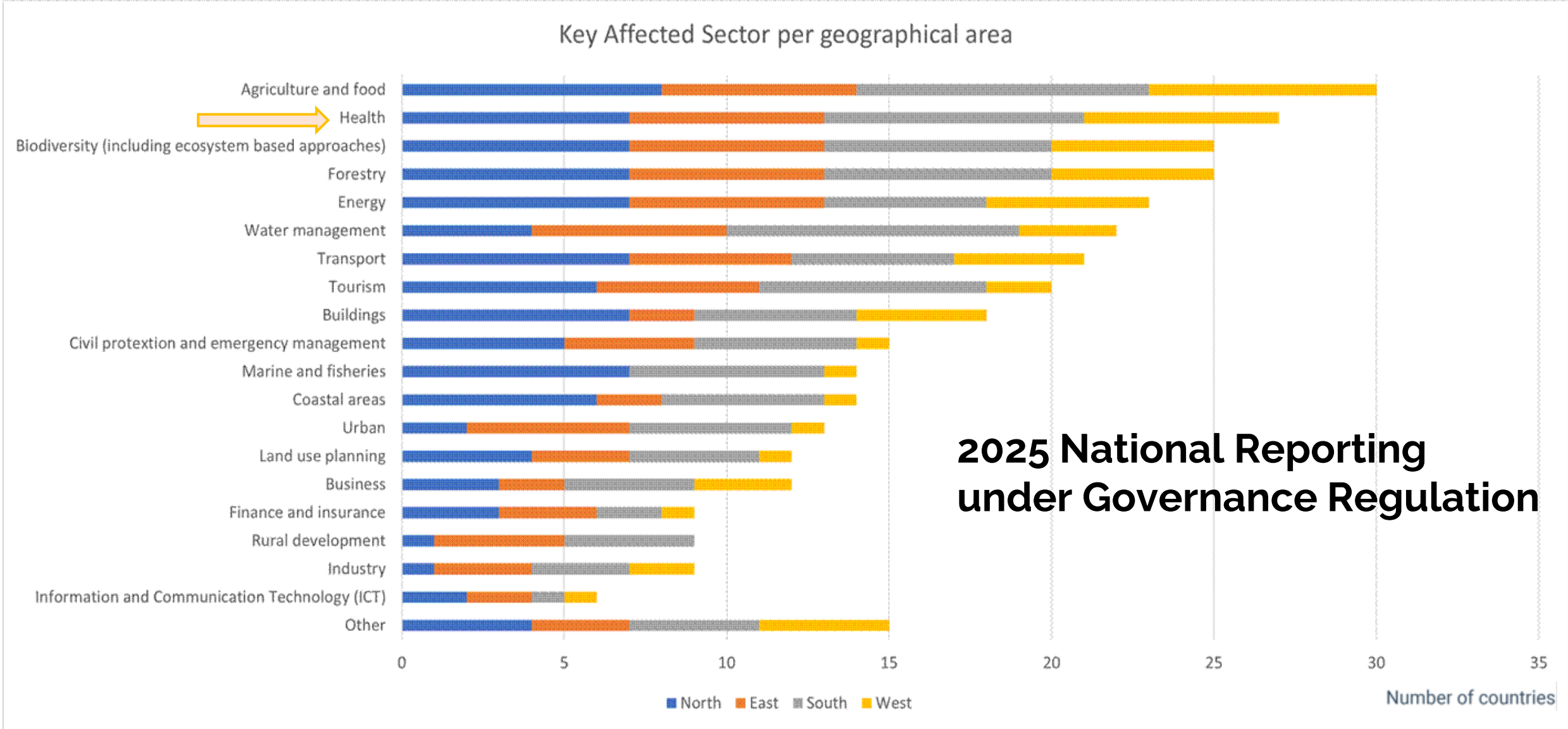
- Catastrophic
- Critical
- Substantial
- Limited

Confidence

- Low: +
- Medium: ++
- High: +++

(*) Urgency based on high warming scenario (late century).

Health sector reported by Member States as second most vulnerable to the impacts of climate change



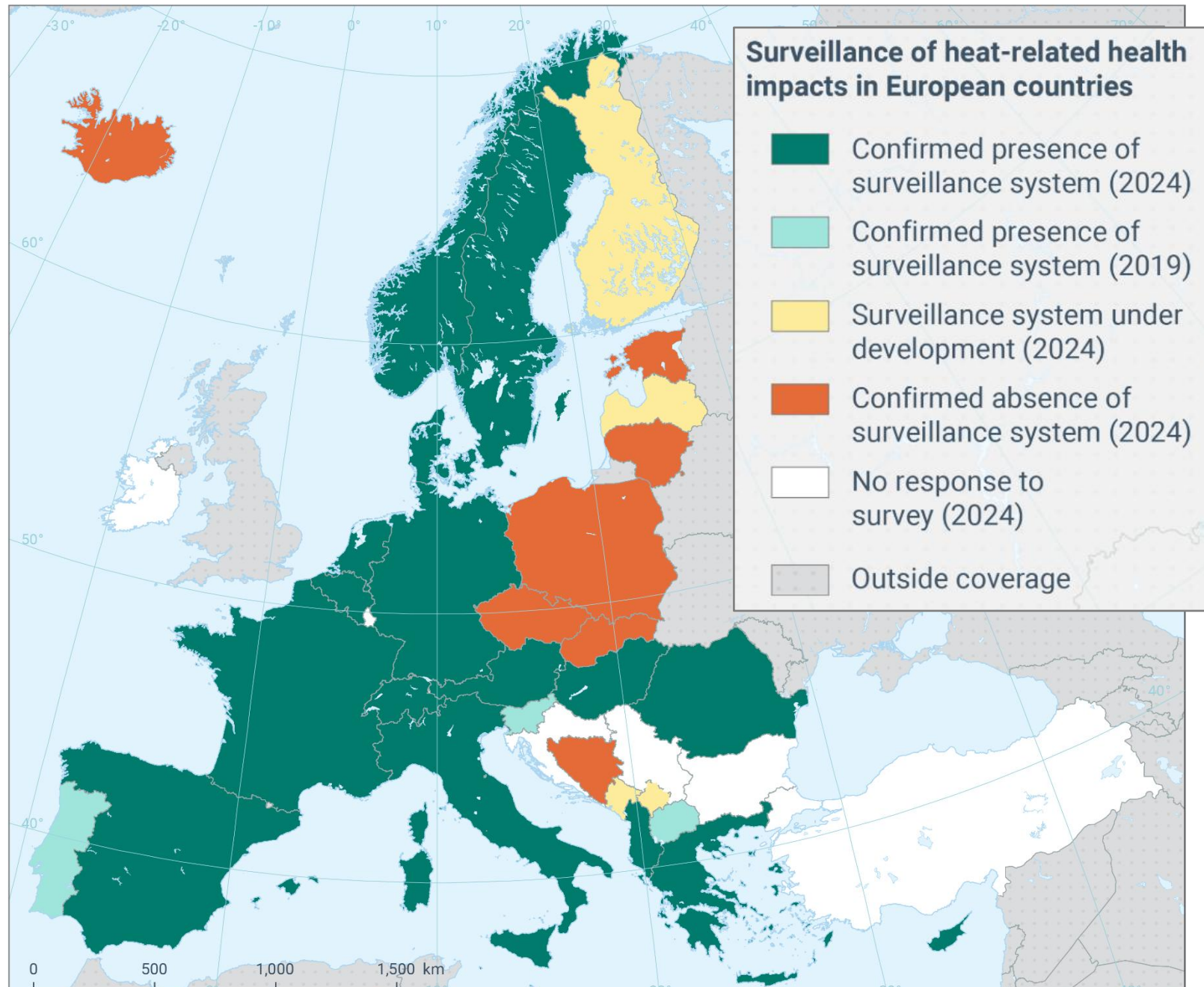
Forthcoming, country profiles available under: [Country Profiles](#) | Discover the key services, thematic features and tools of Climate-ADAPT

Measures included in national policies



Analysis of national climate adaptation policies and health strategies (2022)

Surveillance of heat-related health impacts: 20 countries



Heat-health action plans across Europe: 21 countries

Implementation of the Heat-Health Action Plan of North Macedonia

Home > Database > Case studies > Implementation of the Heat-Health Act...



The Heat Health Action Plan (HHAP) of North Macedonia, implemented since 2012, includes a heat health warning system, cross-government coordination, and public awareness strategies. Translating climate health impacts for policymakers, and involving stakeholders was key for its

Operation of the Austrian Heat Protection Plan

Home > Database > Case studies > Operation of the Austrian Heat Protecti...



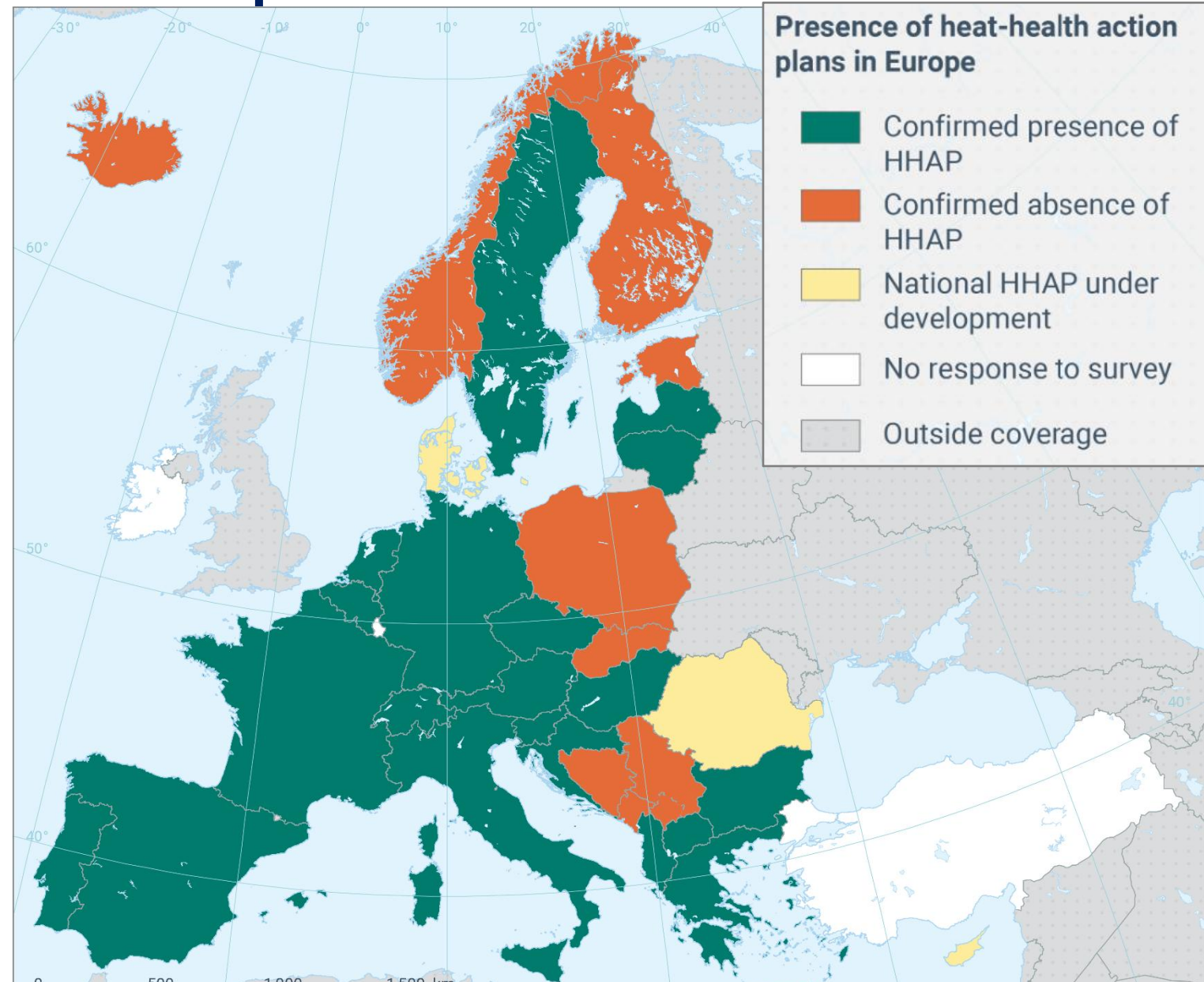
Austria's Heat Protection Plan, launched after the 2003 heatwave, aims to reduce heat stress and health risks especially in urban areas. It includes early warnings and tailored protection measures, focuses on vulnerable populations and involves collaboration between national and regional authorities.

Heat Hotline Parasol – Kassel region

Home > Database > Case studies > Heat Hotline Parasol – Kassel region



Launched in 2010, the heat hotline parasol is a free hotline service that provides heat warnings and guidance to citizens, particularly the elderly, to deal with urban heatwaves in the city of Kassel. This prevention service is operated by volunteers and has been well received by the public.



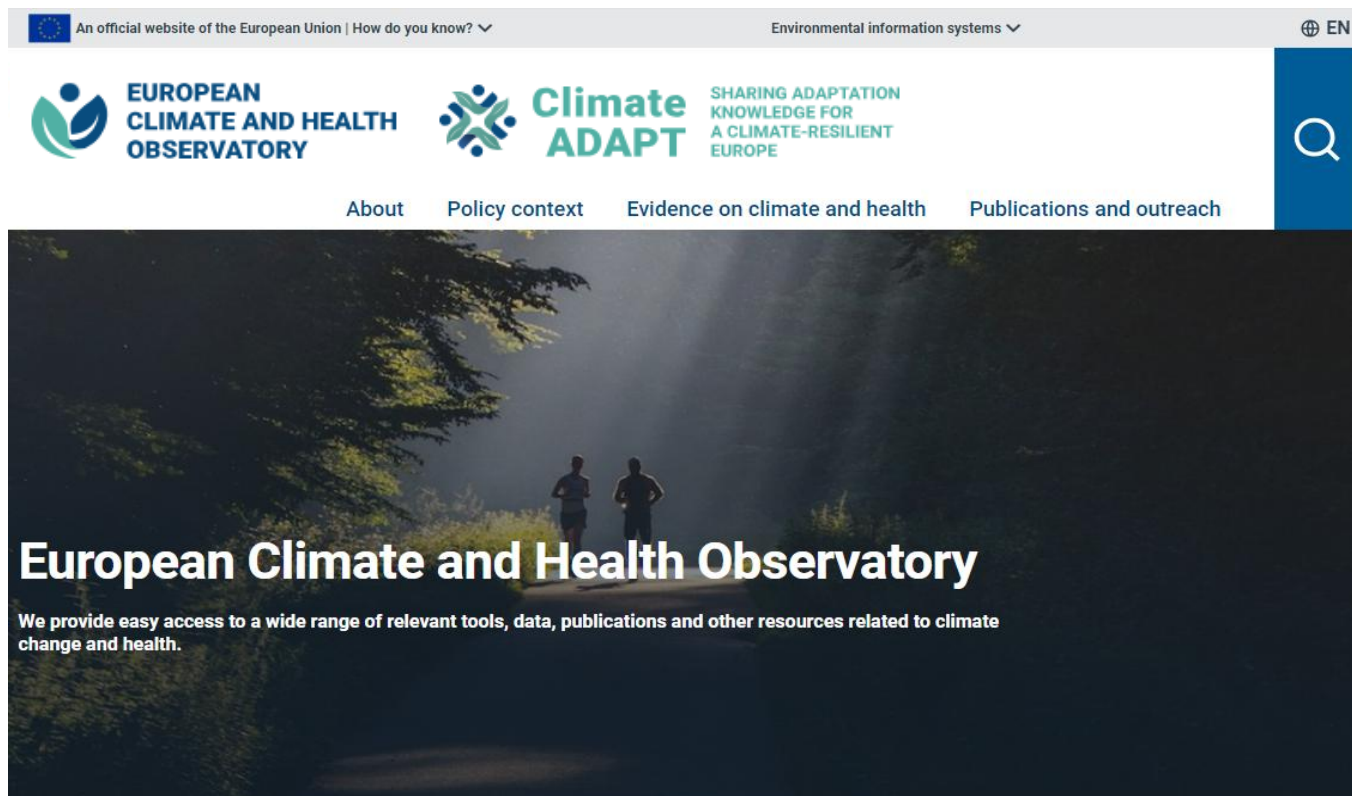
European Climate and Health Observatory, 2024, [Heat mortality and morbidity surveillance in European countries](#)
WHO Europe, 2021, [Heat and health in the WHO European region: updated evidence for effective prevention](#)

Reference data. © EuroGeographics, © FAO (UN), © TurkStat source. European Commission – Eurostat/GISCO

European Climate and Health Observatory



The Observatory aims to **support Europe in preparing for and adapting to the impacts of climate change on human health** by providing access to relevant information and tools

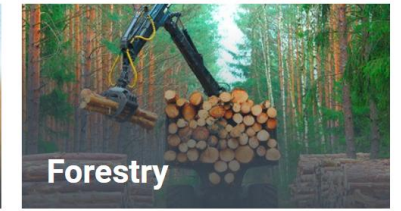


DISCOVER THE MAIN TOPICS AND TOOLS OF THE OBSERVATORY

-  Case studies
-  Indicators
-  Country profiles
-  Resource catalogue

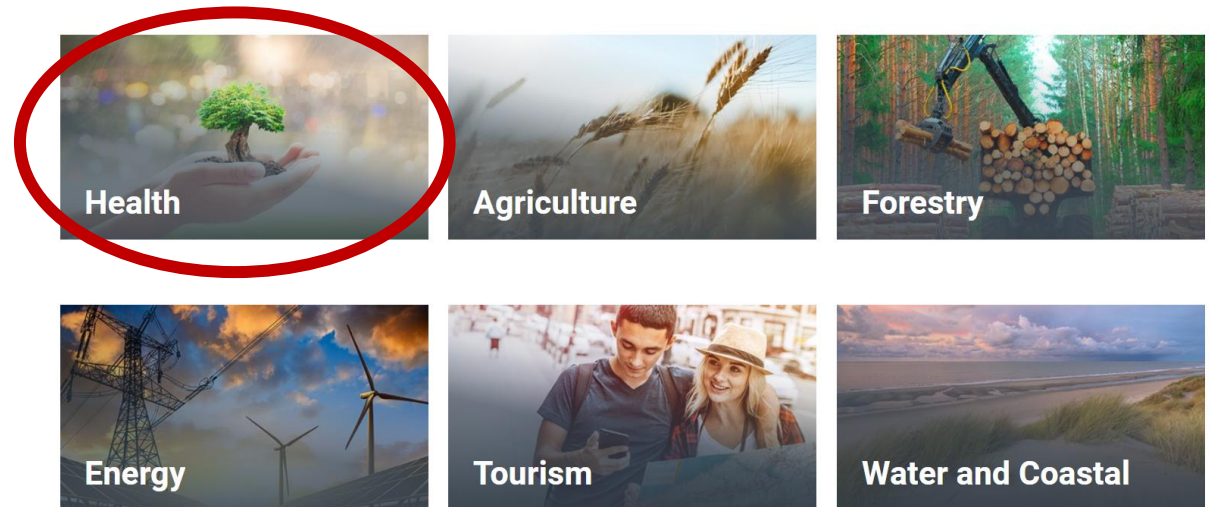
Example of climate service: European Climate Data Explorer

- The European Climate Data Explorer (ECDE) provides interactive access to a growing selection of climate indicators reflecting the priorities of the European Environment Agency (EEA).
- The underlying data is from the Climate Data store (CDS) of the Copernicus climate change service (C3S).



Example of climate service: European Climate Data Explorer

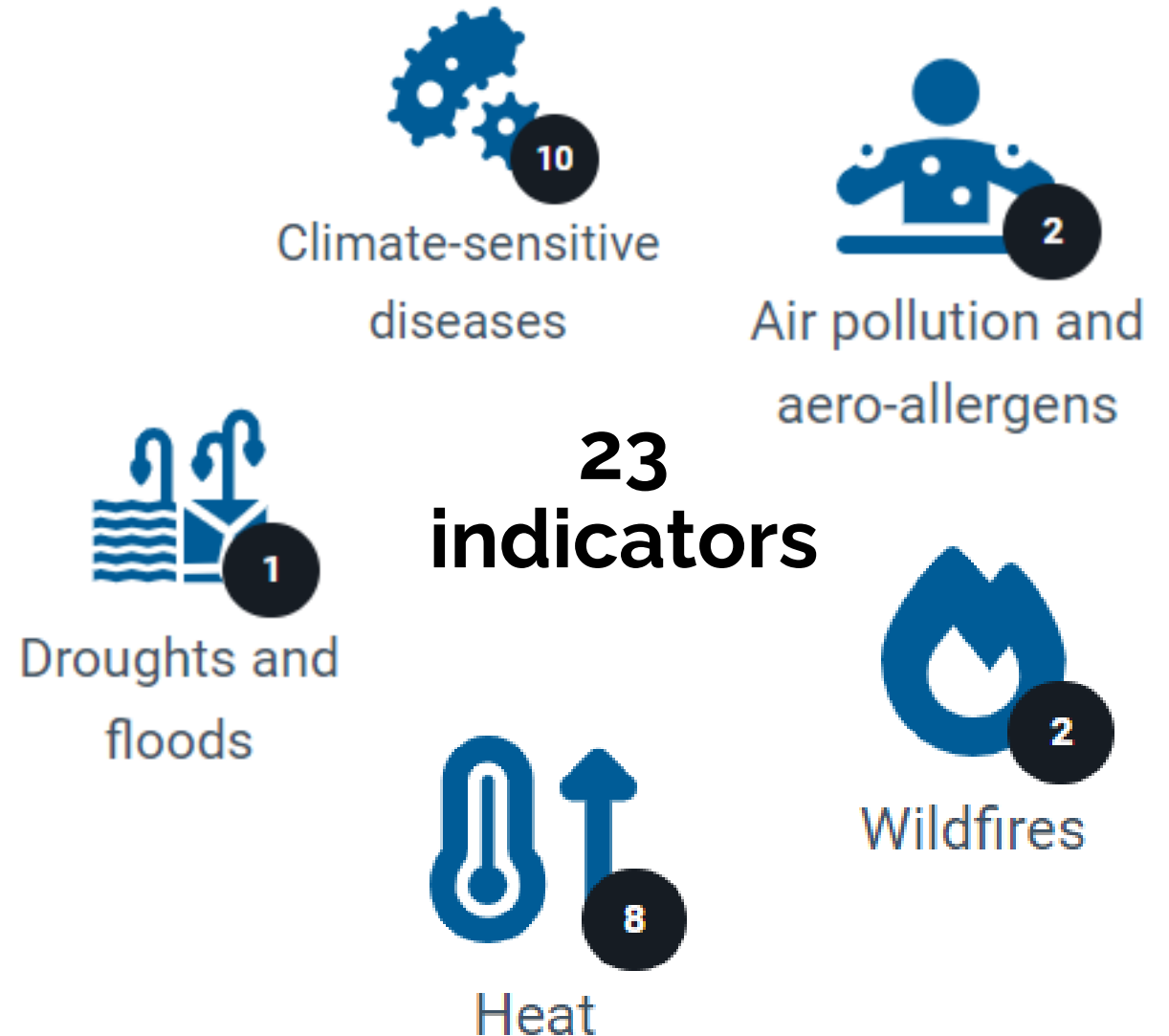
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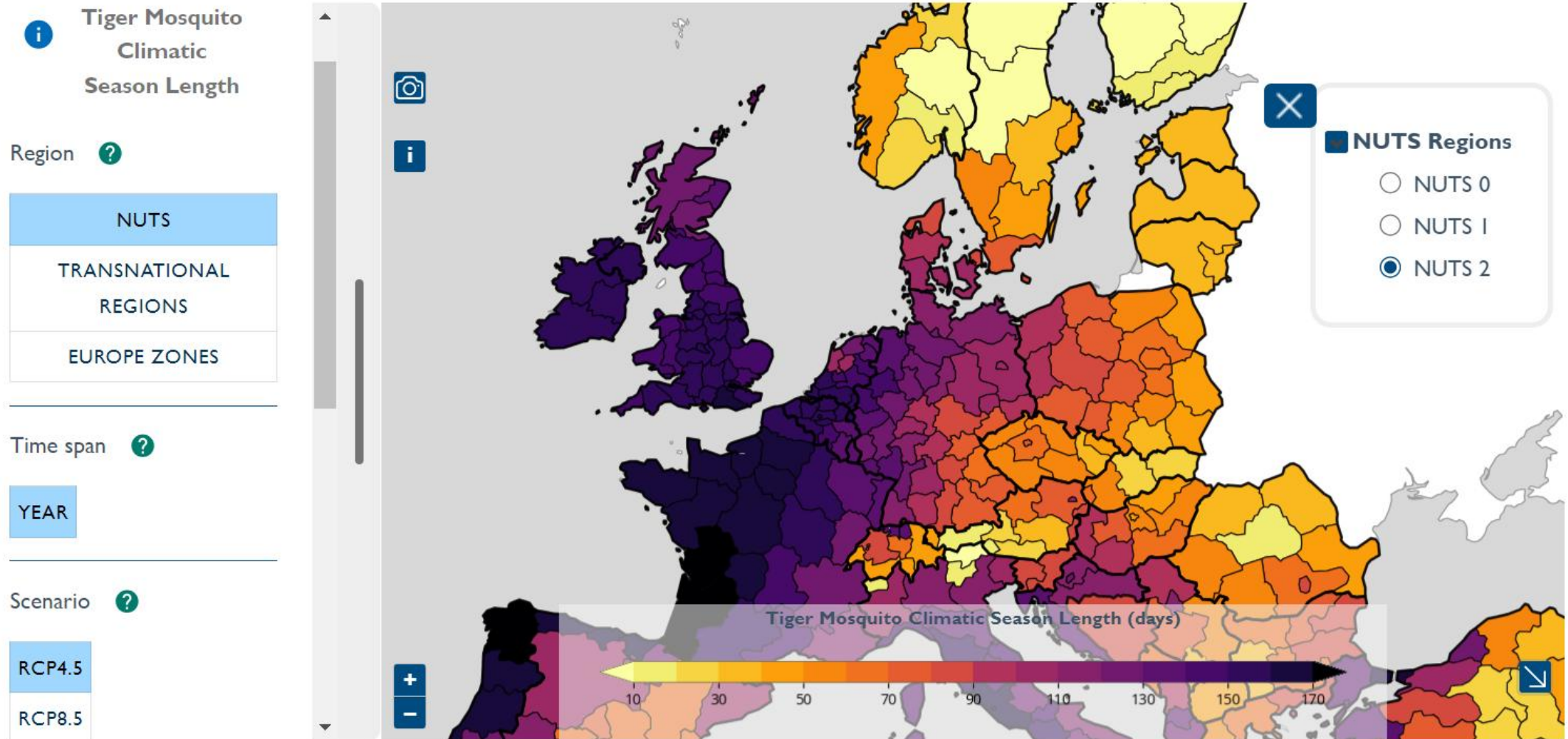
Portal as entry point to climate services

Examples of indicators:

- Apparent Temperature Heatwave Days
- Climatological Heatwave Days
- High UTCI Days
- Hot Days
- Tiger Mosquito Climatic Season Length
- Tiger Mosquito Climatic Suitability
- Warmest Three-Day Period
- And more available on the Observatory portal!



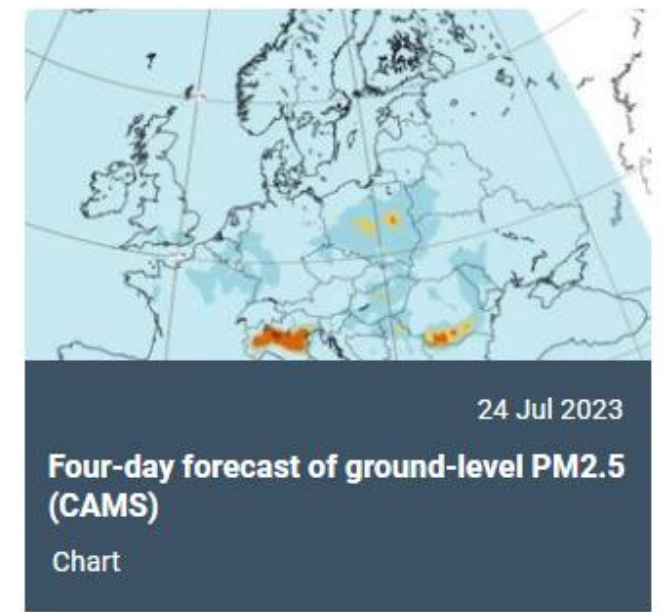
Example of climate service: Tiger Mosquito Climatic Season Length



Portal as entry point to knowledge and data

Examples of map and data viewers

- European Climate and Preparedness Portal
- Four day forecast of ground pollen (CAMS)
- Four day forecast of ground level ozone (CAMS)
- Urban Green Space Availability
- Accessibility of Hospitals
- and more!



18 map & data viewers



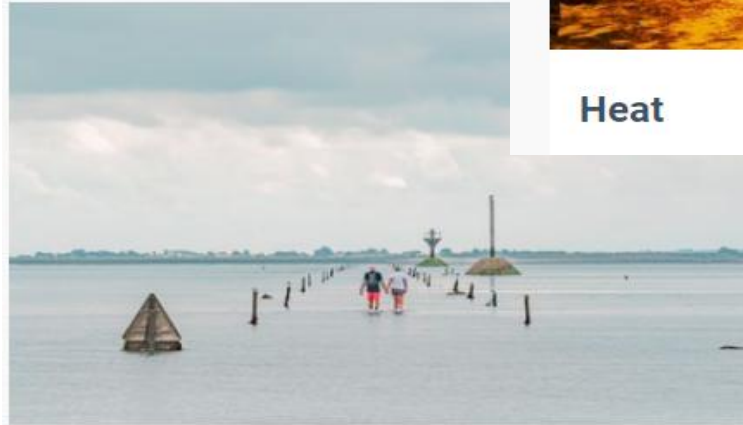
Portal as entry point to knowledge and data

Examples of health effect pages

- Heat
- Flooding
- Vector borne diseases
- Food borne diseases
- Drought
- Children's health
- Wildfires
- Hazards
- Aero-allergens
- and more!



Heat



Flooding

**21 health
effect pages**



Vectorborne diseases


Examples of responses and resilience measures: health sector

Disease surveillance and control

Health facility level

New Førde Hospital: Measures for flood protection

Database > Case studies > New Førde Hospital: Measures for floo...



Førde Central Hospital is highly exposed to flooding. This is due to its riverside location and the increasing likelihood of intense rainfall and rapid snowmelt under a changing climate. Although a 2014 flood caused damage across the entire site, regulations only required flood protection for newly constructed buildings, leaving older buildings exposed to future impacts. Flood protection measures

© Helse Førde

New North Zealand Hospital: A resilient acute care hospital for the future, Hillerød Denmark

Database > Case studies > New North Zealand Hospital: A resilien...

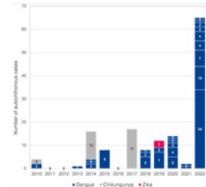


The new North Zealand Hospital in Hillerød aims to enhance resilience against climate-related impacts by incorporating a climate-informed design, innovative solutions for flood risk reduction and flexible organisation. It sets a blueprint for future hospitals of the country.

Climate change is increasing the frequency and magnitude of extreme weather events and creates risks that will impact health care facilities. Exposure of hospitals and other health facilities to heatwaves, flooding

© Herzog & de Meuron

Reducing the risk of local dengue transmission in France

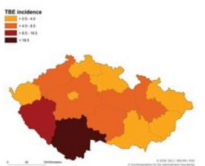


To curb the spread of dengue, chikungunya, and Zika, enhanced surveillance, mandatory reporting, epidemiological investigations, and preventive measures are implemented in France. Although no quantitative estimates exist about saved lives, the system is expected to significantly reduce the risks of disease transmission, due to early detection of cases.

The risk of local outbreaks of dengue is growing in many areas across Europe due to increasing urbanisation and globalisation. In addition, the global warming increases climatic suitability in Europe for *Aedes*

© Amandine Cochet

Tick-borne encephalitis (TBE) surveillance in Czechia



Tick-borne encephalitis (TBE) causes neuroinvasive illness, with increasing incidence attributed to global changes. The comprehensive national surveillance system in Czechia focusses on forecasting, reporting, and prevention. Its success relies on effective coordination, public awareness, and economic support for vaccination.

Being endemic in 27 European countries, tick-borne encephalitis (TBE) is the most widespread tick-borne viral disease in Europe. Every year it

Education of health workforce

Nurses Climate Challenge Europe: A campaign to engage health professionals on the impacts of climate change on health

Database > Case studies > Nurses Climate Challenge Europe: A ca...

Launched in 2021, the Nurses Climate Challenge Europe provides free online resources, and fosters networking among nurses to integrate climate knowledge into their practice, leveraging success from a previously established US-based counterpart.

Online training in climate change and health for the public health and wider health workforce in Europe

Database > Case studies > Online training in climate change and h...

Thank you

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Growing Up in a Changing Climate

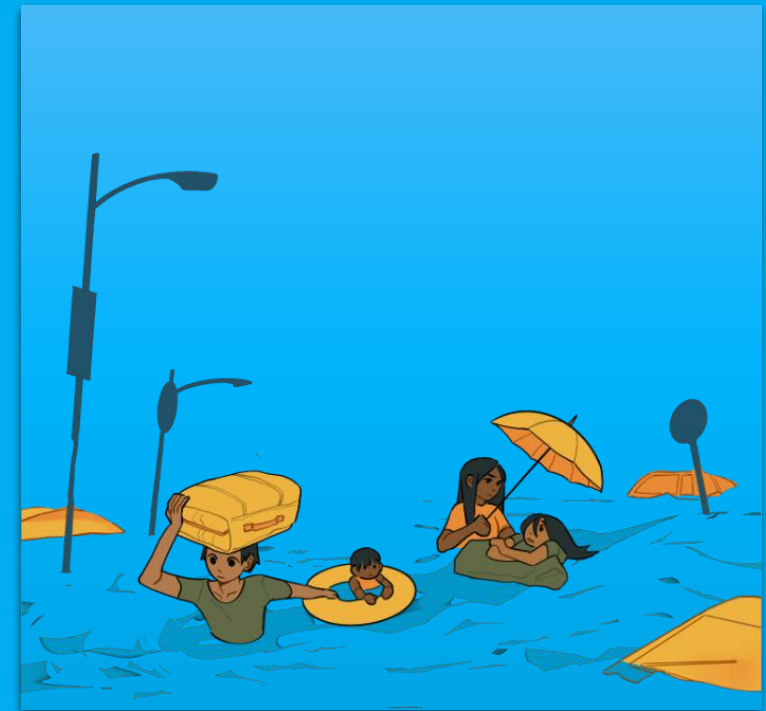
Lidija Kesar, UNICEF Serbia

Climateurope2 Festival
Empowering society through climate services
Belgrade, 1 October 2025.



Climate change and environmental degradation hit children hardest.

- Nearly all of the world's 2.2 billion children are vulnerable to climate risks.
- Nearly half of all children live in countries that are extremely vulnerable to the impacts of climate change
- 1 billion children are already facing at least three disasters simultaneously
- Almost every child on Earth experiences at least one climate shock per year.
- Millions more are displaced, miss school, or suffer from disease.
- Children born in 2020 will face 2-7 times more extreme weather events than their grandparents.



Children Facing Climate-Related Risks

- **920 million children** are exposed to water scarcity.
- **820 million children** are exposed to heatwaves.
- **600 million children** are exposed to vector-borne diseases.
- **400 million children** are exposed to cyclones.
- **330 million children** are exposed to riverine flooding.
- **240 million children** are exposed to coastal flooding along seas and oceans.
- **Every year, 40 million children** experience disruption in education due to hazards, including disease outbreaks caused by extreme weather.



Why Children Are More Vulnerable



- **Physiological factors:** faster breathing, immature organs, and the immune system.
- **Psychosocial factors:** higher stress, trauma, and climate anxiety.
- **Behavioural factors:** limited ability to protect themselves or make safe choices.
- **Dependence on caregivers:** rely on adults for food, water, shelter, and safety

Direct impact at the child level

→ Acute health impacts

- Injury/mortality
- Disease contraction
- Weather-related illnesses

→ Chronic health impacts

- Impaired cognitive and physical development
- Respiratory illness
- Other health conditions
- Mental health

→ Access to basic services

- Access to education
- Access to healthcare

Secondary effects from the household, community or society level

Economic and financial implications

Loss of informal social protection network

Mental distress and/or social unrest

→ Adequate nutrition

→ Protection risks






- Family separation
- Exploitative practices
- Neglect, abuse and violence

Dimensions of Inequality Shaping Children's Climate Vulnerability

- Existing inequalities **increase children's exposure** and vulnerability to hazards.
- Inequalities also **reduce children's ability to recover** from these impacts.
- If unaddressed, this can **perpetuate intergenerational cycles of inequality**.



Dimensions of Inequality Shaping Children's Climate Vulnerability

	Economic status	Children from poorer households are likely to have less access to services such as healthcare, education, adequate nutrition and safe water, electricity and sanitation.
	Ethnicity	The largest ethnic minority groups in Serbia include Hungarians, Bosniaks, Roma and Albanians. Based on available data, there is an abundance of evidence that the Roma population is marginalized in Serbia. They typically have much lower social inclusion, in terms of education and employment, and are more likely to live in extreme poverty without access to basic services ¹⁶⁰ . Migrant children are also more vulnerable as they typically have poor living conditions.
	Gender	Children from different genders are exposed to different types and levels of risks. For example, girls are at greater risk of gender-based or sexual exploitation, while boys face a higher risk of child labour in rural areas. Roma girls also have much higher instances of child marriage.
	Location	The location of children's communities can impact children's exposure to CE hazards. Their community, predominantly whether it is urban or rural, will also determine access to services like water and sanitation, education and healthcare. Some regions are also generally poorer than others, demonstrating a link between community and economic status.
	Disability and pre-existing health conditions	Children with disabilities and pre-existing health conditions are more vulnerable to the acute and chronic health impacts of CE hazards. In Serbia, they typically face barriers to accessing basic and social services. The majority of families also do not have sufficient income to provide adequate care for their children with disabilities ¹⁶¹ .

Impact of climate change on child survival, health and well-being

HAZARDS

Climate-related hazards with significant impact on children:

- Extreme heat
- Droughts
- Wildfires
- Floods and storms
- Ecosystem changes
- Air pollution

MULTIPLIERS

Factors made worse by climate change:

- Water scarcity and contamination
- Food insecurity and contamination
- Infrastructural damage
- Service disruption
- Displacement

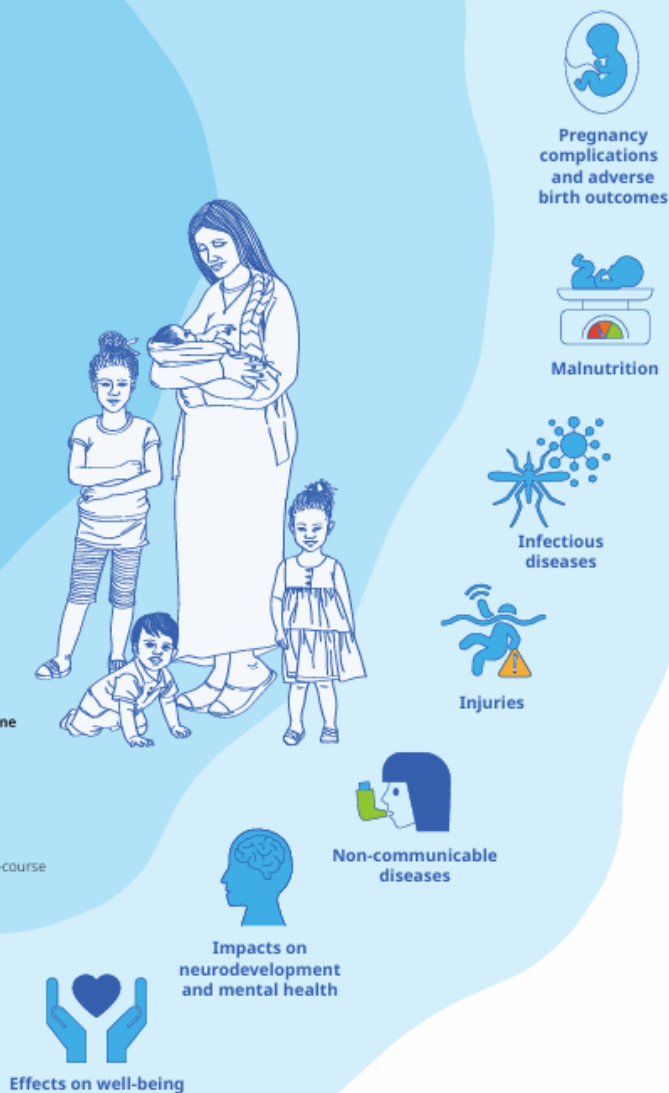
VULNERABILITIES

Inequities and factors that determine the severity of the impact:

- Socio-economic status
- Gender
- Location
- Existing health status
- Country context and capacity
- Unique vulnerabilities across the life-course

IMPACTS

Health outcomes contributing to child mortality and morbidity



Key health impacts of selected climate hazards on children



Pregnancy complications and adverse birth outcomes

- Still birth
- Low birth weight
- Preterm birth
- Congenital defects
- Preeclampsia
- Gestational diabetes
- Gestational hypertension



Malnutrition

- Stunting
- Wasting
- Underweight
- Overweight and obesity
- Micronutrient deficiencies



Infectious diseases

- Pneumonia and other respiratory infections
- Diarrhoeal diseases such as cholera
- Malaria, dengue, Zika and chikungunya
- Lyme disease
- Other neglected tropical diseases



Injuries

- Drowning
- Burns
- Poisoning



Non-communicable diseases

- Heat-related illnesses such as heat stroke
- Asthma
- Allergies
- Sudden Infant Death Syndrome
- Chronic metabolic and cardiovascular diseases



Impacts on neurodevelopment and mental health

- Cognitive dysfunction
- Developmental delays
- Anxiety
- Depression
- Post-traumatic stress disorder



Effects on well-being

- Learning loss
- Loss of caregiver, peers and community
- Violence, abuse and exploitation such as gender-based violence
- Sleep quality

Thank you!

[Climate adaptation for every child | UNICEF](#)

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