

A young girl with brown hair, wearing a light blue top, is holding a hand-drawn globe of the Earth. The globe is painted with green and blue colors, representing land and water. She is standing in a field of green plants, possibly a vineyard, under a clear blue sky. The background is slightly blurred, emphasizing the girl and the globe.

The Climate Change impact on Life & Health

Bratislava, 28 May 2025

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6. September 2024 at 18:24

Climatologist: Slovakia's summer has been a record-breaker, and not in a good way

It was extremely above average everywhere in Slovakia in terms of temperature, said Milan Lapin, a respected climatologist.

S Compiled by Spectator staff
Editorial

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Slovakia has recorded five heat waves this summer, the longest lasting for 20 days. (source: TASR)

GLOBE

AFRICA

SLOVAKIA



Extreme heat



Air pollution



**Vector-borne
diseases**



**Mitigation &
action**



Extreme heat

How is the body affected?



Heart



Brain



Kidneys



Gut

Source: [Too hot to handle: can our bodies withstand global heating? | Cop26 | The Guardian](#)

Who is most vulnerable?

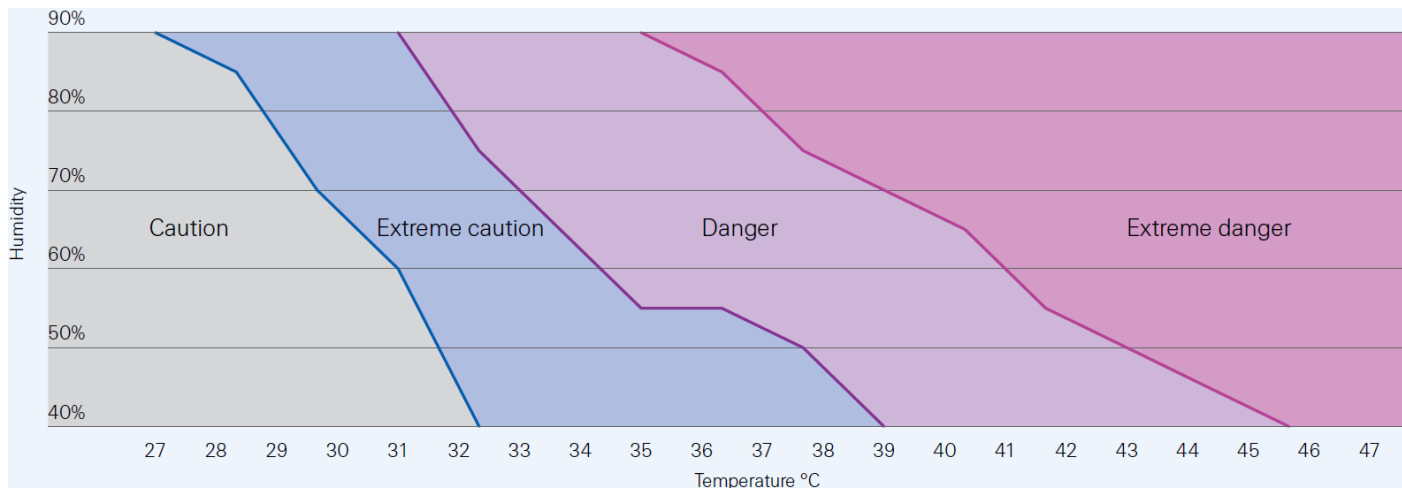
Elderly, children, pregnant woman, people with co-morbidities, outdoor and manual workers, athletes, people in low socio-economic classes etc.

Source: [Heat and Health \(who.int\)](#)

The wet-bulb effect

- NASA Jet Propulsion Laboratory: **highest wet-bulb temperature humans can tolerate is 35°C (at 100% humidity) for 6 hours**
- Once the threshold exceeded “**no amount of sweating or other adaptive behavior is enough to lower your body to a safe temperature**”
- Even a very healthy, young individual with unlimited drinking water and shade is at risk under these conditions

Source: Swiss Re Institute – [The risk of a lifetime](#)



The combination of temperature and relative humidity approximates the impact of wet bulb temperature on health

Source: Heat Index Chart, United States National Weather Service (US NCA), reproduced by Swiss Re Institute

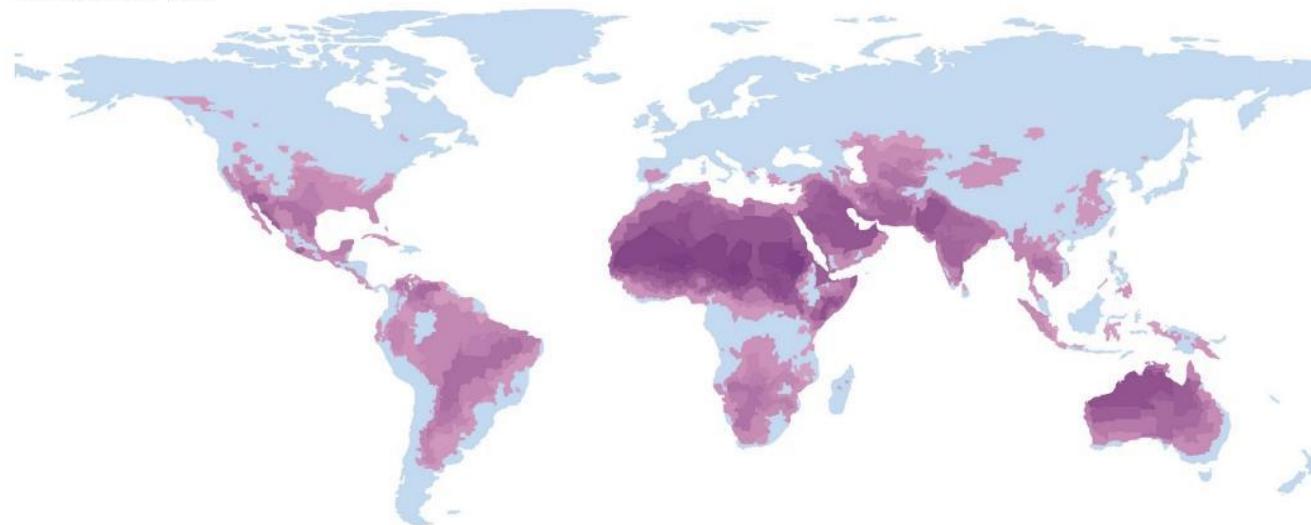
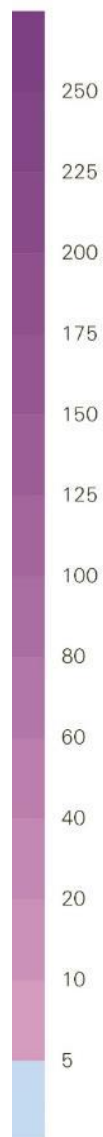


Projected global increase of extreme heat days under a high emissions scenario

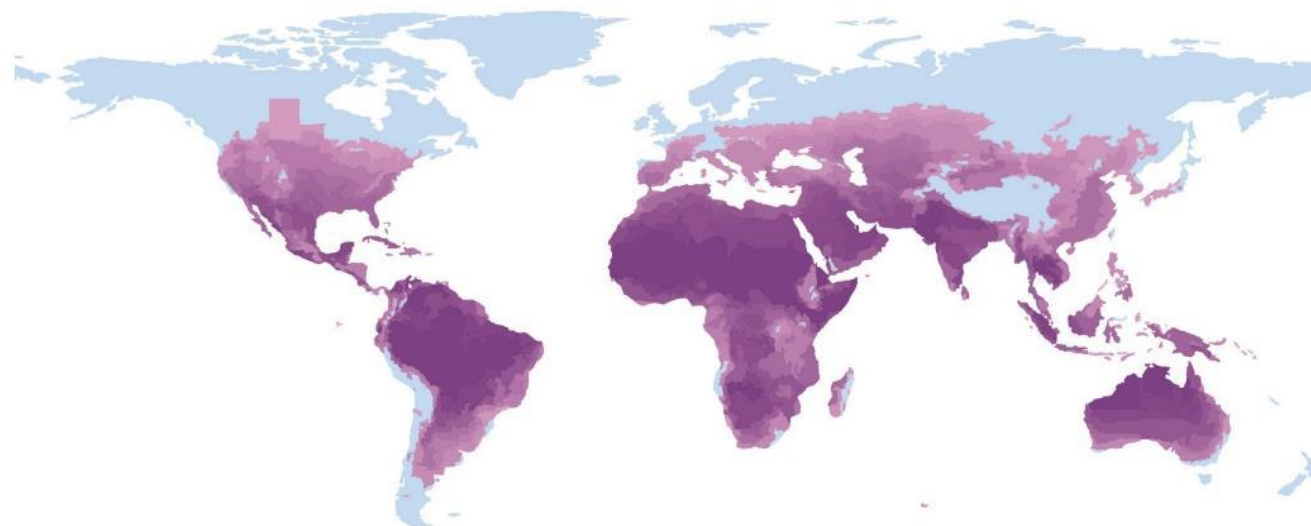


Days >35°C

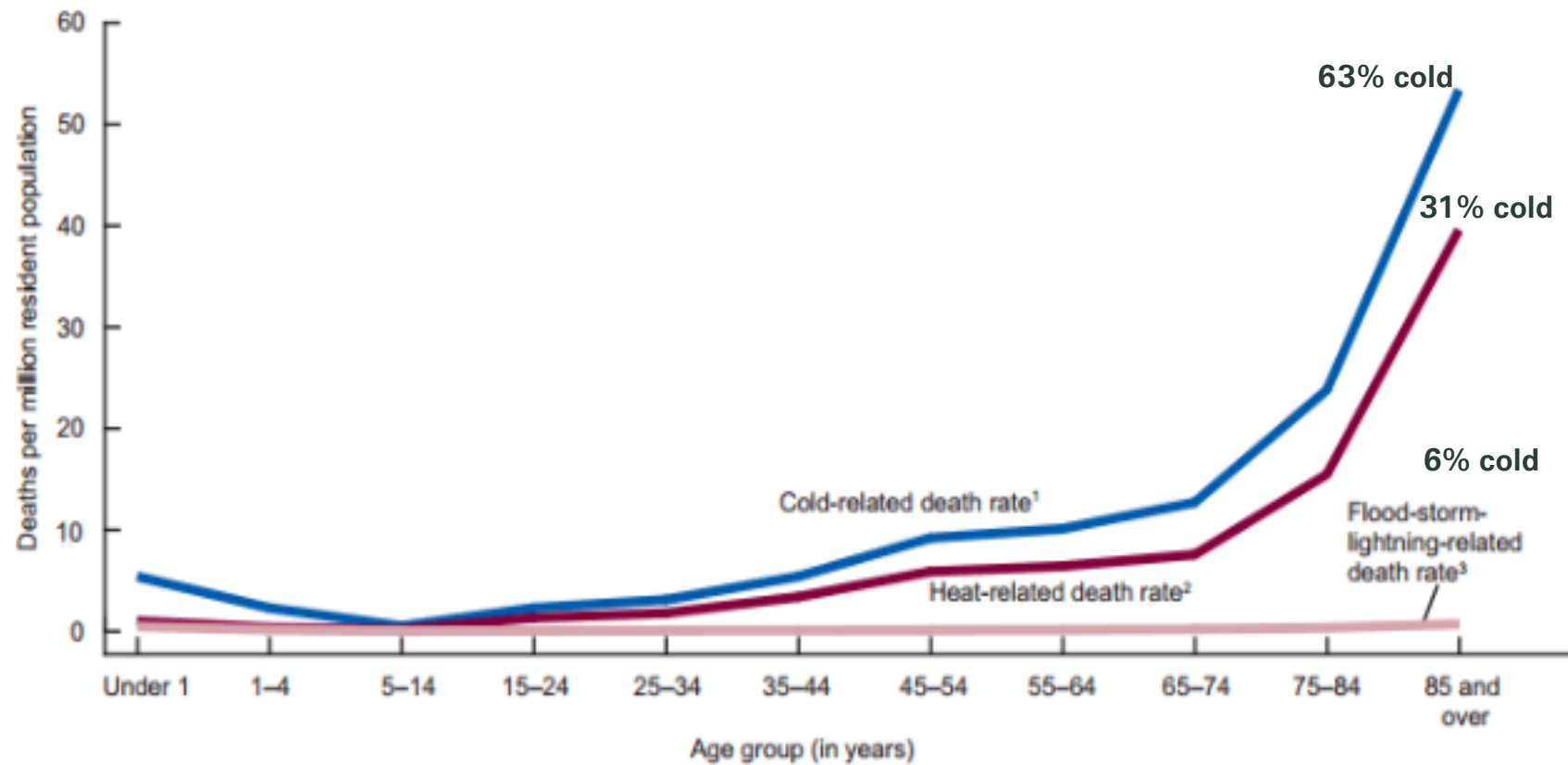
Historical 1986–2005



End of century 2080–2099 under high emissions (RCP 8.5)



From extreme COLD
to extreme HEAT



Source: 2014 study: CDC National Center for Health Statistics, [Washington Post](#)



Air pollution

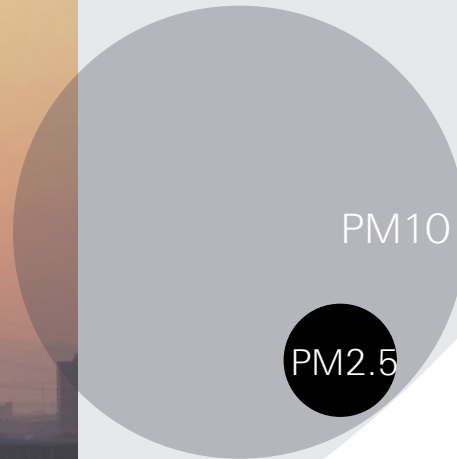
What is a particulate matter?

< 1/5 of width of a hair: PM10

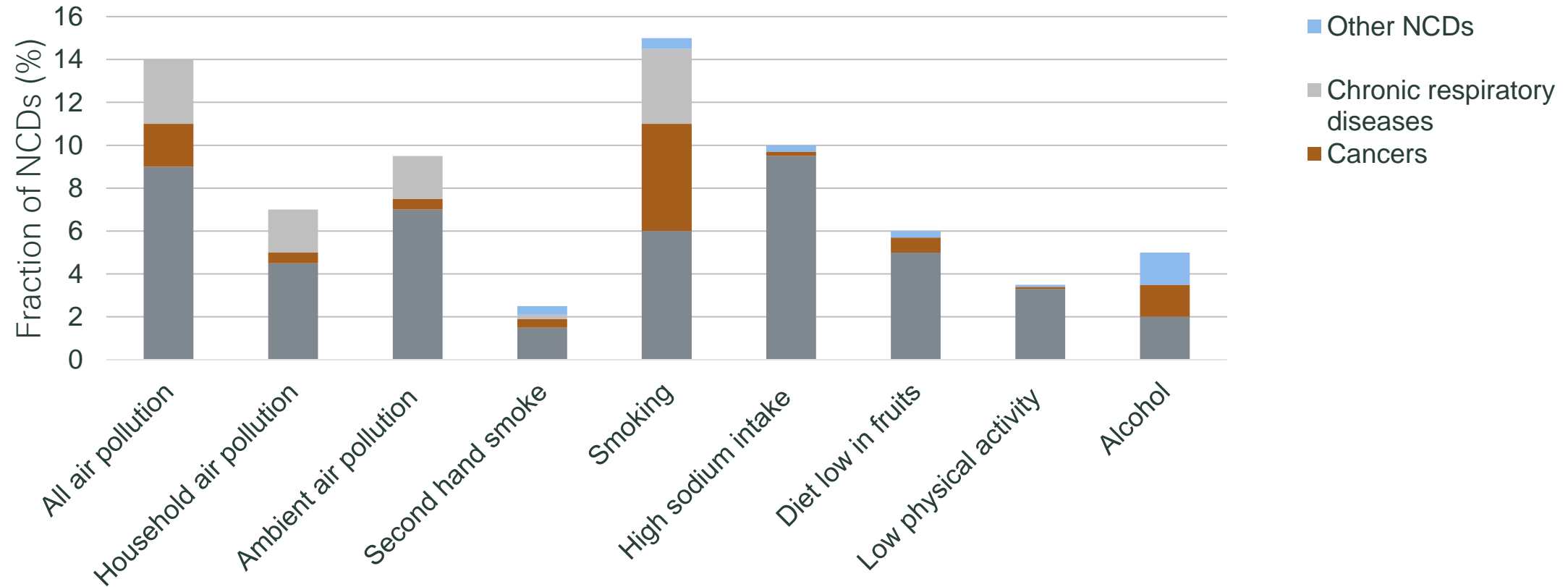
< 1/20 of width of a hair: PM2.5

Released by:

- burning fossil fuels
- Climate-related wildfires



Effects of air pollution comparable to smoking

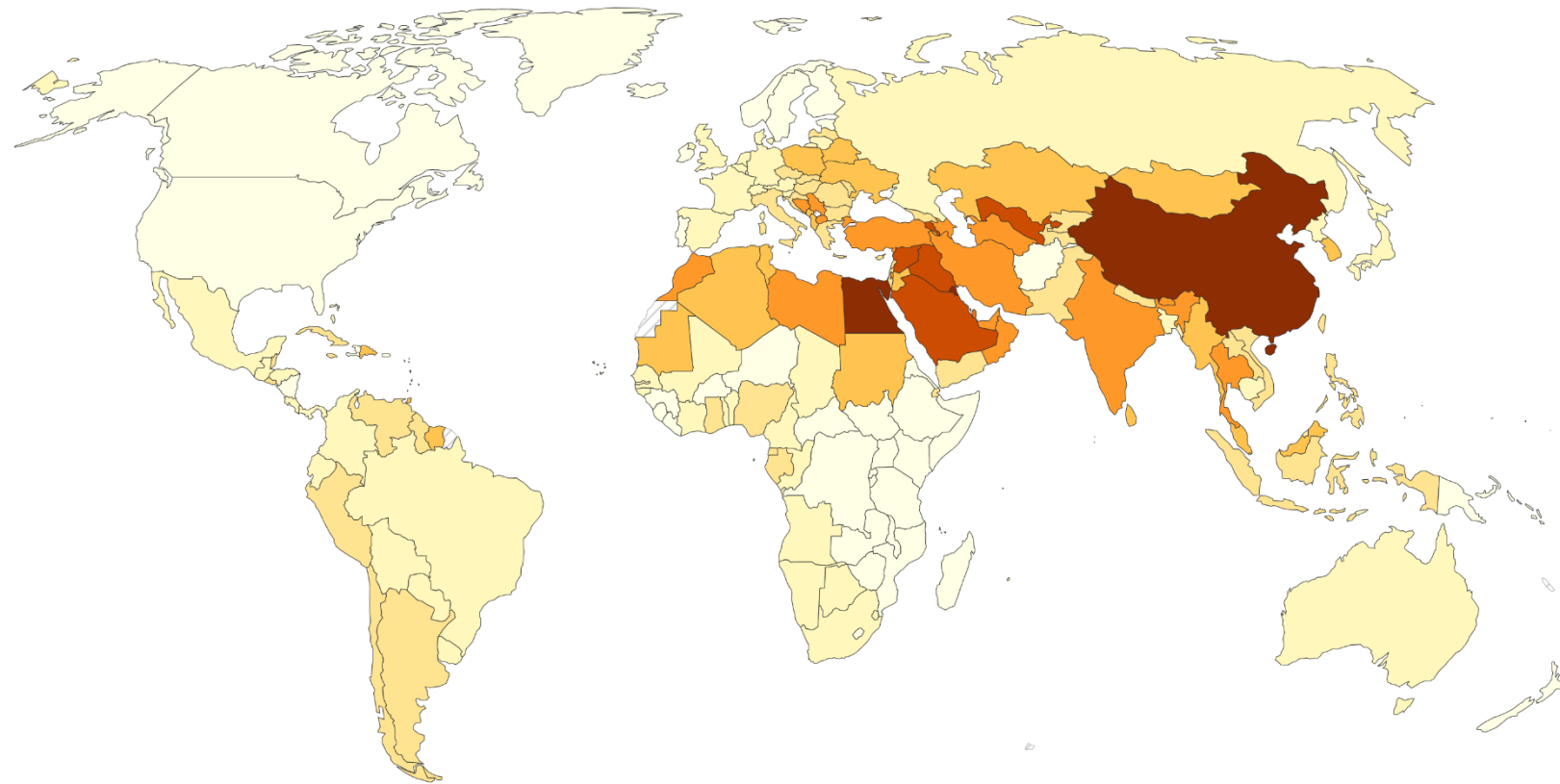




The largest air pollution impacts are in developing countries. Under low emission scenarios, air pollution is expected to improve, and improve longevity

Share of deaths attributed to outdoor air pollution, 2021

Share of deaths, from any cause, where ambient particulate matter air pollution is a risk factor.



Source: "Outdoor Air Pollution". Published online at OurWorldInData.org.
<https://ourworldindata.org/outdoor-air-pollution>

Vector-borne



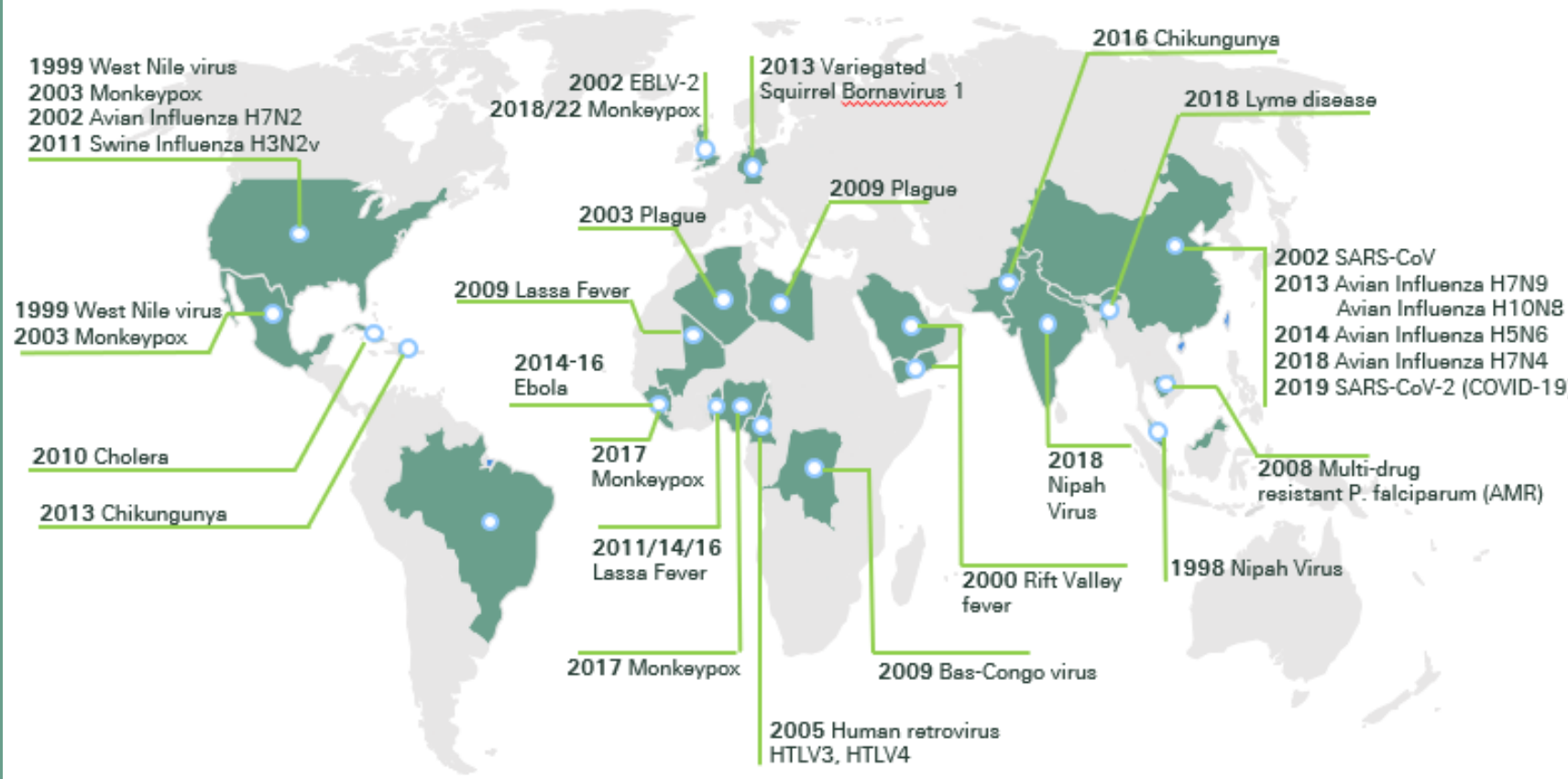
diseases

The threat of unknown and of pandemics remain

- Vector-borne diseases continue to emerge
- ~ **60-75%** of human infectious diseases originate from other species
- Climate change is modifying **geographical transmission**
- There is a notable **ongoing mortality risk** from a severe vector-borne disease outbreak
- The pandemic has shown how the **healthcare systems** can be overwhelmed by increasing numbers of patients



Global spread of new and significant emerging disease **outbreaks** since 1998



Source: [Public Health England](https://www.phe.gov.uk) – reproduced by Swiss Re Institute

A close-up photograph of a person's hand reaching out to touch a stalk of wheat in a field. The background is a soft-focus field of green wheat stalks. The lighting is warm and natural, suggesting a sunny day. The hand is positioned on the right side of the frame, with fingers gently touching the wheat. The overall mood is peaceful and connected to nature.

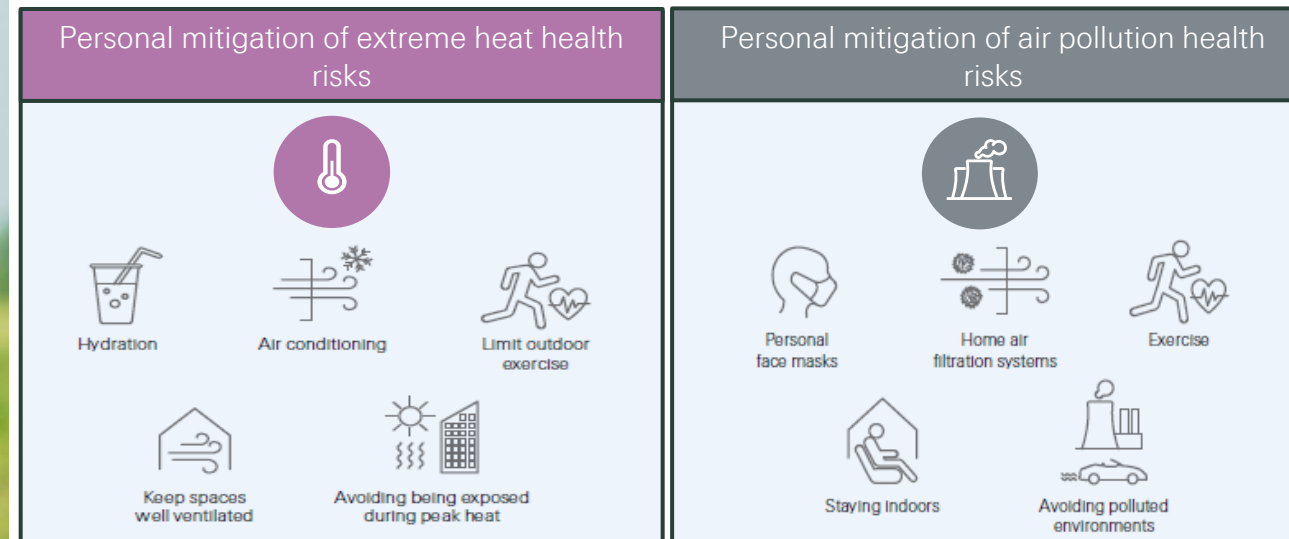
Secondary health impacts of climate change

- Water scarcity
- Food security & nutrition
- Migration

Potential for conflict, economic shocks and systemic failures likely to be higher

Mitigation

Simple, yet effective: **individuals can reduce personal exposure** to air pollution and heat-related risks, however there is much risk interdependence














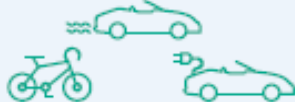









Source: Swiss Re Institute – [The risk of a lifetime](#)

Action



Global population annual excess mortality under different RCP scenarios ranges from no impact to a modest impact of **1 – 5%** under the more extreme scenarios

Source: Swiss Re Institute – [The risk of a lifetime](#)

Scenario	RCP 8.5	RCP 6.0	RCP 4.5	RCP 2.6
Effort to curb emissions	 Low	 Medium	 Medium	 High
Energy generation	 Coal-fired power	 Mix	 Renewable	 Renewable
New technology				 Emissions capture
Transport	 Car, trucks	 Mix	 Mix	 Bicycles, public transport
Temperature in 2081–2100 ¹⁾	 3.0–6.2 °C	 2.3–3.6 °C	 1.8–3.3 °C	 0.9–2.3 °C
Extreme weather increase	 Large	 Moderate	 Moderate	 Small



Insurance impact will vary significantly by **geographic region, socioeconomic factors** and **underlying health** of individuals in portfolio

Insured segments will be impacted, but are typically more resilient due to:

- decreased climate **exposure**
- reduced health **sensitivities**
- greater adaptive **capability**



- Climate change (extreme heat, air pollution, periodic disease outbreaks) impact long-term mortality improvement **trend** assumptions.
- Consider the **magnitude of climate impact** vs **the magnitude of biological risk factors**
- **Personal mitigations**, including addressing modifiable lifestyle risk factors, will reduce mortality and health outcomes
- General population vs insured population outcomes will **diverge** further
- Public policies need to be strengthened to address inequities in **healthcare access**
- **Monitoring** the landscape and transition trajectory remains important

Thank you!

Contact us



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