CZECHIA

HEALTH AND CLIMATE CHANGE

COUNTRY PROFILE 2021

World Health Organization

United Nations
Framework Convention on
Climate Change

CONTENTS

ACKNOWLEDGEMENTS

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HOW TO USE THIS PROFILE

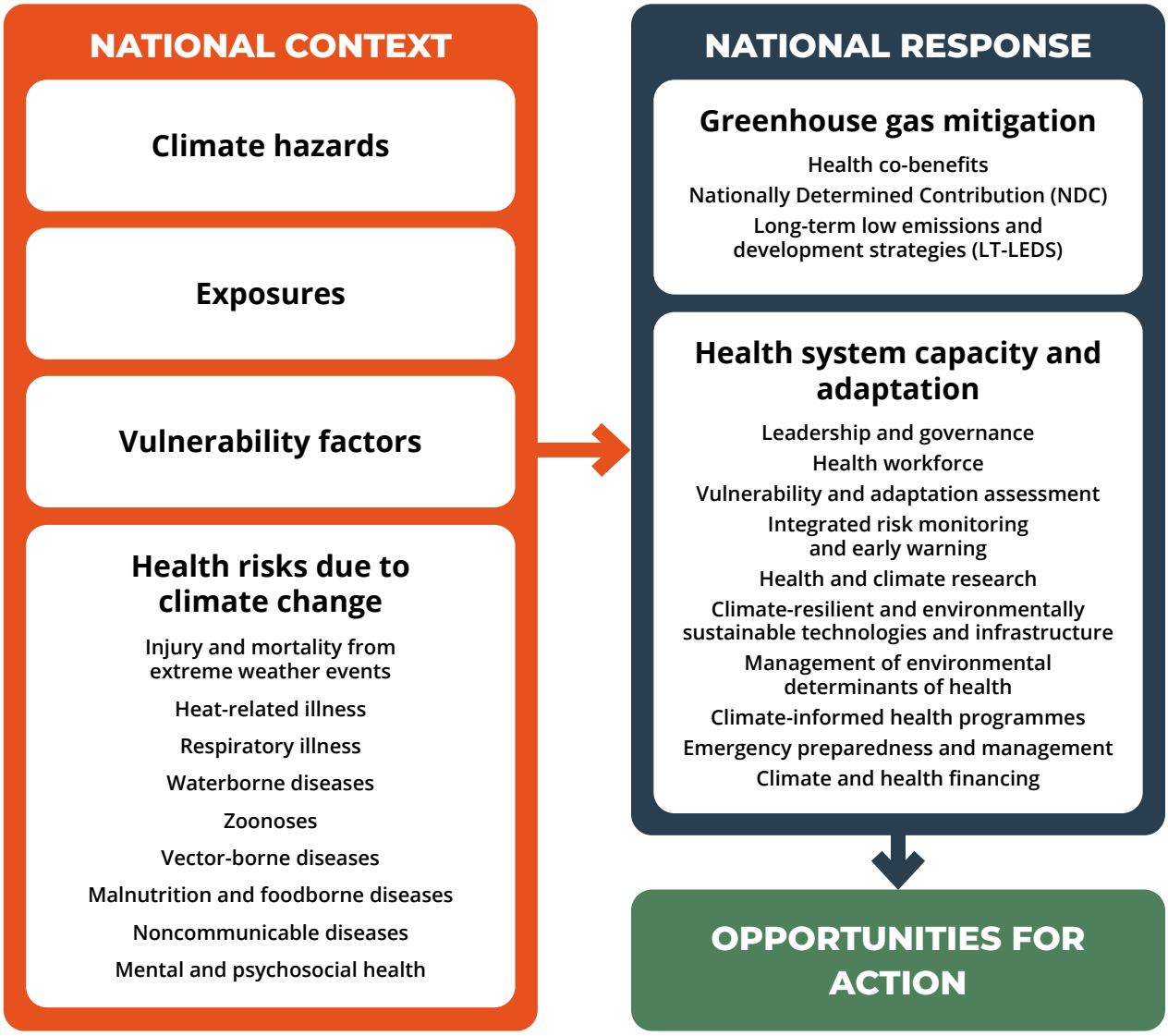
This health and climate change country profile presents a snapshot of country-specific climate hazards, climate-sensitive health risks and potential health benefits of climate change mitigation. The profile is also a key tool in monitoring national health sector response to the risk that climate variability and climate change pose to human health and health systems. By presenting this national evidence, the profile aims to:

- Raise awareness of the health threats of climate change within the health sector, other health-related sectors and among the general public;
- Monitor national health response;
- Support decision-makers to identify opportunities for action;
- Provide links to key WHO resources.

Tools to support the communication of the information presented in this country profile are available. For more information please contact: nevillet@who.int

The diagram below presents the linkages between climate change and health. This profile provides country-specific information following these pathways. **The profile does not necessarily include comprehensive information on all exposures, vulnerability factors or health risks** but rather provides examples based on available evidence and the highest priority climate-sensitive health risks for your country.

CLIMATE CHANGE AND HEALTH



COUNTRY BACKGROUND

Located in central Europe, Czechia's territory varies between mountains and lowlands, with an average altitude of 450 m *(1)*. Classified as a high-income country, Czechia's economy predominantly depends on the manufacturing industry, which plays a key role in terms of employment *(2)*. Czechia has a high population density and 70% of its population lives in urban areas *(1)*.

Czechia is located in a moderate climate zone, with fluctuating average annual temperatures. Rising temperatures and changing precipitation patterns are being experienced already. This has resulted in a loss of biodiversity, changes in the water regime, drought events, and more frequent flooding. Health risks of climate change include vector-borne diseases, heat stress, increased incidence of gastrointestinal diseases, and respiratory diseases due to ambient air pollution *(3)*.

Czechia, as a member of the European Union (EU), is committed to the European Nationally Determined Contribution (NDC), which seeks to mitigate at least 55% of its greenhouse gas emissions by 2030 compared with the 1990 levels *(4)*. The National Adaptation Plan outlines health adaptation measures, including ensuring adequate medical infrastructure for epidemic emergencies; implementing early warning systems for water- and vector-borne diseases; and providing information to strengthen decision-making around health risk situations *(3)*.

CLIMATE-SENSITIVE HEALTH RISKS – CZECHIA

Health risks	
Health impacts of extreme weather events	●
Heat-related illnesses	●
Respiratory illnesses	●
Waterborne diseases and other water-related health impacts	●
Zoonoses	●
Vector-borne diseases	●
Malnutrition and foodborne diseases	●
Noncommunicable diseases	●
Mental/psychosocial health	○
Impacts on health care facilities	●
Effects on health systems	●
Health impacts of climate-induced population pressures	●

● yes ● no ○ unknown / not applicable

Source: Revised Comprehensive Study on Impacts, Vulnerability and Risk Sources Connected to Climate Change in Czechia (2019) *(5)*.

CURRENT AND FUTURE CLIMATE HAZARDS

CLIMATE HAZARD PROJECTIONS FOR CZECHIA

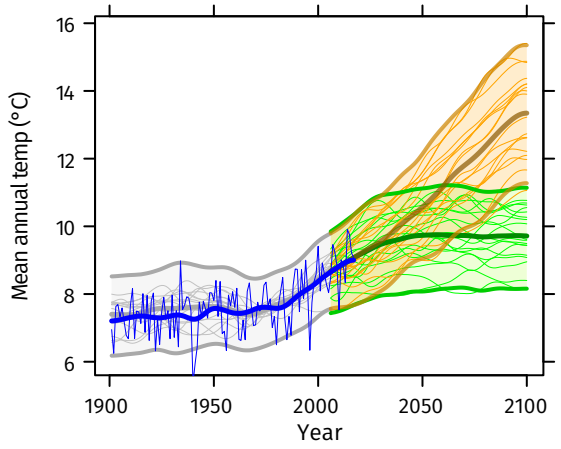
Country-specific projections are outlined up to the year 2100 for climate hazards under a 'business as usual' (BAU) high emissions scenario compared to projections under a 'two-degree' scenario with rapidly decreasing global emissions (see Figures 1–5).

The climate model projections given 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).[a] The text describes the projected changes averaged across about 20 global climate models (thick line). The figures[b] also show each model individually as well as the 90% model range (shaded) as a measure of uncertainty and the annual and smoothed observed record (in blue).[c] In the following text the present-day baseline refers to the 30-year average for 1981–2010 and the end-of-century refers to the 30-year average for 2071–2100.

Modelling uncertainties associated with the relatively coarse spatial scale of the models compared with that of geographically small countries are not explicitly represented. There are also issues associated with the availability and representativeness of observed data for some locations.

Rising temperature

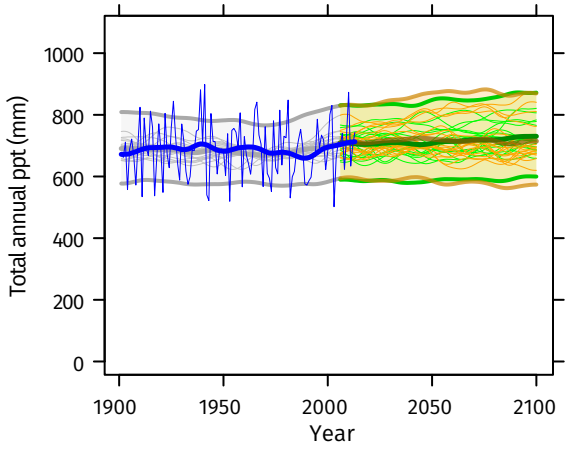
FIGURE 1: Mean annual temperature, 1900–2100



Under a high emissions scenario, the mean annual temperature is projected to rise by about 4.5°C on average by the end-of-century (i.e. 2071–2100 compared with 1981–2010). If emissions decrease rapidly, the temperature rise is limited to about 1.5°C.

Small increase in total precipitation

FIGURE 2: Total annual precipitation, 1900–2100



Total annual precipitation is projected to increase by about 5% on average under a high emissions scenario, although the uncertainty range is large (-5% to +16%). If emissions decrease rapidly, there is little projected change on average: an increase of 4% with an uncertainty range of -1% to +10%.

NOTES

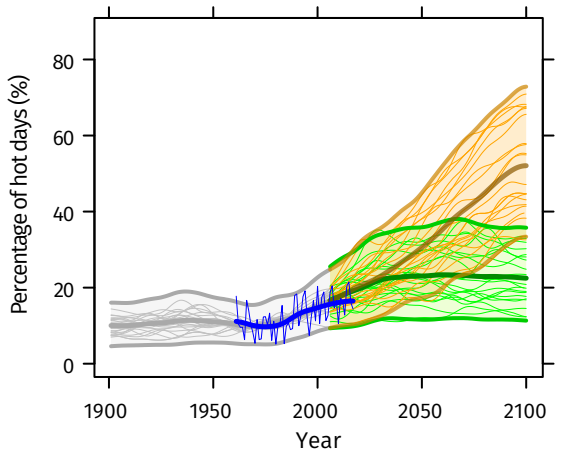
[a] Model projections are from CMIP5 for RCP8.5 (high emissions) and RCP2.6 (low emissions). Model anomalies are added to the historical mean and smoothed.

[b] Observed historical record of mean temperature and total precipitation is from CRU-TSv3.26. Observed historical records of extremes are from JRA55 for temperature and from GPCC-FDD for precipitation.

[c] Analysis by the Climatic Research Unit, University of East Anglia, 2018.

More high temperature extremes

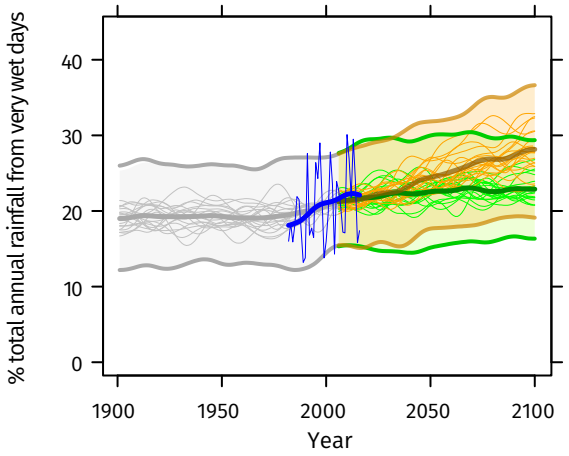
FIGURE 3: Percentage of hot days ('heat stress'), 1900–2100



The percentage of hot days[d] is projected to increase from about 15% of all days on average in 1981–2010 (10% in 1961–1990). Under a high emissions scenario, about 50% of days on average are defined as 'hot' by the end-of-century. If emissions decrease rapidly, about 25% of days on average are 'hot'. Similar increases are seen in hot nights[d] (not shown).

Increase in extreme rainfall

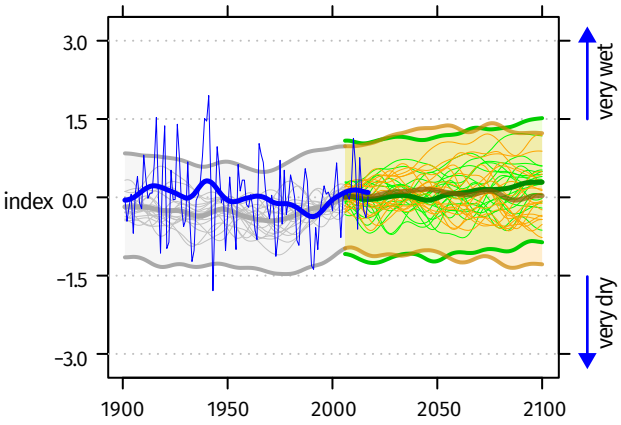
FIGURE 4: Contribution of very wet days ('extreme rainfall' and 'flood risk') to total annual rainfall, 1900–2100



Under a high emissions scenario, the proportion of total annual rainfall from very wet days[e] (about 20% for 1981–2010) could increase by the end-of-century (to almost 30% on average with an uncertainty range of about 20% to 35%), with little change if emissions decrease rapidly. These projected changes are accompanied by a small increase in total annual rainfall (see Figure 2).

Drought frequency and intensity

FIGURE 5: Standardized Precipitation Index ('drought'), 1900–2100



The Standardized Precipitation Index (SPI) is a widely used drought index which expresses rainfall deficits/excesses over timescales ranging from 1 to 36 months (here 12 months, i.e. SPI12). It shows how at the same time extremely dry and extremely wet conditions, relative to the average local conditions, change in frequency and/or intensity. SPI is unitless but can be used to categorize different severities of drought (wet): above +2.0 extremely wet; +2.0 to +1.5 severely wet; +1.5 to +1.0 moderately wet; +1.0 to +0.5 slightly wet; +0.5 to -0.5 near normal conditions; -0.5 to -1.0 slight drought; -1.0 to -1.5 moderate drought; -1.5 to -2.0 severe drought; below -2.0 extreme drought.

SPI12 values show little projected change from about zero on average, though year-to-year variability remains large. A few models indicate slightly larger increases (more frequent/intense wet events).

[d] A 'hot day' ('hot night') is a day when maximum (minimum) temperature exceeds the 90th percentile threshold for that time of the year.

[e] The proportion (%) of annual rainfall totals that falls during very wet days, defined as days that are at least as wet as the historically 5% wettest of all days.

HEALTH RISKS DUE TO CLIMATE CHANGE

HEAT STRESS

CLIMATE HAZARDS[a]

Up to 4.5°C mean annual temperature rise by the end-of-century.

About 50% of days could be 'hot days' by the end-of-century.

EXPOSURES

Population exposure to heat stress is likely to rise in the future, due to increased urbanization (and the associated urban heat island effect) and climate change increasing the likelihood of severe heat waves (periods of prolonged heat).

EXAMPLE VULNERABILITY FACTORS[b]

Age (e.g. the elderly and children)

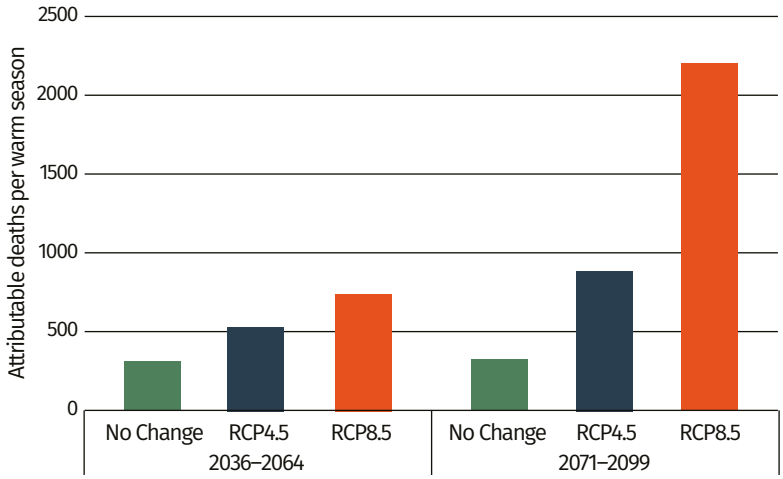
Biological factors and health status

Geographical factors (e.g. urbanization)

Socioeconomic factors (e.g. occupation and poverty)

HEALTH RISKS[c]

FIGURE 6: Attributable deaths per warm season in Czechia expected for the future time period 2036–2064 and 2071–2099 under the reference scenario (apparent temperatures at the historical levels observed during the period 1971–2001) and additional attributable deaths in respect to this counterfactual as expected under the RCP4.5 and RCP8.5 scenarios *(6)*



The health risks of heat stress include heat-related illnesses such as dehydration, rash, cramps, heatstroke, heat exhaustion and death.

Under a high emissions scenario (RCP8.5), additional attributable deaths per warm season are projected to rise to 2199 during 2071–2099. A reduction in emissions (RCP4.5) could reduce additional attributable deaths per warm season during 2071–2099 to 879 *(6)*.

[a] For details see "Current and future climate hazards".

[b] These vulnerability factors are not comprehensive but rather examples of relevant vulnerability factors. Please see the WHO Quality Criteria for Health National Adaptation Plans for more details: https://www.who.int/publications/i/item/quality-criteria-health-national-adaptation-plans.

[c] See "National health response: health system capacity and adaptation" for the national response to heat stress.

FOOD SAFETY AND SECURITY

CLIMATE HAZARDS[a]

Up to 4.5°C mean annual temperature rise by the end-of-century.

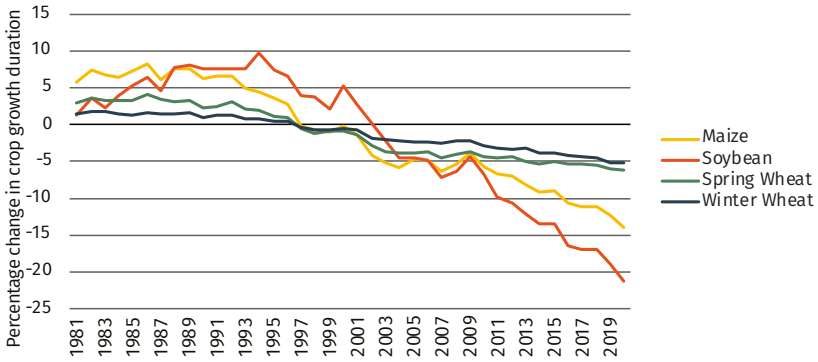
About 50% of days could be 'hot days' by the end-of-century.

Total annual precipitation could increase by about 5% by the end-of-century.

Large year-to-year variability in drought conditions.

EXPOSURES

FIGURE 7: Percentage change in crop growth duration in Czechia in 1981–2020, relative to the 1981–2010 average, expressed as the running mean over 11 years (5 years before and 5 years after) *(7,8)*



Reliable food resources are essential to good health. Climate change significantly increases exposure to changes in the safety and sustainability of food systems, directly through its effects on agriculture and indirectly by contributing to underlying risk factors such as water insecurity, dependency on imported foods, urbanization and migration, and health service disruption.

EXAMPLE VULNERABILITY FACTORS[b]

Age (e.g. the elderly and children)

Biological factors and health status (e.g. pregnant women)

Environmental factors (e.g. loss of biodiversity)

Gender and equity

Socioeconomic factors

HEALTH RISKS[c]

Food safety and security problems can result in: malnutrition and foodborne diseases, zoonosis, noncommunicable diseases (NCDs), and mortality. As food security decreases due to climate change, metabolic and lifestyle risk factors for diet-related NCDs are likely to be exacerbated. Increasing temperatures can lead to increases in foodborne illnesses through spoiled food from refrigeration failure in transport/storage or changes in patterns of salmonella growth.

Climate change is expected to affect agricultural productivity in Czechia, with future genetic diversity and soil fertility potentially being degraded. Changing precipitation patterns and increased evapotranspiration are expected to affect some of Czechia's most productive farmland. Furthermore, heavy rainfall associated with storms could increase soil erosion in over half of the country's agricultural land *(1)*.

[a] For details see "Current and future climate hazards".

[b] These vulnerability factors are not comprehensive but rather examples of relevant vulnerability factors. Please see the WHO Quality Criteria for Health National Adaptation Plans for more details: https://www.who.int/publications/i/item/quality-criteria-health-national-adaptation-plans.

[c] See "National health response: health system capacity and adaptation" for the national response to food safety and security.

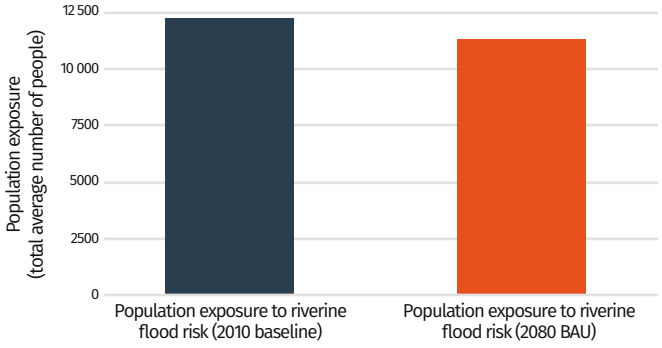
WATER QUANTITY AND QUALITY

CLIMATE HAZARDS[a]

- Up to 4.5°C mean annual temperature rise by the end-of-century.
- Total annual precipitation could increase by about 5% by the end-of-century.
- Annual rainfall from very wet days could increase by the end-of-century.
- Large year-to-year variability in drought conditions.

EXPOSURES

FIGURE 8: Change in population exposure to riverine flooding in Czechia from 2010 (baseline) to 2080 (under a BAU scenario)[b] *(9)*



Climate change increases the intensity and frequency of extreme weather events including drought and floods. These events can lead to population displacement and affect water and sanitation infrastructure and services, contaminate water with faecal bacteria (e.g. *E. coli*, salmonella) from run-off or sewer overflow. Increasing temperatures and precipitation can also lead to water contaminated with Vibrio bacteria or algae blooms.

EXAMPLE VULNERABILITY FACTORS[c]

- Access to clean and safe water and sanitation services
- People living near flood and drought zones
- Socioeconomic factors
- Gender and equity

HEALTH RISKS[d]

Physical injury and drowning are direct health risks from extreme weather events associated with climate change. Indirectly, the impact of climate change on water quality and quantity can lead to waterborne diseases (such as diarrhoeal disease) and noncommunicable diseases.

Changing seasonal precipitation patterns could affect river levels and water availability. This, coincided with reduced water from snow melt (owing to less snow cover), could significantly change water stocks in Czechia *(1)*.

[a] For details see "Current and future climate hazards".

[b] This analysis, conducted by Aqueduct, shows projections for changing population exposure to riverine and coastal flood risk under a BAU scenario, which reflects RCP8.5 and SSP2. SSP2 is the socioeconomic pathway representing "middle of the road", whereby global social, economic and technological trends do not shift significantly from historical patterns.

[c] These vulnerability factors are not comprehensive but rather examples of relevant vulnerability factors. Please see the WHO Quality Criteria for Health National Adaptation Plans for more details: https://www.who.int/publications/i/item/quality-criteria-health-national-adaptation-plans.

[d] See "National health response: health system capacity and adaptation" for the national response to water quantity and quality.

VECTOR DISTRIBUTION AND ECOLOGY

CLIMATE HAZARDS[a]

Up to 4.5°C mean annual temperature rise by the end-of-century.

Total annual precipitation could increase by about 5% by the end-of-century.

EXPOSURES

The distribution and vectorial capacity of disease vectors is expected to alter with climate change. As a result, population exposure to vector-borne diseases could also change. Populations previously not exposed to certain vector-borne diseases could be increasingly exposed in future, as rising global temperatures shift the distribution of vectors *(10)*.

EXAMPLE VULNERABILITY FACTORS[b]

- Environmental factors
- Biological factors and health status (e.g. pregnant women or pre-existing conditions)
- Disease dynamics
- Socioeconomic factors

HEALTH RISKS[c]

In 2018, Czechia reported the most confirmed tick-borne encephalitis cases in the EU. This applies for most of the years on record. Active surveillance systems are in place in Czechia *(11)*.

712

cases of tick-borne encephalitis confirmed (2018) *(11)*

NATIONAL CONTEXT

[a] For details see "Current and future climate hazards".

[b] These vulnerability factors are not comprehensive but rather examples of relevant vulnerability factors. Please see the WHO Quality Criteria for Health National Adaptation Plans for more details: https://www.who.int/publications/i/item/quality-criteria-health-national-adaptation-plans.

[c] See "National health response: health system capacity and adaptation" for the national response to vector distribution and ecology.

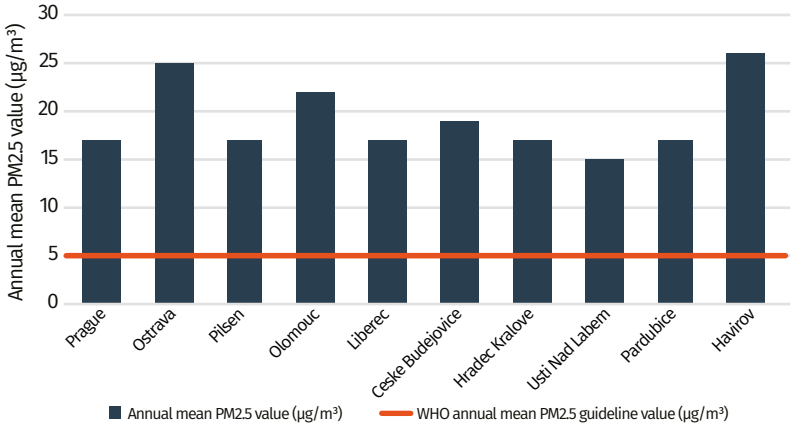
HEALTH RISKS DUE TO AIR POLLUTION

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.

EXPOSURES

Of the 10 most populated cities in Czechia, all had annual mean $PM_{2.5}$[a] levels above the WHO guideline value of 5 µg/m^3 (see Figure 9) *(12)*.

FIGURE 9: Annual mean $PM_{2.5}$ in the top 10 most populated cities (for which data were available) in Czechia, compared with the WHO guideline value of $PM_{2.5}$ of 5 µg/m^3. Data were available for 103 locations in total. Source: Ambient Air Pollution Database, WHO, 2018. A standard conversion has been used on some data points, see source for further details *(12)*



EXAMPLE VULNERABILITY FACTORS[b]

- Age (e.g. the elderly and children)
- Biological factors and health status (e.g. pre-existing conditions)
- Gender and equity
- Geographical factors (e.g. rural/urban areas)
- Socioeconomic factors (e.g. poverty)

HEALTH RISKS[c]

Ambient air pollution can have direct and sometimes severe consequences for health. Fine particles, which penetrate deep into the respiratory tract, subsequently increase mortality from respiratory infections, lung cancer and cardiovascular disease.

6263

deaths from ambient air pollution in Czechia in 2016 *(13)*

7.4%

economic costs of premature deaths from ambient particulate matter pollution and household air pollution as a percentage of GDP (2010) *(14)*

[a] $PM_{2.5}$ is atmospheric particulate matter (PM) with a diameter of <2.5 µm.

[b] These vulnerability factors are not comprehensive but rather examples of relevant vulnerability factors. Please see the WHO Quality Criteria for Health National Adaptation Plans for more details: https://www.who.int/publications/i/item/quality-criteria-health-national-adaptation-plans.

[c] See "National health response: health system capacity and adaptation" for the national response to air pollution.

HEALTH CO-BENEFITS FROM CLIMATE CHANGE MITIGATION

Health co-benefits are local, national and international measures with the potential to simultaneously yield large, immediate public health benefits and reduce greenhouse gas emissions.

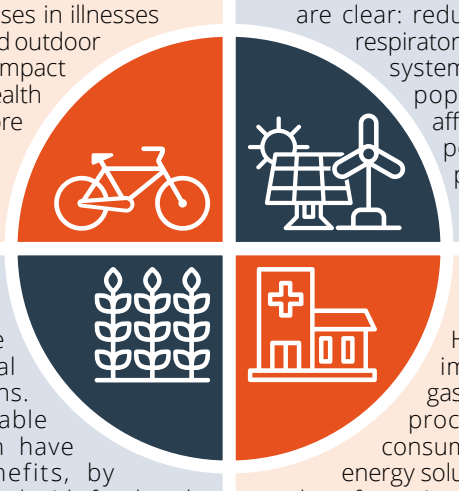
GLOBAL EXAMPLES

TRANSPORT

A shift towards active transportation and sustainable public transport systems could see reductions in greenhouse gas emissions; decreases in illnesses related to physical inactivity, reduced outdoor air pollution and noise exposure. Compact urban planning can also improve health equity by making urban services more accessible to the elderly and poor.

ENERGY

The health benefits of transitioning from polluting fuels, such as coal, to lower carbon sources and renewables are clear: reduced rates of cardiovascular and respiratory diseases; cost-savings for health systems; improved health equity where populations are disproportionately affected by household or ambient air pollution; and improved economic productivity from a healthier and more productive workforce.



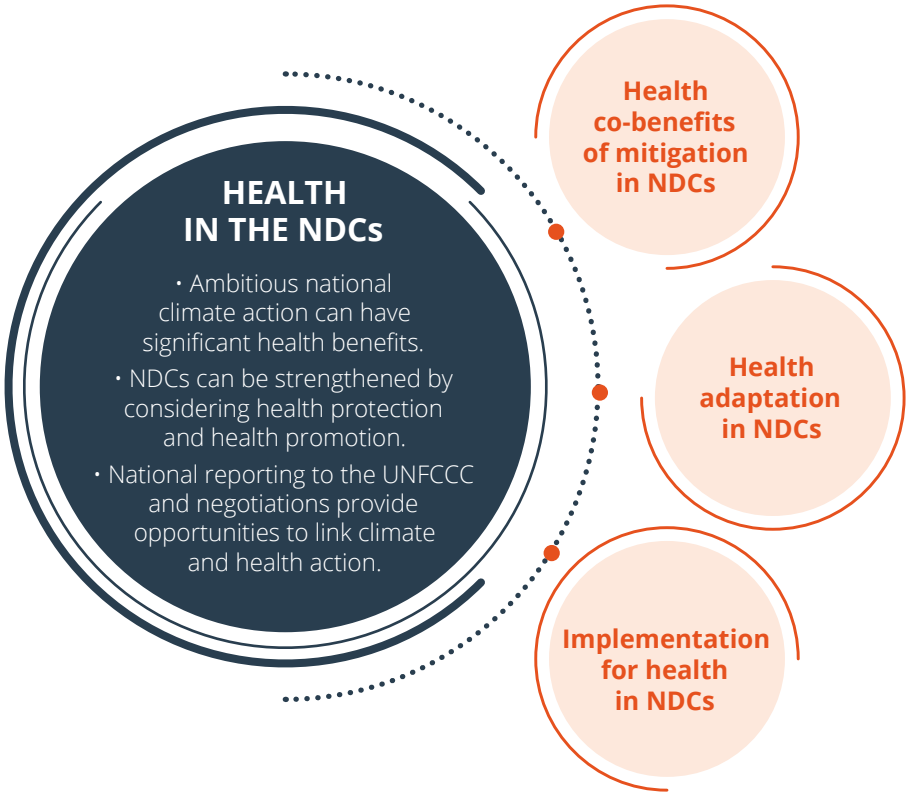
FOOD AND AGRICULTURE

Food systems emissions constitute a significant proportion of total global greenhouse gas emissions. Interventions to build sustainable and secure food systems can have significant public health benefits, by addressing malnutrition associated with food and nutrition insecurity while reducing diet-related noncommunicable diseases (NCDs).

HEALTH CARE SYSTEMS

Health care activities are an important source of greenhouse gas emissions. Major sources include procurement and inefficient energy consumption. Low-carbon and efficient energy solutions can lower the health sector's carbon footprint while improving the quality and reliability of energy services in many settings.

HEALTH IN THE NATIONALLY DETERMINED CONTRIBUTION (NDC)



Total 2018 emissions

127 449.6 kt CO_2 equivalent *(15)*

NDC target

At least a 55% domestic reduction in greenhouse gas emissions by 2030 compared with the 1990 levels *(4)*

The EU NDC does not outline specific health adaptation targets *(4)*.

NATIONAL HEALTH RESPONSE: HEALTH SYSTEM CAPACITY AND ADAPTATION

The following section measures progress in the health sector in responding to climate threats based on country reported data collected in the WHO Health and Climate Change Global Survey *(16)*.

GOVERNANCE AND LEADERSHIP

National planning for health and climate change

Has a national health and climate change strategy or plan been developed?[a] *Title:* National Action Plan on Adaptation to Climate Change is an implementation document of the Strategy for Adaptation to Climate Change in the Czech Republic (Strategie připůsobení se změně klimatu v podmínkách ČR).* *Year:* 2015	●
Content	
Are health adaptation priorities identified in the strategy/plan?	●
Are the health co-benefits of mitigation action considered in the strategy/plan?	●
Have performance indicators been identified?	●
Level of implementation of the strategy/plan	Partial**
Portion of estimated costs to implement the strategy/plan covered in the health budget	○

● yes ● no ○ unknown / not applicable

* Both the National Action Plan and Strategy for Adaptation are currently being updated.

** From an evaluation conducted in 2019, 70% of tasks from the National Action Plan on Adaptation to Climate Change were accomplished.

Intersectoral collaboration to address climate change

Is there an agreement in place between the ministry of health and this sector which defines specific roles and responsibilities in relation to links between health and climate change policy?

Sector[b]	Agreement in place
Transportation	●
Electricity generation	●
Household energy	●
Agriculture	●
Social services	●
Water, sanitation and waste-water management	●

● yes ● no ○ unknown / not applicable

[a] In this context, a national strategy or plan is a broad term that includes national health and climate strategies as well as the health component of national adaptation plans (HNAPs).

[b] Specific roles and responsibilities between the national health authority and the sector indicated are defined in the agreement.

EVIDENCE AND IMPLEMENTATION

Vulnerability and adaptation assessment for health

Has an assessment of health vulnerability and impacts of climate change been conducted at the national level? ●

Title: Komplexní studie dopadů, zranitelnosti a zdrojů rizik souvisejících se změnou klimatu v ČR
Year: 2015

Title: Aktualizovaná komplexní studie dopadů, zranitelnosti a zdrojů rizik souvisejících se změnou klimatu v ČR
Year: 2019 (update of the previous assessment)

Have the results of the assessment been used for policy prioritization or the allocation of human and financial resources to address the health risks of climate change?

● yes ● no ○ unknown / not applicable

Integrated risk monitoring and early warning

Climate-sensitive diseases and health outcomes	Health surveillance system exists[a]	Health surveillance system includes meteorological information[b]	Climate-informed health early warning system (EWS) in place[c]
Thermal stress (e.g. heat waves)	●	○	○
Vector-borne diseases	●	●	●
Foodborne diseases	●	○	○
Waterborne diseases	●	○	○
Nutrition (e.g. malnutrition associated with extreme climatic events)	●	○	○
Injuries (e.g. physical injuries or drowning in extreme weather events)	●	●	●
Mental health and well-being	○	○	○
Airborne and respiratory diseases	●	○	○

● yes ● no ○ unknown / not applicable

[a] A positive response indicates that the surveillance system is in place, it will identify changing health risks or impacts AND it will trigger early action.

[b] Meteorological information refers to either short-term weather information, seasonal climate information or long-term climate information.

[c] Based on information from the Czech Hydrometeorological Institute, information and warnings about dangerous meteorological phenomena are disseminated to all media. They are accompanied by general information about how people should behave.

Emergency preparedness

Climate hazard	Early warning system in place	Health sector response plan in place	Health sector response plan includes meteorological information
Heat waves	●	●	●
Storms (e.g. hurricanes, monsoons, typhoons)	●	●	●
Flooding	●	●	●
Drought	●	●	●
Air quality (e.g. particulate matter, ozone levels)	●	●	●

● yes ● no ○ unknown / not applicable

CAPACITY, INFRASTRUCTURE AND SUSTAINABILITY

Human resource capacity

International Health Regulations (IHR) Monitoring Framework Human Resources Core Capacity (2018) *(17)*	80%
Does your human resource capacity, as measured through the IHR, adequately consider the human resource requirements to respond to climate-related events?	○
Is there a national curriculum developed to train health personnel on the health impacts of climate change?	●

● yes ● no ○ unknown / not applicable

Health care facilities, infrastructure and technology

Has there been an assessment of the climate resilience of any public health care facilities?	○
Have measures been taken to increase the climate resilience of health infrastructure and technology?	○
Is there a national initiative/programme in place to promote the use of low-carbon, energy-efficient, sustainable technologies in the health sector?	○

● yes ● no ○ unknown / not applicable

OPPORTUNITIES FOR ACTION

1. STRENGTHEN IMPLEMENTATION OF CZECHIA'S NATIONAL HEALTH AND CLIMATE CHANGE PLAN/STRATEGY

Implementation of the health and climate change plan/strategy in Czechia is reported to be low. Assess barriers to implementation of the plan/strategy (e.g. governance, evidence, monitoring and evaluation, finance). Implementation can be supported by exploring additional opportunities to access funds for health and climate change priorities (e.g. GCF readiness proposal). See "WHO resources for action" for further details.

2. STRENGTHEN MULTISECTORAL COLLABORATION ON HEALTH AND CLIMATE CHANGE

There are no multisectoral agreements in place on climate change and health. Enhance collaboration between health and health-determining sectors with agreements on climate change and health action (e.g. with transport, energy, water and sanitation, national meteorological and hydrological services sectors, etc.). Promote climate mitigation and adaptation policies that protect and promote health and strengthen health systems.

3. STRENGTHEN INTEGRATED RISK SURVEILLANCE AND HEALTH EARLY WARNING SYSTEMS

Meteorological information is not currently used to inform risk surveillance of all climate-sensitive diseases. The use of climate/weather information can be integrated into health surveillance systems and used to predict outbreaks of climate-sensitive diseases (i.e. climate-informed health early warning systems) to help ensure a preventive approach to specific climate-sensitive health programmes.

4. ASSESS THE HEALTH CO-BENEFITS OF NATIONAL CLIMATE MITIGATION POLICIES

Health co-benefits of mitigation are currently not included in Czechia's Nationally Determined Contribution (NDC). Ensure that climate mitigation policies include the health risks posed from climate change, identify health adaptation priorities and measure and optimize the health co-benefits of climate mitigation action.

5. BUILD CLIMATE-RESILIENT AND ENVIRONMENTALLY SUSTAINABLE HEALTH CARE FACILITIES

Measures can be taken to prevent the potentially devastating impacts of climate change on health care facilities and health service provision while decreasing the climate and environmental footprint of health care facilities. A commitment towards climate-resilient, environmentally sustainable health care facilities can improve system stability, promote a healing environment and mitigate climate change impacts.

WHO RESOURCES FOR ACTION

- **Operational framework for building climate-resilient health systems**
  https://www.who.int/publications/i/item/operational-framework-for-building-climate-resilient-health-systems
- **WHO guidance to protect health from climate change through health adaptation planning**
  https://www.who.int/publications/i/item/who-guidance-to-protect-health-from-climate-change-through-health-adaptation-planning
- **Quality Criteria for Health National Adaptation Plans**
  https://www.who.int/publications/i/item/quality-criteria-health-national-adaptation-plans
- **Protecting health from climate change: vulnerability and adaptation assessment**
  https://www.who.int/publications/i/item/protecting-health-from-climate-change-vulnerability-and-adaptation-assessment
- **Integrated risk surveillance and health early warning systems**
  https://www.who.int/activities/supporting-countries-to-protect-human-health-from-climate-change/surveillance-and-early-warning
- **WHO guidance for climate-resilient and environmentally sustainable health care facilities**
  https://www.who.int/publications/i/item/9789240012226
- **Heat early warning systems guidance**
  https://www.who.int/publications/i/item/heatwaves-and-health-guidance-on-warning-system-development
- **Climate services for health fundamentals and case studies**
  https://public.wmo.int/en/resources/library/climate-services-health-case-studies
- **Climate-resilient water safety plans**
  https://www.who.int/publications/i/item/9789241512794

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