

TÜRKIYE



HEALTH AND CLIMATE CHANGE **COUNTRY PROFILE 2022**



World Health
Organization



United Nations
Framework Convention on
Climate Change

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HOW TO USE THIS PROFILE

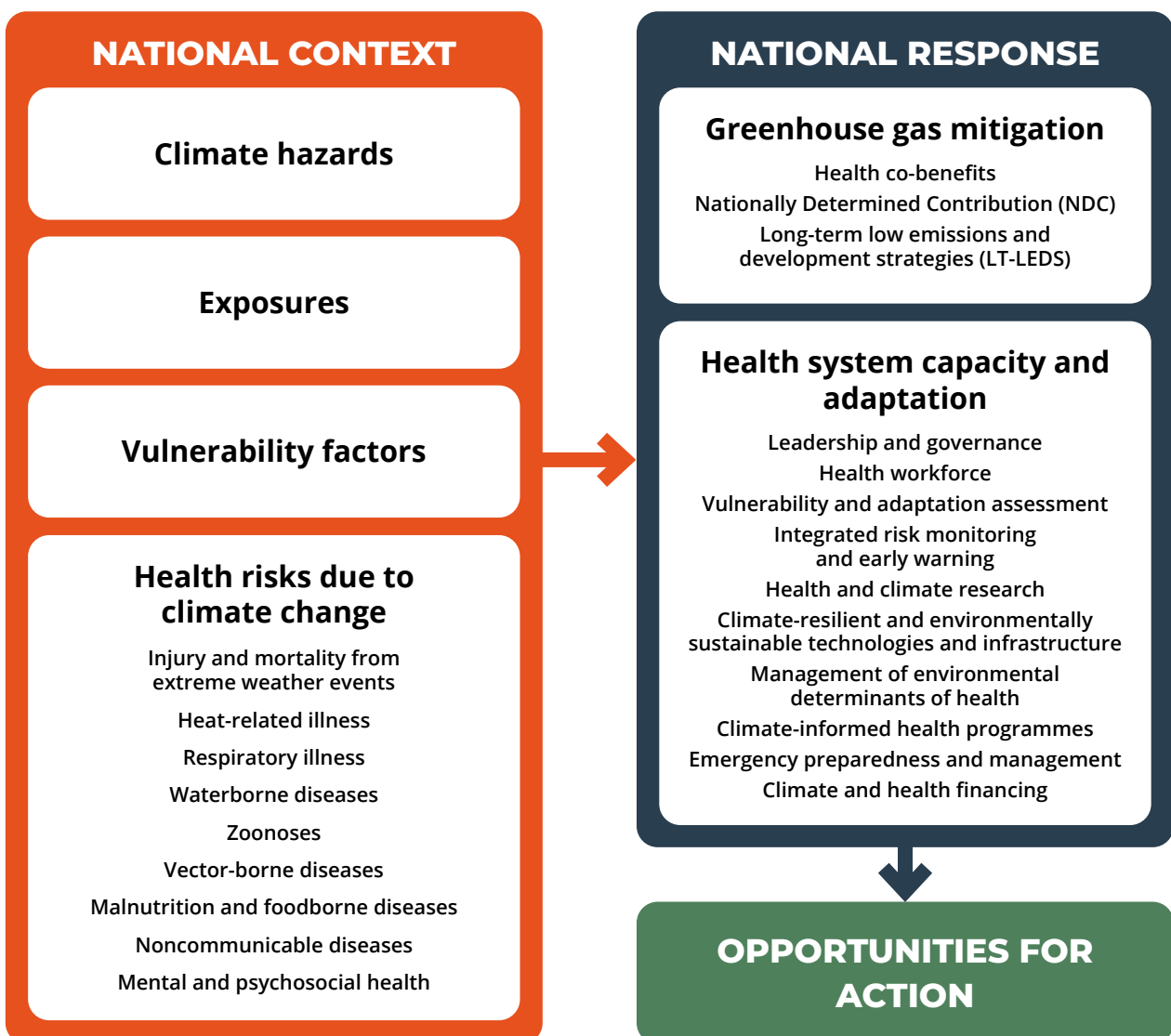
This health and climate change country profile presents a snapshot of country-specific climate hazards, climate-sensitive health risks and potential health benefits of climate change mitigation. The profile is also a key tool in monitoring national health sector response to the risk that climate variability 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 on the border of Europe and Asia, Türkiye has a land area of 785 347 km² and a coastline of 8592 km. The Turkish economy is predominantly dependent on the service sector, industry and agriculture (1-3). The Turkish population has increased in the last ten years, and it is estimated that it will continue to increase at least until 2050; an increase has also been observed in the urban population of Türkiye (1).

Türkiye's climate is highly variable due to its differing topographical features. Rising temperatures, increasing hot days, and changing precipitation patterns are already being observed in Türkiye. Water stress and reduction in agricultural production occur as a result of such climate changes. The health risks arising from climate change include waterborne, vector-borne and foodborne diseases; respiratory diseases caused by air pollution; and heat stress (1). Türkiye's forests are expected to be at particular risk from climate change, due to more frequent extreme events, such as floods, storms, wildfires, insect outbreaks, invasive species, and landslides (4,5). Furthermore, changing precipitation patterns, including droughts, are predicted to decrease forest productivity overall (although some forest areas may experience increased productivity due to longer growing seasons and more plentiful water); reduce forest biodiversity; and alter tree species distribution between now and 2080 (6). Overall, climate change threatens some of the valuable products and services provided by Türkiye's forests, and could undermine the vital role these forests play in adaptation to climate change in Türkiye (7).

The objective of Türkiye's NDC is to reduce greenhouse gas emissions by 21% by 2030, below the business-as-usual estimates (8). Türkiye's National Adaptation Strategy for Climate Change includes a series of health adaptation measures, such as monitoring the health effects of extreme weather events and preparing guidelines to inform citizens about what to do in case of communicable diseases (9).

In Türkiye, there are studies on climate change and air pollution in cooperation with the relevant sectors (source: Türkiye's Health Approach to Air Pollution and Climate Change Problems (10)).

Water-borne diseases are constantly monitored, recorded and investigated in Türkiye. For example, there is an Early Warning Response Unit for acute intestinal infections. Food-borne diseases are also constantly monitored, recorded and investigated in cooperation with relevant sectors/institutions. Studies on nutrition and health research are carried out (11).

CURRENT AND FUTURE CLIMATE HAZARDS

CLIMATE HAZARD PROJECTIONS FOR TÜRKIYE^a

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).

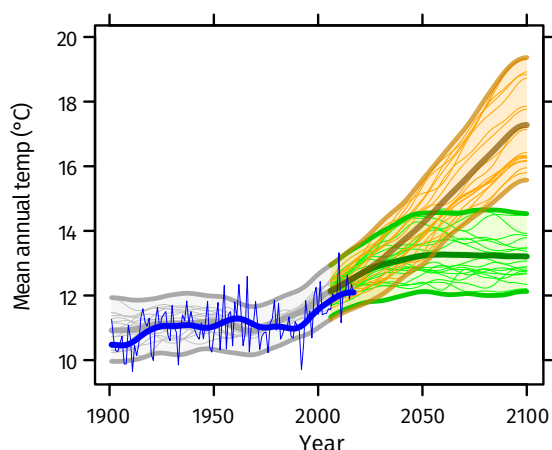
The climate model projections given below present climate hazards under a high emissions scenario, Representative Concentration Pathway 8.5 (RCP8.5 – in orange) and a low emissions scenario (RCP2.6 – in green).^b The text describes the projected changes averaged across about 20 global climate models (thick line). The figures^c 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).^d 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

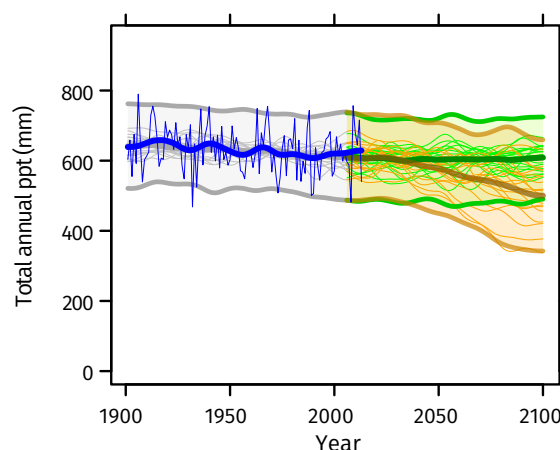


Under a high emissions scenario, the average annual temperature is projected to increase by an average of 4.9°C by the end-of-century (for 2071–2100, compared to 1981–2010). If emissions decrease rapidly, the temperature rise is limited to around 1.5°C.



Decrease in total precipitation

FIGURE 2: Total annual precipitation, 1900–2100



Although the uncertainty range is wide (-36% to +1%), the annual total precipitation is projected to decrease by an average of 15% under the high emissions scenario. If emissions are reduced rapidly, there will be little change, estimated on average with an uncertainty range of -6% to +3%.

NOTES

^a National projections may be available. For more information, please see: <https://www.mgm.gov.tr/iklim/iklim-degisikligi.aspx> form.

^b 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.

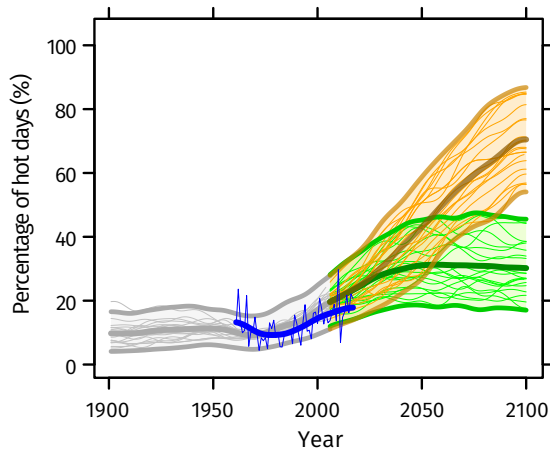
^c Observed historical record of mean temperature and total precipitation is from CRU-TSv3.26. Observed historical records of extremes are from JRA55 for temperature and from GPCC-FDD for precipitation.

^d Analysis by the Climatic Research Unit, University of East Anglia, 2018.



Higher temperatures

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



The percentage of hot days^e is predicted to increase significantly, compared to around 15% of all days between 1981 and 2010 (compared to 10% between 1961 and 1990). Under the high emissions scenario, on average about 65% of days are described as 'hot' for until the end-of-century. If emissions are reduced rapidly, on average about 30% of days will be 'hot'. But it should be noted that over the past few years, models have tended to overestimate the increase observed on hot days. Similar increases can be observed at hot nights^e (not presented here).



Drought frequency and intensity

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

The Standard Precipitation Index (SPI) is a widely used drought index that expresses the lack/excess of precipitation over varying time scales ranging from 1 to 36 months (here 12 months, SPI12). It also shows the variation in frequency and/or intensity of extreme dry conditions and extreme precipitation conditions relative to average local conditions. SPI does not consist of units but can be used to classify different degrees of drought (rain): Over +2.0 extremely rainy; +2.0 to +1.5 heavily rainy; +1.5 to +1.0 moderately rainy; +1.0 to +0.5 mildly rainy; +0.5 to -0.5 near normal conditions; -0.5 to -1.0 mild drought; -1.0 to -1.5 moderate drought; -1.5 to -2.0 severe drought; below -2.0, extreme drought.

Under the high emissions scenario, SPI12 values are projected to decrease from 0 to -0.6 on average by the end-of-century (2071–2100); this indicates an increase in the frequency and/or intensity of dry periods and drought events and a decrease in the frequency and/or intensity of wet events. If emissions are reduced rapidly, there is little change, although the year-to-year variability remains high.

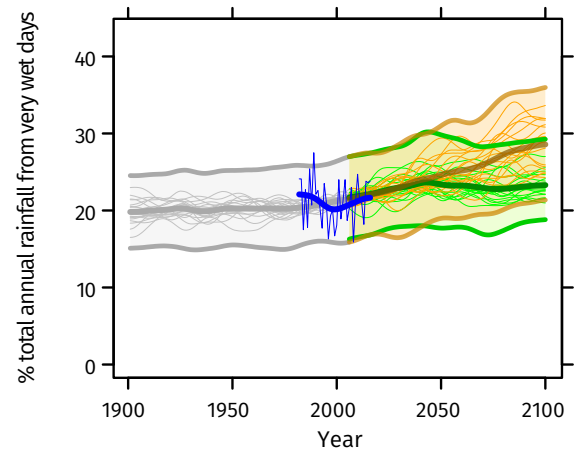
^e A 'hot day' (TX90p) is a day when maximum temperature exceeds the 90th percentile threshold for that time of the year.

^f 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. R95pTOT: Annual percentage of P>95th percentile / PRCPTOT.



Increase in heavy precipitation

FIGURE 4: Contribution to total annual precipitation from heavy precipitation days ('heavy precipitation' and 'flood risk'), 1900–2100





Under a high emissions scenario, the proportion of total annual rainfall from very wet days^f (about 20% for 1981–2010) could increase by the end-of-century (to about 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 decrease in total annual rainfall under a high emissions scenario (see Figure 2).

HEALTH RISKS DUE TO CLIMATE CHANGE

HEAT STRESS

CLIMATE HAZARDS^a

 Average annual temperature increase of up to 4.9°C by the end-of-century.

 About 65% 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



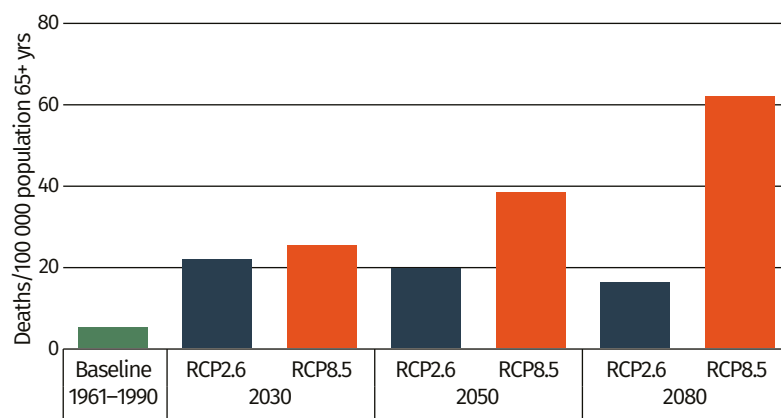
Geographical factors (e.g. urbanization)



Socioeconomic factors (e.g. occupation and poverty)

HEALTH RISKS^c

FIGURE 6: Heat-related mortality in Türkiye for elderly individuals (over 65 years old) according to high and low emissions scenarios.^d Source: Honda et al. (2015) (12)



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

Baseline (1961–1990) heat-related deaths among the elderly (65+ years) are around 5.2 deaths per 100 000 population. Under a high emissions scenario (RCP8.5), heat-related deaths among the elderly (65+ years) are projected to rise to about 62 per 100 000 by 2080. A rapid reduction in emissions (RCP2.6) could significantly reduce deaths among the elderly in 2080 to around 16 per 100 000 population (12).

^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.

^d The country-level analysis, completed in 2015, is based on health models outlined in a quantitative risk assessment of the effects of climate change on selected causes of death (for 2030s and 2050s). Geneva: World Health Organization, 2014. Average effect predictions for the three global climate models are presented here. Models assume ongoing socioeconomic trends (SSP2 or comparison).

FOOD SAFETY AND SECURITY

CLIMATE HAZARDS^a



Average annual temperature increase of up to 4.9°C by the end-of-century.



About 65% of days could be 'hot days' by the end-of-century.



Total annual precipitation could decrease by about 15% by the end-of-century.



Drought incidents may increase by the end-of-century.

EXPOSURES

FIGURE 7: Percentage change in crop growth duration in Türkiye in 1981–2020, relative to the 1981–2010 average, expressed as the running mean over 11 years (5 years before and 5 years after) (13,14)



As a fact, climate change is expected to expose the agriculture sector to desertification, forest fires, diseases and pests, high evaporation and extreme weather events. In addition, rising temperatures and the risk of decreasing water availability in general pose a risk to the sustainability of existing rain-fed farmland areas and can lead to reduced agricultural yields in Türkiye as well. At the same time, global population trends may increase the risks to food security.

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 reliability issues can result in malnutrition and foodborne diseases, zoonosis, non-communicable diseases (NCDs), and deaths. As food safety and security decline due to climate change, metabolic and lifestyle risk factors for diet-related NCDs are likely to be exacerbated. Rising temperatures can lead to increases in foodborne illness through spoiled foods caused by refrigeration failure in shipping/storage stages or changes in salmonella growth patterns.


^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

 Average annual temperature increase of up to 4.9°C by the end-of-century.

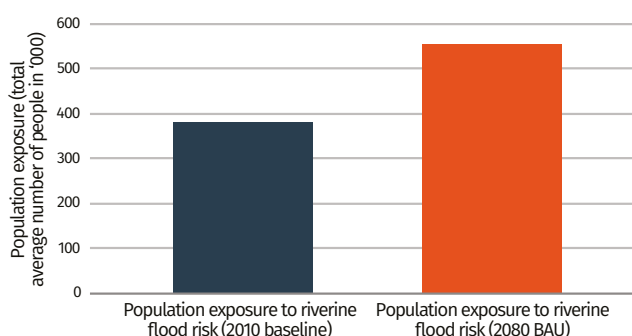
 Total annual precipitation could decrease by about 15% by the end-of-century.

 Annual precipitation from heavy precipitation days may increase by the end-of-century.

 Drought incidents may increase by the end-of-century.

EXPOSURES

FIGURE 8: Change in population exposure to river flooding in Türkiye from 2010 (reference value) to 2080 (under BAU scenario)^b (15)



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 runoff 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 (e.g. storms, flooding) 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 NCDs.

^a For details see "Current and future climate hazards".


^b This analysis, conducted by Aqueeduct, 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

 Average annual temperature increase of up to 4.9°C by the end-of-century.

 Total annual precipitation could decrease by about 15% by the end-of-century.

EXPOSURES

The distribution and vectorial capacity of disease vectors is expected to change as a result of climate change, which could increase population exposure to vector-borne diseases.

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

Vector distribution and ecological changes may cause vector-borne diseases, and therefore, may result in deaths. Change in vector distribution as a result of climate change, deforestation, habitat change, and ecosystem destruction and degradation may increase the number of cases of vector-borne and zoonotic infections. There is a risk of increasing incidence of sandfly and mosquito-borne diseases, such as cutaneous, visceral leishmaniasis and West Nile virus infection, which has local transmission currently. In addition, there is a risk of spreading of malaria, Zika virus disease, dengue virus infection, chikungunya fever and yellow fever diseases of which there has been no local transmission currently, but imported cases are being reported. Türkiye- specific, invasive *Aedes* species, which are the main vectors of such diseases, have been detected in certain regions. Zoonotic diseases, such as Crimean-Congo haemorrhagic fever, hantavirus infection, leptospirosis, Lyme disease, Q fever that has local transmission currently could spread to regions where these diseases have not been observed before. Disease control programmes are carried out by the Zoonotic and Vector-borne Diseases Department for the prevention and control of zoonotic and vector-borne diseases (16,17,18,19).

^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.

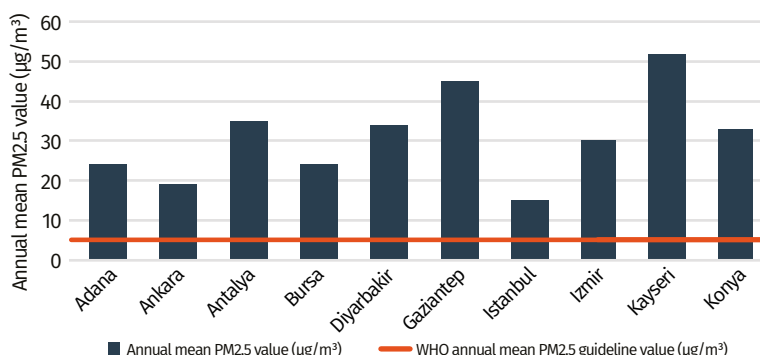
HEALTH RISKS DUE TO AIR POLLUTION

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

All of the ten most populated cities in Türkiye, for which air pollution data were available, had annual mean PM_{2.5}^a levels above the WHO guideline value of 5 µg/m³ (see Figure 9) (20).

FIGURE 9: Annual mean PM_{2.5} in the ten most populated cities in Türkiye, for which data were available, compared with the WHO guideline value of PM_{2.5} of 5 µg/m³. Source: Ambient Air Pollution Database, WHO, 2018. A standard conversion has been used on some data points, see source for further details (20)



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. Chronic respiratory diseases are among the most important causes of morbidity and mortality; such diseases constitute a very serious social and economic burden (21). Indeed, chronic diseases are increasingly prevalent in Türkiye, due to the ageing population and changing lifestyles. In 2018, circulatory system diseases, benign and malignant tumours, and respiratory system diseases were the three most fatal disease groups in Türkiye (22).

36 698

deaths from ambient air pollution in Türkiye in 2016 (23)

6%

economic costs of premature deaths from ambient particulate matter pollution and household air pollution as a percentage of GDP (2010) (24)

^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 NCDs.

HEALTH CARE SYSTEMS

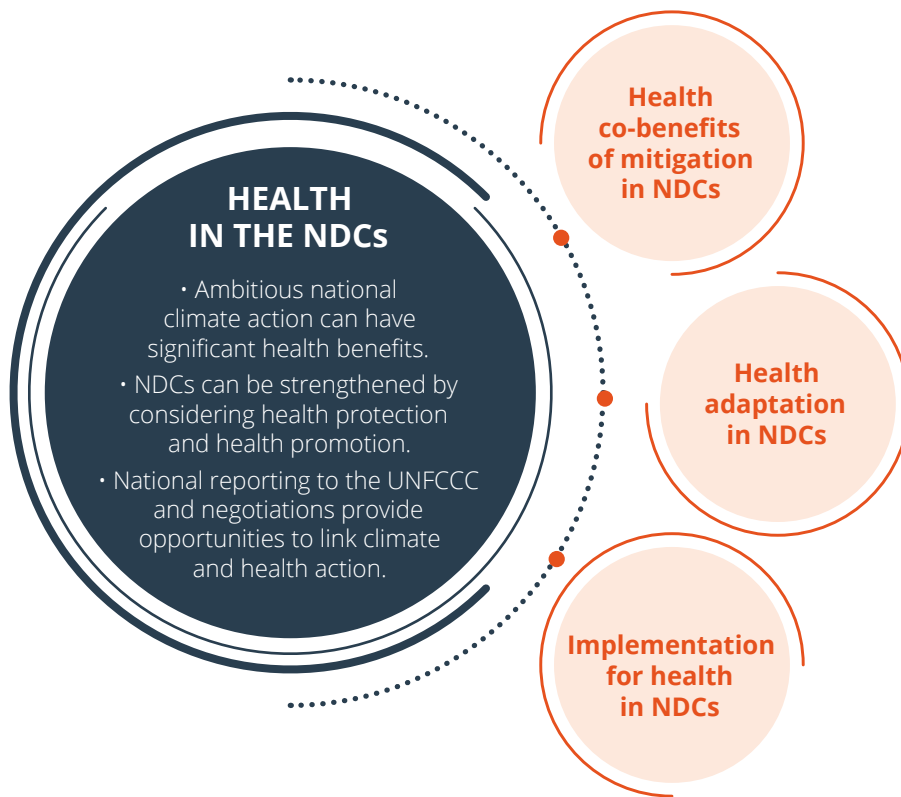
Health care activities are an important source of greenhouse gas emissions. Major sources include procurement and inefficient energy consumption. Low-carbon and efficient energy solutions can lower the health sector's carbon footprint while improving the quality and reliability of energy services in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



FORESTRY

Forests are an important terrestrial carbon sink. These ecosystems absorb carbon dioxide from the atmosphere and release oxygen back into the atmosphere. Increasing forest areas has a direct positive effect on human health by reducing greenhouse gases and contributing to improved air, soil and water quality. Creating ecotourism areas provides beneficial results for health in this regard. The land use, land use change and forestry (LULUCF) sector in Türkiye captured a total of 84 million tons of CO₂ equivalent in 2019, reducing total national emissions from 506 million tons to 422 million tons of CO₂ equivalent (25).

HEALTH IN THE NATIONALLY DETERMINED CONTRIBUTION (NDC)



Total 2019 emissions

506.1 Mt CO₂ equivalent (25)



NDC objective

Reduction of BAU of greenhouse gas emissions by up to 21% by 2030 (4)

While Türkiye's current NDCs do not formally contain health related ones, the accelerated process to include is going on (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 (26).

GOVERNANCE AND LEADERSHIP

National planning for health and climate change

Has a national health and climate change strategy or plan been developed?^a	<input checked="" type="radio"/>
<i>Title:</i> National Program and Action Plan for Mitigation of Negative Effects of Climate Change on Health (2015)	
Content	
Are health adaptation priorities identified in the strategy/plan?	<input checked="" type="radio"/>
Are the health co-benefits of mitigation action considered in the strategy/plan?	<input checked="" type="radio"/>
Have performance indicators been identified?	<input checked="" type="radio"/>
Level of implementation of the strategy/plan	Moderate
Portion of estimated costs to implement the strategy/plan covered in the health budget	Partially

yes
 no
 unknown / not applicable

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	<input type="radio"/>
 Electricity generation	<input type="radio"/>
 Household energy	<input type="radio"/>
 Agriculture	<input checked="" type="radio"/>
 Social services	<input type="radio"/>
 Water, sanitation and waste-water management	<input type="radio"/>

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: N/A
Year: N/A

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	Monitoring system in place ^a	Monitoring system includes meteorological information ^b	Early warning and prevention strategies in place to reach affected population
Thermal stress (e.g. heat waves)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Vector-borne diseases	<input checked="" type="radio"/>	<input type="radio"/> ^c	<input checked="" type="radio"/>
Foodborne diseases	<input checked="" type="radio"/>	<input type="radio"/> ^c	<input checked="" type="radio"/>
Waterborne diseases	<input checked="" type="radio"/>	<input type="radio"/> ^c	<input checked="" type="radio"/>
Nutrition (e.g. malnutrition associated with extreme climatic events)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Injuries (e.g. physical injuries or drowning in extreme weather events)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mental health and well-being	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Airborne and respiratory diseases	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>






yes no unknown / not applicable

^a A positive response indicates that the monitoring 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 Integration efforts on this issue are still in progress.


Emergency preparedness

Climate hazard	Early warning system in place	Health sector response plan in place	Health sector response plan includes meteorological information
 Heat waves	<input checked="" type="radio"/>	<input data-bbox="986 383 1034 427" type="radio"/> ^a	<input type="radio"/>
 Storms (e.g. hurricanes, monsoons, typhoons)	<input checked="" type="radio"/>	<input checked="" data-bbox="986 456 1034 501" type="radio"/> ^a	<input checked="" type="radio"/>
 Flooding	<input checked="" type="radio"/>	<input checked="" data-bbox="986 539 1034 584" type="radio"/> ^a	<input checked="" type="radio"/>
 Drought	<input checked="" type="radio"/>	<input data-bbox="986 620 1034 665" type="radio"/> ^a	<input type="radio"/>
 Air quality (e.g. particulate matter, ozone levels)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

yes no unknown / not applicable


CAPACITY, INFRASTRUCTURE AND SUSTAINABILITY

Human resource capacity

	International Health Regulations (IHR) Monitoring Framework Human Resources Core Capacity (2018) (27)	60%
	Does your human resource capacity, as measured through the IHR, adequately consider the human resource requirements to respond to climate-related events?	<input type="radio"/>
	Is there a national curriculum developed to train health personnel on the health impacts of climate change?	<input type="radio"/>

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?	<input type="radio"/>
	Have measures been taken to increase the climate resilience of health infrastructure and technology?	<input checked="" data-bbox="1361 1644 1409 1688" type="radio"/> ^b
	Is there a national initiative/programme in place to promote the use of low-carbon, energy-efficient, sustainable technologies in the health sector?	<input checked="" data-bbox="1361 1756 1409 1800" type="radio"/> ^b

yes no unknown / not applicable

^a The ministry prepares national and local plans within the scope of the Turkish Disaster Response Plan (TDRP). The National Level Health Working Group Plan is prepared by the ministry and the Local Level Health Working Group Operation Plan is prepared by Provincial Health Directorates. These plans also contain response plans to disasters with all hazards approach. For more information on the Hospital Disaster and Emergency Plans (HDEP) and TDRP, please see: <https://www.saglik.gov.tr/TR,1789/hastane-afet-ve-acil-durum-plani-hap-hazirlama-kilavuzu.html> and https://www.afad.gov.tr/kurumlar/afad.gov.tr/2419/files/Afet_Mud_PL_ResmiG_20122013.pdf.

^b Energy Efficiency Action Plan (2017–2023). For further details, please see: <https://www.resmigazete.gov.tr/eskiler/2018/01/20180102M1-1-1.pdf>

OPPORTUNITIES FOR ACTION



1. ENHANCE IMPLEMENTATION OF THE HEALTH AND CLIMATE CHANGE PLAN OF TÜRKIYE AND ALLOCATE THE REQUIRED FUNDS

Support the full implementation of the health and climate change plan by ensuring that adaptation priorities are determined, the health co-benefits from mitigation and adaptation measures are taken into account, necessary budgetary requirements are allocated, and progress is regularly monitored and reviewed. See “WHO resources for action”, for further details.



2. CONDUCT A NATIONAL CLIMATE CHANGE AND HEALTH VULNERABILITY AND ADAPTATION ASSESSMENT

Assessment of climate change and health vulnerability and adaptation in Türkiye is reported to be in the planning phase. Assess Türkiye’s vulnerability to climate-related health risks. Information gathered through iterative climate change and health vulnerability and adaptation assessments can be used to inform the development of health adaptation policies and plans as well as national climate change reporting mechanisms (e.g. Nationally Determined Contributions [NDCs], National Communications [NCs], National Adaptation Plans [NAPs]). See “WHO resources for action”, for further details.



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

The accelerated process to make current NDCs formally include health related ones is ongoing and health co-benefits exist in the priorities identified. To 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

The Projects of city hospitals, 20 of which have been built and 13 under construction is the biggest step to renew the hospital infrastructure in the history of Türkiye. The projects have been featuring the large-scale renovation of health infrastructure as well as the commitment towards climate-resilient, environmentally sustainable health care facilities. Addition of these to the already good infrastructure offers important opportunities for sustainable and adaptable approaches such as waste management and green healthcare institutions. Such initiatives can be leveraged 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.

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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