

UNITED ARAB EMIRATES



HEALTH & CLIMATE CHANGE COUNTRY PROFILE 2019

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Al Amal Psychiatric Hospital Project, Leadership in Energy and Environmental Design (LEED)



EXECUTIVE SUMMARY

Climate change threatens all aspects of the society in which we live. The severity of the impacts of climate change on human health are increasingly clear, and further delay in action will increase the risks. The United Arab Emirates (UAE) is addressing climate change by taking action in line with the global sustainable development agenda. Building national policies has been a priority. The UAE Green Agenda 2015–2030 has been endorsed along with the National Climate Change Plan, which serves as a roadmap to nationwide actions for climate mitigation and adaptation in the UAE until 2050. The UAE has also conducted a comprehensive risk assessment of the impact of climate change on health as part of the National Climate Change Adaptation Program.

Climate change undermines the social and environmental determinants of health, including people's access to clean air, safe drinking-water, sufficient food and secure shelter. It is affecting health particularly in the poorest, most

vulnerable communities and thus widening health inequities.

The health sector is highly trusted and serves an important role in raising awareness of the health risks of climate variability and climate change, responding to increasing climate-related health pressures and determining the most effective adaptation measures that will protect our citizens. The health sector also has a responsibility to reduce its contribution to greenhouse gas emissions and highlight the potential health considerations of national mitigation policies.

This health and climate change country profile for the UAE, developed with the World Health Organization and the United Nations Framework Convention on Climate Change (UNFCCC), provides a summary of available evidence on climate hazards, health vulnerabilities, health impacts and progress to date in realizing a climate-resilient, sustainable health system.

KEY RECOMMENDATIONS

1

STRENGTHEN IMPLEMENTATION OF THE NATIONAL STRATEGY AND ACTION PLAN FOR HEALTH AND CLIMATE CHANGE

A consolidated action plan with focused priority objectives and initiatives is vital to tackle challenges to full implementation. The main challenges have been identified as capacity building and surveillance.

2

PROMOTE CROSS-SECTORAL COLLABORATION ON HEALTH AND CLIMATE CHANGE

Enhance collaboration between health and other sectors, and promote measures with health co-benefits.

3

STRENGTHEN INTEGRATED RISK SURVEILLANCE AND EARLY WARNING SYSTEMS

Strengthen early warning and response to extreme events with all concerned entities and strengthen surveillance and monitoring of existing and new health risks. Evaluate existing national information systems as a factor in reducing vulnerability and to ensure an integrated approach.

4

IDENTIFY AND ADDRESS BARRIERS TO HEALTH ADAPTATION TO CLIMATE CHANGE

Continue efforts to raise awareness, training and capacity building within the health sector. Estimate the costs to implement health resilience to climate change and include these costs in planned allocations.

5

QUANTIFY THE HEALTH IMPLICATIONS OF NATIONAL MITIGATION AND ADAPTATION POLICIES

Support research initiatives, such as impact studies, to measure the effectiveness of national mitigation and adaptation policies.

6

ENSURE THE INCLUSION OF HEALTH IN THE UNITED ARAB EMIRATES' NATIONALLY DETERMINED CONTRIBUTION (NDC) TO THE UNFCCC

Work closely with the national entities to have health reflected as an important component of the NDC to the UNFCCC.

INTRODUCTION

The United Arab Emirates (UAE), located in the Arabian Peninsula, has a predominantly hot and humid climate. With approximately four fifths of its land area covered by desert, it is a water-scarce and hyperarid environment. The coastline of the UAE extends over 1300 km into the Arabian Gulf and the Gulf of Oman (1,2). Oil and gas have helped boost the economy of the UAE in recent years, although the government is looking for opportunities to diversify the economy and promote sustainable development (3).

Potential impacts of climate change on the UAE include extreme heat, storm surge, sea level rise, water stress, dust and sand storms, and desertification. Even small variations in weather patterns could significantly affect the country's economic, environmental, and social well-being. The most vulnerable areas to climate change in the UAE are: water, coastal, marine and dryland ecosystems; buildings and infrastructure; agriculture and food security; and public health (4).

The UAE is taking action to protect the public's health from climate change impacts. The National Climate Change Plan of the United Arab Emirates 2017–2050 (Climate Plan) emphasizes climate change as an urgent development agenda through three priorities: mitigation; adaptation; and green economic diversification (4). As a part of the implementation of the Climate Plan, the Ministry of Climate Change and Environment (MOCCA) launched the National Climate Adaptation Program. The first step of this programme was to carry out a systematic and participatory risk assessment in four sectors, including the health sector, as a basis for planning adaptation measures (4). Furthermore, the UAE's Nationally Determined Contribution (NDC) highlights the impacts of climate change on human health, particularly the negative impacts of air pollution associated with greenhouse gas emissions (3).

HIGHEST-PRIORITY CLIMATE-SENSITIVE HEALTH RISKS FOR UNITED ARAB EMIRATES

Direct effects	
Health impacts of extreme weather events	✓
Heat-related illness	✓
Indirect effects	
Water security and safety (including waterborne diseases)	
Food security and safety (including malnutrition and foodborne diseases)	
Vector-borne diseases	✓
Zoonoses	✓
Respiratory illness	✓
Disorders of the eyes, ears, skin and other body systems	
Diffuse effects	
Mental/psychosocial health	✓
Noncommunicable diseases (NCDs)	✓
Health systems problems	
Population pressures	

Source: Country-reported responses. Table categories taken from *Human Health and Climate Change in Pacific Island Countries*, WHO Regional Office for the Western Pacific (2015), p 25 (5).

For further information on categories see reference (5).

CLIMATE HAZARDS RELEVANT FOR HEALTH

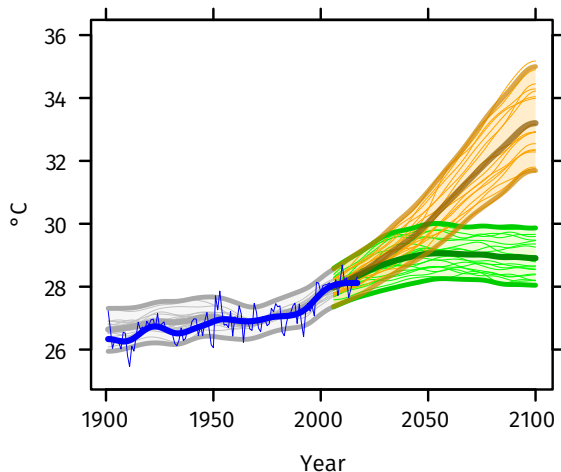
Climate projections for the United Arab Emirates

Country-specific projections are outlined up to the year 2100 for climate hazards under a 'business as usual' high emissions scenario compared to projections under a 'two-degree' scenario with rapidly decreasing global emissions (see Figs 1–4).

The climate model projections below present climate hazards under a high emissions scenario (Representative Concentration Pathway 8.5 (RCP8.5 – in orange)) and a low emissions scenario (RCP2.6 – in green).¹ The text describes the projected changes averaged across about 20 global climate models (thick line). The figures² 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).³ 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.

Rising temperature

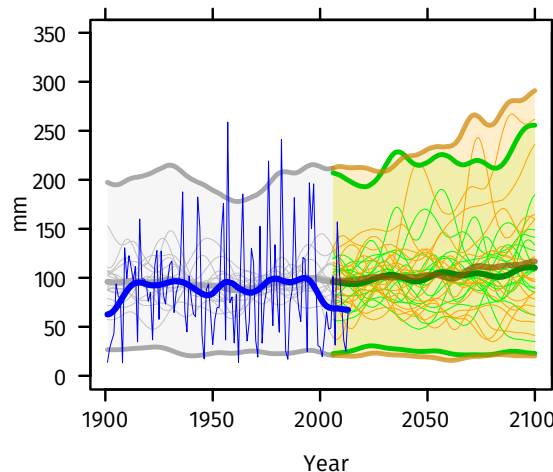
FIGURE 1: Mean annual temperature, 1900–2100



Under a high emissions scenario, mean annual temperature is projected to rise by about 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 1.4°C.

Increase in total precipitation

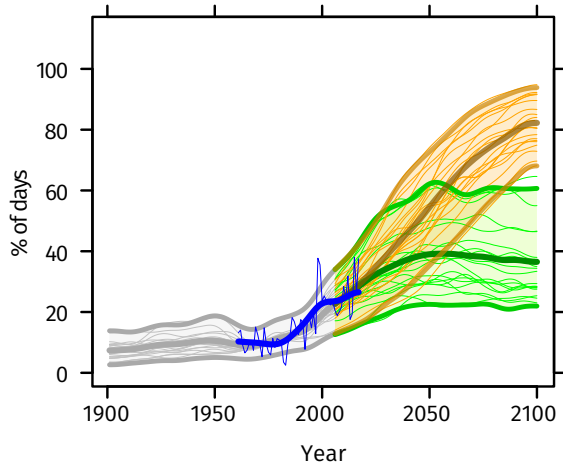
FIGURE 2: Total annual precipitation, 1900–2100



Total annual precipitation is projected to increase by almost 20% on average under a high emissions scenario, although the uncertainty range is large (-45% to +120%). If emissions decrease rapidly there is less projected change on average: an increase of 10% with an uncertainty range of -15% to +40%.

More high temperature extremes

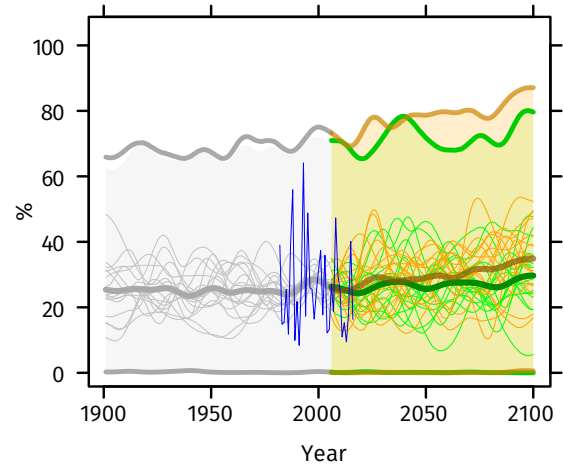
FIGURE 3: Percentage of hot days ('heat stress'), 1900–2100



The percentage of hot days⁴ is projected to increase substantially from about 20% of all observed days on average in 1981–2010 (10% in 1961–1990). Under a high emissions scenario, about 80% of days on average are defined as 'hot' by the end-of-century. If emissions decrease rapidly, about 35% of days on average are 'hot'. Similar increases are seen in hot nights⁴ (not shown).

Small 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 days⁵ (about 25% for 1981–2010) could increase a little by the end-of-century (to about 33% on average with a very large uncertainty range due to the generally low rainfall totals of less than 1% to 80%), with little change if emissions decrease rapidly. These projected changes are accompanied by increasing total annual rainfall although average totals remain relatively low (see Figure 2).

¹ 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.

² Observed historical records of mean temperature and total precipitation are from CRU-TSv3.26. Observed historical records of extremes are from JRA55 for temperature and from GPCC-FDD for precipitation.

³ Analysis by the Climatic Research Unit, University of East Anglia, 2018.

⁴ A 'hot day' ('hot night') is a day when maximum (minimum) temperature exceeds the 90th percentile threshold for that time of the year.

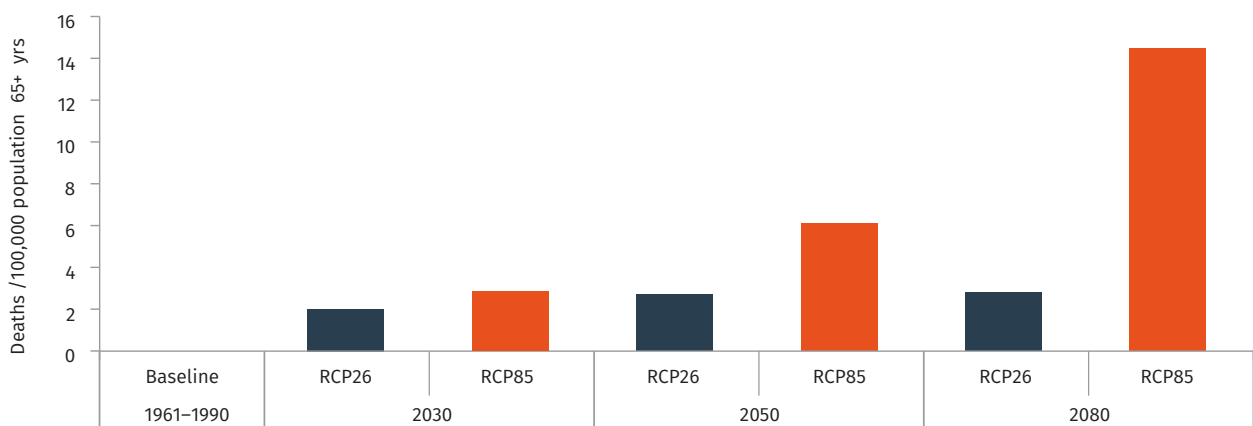
⁵ The proportion (%) of annual rainfall totals that falls during very wet days, defined as days that are at least as wet as the historically 5% wettest of all days.

HEALTH IMPACTS OF CLIMATE CHANGE

Heat stress

Climate change is expected to increase mean annual temperature and the intensity and frequency of heatwaves resulting in a greater number of people at risk of heat-related medical conditions. Heatwaves, i.e. prolonged periods of excessive heat, can pose a particular threat to human, animal and even plant health, resulting in loss of life, livelihoods, socioeconomic output, reduced labour productivity, rising demand for and cost of cooling options, as well as contribute to the deterioration of environmental determinants of health (e.g. air quality, soil, water supply). Particularly vulnerable groups include: elderly people (see Fig. 5); children; individuals with pre-existing conditions (e.g. diabetes) and individuals who are socially isolated.

FIGURE 5: Heat-related death in elderly people (65+ years), by high and low emission scenarios^a



Source: Honda et al., 2015 (6).

Under a high emissions scenario heat-related death in elderly people (65+ years) is projected to increase to about 15 deaths per 100 000 by 2080 compared to the estimated baseline of nearly zero deaths per 100 000 annually between 1961 and 1990. A rapid reduction in emissions could limit heat-related deaths in elderly people to just under 3 deaths per 100 000 in 2080.

^a Country-level analysis, completed in 2015, was based on health models outlined in the Quantitative risk assessment of the effects of climate change on selected causes of death, 2030s and 2050s. Geneva: World Health Organization, 2014. The mean of impact estimates for three global climate models are presented. Models assume continued socioeconomic trends (SSP2 or comparable).

Noncommunicable diseases, food and nutrition

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_24936

