Climate & Health in the Arab Region

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About Greenish

Greenish is an Egyptian non-profit NGO registered originally founded in 2017, with a vision to improve the health and wellbeing of residents in the MENA region. Greenish works to develop environmental balance through Environmental Research, Advocacy, Capacity Building and Education (RACE).

The Greenish Theory of Change has RACE as its primary areas of intervention, but it fundamentally stemmed from the identified environmental health problems recognized in the region.

R
Research

Work on developing local knowledge regarding different environmental topics, to support the MENA region's just-transition to a sounder environmental management. Subjects include climate engagement, waste management, plastic management, climate adaptation, and environmental management.

A
Advocacy

- Maintain a strong social media presence to constantly engage the public on important narratives.
- Engage in national, regional and international networks on environment and climate subjects.

C
Capacity Building

Capacitate youth and civil society in the MENA and Africa regions on various environment and climate elements, through adopting the general principles on Action for Climate Empowerment (ACE).

E
Education

- Through the Greenish Clubs Programme, work to establish educational platforms in Universities and Schools.
- Encouraging more youth to engage with social entrepreneurship
- Facilitating workshops that bring partners and youth together to further strengthen the community

Introduction to Health

WHO defines Health as a *state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.*

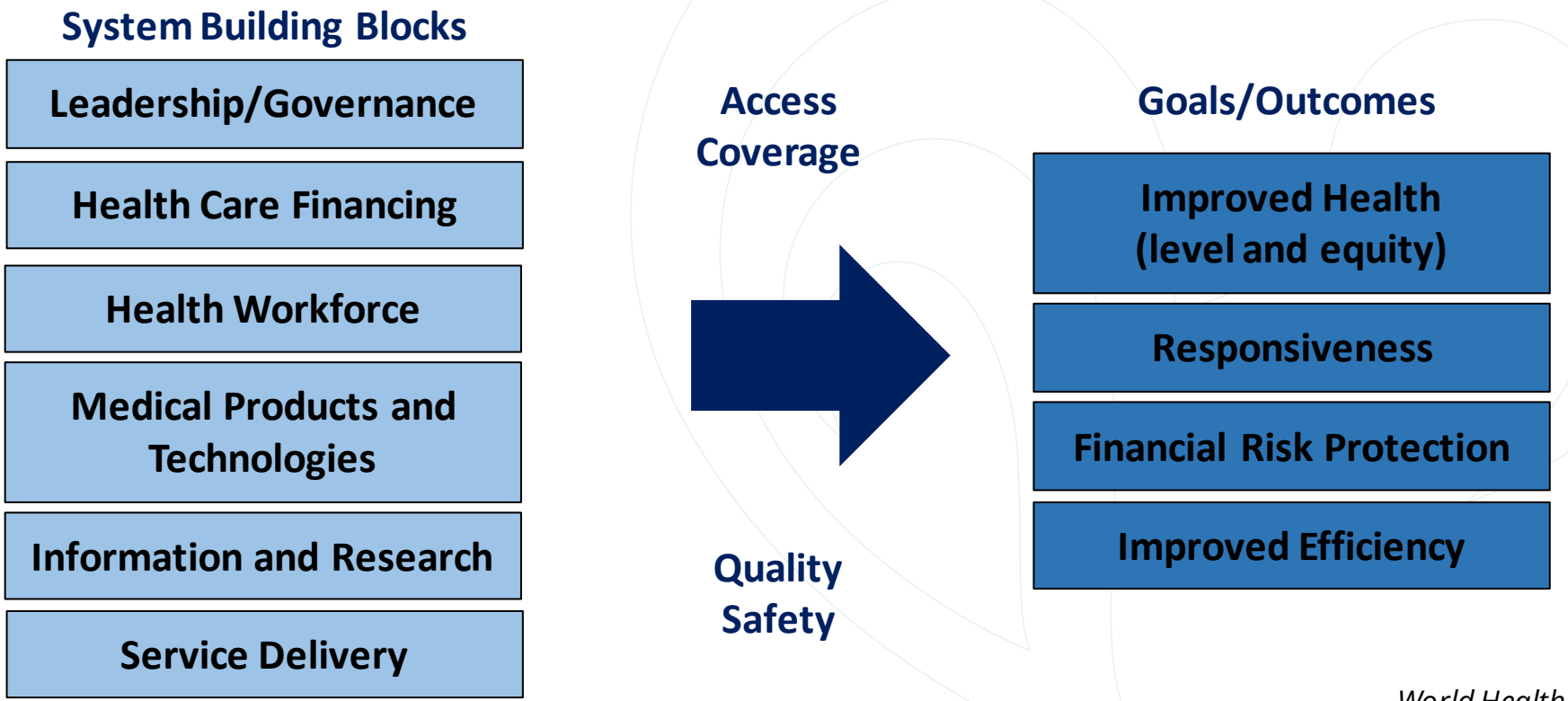
Public health is shaped by fundamental drivers and systems of society that form the **determinants of health**: social, economic, political, and environmental factors.

Determinants of health (WHO, 2021)

"The conditions in which people are born, grow, live, work and age", including the drivers shaping these conditions

Public Health is the organized effort to promote health, prevent, mitigate, treat diseases and take action on the determinants of health (Cabag et al., 2019)

Introduction to Health Systems

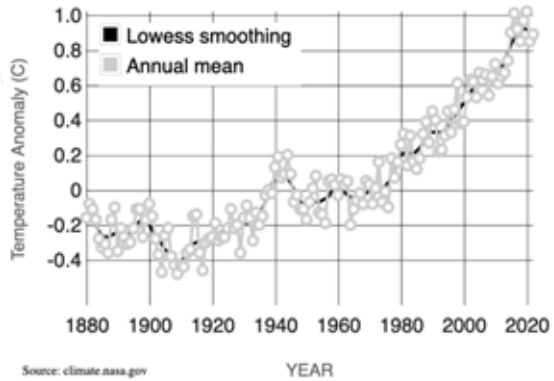


World Health Organization

Introduction to Climate

Article 1 of the UNFCCC defines Climate Change as:
"change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods"

Climate Change is caused by Global Warming, which is the long-term increase of the Earth's surface temperature relative to pre-industrial periods. The two primary causes of Global Warming, are the loss of carbon sinks and the emission of Greenhouse Gases.



Loss of **Carbon Sinks** → **Climate Change** ← Emission of **Greenhouse Gases**

Floods in Derna, Libya – September 2023
© Marwan Alfaituri/Reuters

Wildfire in Bejaia, Algeria – September 2023
© Climate Action Africa via Getty Images

2023 was the hottest year on record

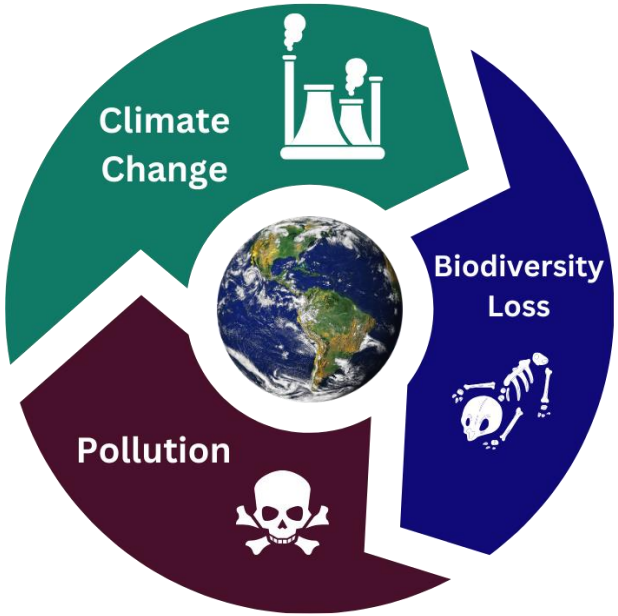
and likely the coldest year for the rest of our lives

But its not just a climate crisis

Dead Fish from high salinity in Basra, Iraq– May 2023
© Essam Al-Sudani/Reuters

Displaced Somalia refugees from Droughts in Kenya – March 2023
© Bobb Muriithi/AFP via Getty Images

The Triple Planetary Crisis



All this affects Health

Environmental Health

Natural environment (air, water, land and habitats) have an impact on community health and well-being

Planetary Health

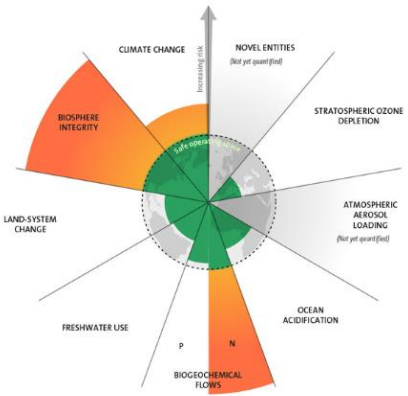
Planetary systems (climate stability, biodiversity, land-use and freshwater changes) have a large-scale environmental impact on health and well-being of populations.

Planetary Boundaries

Stockholm Resilience Centre | Stockholm University

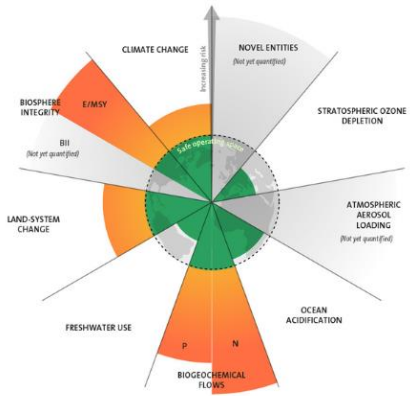
The planetary boundaries concept presents a set of nine planetary boundaries within which humanity can continue to develop and thrive for generations to come, aiming to quantify and assess what makes our planet **healthy**, **habitable**, and **sustainably functioning**.

2009



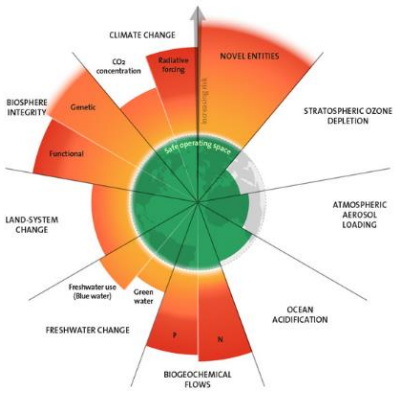
7 boundaries assessed,
3 crossed

2015



7 boundaries assessed,
4 crossed

2023



9 boundaries assessed,
6 crossed

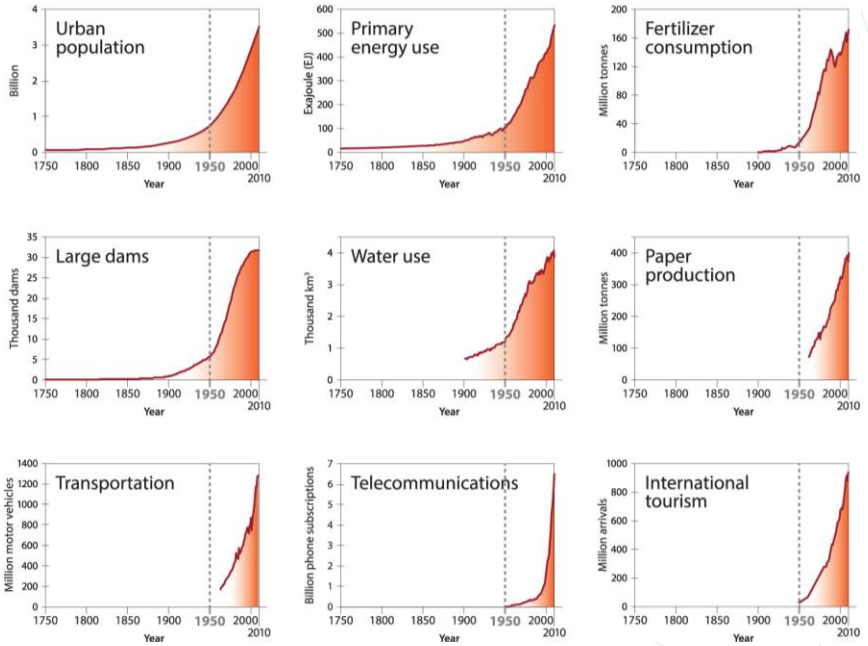
Novel Entities
Biosphere Integrity
Biochemical Flows
Climate Change
Land-system Change
Freshwater Change

Safe Operating Space

Ocean Acidification
Atmosphere Aerosol Loading
Stratospheric Ozone Depletion

Why is this Happening?

"The last 50 years have without a doubt seen the most rapid transformation of the human relationship with the natural world in the history of humankind."



Steffen et al. (2015)

Planetary Health

Planetary Health focuses on the **state** of the different variables that need to exist, which human health depends on. It is a holistic system with different lens on health sciences, that attempts to map how global environmental changes are and will affect human health, through a clear breakdown of “Environmental Health” determinants for humans.

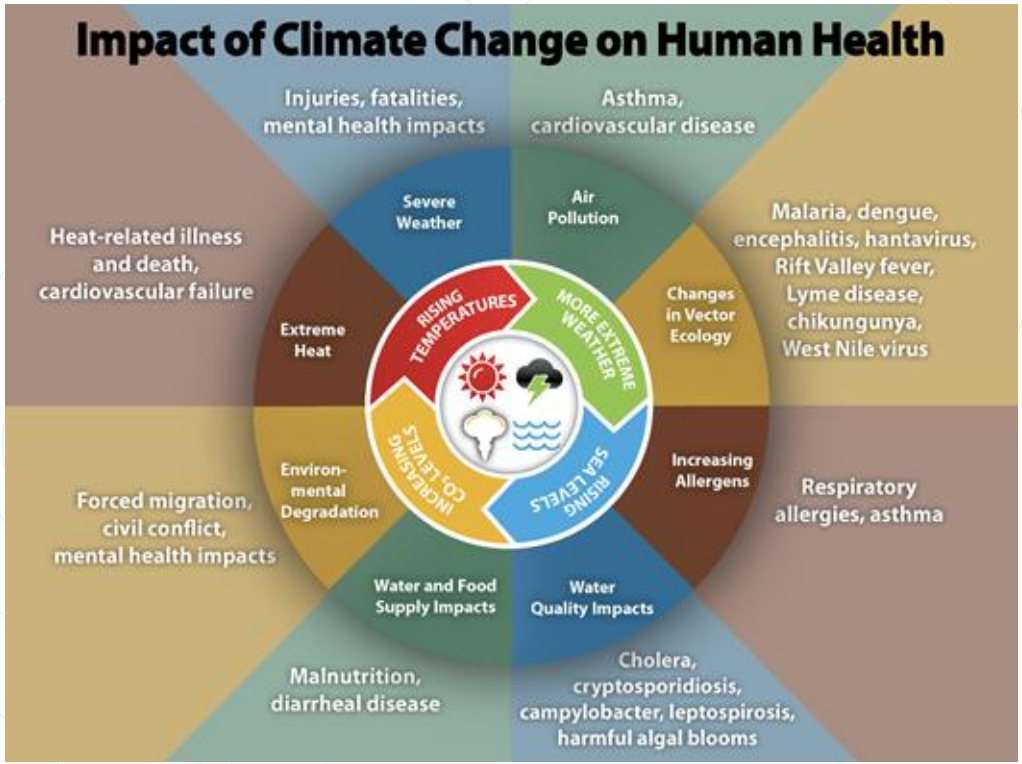
The 2023 Planetary Health Report by the Royal Netherlands Academy for Arts and Sciences (KNAW) concluded that there is still a long way in understanding Planetary Health due to the **significant knowledge gaps**.

Barton. H. and Grant. M. (2006)

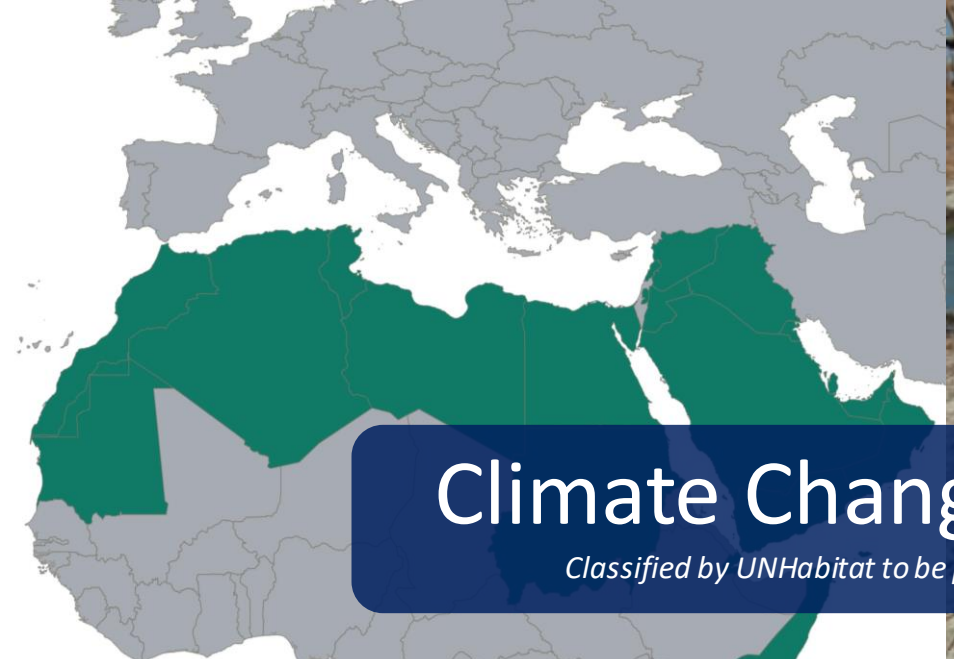
Climate and Health

There are various ways by which climate change impacts human health. This includes:

- **Direct** impacts on health such as disease and injuries
- **Indirect** impacts on health, for instance through the lack of water and food security
- Impacts **scaled** at an individual, community and health system level



Center for Disease Control (CDC)



Traditional Marsh Arab Canoe abandoned due to drought in Iraq
© Greenpeace 2022

Climate Change in the Arab region

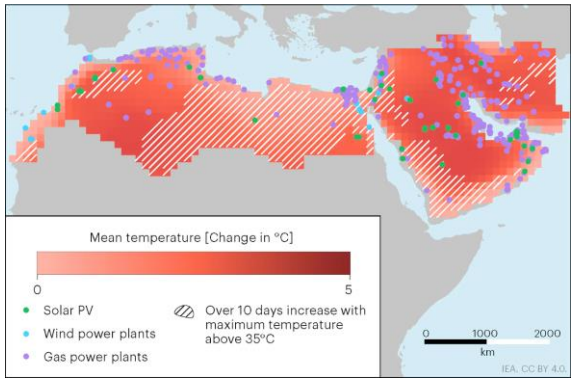
*Classified by UNHabitat to be part of the **most water scarce region** in the world*

Climate Impacts in the Region

Waha et al., 2017; IPCC AR6

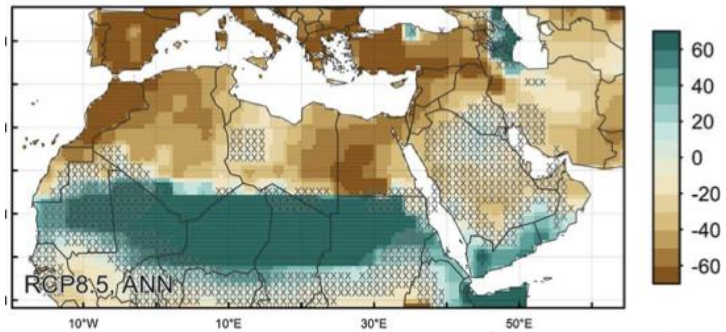
While there are variations with regards to the primary climate impacts that each Arab country would experience due to geographical variables, there are three primary themes:

Rise in Temperatures



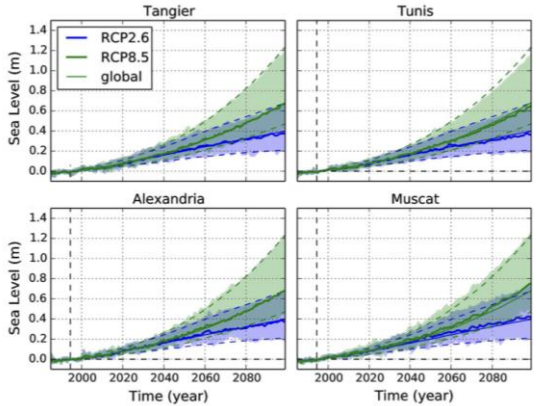
Increased risk of wildfires, heatwaves and drought. By 2100, 80% of most populated cities will have at least 50% of their year in a heatwave

Precipitation Variability



10-20% less rain with 2 degrees warming and 50% less rain in 4 degrees warming which can cause severe implications on agriculture and ability of groundwater recharge

Sea level Rise

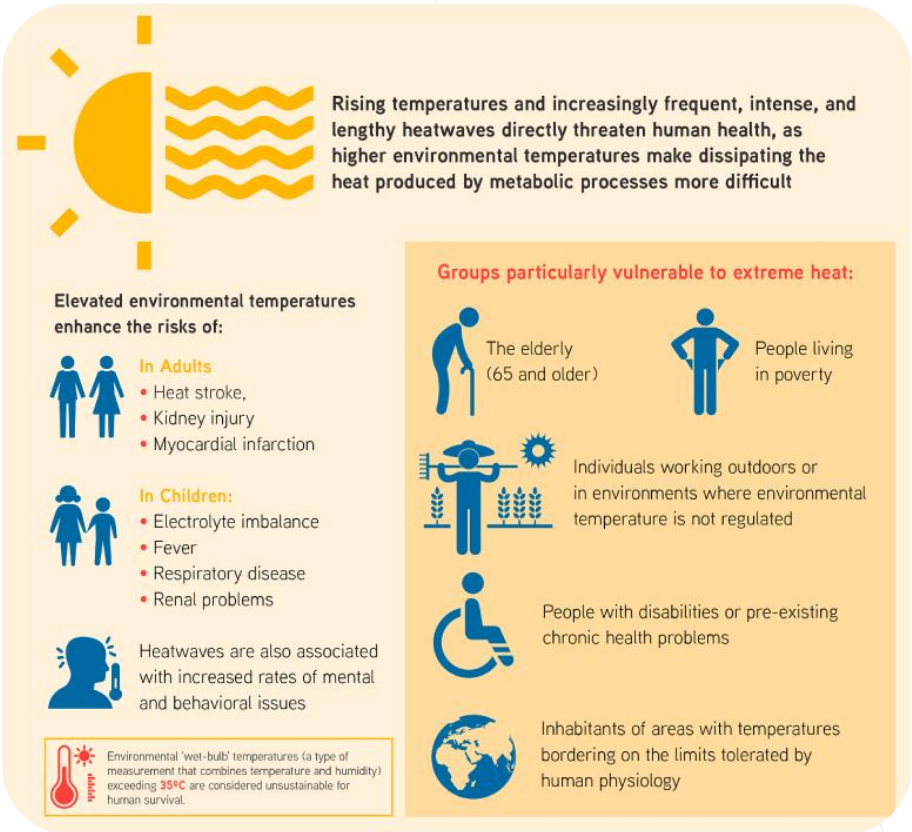


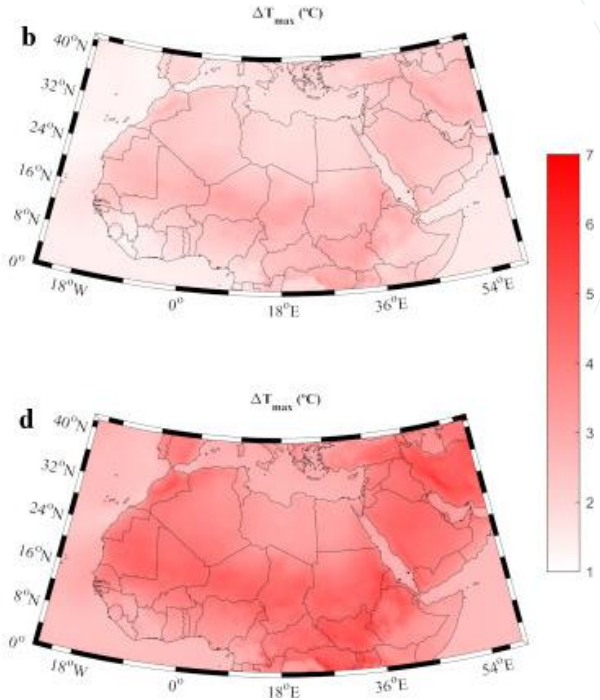
Predicted rise by an avg. of 0.36m in a 1.5℃ average warming scenario, and 0.6m in a 4℃ scenario by 2100 – 100 million people exposed to coastal flooding by 2030

Climate Impacts on Health in the Region

Rise in temperature

Heatwaves





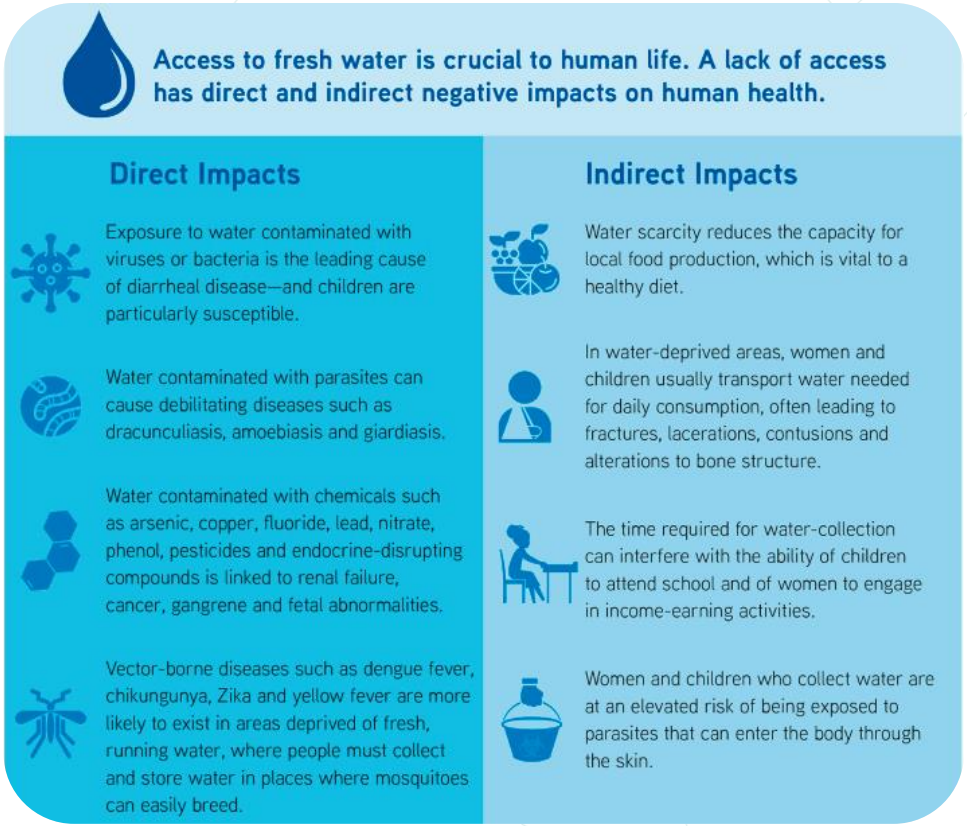
Neira et al, 2023; Varela Rodriguez, 2020

Climate Impacts on Health in the Region

Rise in temperature
Precipitation variability
Rise in sea level

Droughts

Groundwater Salinity

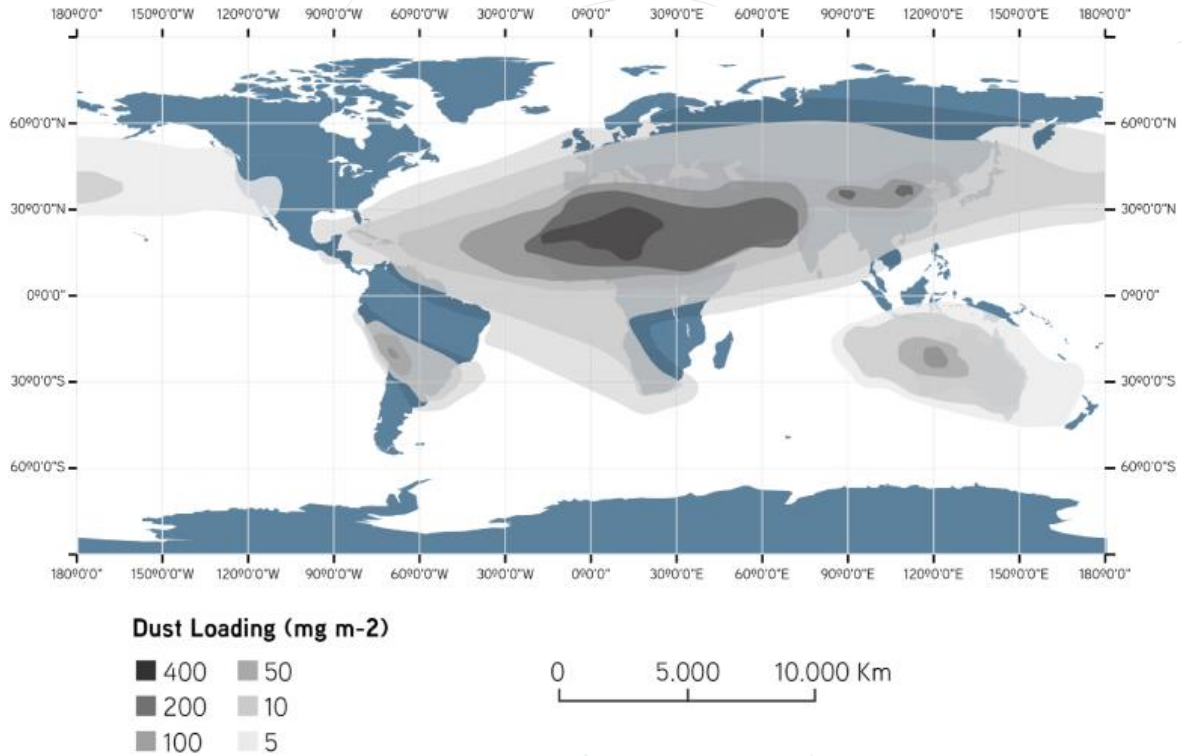


Neira et al, 2023

Climate Impacts on Health in the Region

Rise in temperature
Precipitation Variability

Air Quality



Distribution of Atmospheric Dust

Neira et al, 2023

Climate Impacts on Health in the Region

Rise in temperature
Precipitation Variability

Vector-borne Diseases

	West Nile Fever	Malaria	Leishmaniasis	*Aedes*-borne arboviral infections
Causative agent	• West Nile Virus.	• Various species of *Plasmodium* parasites.	• Various species of *Leishmania* parasites.	• Dengue virus, Zika virus, chikungunya virus, among others.
Common vectors	• Various species of *Culex* mosquitoes.	• Various species of *Anopheles* mosquitoes.	• Various species of Psychodidae sandflies.	• Various species of *Aedes* mosquitoes.
Symptoms	• Ranging from mild and flu-like to encephalitis and death.	• Intermittent periods of high fever with a feeling of intense cold. • Nausea, headaches, and myalgia. • In severe cases, blood vessel blockage, organ failure and death.	• Varying from non-healing skin lesions (which can lead to disfigurement and disability) to internal organ enlargement, anemia and death.	• Large proportion of cases can be asymptomatic. • When present, symptoms vary from mild and flu-like to severe and potentially fatal, including haemorrhagic syndrome, polyarthralgia and neurological complications.
Relevant environmental influences	• High temperatures (particularly during the summer). • High precipitation in late winter/early spring, coupled with particularly dry summers. • Presence of migratory bird species.	• Rainfall, temperature, humidity, vegetation, hydrogeology and wind speed. • In areas where this disease has been eradicated, the presence of endemic competent vector species increases the risk of re-emergence.	• Precipitation, temperature, altitude, land use, water development projects and presence of potential reservoir species.	• Temperature, precipitation and host/reservoir availability. • Temperature is a major determinant of several important parameters, including habitat suitability for vectors, vector capacity and virus mutation rates.

Increased Burden on already burdened health systems

Neira et al, 2023

Projections

- Health implications due to climate change are consistently worsening.
- More legislative changes at the national level
- Re-emerging diseases and increase in respiratory health complications across the region.
- More development projects attempting to thematically work on both health and climate

Dr Tedros Adhanom (WHO) at COP28
© Health Policy Watch 2023

What are Arab countries doing about climate and health?

Nationally Determined Contributions

Assessing Climate and Health in Arab Countries' NDCs

20/22 Countries have submitted their NDCs

15% *can be considered outdated*

80% clear reference to Health

55% clearly articulate their plan or adaptation measures

50% showcase the health-related impacts of climate in the country

40% provide a breakdown of their needs for health systems

Nationally Determined Contributions

Jordan

Climate Change and Health Vulnerability and Adaptation Assessment

Action Plan – Emission Reduction – Baseline Assessments – Health Indicators – Disease Control Programs

Early Warning System

Enhancing Capacity to for monitoring, diagnosis and treatment

Jordan's NDC - 2021

Nationally Determined Contributions

Oman

Climate-resilient Health System

Clear identification of the risks, followed by the needs and the current baseline

State of Palestine

Clear KPIs and Targets for Health

50% increase in MoPH capacity to monitor water, food and sanitation from 2020 to 2023

Disease prevention capacity to 300 professionals by 2025

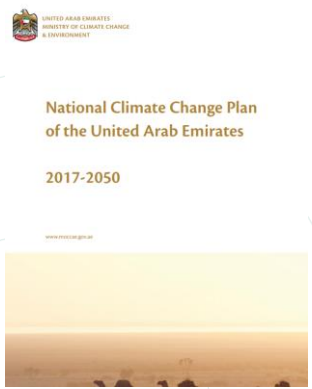
Tunisia

Building Health Resilience in Public Health Sector

Priority Areas of intervention:

1. *Adaptative Capacity of health sector*
2. *Surveillance of climate-sensitive diseases*
3. *Development of health system to face climate risks*
4. *Intersectional Collaboration*

Case Study – UAE



- Climate Plan developed and consistent with the UAE vision.
- Clear acknowledgement on the urgency and necessity of developing a **climate-resilient healthcare system**
- Abu Dhabi 2030 Economic Vision highlights priority investments for the healthcare system
- Health is an important consideration across all sectoral interventions
- Progress is evaluated on a 5-year basis (starting in 2023)
- Pioneered the COP28 Climate and Health Declaration

Case Study – Tunisia

Health Resilience

- National Observatory of New and Emerging Diseases
- Training for workers in health facilities
- Data collection and monitoring

Gender

- Women Health Services
- Further research on the role of gender with regards to climate and health

Health Leadership

- Procedure for integration of health considerations
- Strengthening institutional and legal framework
- Multidisciplinary research

Capacity Building

- Shift health system to detection/early warning
- Operational decision support system

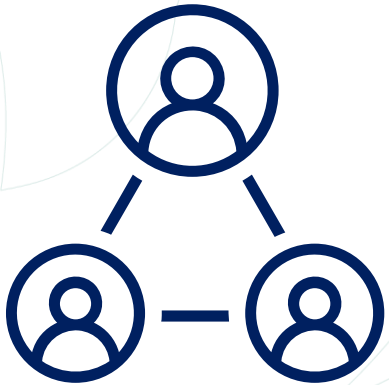
What are we supposed to be doing with regards to Climate and Health?
TIME IS RUNNING OUT!

Role of Philanthropy

- Many of the breakthroughs that have occurred in research on climate, climate and health, and planetary sciences have been due to **research** supported by Philanthropy
- Build adaptive capacity at the local level of healthcare systems needs to be developed
- Continued infrastructure development through the advancement of climate-resilient development, the strengthening of health systems, and the building of **resilient and thriving communities**, for the benefit of present and future generations.
- Better understanding and mapping of potential **"nature-positive"** health integration
- Developing new guidelines and standards for occupational and human protection from various risks

Role of Philanthropy

- Help develop **local communication strategies, tools** and **materials** that frame health as the human face of climate change (making it a personal, relevant, and a more manageable problem)
- Enhance **disease** surveillance systems and **pest/vector** surveillance systems drawing lessons from the COVID-19 pandemic
- Develop **heat-health action plans**, with clear response plans for different scenarios and different extreme weather conditions that could occur
- Massively increase **public awareness and education** to promote behavioral change



(Mock CN et al, 2017)

Role of Philanthropy

- Supporting in building the case for and developing **sustainable and low carbon healthcare** delivery models in the region.
- **Connecting** regional and international actors working on different areas associated with climate adaptation and health, to foster collaborations. This can be through supporting global thematic networks that bring together various actors to collaborate, collectively advocate and have shared experiences

THE GLOBAL CLIMATE & HEALTH ALLIANCE

CAN CLIMATE ACTION NETWORK

gaia

ATACH
Alliance for Transformative Action on Climate and Health
WHO hosted network

Thank you!

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