

Guidance for EHPs on managing the impacts of climate change on human health and wellbeing in South Africa

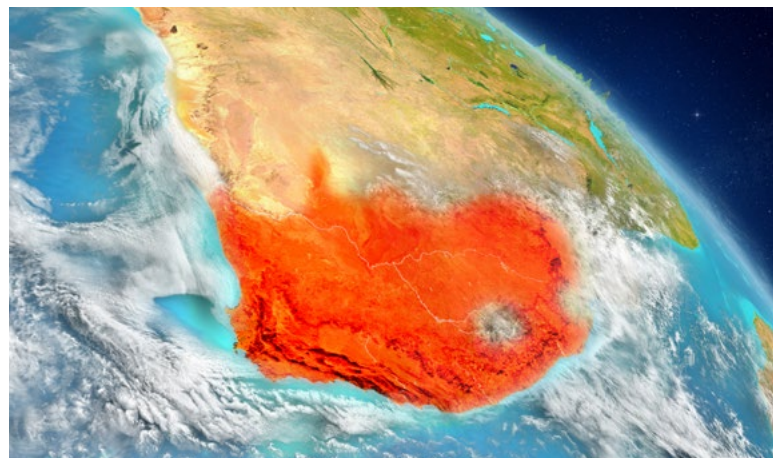
Prepared by the South African Medical Research Council and the National Department of Health

Background

Environmental Health Practitioners (EHPs) are vital frontline defenders of public health. As the impacts of climate change intensify—manifesting through extreme weather events, water and food insecurity, and the spread of climate-sensitive diseases—the scope and complexity of their responsibilities are expanding rapidly. In South Africa, where environmental vulnerabilities intersect with deep-rooted socio-economic inequalities, EHPs face unique and urgent challenges. This policy brief outlines targeted, context-specific recommendations to empower EHPs with the knowledge, tools, and strategies needed to manage and mitigate the health impacts of climate change, ultimately strengthening community resilience and wellbeing.

How does this guidance fit in with the EHP's Scope of the Profession (2012)?

This guidance aligns directly with the South African EHPs Scope of the Profession (2012) – Health Professions Act No 56 of 1974, Amended 15 May 2012 – which mandates EHPs to identify, monitor, and mitigate environmental health risks affecting communities. The Scope of the Profession includes responsibilities such as water quality monitoring, waste management, food safety, communicable disease control, and health promotion—all of which are increasingly affected by climate change. By providing focused guidance on climate-related health risks, this policy brief supports EHPs in fulfilling their statutory duties more effectively and equips them to respond proactively to emerging environmental health threats within the framework of existing national legislation and public health mandates.



What is climate change?

Climate change is the concept of increasing temperatures over a long period of time, most often caused by the burning of fossil fuels such as coal, oil and gas. The release of gases such as carbon dioxide and methane contributes to greenhouse gas emissions into the Earth's atmosphere. Increased occurrences of such practices have been largely initiated by humans. Such practices lead to a rise in temperatures globally.

Climate change refers to long-term shifts in temperatures and weather patterns, primarily driven by human activities—especially the burning of fossil fuels such as coal, oil, and gas. These activities release greenhouse gases like carbon dioxide (CO₂) and methane (CH₄) into the atmosphere, trapping heat and leading to global warming. In South Africa, climate change is already contributing to rising temperatures, shifting rainfall patterns, and more frequent and severe extreme weather events. These environmental changes have direct and indirect effects on human health.



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Known Health Impacts of Climate Change in South Africa include:

- **Heat-related illnesses and deaths** due to rising temperatures and more frequent heatwaves.
- **Food insecurity and malnutrition** linked to droughts and reduced agricultural productivity.
- **Waterborne and vector-borne diseases** such as cholera and malaria, due to changes in water quality and mosquito breeding patterns.
- **Respiratory and cardiovascular issues** from increased air pollution and wildfire smoke.
- **Mental health impacts** related to displacement, loss of livelihoods, and extreme weather trauma.
- **Increased burden on healthcare systems** as climate-sensitive diseases become more prevalent.

In relation to climate change and health, the important South African documents to refer to include:

- Climate Change Act 22 of 2024
- National Climate Change and Health Adaptation Plan, 2014-2019
- National Environmental Health Policy, 2011

RECOMMENDATIONS FOR EHPs:

Here are some ideas for the role of EHPs in health activities and functions to protect communities from climate change impacts:

Roles and Responsibilities in Responding to Climate and Health Challenges:



As Individuals

- Act as change agents by promoting and facilitating climate adaptation across sectors.
- Collaborate with individuals, groups, organisations, and communities to build capacity and embrace innovative, locally appropriate solutions to climate-related challenges.



As Provincial and National Departments

- Strengthen public health surveillance systems to integrate climate and weather data alongside health outcomes.
- Evaluate development proposals with consideration of their potential climate impacts and greenhouse gas emissions.
- Promote the integration of climate resilience into spatial planning and development policies, including the establishment of flood lines and enforcement of resilient building standards.
- Ensure robust disaster management and disease outbreak response plans are in place and regularly updated.
- Address gender dynamics within communities to ensure inclusive participation in climate and health-related initiatives.



As Local Municipalities

- Develop and implement awareness campaigns on climate and health risks, especially targeting high-risk areas (e.g., urban centres) and vulnerable populations, such as low-income communities, the elderly, young children, individuals with pre-existing health conditions, and those living alone.
- Support and facilitate community-based mitigation measures with health co-benefits—such as creating infrastructure for walking and cycling, promoting carpooling, encouraging green buildings, and implementing community greening initiatives.

For more information:

Shezi, B., Mathee, A., Siziba, W. et al. Environmental health practitioners potentially play a key role in helping communities adapt to climate change. BMC Public Health 19, 54 (2019). <https://doi.org/10.1186/s12889-018-6378-5>



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Climate-change Related Health Impacts in South Africa



DUST STORM IMPACTS

- Vehicular accidents (visibility)
- Eye irritation
- Respiratory effects (e.g., COPD)



NON-COMMUNICABLE DISEASES

- Acute and chronic respiratory disease
- Type-2 diabetes
- Cardiovascular disease
- Cancers
- Mental disorders
- Injuries
- Malnutrition



SNOWSTORM IMPACTS

- Injuries
- Cardiac conditions
- Respiratory effects (due to power outages and burning of dirty fuels)
- Post-traumatic stress disorder



DROUGHT IMPACTS

- Food insecurity
- Malnutrition
- Stunting
- Respiratory effects



INFECTIOUS DISEASES

- Vector-borne
- Water-borne
- Food-borne
- Rodent-borne
- Air-borne
- Zoonoses



FLOOD IMPACTS

- Drowning
- Injuries
- Spread waterborne diseases
- Loss of infrastructure



STORM IMPACTS

- Injury
- Loss of life
- Stress
- Anxiety
- Destruction/loss of healthcare facilities
- Disruption to healthcare access/services
- Contamination of drinking water sources
- Increased risk of waterborne diseases



WILDFIRE IMPACTS

- Smoke
- Eye irritation
- Respiratory effects
- Drought impacts
- Food and personal hygiene
- Food and water security
- Undernutrition (due to reduced food yield and quality)



SOCIO-HEALTH IMPACTS

- Conflict over resources (water, arable land)
- Forced migration due to weather-related disasters
- Reinforced gender inequities
- War
- Displacement
- Loss of jobs and income



MATERNAL AND CHILD HEALTH

- Pre-term birth
- Stillbirth
- Low birth weight
- Stunting
- Malnutrition
- Asthma
- Allergies
- Learning disabilities
- Epigenetic effects



MENTAL HEALTH

Health, environmental and economic impacts and consequences of climate change related disasters contributes towards feelings of:

- Sadness, fear, despair, grief
- Anxiety
- Mood disorders
- Increased risk of suicide
- Violence / aggression
- Sleep disorders
- Substance abuse
- Mental disorders



HEAT-RELATED IMPACTS

- Heat stress
- Heat exhaustion
- Heat stroke
- Increased risk of mortality associated with pre-existing chronic health conditions
- Dehydration
- Heat exhaustion and stress can lead to damage to brain, kidneys and liver



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