UN WATER

United Nations Educational, Scientific and Cultural Organization

World Water Assessment Programme

The United Nations World Water Development Report 2020

WATER AND CLIMATE CHANGE

The scientific evidence is clear: **the climate is changing and will continue to change,** affecting societies and the environment. Climate change will affect the **availability, quality and quantity** of water for basic human needs, threatening the effective enjoyment of the **human rights to water and sanitation** for potentially billions of people.

How climate change impacts society through water

Water stress
Over **50%** of the world's population will be living in water-stressed regions by 2050

Water quality
Increased water pollution and pathogenic contamination are caused by flooding or by higher pollutant concentrations during drought

Extreme events
Floods and storms account for nearly **90%** of the most severe natural hazards

Water supply
By 2050, climate change will cause a **16%** decline in freshwater availability, affecting **685 million** people living in over **570 cities**

Health
Risks of water- and vector- borne diseases increase. The range of the mosquitoes responsible for dengue fever has risen by approximately 16% since the 1950s

Food security
Increasing climate variability and weather extremes will threaten food security, including people's access to healthy and nutritious diets

Ecosystems
Climate change is likely to further stress the world's wetlands and aquatic ecosystems, which provide a habitat for almost **10%** of the world's species

Internal displacement
In **2017**, water-related natural disasters caused **18.8 million** new internal displacements in **135 countries** and territories

Poverty
Climate change is a poverty multiplier. By 2030 it will force **100 million** people into extreme poverty

Addressing climate change through water

Adaptation and mitigation are complementary strategies for managing and reducing the risks of climate change and increasing resilience

Climate Adaptation

A combination of natural, engineered, and institutional measures to moderate harm or exploit beneficial opportunities from climate change

Enhanced water storage

Climate Mitigation

Human interventions that reduce the sources or enhance the sinks of greenhouse gases

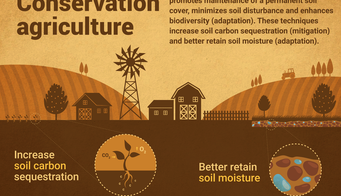
Solar powered irrigation

Water management creates opportunities to generate both adaptation and mitigation outcomes

Adaptation — **Mitigation**

Conservation agriculture

promotes maintenance of a permanent soil cover, minimizes soil disturbance and enhances biodiversity (adaptation). These techniques increase soil carbon sequestration (mitigation) and better retain soil moisture (adaptation).



Increase soil carbon sequestration

Better retain soil moisture

Wetland protection and restoration

Healthy wetlands store carbon while simultaneously reducing flood risk, improving water quality, recharging groundwater, supporting fish and wildlife, and providing recreational and tourism benefits.

- Biodiversity
- Carbon sequestration
- Enhance water supply

WETLANDS

- Water purification
- Flood protection
- Recreation and tourism

Wasterwater treatment and reuse

4.2 billion people do not have acces to safe sanitation and

80% of all wastewater globally is released without treatment

Treating the organic matter in wastewater reduces greenhouse gas emissions while potentially generating biogas as a source of renewable energy

How do we make this happen

Policies and agreements
Given water's role in mitigating and adapting to climate change, water could play a connecting role across the SDGs and across policy frameworks such as the Paris Agreement.

Climate finance
In 2016, only **2.6%** of climate finance went to water management. Integrating adaptation and mitigation planning into water investments can make them more appealing to climate financiers.

Knowledge, education and capacity building
There is a need to expand research, to promote the development of practical analytical tools and innovative technologies, and to build the institutional and human capacity required to foster informed, science-based decision-making.

Visit our website | Download the report | @UNESCOWWAP | wwap@unesco.org