PROTECTED AREAS & CLIMATE CHANGE in Namibia

What is climate change?

Climate change is a change in the average weather or a change in the distribution of weather events from a previous condition. Climate change may be limited to a specific region, or may occur across the whole world.

Scientific evidence points to human activity as the likely cause for the rapid increase in global average temperatures over the past several decades. The main causes of human-induced climate change are the increase in greenhouse gases, mainly carbon dioxide (CO2), likely due to emissions from fossil fuel combustion, followed by aerosols and cement manufacture. Other factors include inappropriate land use, ozone depletion, animal agriculture and deforestation.

Namibia contributes minimally to the causes of climate change, but we must find ways to adapt to the changing climatic conditions.

Projected climate change in Namibia

Namibia is expected to experience an increase in temperature and a decrease in precipitation in all biomes, with the maximum increase in the coastal regions. Warmer is likely to be seen along the coast than along the arid and semi-arid regions. Farmer precipitation is likely to be lower.

By 2050, the mean annual temperature increase for the central desert will be between 1.5°C and 4.0°C along Namibia’s 1965-1990 mean temperatures.

Rising temperatures will cause a corresponding rise in evaporation, which will result in increased soil moisture and a decrease in vegetation.

An increase in potential evapotranspiration of between 6% and 18% by the 2050s is expected.

Conservationists in climate change are much greater for rainfall than temperature but Namibia will likely become drier. Increased variability will increase and extreme events such as droughts and floods are likely to become more frequent and intense.

Current mean annual rainfall across Namibia

Average plant biomass across Namibia from 1993-2009 Predicted 2100

Impacts of expected Climate Change on wildlife and other living natural resources

Namibia is one of the best refuges of the threatened black rhinoceros, the range of this species is likely to change because of climate change.

Most predators and scavengers are in a critical situation as their distribution is mainly determined by food availability. As long as food is available and they are not persecuted by humans, their range will likely not change much.

Most Namibian protected game species are adapted to arid and semi-arid climate conditions. Some may have already moved to better habitats to sustain their populations. Most desert-dwelling indigenous species are essential for their cultural survival.

Increased greenhouse gases will lead to increased temperature and reduced rainfall across the landscape and desert regions of southern Namibia.

The Benguela marine system is expected to become more productive and less production on climate change may occur and lead to the warmer water and lower sea levels, Namibia’s fisheries sector will likely benefit as a result.

Climate models capture climate change in the Benguela, but if the Benguela becomes a warmer current, it may be reduced and lower-dependent desert species will be negatively affected.

Areas suitable for large crops will decrease substantially, but may increase for small-scale and hilly-based industries. Current agricultural practices will be able to support rural people and there may be more wildlife-friendly agriculture.

In unilateral cases, people will find it difficult to produce enough food and crops will be unable to meet the needs of the population. In the desertification area, there will be more pressure on groundwater for irrigation.

Recommendations for adaptations

In order to successfully protect biodiversity and the environment, Namibia must implement food and natural resource management. This can be done by transforming the current protected areas into parks with a protected area network through partnerships between government, private companies, commercial farmers and communities. Private landowners will gain benefits from the park’s economy, shared tourism and conservation gains, and economic benefits from the park’s attractions and tourism. The proposed protected areas will protect the wildlife and wildlife movements and provide people with non-timber use values for the benefit of sustainable land use, biodiversity and food security. Wildlife-based industries will benefit from the park’s employment opportunities and the park’s natural resources. The proposed protected areas will also benefit the park’s economy and tourism.

Recommended protected areas, particularly national parks, hold considerable economic potential to stimulate Namibia’s growth through increasing tourism and biodiversity values. More protection is needed in protected areas as engines for economic development should be implemented.