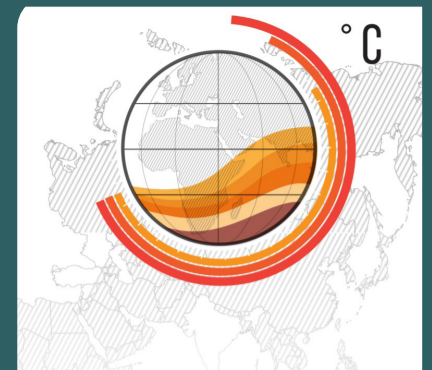




CLIMATE CHANGE IMPACTS ON NAMIBIA'S KEY SECTORS

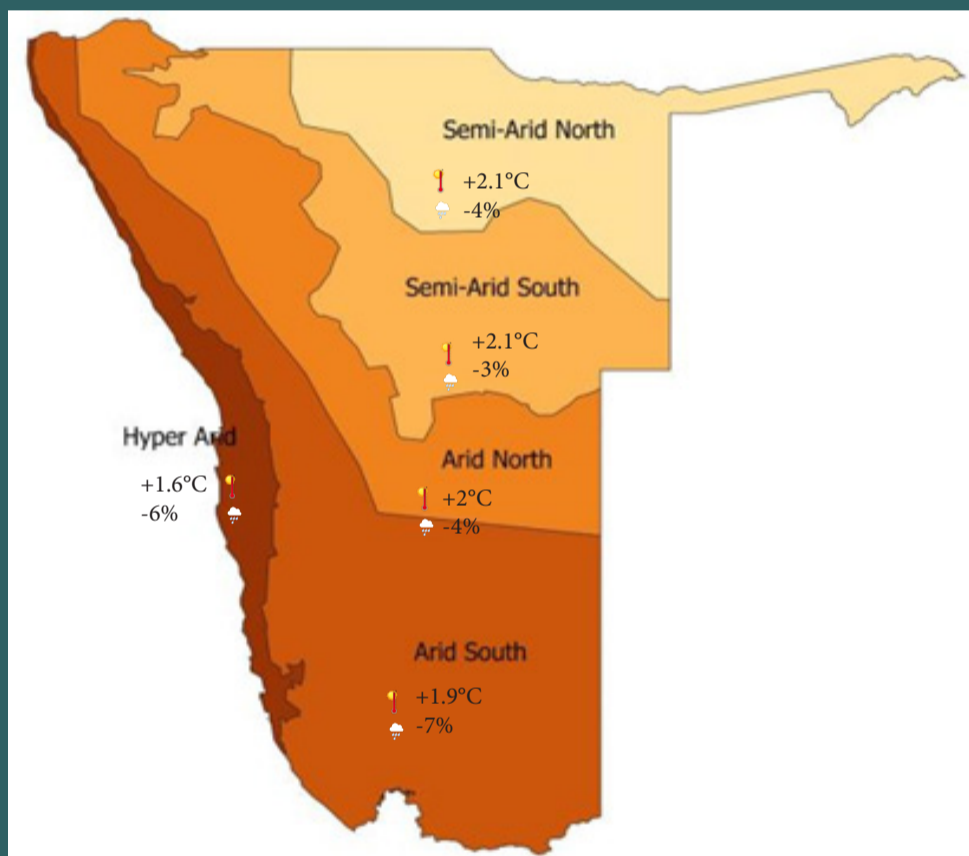


WHAT GLOBAL WARMING OF 1.5°C AND HIGHER MEANS FOR NAMIBIA

The Paris Agreement has a goal of limiting global warming well below 2°C, ideally 1.5°C. Understanding the local-level impacts of these global temperature targets is crucial for informing climate change adaptation needs and actions. To date, mitigation pledges by nations fall far short of what is needed, with the world on track to warm by 3.2°C by the end of the century.

For Namibia, local warming and drying will be greater than the global average. So, even at 1.5°C increase in global temperature will have severe local impacts, negatively affecting water supply, agriculture, health, and other vulnerable sectors.

The 1.5°C threshold could be breached within the next decade, and the 2°C threshold the decade after. This means there is an urgent need to accelerate Namibia's adaptation responses.



Temperature and Rainfall projections for Namibia with 1.5°C global warming.

WATER

Namibia is exposed to large variability in rainfall between seasons and years, making the country prone to water scarcity, drought and flooding.



At a 1.5°C and above increase in global temperature, the step changes in local temperature and rainfall will drive further water scarcity.

Temperature increases	Evaporation	Surface runoff	Streamflow	Groundwater recharge
1.5°C	+10%	-19%	-10%	-33%
2°C	+14%	-30%	-20%	-49%
2.5°C	+17%	-40%	-30%	-66%
3°C	+20%	-50%	-40%	-82%

HUMAN HEALTH

The increasing temperatures and changing rainfall patterns projected to occur at warming of 1.5°C and above are set to alter the prevalence of disease. Health risks such as malnutrition, malaria, respiratory infections, and diarrhoea, which affect children and adults are major concerns for Namibia.



Global temperature increases of 1.5°C and above will result in increasing water scarcity and malnutrition resulting in an increased burden of disease in the country (von Oertzen).

Temperature increase	Exposure to heat stress (days)	Malaria exposure (Months of risks)
1.5°C	+11-30	-23%
2°C	+31-50	-34%
2.5°C	+31-50	-44%
3°C	+80-296	-56%

BIODIVERSITY

Namibia is home to a diversity of endemic vegetation and wildlife. Global temperature rise of 1.5°C and above is expected to negatively affect the distribution of biodiversity within the country. The endemic vegetation in the Karoo Biome (arid south zone) is particularly vulnerable to the effects of reduced rainfall (Midgley et al., 2005).



The impacts on biodiversity will affect livestock production (due to reduced grazing), malnutrition, and the tourism industry (Reid et al., 2008).

Temperature increase	Desert Encroachment	Species Loss	Endemic Species Extinction	Endemic Species Endangered
1.5°C	+11%	+30%	+6%	+4%
2°C	+18%	+40%	+9%	+6%
2.5°C	+18%	+50%	+12%	+7%
3°C	+43%	+60%	+15%	+9%

For more information on the CLARE-Namibia project visit the DRFN website and/or facebook page. Published on: 19 March 2021

AGRICULTURE

Namibia's agricultural sector is extremely vulnerable to the impacts of 1.5°C warming and higher. The largely arid climate does not allow for extensive agricultural activities, with livestock rearing making up the majority of the sector.



Continued warming and drying will most likely lead to increasing losses in crop and livestock activities.

Temperature increase	Agricultural land	Commercial crop productivity	Subsistence crop productivity	Livestock productivity
1.5°C	-15%	-5%	-20%	-5%
2°C		-10%	-40%	-20%
2.5°C		-15%	-60%	-35%
3°C		-20%	-80%	-50%