Faith Nkohla et al., J Earth Sci Clim Change 2016, 7:9(Suppl)
http://dx.doi.org/10.4172/2157-7617.C1.027

The long-term adaptation scenarios flagship research program (LTAS) for South Africa

Faith Nkohla, Nkohla N F and Munzhedzi S M
Department of Environmental Affairs, South Africa

The LTAS aims to respond to the South African National Climate Change Response White Paper by developing national and sub-national adaptation scenarios for South Africa under plausible future climate conditions and development pathways. Outcomes and recommendations are used to inform key decisions in future development and adaptation planning. The program developed a consensus view of climate change trends and projections for South Africa. It summarizes key climate change impacts and potential response options identified for primary sectors, namely water, agriculture and forestry, human health, marine fisheries, biodiversity, disaster risk reduction, human settlement, economics of adaptation, food security and early warning systems. The LTAS climate scenario technical work analyzed recent trends in climate, and synthesized a range of potential future climate conditions that plausibly could occur in South Africa over three time frames (2015–2030, 2040–2060 and 2080– 2100). Observed climate trends for South Africa from 1960 to 2010 were analyzed and related to modeled trends for the same period to begin identifying possible strengths and weaknesses in current modeling approaches. South Africa's climate future from 2025 and beyond was modeled using four broad climate scenarios at national scale, with different degrees of change and likelihood that capture the results of global mitigation action and the passing of time. First scenario as based on a warmer (<3°C above 1961–2000) and wetter, with greater frequency of extreme rainfall events. Second scenario on warmer (<3°C above 1961–2000) and drier is with an increase in the frequency of drought events and somewhat greater frequency of extreme rainfall events. Third scenario is hotter (>3°C above 1961–2000) and wetter, with substantially greater frequency of extreme rainfall events and fourth scenario on hotter (>3°C above 1961–2000) and drier with a substantial increase in the frequency of drought events and greater frequency of extreme rainfall events. Studies conducted on climate change, both internationally and nationally, indicate that the increase in the frequency and intensity of extreme events such as storms, droughts, and floods associated with climate variability and change have a significant impacted on natural and human systems. Additional stressors noted are non-climatic factors such as social inequalities that shape differential risks due to the complex interactions between climate change impacts, exposure and sensitivities. These risks are likely to result in loss of property and damage to infrastructure, disruption of essential services, and reduced agricultural production and a breakdown of food systems. Furthermore, are impacts on terrestrial, freshwater, and marine ecosystems, evidenced by species shifting their geographic ranges, seasonal activities and migration patterns. Efforts to employ effective responses for climate change resilience to various external shocks associated with climate change will potentially strengthen the attainment of the Sustainable Development Goals (SDGs)

Biography

Faith Nkohla completed his Master of Science degree in Plant Ecology from University of Cape Town in 2008. He is currently working as Director of Climate Change Adaptation, at the Department of Environmental Affairs. His responsibilities includes managing and provision of climate change support services to sub-national and national sectors, to improve SA's adaptive capacity to climate change and key sectors such as water, agriculture, biodiversity, and disaster risk reduction. He serves in various project teams to provide guidance in climate change studies, including socio-economic livelihoods, and developing climate change adaptation sectors strategies, and guide their implementation.

vkhavhagali@environment.gov.za

Notes: