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An assessment of the impact of climate change on the Eastern Free State Bioregion

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World over mountains are considered to be an important source of water, energy and biological diversity. Mountains are also crucial for rural livelihood because they are a source of key resources such as minerals, forest products and agricultural products and of recreation (UN, 1992 – Agenda 21). Montane bioregions cover a quarter of the earth's surface area, are home to almost 20% of the world's population and provide ecosystems goods and services vital for the wellbeing of downstream populations.

However, these environments are under immense pressure from climate change. In its broadest sense this overarching project will address a number of critical questions regarding climate change in the Eastern Free State Bioregion (FSBR):

- What forms is climate change taking in the EFSBR and how are these forms influenced by SAT and PET variations?
- Is climate change within the EFSB related to climate systems within the southern African region as a whole?
- What is the impact of climate change on agricultural land uses in the EFSB and what are the implications of the impacts on food security and rural livelihoods?
- How have value chains in the Eastern Free State Bioregion been shaped by climate change?
- How can the challenges associated with climate change be mitigated?
- In what state are future agricultural land use patterns in the Eastern Free State Bioregion going to be and how will these patterns affect value chains (including those related to food security) and rural livelihoods?

Archival climate data on the Eastern Free State Bioregion will be acquired to determine the spatio-temporal patterns using Geographic Information Systems (GIS) and trends through time series analysis.

For more information: Refer to Dr Mukwada's profile listed under Researchers/Project leaders