



Climate Change Adaptation in RWANDA

Severe weather events, particularly droughts, have historically imposed heavy costs in Rwanda. The projected impacts of climate change may increase the frequency and compound the ramifications of these events, potentially undermining food security, health, and economic growth. In recognition of this fact, the Government of Rwanda and the donor community have initiated activities to determine vulnerability and adaptation priorities. However, a number of adaptation needs remain, including mainstreaming adaptation into the country's long-term development framework, vulnerability assessments for critical sectors, and development of a national climate change strategy that clearly identifies priority sector and ecosystem vulnerabilities and means for addressing them. Accomplishing these challenges requires overcoming and addressing existing barriers regarding data availability and accessibility, as well as the limited capacity to conduct meteorological and hydrological analysis and forecasting.



Map of Rwanda. Source: Encyclopedia Britannica

CLIMATE IMPACTS AND VULNERABILITY

Historic Weather and Climate

- Observations indicate a rise in average annual temperatures of about 0.7-0.9°C since 1950.
- Shifts in the timing of precipitation, which have important implications for agriculture, have been reported in certain regions.
- Extreme events associated with El Niño and La Niña episodes have intensified.
 - Droughts in eastern and southern regions have resulted in a series of severe famines.
 - Heavy rainfall in northern and western regions has led to erosion, flooding, and landslides.

Projected Weather and Climate

While projections for Rwanda vary, the majority of climate models suggest:

- Increases in average maximum and minimum monthly temperatures ranging from 1.5-2.7°C and 1.7-2.8°C, respectively. Warmer conditions in the highlands may result in longer growing seasons and benefit certain crops.
- Greater average annual rainfall, with seasonal variability, although there are significant discrepancies between model predictions.
- Intensification of heavy rainfall, meaning that more rainfall will occur during only a few storms, thus increasing the risk of disasters such as floods and landslides. These can lead to greater human mortality, contamination of water sources, loss of crops, and damage and destruction to homes and critical infrastructure.

KEY SECTOR VULNERABILITIES

Agriculture and Food Security

Climate impacts of significance for agriculture and food security are likely to be temperature increases and more frequent droughts, with the nature and timing of impacts varying across regions. Climate impacts may alter the extent of areas suitable for agriculture and the length of growing seasons, affecting crop yields as well as hunger and nutrition. In addition, climate change may alter the occurrence and distribution of pests that may harm or ruin crops and livestock.

Climate Change Impacts on Agriculture and Food Security

Change in Climate	Potential impacts on agriculture and food security
Warmer temperatures, prolonged droughts, and higher evapotranspiration	<ul style="list-style-type: none"> • Reduced production of maize and beans, livestock losses, and greater conditions conducive to famines.

* Chart continues on following page

