

The Implications of Global Climate Change for Mountain Gorilla Conservation in the Albertine Rift



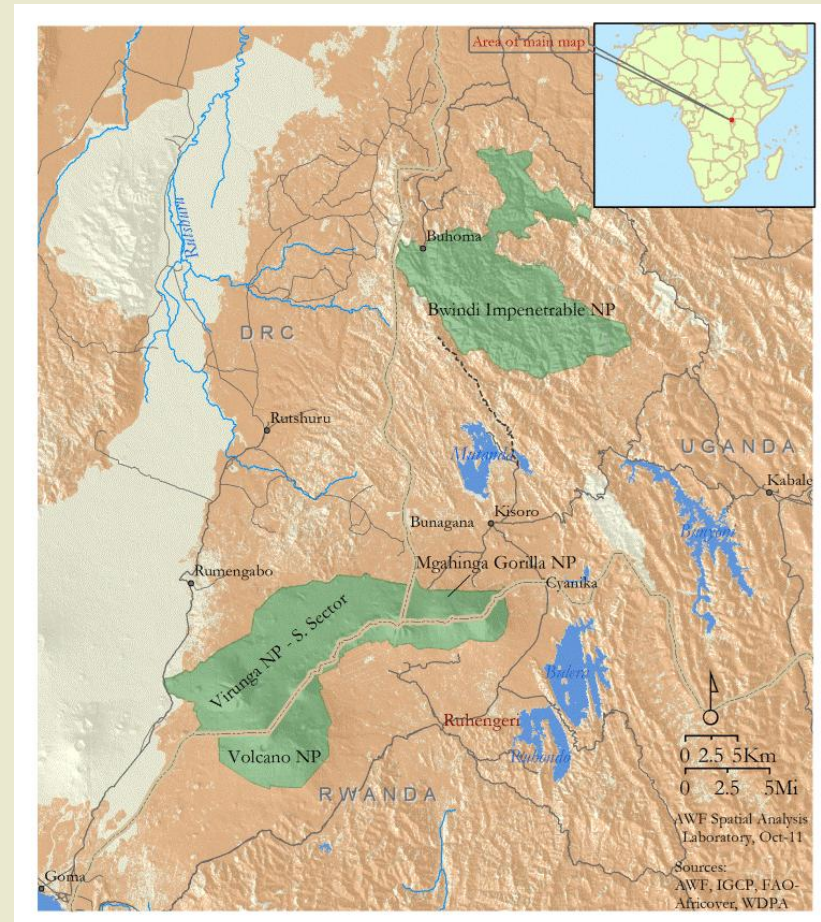
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David Williams, African Wildlife Foundation

Africa Biodiversity Collaborative Group
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Virunga Mountain Gorilla

- Mountain gorillas
 - Status: critically endangered. Over 780 individuals in two range-restricted populations in the Virunga/Bwindi region.
 - Habitat: montane forests within 2 PAs.
 - 5 decades of research.



Virunga MG Vulnerability Assessment

Approach emphasized:

- GIS modeling to predict gorilla distribution under a range of scenarios
- stakeholder workshops to assess findings, formulate adaptation strategies.

Process/Players

- UC Davis – species distribution modeling
- WCS – climatological modeling
- IGCP/AWF – data, MG expertise.
- EcoAdapt – “Climate Camp” workshop facilitation



Virunga MG Vulnerability Assessment

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A White Paper prepared by the African Wildlife Foundation, the International Gorilla Conservation Programme and EcoAdapt, and funded by the John D. and Catherine T. MacArthur Foundation

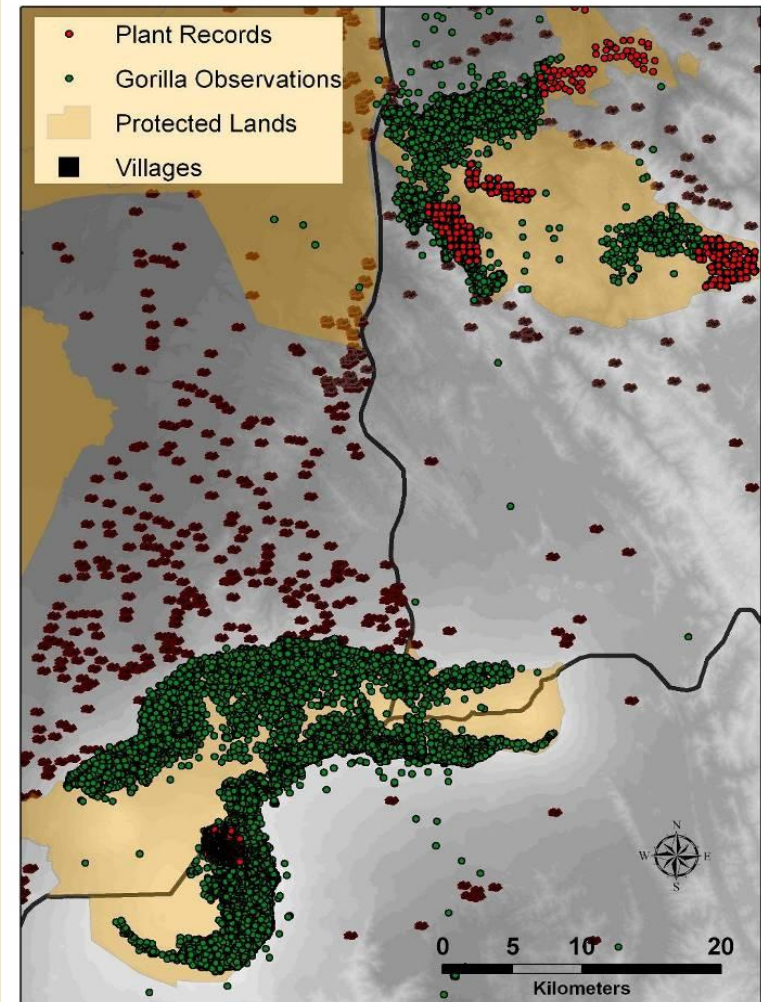


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Species Distribution Modeling

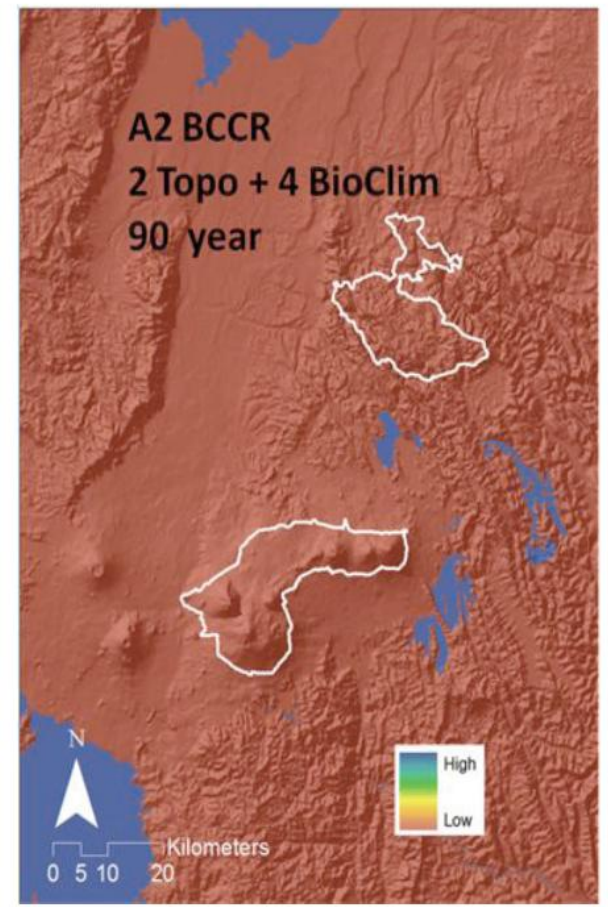
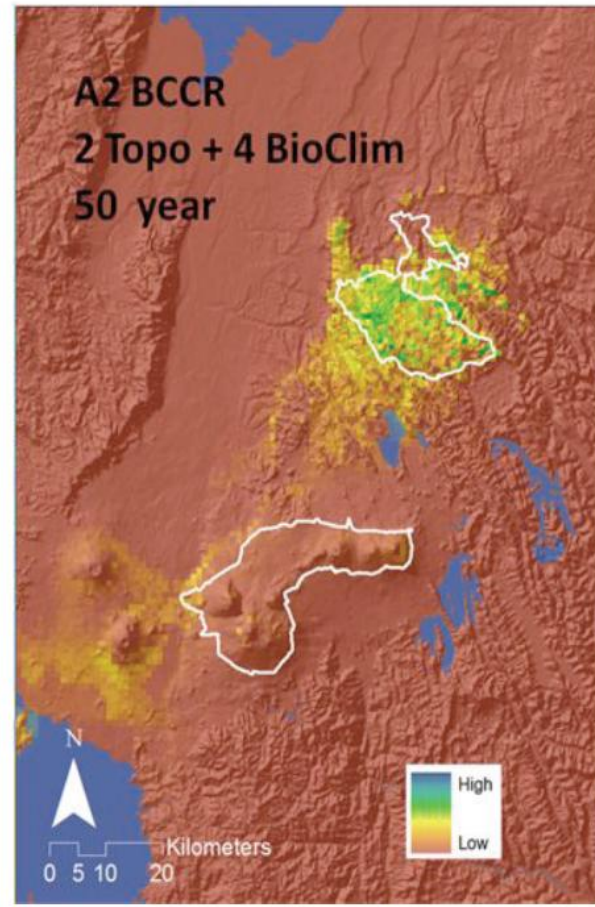
1. Model current species MG distribution as a function of variables such as topography, vegetation, and climate.
2. Predict future MG distribution by substituting future climate projections.



Species Dist. Modeling

--Topography and Temperature Driven--

- Only Bwindi suitable in 50 years; none in 90 years

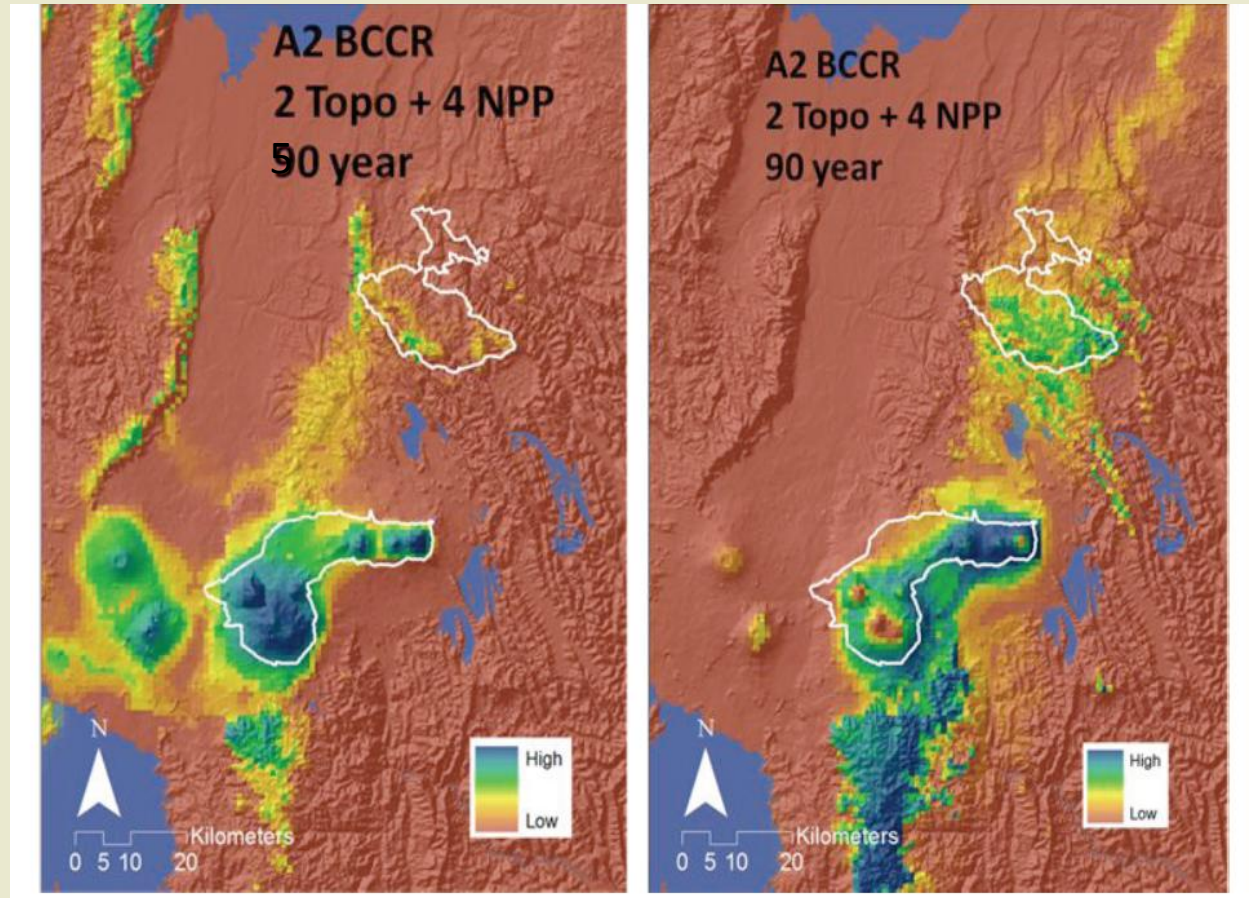


Top 4 bioclim (1. annual precip, 2. precip driest qtr, 3. temp seasonality, 4. mean temp in wettest qtr)

Species Dist. Modeling

--Topography and NPP Driven--

- Both PAs still viable in 90 years.



Lessons Learned

1. Modeling is a valuable tool with caveats. Primatologists familiar with the MG and the region dismissed the topography and temperature driven scenarios as implausible; MG formerly inhabited much lower/warmer areas...suggesting a broader thermal tolerance than models using only current distribution data. Recommended using historic range in future modeling efforts.

Modeling must be critically assessed for plausibility, utility, and opportunities for improvement.

Lessons Learned

2. Workshops are critical

- raising awareness of CC issues across diverse stakeholders
- to develop consensus for prioritized adaptation actions,
- generate buy-in for jointly-developed plan.

THANK YOU ALL!



Lessons Learned

3. Significant disease threat

CC could facilitate emergence of novel diseases (e.g., malaria) or cause gorillas to become more susceptible to existing ones. Configuration of species in two populations in limited range leaves them particularly vulnerable. Led to discussion of translocation. Ripe for further research.