

# Distribution Patterns of Amphibians and Reptiles in Northern Highlands of Madagascar: Response under Climate Change

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- **Climate Change in Northern Highlands**

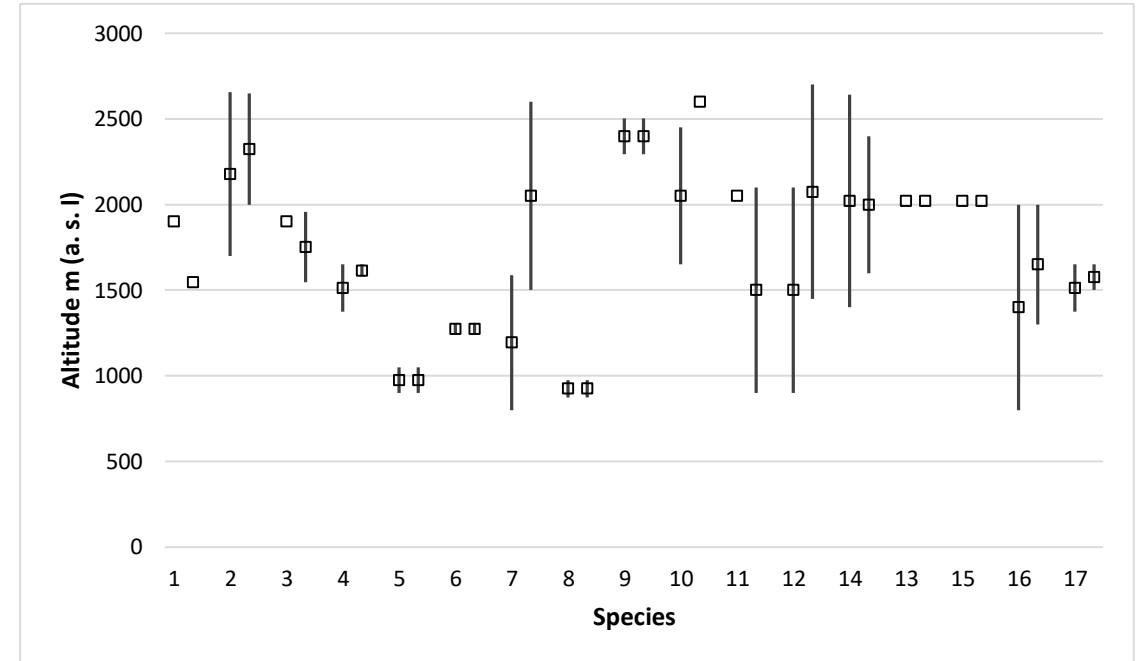
- Temperature: increased by 0.5°C ( $\sim 0.02^\circ\text{C}$  per year).
- Precipitation: decrease of about 5% in ten year.

- **Amphibians and reptiles**

- predicted to be physiologically vulnerable to climate warming.
- Indicative of climate change.

- **Methods**

- Same field techniques and transect location as in 90's.
- Bioacoustics for measuring patterns of phenology of frogs.
- Species Delimitation Modelling to predict future scenario.



- **Change in altitudinal range**

- Upslope Displacement for total Distribution Loss (UDDL)
- Upslope Displacement required for total Habitat Loss (UDHL)