Continental analysis of climate change impacts on baobab across major climate zones in sub-Saharan Africa

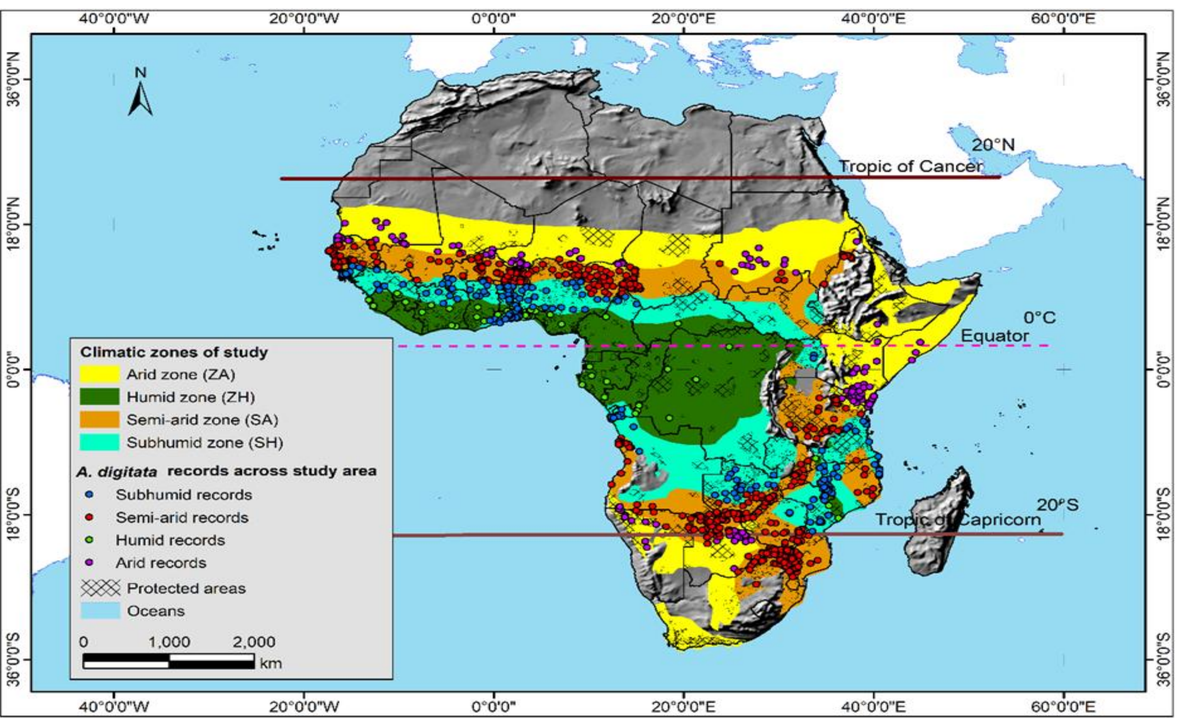
Mariette Agbohessou (magbohessou@gmail.com) Kolawolé Valère Salako , Agounde Gafarou, Mensah Sylvanus, Ngom Ablaye, Kandioura Noba, Glèlè Kakaï Romain, Assogbadjo Achille

BACKGROUND

A. digitata

Baobab is widely distributed across humid to arid regions in Africa. How does baobab respond to environmental variations across climate zones?

METHOD



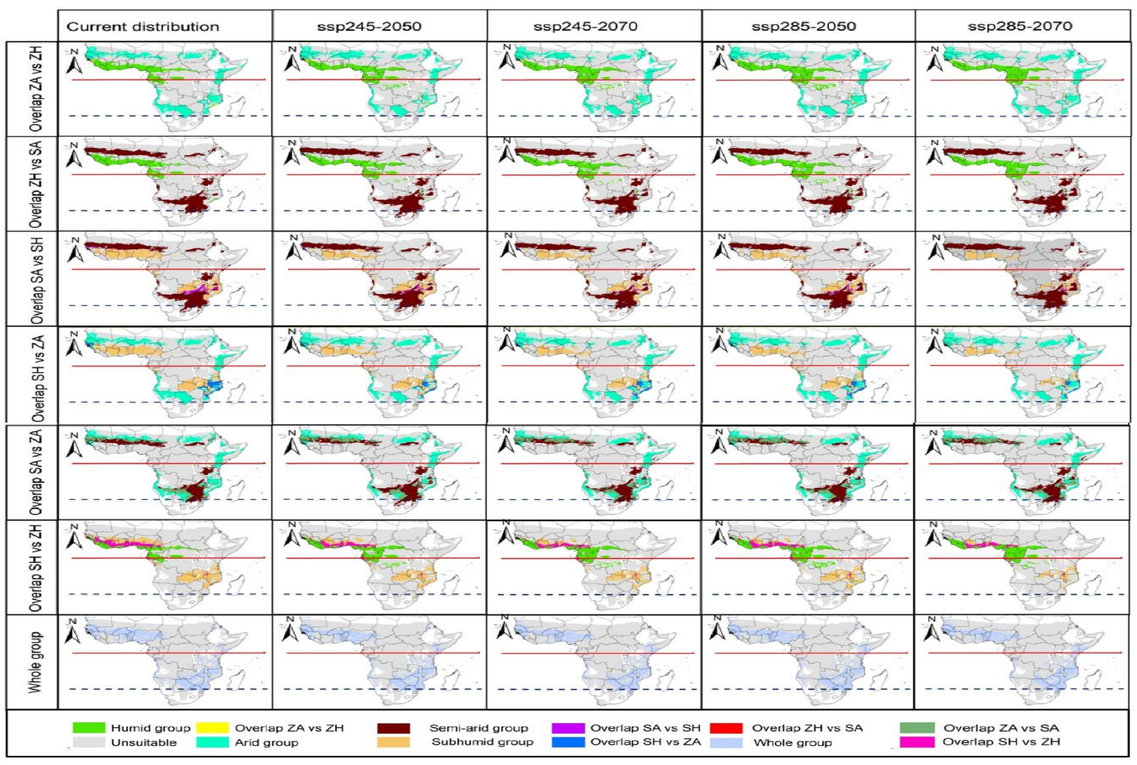
Ensemble modelling (400 models) under SSP 245 and SSP 585 scenarios for 2050 and 2070

GLM, GAM, RF, MaxEnt, Training (70%) / Testing (30%)

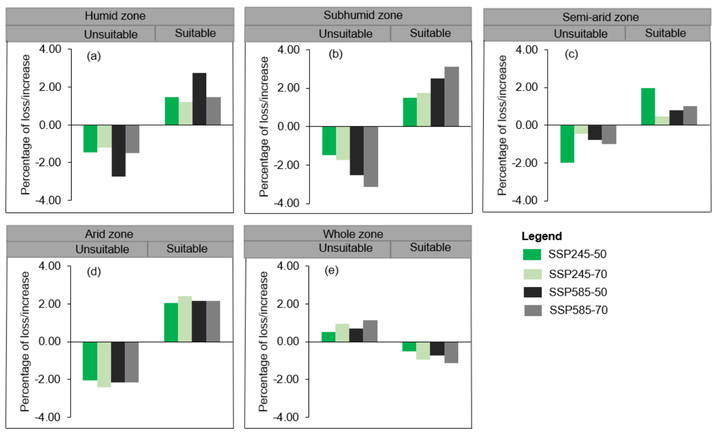
Performance metrics: AUC & TSS

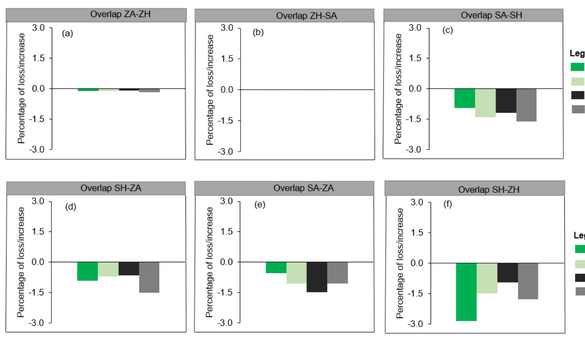
Niche Overlap (D & I indices)

RESULTS



Current and future suitable areas





A. digitata in the sub-humid zone is expected to gain 3.13% suitable areas by 2070 under the optimistic SSP 585 scenario.

Baobab will experience a small reduction of its suitable areas by 2070

The humid zone will be more favourable to the species in the future

Laboratoire de Biomathématiques & d'Estimations Forestières

Funded by the Intra-Africa Academic Mobility Scheme of the European Union