

Wetland vegetation dynamics in the semi-arid Amboseli landscape of southern Kenya

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Fig1: Location in Africa

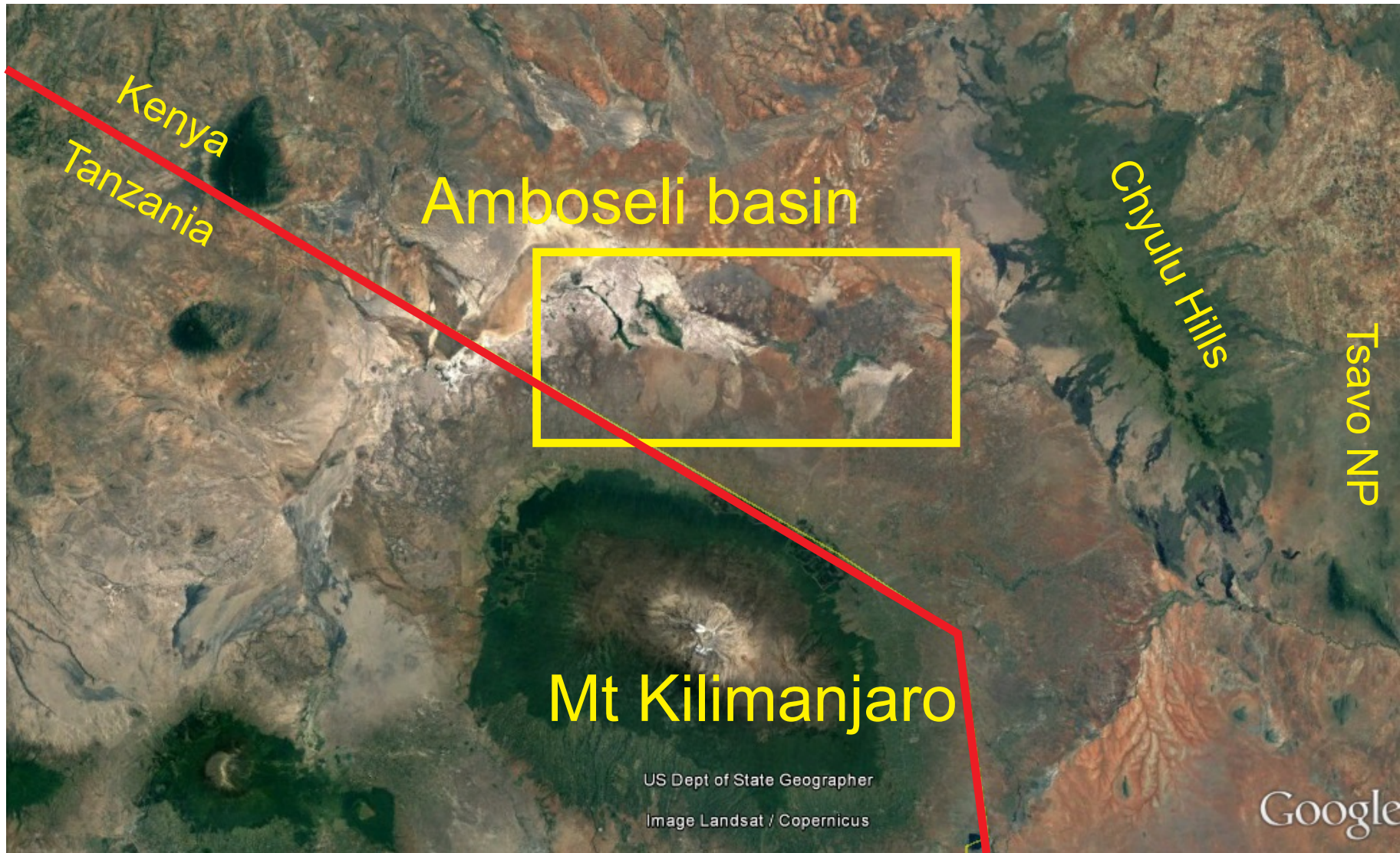


Fig2: Amboseli region, international border in red.

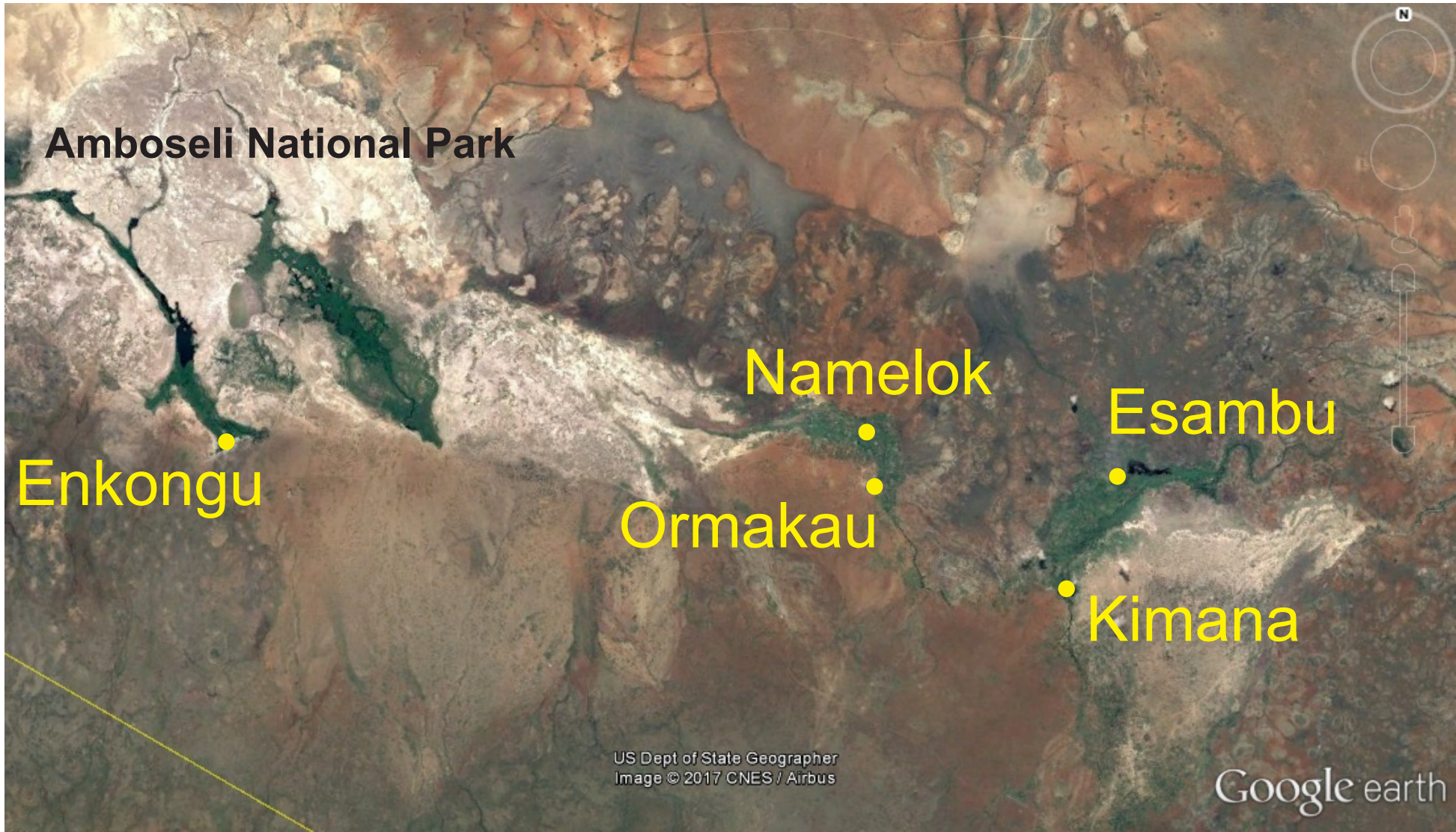


Fig3: Intermittent wetlands fed by springs and river channels.

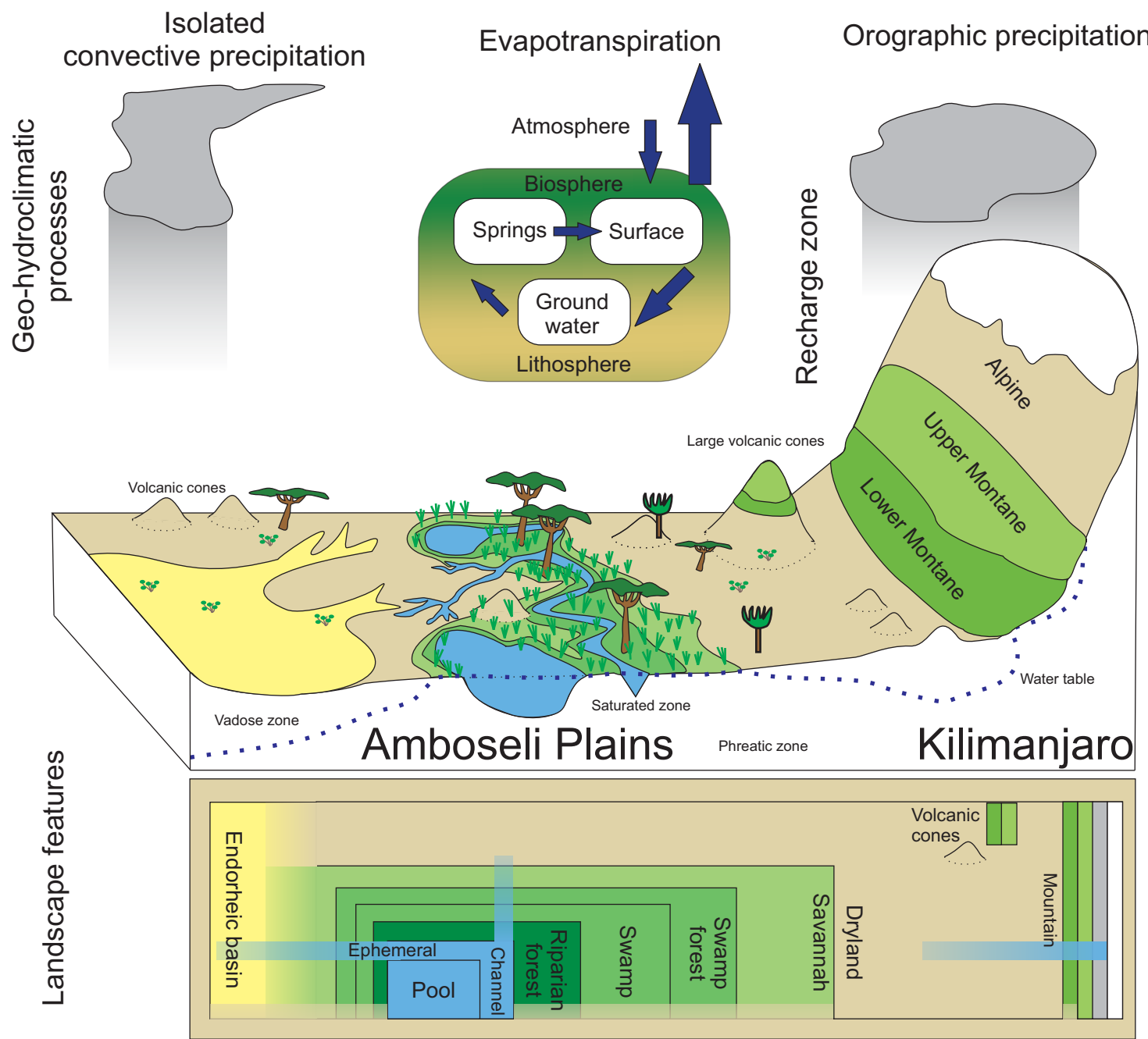
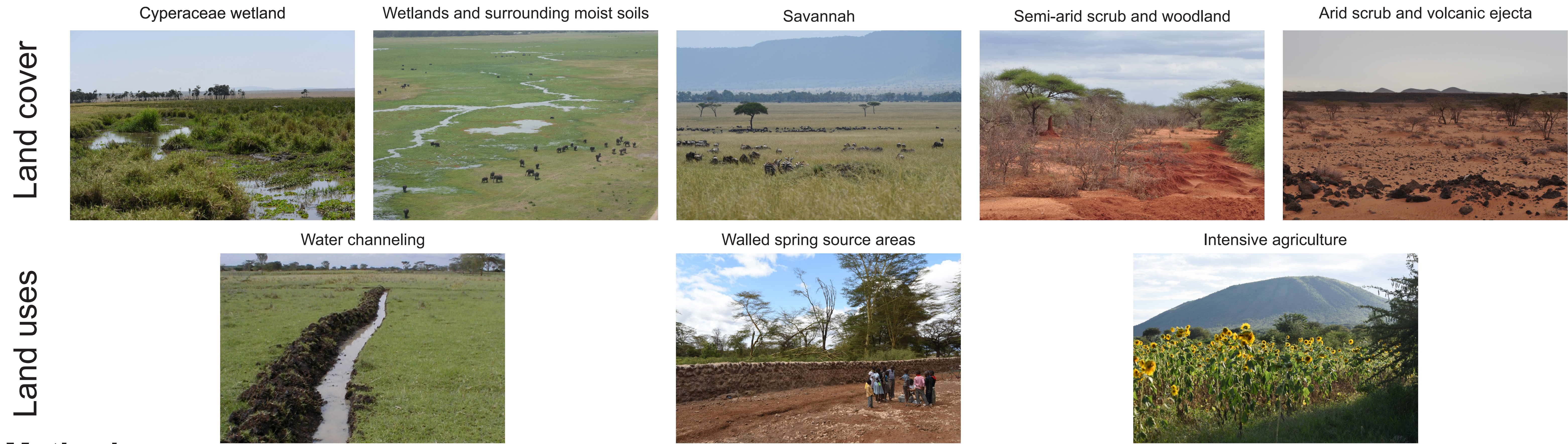


Fig4: Mt Kilimanjaro, the orographic water tower.

Introduction

Amboseli, near the Kenya-Tanzania border, is a relatively flat landscape, punctuated by volcanic cone fields and intermittent palustrine wetlands (**Figs1-3**). Water is primarily sourced from orographic precipitation on Mt Kilimanjaro that sustains the swamps (**Fig4**). Since the 1980s, the swamps have been increasingly converted to agriculture, except those in the National Park (**Fig3**). The wetlands are a critical link for wildlife and pastoralist corridors between national parks. Recent changes to precipitation on Mt Kilimanjaro and the impacts of occasional drought are a major threat to socio-ecological resilience.

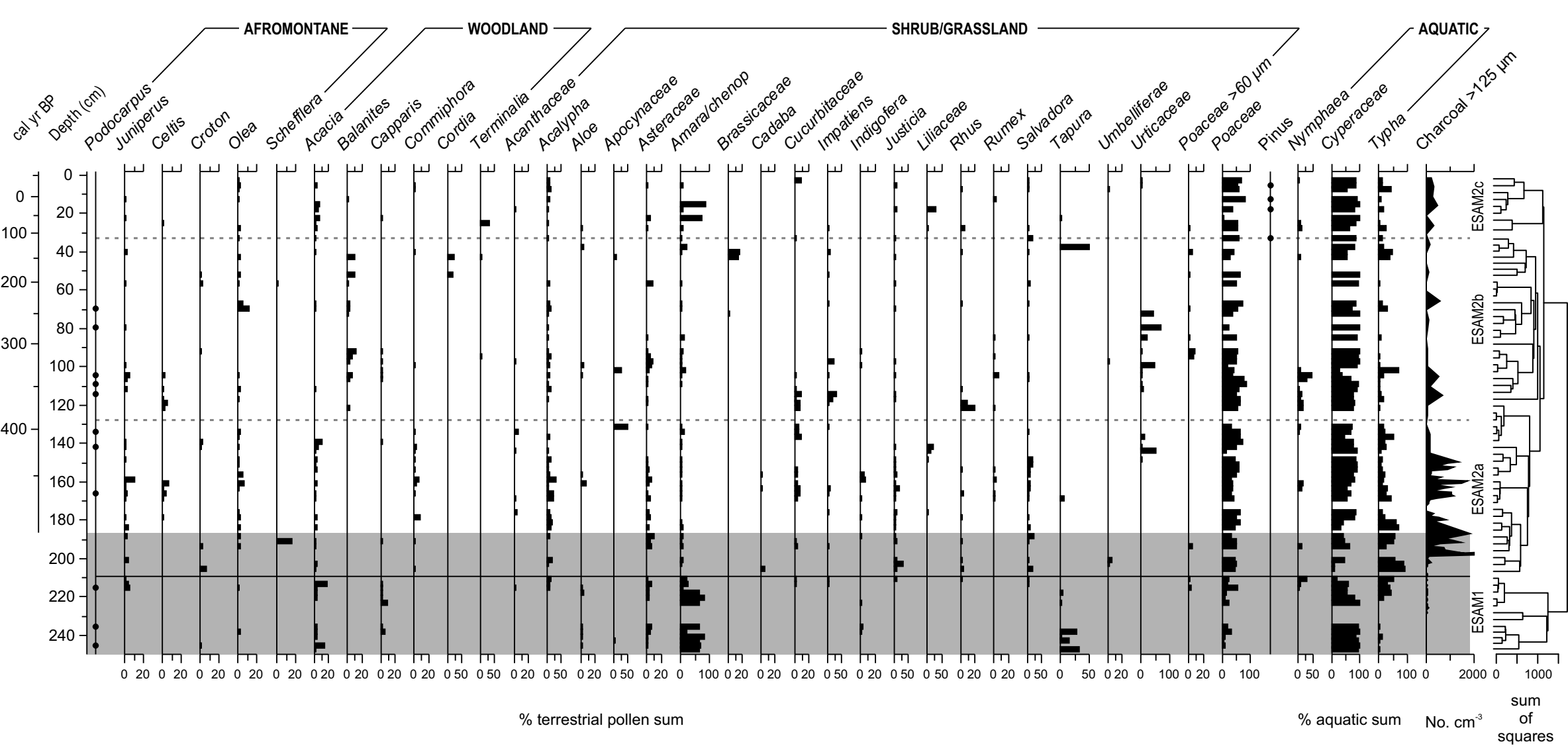


Methods

To examine long-term variability of the wetlands, we cored multiple sites using a Russian corer, and radiocarbon dated the stratigraphies. Pollen analysis and macrocharcoal has been completed on 5 sites.

Results and discussion

All coring sites dated <5000 cal yr BP, suggesting that their sediments have been accumulating since to termination of the African Humid Period. Pollen data show that woody compositions near the swamps varies spatially and temporally, evidence of the heterogeneity and complexity of the landscape. Archaeological evidence in the area suggests extensive hunter-gatherer livelihoods until the recent and unprecedented land use changes.



Esambu pollen record

Ongoing work continues to analyse the pollen and charcoal data alongside archaeological survey and pits across Amboseli.

Enkongu pollen record

