

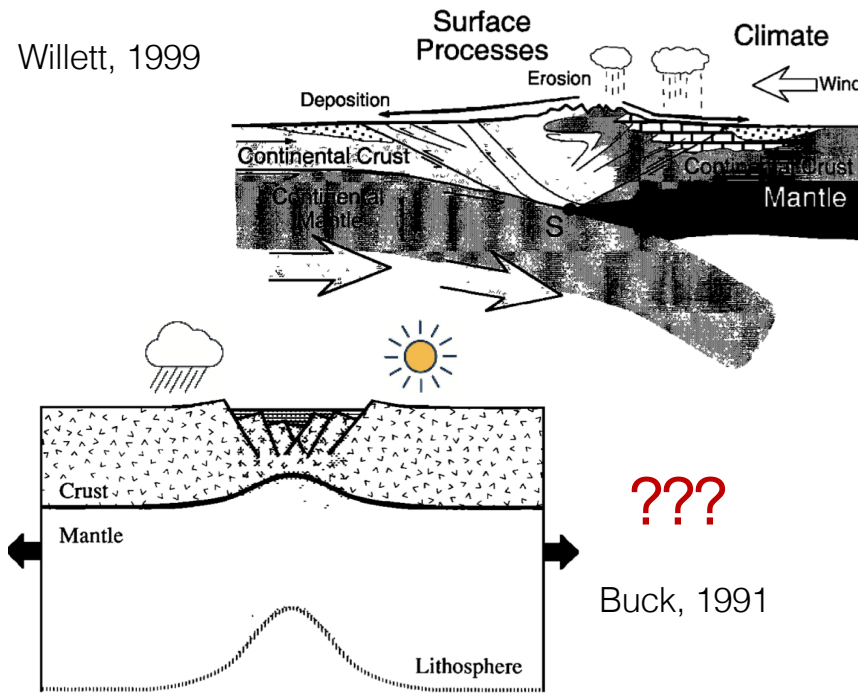
Mantle flow, orography and continental rifting

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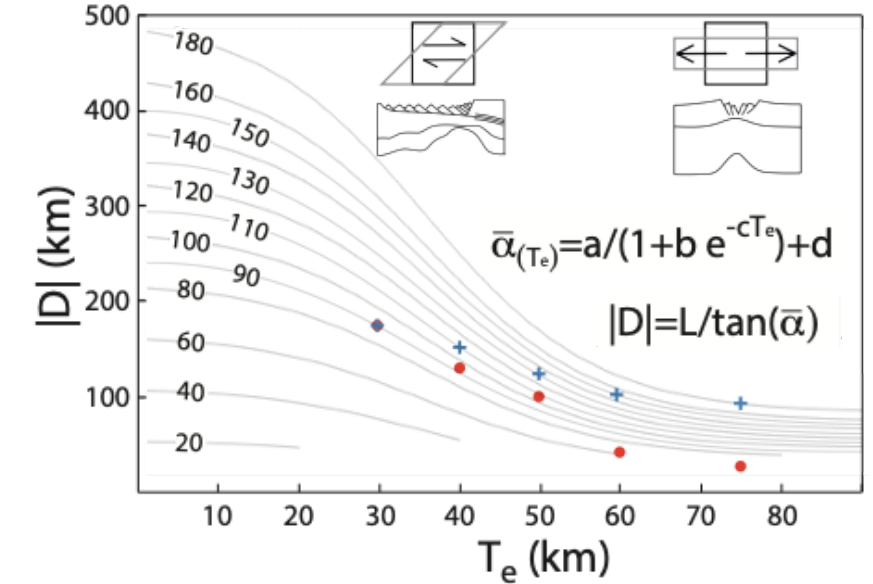
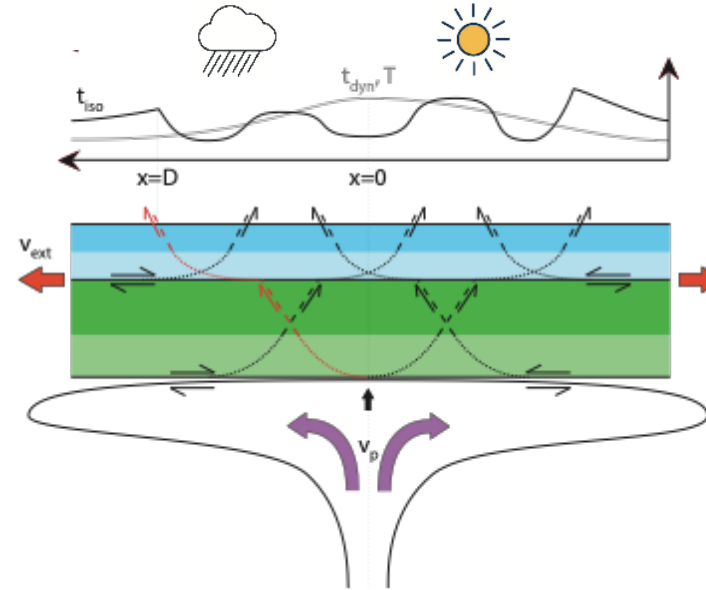
What if it rains on an active rift?

Willett, 1999



Buck, 1991

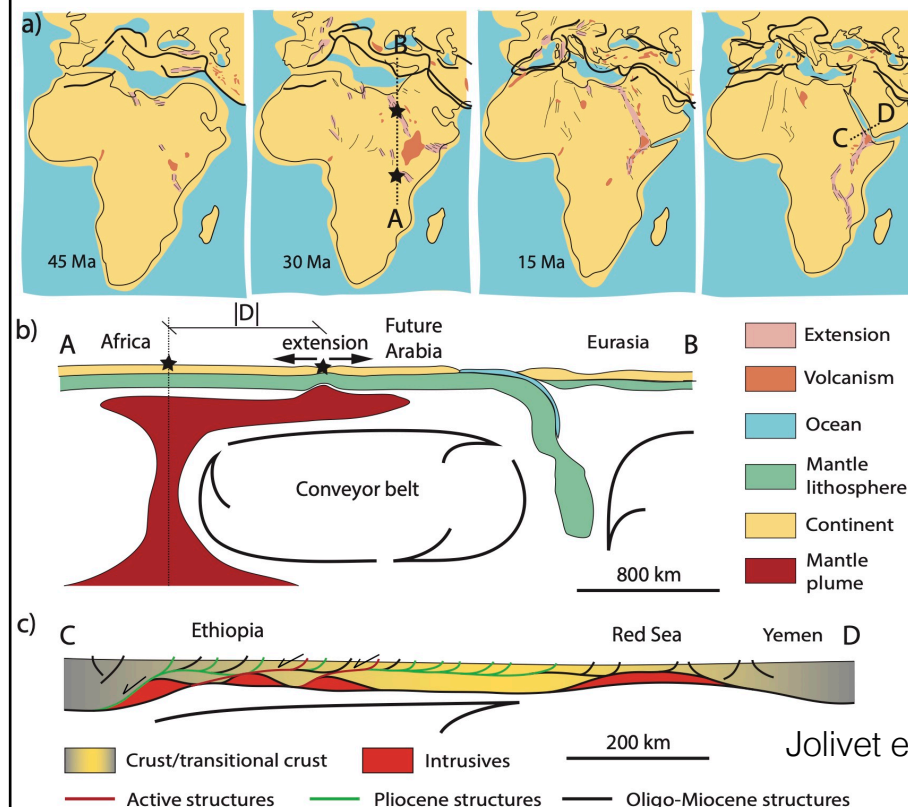
The Model: Analytical solution tested with a numerical thermo-mechanical model



- (1) Plume-induced basal shearing drives rupturing away from the plume axis
- (2) Orography promotes rupturing on the wetter and more eroded side of a rift

Discussion

Consistency with the East Africa rift system, showing (1) distal Oligocene lithosphere rupturing from the plume axis and (2) Neogene asymmetric precipitations, structures and topography



Jolivet et al, 2015

