

From Sea to Little Karoo: Tracking the paleo-landscape inhabited by the first modern humans

Exploring the coastal landscape evolution of the Agulhas Plain during the Middle Stone Age (120-50 ka).



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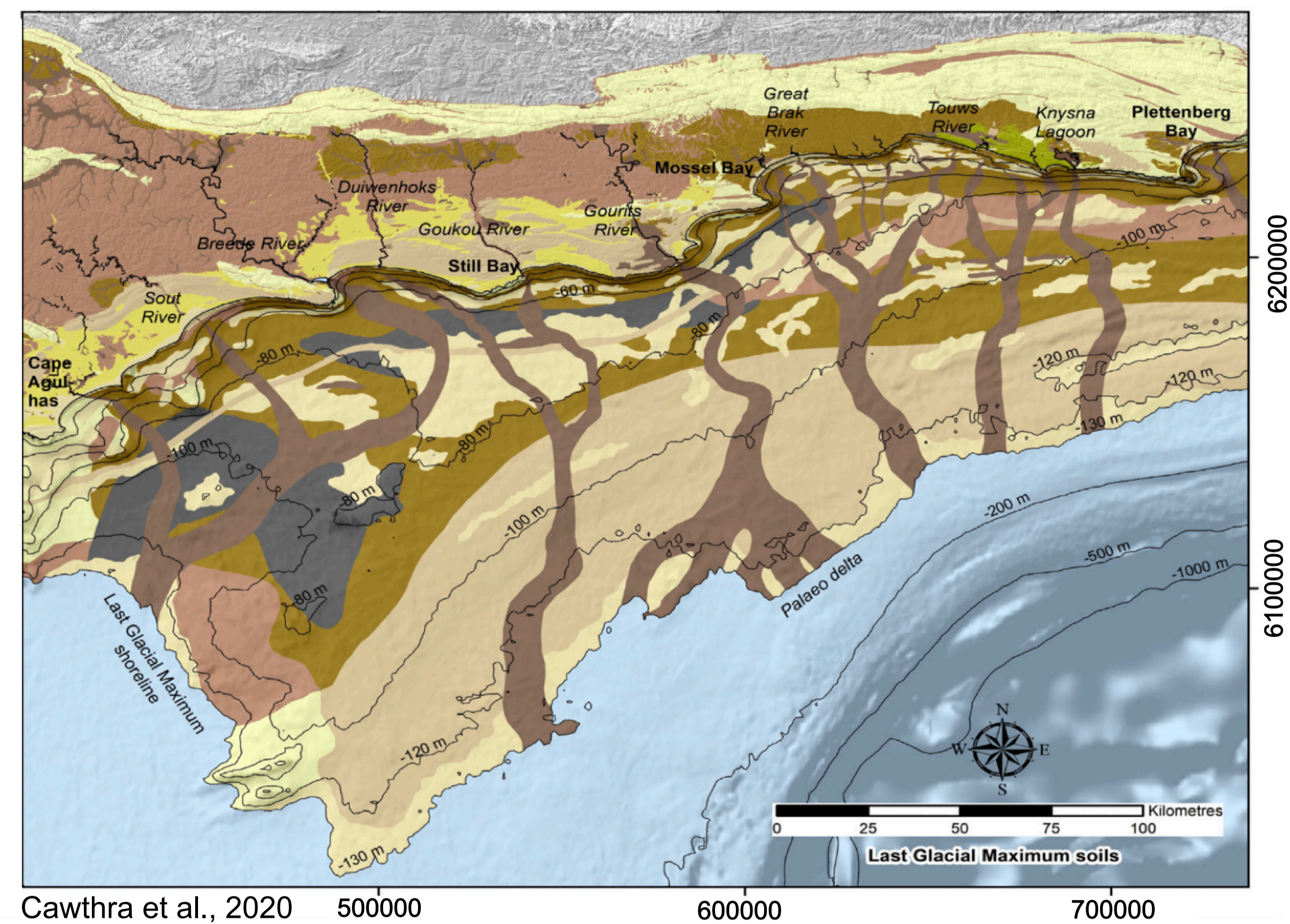
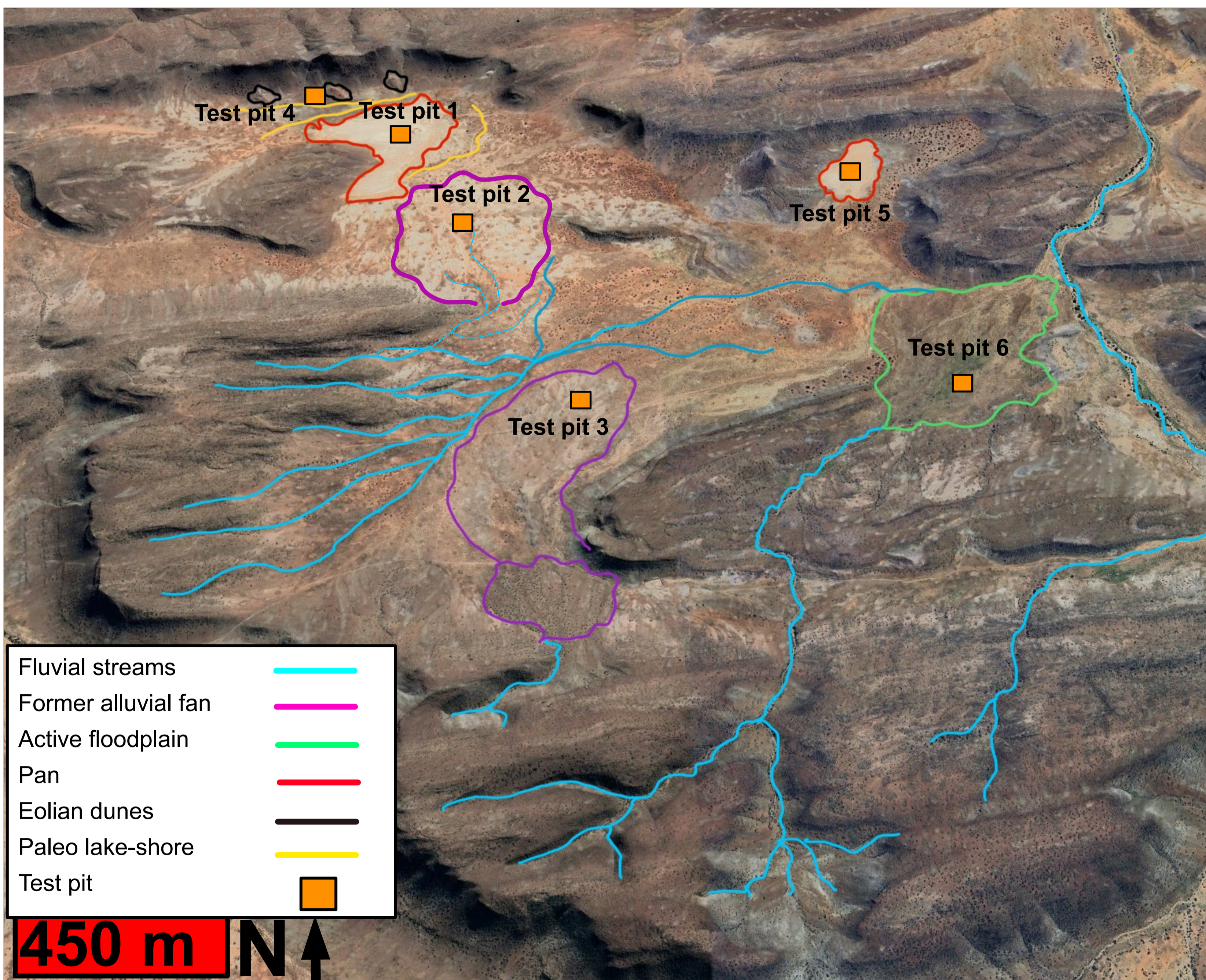
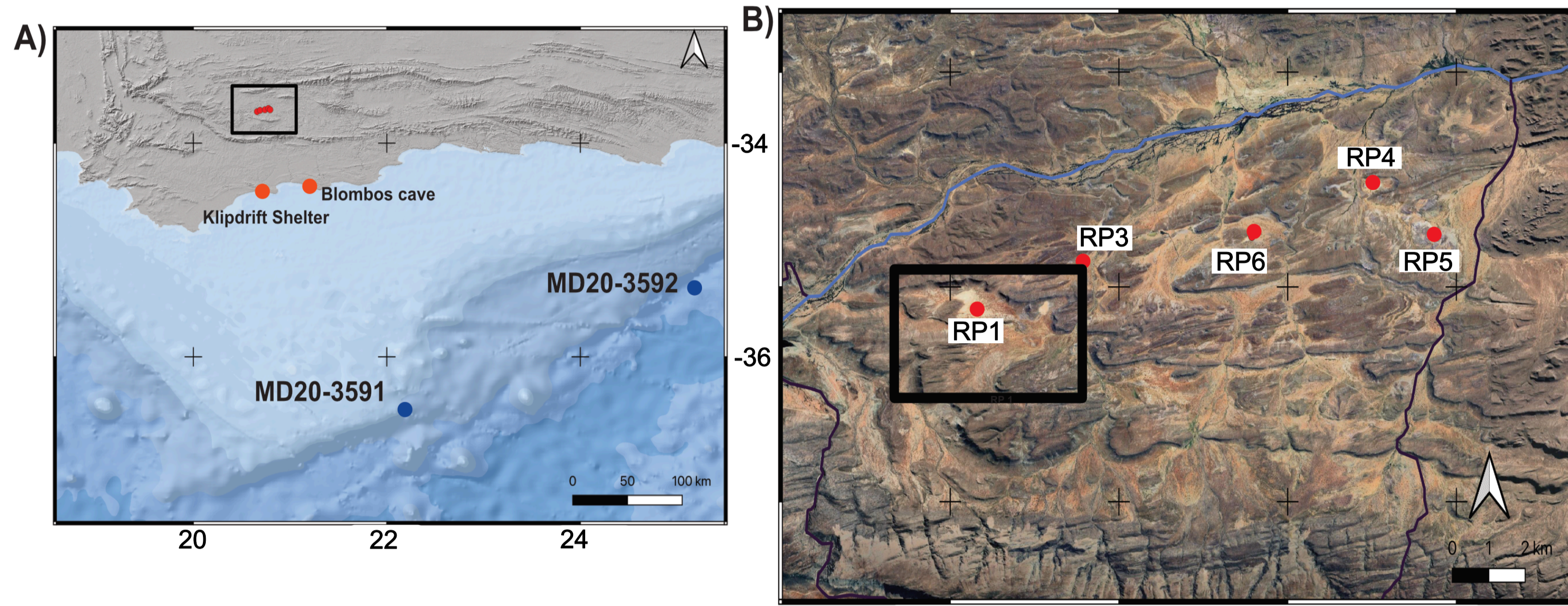
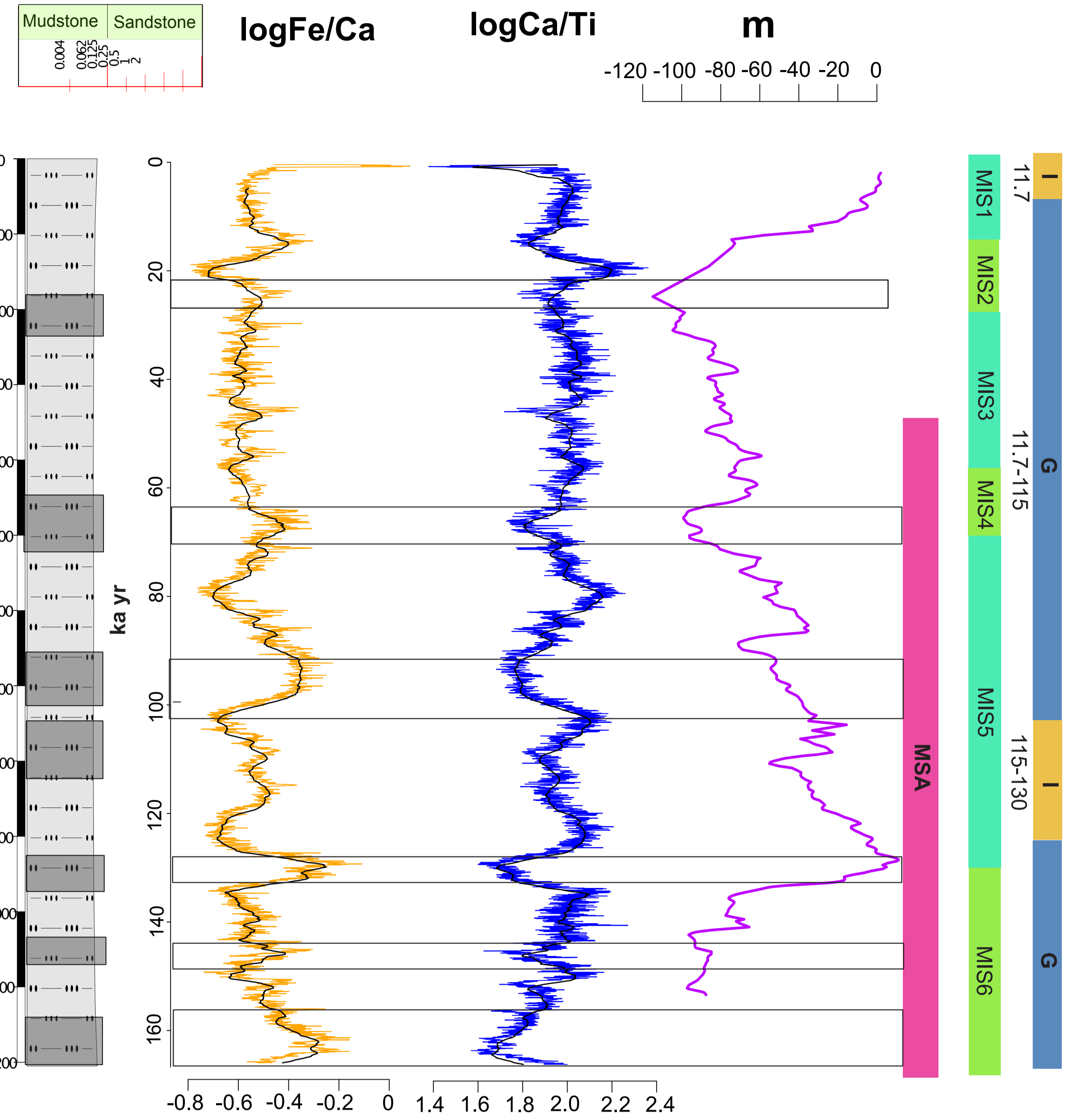
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Project description

In southern Africa, past climate conditions could play a relevant role in the evolution of anatomically modern humans and their dispersal through the continental interior during the Marine Isotope Stage (MIS) 5 (~71 ka) and MIS 4 (~71-57 ka) (Wroth et al., 2022). The southern Cape of South Africa has a rich Middle Stone Age human occupation record. This region has been strongly shaped by a series of sea level fluctuations resulting in multiple exposures of South Africa's continental shelf named the Agulhas Plain. Our work will explore the trigger mechanism of sea transgressive and regressive phases during the Middle Stone Age period (120-50 ka), its impact on the continental landscape features of the Agulhas Plain and its possible link with the human presence. Additionally, we will study the landscape evolution of the western Little Karoo, potentially employed as an inland dispersal corridor by hunter-gatherer groups.



Main questions

- Was the Agulhas Plain terrestrial landscape attractive to the establishment of diverse human groups during the Middle Stone Age (120-50 ka)?
- How was the landscape that our ancestors inhabited/visited in the Little Karoo?

Aims

- Study the main sedimentary and paleoclimatic mechanisms involved in the diverse sea transgression and regression phases during the Middle Stone Age (~120-50 ka)
- Study the possible relationship between landscape evolution, the generation of attractive terrestrial environments and human presence in the Agulhas Bank.
- Study the landscape evolution of the western Little Karoo, potentially inhabited by hunter-gatherer groups during MIS 5 and MIS 4 and employed as an inland dispersal corridor
- Study the main paleoclimatic drivers involved in the western little Karoo landscape evolution during MIS 5 and MIS 4.

Supervisory team

Professor Eystein Jansen
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Distinguished Professor, Evolutionary Studies Institute, University of the Witwatersrand, South Africa

Marine sustainability

Our study will provide valuable clues regarding the involved mechanisms that trigger sea transgressive-regressive phases. The produced data will be valuable to diverse global models that try to explain and predict sea level fluctuation and its possible human and economic impacts in highly populated coastal urban areas.



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