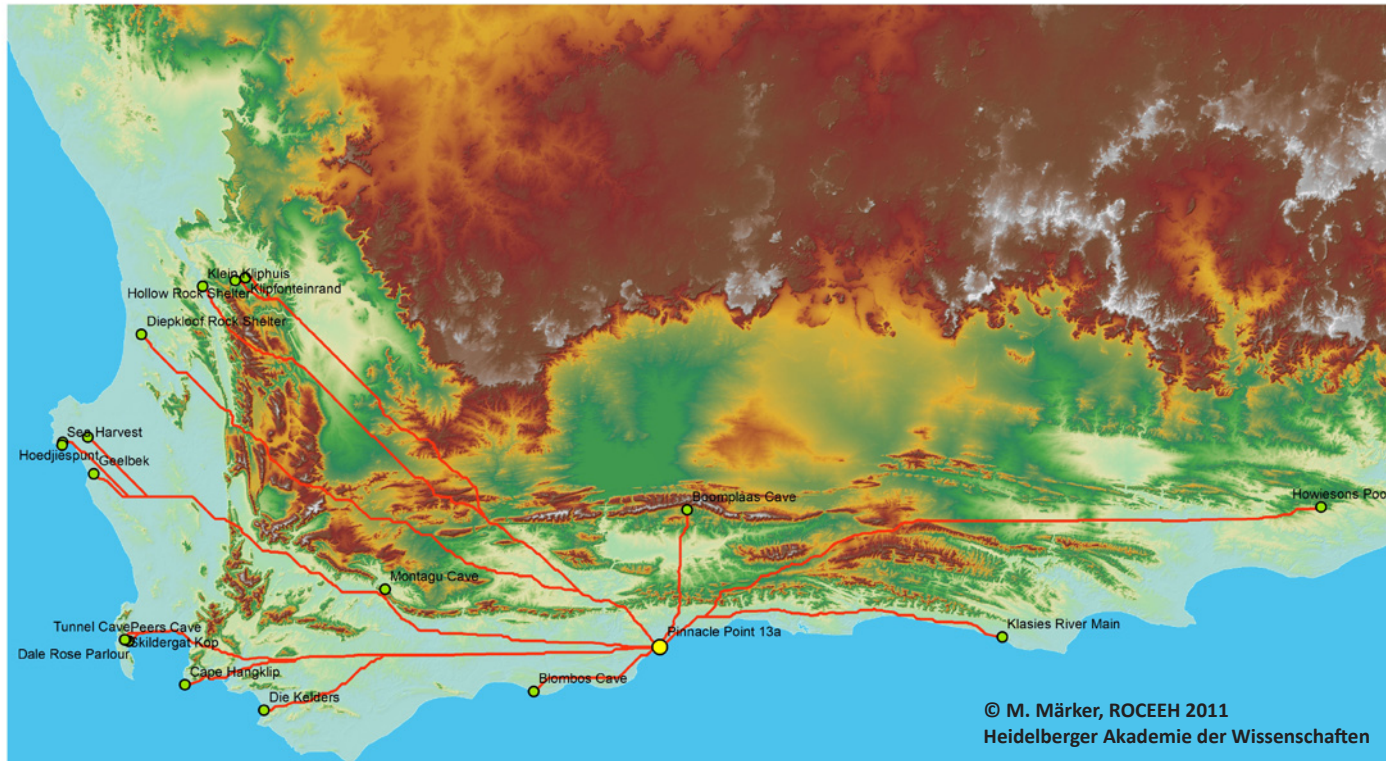




THE ROLE
OF CULTURE
IN EARLY
EXPANSIONS
OF HUMANS

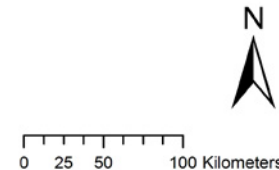
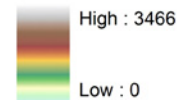
Assessment of MSA landscape connectivity using “Least Cost Path Analysis”



Topography based Least Cost Path Analysis

- Locations with Stillbay and Howison's Poort Industries
- Source Point
- Least Cost Path

DEM [m]
250m resolution



Using a GIS-based “Least Cost Path Analysis” we investigated the connectivity among find locations along South Africa’s coast that are classified as Middle Stone Age. The methodology identifies the “cheapest” way to get from one point to another using the least amount of effort. We defined Pinnacle Point as the starting point for this analysis because it represents one of the oldest MSA find locations in South Africa. From there, routes to other known MSA find locations showing similar industries were calculated, concentrating on the coastal areas of South Africa. The criteria defining landscape resistivity is based on topographic information. For the cost layer, we classified the slope into four categories: 0-5°, 5-10°, 10-15° and >15°.

The map shows the least cost-intensive ways to get from Pinnacle Point to the other find locations. The resulting pathways are influenced by the main geological structures such as the South African coastal mountain ranges that act as barriers. However, corridors can also be identified that indicate preferential pathways across these barriers, for example, by means of mountain passes. This preliminary analysis gives a first idea about the connectivity of MSA find locations.