

Lesson 1 – Researcher Q&A File to follow Lesson 1 Plenary

Key questions:

How extensive was glaciation in the Drakensberg Mountains?

Not fully known, and a subject of debate: evidence for glaciation is rare and much harder to detect in South Africa than in areas that were heavily glaciated during the Ice Age such as the British Isles. There has been ongoing debate for the last 40 years with some scientists thinking there were never glaciers in the Drakensberg, but now it is known that there were some small ones that formed in favourable locations in the high Drakensberg.

When were the glaciers present?

Probably during the Last Glacial Maximum, but there is scant field evidence that has actually been dated – an important part of this research project is to improve our knowledge of the timing of glaciation in the Drakensberg.

Why is it important to identify glacial and periglacial features in southern Africa?

Both glacial and periglacial features require certain, well known climate conditions in order to form: therefore by finding such features in the landscape, we have a way of estimating what the climate was like in the area at the time that the features were formed. It will improve our understanding of southern African climate over the long term.

What is the wider relevance of this research for our understanding of climate change?

It seems likely that the climate of the Drakensberg is closely tied to the pattern of ocean circulation and sea surface temperatures off the South African coast. This research will help to test this idea by comparing the timing of glaciation in the Drakensberg with changes in this ocean circulation – namely the strength of the Agulhas Current. The Agulhas Current itself is also linked to the system of ocean currents in the Atlantic Ocean. A fascinating idea is that a strengthening of the Agulhas Current also strengthens the Atlantic Ocean currents that transport warm waters up to the North Atlantic in the vicinity of Europe. Some scientists have suggested that the Agulhas Current may hold one of the keys to explaining how times of peak glaciations worldwide come to an end. In general, a better understanding of how ocean currents affect climate is also crucial for improving our ability to predict future changes that might occur due to global warming.