

## CHAPTER 7

### CONCLUSION & RECOMMENDATIONS

#### 7.1 Conclusion & recommendations

This study provides several high resolution chronologies for the southern Cape (as presented in Chapter 6). A discontinuous record of environmental change, dated from *c.* 3-50 ka comes from the Bloukrantz Cave (see Chapter 5 & 6). The stable isotope chronology from Kaisers Gat II is dated between *c.* 100-115 ka (see Chapter 6). Additionally, the results from this study contribute to a presently limited southern Cape terrestrial proxy database (Table 7.1).

**Table 7.1** Published speleothem derived proxy records covering the southern Cape

	Location	Time period (ka)
Talma and Vogel (1992)	Cango Caves, Oudtshoorn	<i>c.</i> 47 ka BP
Bar-Matthews <i>et al.</i> (2008, 2010)	Crevice Cave, Pinnacle Point, Mossel Bay	90-53 ka
Vogel (2001)	Klasies River Mouth, Tsitsikamma	65.6 ka on calcite crust from the Howiesons Poort layers <i>c.</i> 100.8 -77.4 ka from MSA II <i>c.</i> 108.6 MSA II and underlying LBS layer
<b>This study</b>	<b>De Hoop Nature Reserve, Overberg</b>	<i>c.</i> 3.5-50 ka (with a hiatus from <i>c.</i> 45 ka) & <i>c.</i> 100-115 ka

Based on the results from this study, it appears that climatic change in the region was triggered by glacial-interglacial shifts related to the components of the ocean and atmospheric circulation, more specifically, the position of the Subtropical Convergence and changes in the Indian Ocean seawater temperatures.

Variations in these climatic variables also influenced the vegetation and precipitation dynamics along the southern Cape coast, which in turn had knock-on effects with regards to the distribution of terrestrial fauna and marine communities in the region. Further investigation is needed to determine the extent to which

fluxes in these climatic variables influenced the behaviour of palaeopopulations in other regions of the Cape. This includes Pinnacle Point where the Mossel Bay Archaeology Project (MAP) is being conducted under the directorship of Dr. Curtis Marean.

Given the time period covered by the Kaisers Gat II and Bloukrantz Cave records, it seems likely that De Hoop contains suitable speleothem deposits spanning the Still Bay, Howiesons Poort and post-Howiesons Poort. However, based on the present experience, potential samples should be selected with great scrutiny; and only compact and densely crystalline samples chosen for analysis. The Bloukrantz Cave sample (*Blou1*) also warrants further investigation as additional dates, particularly from the base of the stalagmite, may potentially extend to the Still Bay period.