

GEACEP – GREENHOUSE TO ICE-HOUSE EVOLUTION OF THE ANTARCTIC CRYOSPHERE AND PALAEOENVIRONMENT

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The programme GEACEP (Greenhouse to ice-house evolution of the Antarctic cryosphere and palaeoenvironment) investigates the relationship between the evolution of Antarctic ice and the changing global environment over the last 30 million years. The programme has three main objectives:

- (a) investigate the dynamics of past warm intervals
- (b) investigate the complex forcing and feedback mechanism associated with the initiation of Antarctic glaciation ~ 30 million years ago
- (c) examine the stability of the ice-house world during the Neogene (Miocene and Pliocene)

This is being achieved through collecting and combining geological data and developing computer models of the Earth as an integrated system. GEACEP will assemble Tertiary reference records from southern high latitudes and a representative number of sites worldwide. The results will be compared with the outputs of numerical climate models to improve the ability of these models to reproduce past large-scale changes. This will improve our ability to predict future climatic change. Our poster will present the initial results from year 1 of the 5-year programme.