

April 2010

Climate change - implications for geotourism and biodiversity conservation in the caves of southwest Western Australia

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Eberhard, Stefan, "Climate change - implications for geotourism and biodiversity conservation in the caves of southwest Western Australia" (2010). *KIP Abstracts* . 4.
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Abstract submitted to 2nd Global Geotourism Conference 2010, Mulu World Heritage Area, Sarawak, Malaysia, 17-20 April 2010.

Climate Change - Implications for geotourism and biodiversity conservation in the caves of southwest Western Australia.

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Based on a study of caves in southwest Western Australia, this presentation explores the form-process linkages between geology, hydrology and ecology (eco-hydrogeology), and their relationships with climate. This case study demonstrated the impacts and ongoing threat that climate change poses to geo-processes and biodiversity, which has implications for geo/ecotourism globally.

Cave geotourism has been practised in southwest Western Australia for more than 100 years. One of the major attractions for visitors to these caves is their spectacular underground lakes and streams. The cave lakes and streams also harbor a rich biodiversity of endemic cave dwelling fauna.

Because of a drying climate trend experienced over the last three decades, many of the cave water bodies have dried up. This has seriously diminished the visual appeal of the caves, and, endangered the survival of the aquatic cave fauna communities. Climate modelling predicts that the reduced rainfall trend in this region is likely to persist in the longer term.

Existing impacts to the eco-hydrogeology and tourism values of the caves are described along with future implications. Adaptive management strategies are aimed at ameliorating impacts, while maintaining natural and tourism values, so far as practicable, in the face of human-influenced climate change.