



## **Control of Mean Sea Level Change by Net Oceanic Evaporation during Greenhouse Warming**

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The dynamics of the coupled atmosphere-ocean-ice global system have been investigated using a one-dimensional analytical model, which takes account of the embedding of the greenhouse warming event in the glacial-interglacial environment. In a short period warming, occurring on a time scale much less than the geological time scales set by the dynamics of the Antarctic ice cap and the northern hemisphere ice fields, it is shown that the net oceanic evaporation anomaly is the main control on the mean sea level signal. It is also shown that the likely impact of the strength of the anthropogenic warming, will be to increase sea surface temperatures, and hence net evaporation, sufficiently to cause mean sea level to fall at an almost uniform rate after the maximum transient atmospheric heating has been achieved. The results of the one-dimensional model will be compared with results of a 3-dimensional model.