

Sensitivity of the Earth's Climate in the tropics and subtropics during the last glacial period

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The sensitivity of the Earth's climate during the last glacial period, in particular in the tropics and subtropics is still subject to debate and has always been one of key interests in Wally Broecker's research. The first comprehensive compilations of the global temperature distribution during the last glacial period was dominated by paleoceanographic reconstruction by CLIMAP which showed only a small temperature drop in low latitudes, and warming in the subtropics. This finding stood in contrast to continental reconstructions based on snowline and pollen reconstructions which showed much larger temperature depression. Climate modeling efforts using CLIMAP SSTs also did not produce enough cooling to match the data. Since then a lot more data have been collected and different lines of evidence seem to converge and indicate a significantly larger sensitivity of Earth's climate than initially thought. We will review the state of the art of the field, forcings and feedbacks, and the gaps in our current understanding