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How vegetation change contribute to polar amplification in warm climate?

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In projections of future global change induced by CO_2 emission using general circulation models (GCMs), globally averaged surface air temperature increase is ranged between at the end of 21st century range from 2K to 4.5K, even higher in the high latitudes, known as the 'polar amplification'. We investigated the contribution of vegetation change to global warming and polar amplification in elevated atmospheric CO_2 condition and orbit-induced condition using an atmosphere-ocean-vegetation coupled GCM. Paleo-evidences indicate that mid-Holocene (6ka) and the last inter glacial (125ka) were warmer and more humid than present-day, caused by a different shortwave radiation pattern which corresponds to earth's orbit at that time. For example, annual averaged temperature over northern hemisphere continent is about 2K warmer in 6ka than that of today. By comparing the role of CO_2 and orbital elements, we suggest difference mechanisms of vegetation feedback to the atmosphere in these two kinds of warming experiments.