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氷期気候系における局所エネルギー収支

Local energetics of the glacial climate using an AOGCM simulation

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Transient and stationary eddy energetics in the glacial climate is investigated using the MIROC model (CCSR/NIES/FRCGC coupled model) simulation of the Last Glacial Maximum (LGM).
There is a clear contrast between the Atlantic and Pacific regions in response of eddy kinetic energy (KE) and energy interactions with mean fields when compared with the present-day simulation.
Generation of zonal available potential energy (APE) generally increases in the Arctic regions. Such the increments of zonal APE are mainly converted to the stationary eddy APE over the east coast of the North American continent.
Energy interactions between mean fields and transient eddies also increase over the Atlantic regions but seem to slightly decrease over the West Pacific.
The transient eddy KE, however, dose not so change compered to the present-day simulation as the global mean.
Fluxes related to the energy conversions between mean and eddy fields capture such the local properties well.

キーワード:気候システム,古気候,結合モデルシミュレーション

Keywords: climate system, paleoclimate, AOGCM simulation