Tug of War on summertime circulation response to global warming.

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Summertime circulation dominated by changes in radiative forcing

Summertime Asia - jet in tropics - bifurcation.
Atl/Pacific - northerly displacement

Asian monsoon low in summer 925 ψ^*

Summertime - max insolation.
Thermal inertia, land-sea contrasts.
$S_b = c_p \ln \theta_e$ - moist entropy.

Thermal gradients + friction → low level convergence → upper level divergence → rotational flow at upper levels → stationary Rossby wave

July - May representing increasing insolation.
Anomalous eastward flow over Pacific
Poleward shift over Pacific

Sept - Apr - decreasing insolation
Pacific equatorward shift.

Eddy streamfunction response affects momentum and moisture transports consistent with QG.

Response to increasing CO_2.

Land warming - poleward jet shift.
SST warming - equatorward jet shift.

Deser and Phillips 2009 - decomposition of recent trends, ~~future response of~~ tropical arc.

Pacific Jet position is not changing since there is no change in the gradient of moist energy and land thermal-inertia.