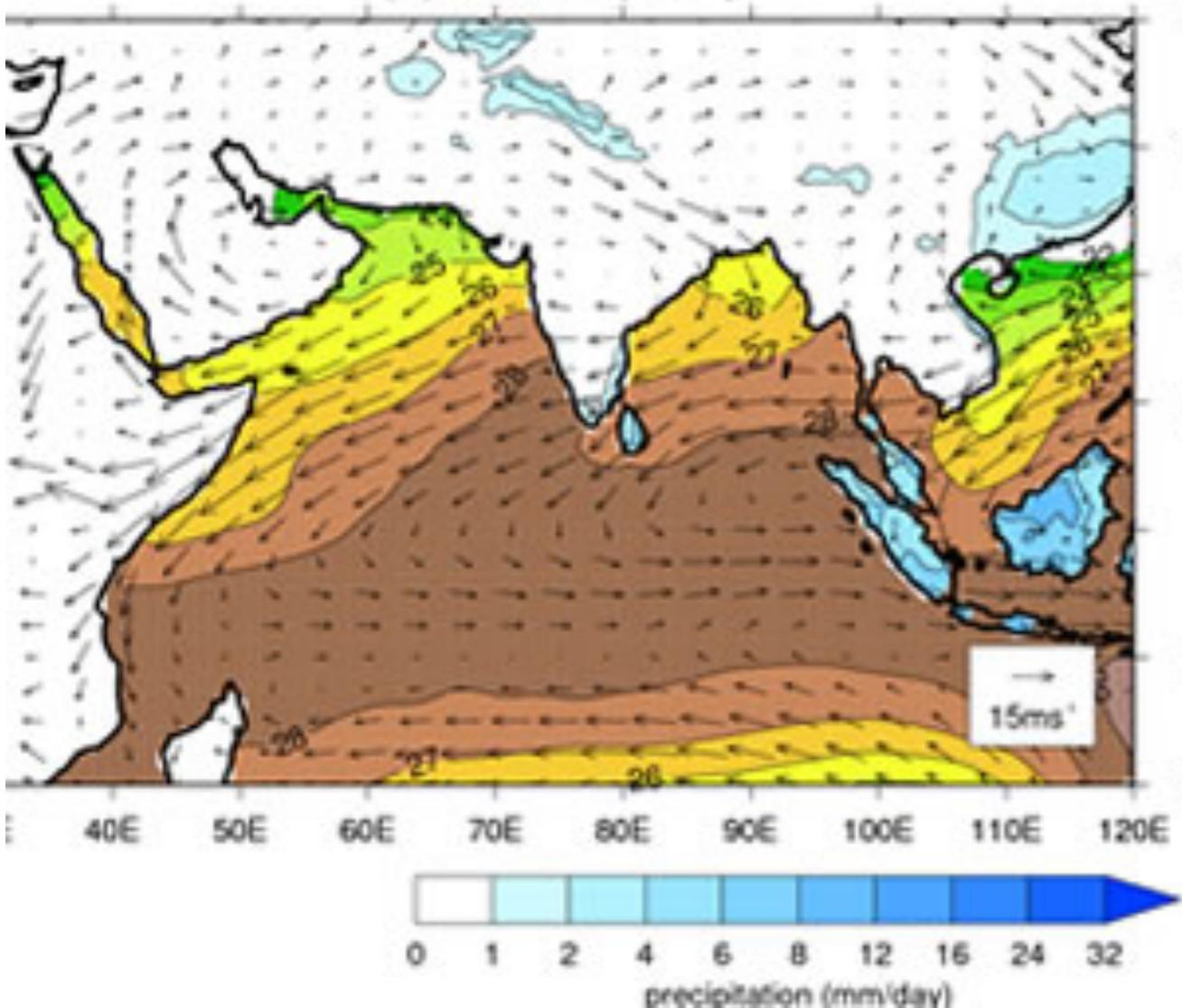
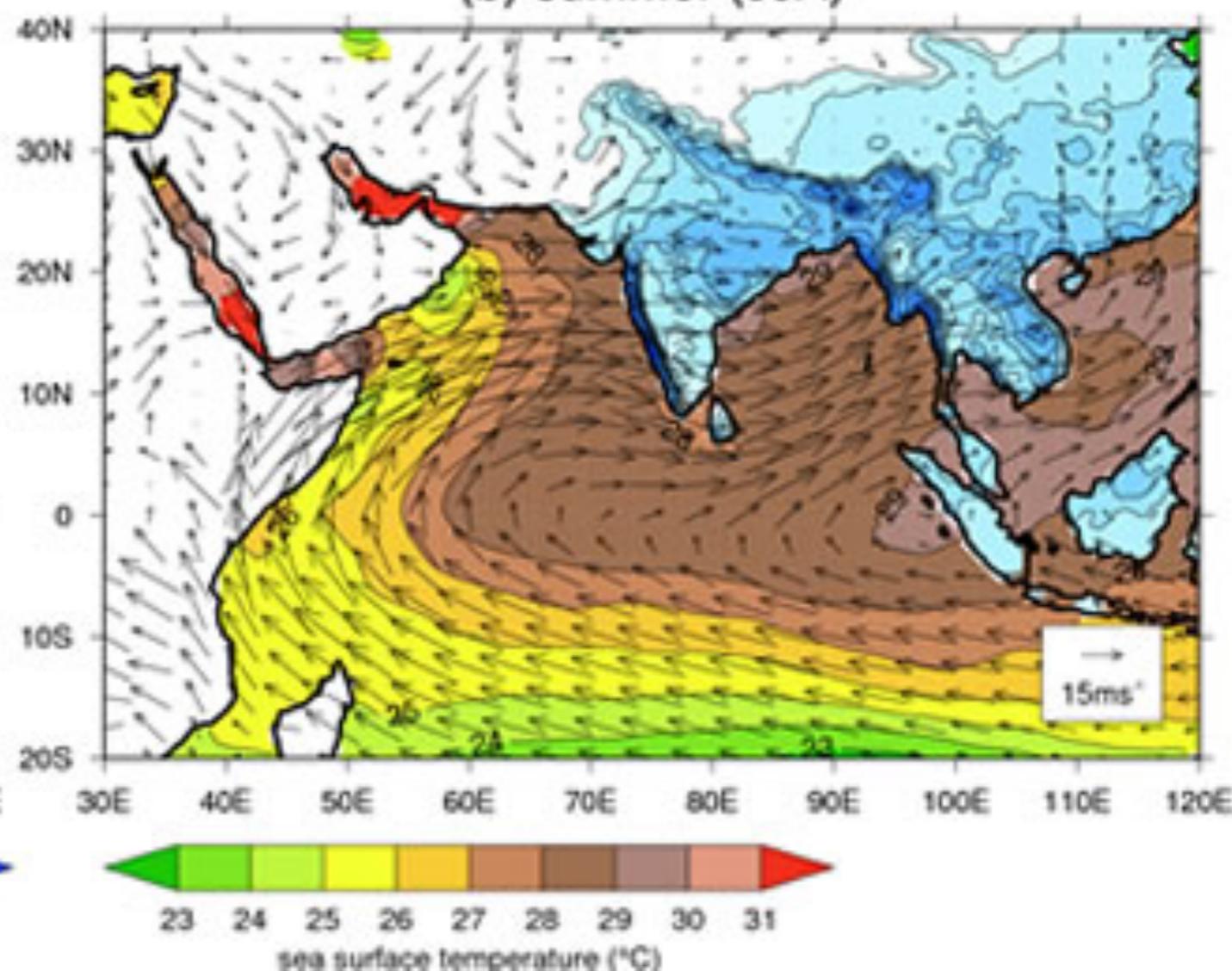


Indian Monsoon

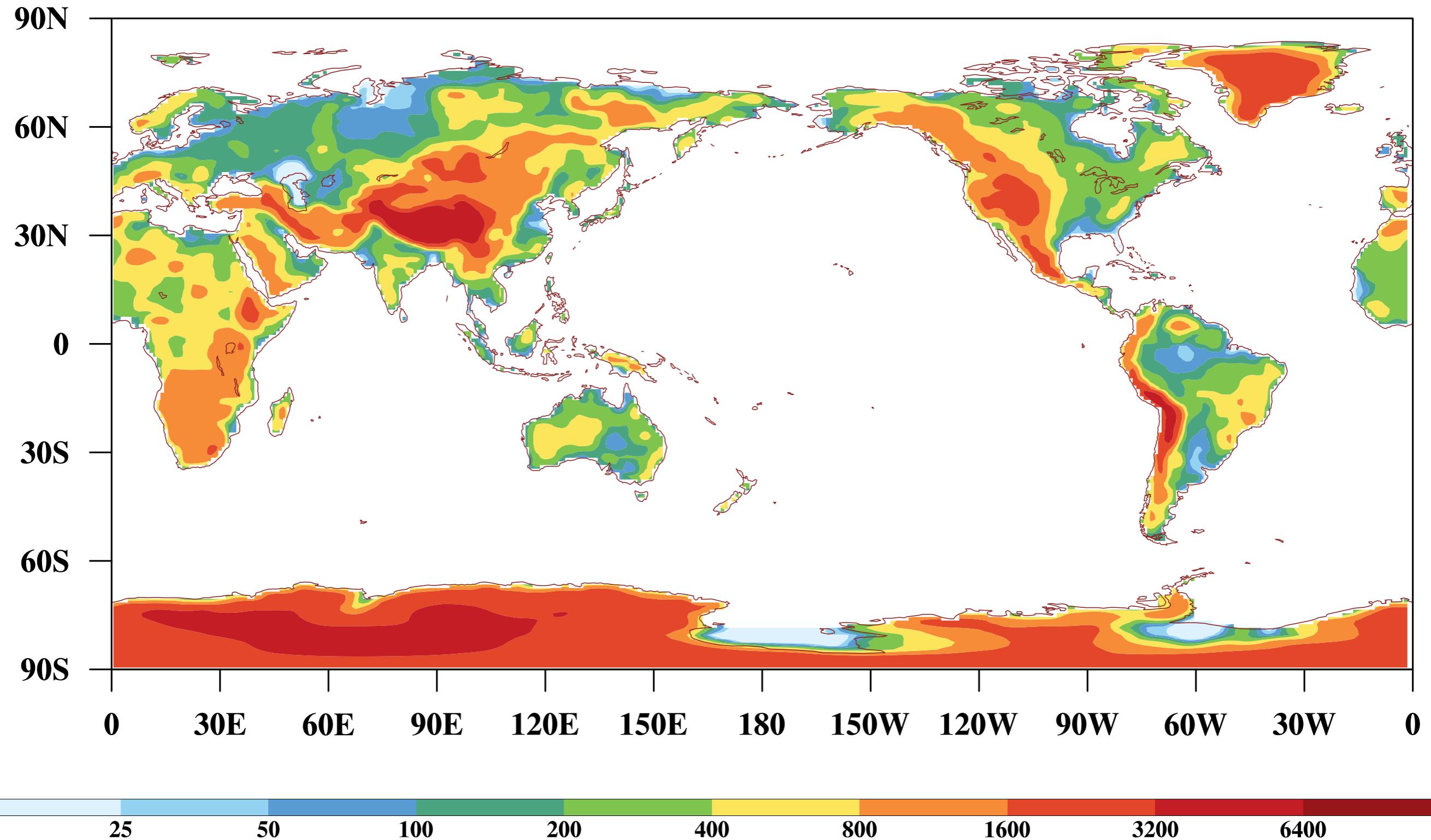
(a) winter (DJF)



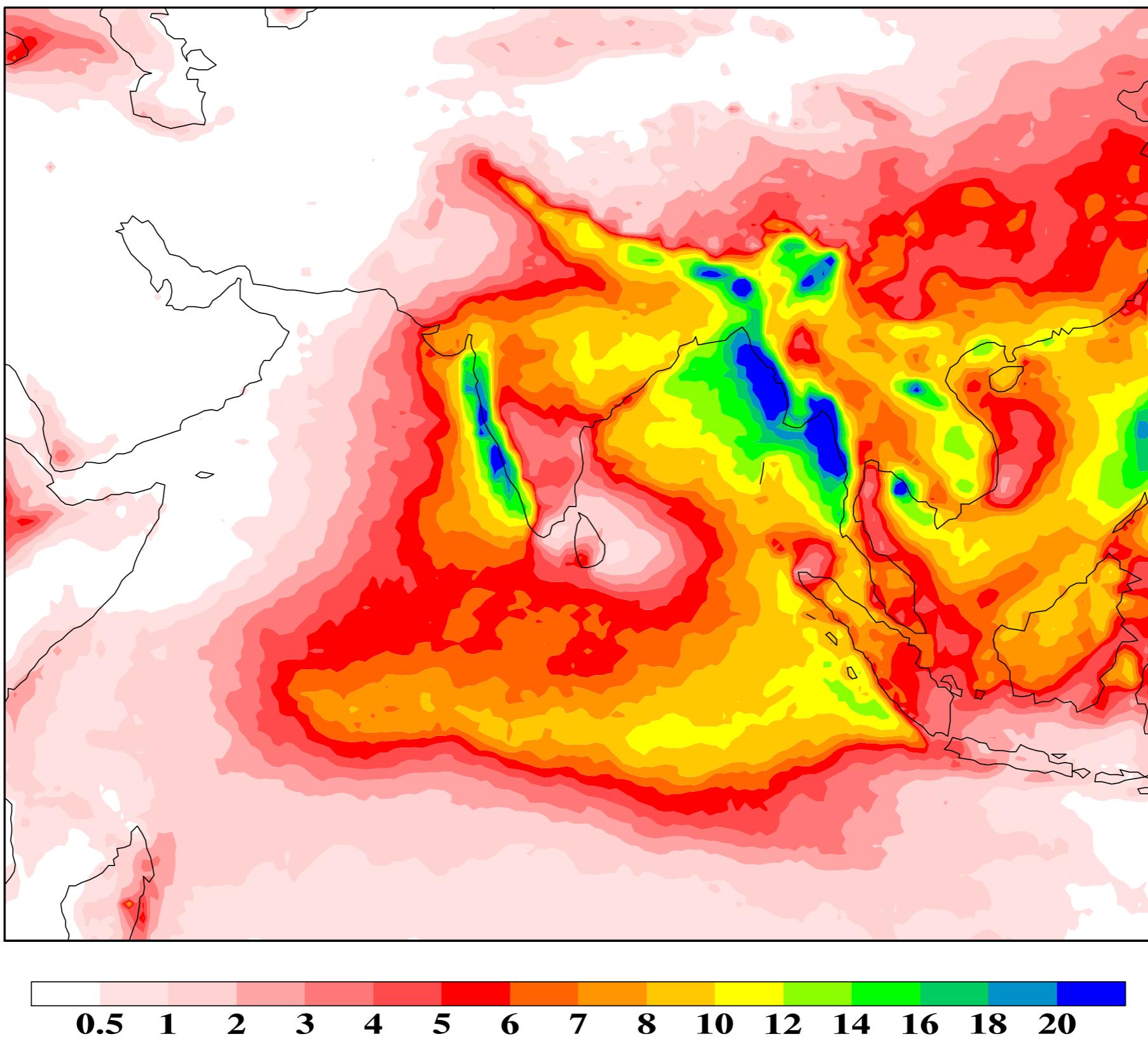
(b) summer (JJA)



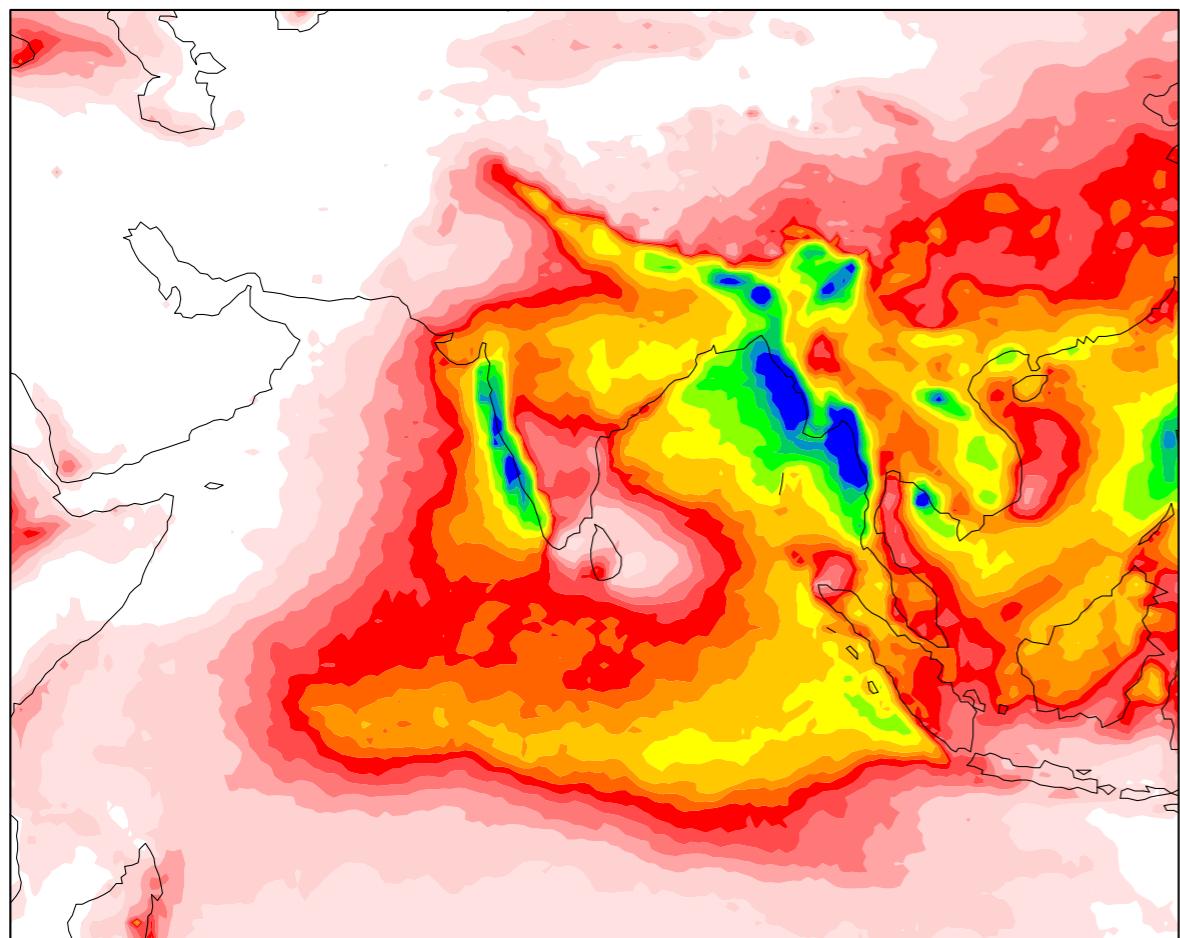
Surface Elevation



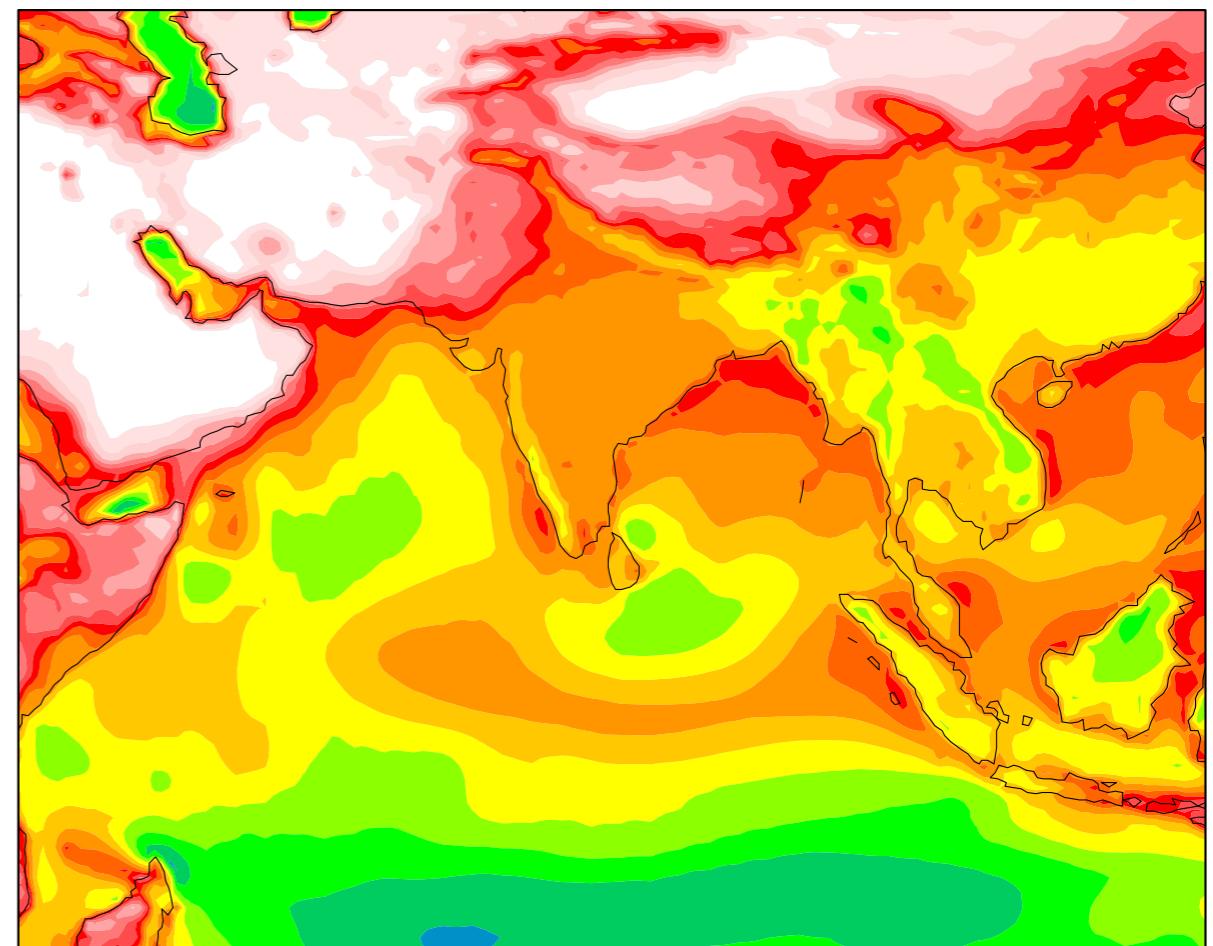
PRECT (TRMM)



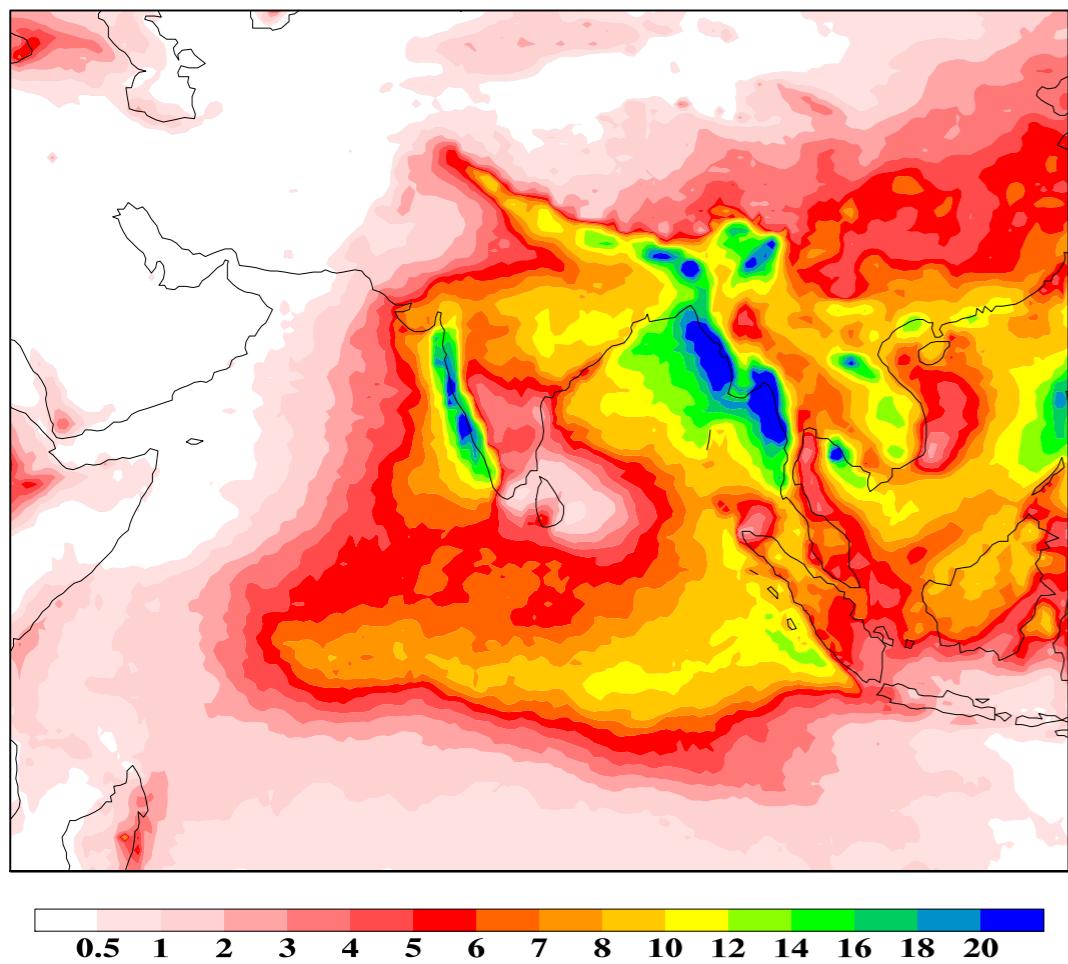
PRECT (TRMM)



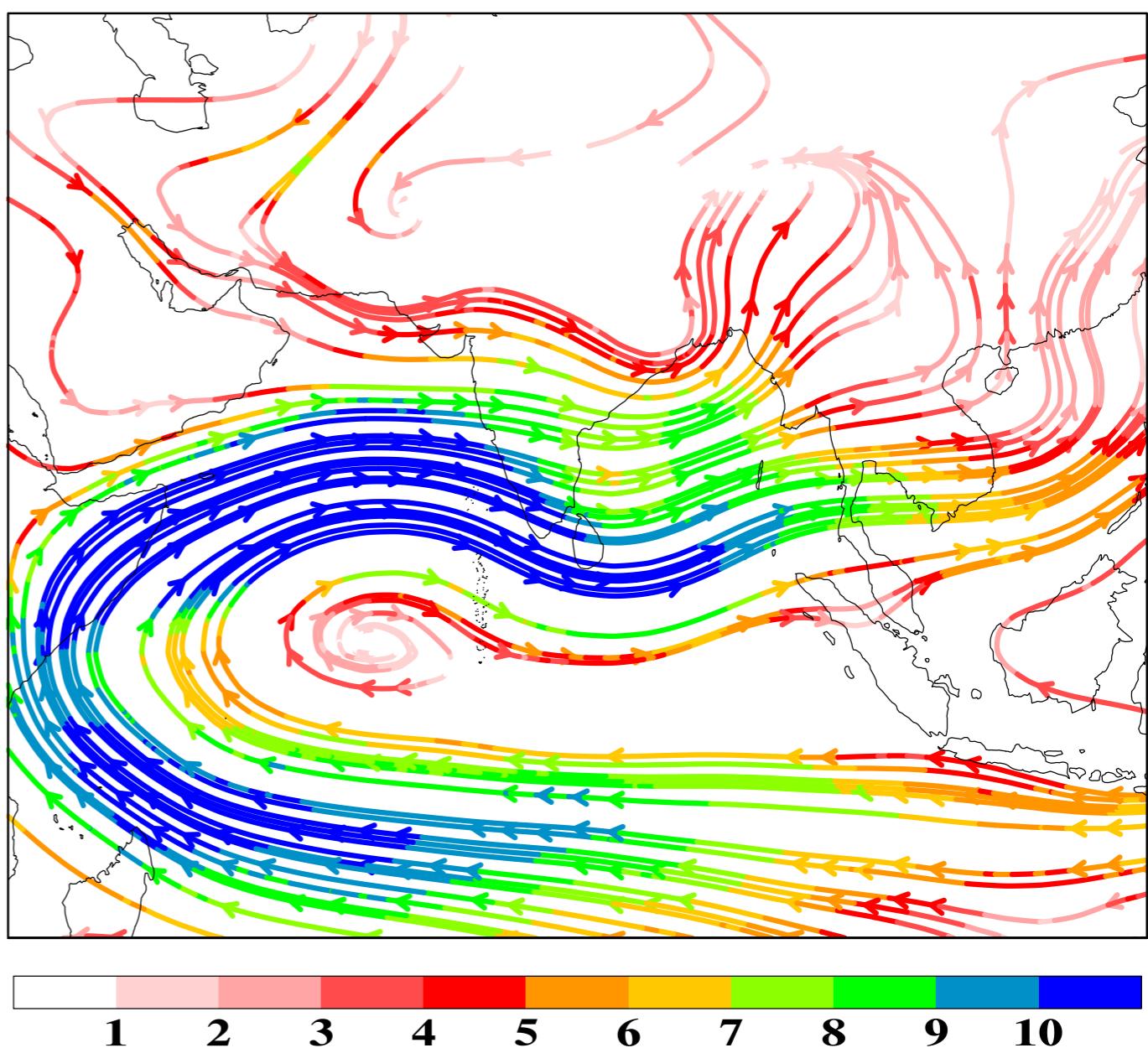
EVAP (MERRA)



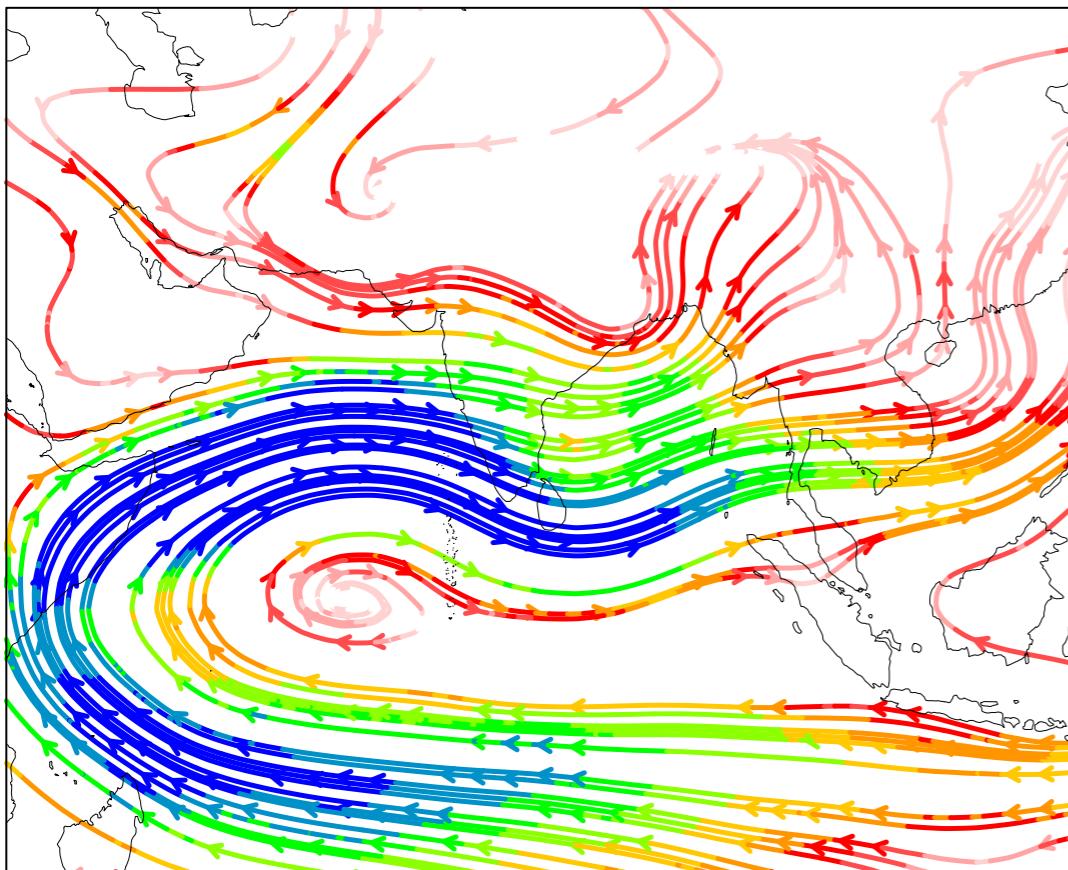
PRECT (TRMM)



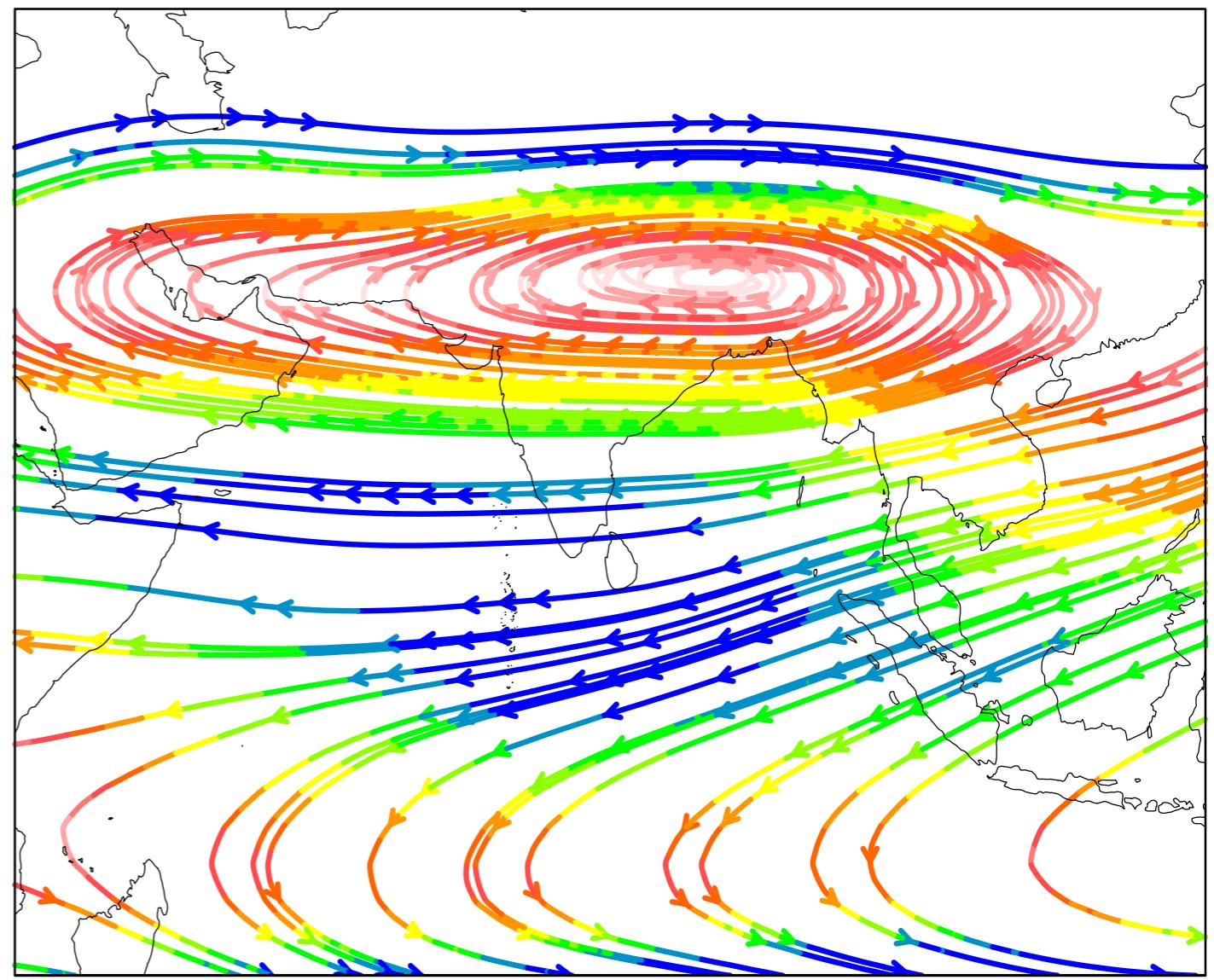
Streamlines 850hPa (NCEP)

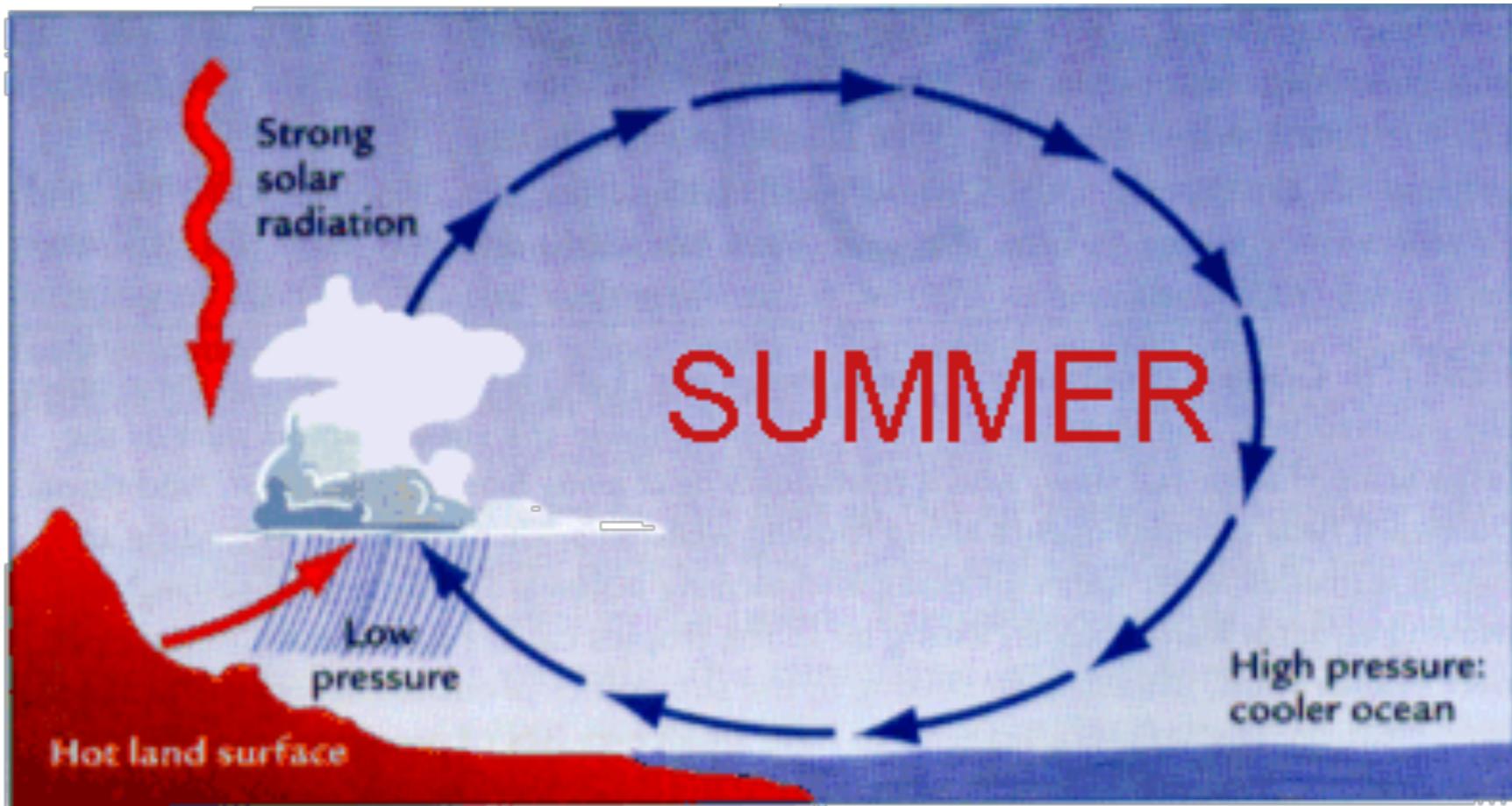


Streamlines 850hPa (NCEP)

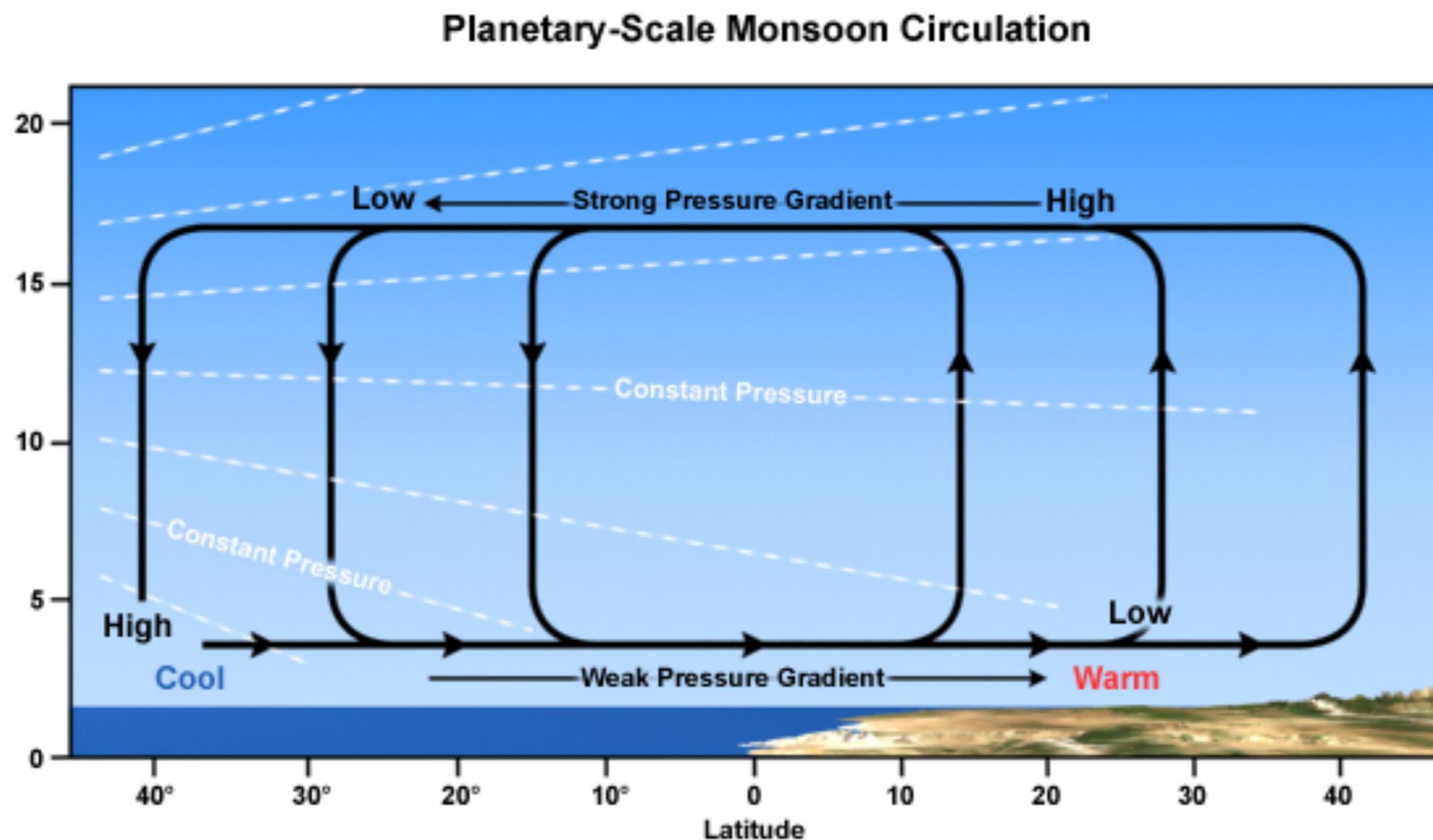


Streamlines 200hPa (NCEP)

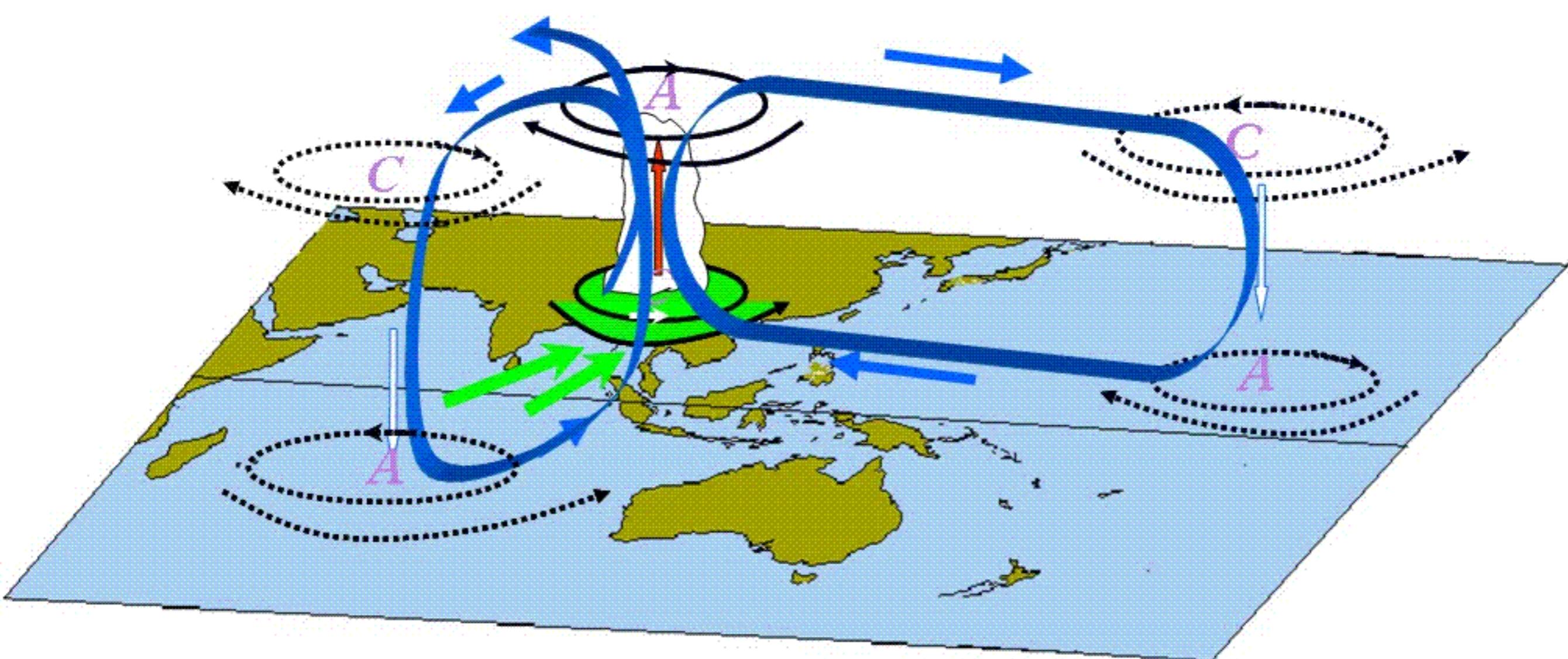




Meridional Circulation

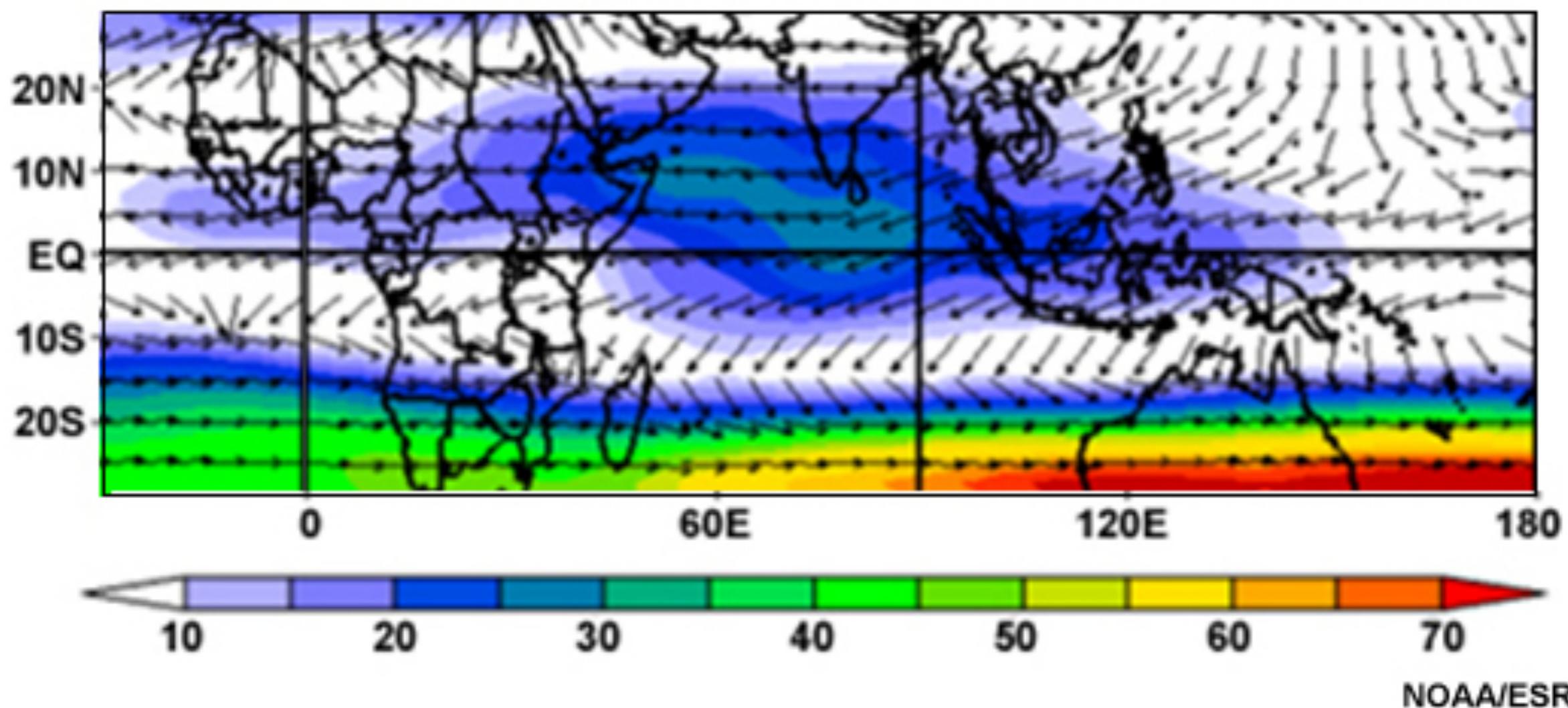


Summer Broad-Scale Circulations

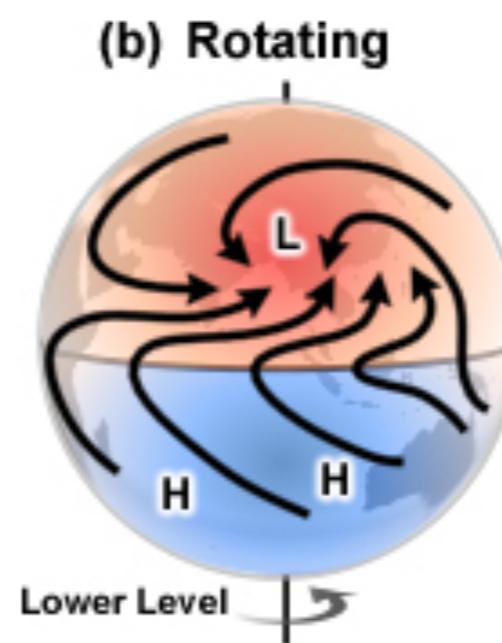
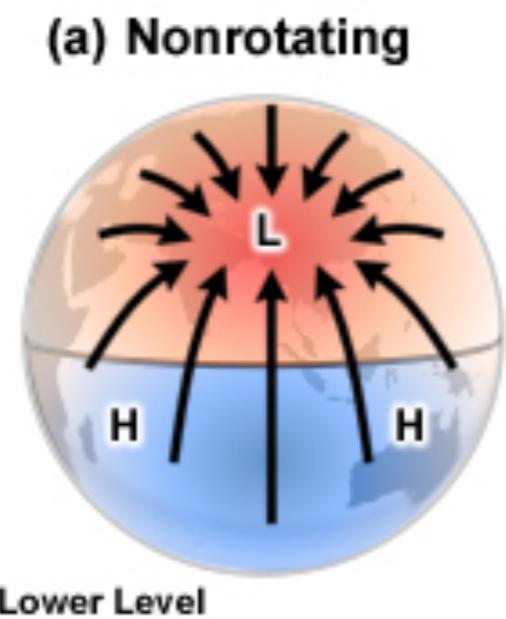


a

Mean June–August 200 hPa winds (m s^{-1}), 1968–1996



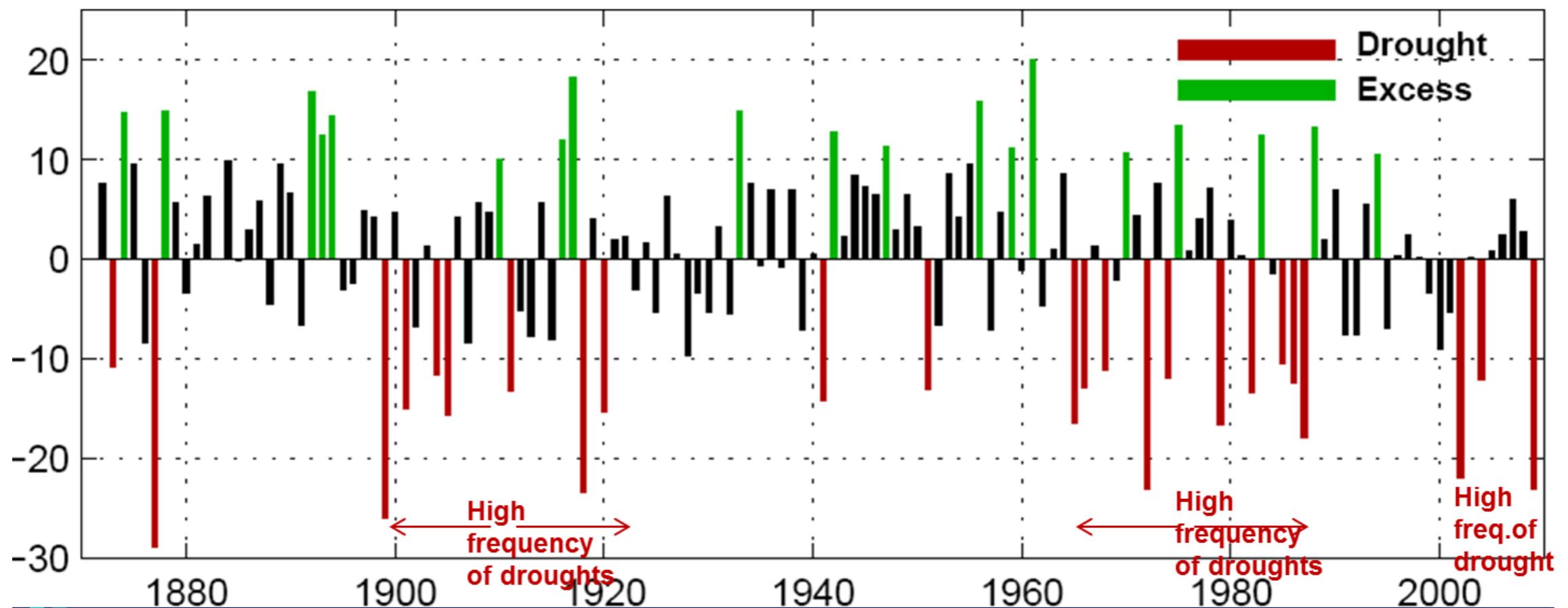
Coriolis Force - Monsoon Circulation



Seasonal Migration of ITCZ



Inter Annual Variation of the Anomaly of ISMR (as % of the Mean Rainfall During 1876-2010)



Inter Annual Variation of the Anomaly of ISMR (as % of the Mean Rainfall During 1876-2010)

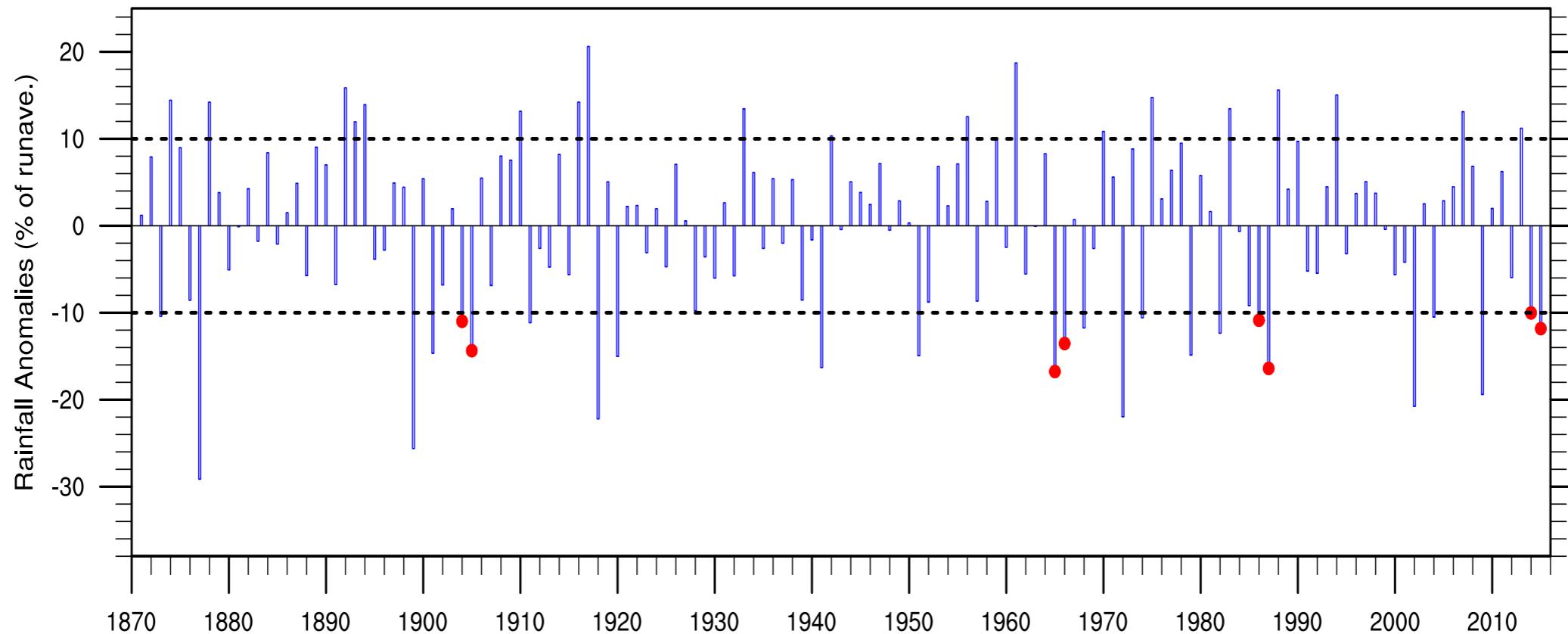
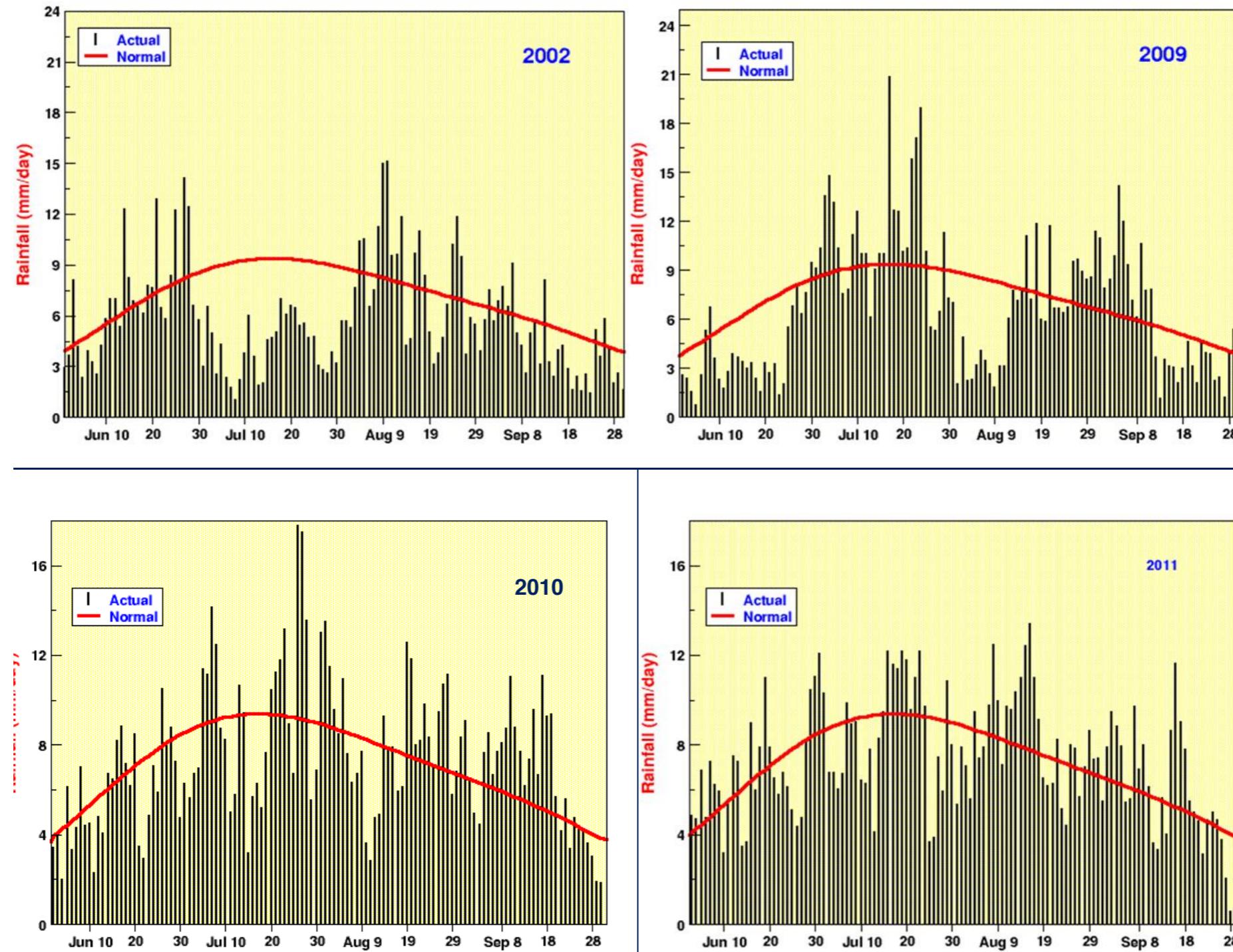
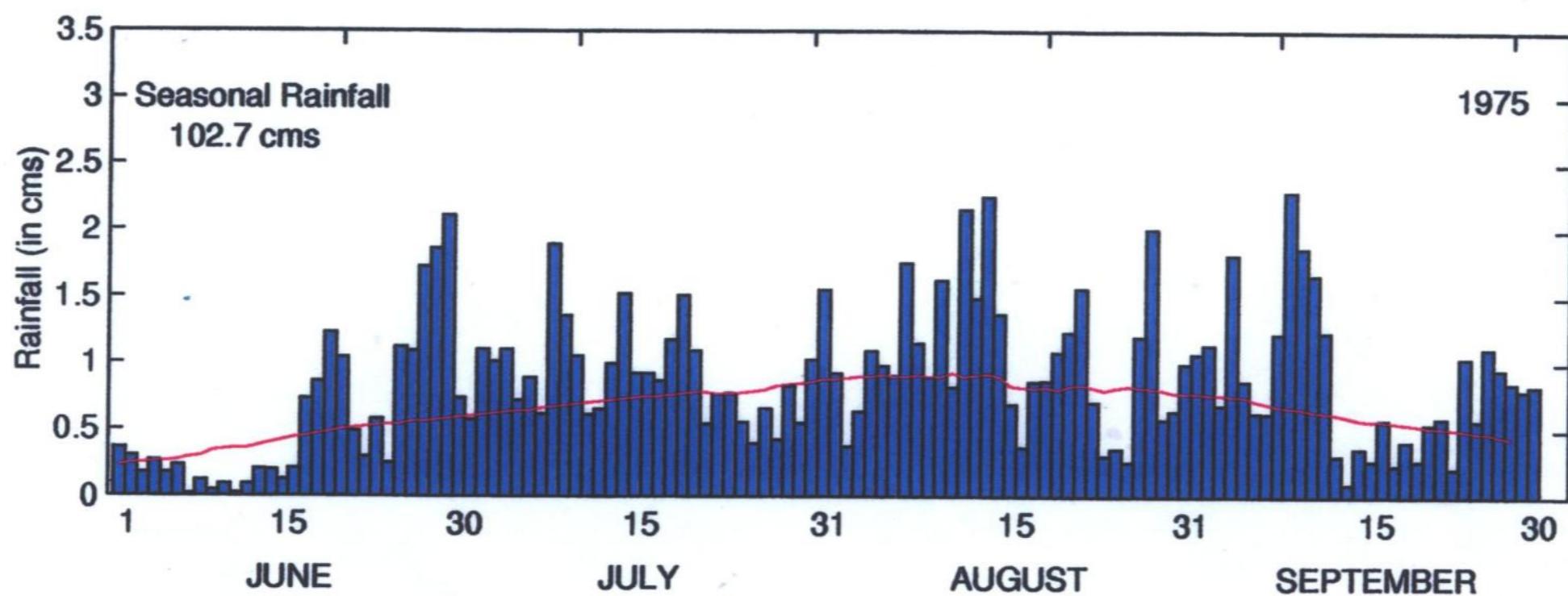
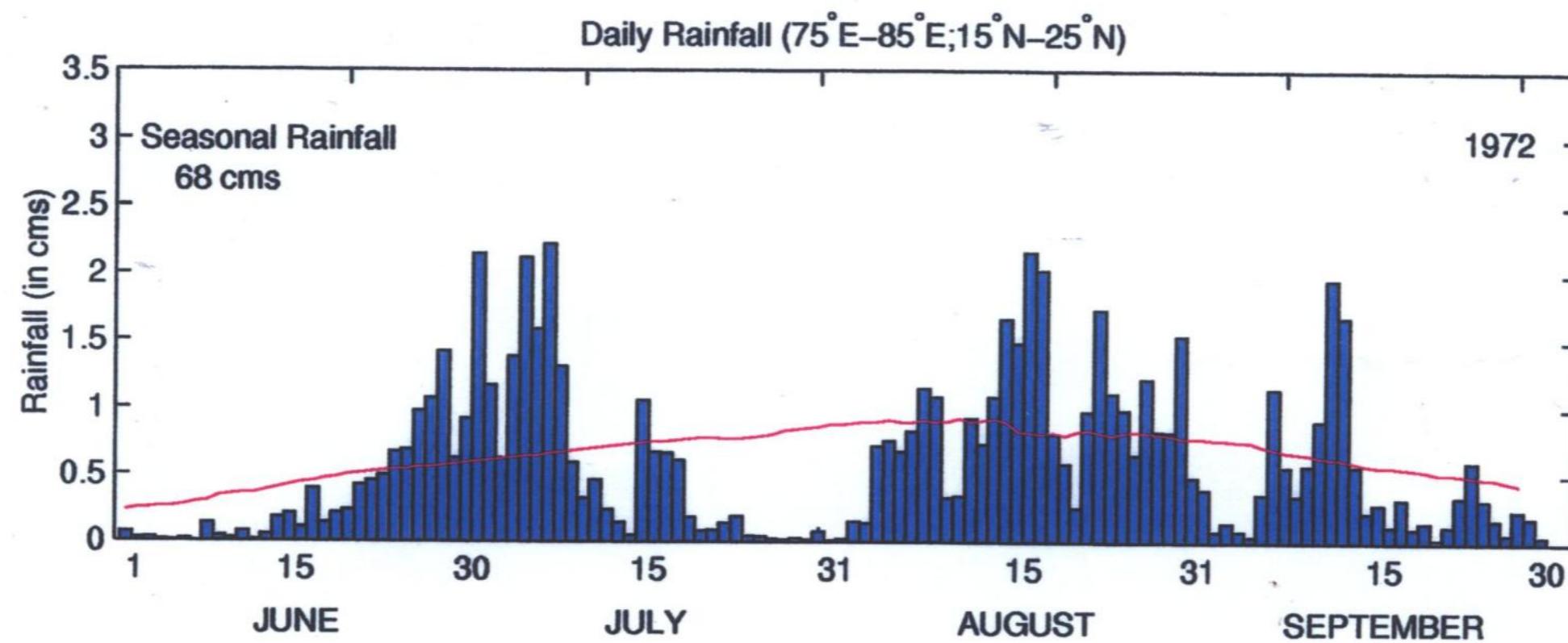


Fig.1 Time series evolution of rainfall anomalies, expressed in percent departures from its 30 years running average. Red color indicates four consecutive drought years (1904-05, 1965-66, 1986-87 and 2014-15) during Indian Summer Monsoon.

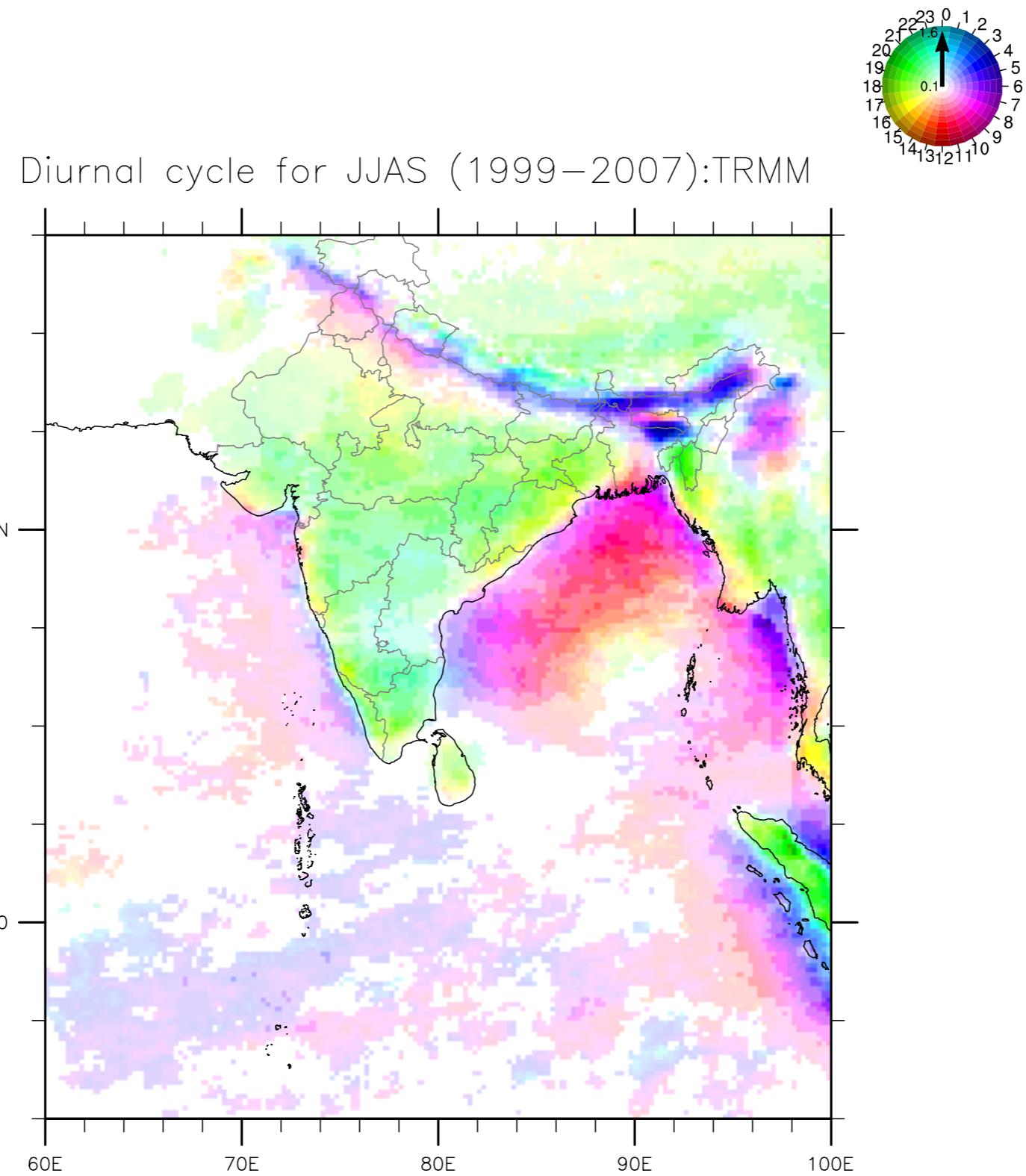
Intraseasonal Variability of Rainfall



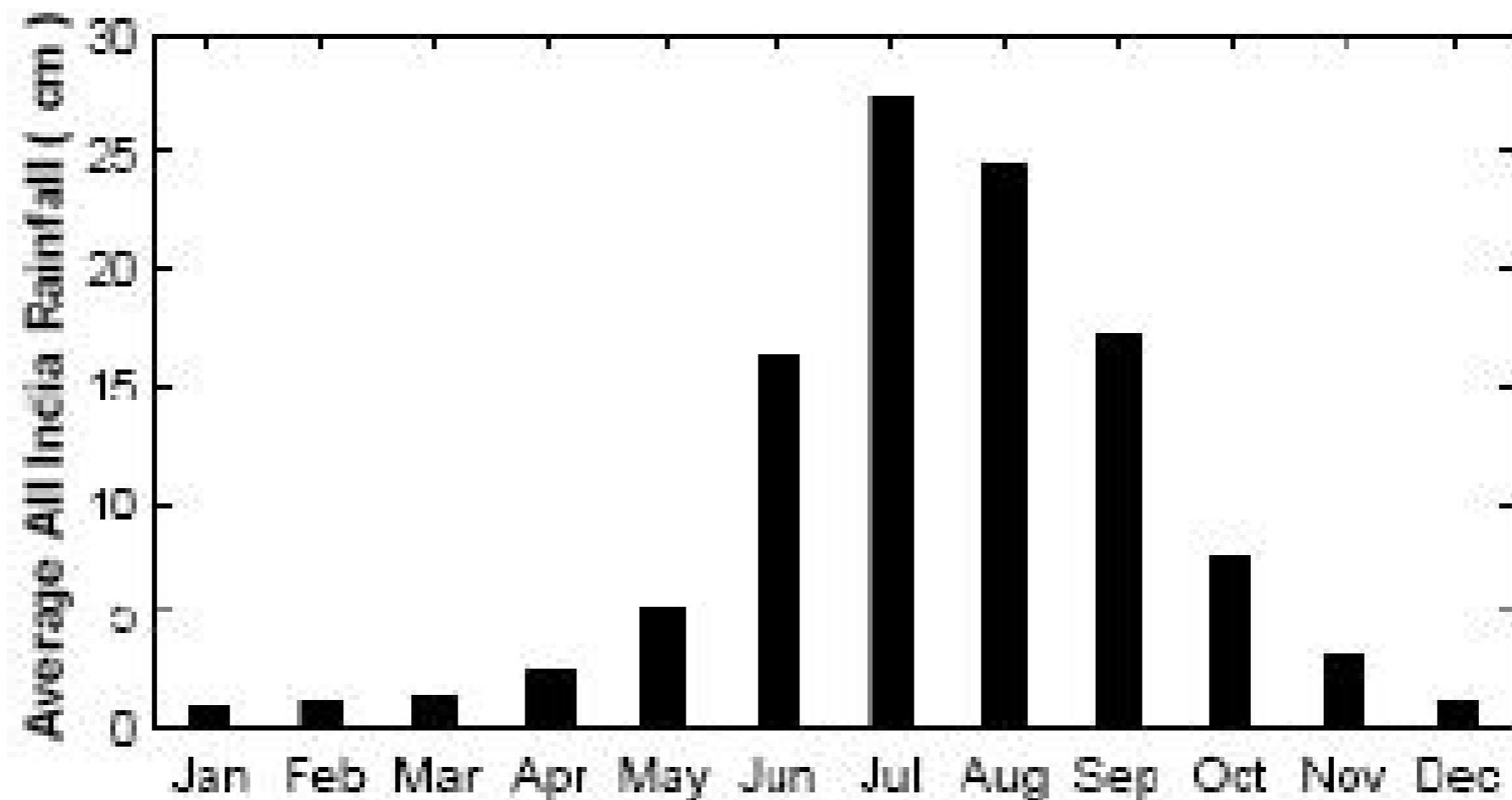
Intraseasonal Variability of Rainfall - Drought and Excess



Diurnal Variability of Rainfall



Monsoon - The Rainy Season



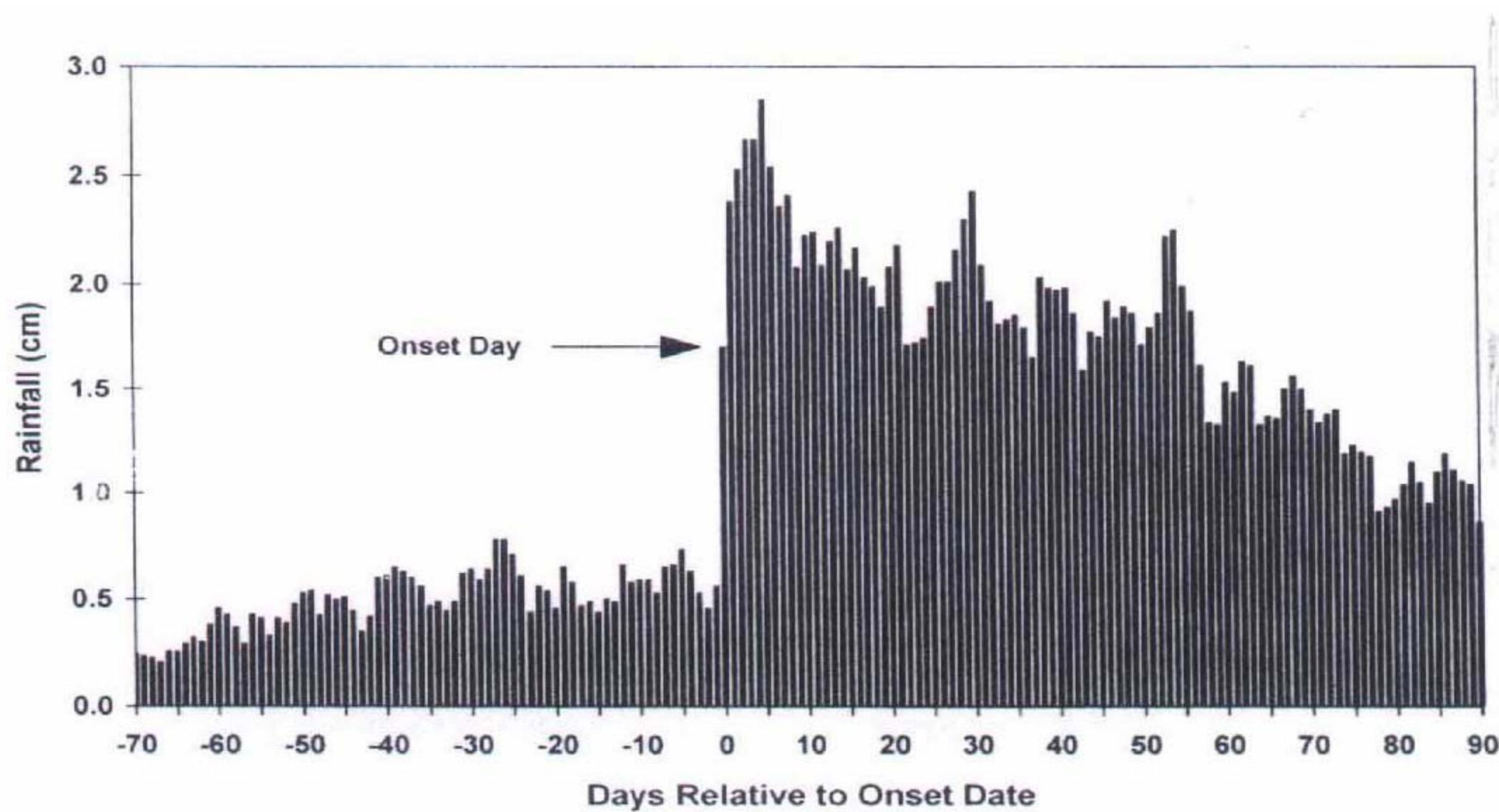


Fig. 6.12: Mean daily rainfall (1901 to 1980) of south Kerala with respect to MOK as 0 day (from Ananthakrishnan and Soman, 1988)

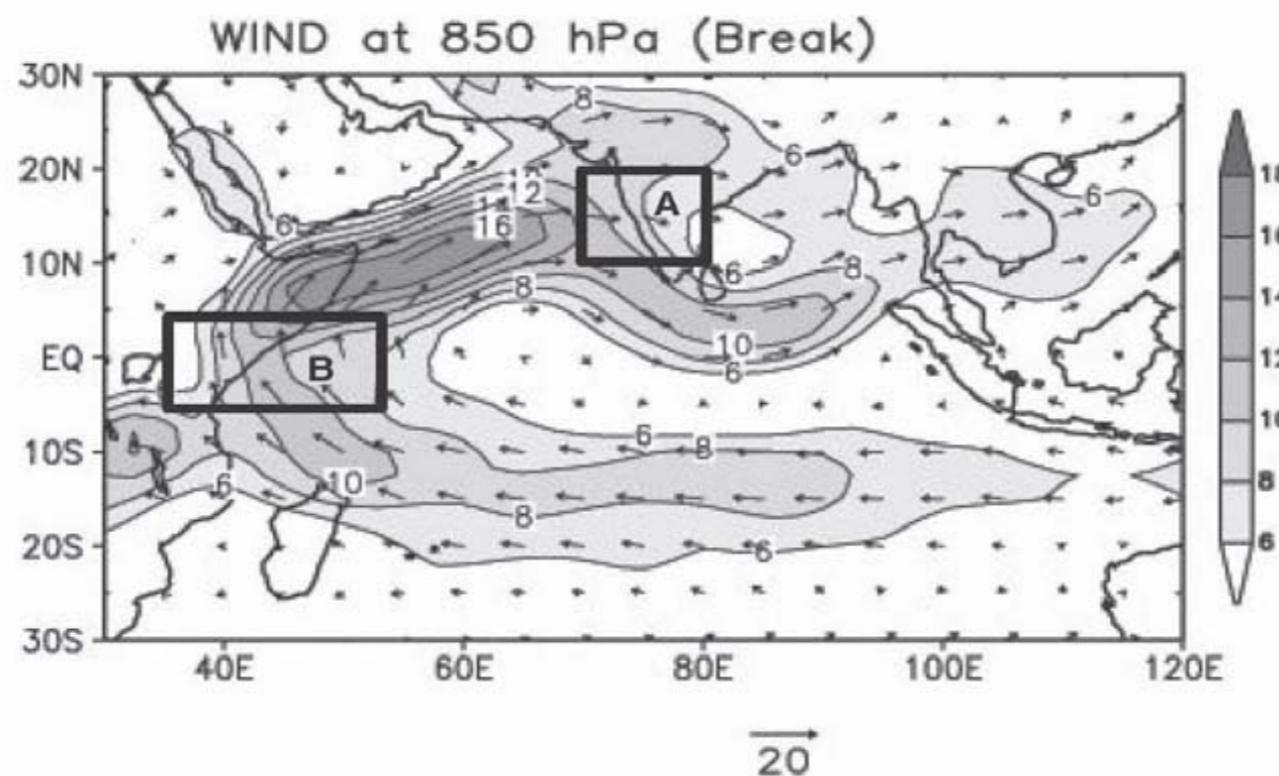
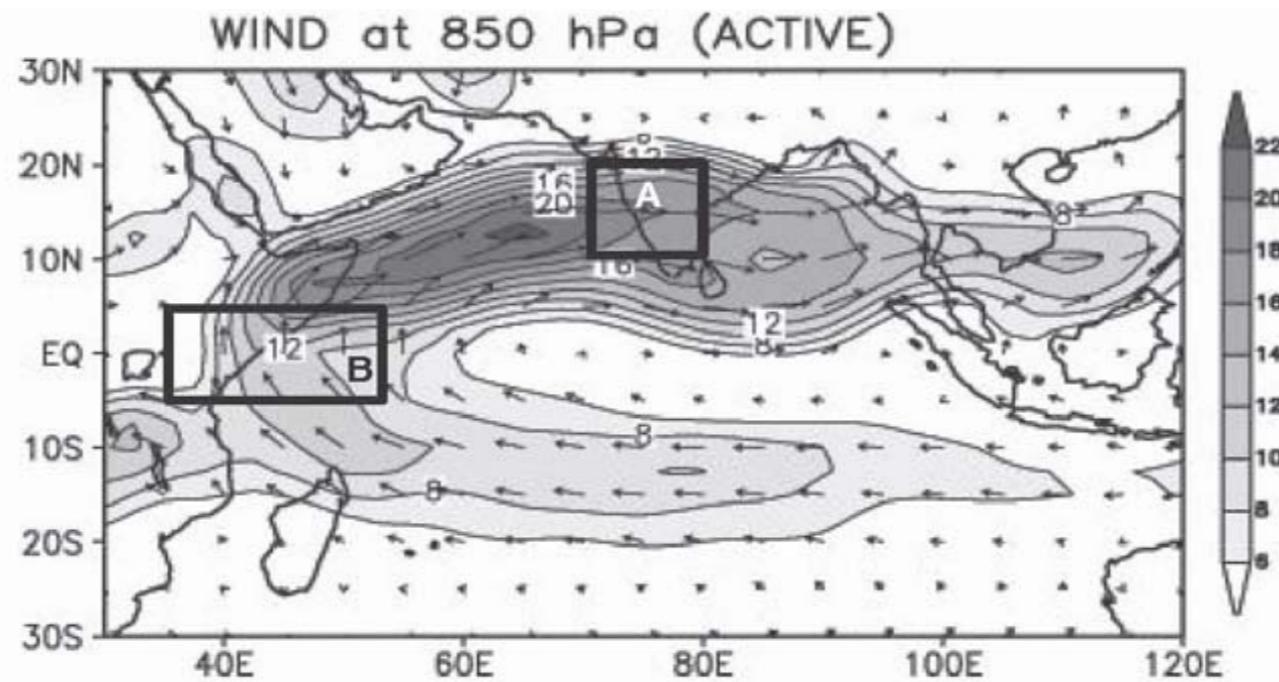
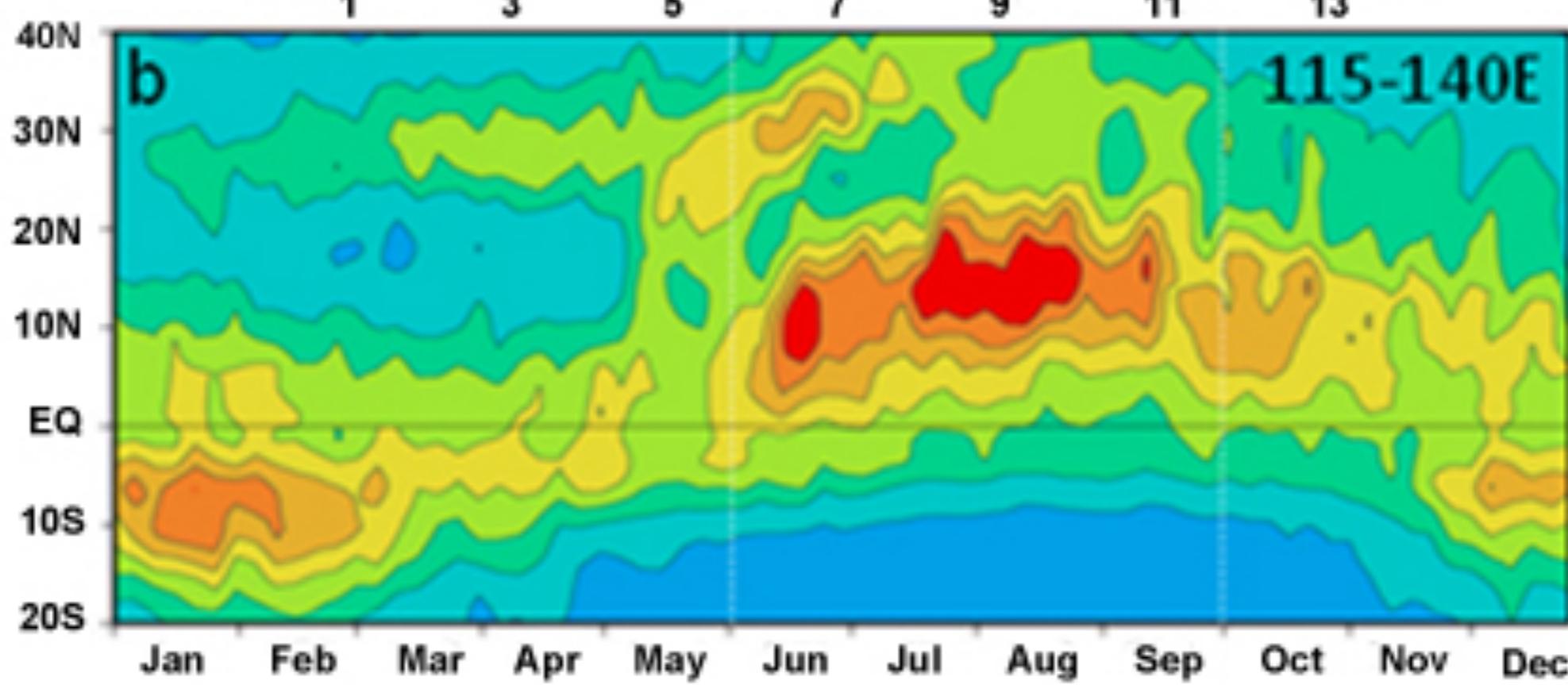
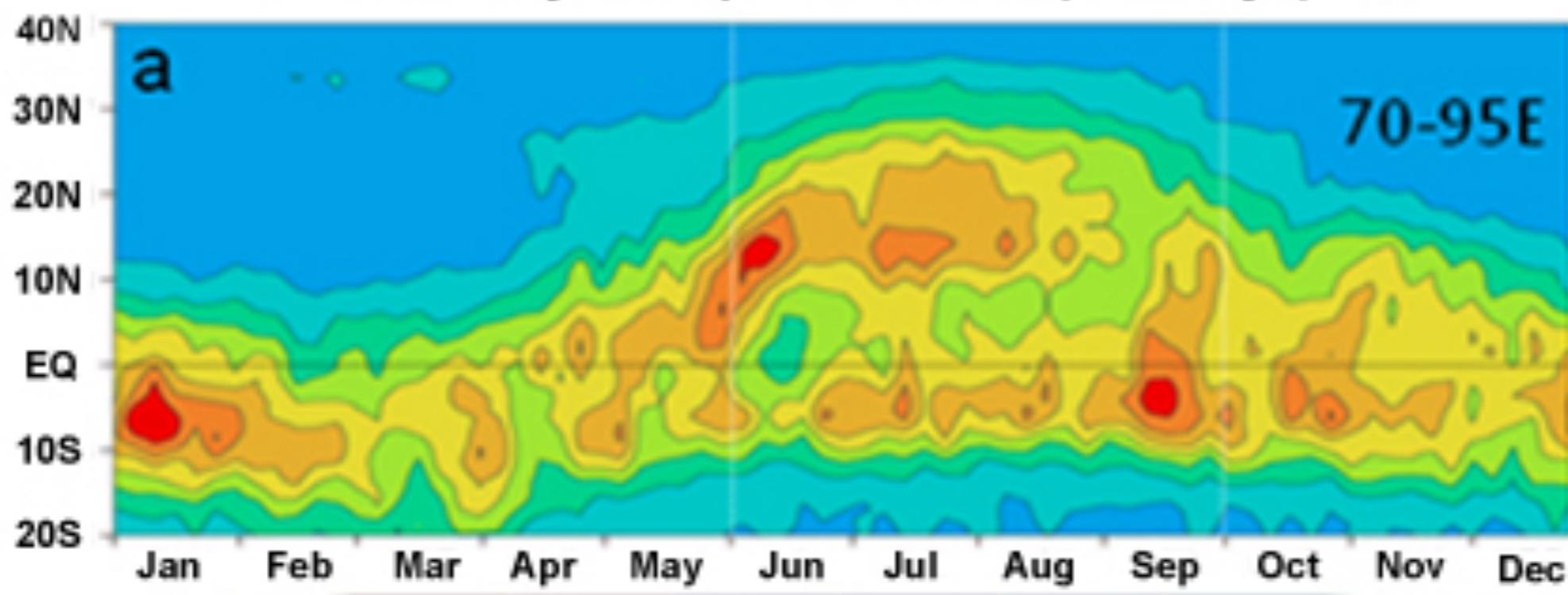


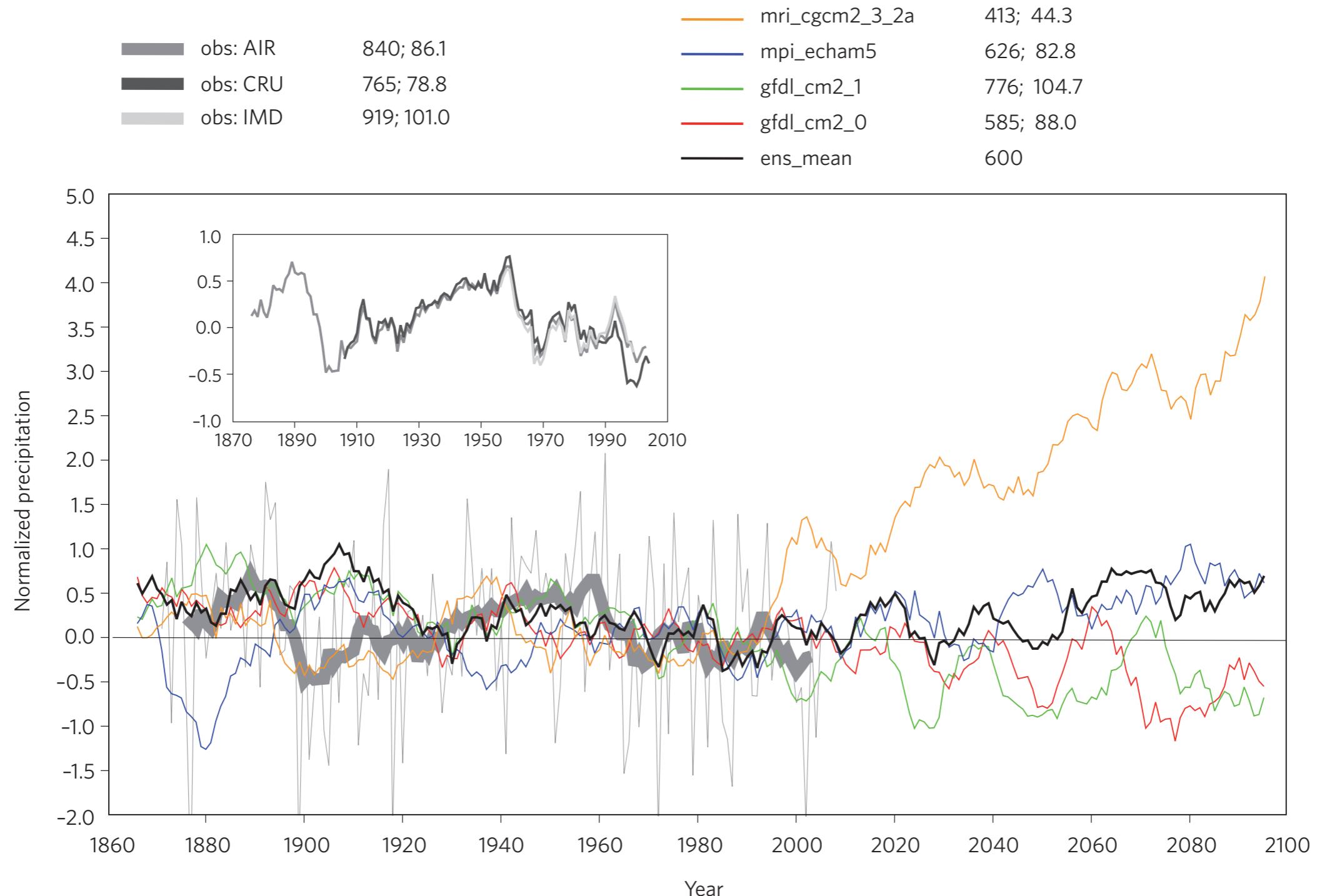
Fig. 4.7: Composites for active and break monsoon days during June to August of 1979 to 1990 extracted from Joseph and Sijikumar (2004). Top figure gives the wind flow at 850hPa in m/s for active spells and bottom figure the wind flow at 850hPa for break spells.

Mean 5-day Precipitation Rate (mm day^{-1})



WMO

Future Projection of ISMR



ISMR Response to Doubling of CO₂

