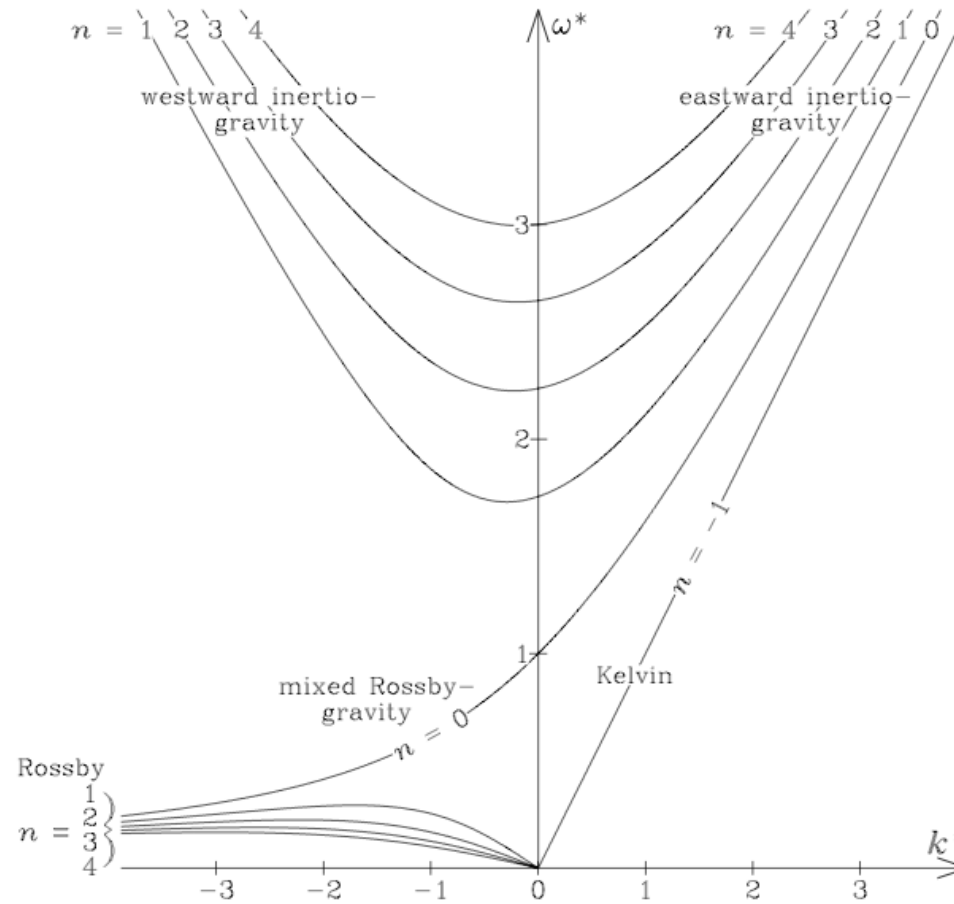


Dispersion relation for equatorial waves with specified c

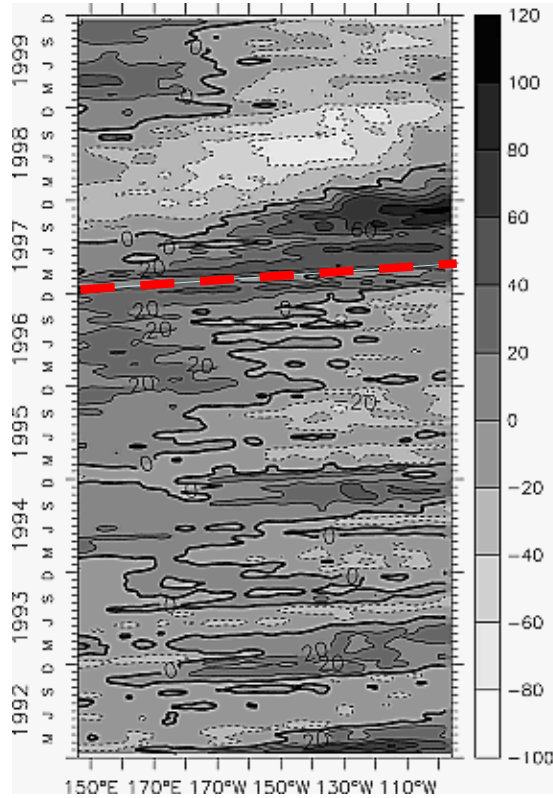


(Kiladis et al 2009)

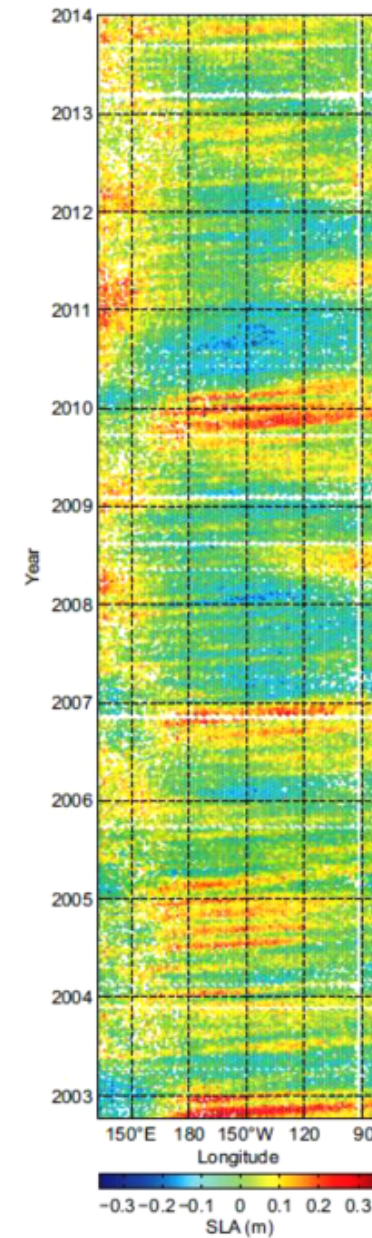
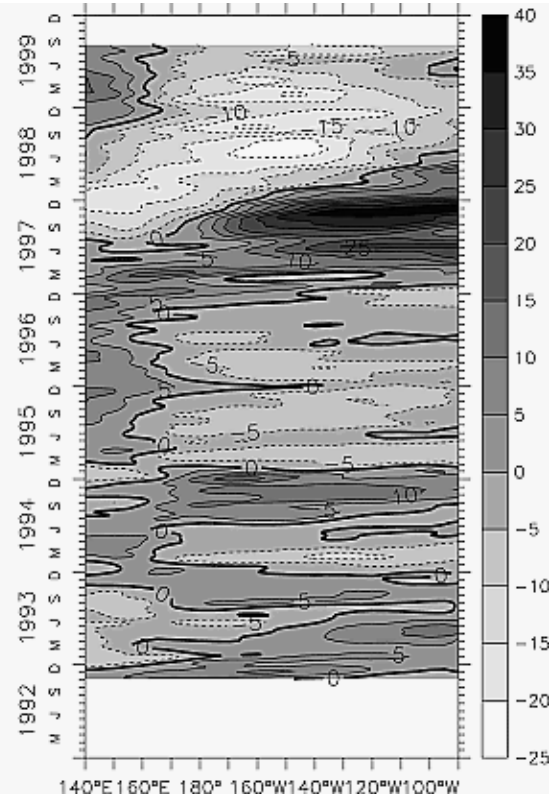


Oceanic equatorial Kelvin waves

20°C depth anomaly



sea level anomaly

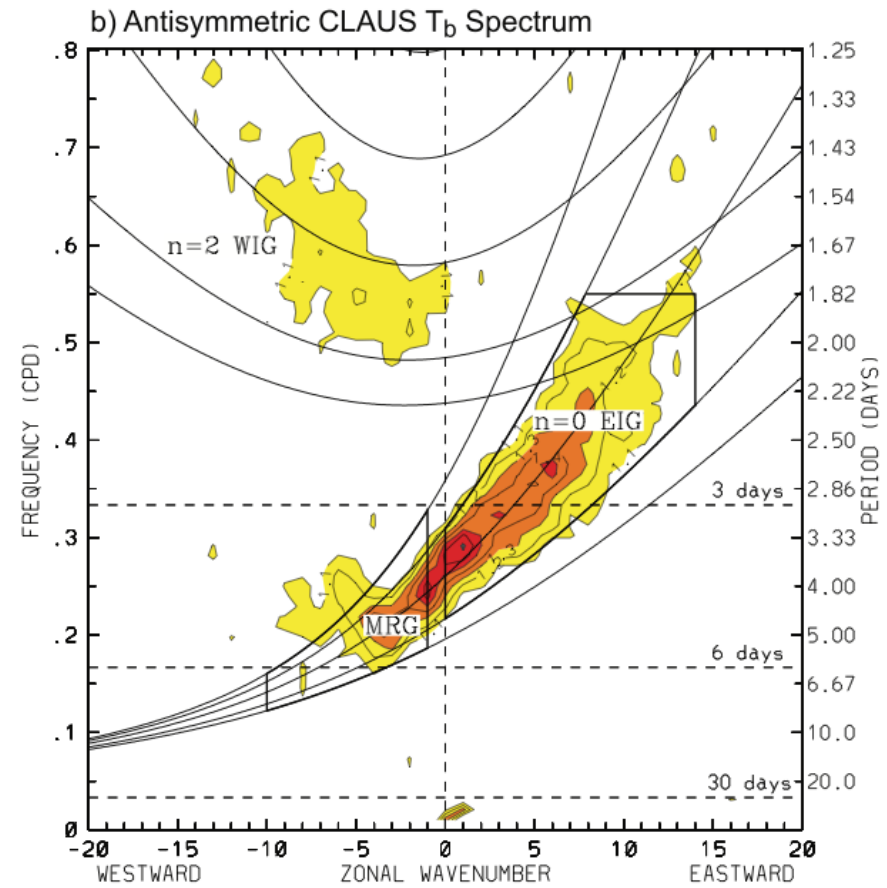
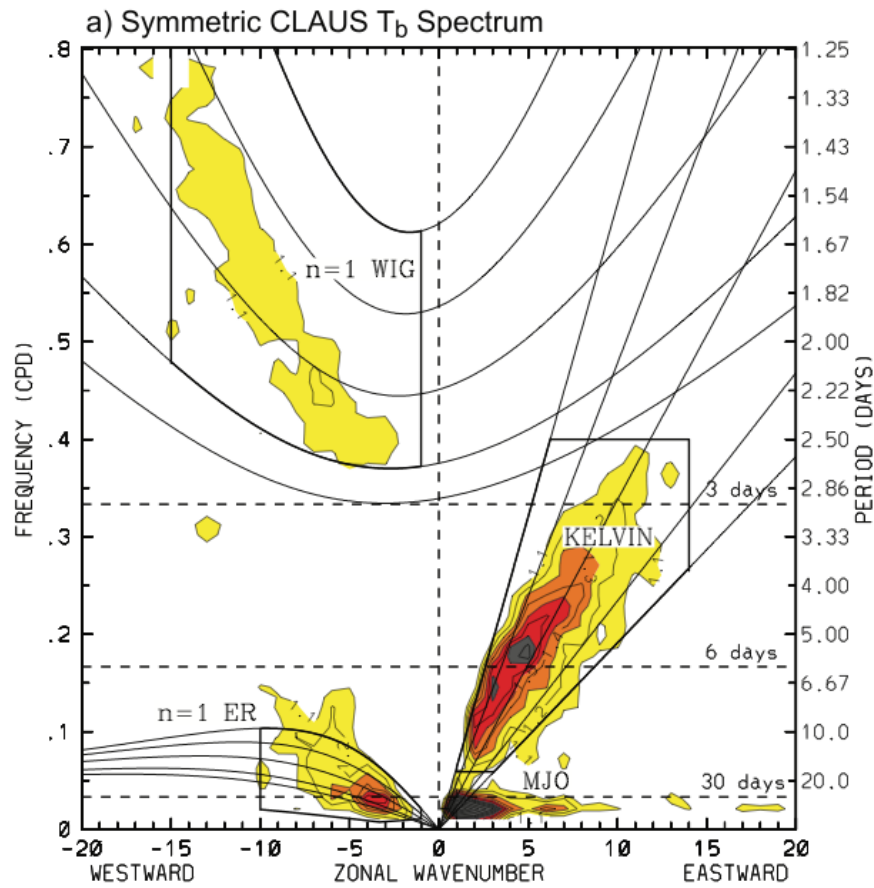


Cravatte et al 2003

Thomson and Davis 2017



Kiladis et al 2009

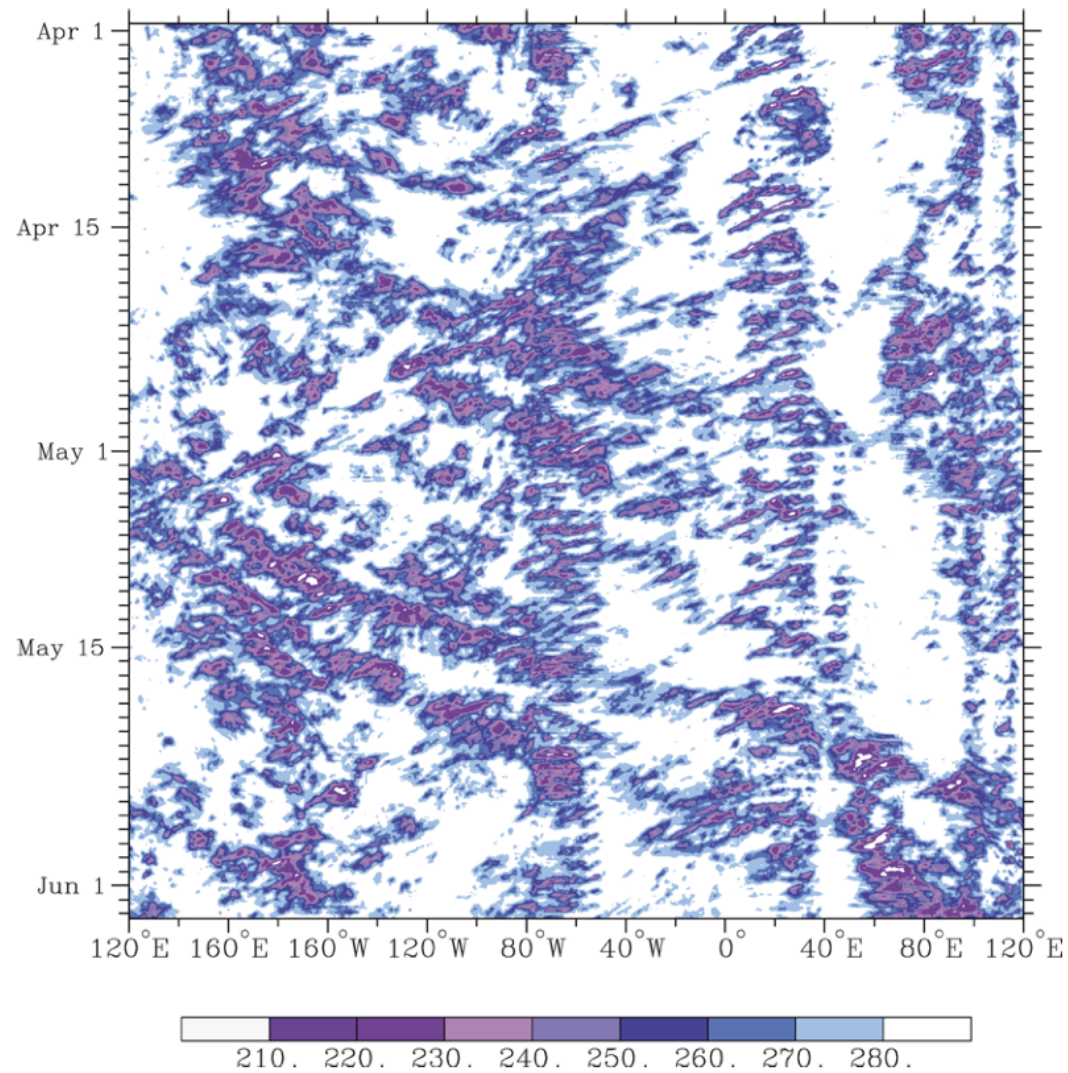


Space-time spectra of tropical cloudiness

$c=9, 11, 16, 23, 30 \text{ ms}^{-1}$



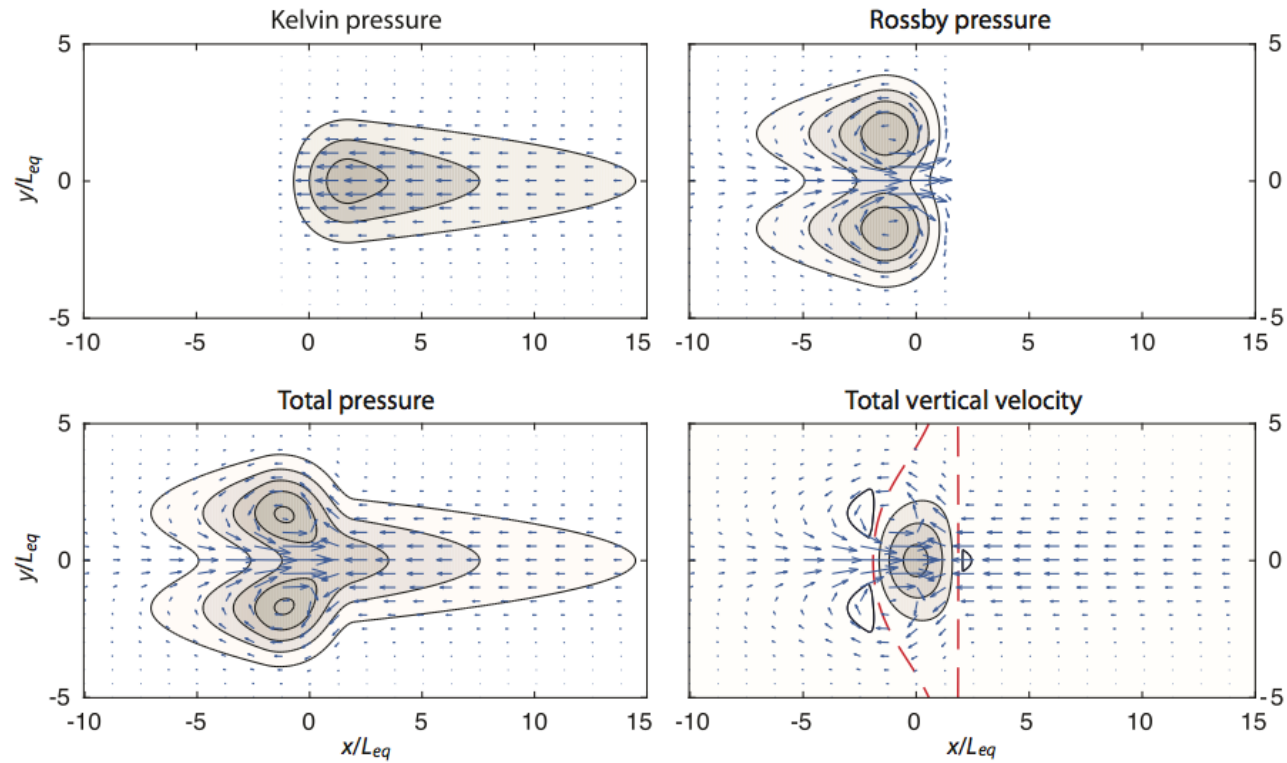
Kiladis et al 2009



Time-longitude variation of tropical cloudiness



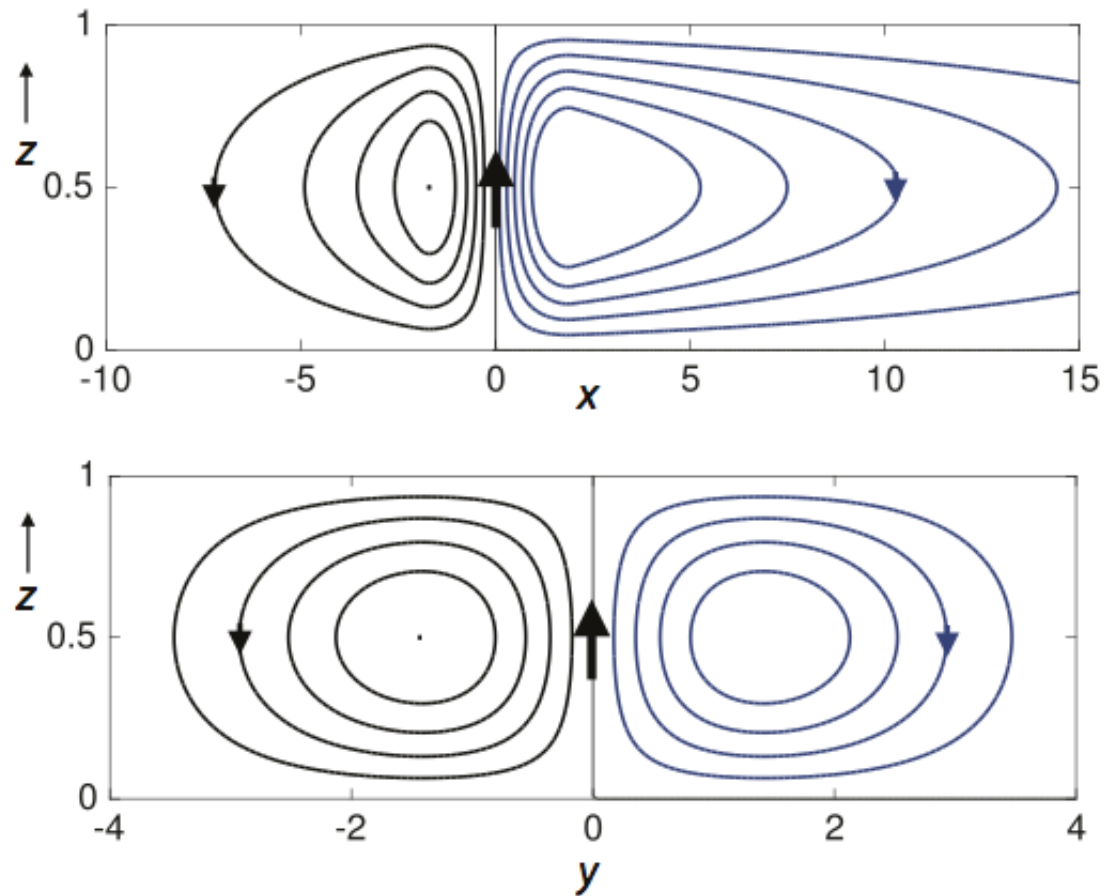
Matsuno-Gill model – latitude-longitude structure



(Vallis 2017)



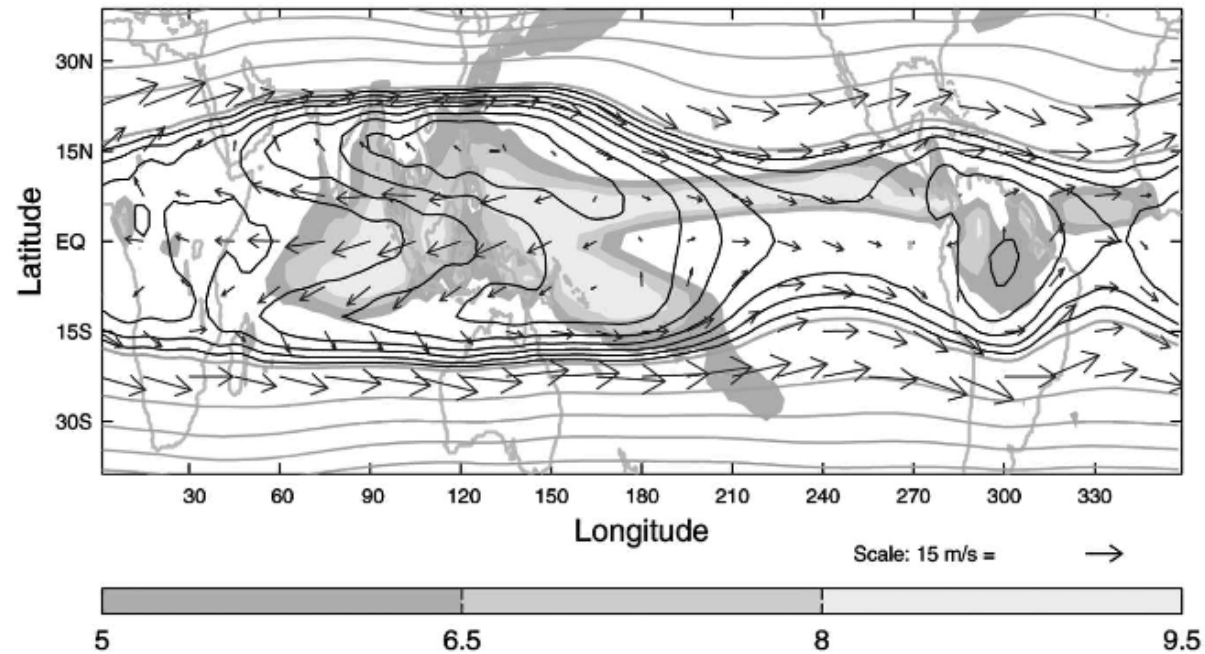
Matsuno-Gill model – circulation in vertical plane



(Vallis 2017)



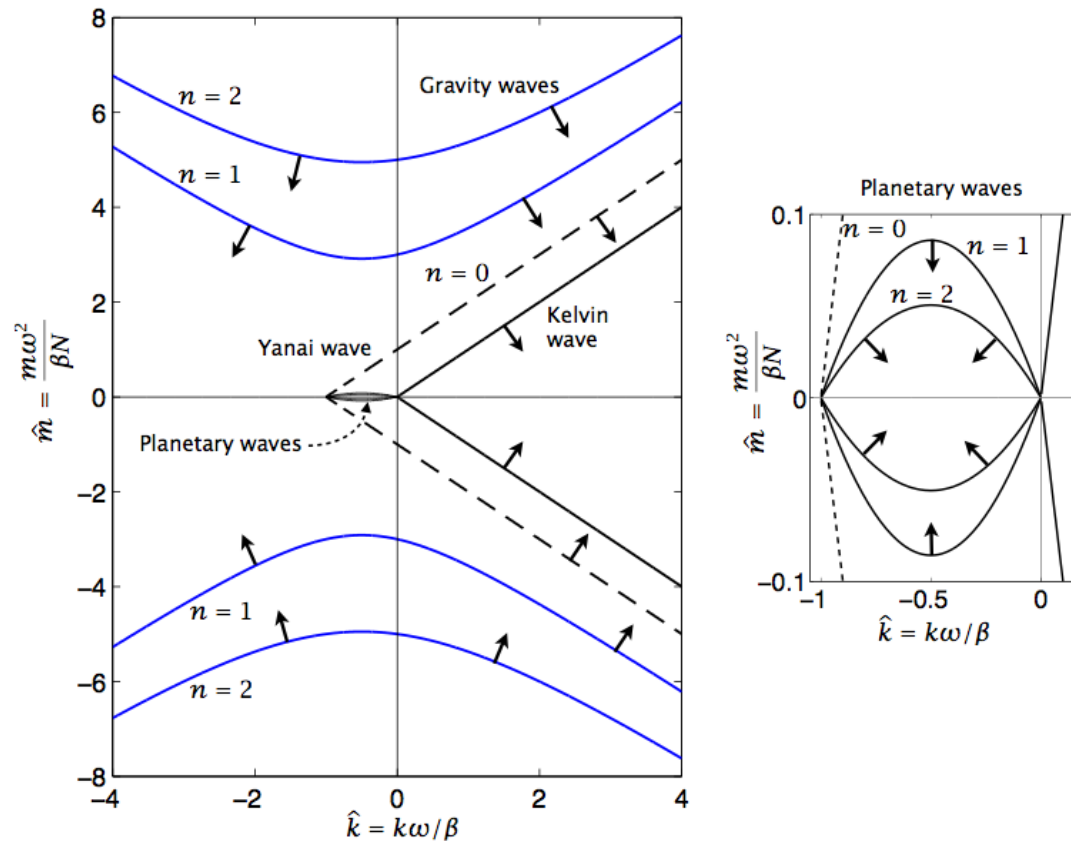
Annual mean circulation at ~14km + precipitation distribution



(Dima et al 2005)



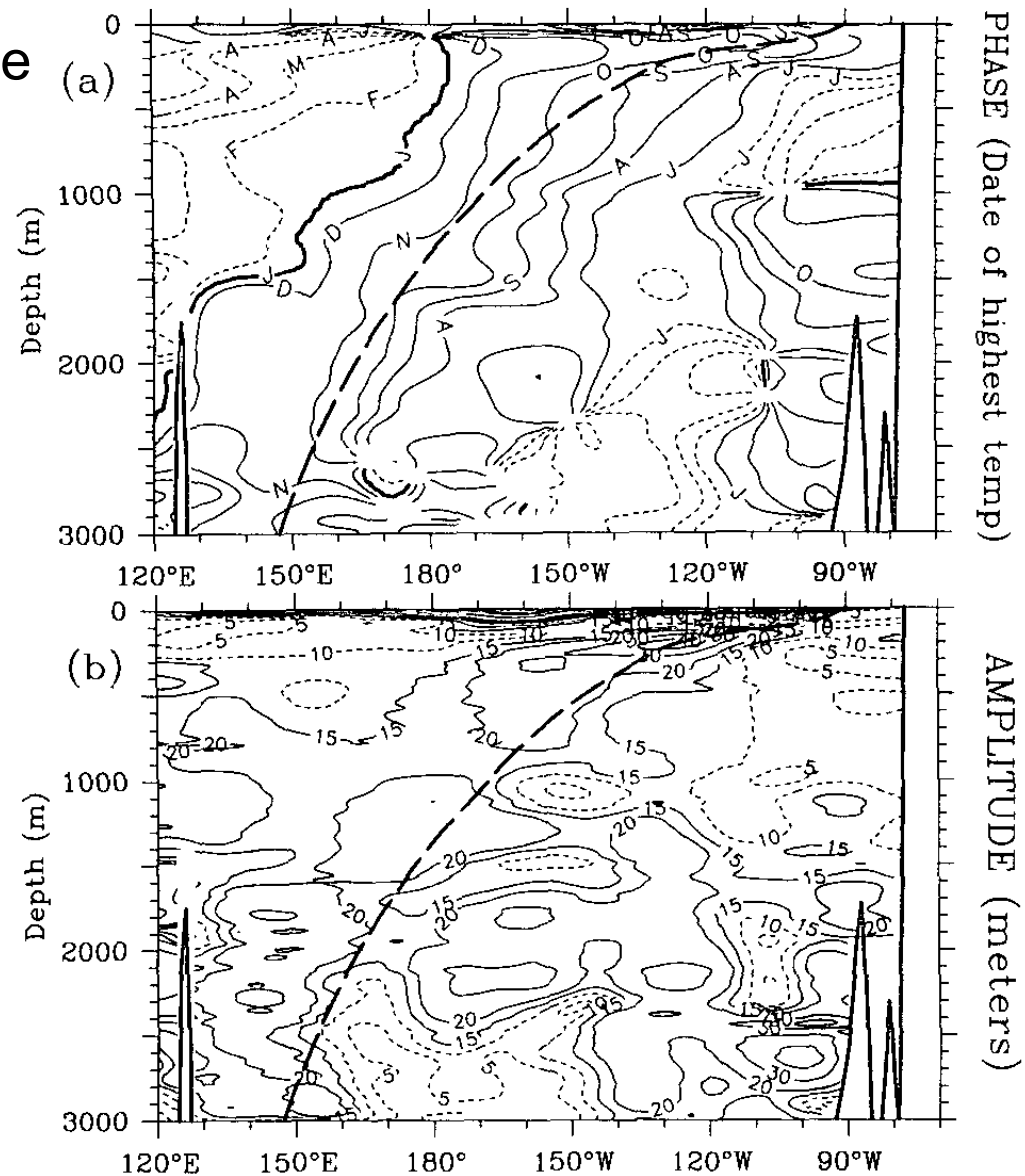
Dispersion relation for equatorial vertically propagating waves



(Vallis 2017)



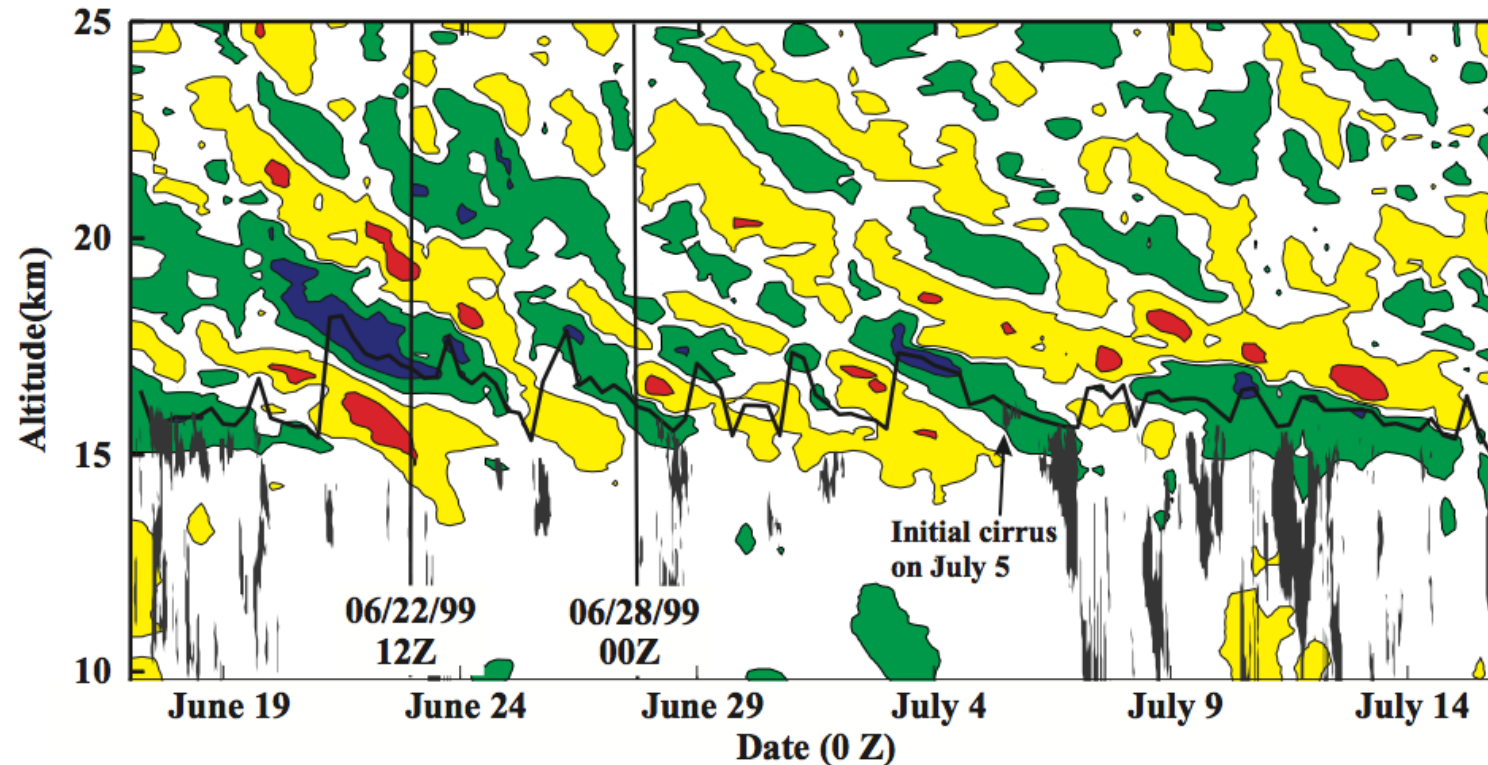
Evidence for downward propagation of the annual cycle in the equatorial ocean as an equatorial Rossby wave.



(Kessler and McCreary 1993)



Atmospheric equatorial Kelvin waves seen in radiosonde temperature profiles



(Boehm and Verlinde 2000 'Stratospheric influence
on upper tropospheric tropical cirrus')



QBO time series (FUB)

