

# Climate Change in HadCM3

*Chris Brierley*

*Chapa Club - 21/06/06*

# Increase in CO<sub>2</sub>

A l i c e i l l i n e



# Surface Air Temperature

# Surface Air Temp.

~ Significant increase in temp everywhere.

Maximum in Arctic (Arctic Amplification)

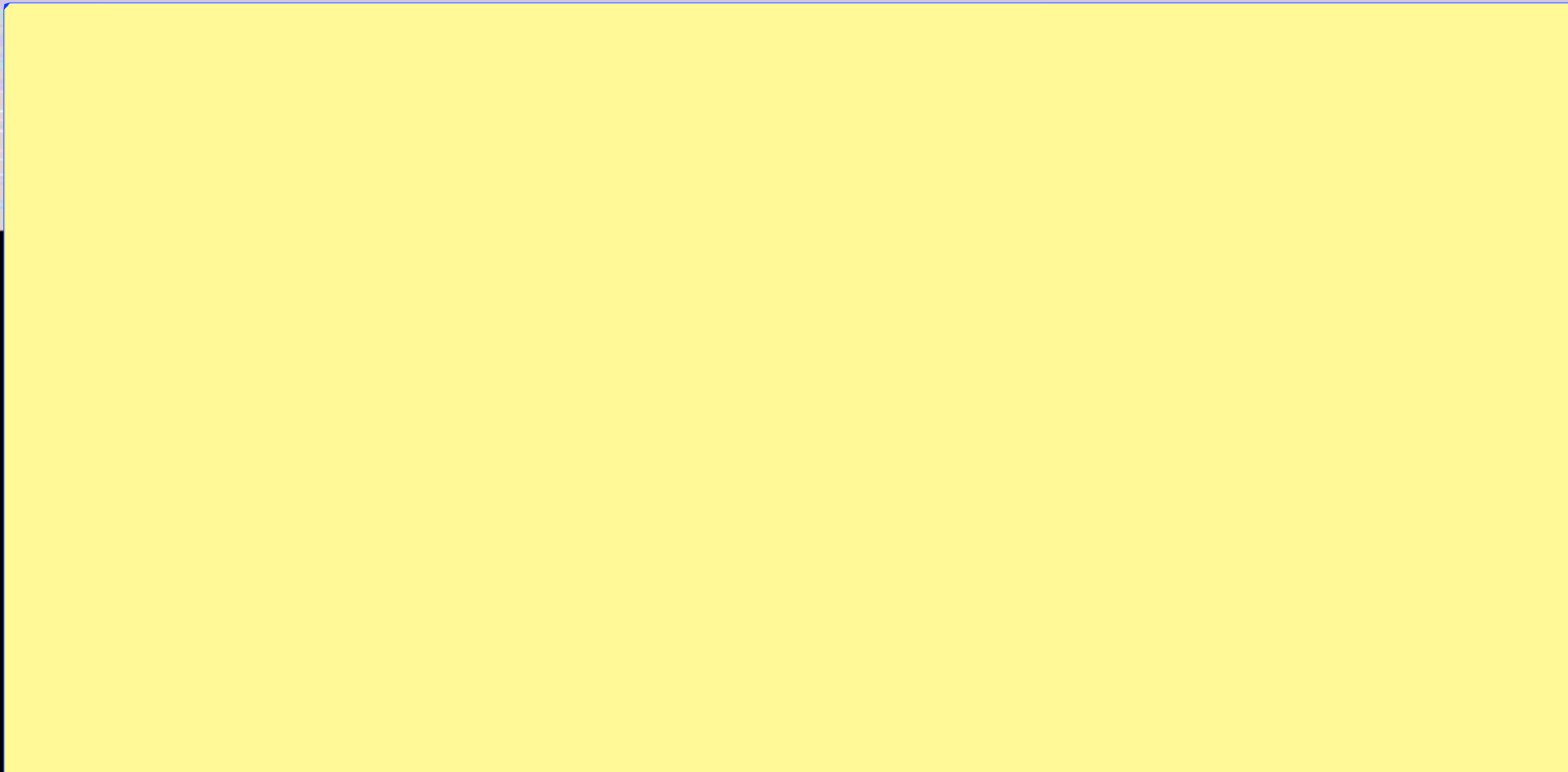
~

~

~

~

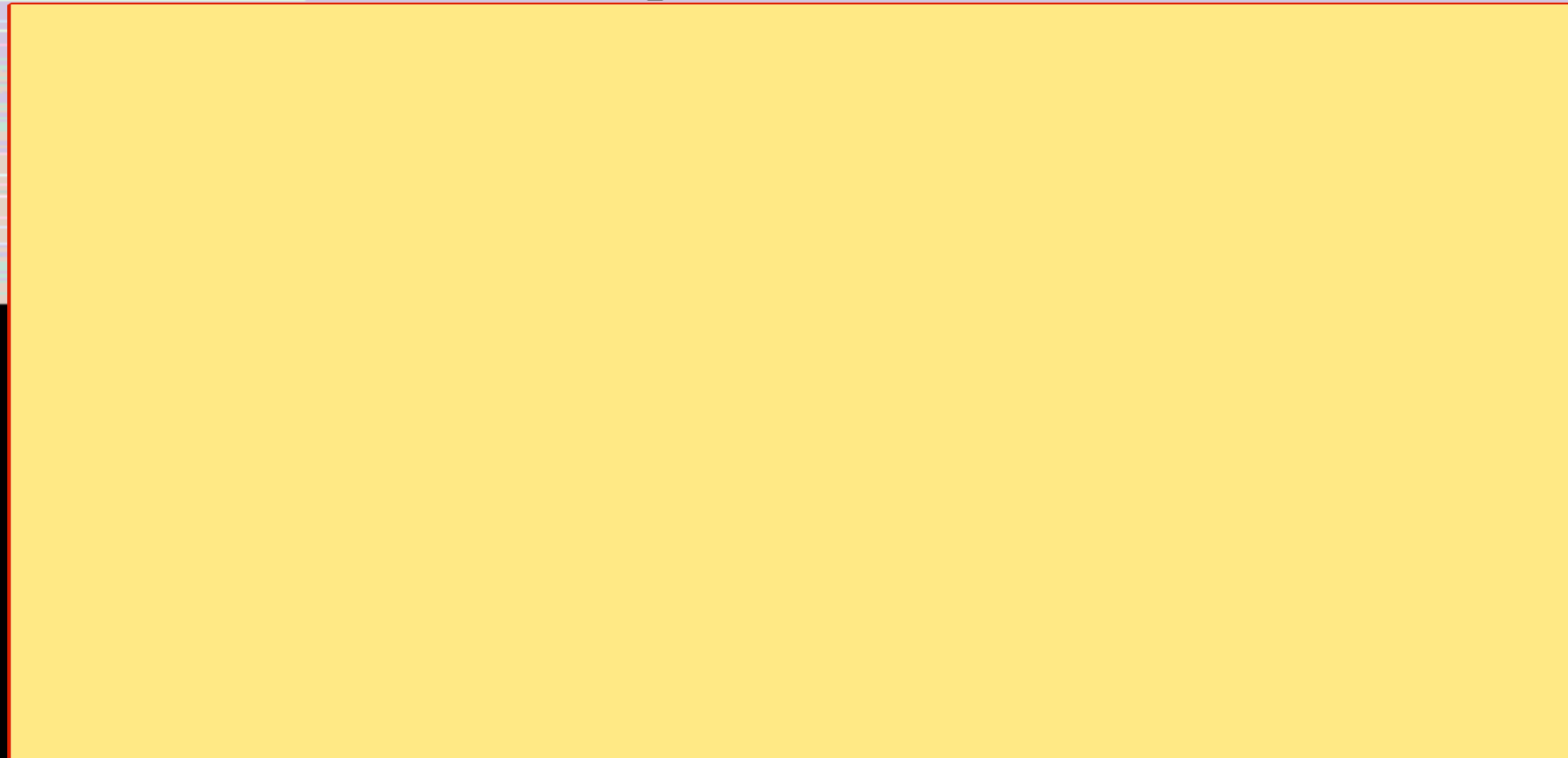
# Sea Surface Temps



# Sea Surf. Temps

Similar structure to SAT pattern.

# Precipitation



# Precipitation

- ~ Increase in extra-tropics and decrease in tropics





# Sea Surface Salinity

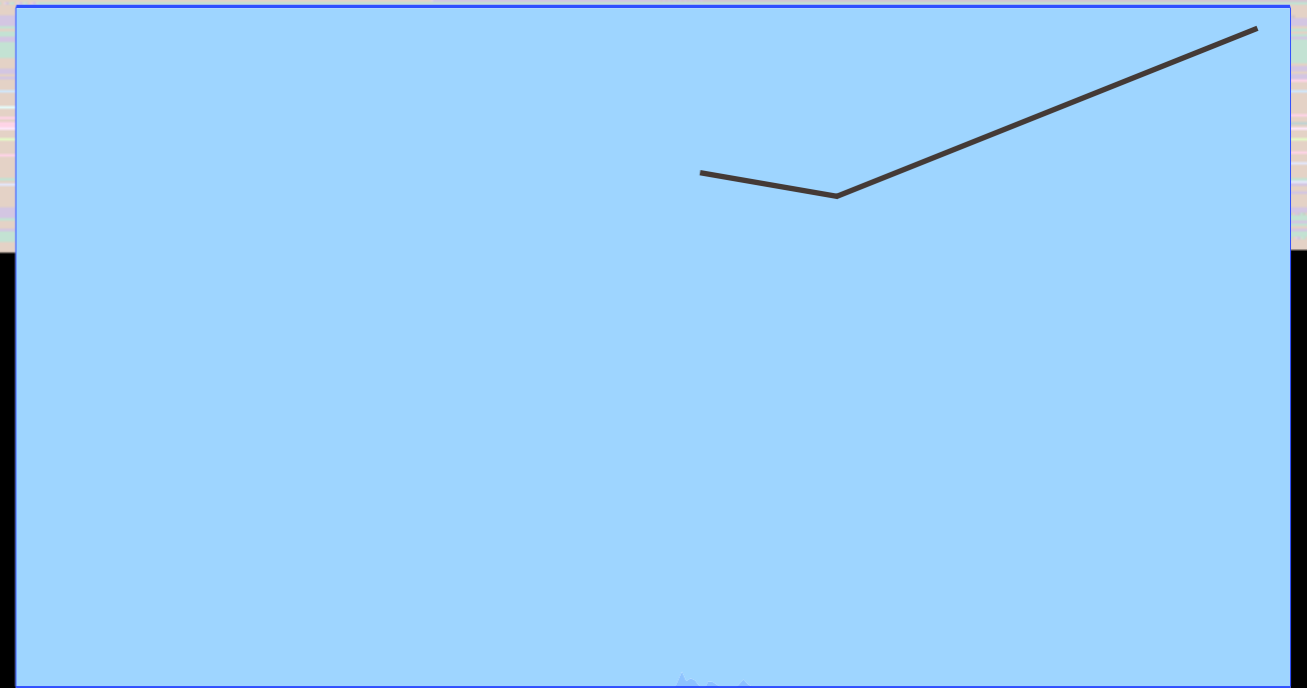
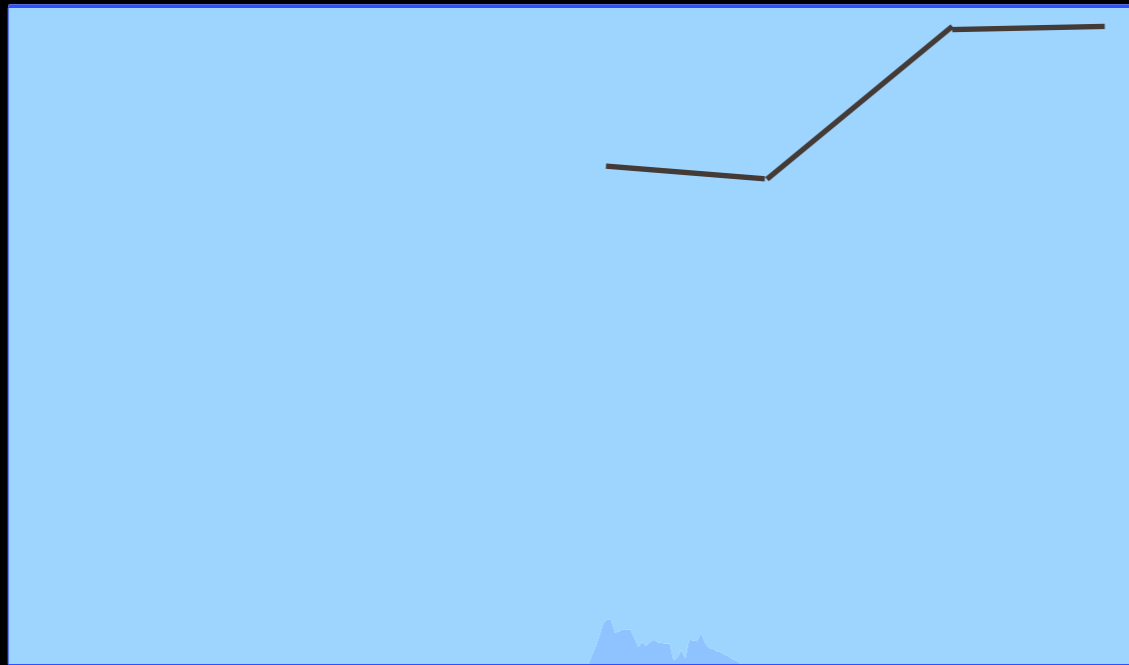


# SSS

~ Echoes parts of precipitation pattern.



# Tropical Thermocline



# Eq. Pacific Response

- ~ Same amount of heat flux goes into mixed layer; so the thin bit heats more.

# Thermohaline Circ.



# THC

~ Temperature increase doesn'

# HadCM3 References

- ~ Climate Change

- ~ SRES Scenarios - T. C. Johns, J. M. Gregory, W. J. Ingram, C. E. Johnson, A. Jones, J. A. Lowe, J. F. B. Mitchell, D. L. Roberts, D. M. H. Sexton, D. S. Stevenson, S. F. B. Tett, M. J. Woodage, 2003, *Clim. Dyn.*, Vol. 20., pp. 583-612