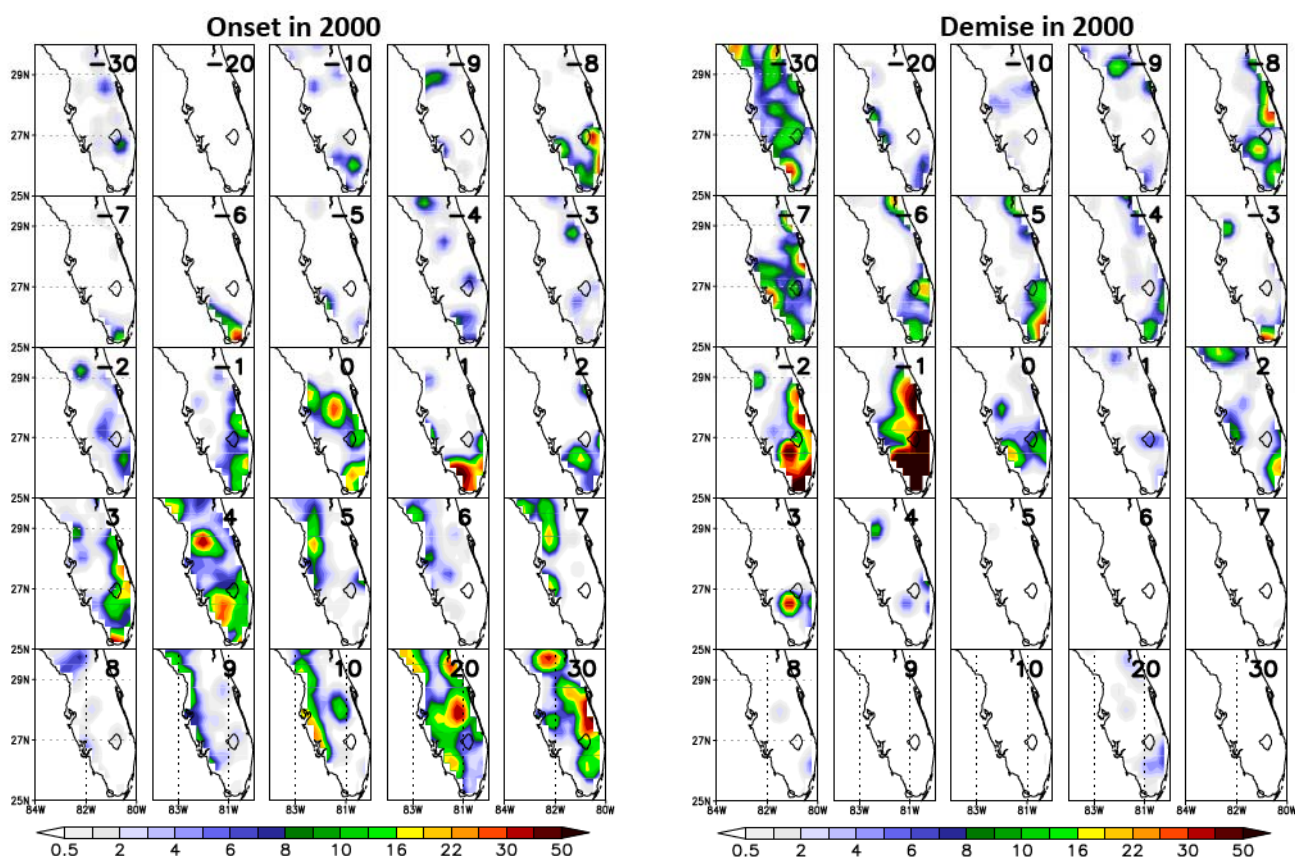


Florida Monsoon? Implications for past reconstructions and future projections

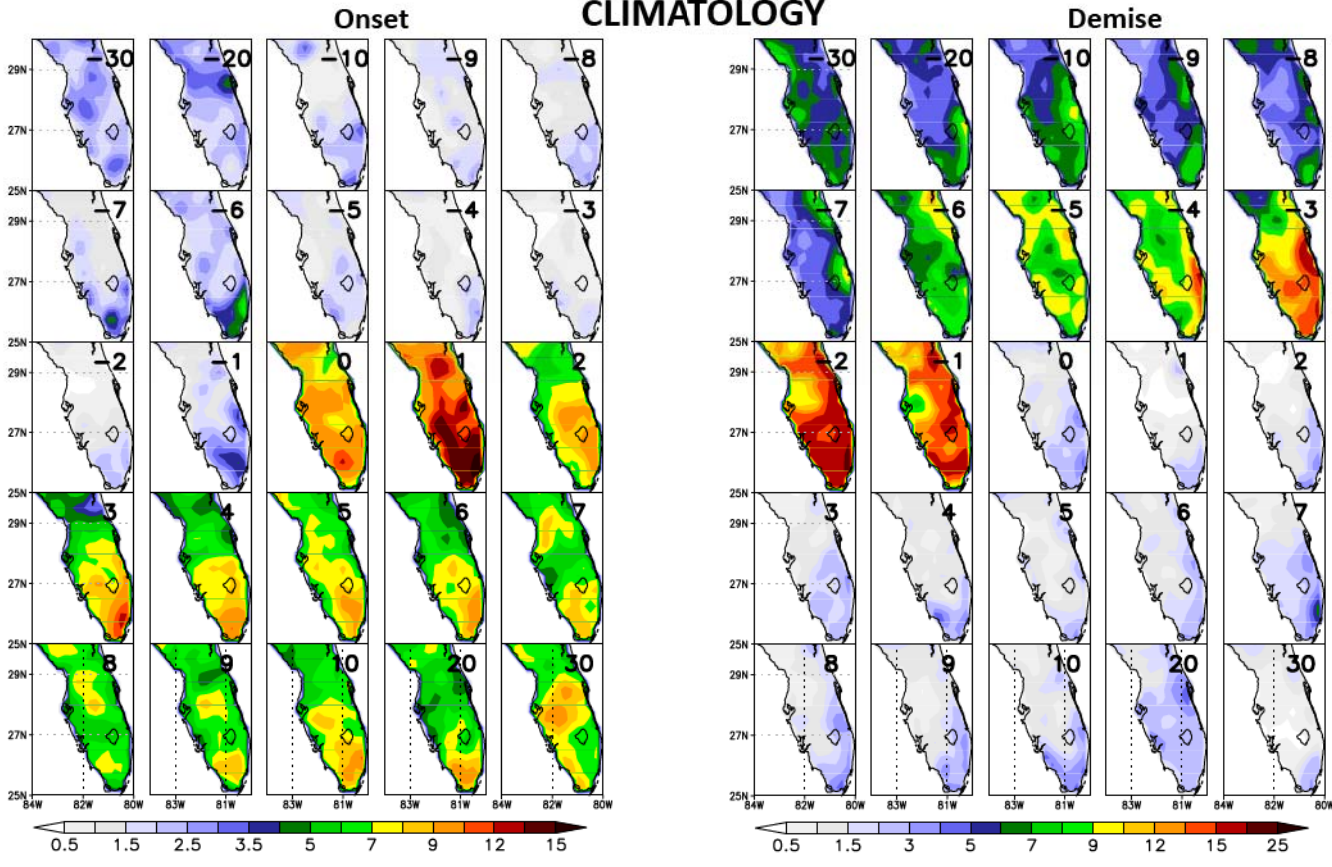
Vasu Misra

The dramatic onset of the rains in Peninsular Florida

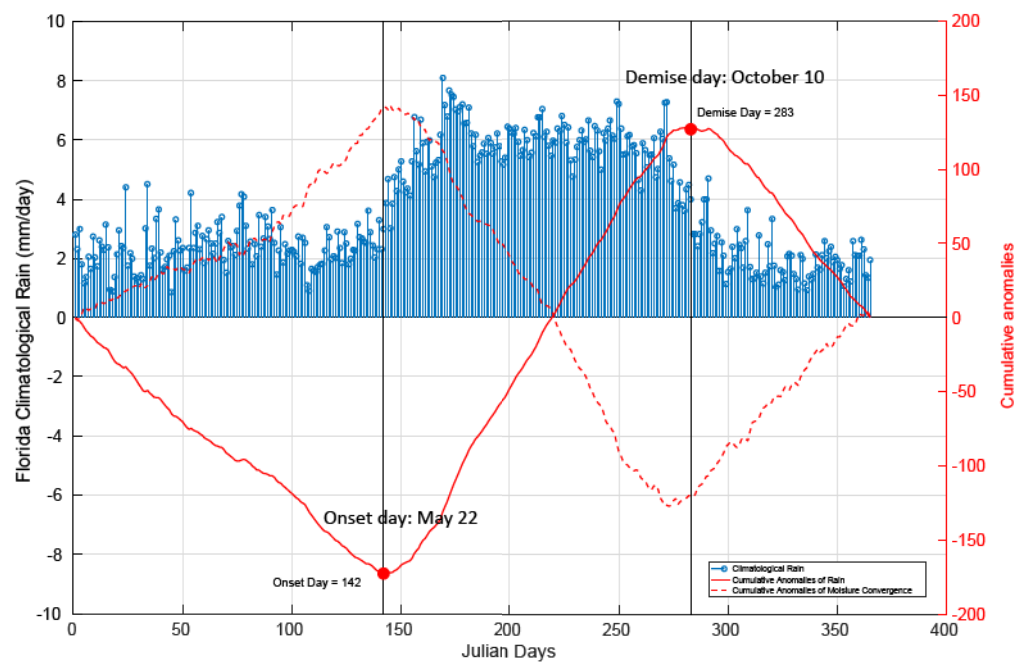


The dramatic onset of the rains in Peninsular Florida-

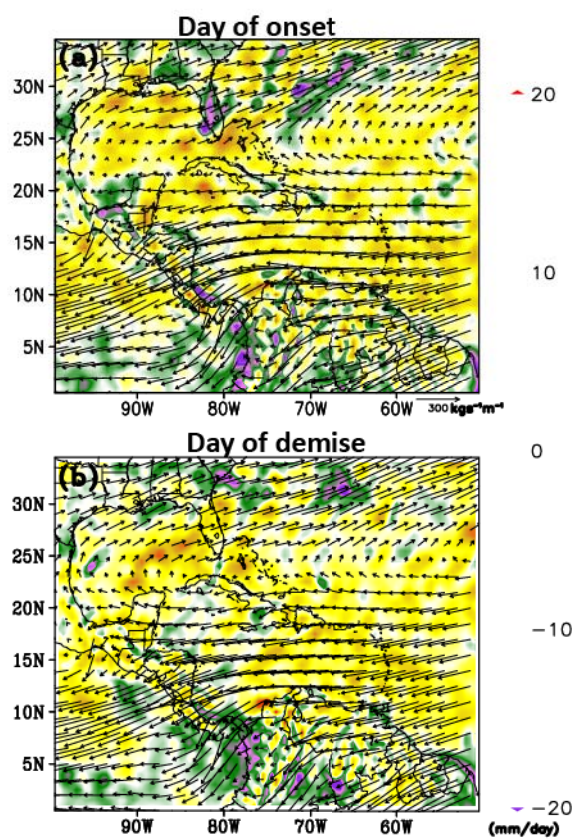
CLIMATOLOGY



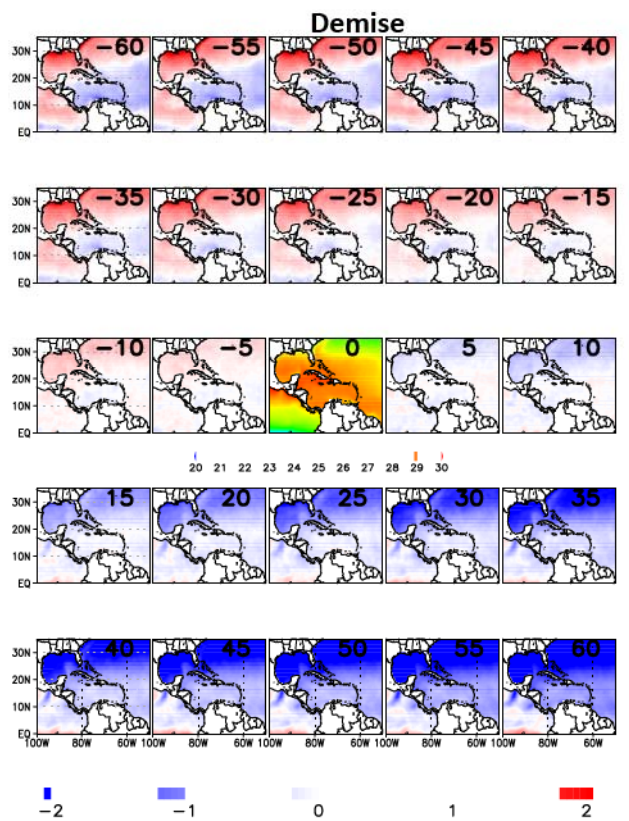
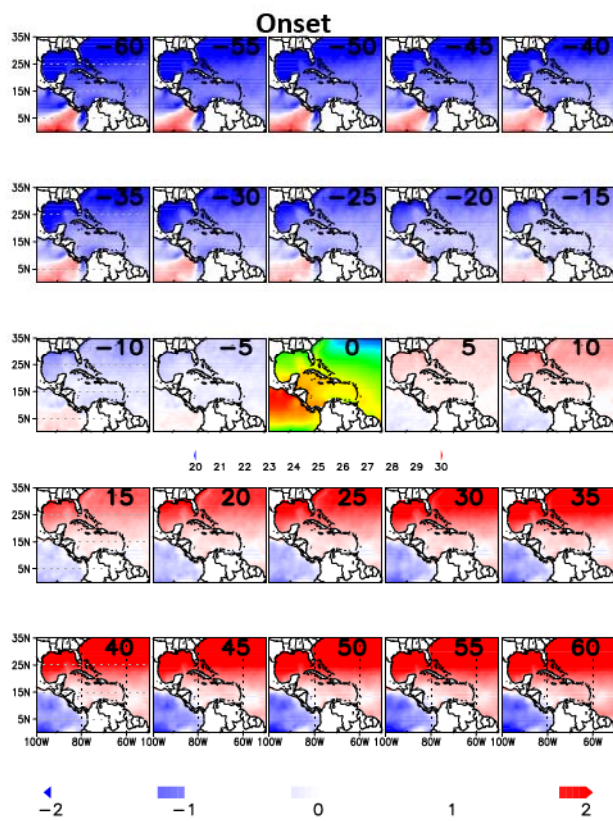
The dramatic onset of the rains in Peninsular Florida—CLIMATOLOGY (58 Years; 1948-2005)



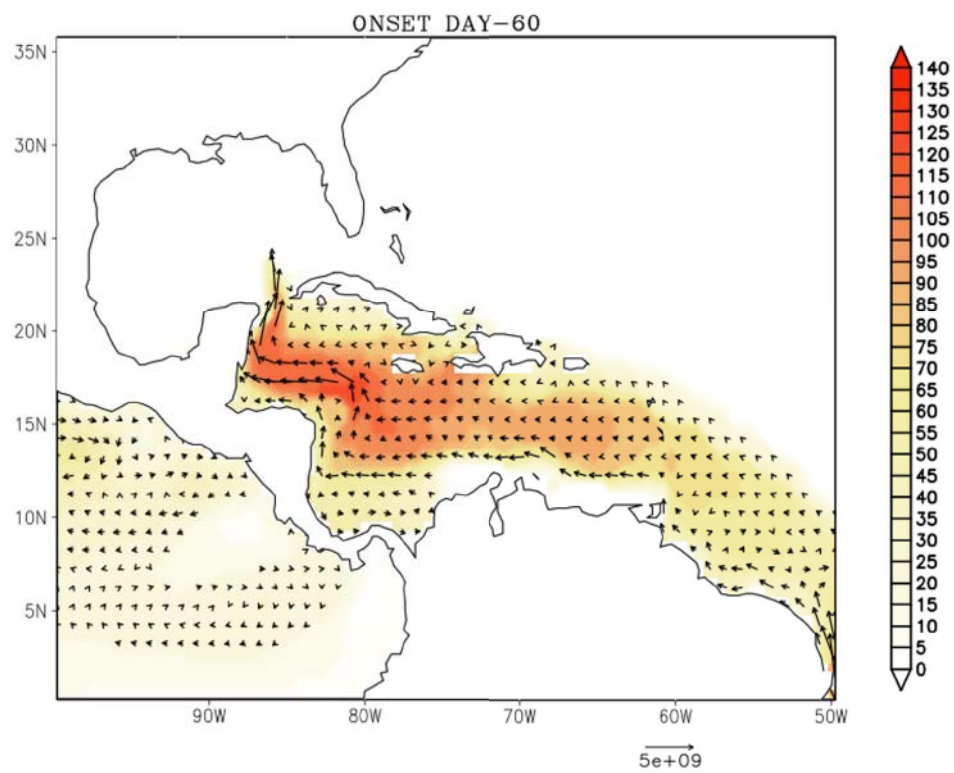
The composite Moisture flux convergence and moisture flux vectors



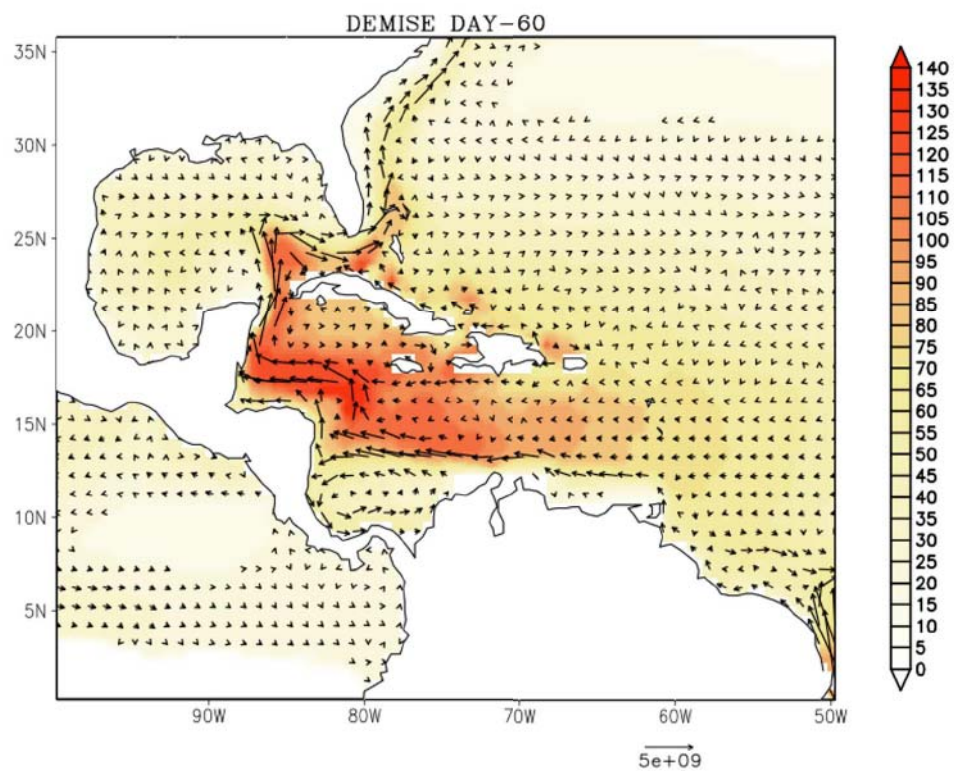
Evolution of Sea Surface Temperature



Movie loop of ocean heat content and ocean heat transport vector pre and post onset

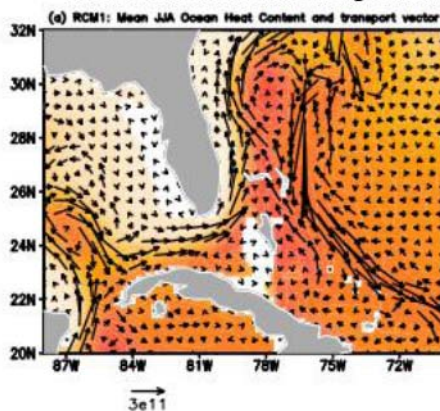


Movie loop of ocean heat content and ocean heat transport vector pre and post demise

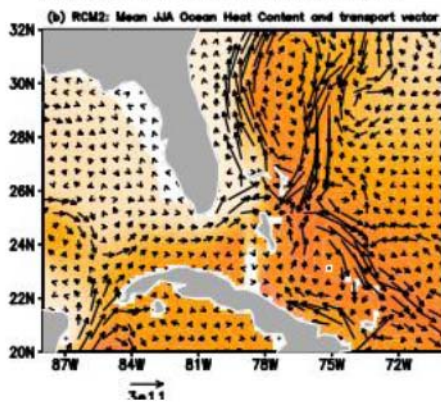


Model simulations

Model simulation with strong currents

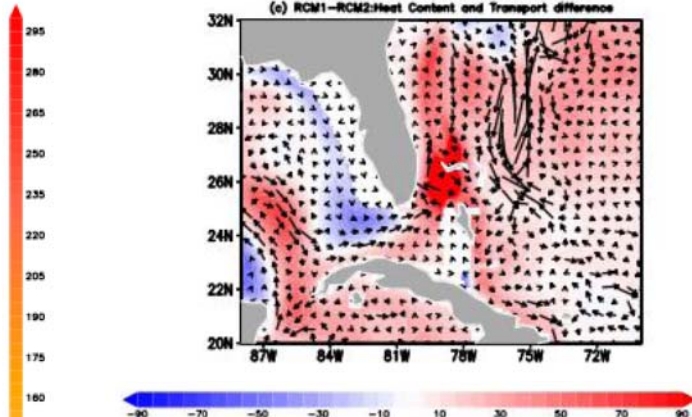


Model simulation with weak currents

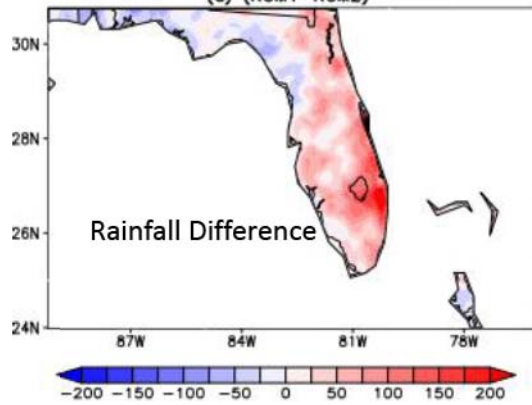


Heat content and heat transport

(c) RCM1-RCM2: Heat Content and Transport difference

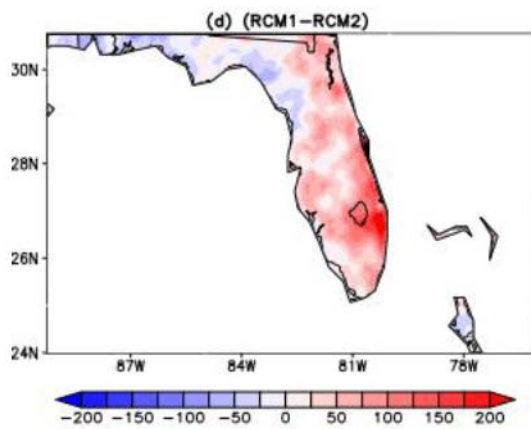


(d) (RCM1-RCM2)

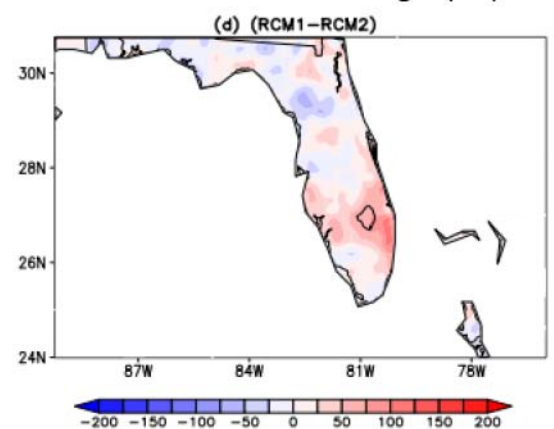


Rainfall Difference (mm)

For Varying wet season length

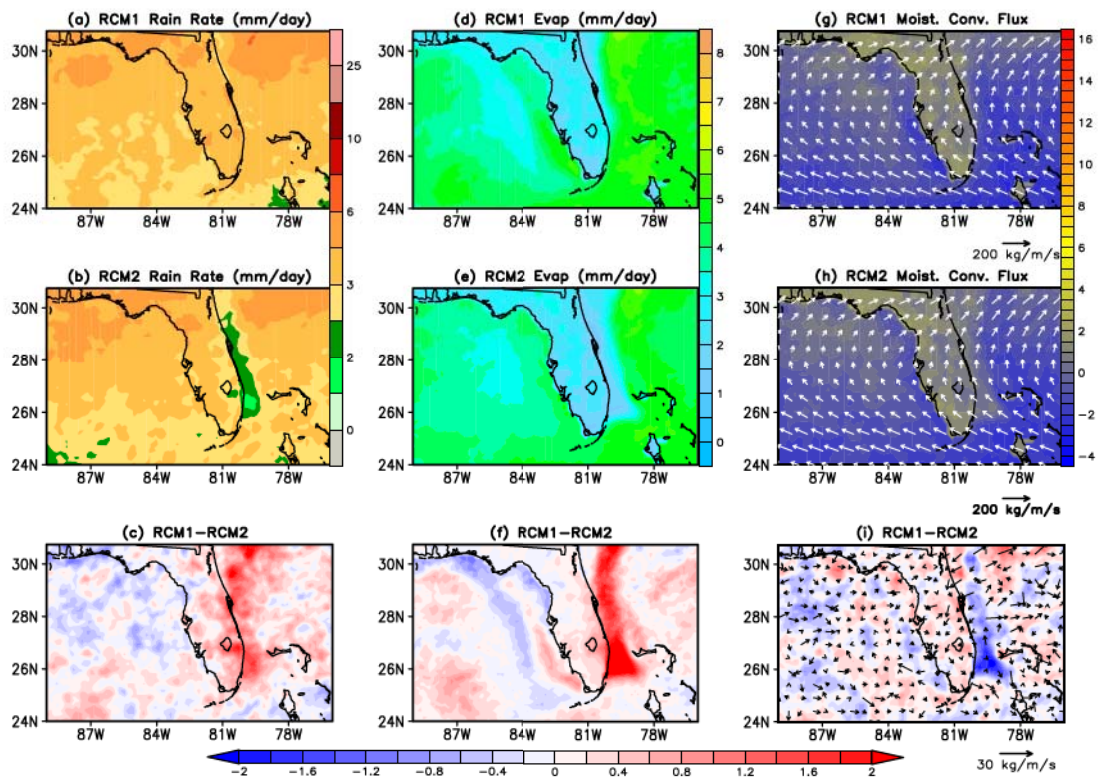


For fixed season length (JJA)

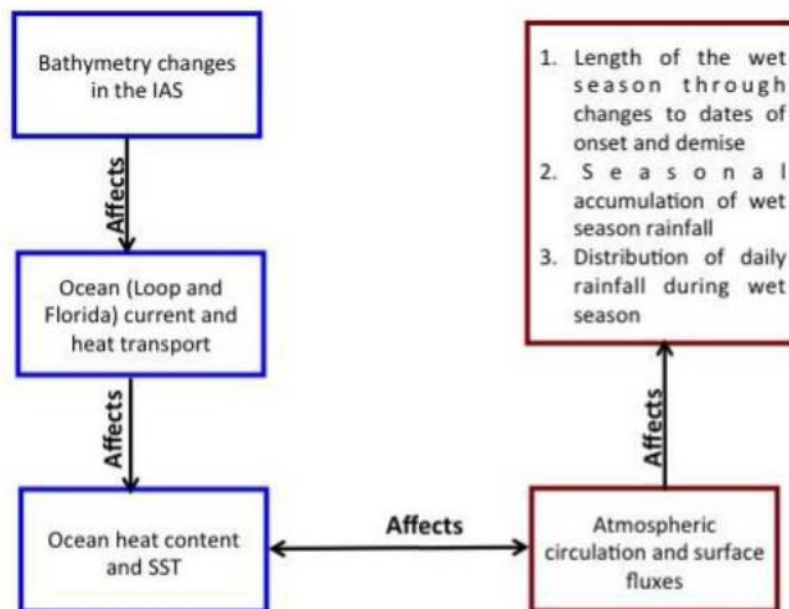


Model simulations

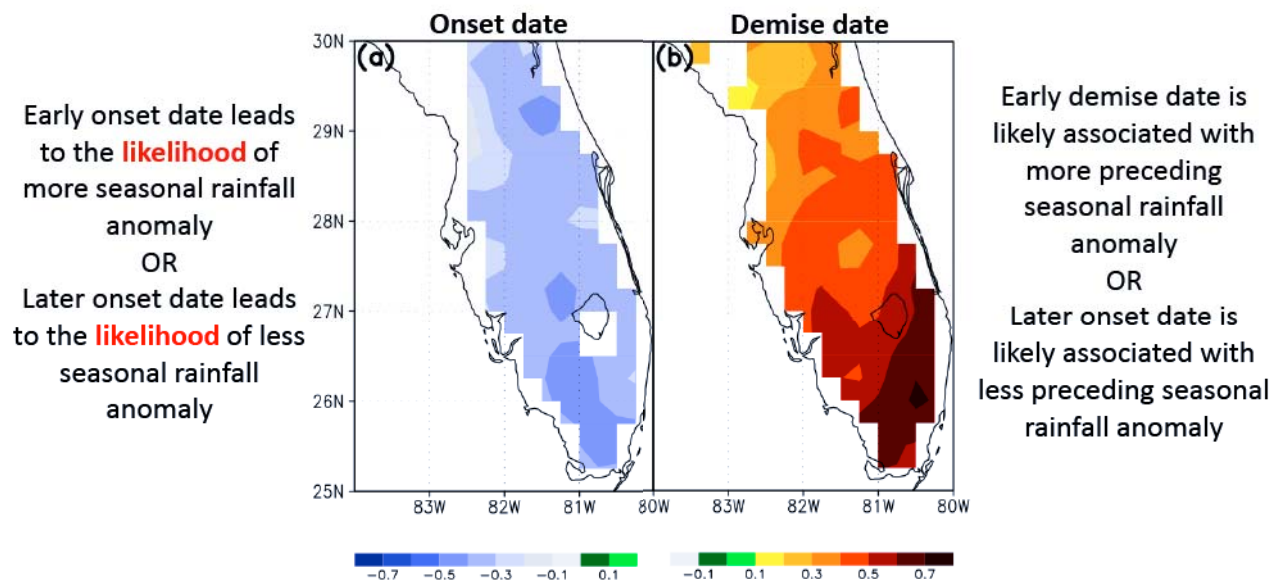
Wet Season Mean (1984–2010)



Feedback loop of the Florida Monsoon hydroclimate with the ocean



Year-to year variations

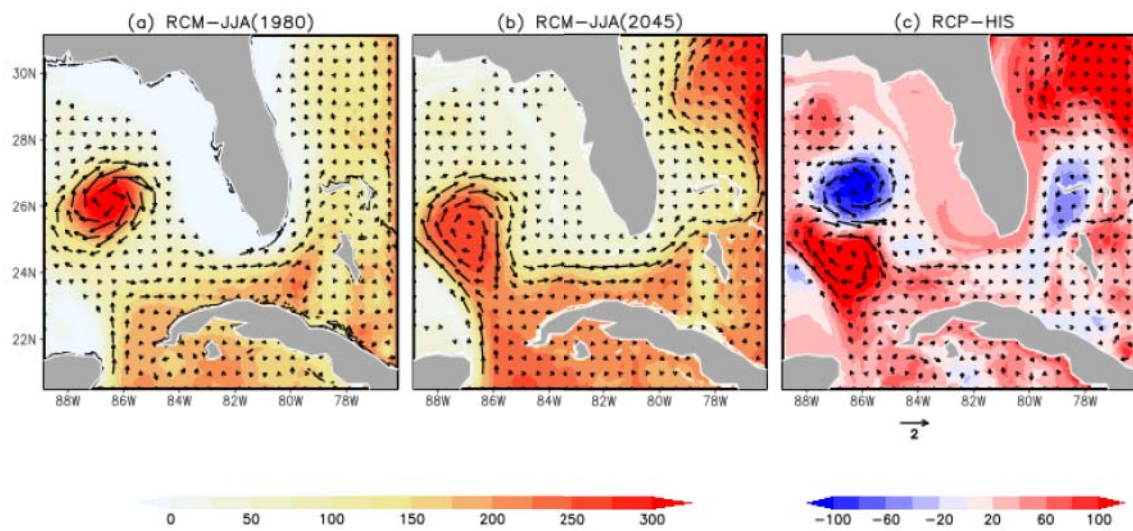


[illegible]

Horizontal
resolution: 10kr
(for both ocean
and temperatur

Annual mean Sfc. temp

JJA mean Heat Transport Vector and depth of 20C isotherm shaded (heat content)
in 5th Year HIST(1980), RCP(2045) RCM Integration



Summary and Conclusions

- Peninsular Florida's terrestrial and ocean climate work in tandem
- Reductionist systems like just the atmospheric model or the ocean model to downscale could be insufficient
- Wet season of Florida does behave like a monsoon
- That means the Florida wet season is likely a stable feature from the geological times when the peninsula got established and the ocean currents formed
- But Florida wet season was, is and going to have significant variations that can be both naturally forced and or anthropogenically forced