

## Discussion on Rain Issues

What validation observations are still missing?

- splash effects for C and KU band
- rain attenuation and volume backscattering in C and Ku
  - o Note: this is partly accounted for by using TRMM-PR (at Ku)
- SST and/or stress (?)
- small wave spectrum and mixed layer

What is the truth for winds and  $\sigma_0$ ?

- dependence on resolution
- how can we measure the winds in hurricanes – impact of waves
- how can we measure the rain in hurricanes; impact of splash

Role of modeling

- great tool for instrument design and algorithm development
- how can we trust them? Can we use multi-channel observations to validate them?

Climate record

- is there a danger of messing it up by mixing KU and C band observations
- account for geographical variability in the differences in estimates
- how can we reconcile differences

Science impact of simultaneous wind and rain measurements

- for the ocean sciences
  - o wind and rain modify the ocean mixed layer – impact on SST
- for the atmospheric sciences
  - o the surface heat fluxes
  - o convergence of moisture – convection initiation and support
- coupled
  - o understanding El Nino-Southern Oscillation
  - o understanding Westerly Wind Bursts and MJO
  - o hurricanes
    - the role of convection;
    - the relationship between convective bursts and the hurricane winds (intensity and size)
    - how wind-induced sfc roughness modifies the air-sea interactions – heat flux, drag, spray