

**Some differences between TWP-ICE data  
from the CPOL radar and the CRM:  
Should we point fingers at convective  
intensity, microphysics, or both?**

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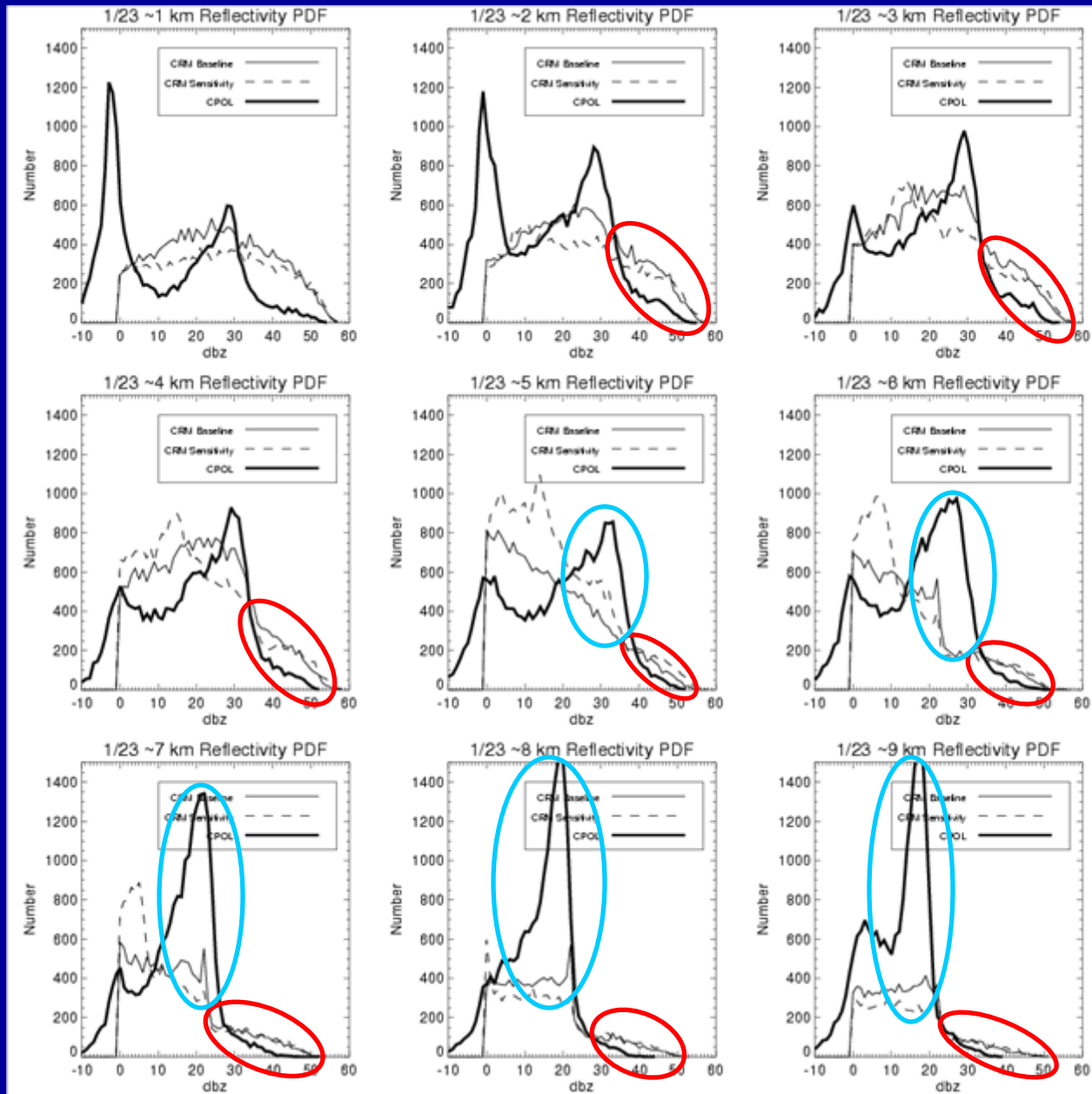
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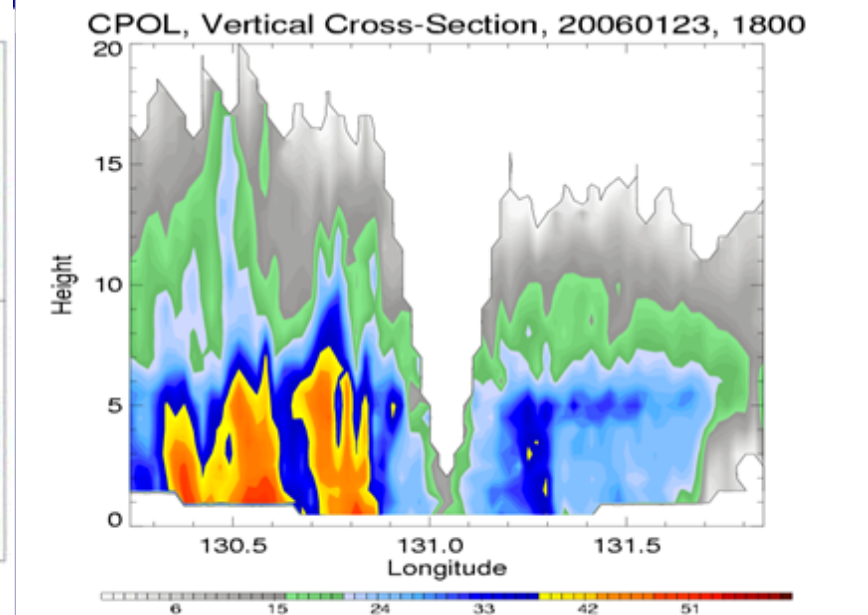
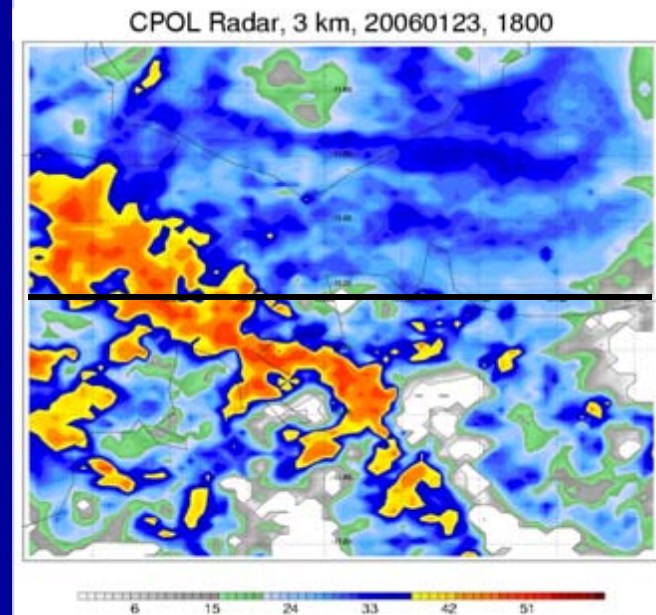
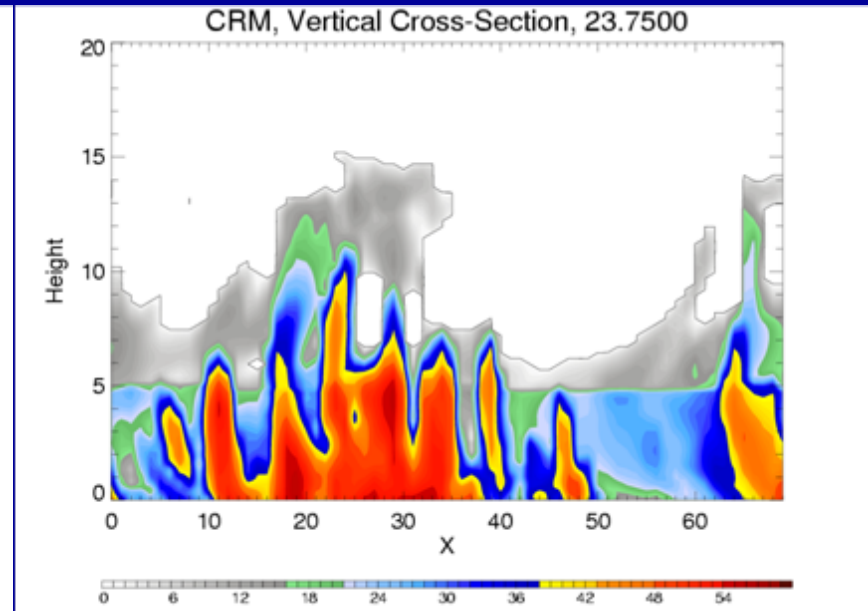
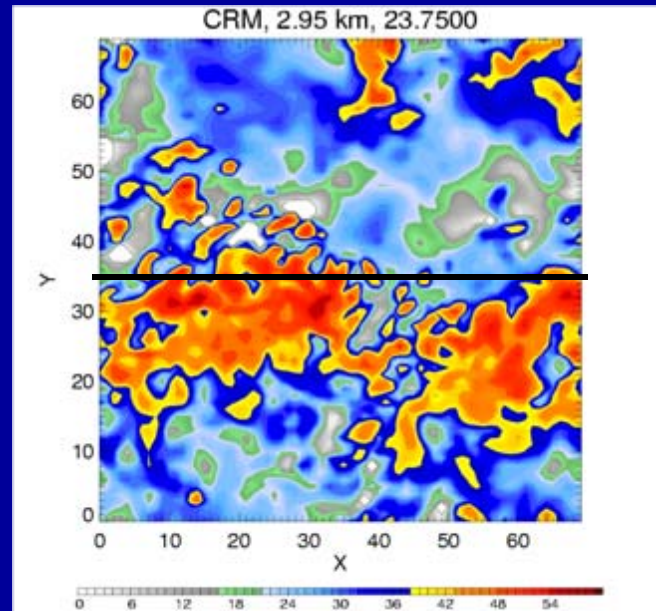
# Outline

- CRM vs. CPOL
  - Constant altitude radar reflectivity histograms
    - Active Period Examples
    - Suppressed Period Example
  - Horizontal and vertical radar reflectivity cross sections
    - Active Period Examples
    - Suppressed Period Example
- Preliminary Conclusions

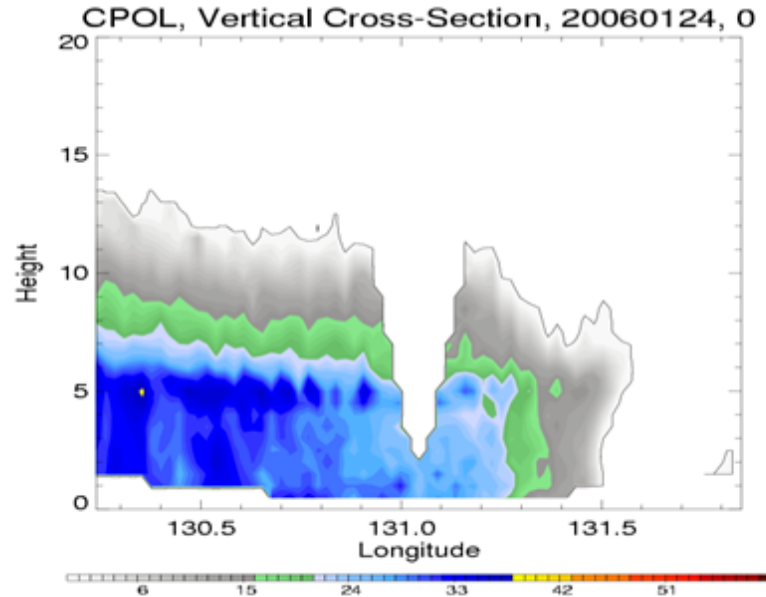
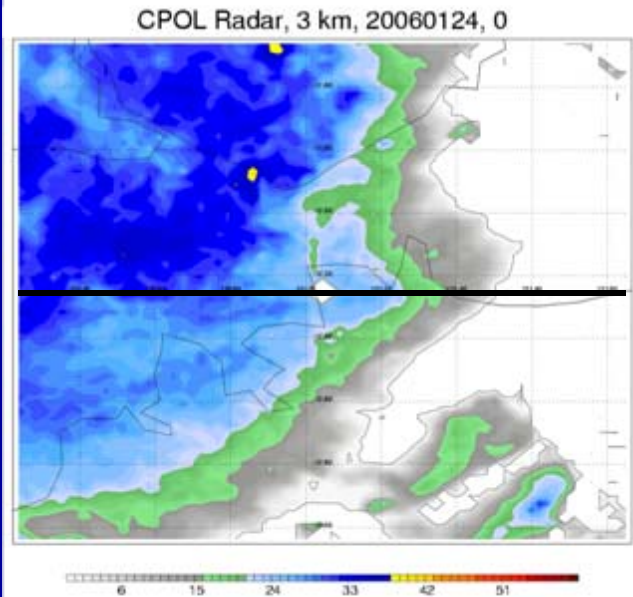
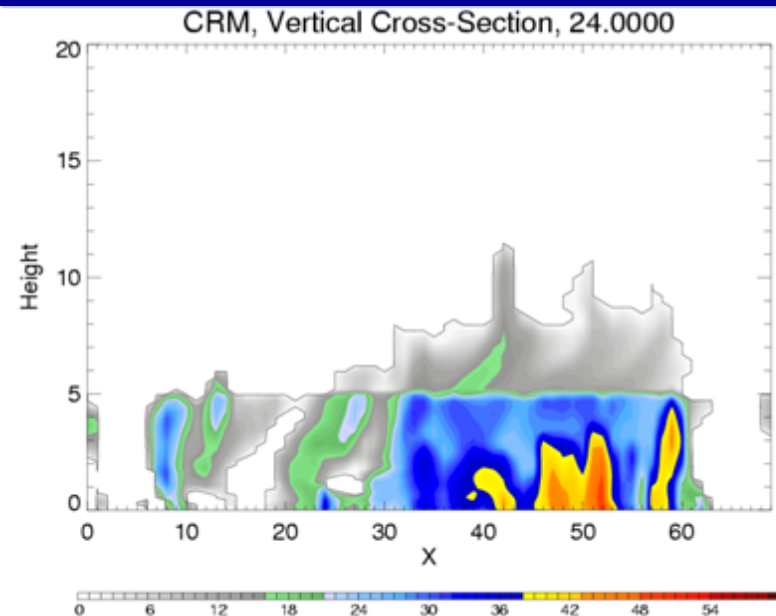
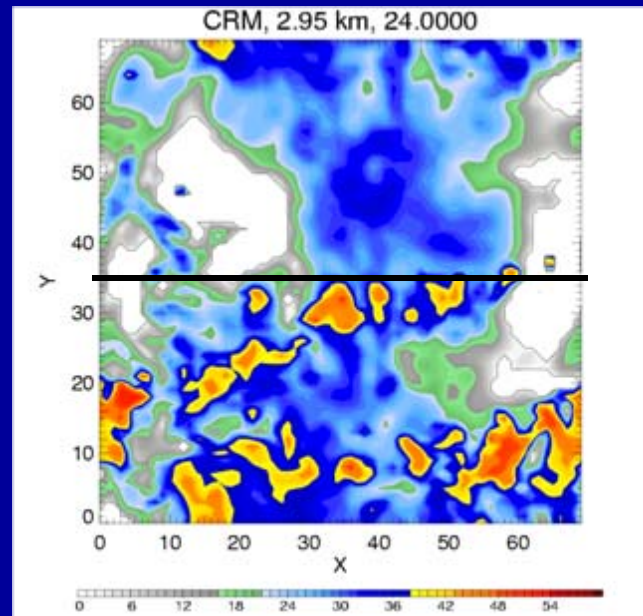
# Histograms (Active)



# Cross-Sections – Active (Baseline)

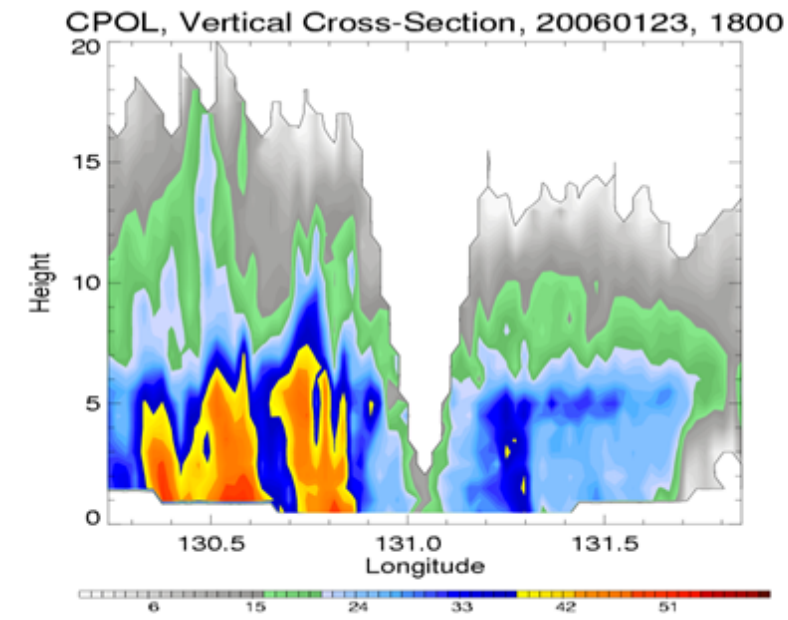
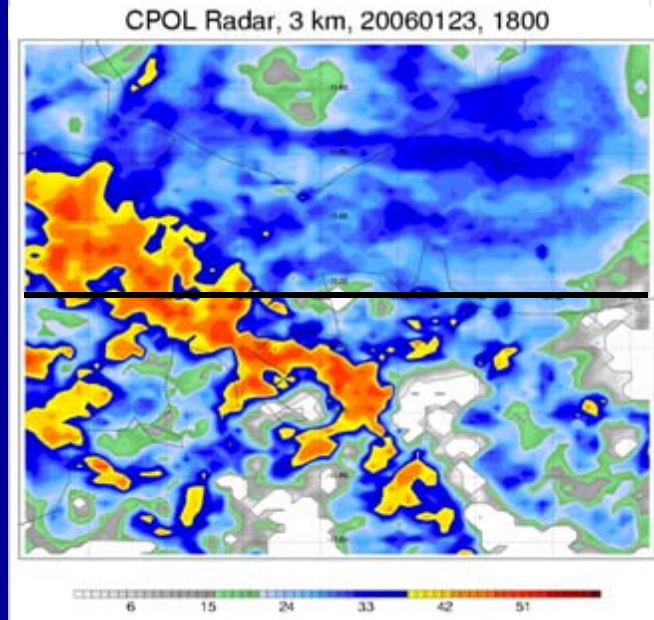
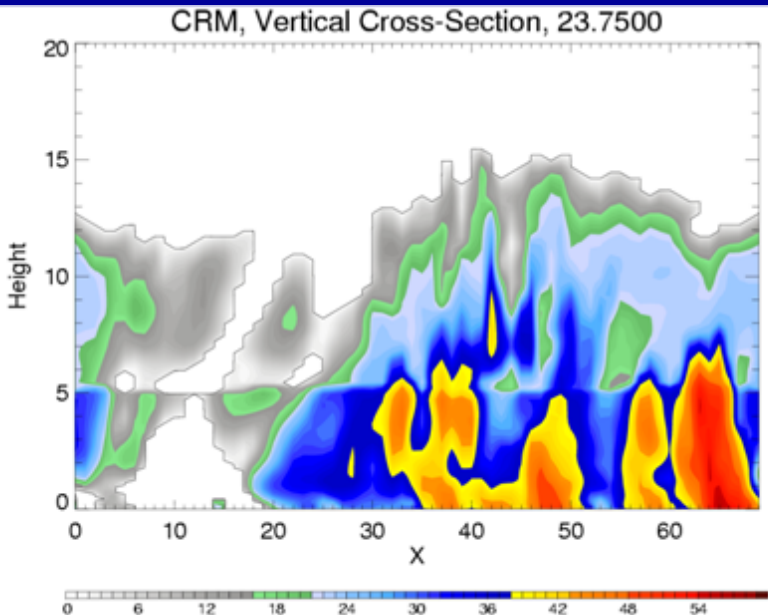
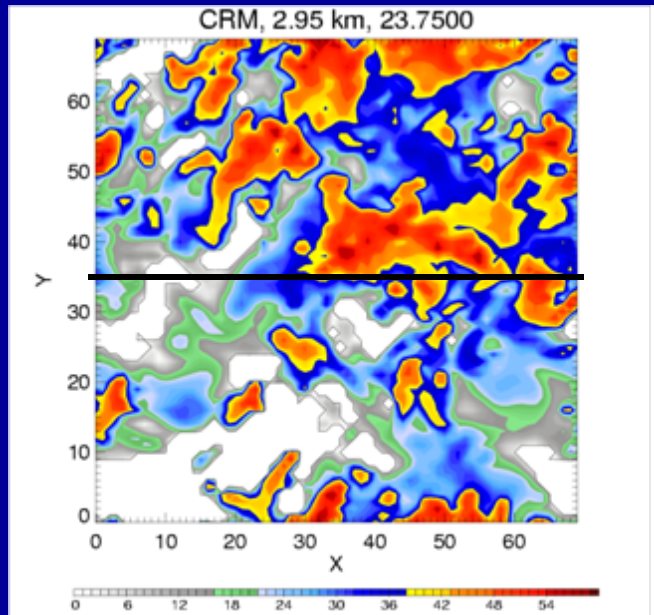


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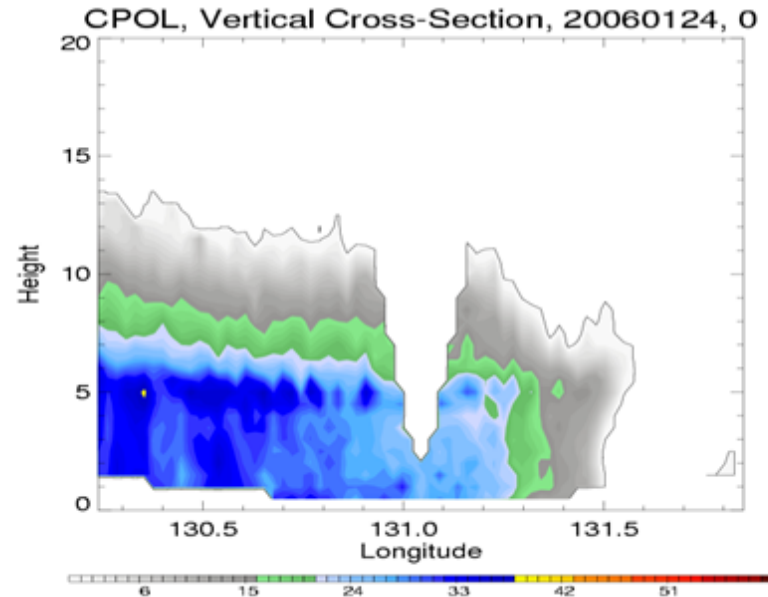
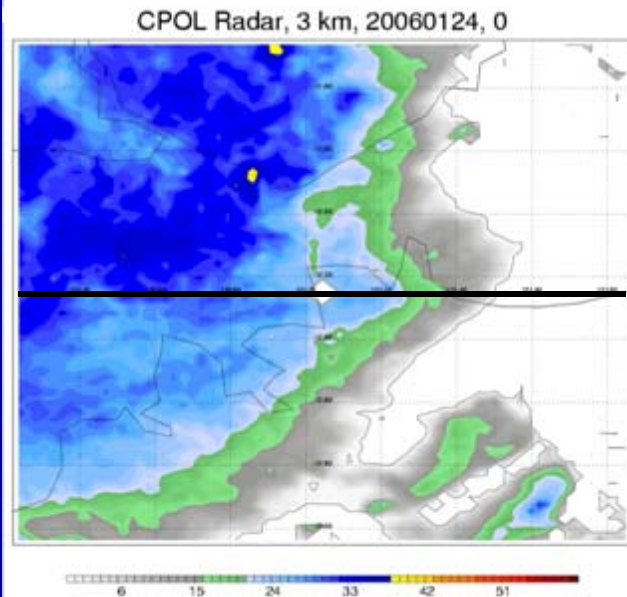
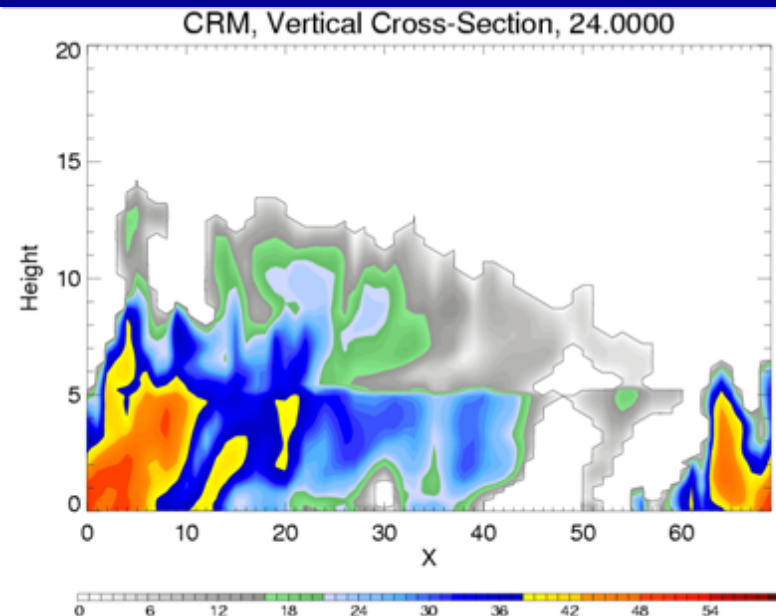
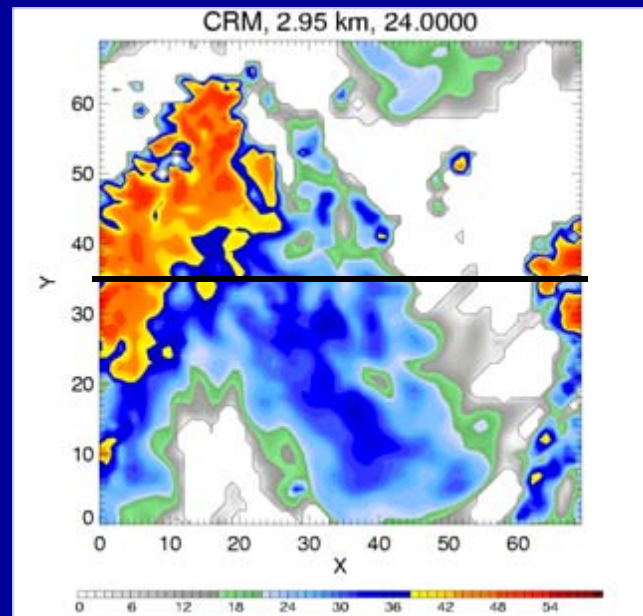




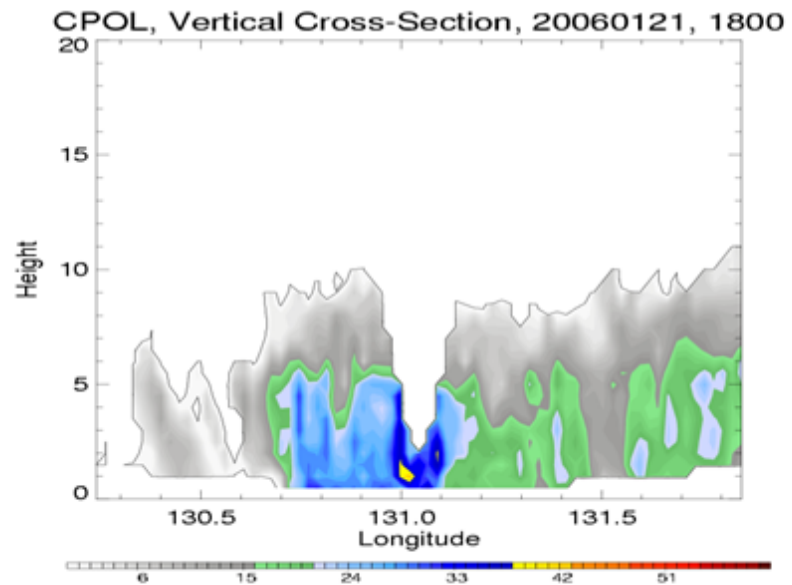
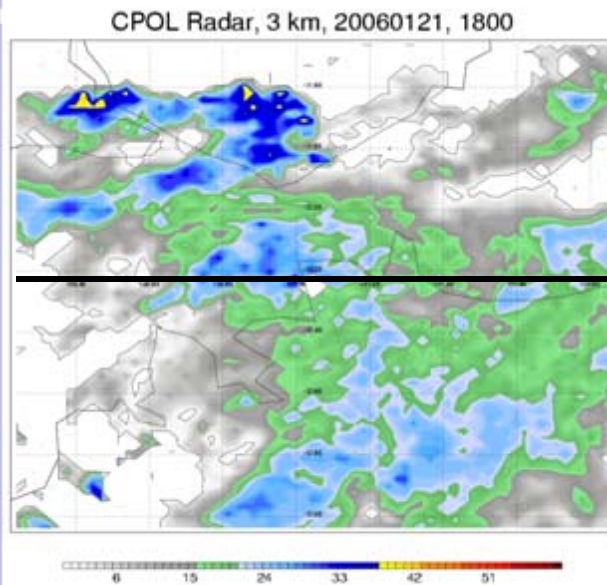
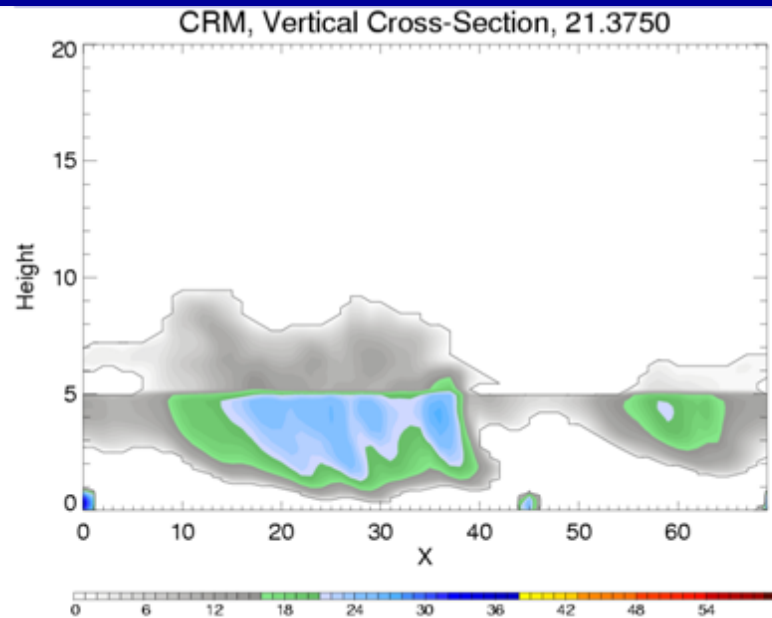
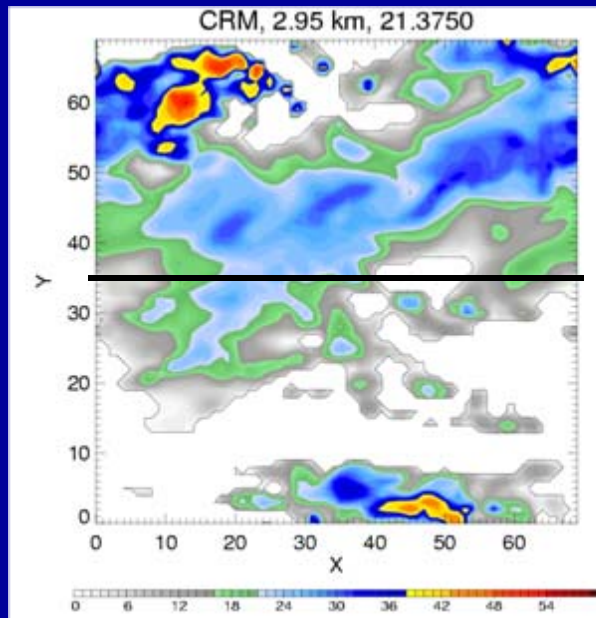
# Cross-Sections - Active (Sensitivity)



# 6 Hours Later...

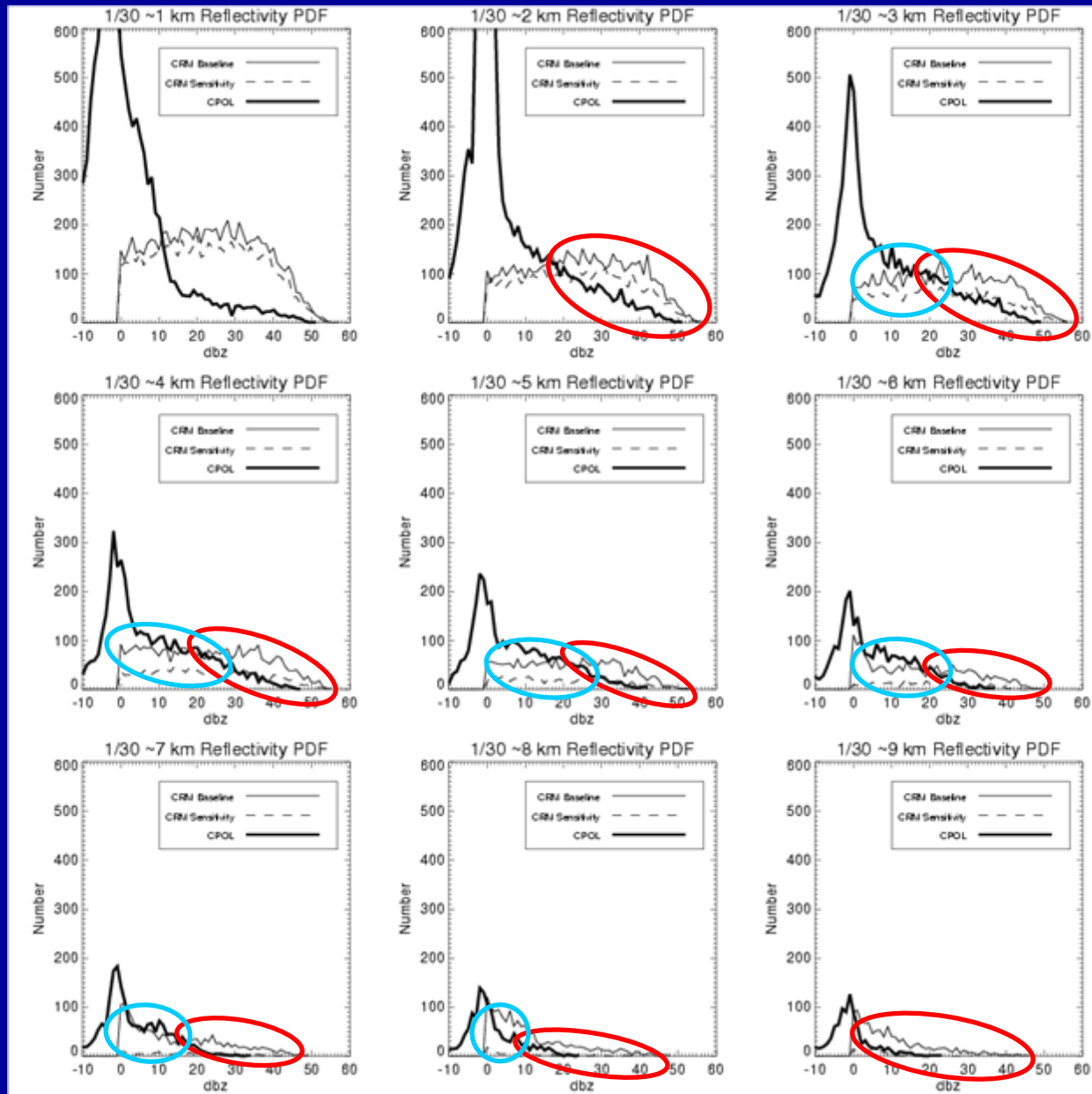


# Stratiform Differences

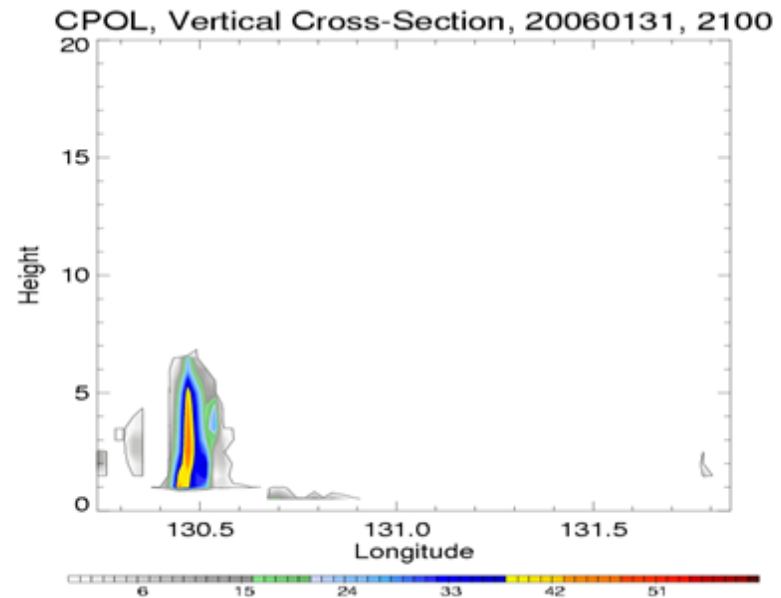
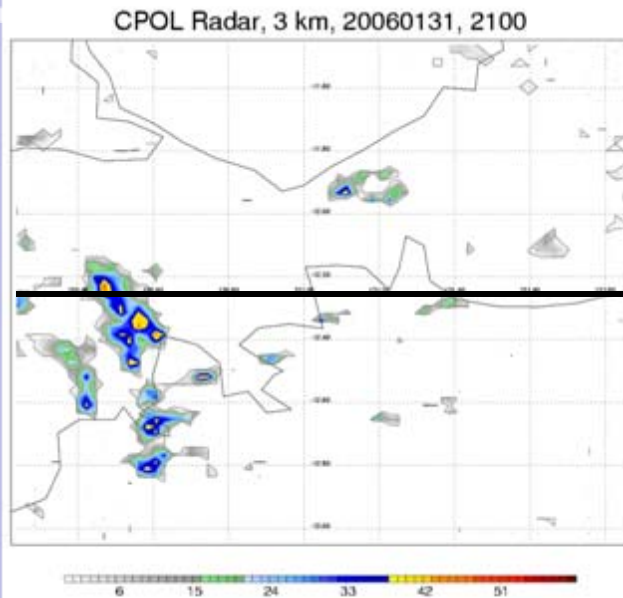
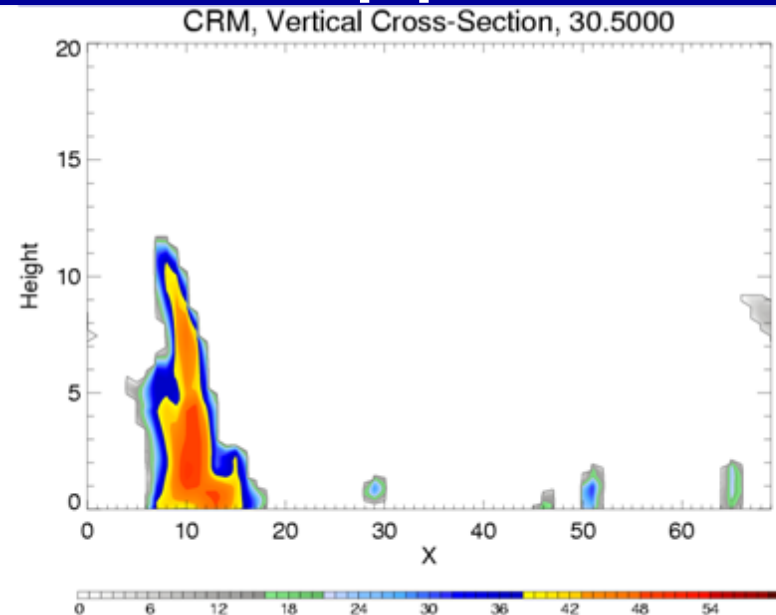
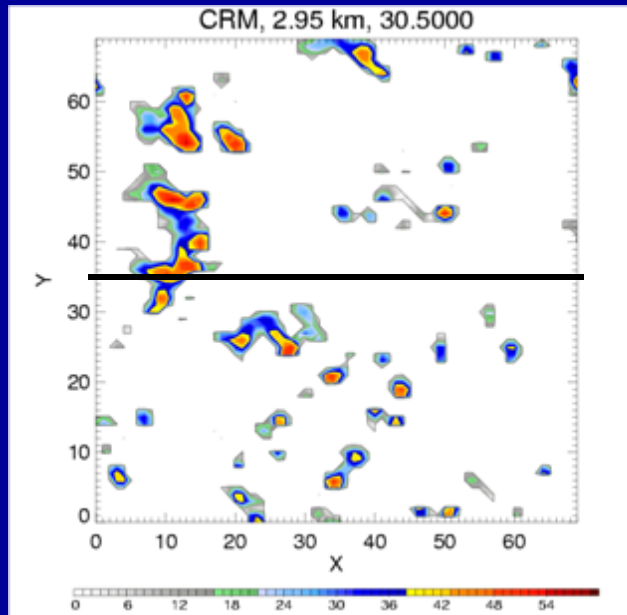




# Histograms (Suppressed)



# Cross-Sections - Suppressed



# Preliminary Conclusions

- Active Period

- Both CRM runs produce too much convective area and what appears to be too intense convection (dynamics or microphysics?)
- There is not enough upper tropospheric reflectivity echo in the CRM runs (ex. anvil)
- The stratiform echoes in the CRM runs do not reach the surface enough (too much evaporation?)

- Suppressed Period

- Both CRM runs produce what appears to be too intense convection and too much convection
- The sensitivity run does better on convective area but doesn't produce enough stratiform area

# Where do we go from here?

- What are the reasons for these differences? Dynamics? Microphysics? Both?
  - Immediately, we can look at updraft and downdraft statistics and compare with observations
  - Then, attempt to address the microphysics issues
  - Other effects? Periodic boundary conditions?