L2 Retrievals from L1B and L1C

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Objective and Selected Set of Products

- Compare L2 means and extremes retrieved from L1B and from L1C
- Temperature and Water Vapor at different pressure levels and atm. heights
- March 1, 2014 products from v6.x (Evan Manning)
- Check different quality controls (QCs)
Why Use L1C for L2?

- L1C removes spurious outliers
- Provides better input for training sets (Neural Net) used in the prior
- Offers more channels for potential retrievals
Selected Granules

L1B Availability
AMSU Granules: 240
HSB Granules: 0
AIRS Granules: 240

1 Mar 2014
DoY 60
Aqua Day 4319
Ascending Granules
Add Quality Controls

$QC = [0 \ 1]$

$QC = 0$
Near surface

$\text{QC} = [0 \ 1]$
Means & Extremes at Atm. Heights

QC = 1, Granule 124, Africa

Graph showing variability in temperature (δ T) and water vapor (δ H2O) at different atmospheric heights (hPa) for Granule 124 in Africa.
Ocean Atlantic

QC = [0 1]
Ocean
Atlantic
At atm. heights
Ocean
Pacific

QC = [0 1]
Ocean Pacific
At atm. heights
Tentative Conclusions

✧ Differences up to 1 K for air T, 2% for H2O in some pixels

✧ Difference is reduced by taking quality controls and averaging but still reaching about 0.5 K in extremes near surface