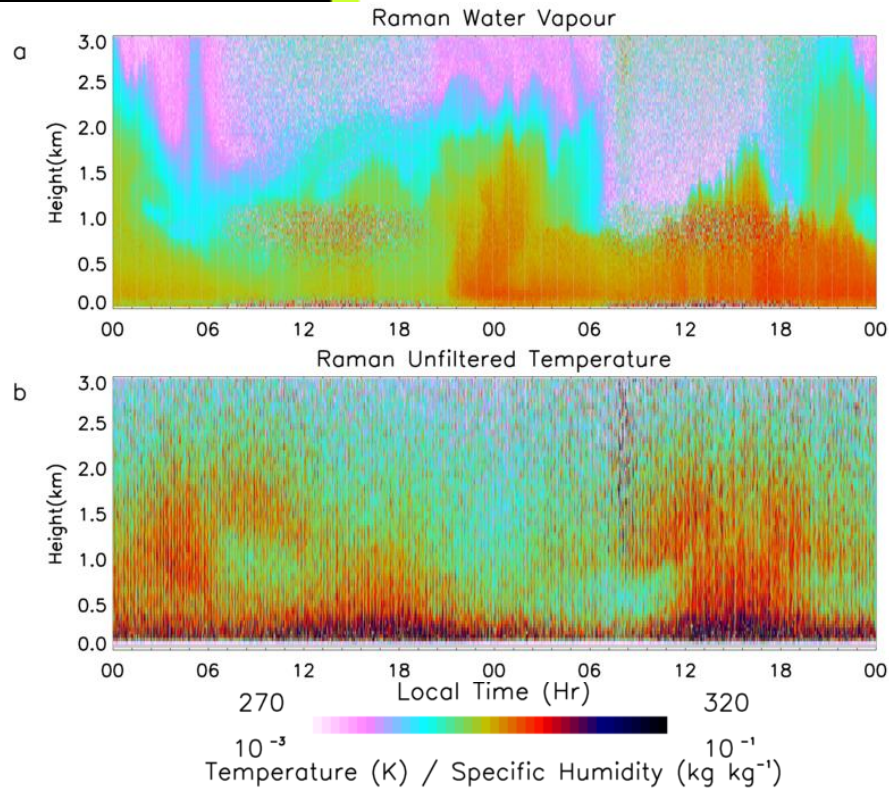


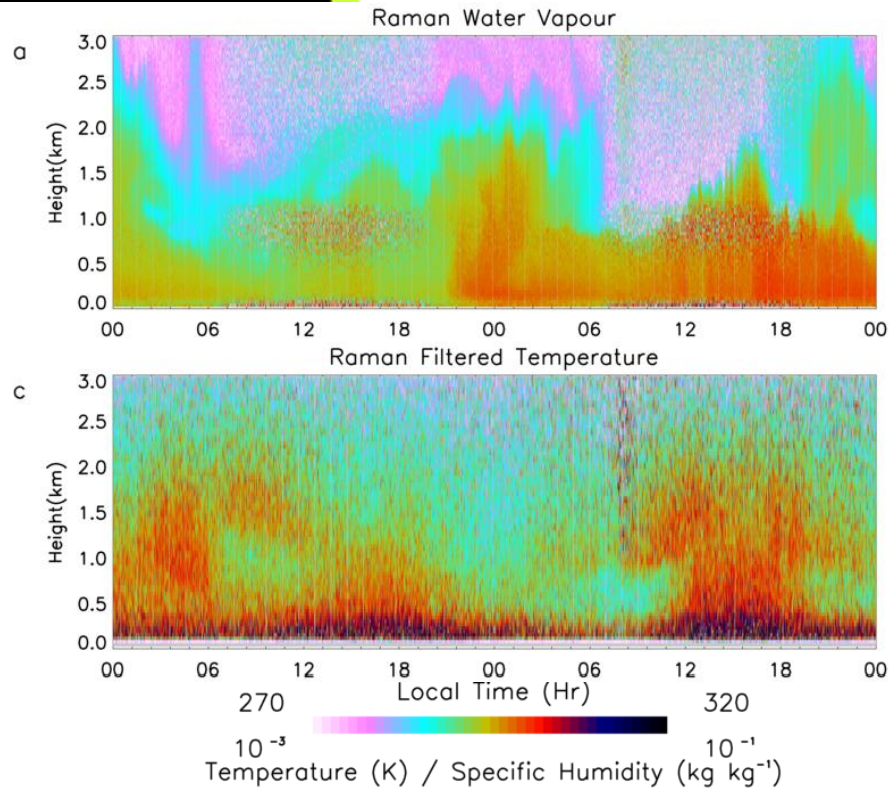
Using lidar to diagnose RHcrit

Relative humidity at which clouds start to form in a GCM grid box -> function of subgrid T and q_v variability



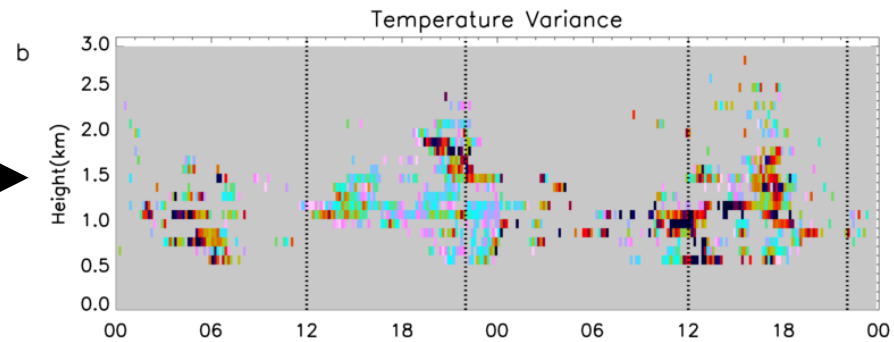
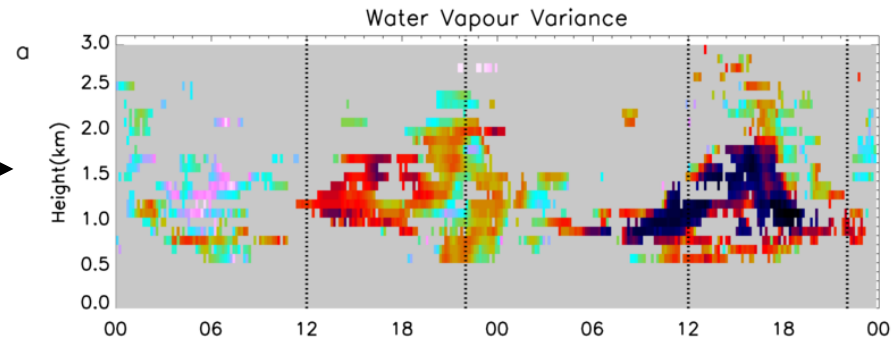
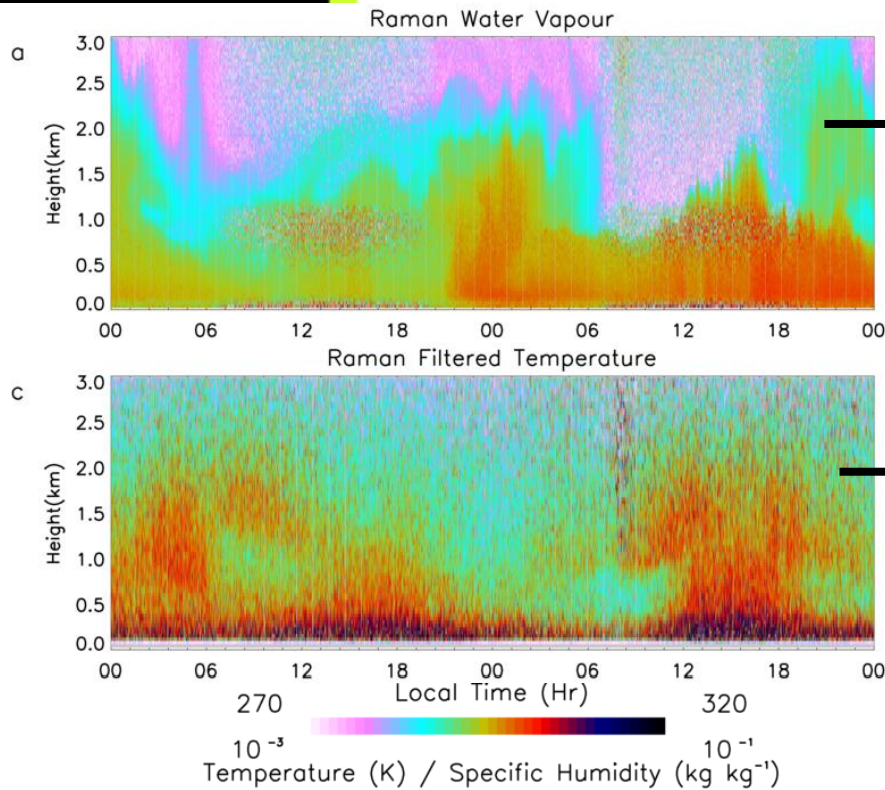
Using lidar to diagnose RHcrit

Relative humidity at which clouds start to form in a GCM grid box -> function of sub-grid T and qv variability

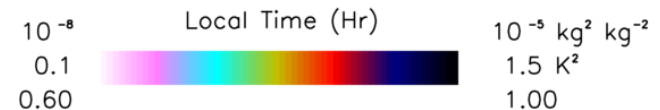


Using lidar to diagnose RHcrit

Retrieved variances for $\Delta x = 120 \text{ km}$ and $\Delta z = 100 \text{ m}$

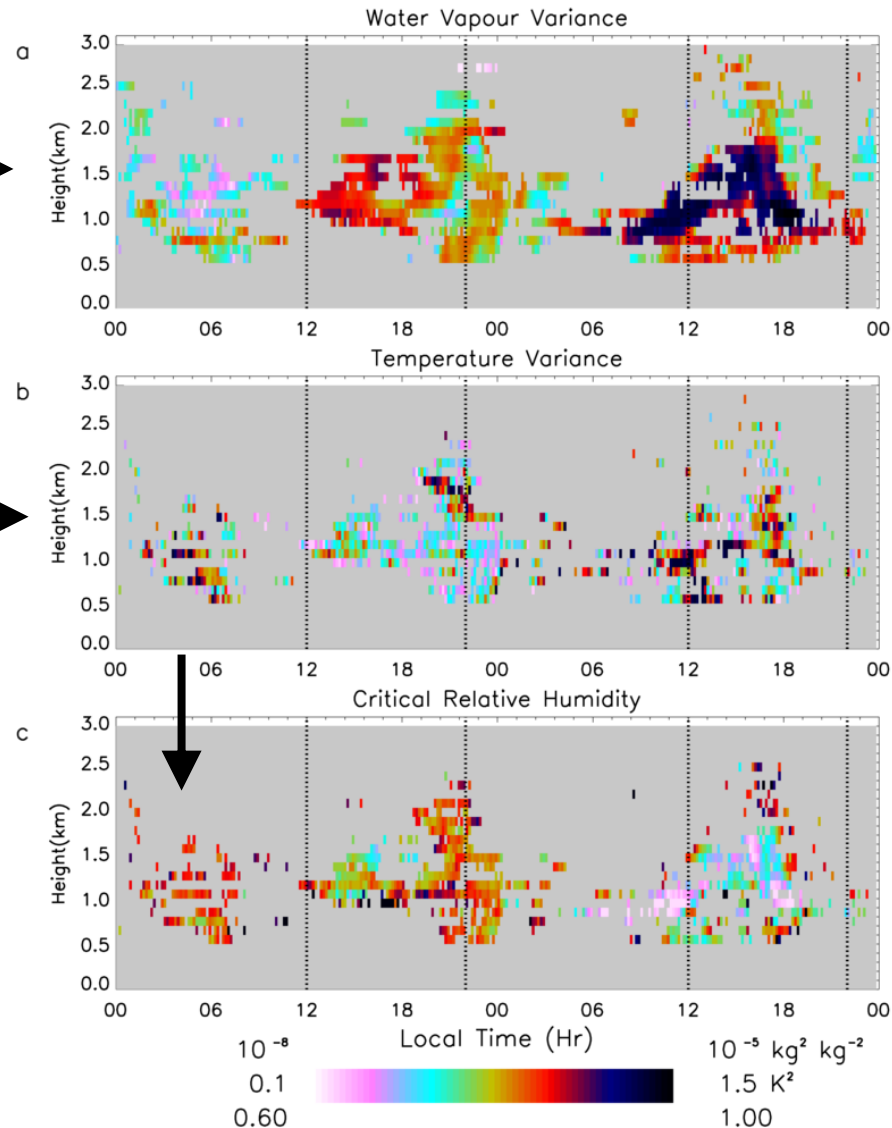
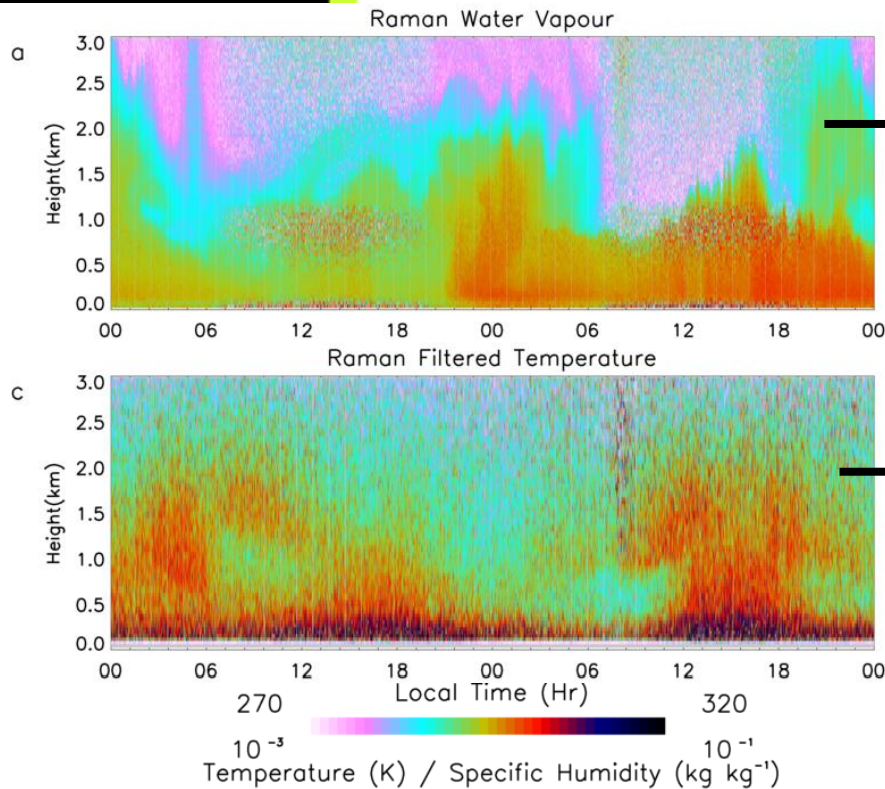


$$\sigma_s = \sqrt{a^2 \overline{q_T'^2} - 2ab \overline{q_T' \theta_L'} + b^2 \overline{\theta_L'^2}}$$



Using lidar to diagnose RHcrit

Retrieved variances for $\Delta x = 120 \text{ km}$ and $\Delta z = 100 \text{ m}$

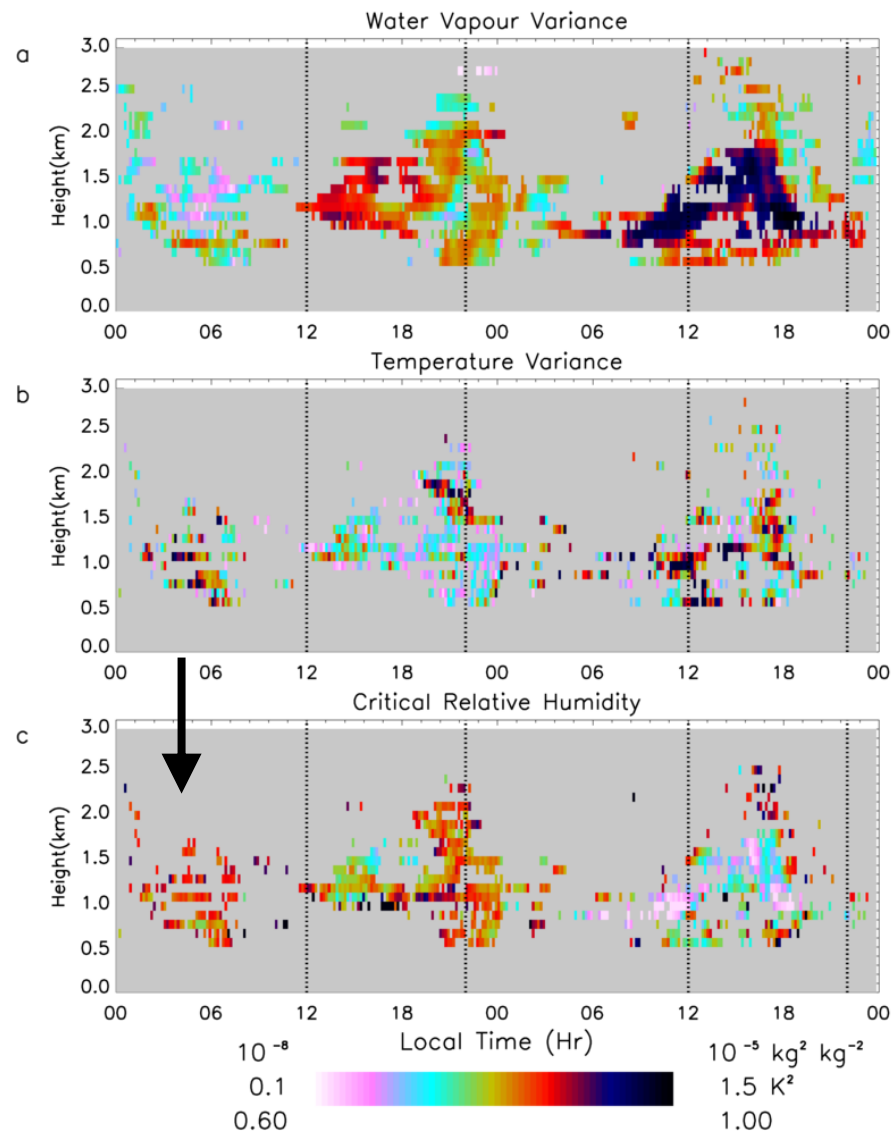
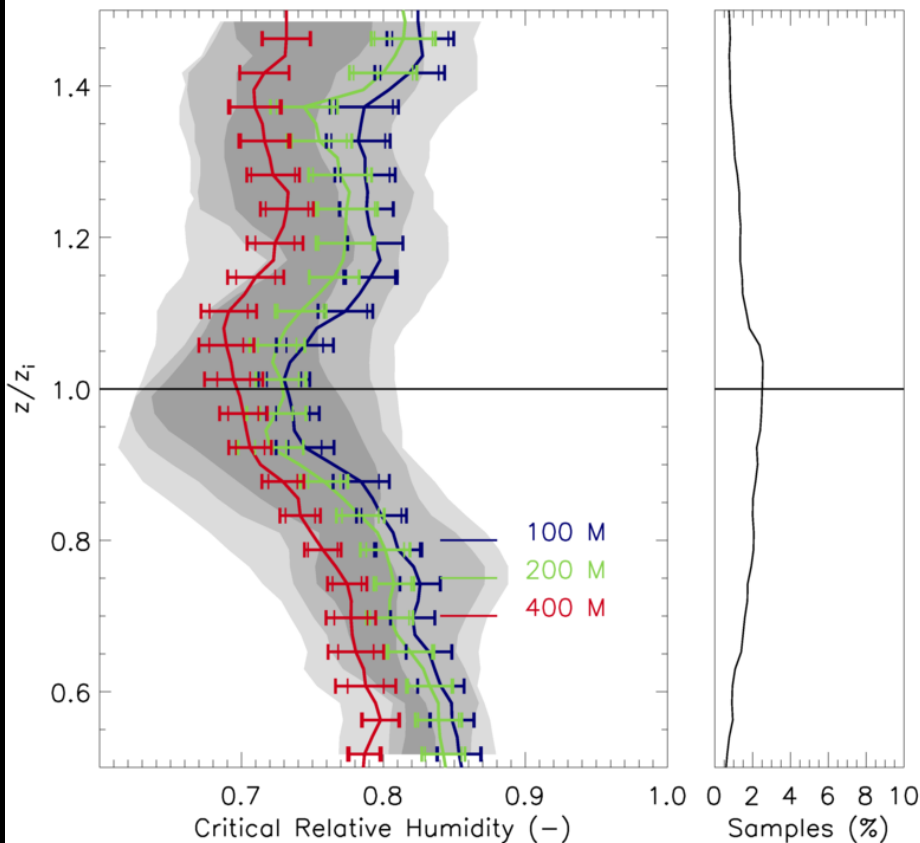


$$\sigma_s = \sqrt{a^2 \overline{q_T'^2} - 2ab \overline{q_T' \theta_L'} + b^2 \overline{\theta_L'^2}}$$

$$RH_{crit} = 1 - \frac{\sqrt{6\sigma_s^2}}{aq_{sat}(T_L)}$$

Using lidar to diagnose RHcrit

Retrieved variances for $\Delta x=120\text{ km}$ and $\Delta z=100\text{ m}$



$$RH_{crit} = 1 - \frac{\sqrt{6\sigma_s^2}}{aq_{sat}(T_L)}$$

Using lidar to diagnose RHcrit

Feel free to have a look at our poster # 66

Towards Retrieving Critical Relative Humidity For Use In Cloud
Parameterizations from Ground-Based Remote-Sensing
Observations

General topics – Clouds

Wed 3:30 - 5:00 pm

66