

# **Lidar Measurements from King Air during PECAN**

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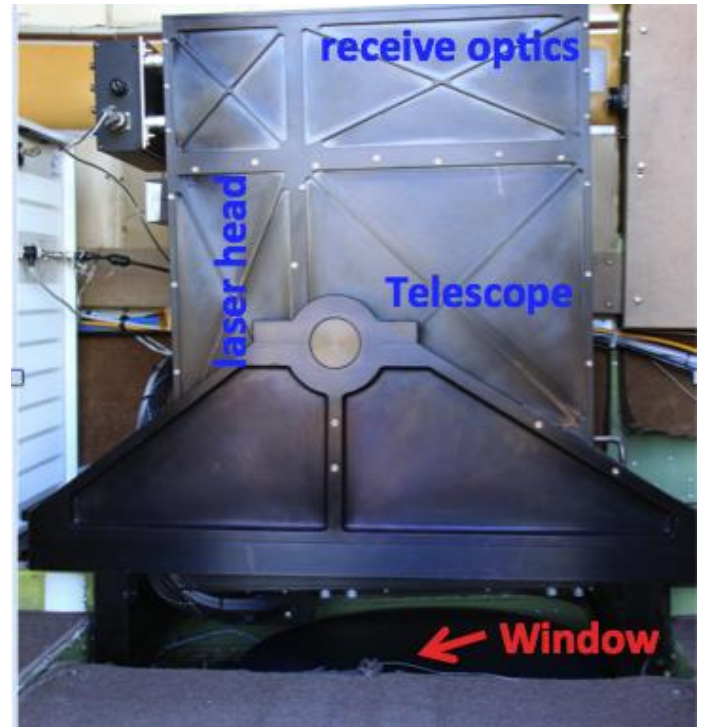
**University of Wyoming**

# Lidar Systems

**Upward**— Wyoming Cloud Lidar (WCL): a two-channel elastic lidar

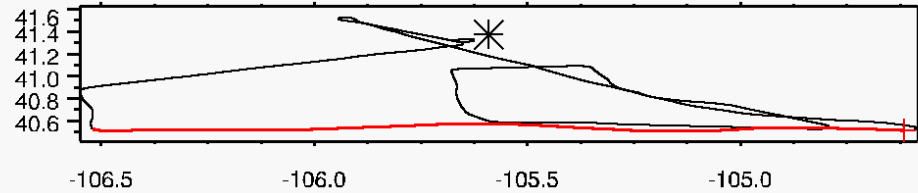


**Downward** – Compact Raman Lidar (CRL): a five-channel system

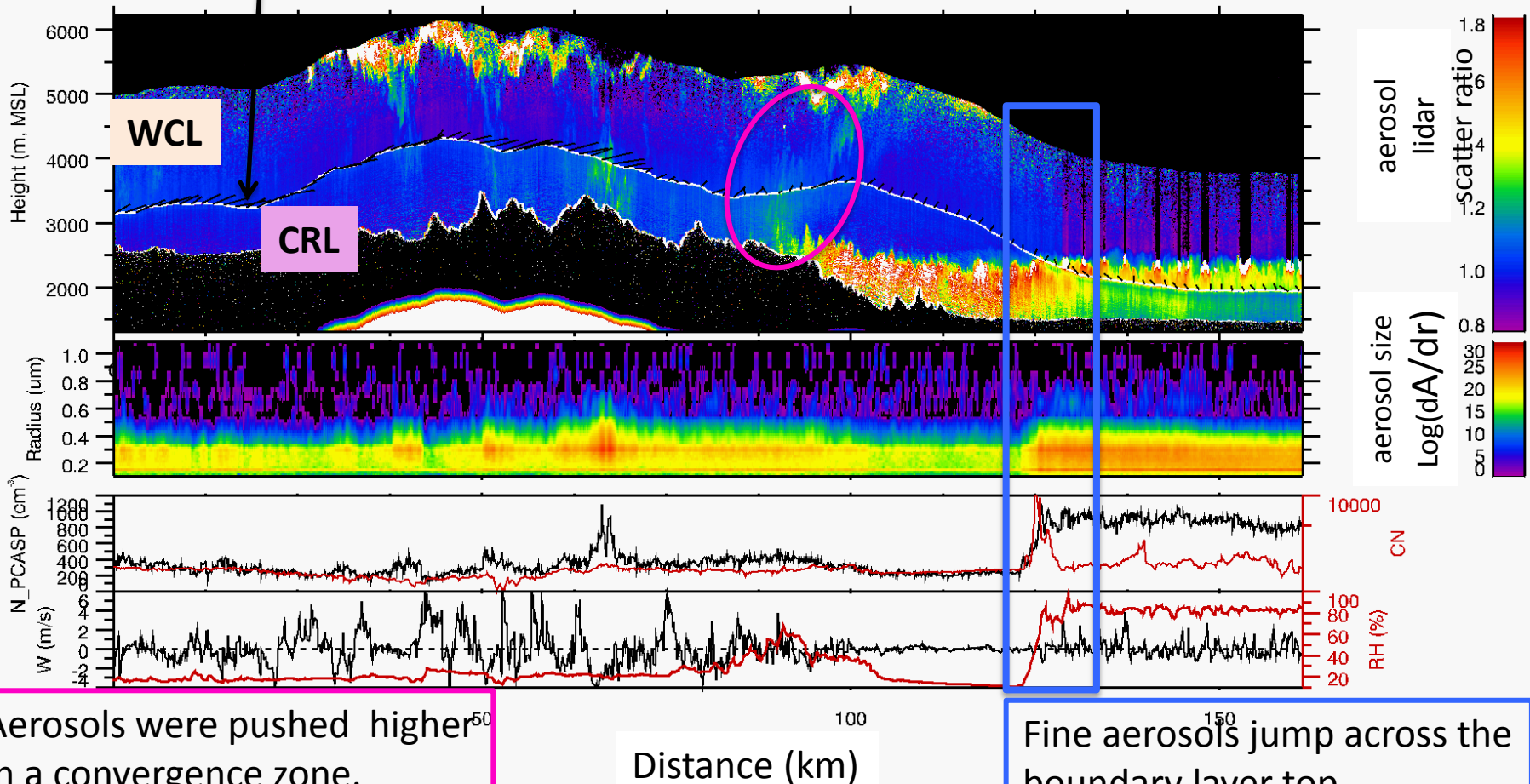


# An Aerosol Measurement Example

Horizontal wind speed and direction at the flight level



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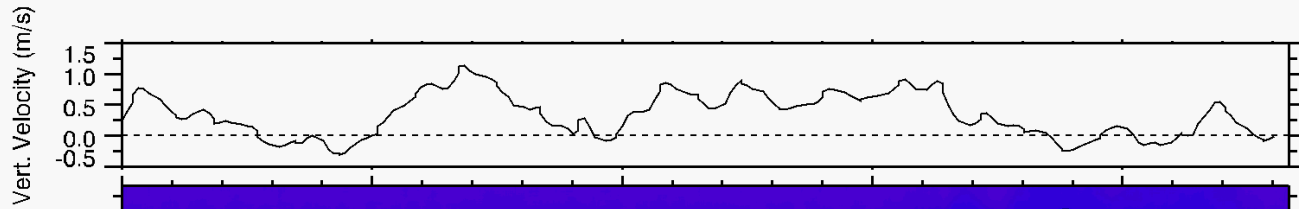
Aerosols were pushed higher in a convergence zone.

Fine aerosols jump across the boundary layer top.

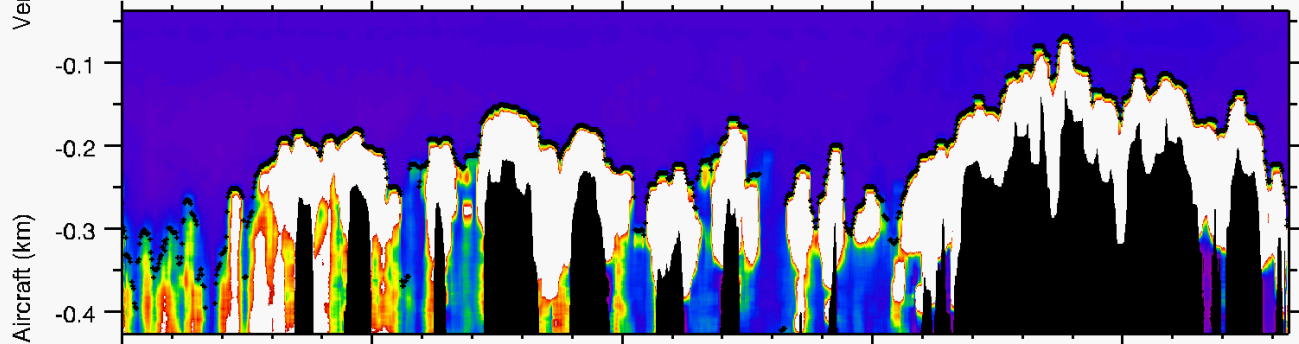
# Nighttime Water Vapor Measurements

*An example of water vapor above altocumulus*

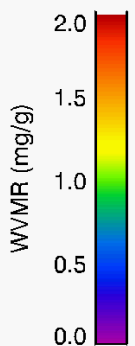
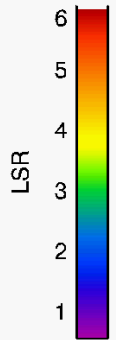
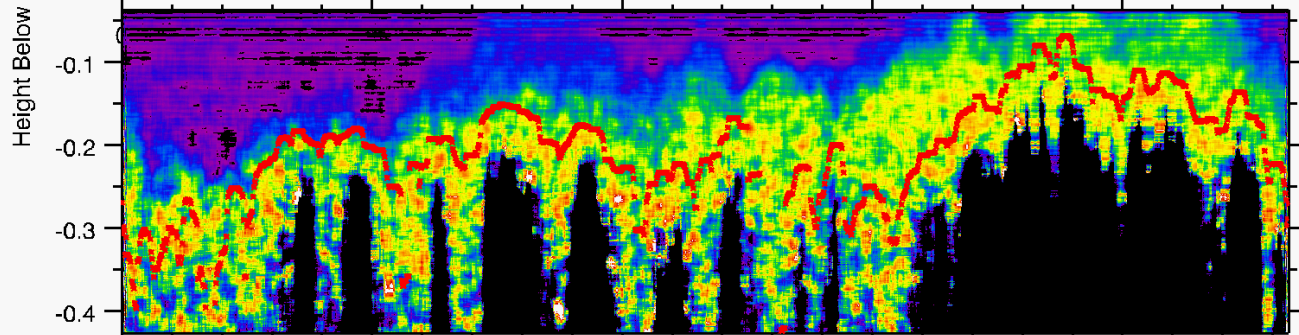
**Vertical  
Velocity**



**Aerosol  
and Cloud**



**Water  
Vapor**



0 5 10 15 20  
Distance (km)

# Potential Temperature Measurements

- We are redesigning the CRL detection box (keeping it the same size and weight) to have temperature detection channels.
- The detection range and accuracy to be determined.