# NAAMES (North Atlantic Aerosols and Marine Ecosystems Study) NASA Earth Venture Suborbital-2

## Instrument

High Spectral Resolution Lidar (HSRL)

Aerosol, Cloud, and Ocean Vertical Profiling

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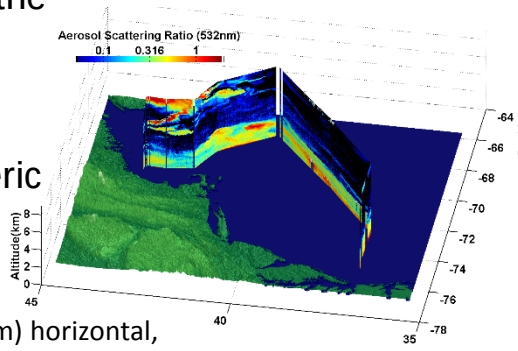
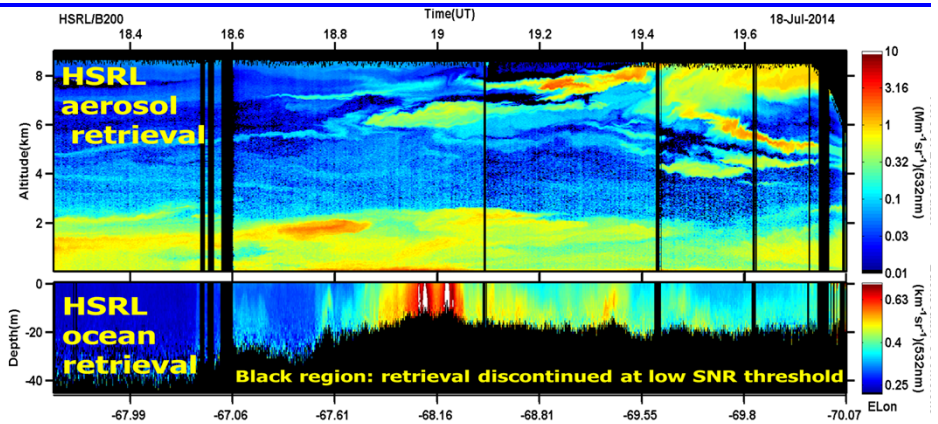
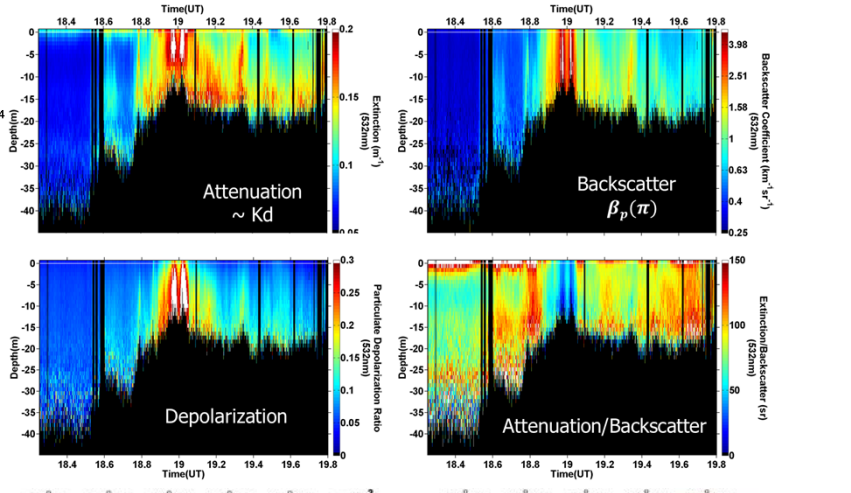
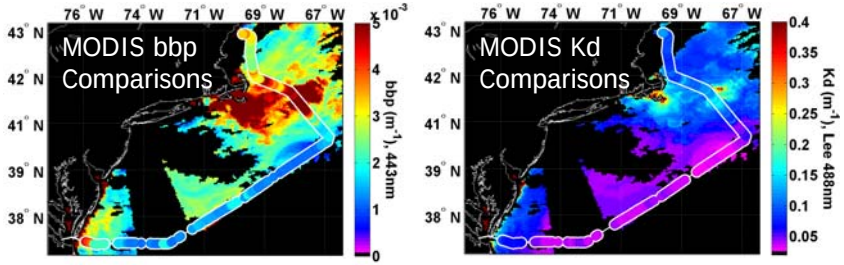
## Heritage

- Langley airborne HSRL's have been operational has flown over 357 flights (~1200 flight hours) on the NASA B-200 during 22 field campaigns.
- Ocean profiling capability, 2010
- Combined ocean and atmospheric products (Azores 2010, SABOR 2014)




Fundamental Resolution: 0.5 seconds (~100m) horizontal, 1.25m atmosphere, 0.93m ocean vertical

| Instrument and Relation to Objectives | Geophysical Products |
|---|---|
| **HSRL-1**<br>• Aerosol and cloud properties<br>• Ocean properties<br>• Relate ship-scale to satellite-scale measurements<br>• ACE prototype satellite instrument | Aerosol backscatter (532/1064nm) |
| | Aerosol extinction (532nm) |
| | Aerosol & cloud depolarization (532/1064nm) |
| | Boundary Layer Height |
| | Aerosol Type (e.g. dust, marine) |
| | Ocean diffuse attenuation coeff. (532nm) |
| | Ocean particulate backscatter coeff. (532nm) |