

King Air B200 Flight Report

Aircraft :	LaRC B-200 King Air (N529NA) (Operating as NASA529)
Operating Site(s) From / To :	Yellowknife to Yellowknife (R-152: CALIPSO w/P-3)
Flight Date :	7/3/2008
Flight Number :	R-152
Take Off Time :	1220 Local (MDT), 1820 UTC
Landing Time :	1611 Local (MDT), 2211 UTC
Flight Time :	3.8 hours
Principal Investigator:	Rich Ferrare
Purpose of Flight :	Data [X] Ferry [] Functional Check [] Other []
Sensor Payload :	HSRL, Digital Camera, and RSP
Summary :	Sixth ARCTAS II research flight launched during Yellowknife deployment. Flew the CALIPSO track with P-3 south from Yellowknife to the Cold Lake restricted area.

Objectives: Coordinated flight with the P3 along the CALIPSO track.

Due to a mix-up on timing, the P3 launched early, requiring the B200 to step up its launch to meet them on the CALIPSO track well ahead of satellite overpass. As a result, the second leg of the B200 flight, originally planned to pass over an Aeronet site to the E of the CALIPSO track, was redirected to return along the CALIPSO track to improve the timing with the satellite overpass. On the return flight, the B200 diverted off the CALIPSO track to avoid a large convective system.

On the southbound leg, the B200 met up with the P3 at approximately 1937 UT. At 2016 UT, the P3 executed a spiral on the CALIPSO track, providing an opportunity for profile comparisons between the HSRL, CALIPSO, and the aerosol in situ and sun photometer measurements on the P3.

The flight geometry put RSP in close proximity to a principal plane measurement. There were no cirrus reported above the aircraft by the pilots or the HSRL operator, so this should be a good set of observations for assessment of RSP retrievals, RSP-HSRL combined retrievals, and validation of CALIPSO.

NASA Langley HSRL/B200 03-Jul-2008

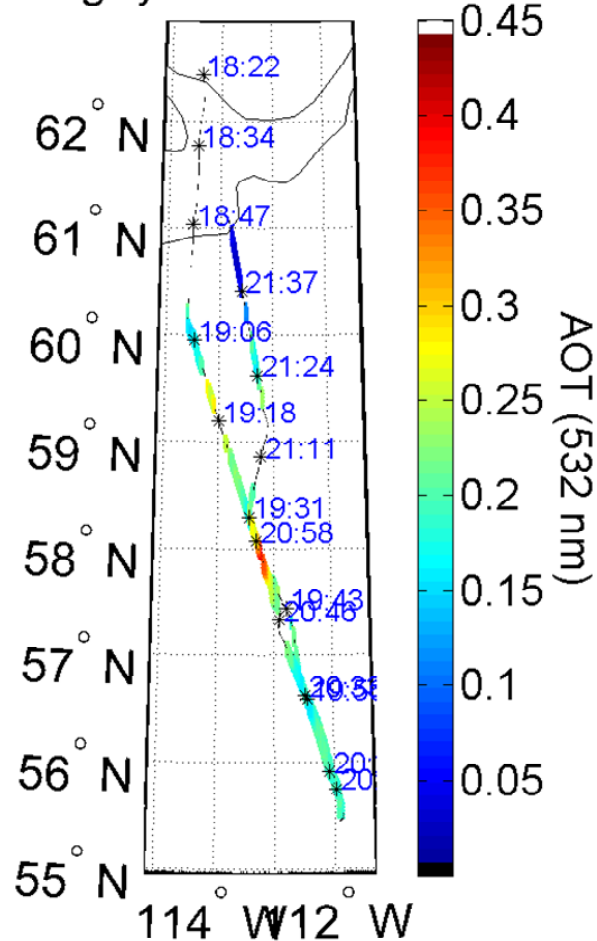


Figure 1. Flight track map color coded by aerosol optical thickness over cloud-free regions of the track.

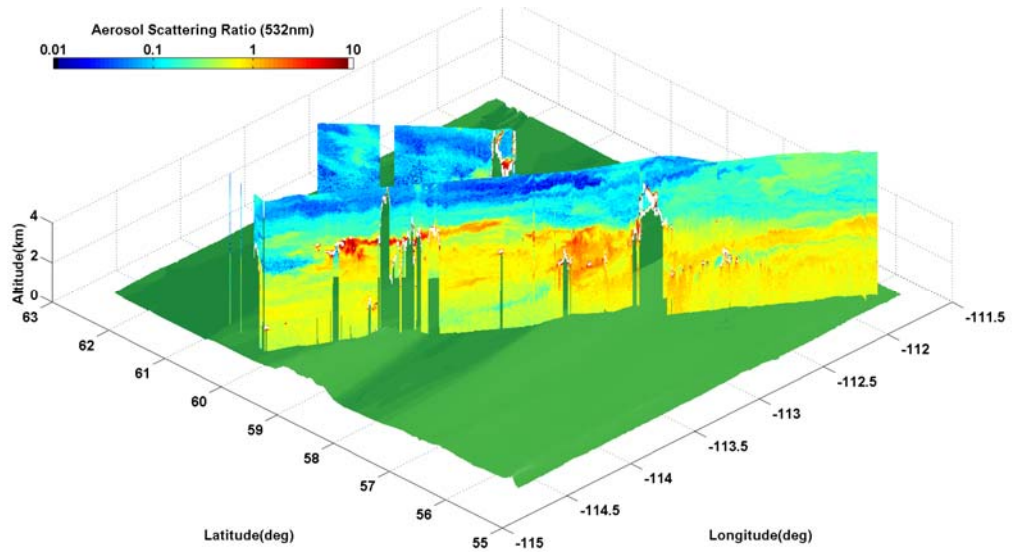


Figure 2. 3-D rendering of aerosol scattering ratio along the flight track.

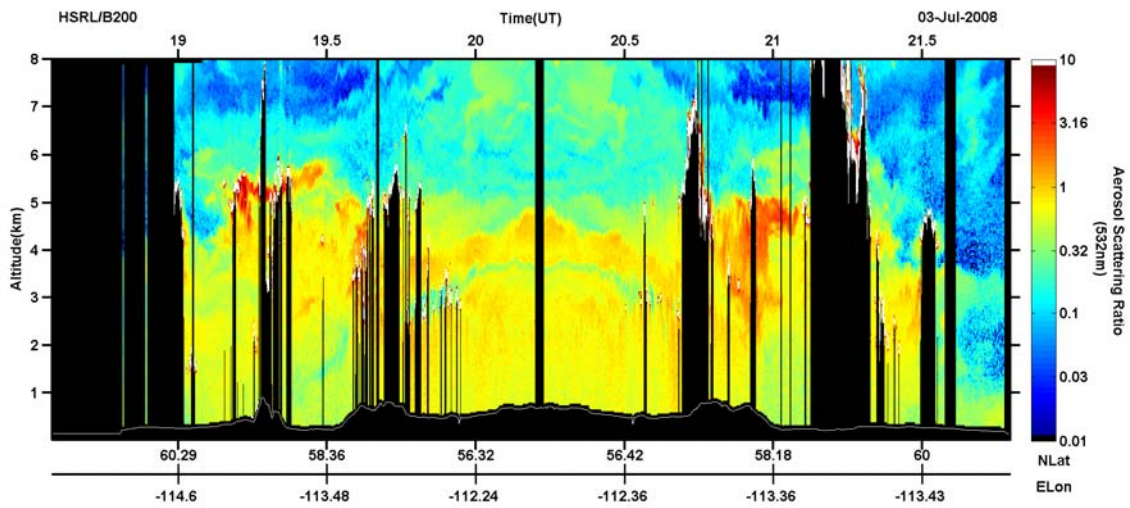


Figure 3. Aerosol scattering ratio at 532 nm.