

VOCALS G-1 FLIGHTS

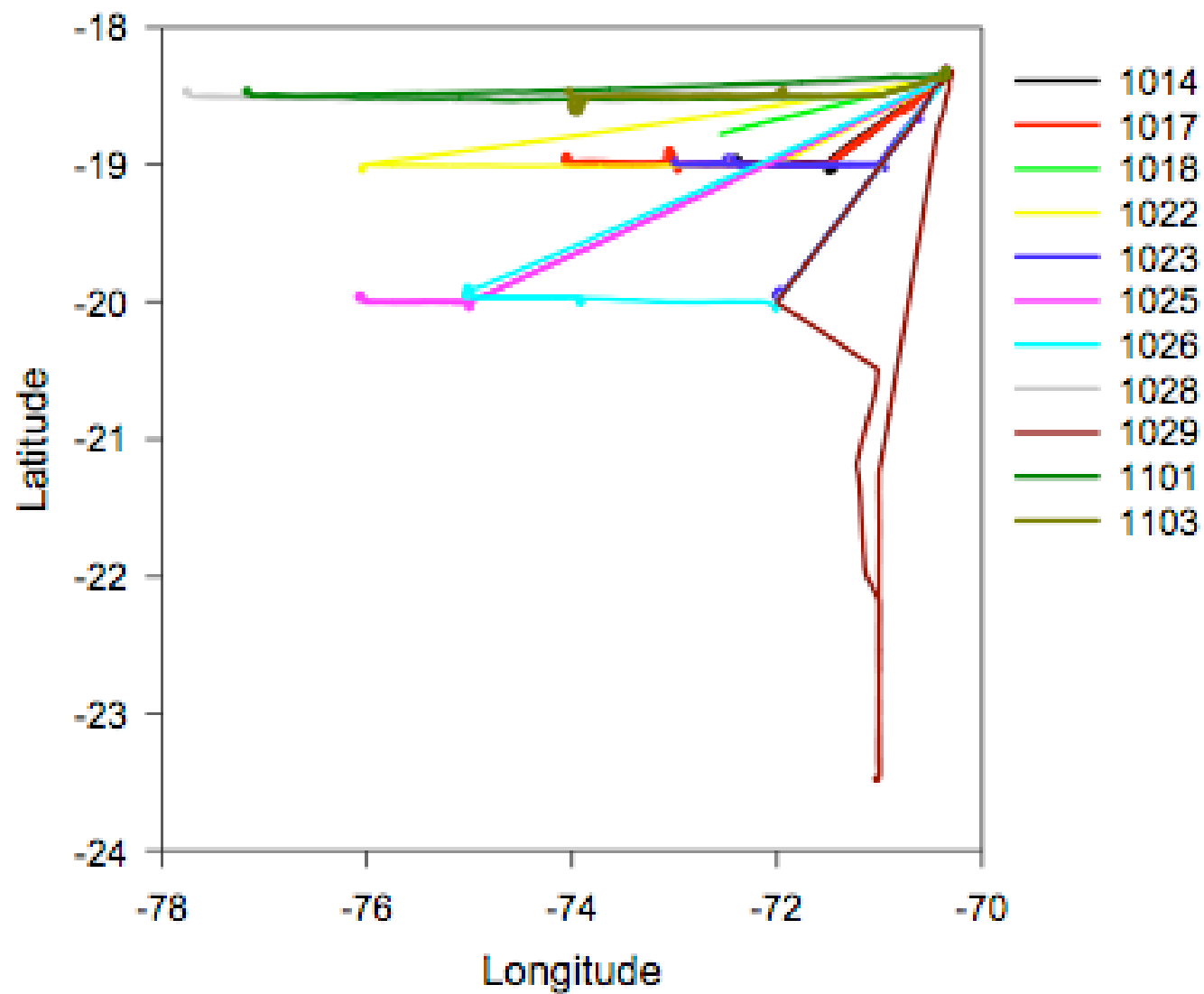
PRELIMINARY OBSERVATIONS

PETER DAUM

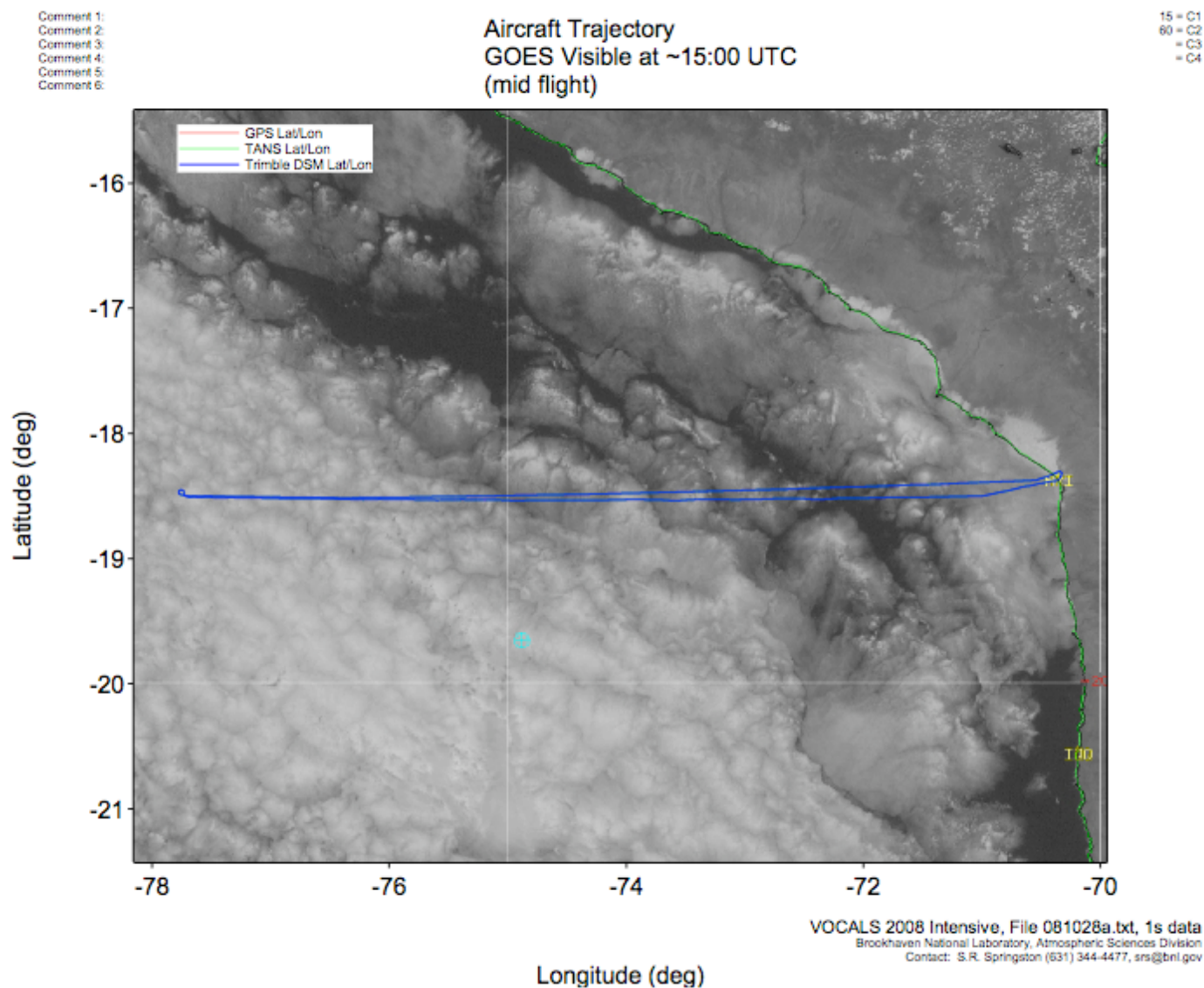
BROOKHAVEN NATIONAL LABORATORY

VOCALS G-1 FLIGHTS

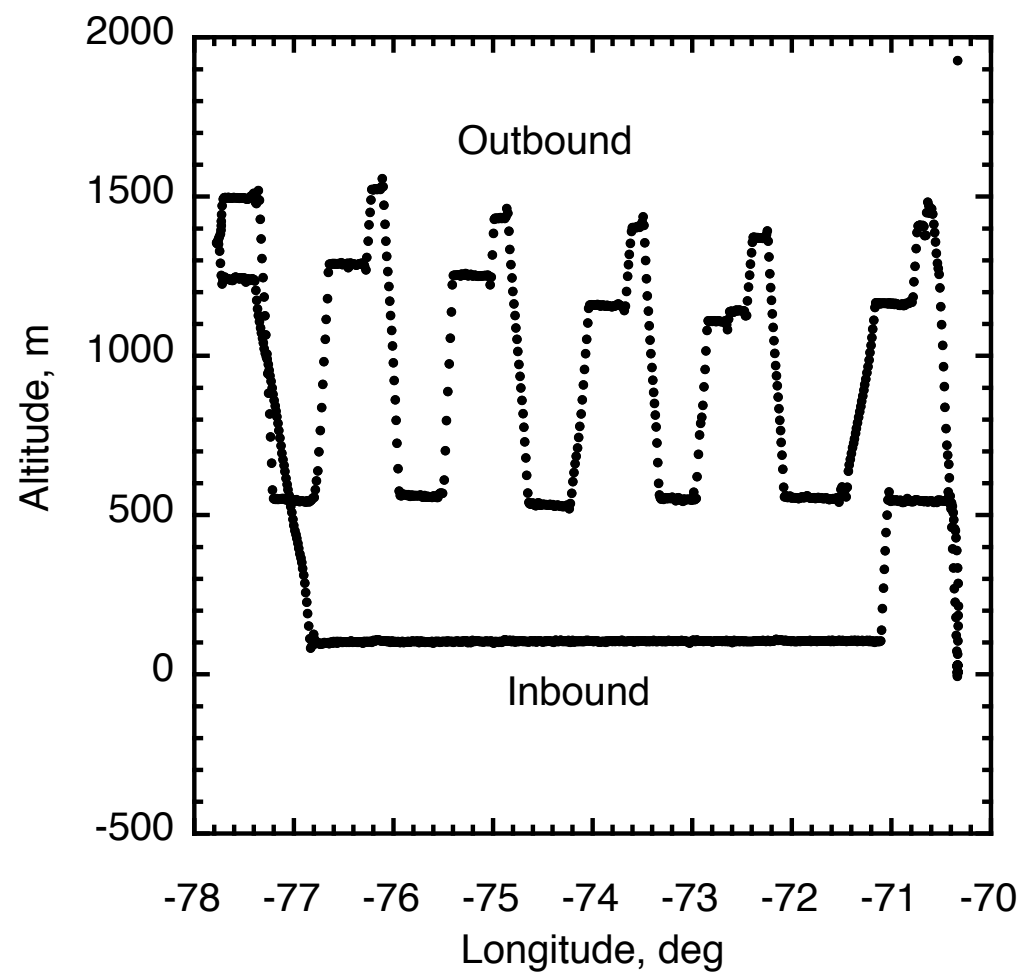
G-1 Flight Track



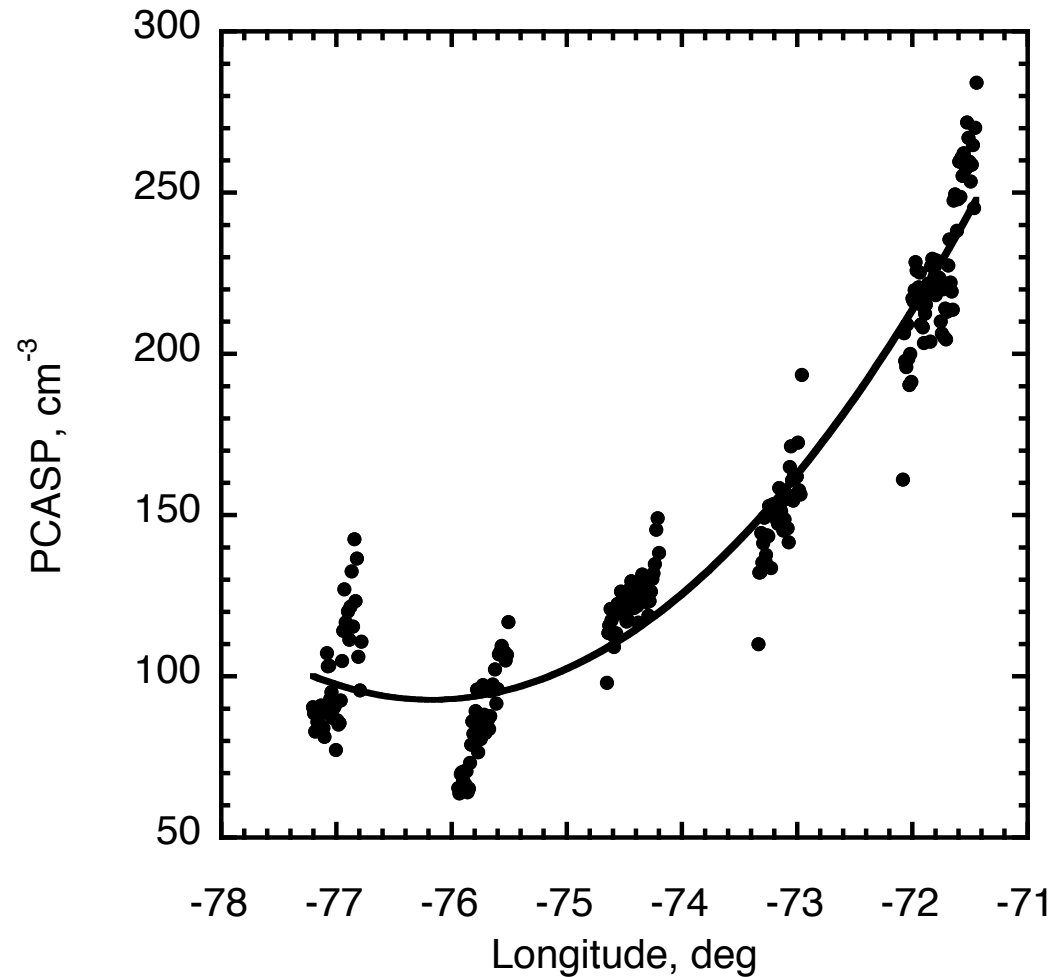
OCTOBER 28 GRADIENT FLIGHT



OCTOBER 28 FLIGHT PROFILE

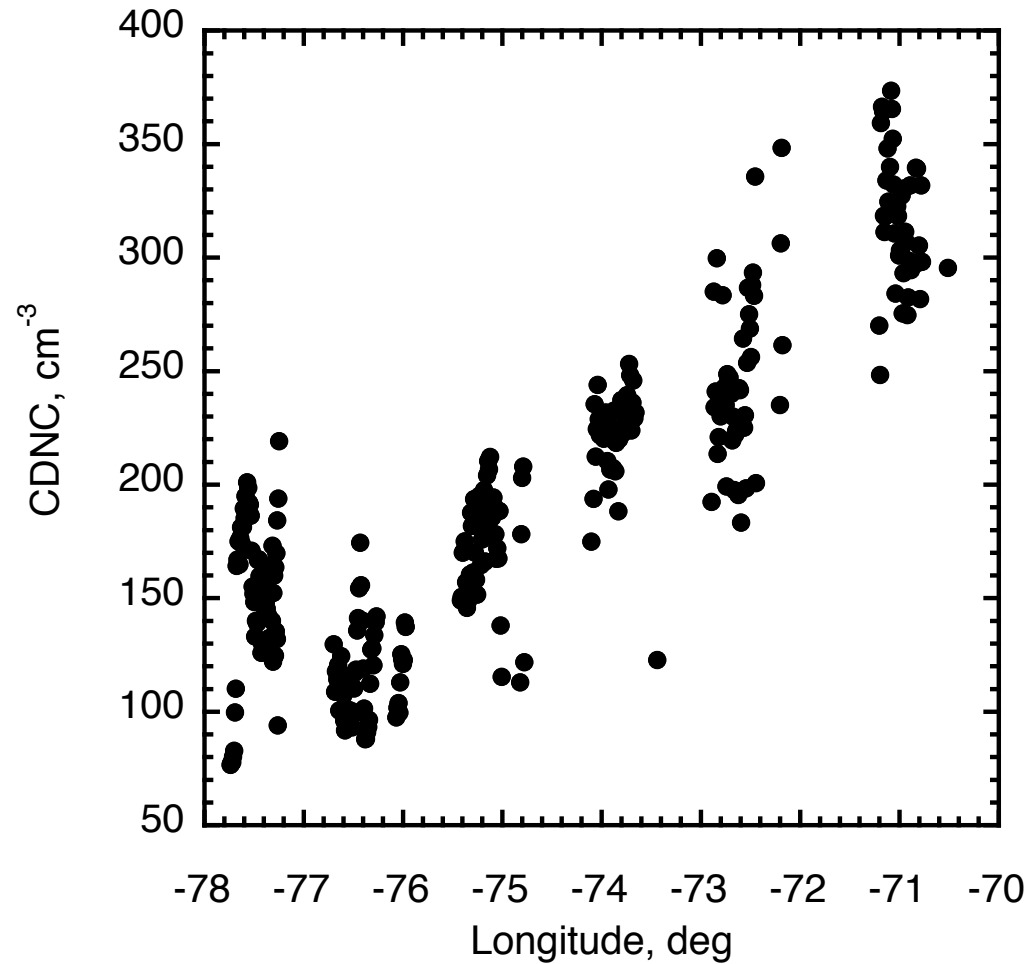


OCTOBER 28 AEROSOL NUMBER CONC.



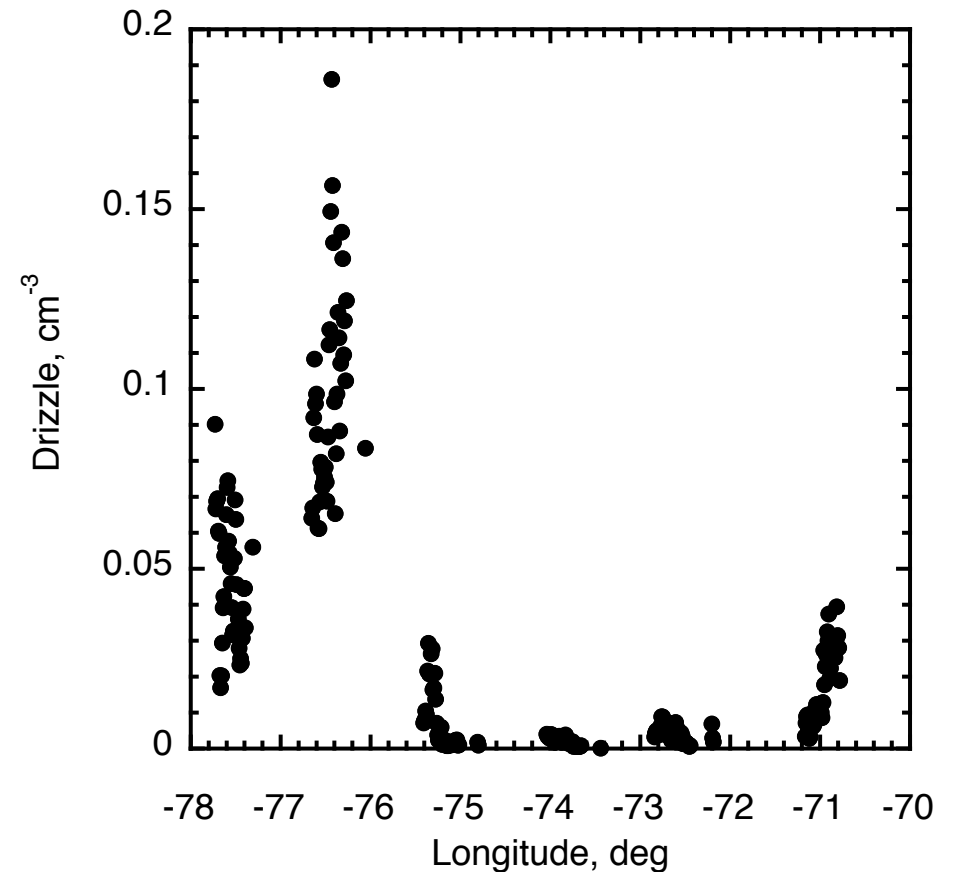
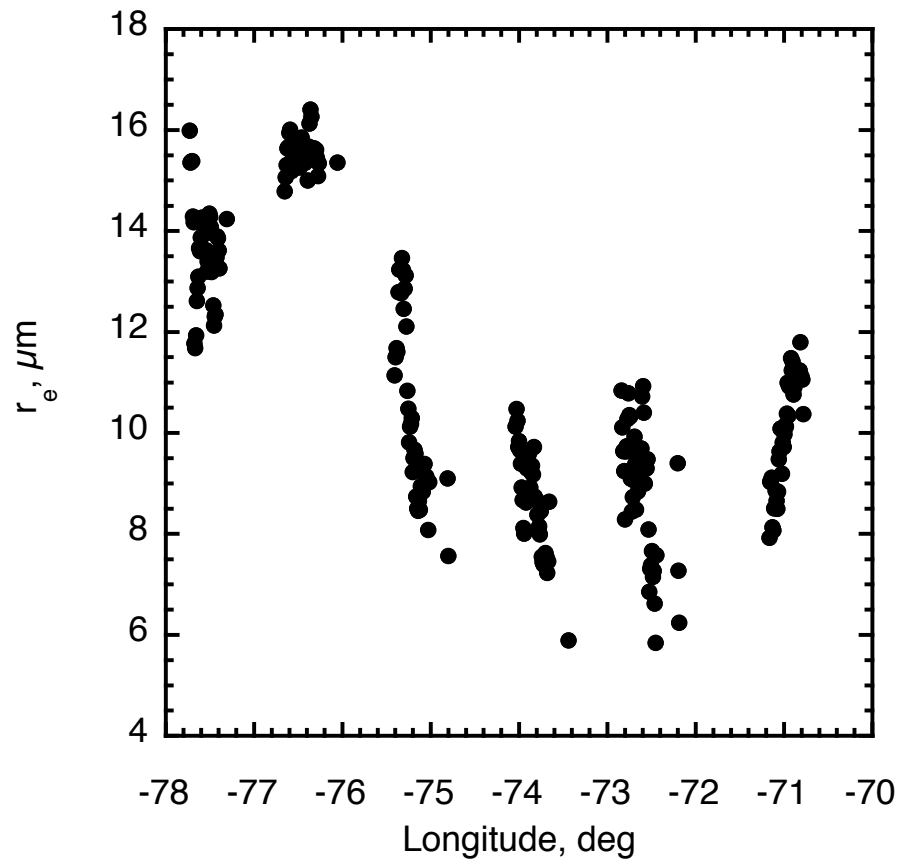
Smooth decrease in accumulation mode #concentration with distance offshore.

OCTOBER 28 CDNC



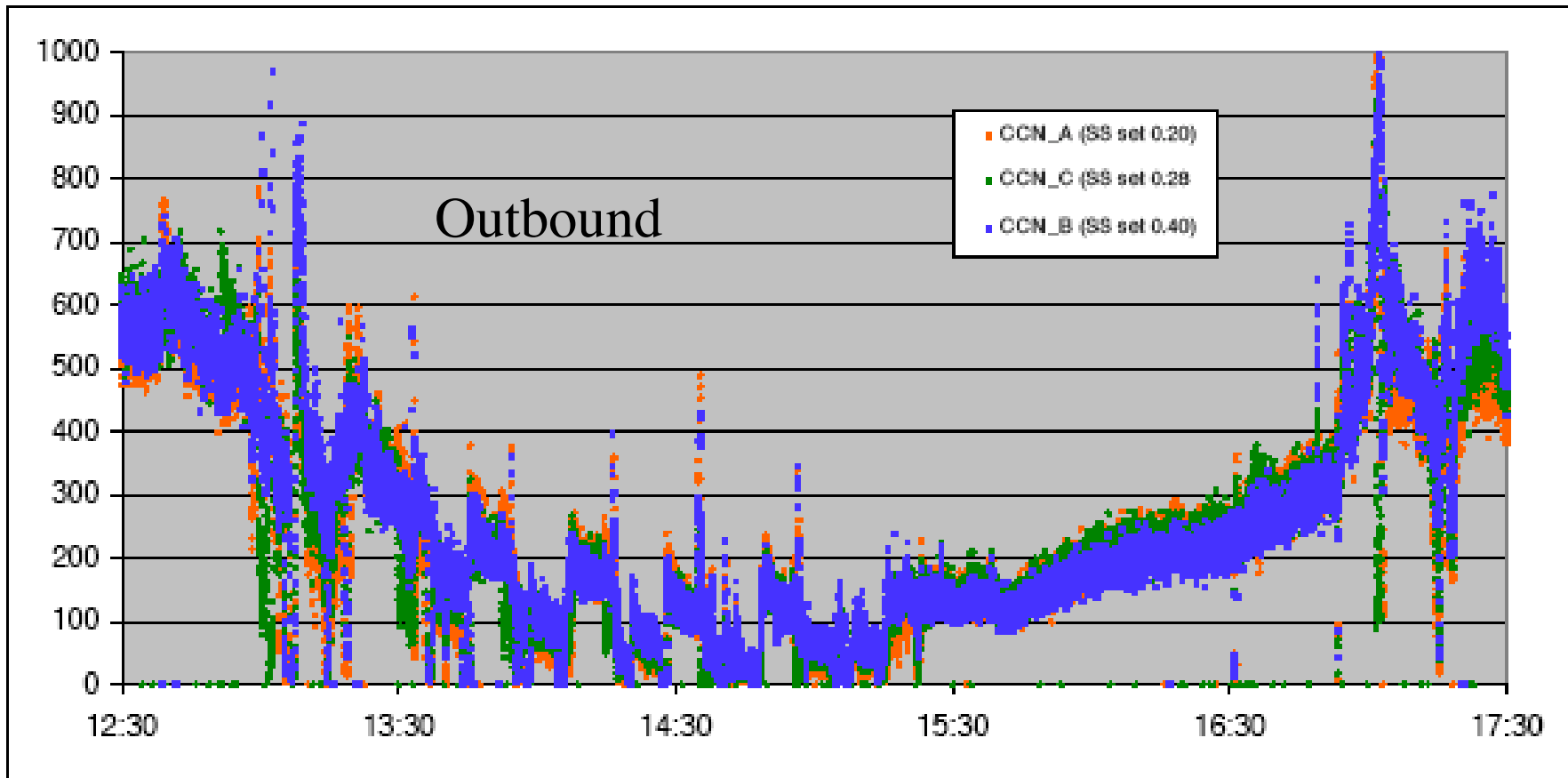
CDNC respond in the expected way to the gradient in aerosol concentration.

OCTOBER 28 CD SIZE AND DRIZZLE



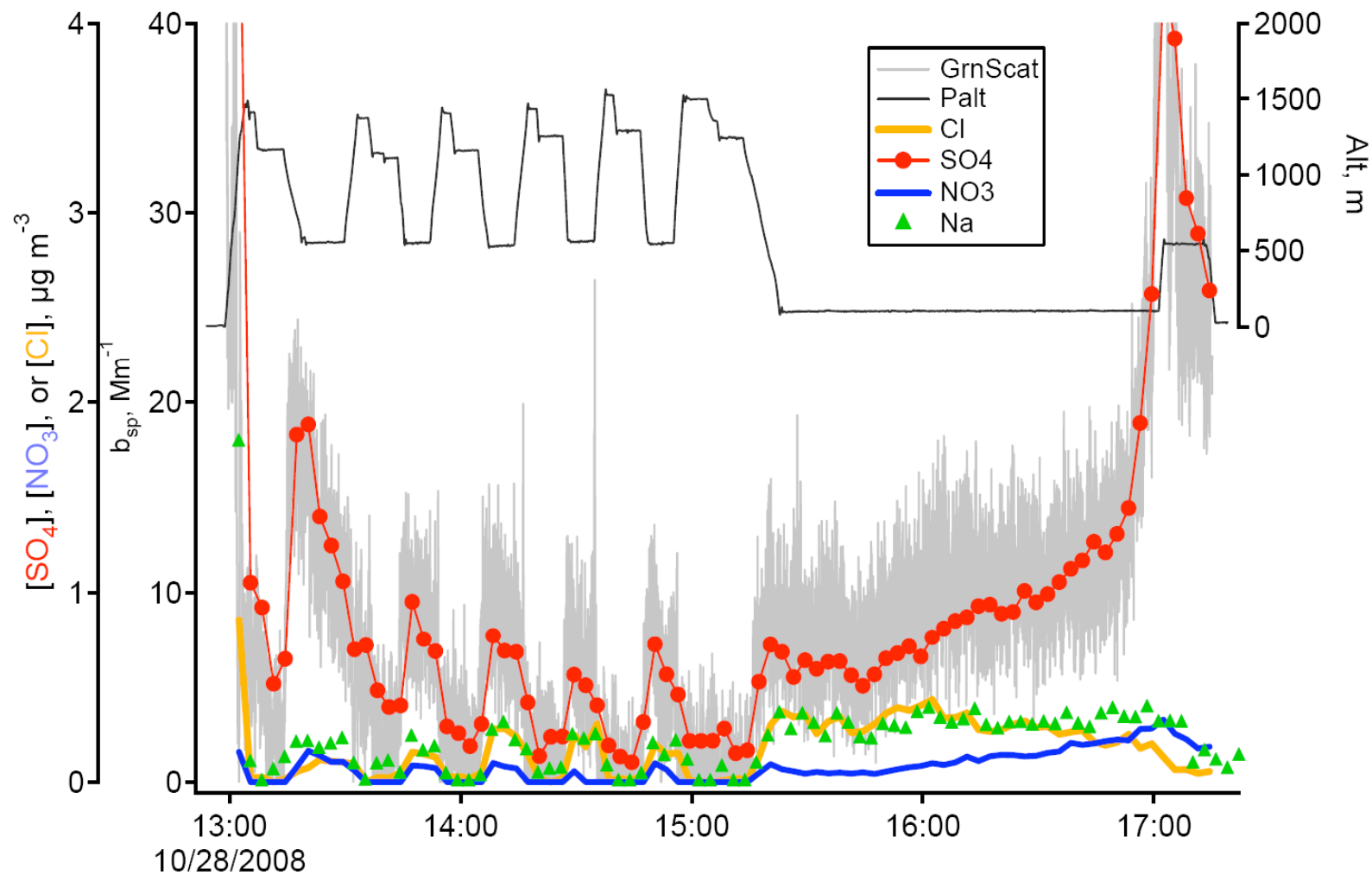
Highest r_e associated with lowest N , and with the presence of drizzle.

OCTOBER 28 CCN GRADIENT

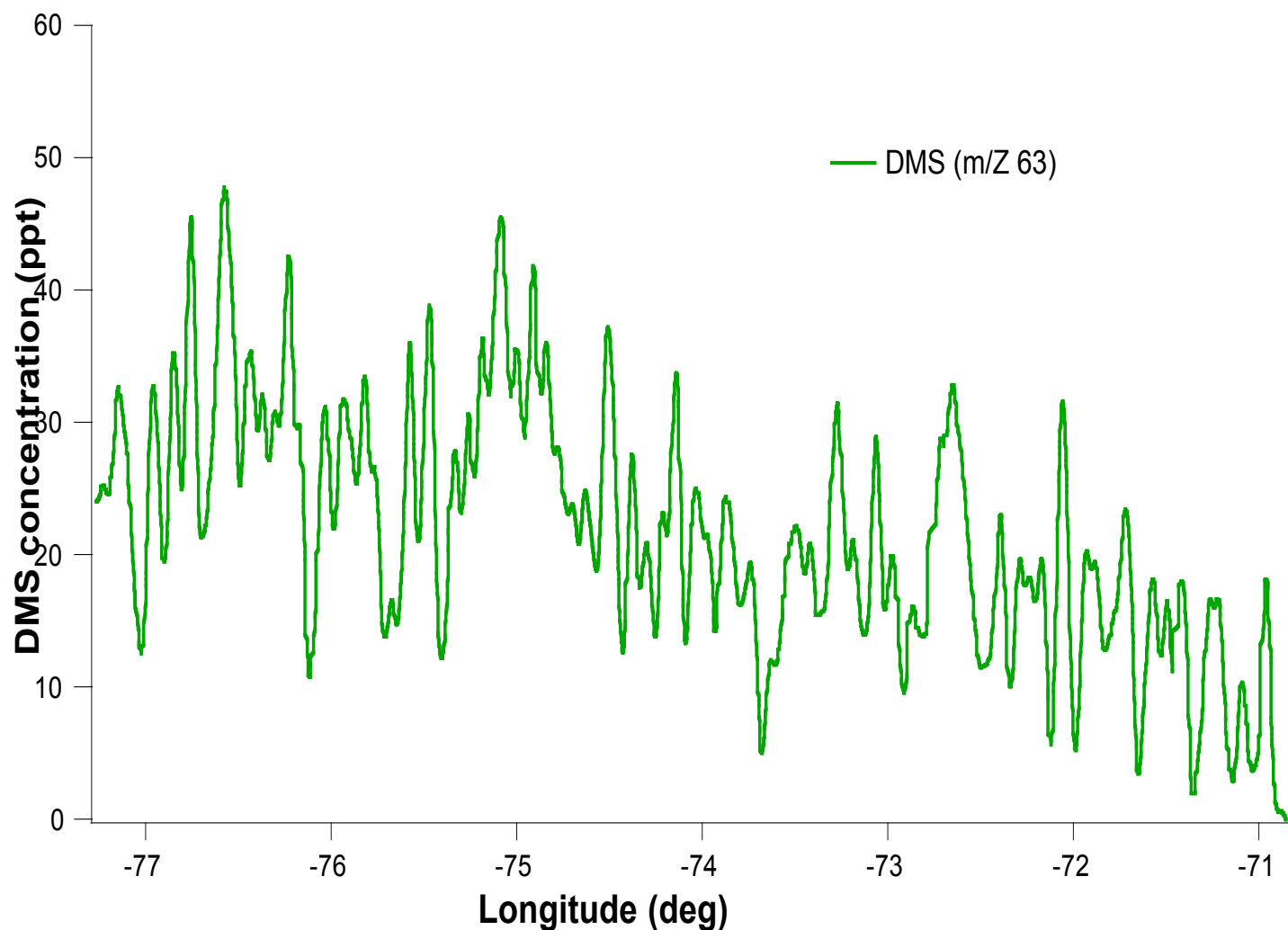


CCN at 3 different %SS identical. All particles activated at 0.2%. Trend identical to PCASP particle concentrations

081028 G1 Flight: A Gradient Study Along 18.5 S to 76.9 W (preliminary data)

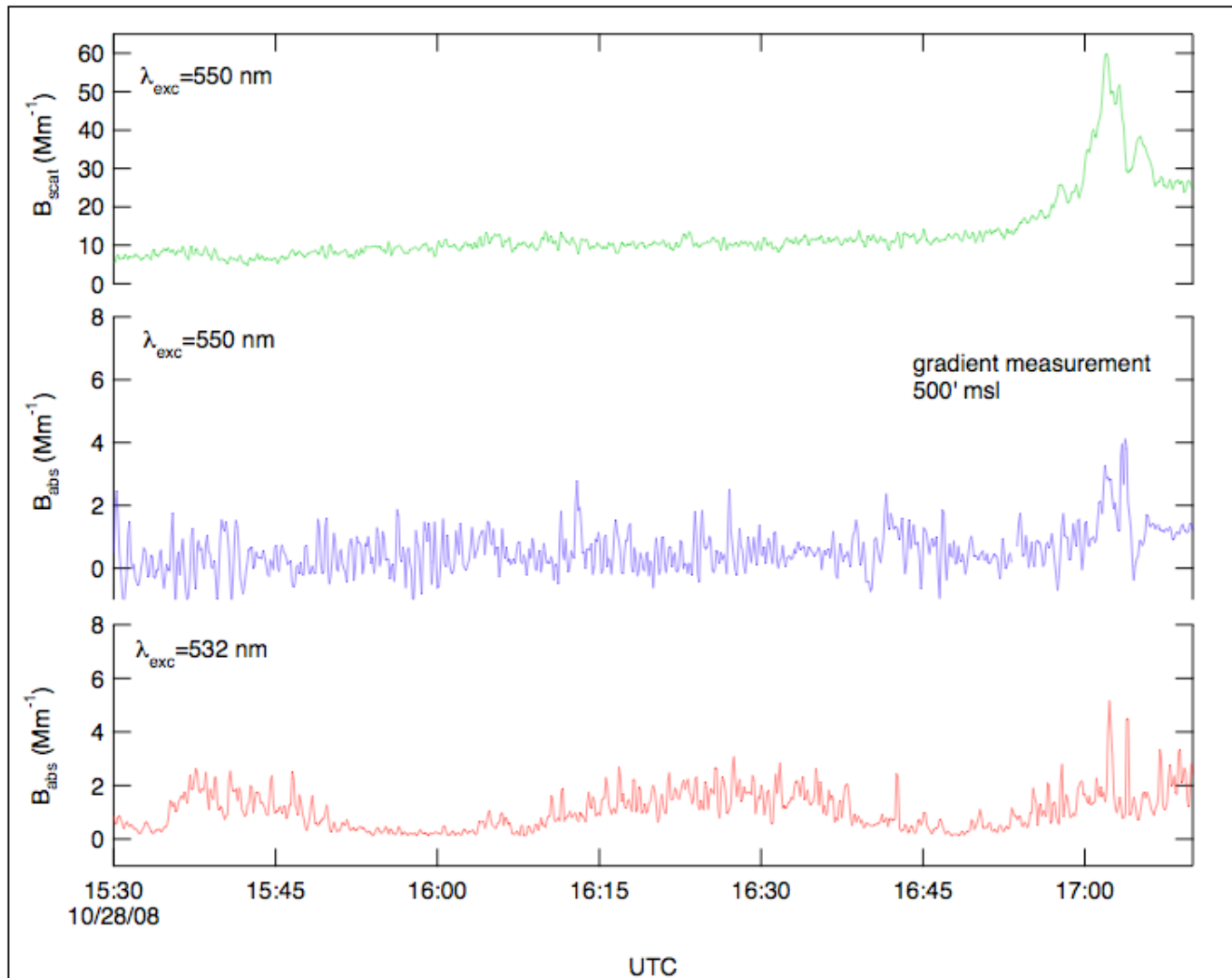


OCTOBER 28 DMS



**DMS Measured by PTR-MS on G1
at 500ft vs Longitude**

OCTOBER 28 AEROSOL ABSORPTION

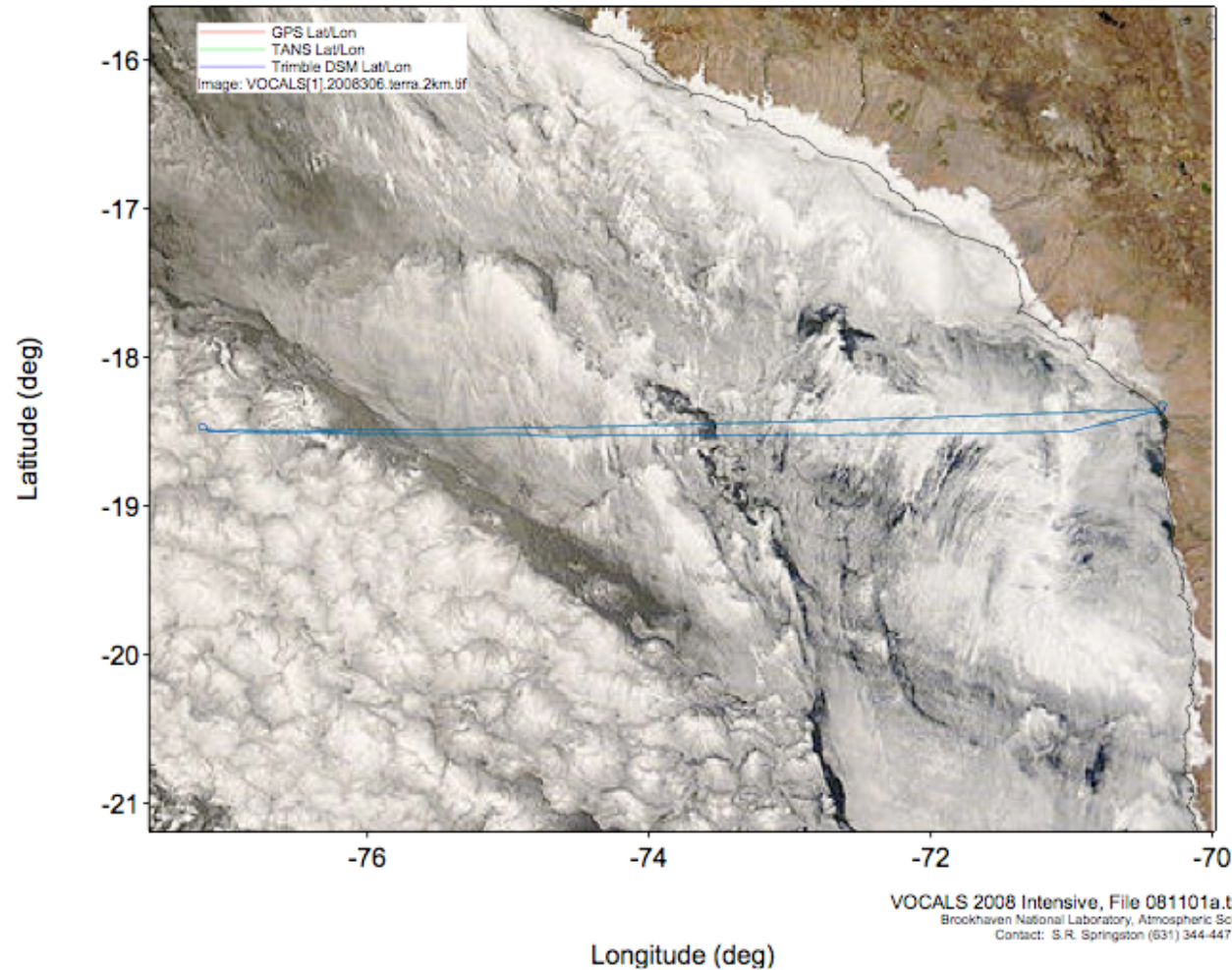


NOVEMBER 1 FLIGHT TRACK

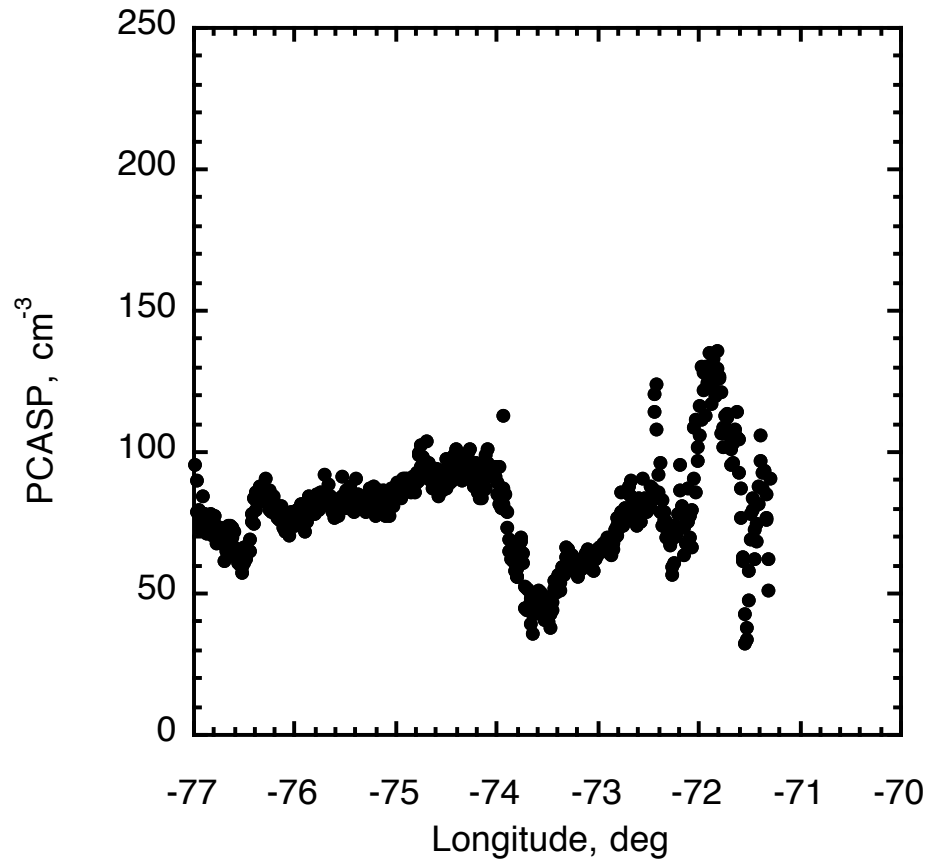
Comment 1:
Comment 2:
Comment 3:
Comment 4:
Comment 5:
Comment 6:

Aircraft Trajectory

15 = C1
60 = C2
= C3
= C4

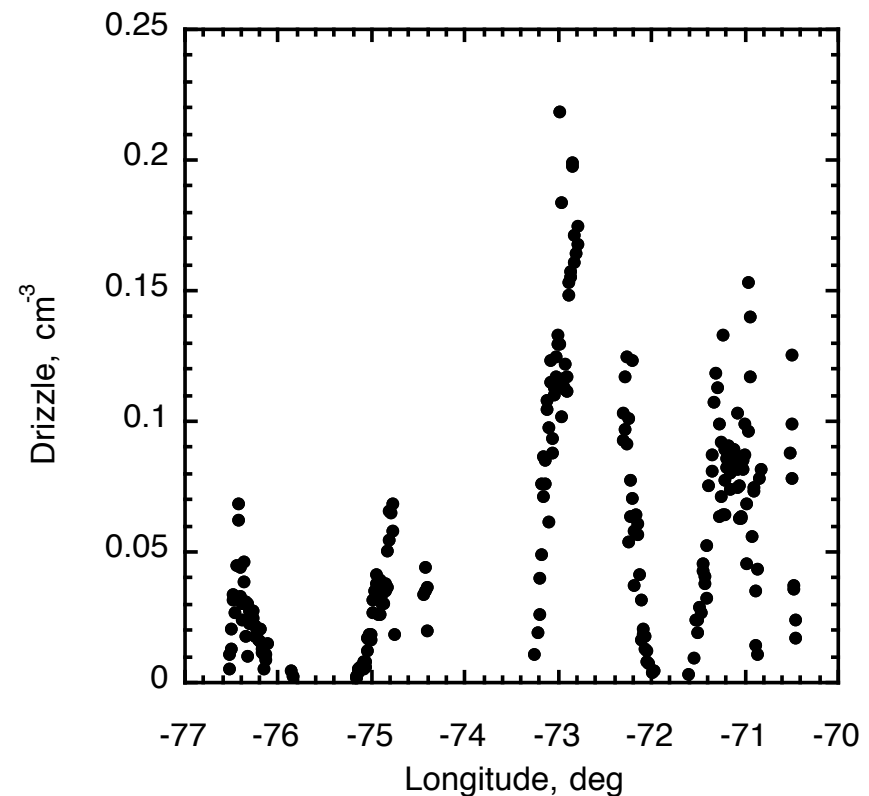
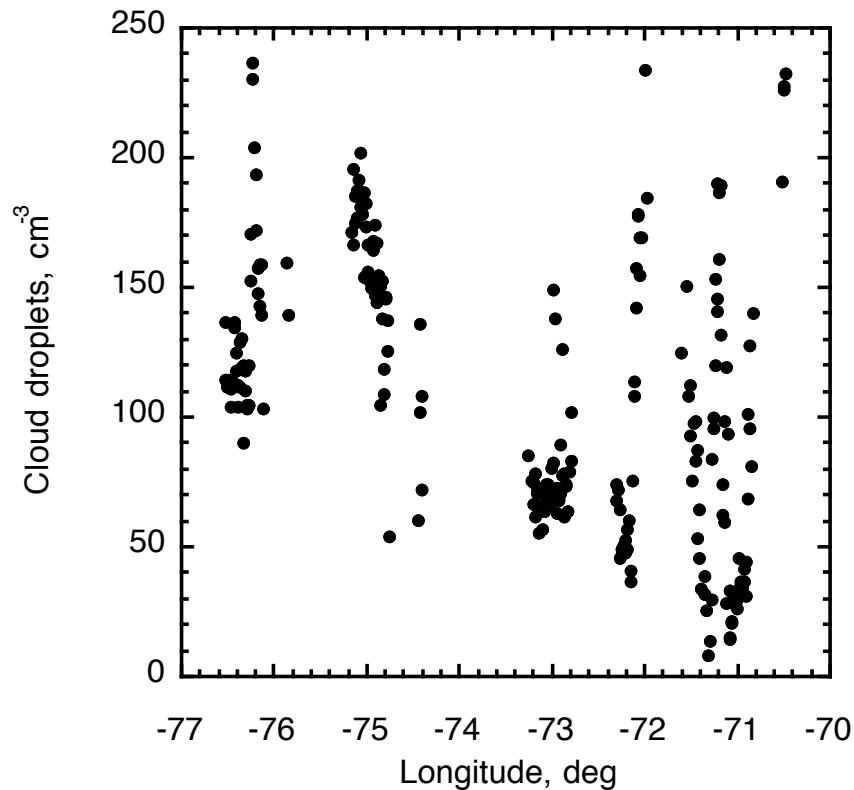


NOVEMBER 1 BELOW CLOUD AEROSOL



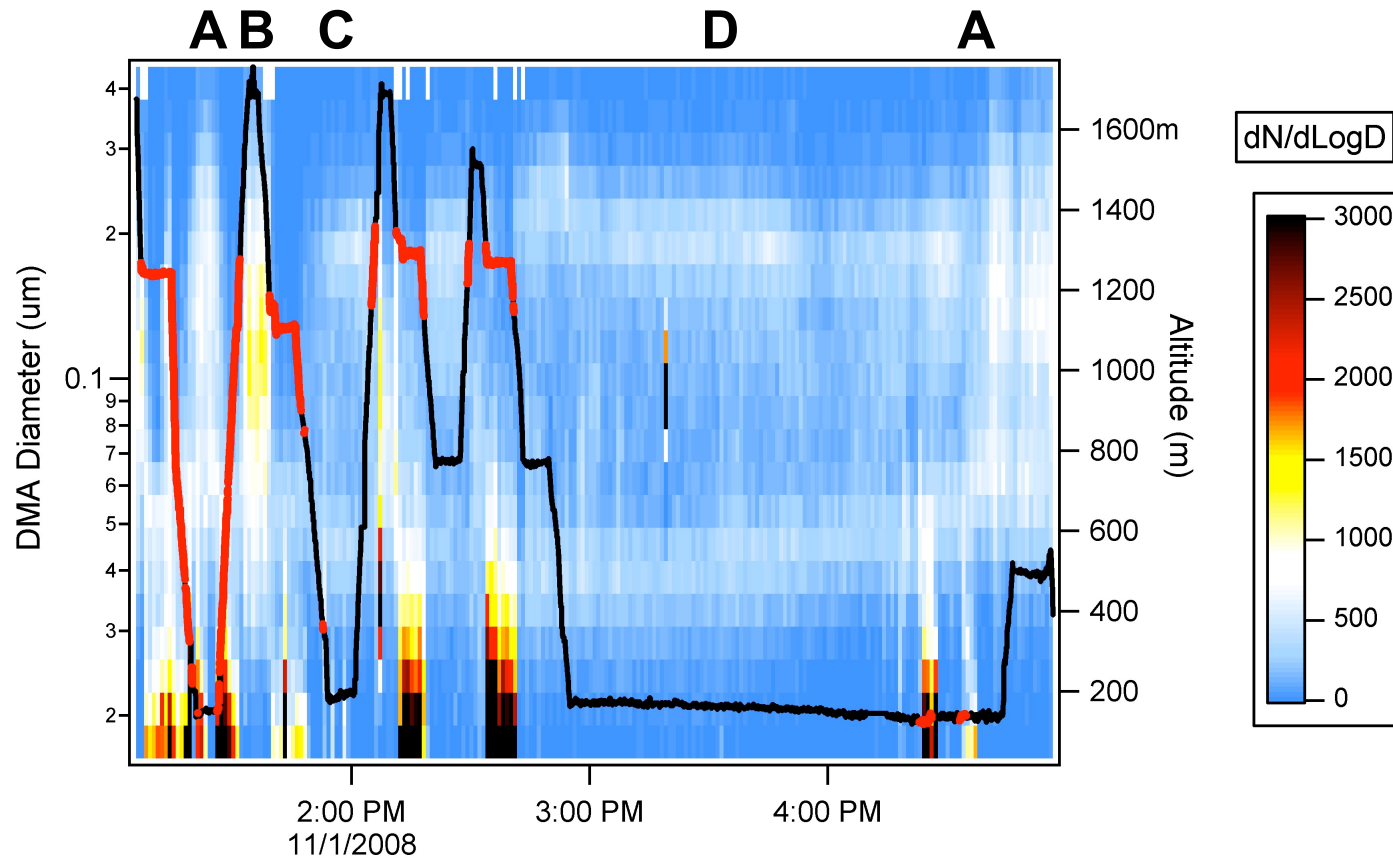
Lowest below cloud aerosol concentration measured thus far.

NOV. 1- CLOUD DROPLET AND DRIZZLE



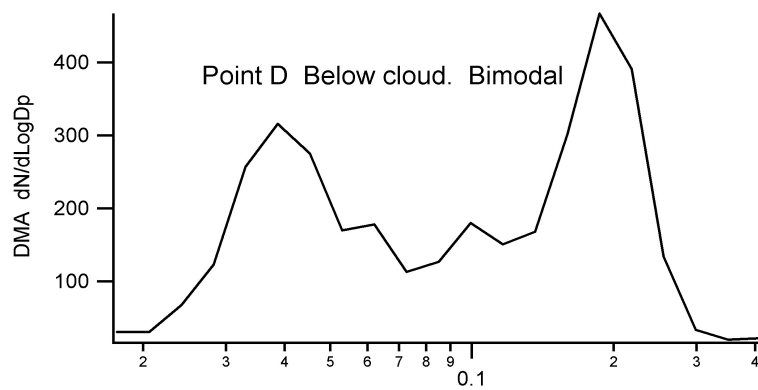
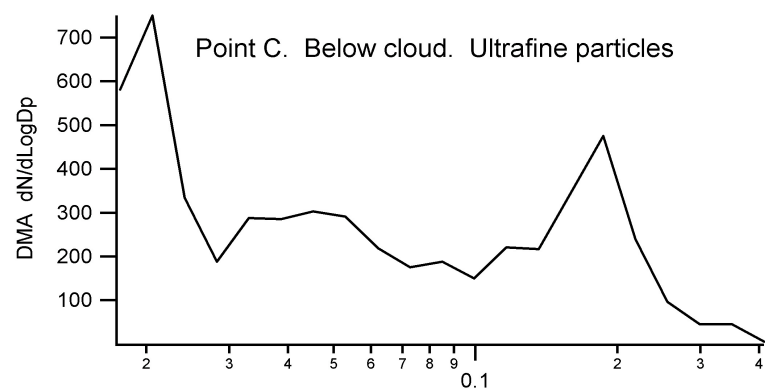
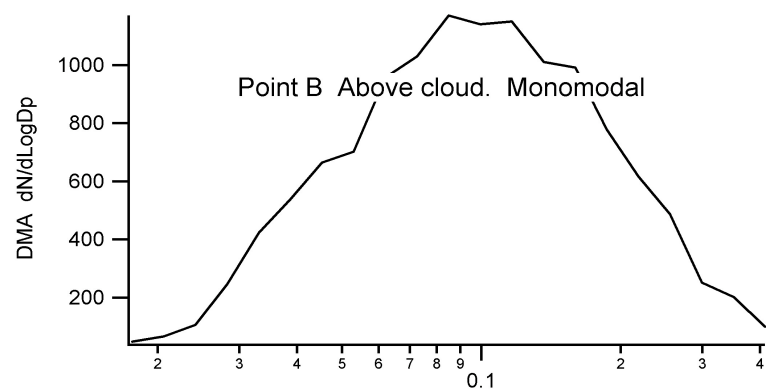
Cloud droplet concentrations generally low. Regions where lowest, drizzle concentrations are highest.

DMA 15 – 440 nm 11/01/2008

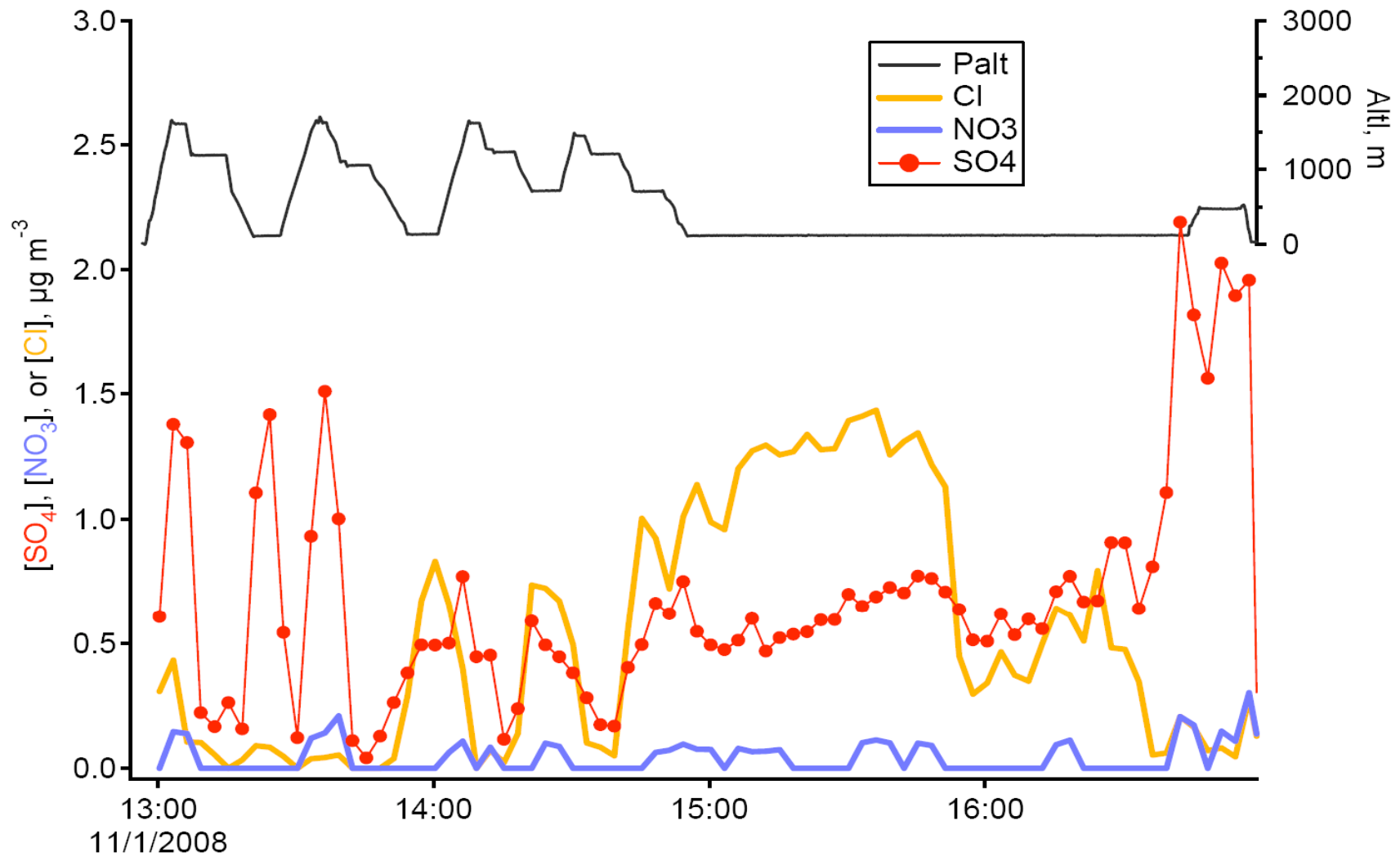


Highest number concentration East (A) and above Boundary layer (B)
Above Boundary Layer, monomodal distribution (B)
Some instances of ultrafine particles (C)
Below cloud spectra are bimodal; Hoppel minimum (D)
Droplet shattering in-cloud

DMA Number Size Distributions 11/01/2008



081101 G1 Flight: Gradient Study Along 18.5 S to 77.2 W
Showing Elevated SO_4 above Clouds (preliminary data)



ACKNOWLEDGEMENTS

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