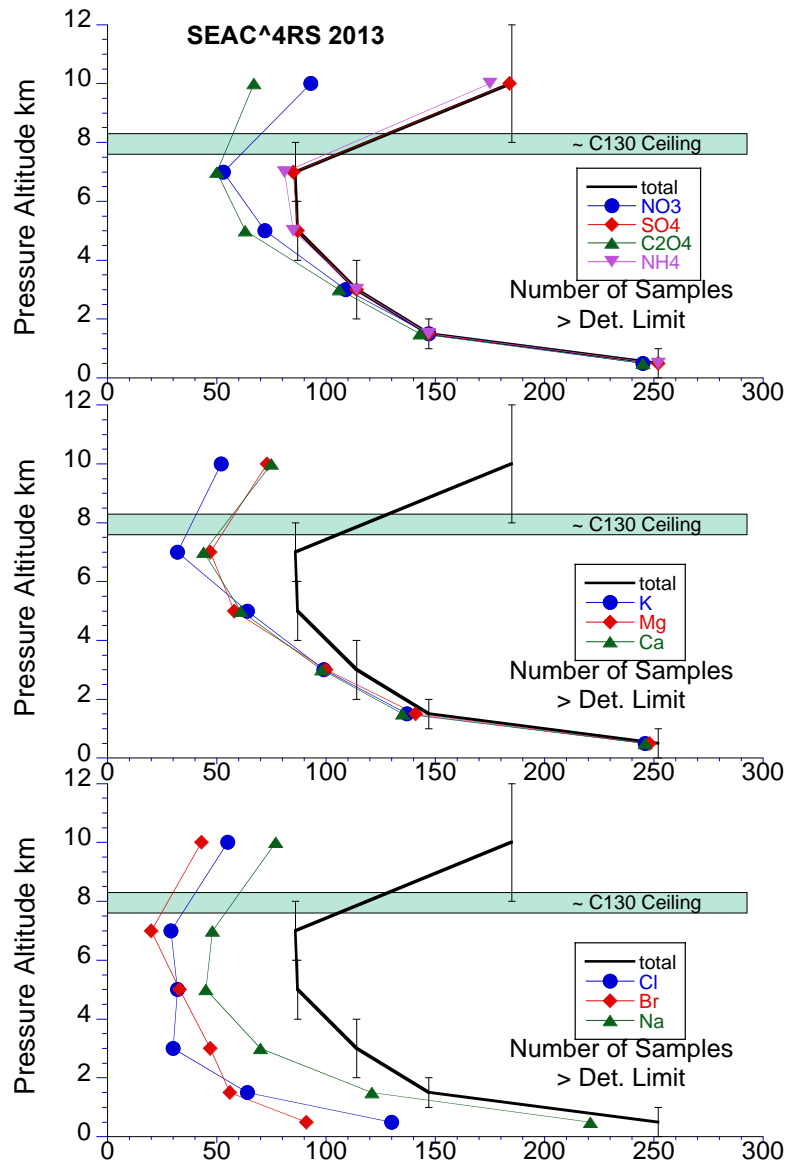


UNH water-soluble aerosol-associated ions

- We collect bulk aerosol onto teflon filters, aim for ~ 1 - 1.5 scm of air (UNH DC-8 and LaRC inlets efficiently transmit aerosol up to ~ 5 microns).
- Extract into ultrapure water for analysis by ion chromatography post flight.
- Data submission will be few days behind.

Relevance to WINTER objectives

- We will provide “total” ions, comparison to AMS and PILS will indicate when/where supermicron aerosol is significant.
- Particular interest in sea-salt Cl^- , abundance of particulate NO_3^- , and possible coarse NO_3^- and $\text{SO}_4^{=}$ relative to NH_4NO_3 and $\text{NH}_4\text{HSO}_4/(\text{NH}_4)_2\text{SO}_4$ (via absorption onto sea salt and/or dust).



In SEAC^4RS we collected ~ 870 Filters on 21 flights.

We were able to quantify SO₄⁼ and NH₄⁺ in essentially all samples, NO₃⁻ and C₂O₄⁼ in vast majority.

Likewise, K⁺, Mg²⁺, and Ca²⁺ were above detection limit in most samples < 6 km, tailed off in upper trop.

Above 2 km Na⁺ was above detection limit for just 50% of the samples, and Cl⁻ and Br⁻ for just 30%.

For Na⁺ and Cl⁻ the issue is blank correction which can vary with filter lot, mixing ratios of Br⁻ are low (filters are clean).

