**Aerosol Measurements During the Central Chilean Orographic Precipitation Experiment**

1. Introduction: Keep brief, about CCOPE
2. Objective

CCOPE explored relationships between coastal orographic precipitation and meteorology (Massmann et al. 2016) and similarities and differences between CCOPE aerosol properties and those reported in prior studies of coastal areas. The latter topic is the focus of this article. This study seeks to answer four science questions.

1. How do the mean aerosol concentrations at Arauco compare to those measured at Trinidad Head, CA?
2. How does Nuhsas vs Ncpc compare to Andrea’s CCN vs CN? (plot of Nuhsas vs Ncn, as in the paper by Andy Andrea (he plotted CCN vs CN).)
3. What processes can be identified as controlling the ASD at Arauco?
4. Can evidence of sea salt aerosol be identified by correlating the concentration of particles with D > 0.5 μm and sea-surface wind speed?
5. Measurement Site and Instrumentation
6. Measurement Site
7. Instrumentation
8. Air Mass Classification
9. Air Mass Classification with Wind Direction
10. Air Mass Classification with Trajectories
11. Analysis Methods
    1. Hourly averaging for Q1. (comparing the THD)
    2. Small Particle Fraction
    3. Sea Salt Aerosol
12. Data Analysis
    1. CPC Concentration Comparison at the Arauco Site and THD
    2. N\_UHSAS vs N\_CPC plots and comparison with Andrea
    3. Processes Controlling the ASD at Arauco
       1. Analysis of N/V Rations
       2. Small Particle Fraction
       3. Representing the ASDs using Lognormal Functions
       4. Correlation of N\_D>0.5 and Sea-surface Wind Speed

VII. Conclusions