1 **Supplemental Information for "Using Spectral Methods to Obtain Particle Size**

2 **Information from Optical Data: Applications to Measurements from CARES**

3 **2010"**

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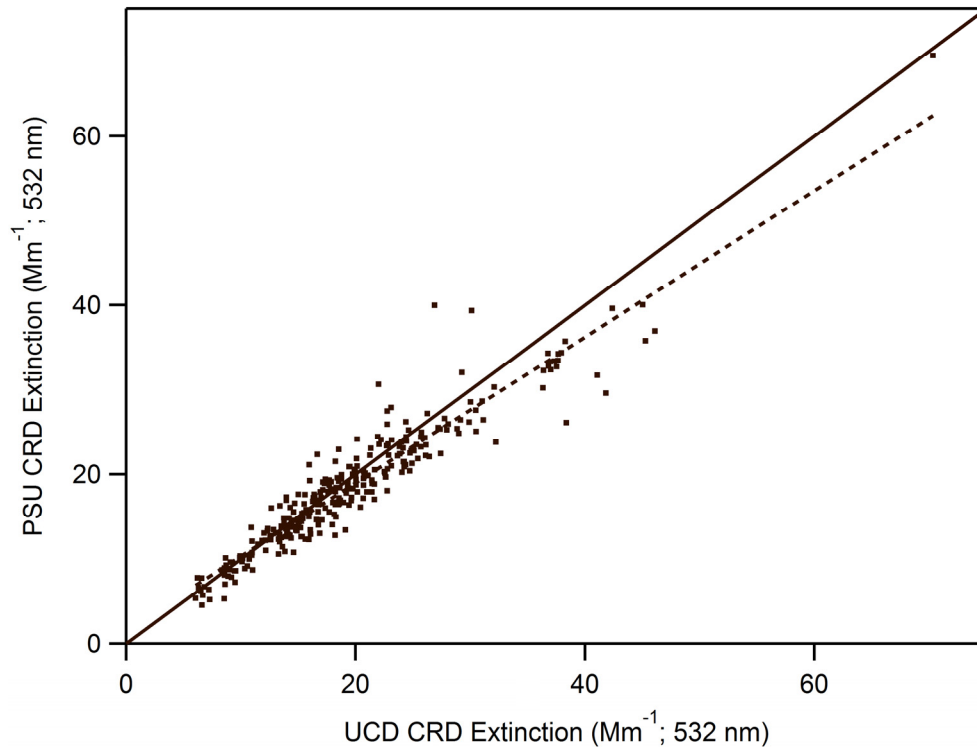12 * Now at: Air Sciences, Inc., Portland, OR, 97214, USA

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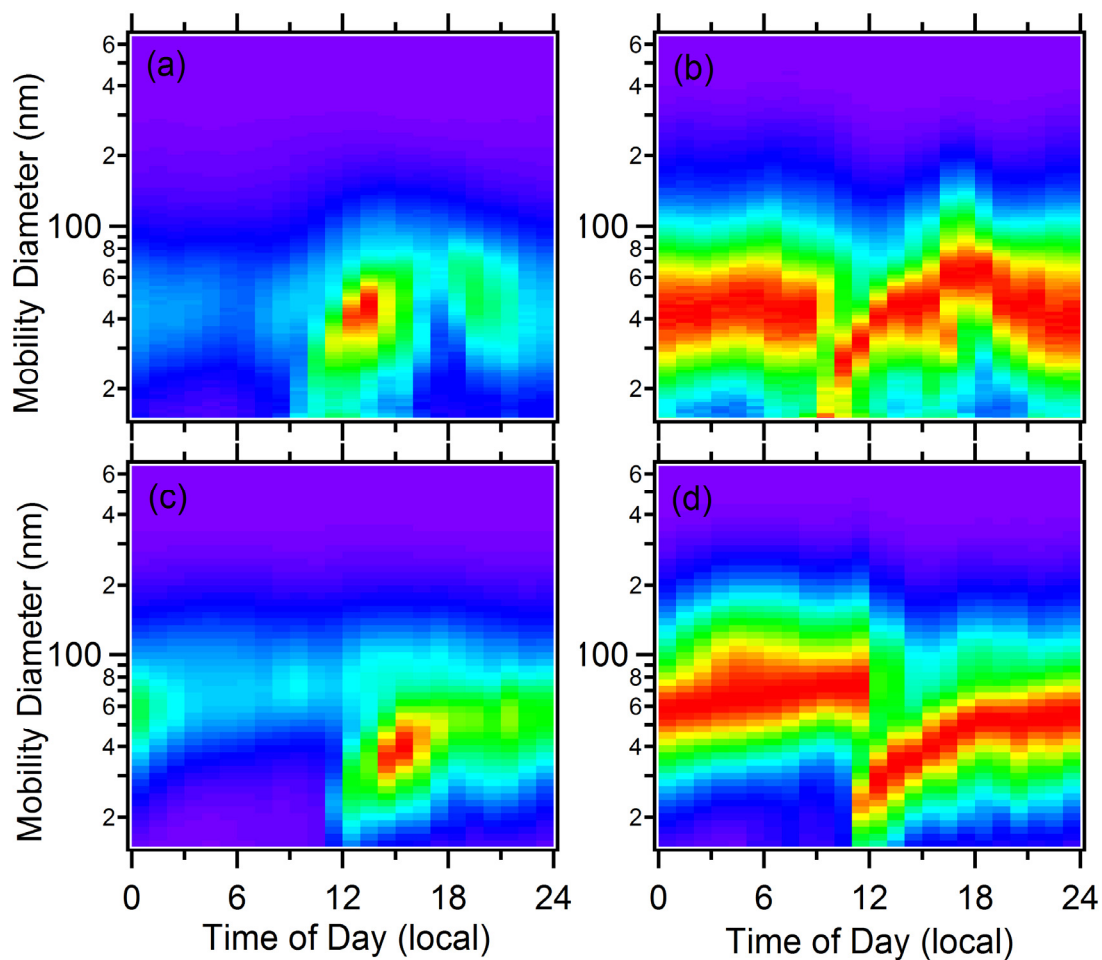17 Correspondence to: D. B. Atkinson (atkinsond@pdx.edu)

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Figure S1. Scatterplot of the visible (532 nm) extinction measurements from the two CRD instruments used at T0. The solid line in the figure is the 1:1 line while the dashed is the result of a linear regression that produced a slope of 0.87 and a statistically insignificant intercept. Units on both axes are Mm^{-1}.

Figure S2. Observed diurnal variability in the number-weighted mobility size distribution ($dN/dlogD_p$) for (a,b) T0 and (c,d) T1. The color corresponds to particle concentration. (a,c) The unnormalized data, with the red indicating the period with the highest concentration. (b,d) The size distribution where each hour average is normalized to the maximum concentration during that hour. The appearance of a mode associated with new particle formation and growth starting at 8 am at T0 and at 11 am at T1 is evident. Data were averaged for June 21-29, 2010.