Figure S1. Wind simulated patterns on 23 (left), 24 (central) and 26 (right panel) July 2013 by WRF over the greater Greek domain.
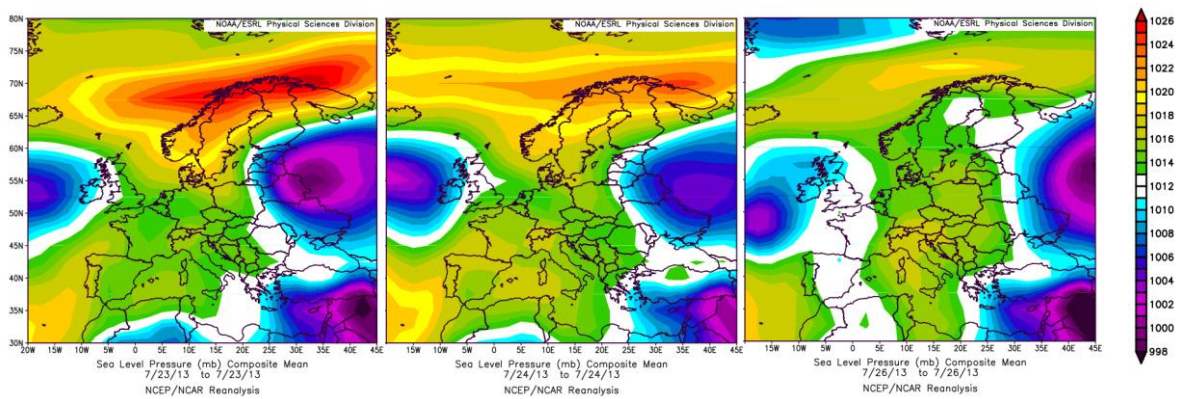
Figure S2. Mean daily sea pressure level over Europe on 23 (left), 24 (central) and 26 (right) July 2013, based on NCAR/NCEP reanalysis data.
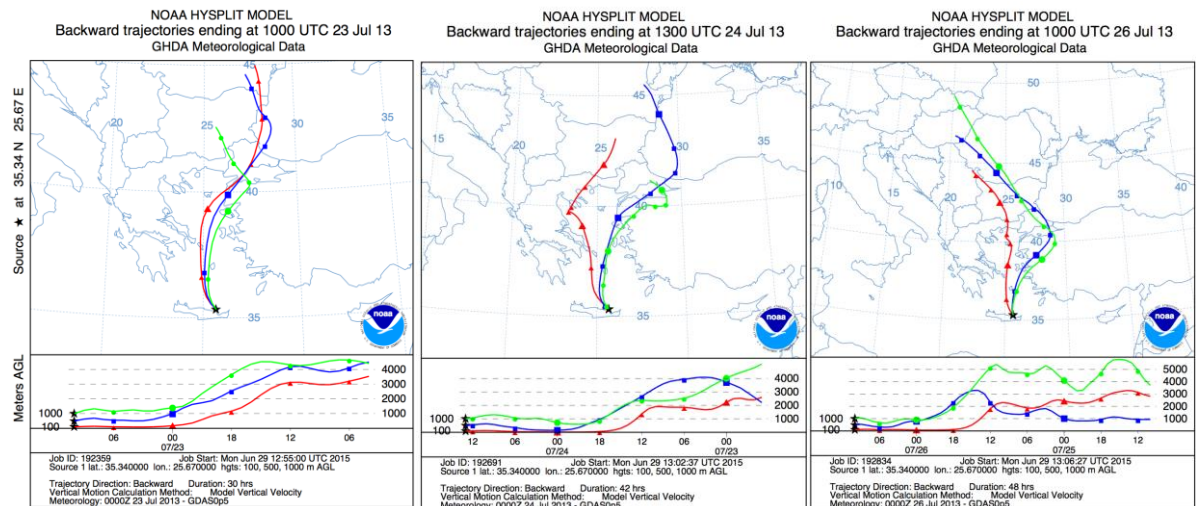
Figure S3. HYSPLIT4 back-trajectories computed with an end point (from 500m) at the Finokalia station, on 23, 24 and 26 July, 2013
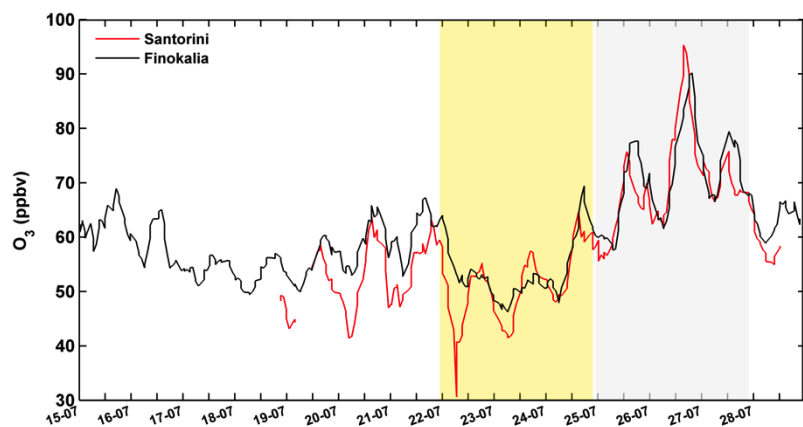
Figure S4. Measured O_3 concentrations at Santorini and Finokalia stations.
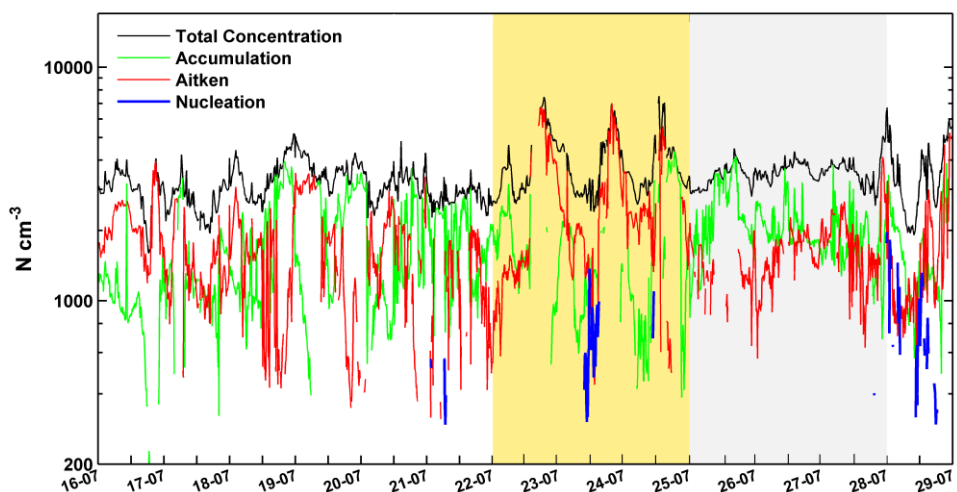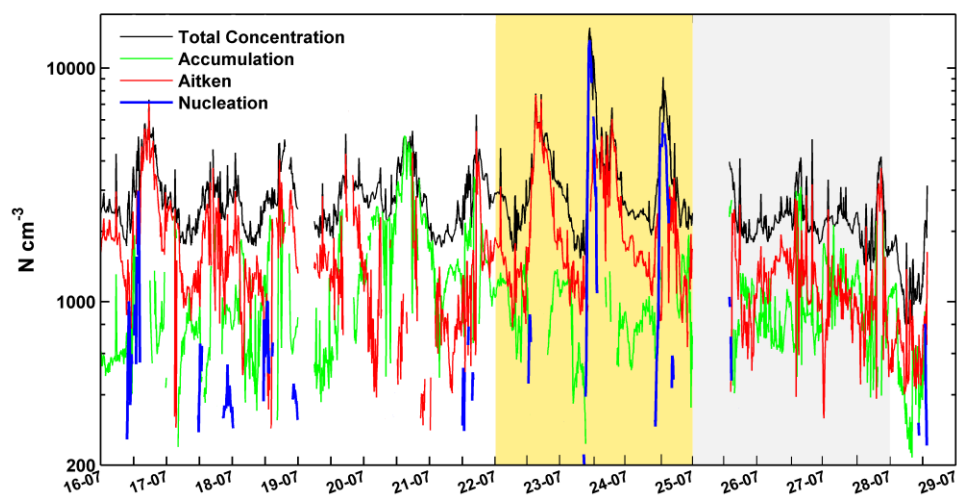
Figure S5. Size distributions of fine particles (10 min averaged); a) at Santorini, with dry mobility diameters from 10 to 500 nm and b) at Finokalia with dry mobility diameters from 9 to 848 nm; from 16 to 28 of July 2013.
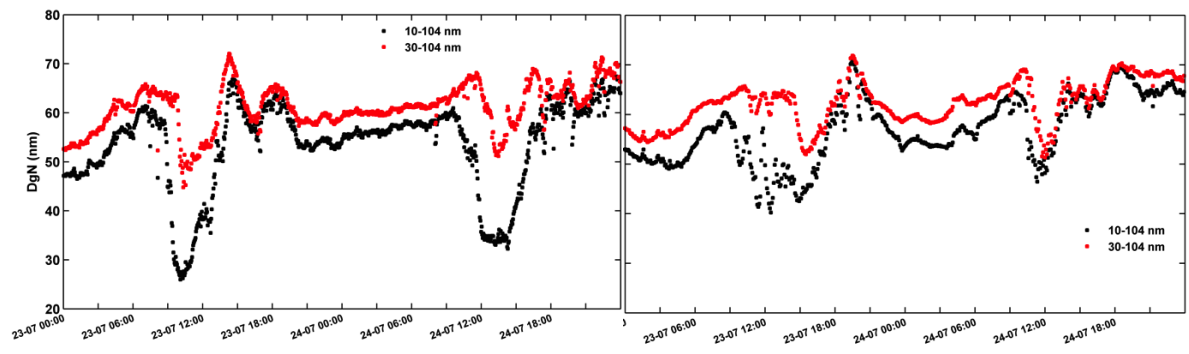
Figure S6. Time series of the number geometric mean diameter (DgN) of the nucleation and Aitken mode at a) Santorini and b) Finokalia, during 23 and 24 July 2013.
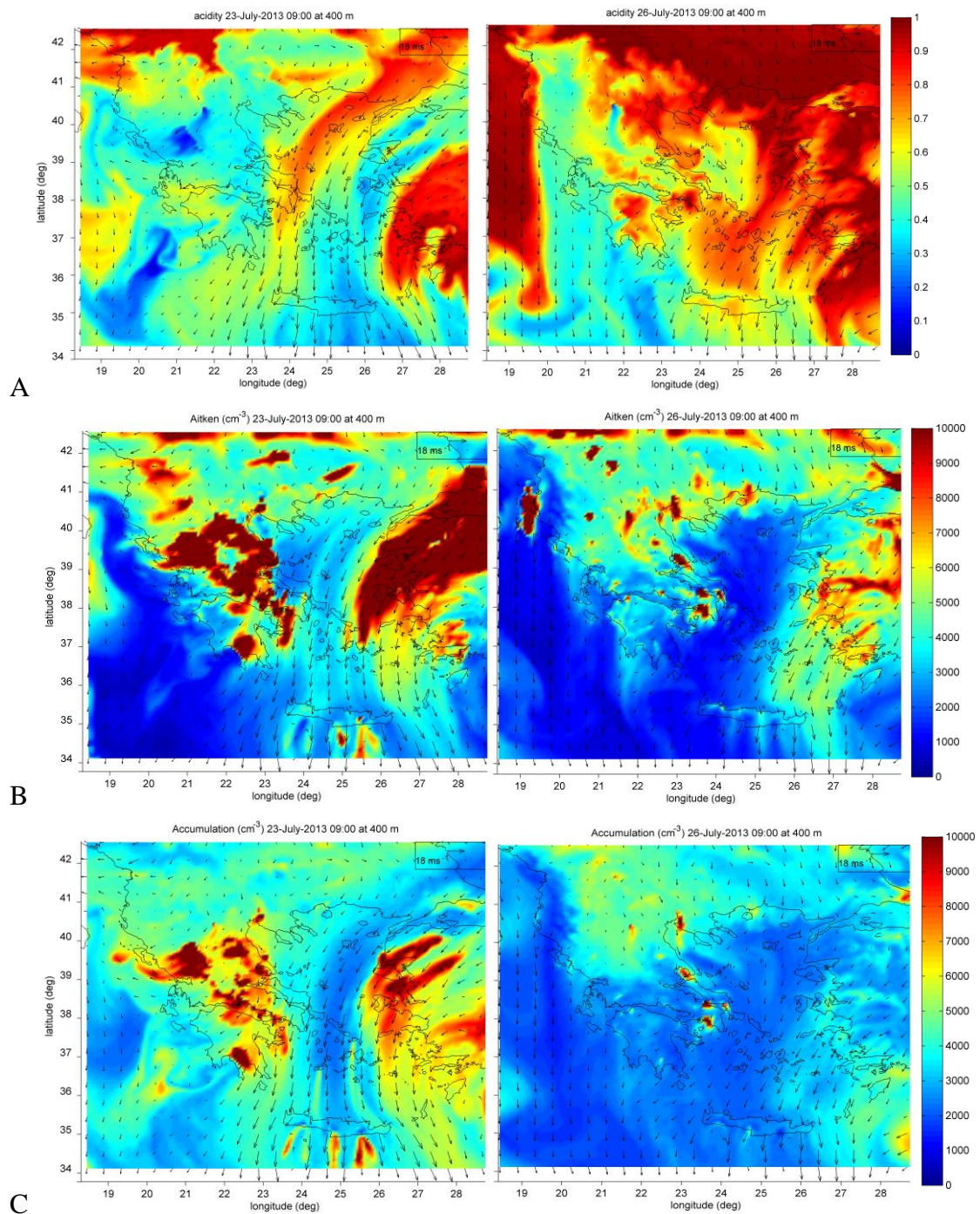
Figure S7. A) acidity, B) Aitken mode and C) accumulation mode, at 400 m over the greater Greek domain as simulated by the WRF-chem, at 09:00 LST, on 23 (left) and 26 (right) panel July.