Figure S1: (a) Ambient temperature (red) and relative humidity (blue), (b) wind speed and wind direction measured during ATWAICE.
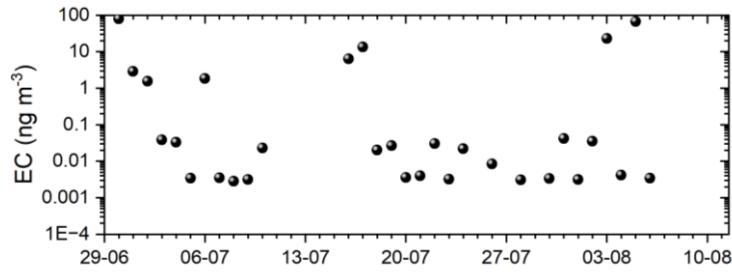
Figure S2: Temporal variabilities in elemental carbon concentrations measured using the thermo-optical transmission method (Birch and Cary, 1996). 0.002 ng m^{-3} represents the detection limit of the instrument.
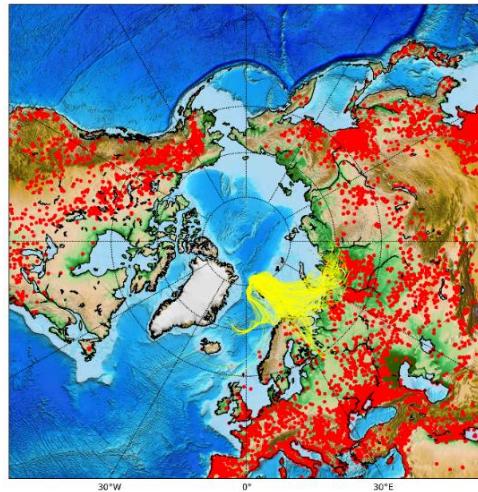
Figure S3: MODIS VIIRS fire pixel counts along with the hysplit airmass back trajectories during the first warm airmass intrusion period (WA1).
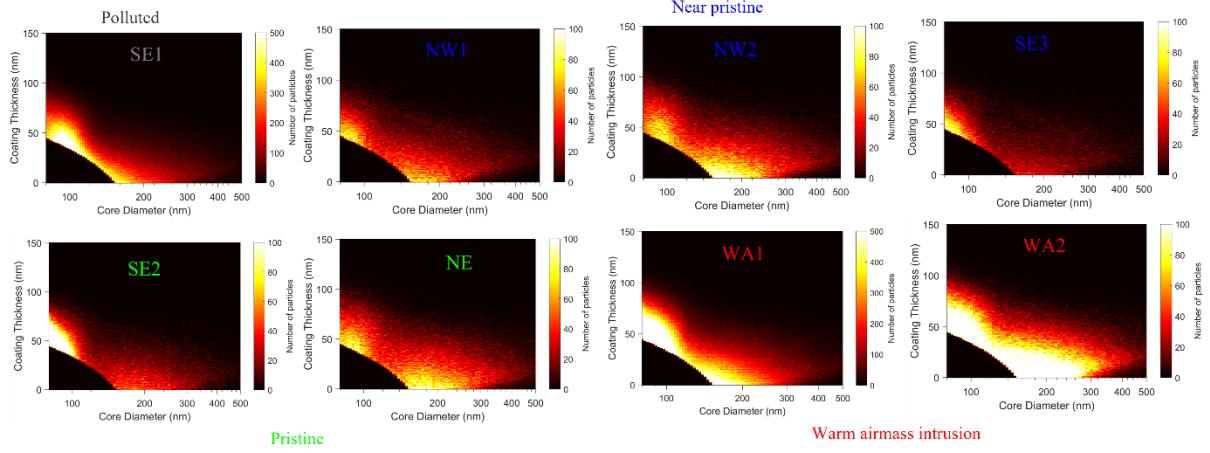
Figure S4: Size segregated coating thickness of rBC particles during the campaign. The colour bar indicates the number of particles in each of the size bins.
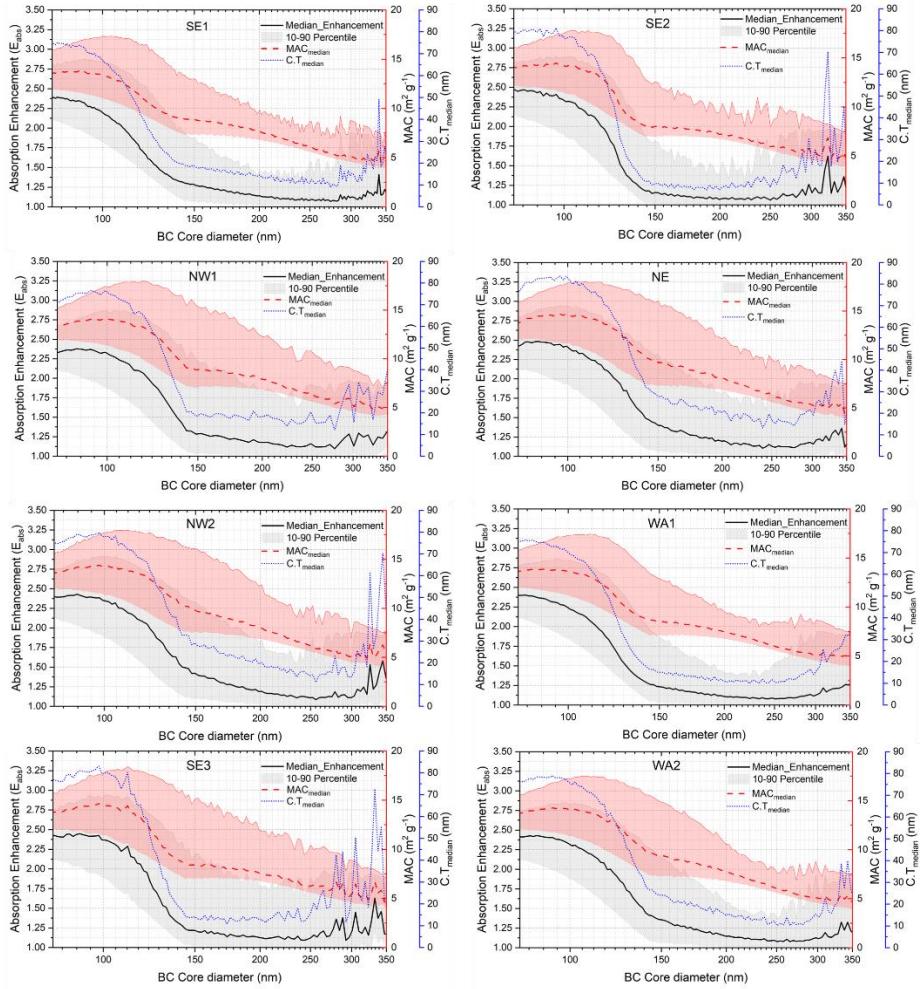
Figure S5: Size resolved absorption enhancement of rBC particles and Mass absorption cross section. The x-axis denotes the black carbon core diameter (nm); the y-axis (left) indicates the absorption enhancement factor, which quantifies the ratio of the absorption cross-section of coated BC particles to that of uncoated rBC cores of the same size. Median values are plotted as black solid lines, with the 10th to 90th percentile range shaded in grey to show variability.