



Supplement of

Synchronization of source and sink by boundary layer evolution: a key to new particle formation under varying ozone pollution

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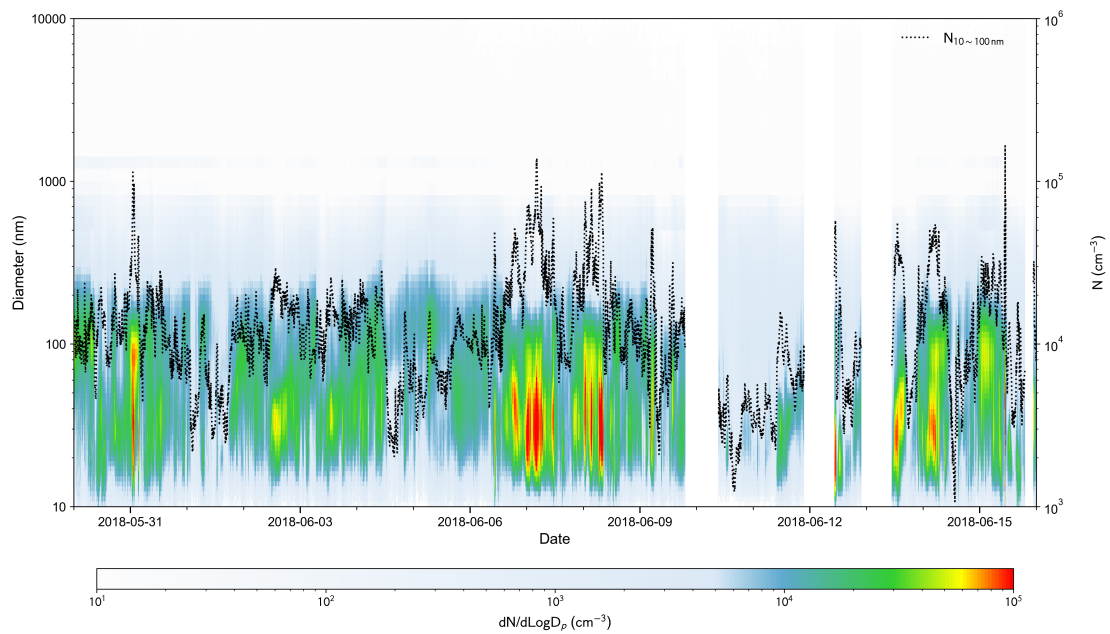


Figure S1. Time series of aerosol particle size distribution (0.1–10 μm) and number concentration of 10–100 nm particles from May 30 to June 15, 2018.

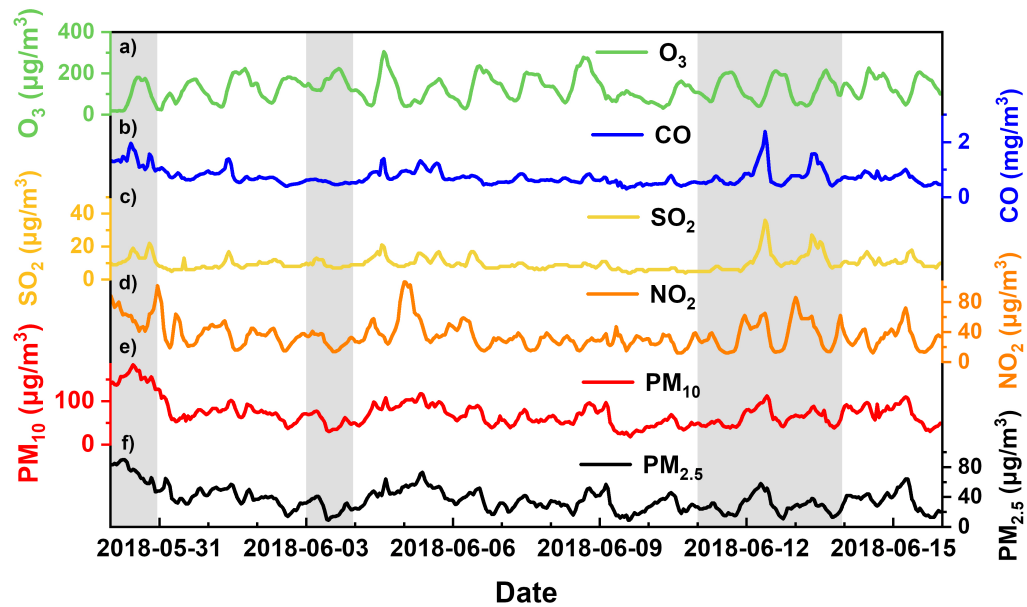


Figure S2. Time series of criteria air pollutants from May 30 to June 15, 2018: (a) O_3 , (b) CO , (c) SO_2 , (d) NO_2 , (e) PM_{10} , and (f) $\text{PM}_{2.5}$.

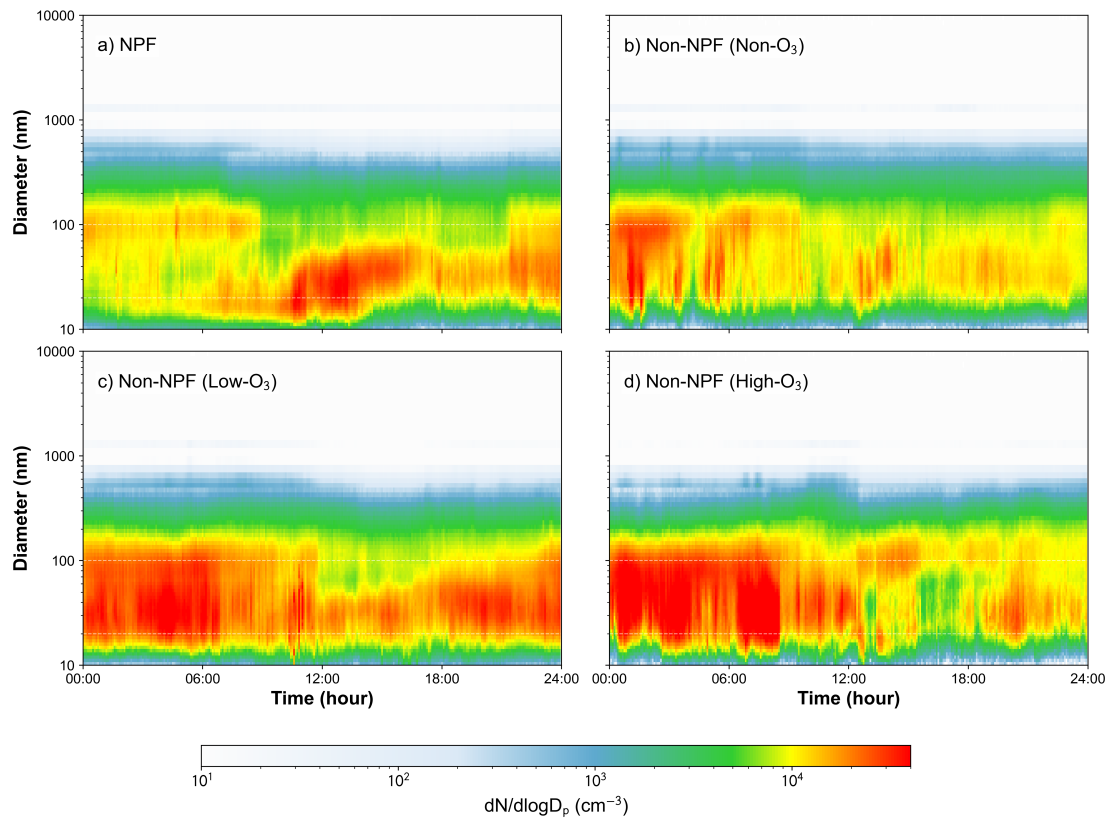


Figure S3. Size distribution of number concentration during observation time: (a) NPF scenario, (b) Non-NPF(Non-O₃) scenario, (c) Non-NPF(Low-O₃) scenario and (d) Non-NPF(High-O₃) scenario.

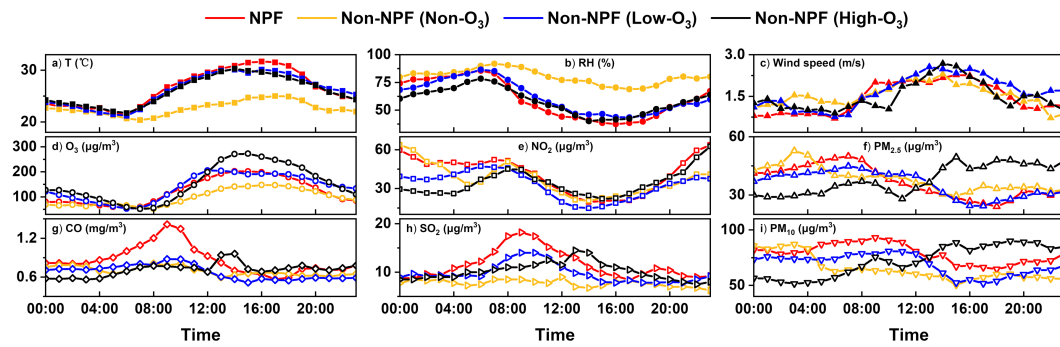


Figure S4. Diurnal variations of surface meteorological parameters and air pollutant concentrations under four classified scenarios: (a) T, (b) RH, (c) Wind speed, (d) O₃, (e) NO₂, (f) PM_{2.5}, (g) CO, (h) SO₂, and (i) PM₁₀. The red, yellow, blue, and black lines represent the NPF, Non-NPF (Non-O₃), Non-NPF (Low-O₃) and Non-NPF (High-O₃) scenarios, respectively.

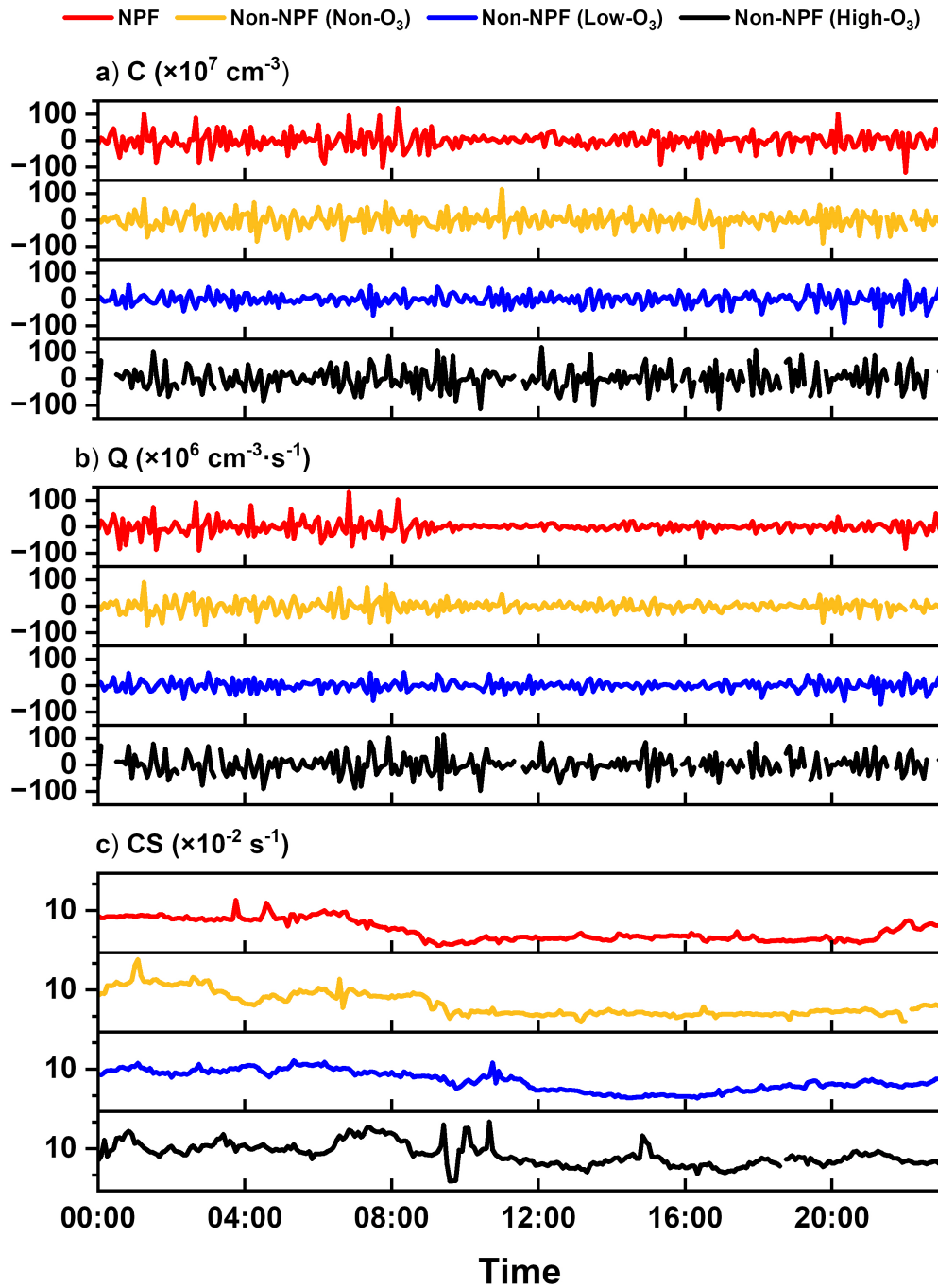


Figure S5. Diurnal variations of NPF dynamic parameters under four classified scenarios: (a) C, (b) Q, and (c) CS. The red, yellow, blue, and black lines represent the NPF, Non-NPF (Non-O₃), Non-NPF (Low-O₃) and Non-NPF (High-O₃) scenarios, respectively.

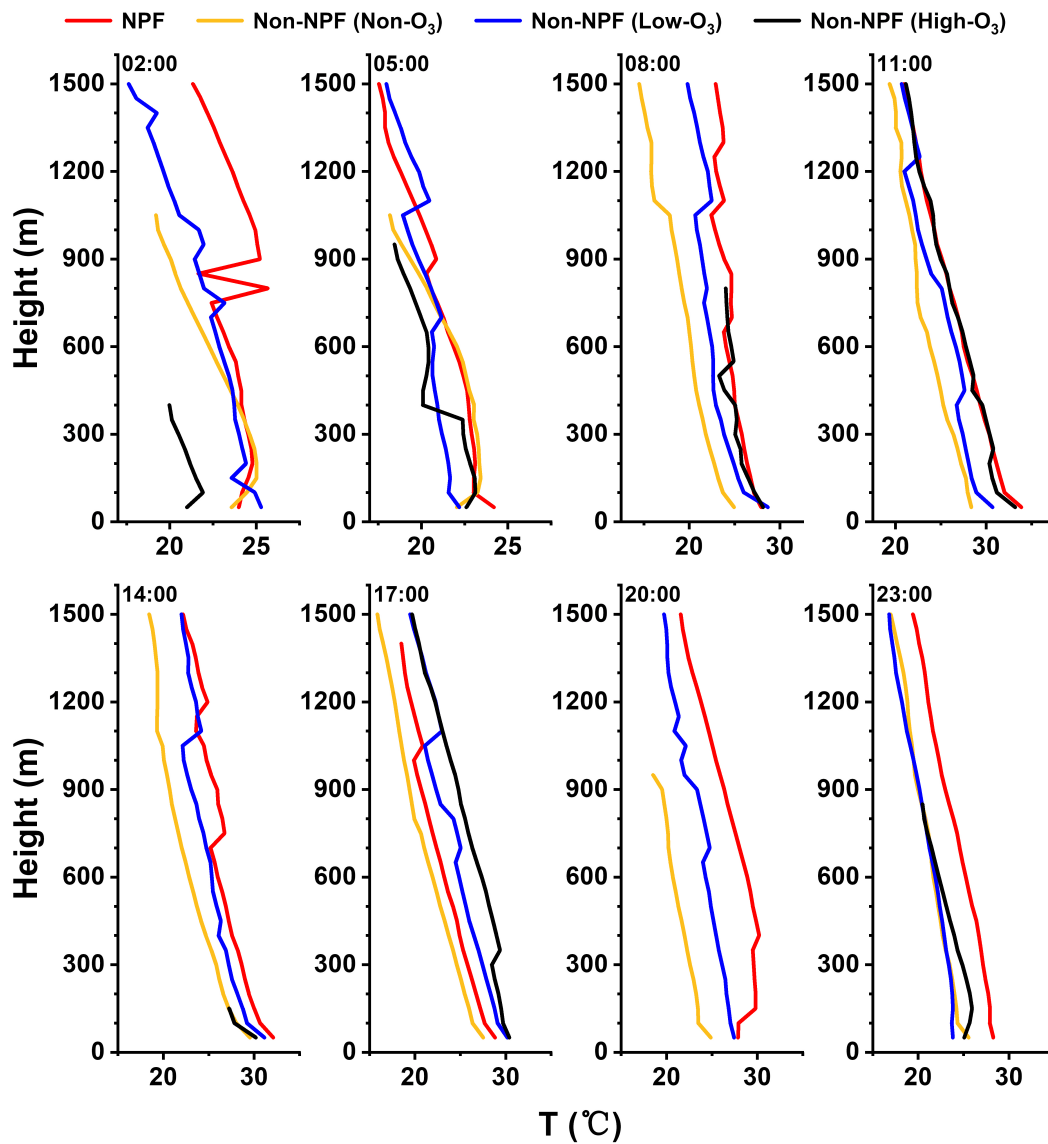


Figure S6. Vertical profiles of T at different times under four classified scenarios. The red, yellow, blue, and black lines represent the NPF, Non-NPF (Non-O₃), Non-NPF (Low-O₃) and Non-NPF (High-O₃) scenarios, respectively.

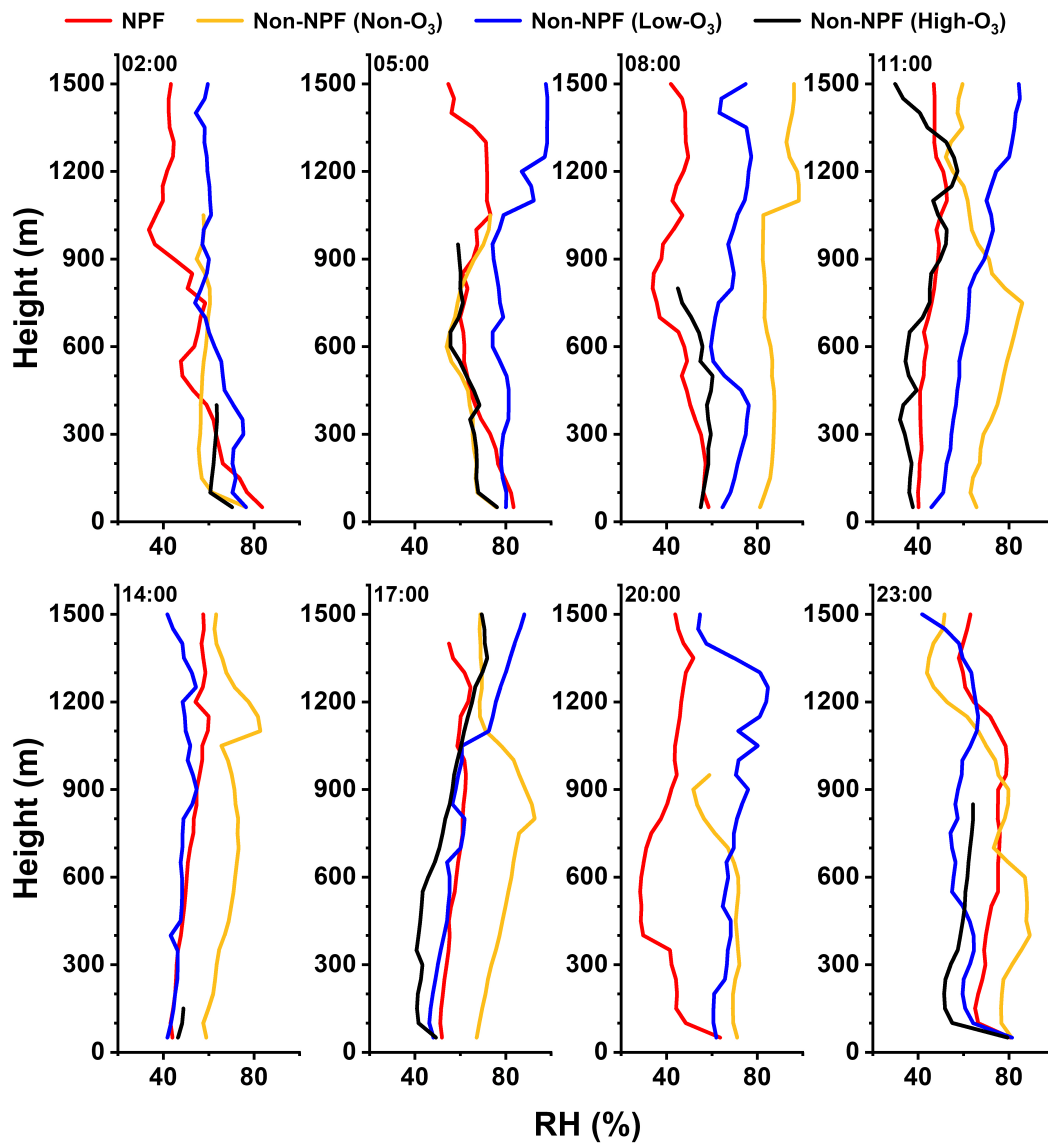


Figure S7. Vertical profiles of RH at different times under four classified scenarios. The red, yellow, blue, and black lines represent the NPF, Non-NPF (Non-O₃), Non-NPF (Low-O₃) and Non-NPF (High-O₃) scenarios, respectively.

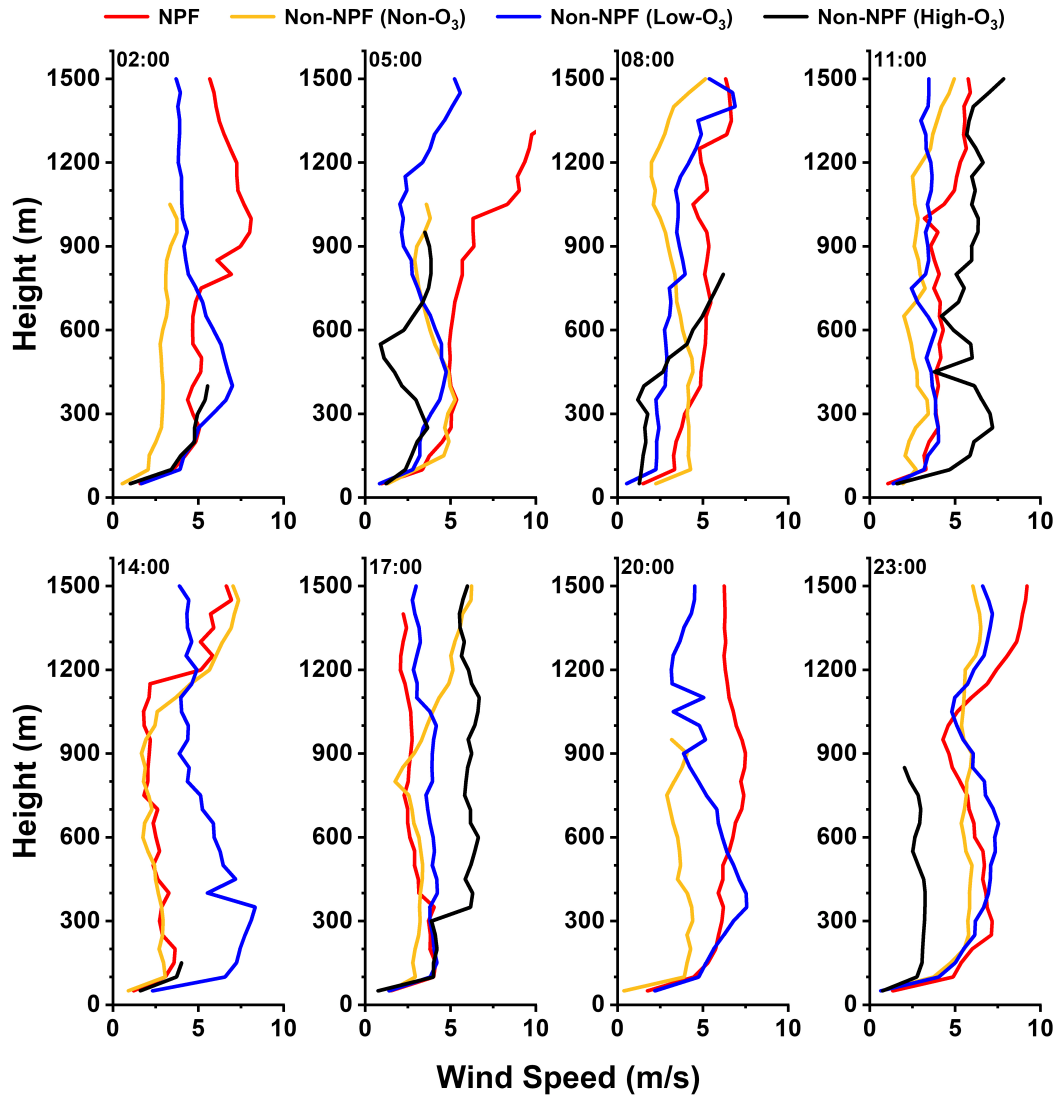


Figure S8. Vertical profiles of wind speed at different times under four classified scenarios. The red, yellow, blue, and black lines represent the NPF, Non-NPF (Non-O₃), Non-NPF (Low-O₃) and Non-NPF (High-O₃) scenarios, respectively.

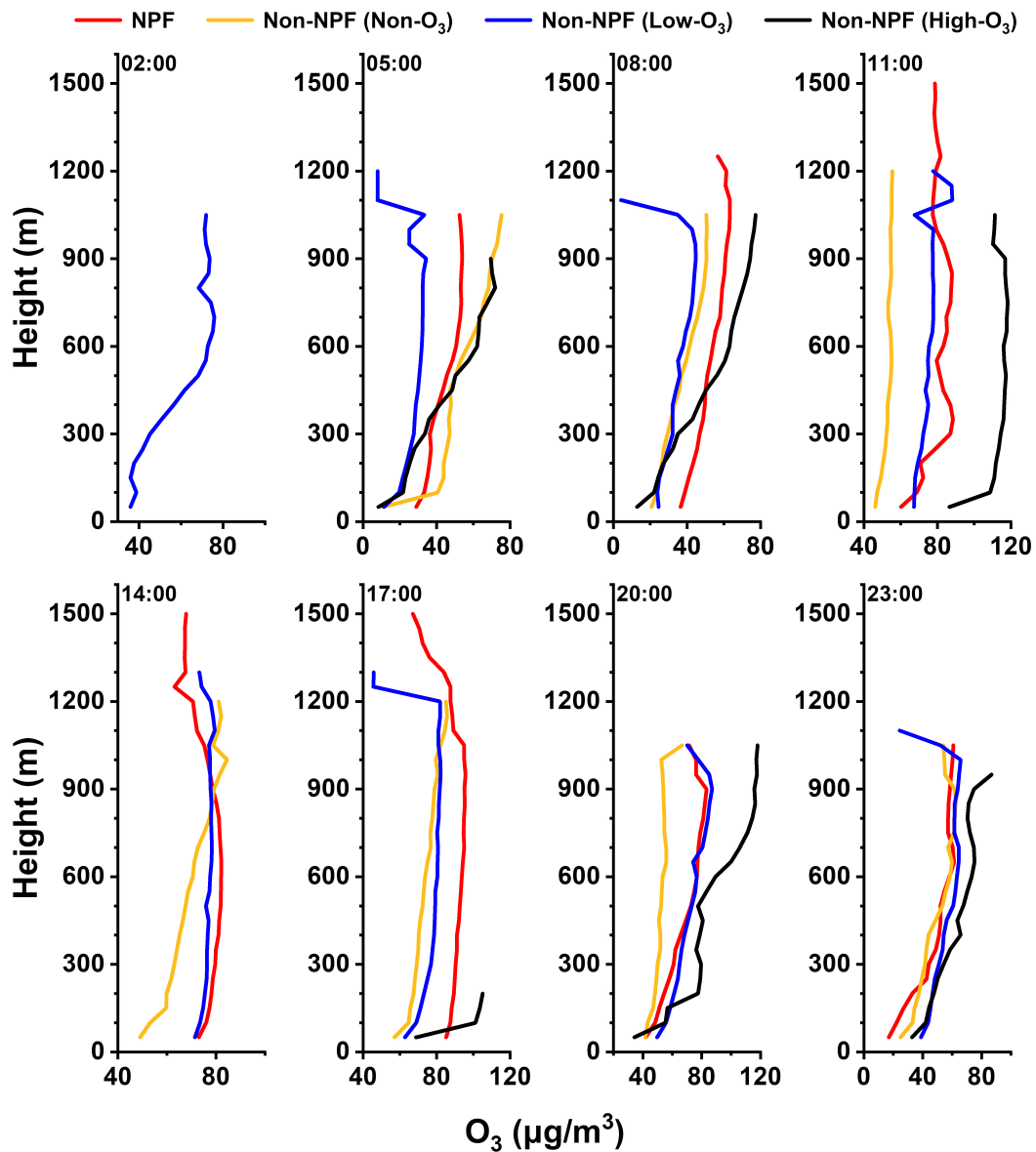


Figure S9. Vertical profiles of O_3 concentrations at different times under four classified scenarios. The red, yellow, blue, and black lines represent the NPF, Non-NPF (Non- O_3), Non-NPF (Low- O_3) and Non-NPF (High- O_3) scenarios, respectively.