Electronic Supplementary Material to: The Probability Density Function Related to Shallow Cumulus Entrainment Rate and Its Influencing Factors in a Large-Eddy Simulation*

Lei ZHU[1], Chunsong LU[1], Xiaoqi XU[2], Xin HE[1], Junjun LI[1], Shi LUO[3], Yuan WANG[4], and Fan WANG[5]

[1]*Collaborative Innovation Center on Forecast and Evaluation of Meteorological Disasters (CIC-FEMD) and Key Laboratory for Aerosol-Cloud-Precipitation of China Meteorological Administration*, *Nanjing University of Information Science and Technology*, *Nanjing* 210044, *China*

[2]*Nanjing Joint Institute for Atmospheric Sciences*, *Nanjing* 210019, *China*

[3]*College of Aviation Meteorology*, *Civil Aviation Flight University of China*, *Guanghan* 618307, *China*

[4]*Collaborative Innovation Center for Western Ecological Safety*, *Lanzhou University*, *Lanzhou* 730000, *China*

[5]*Department of Geography*, *Hong Kong Baptist University*, *Hong Kong SAR* 999077, *China*

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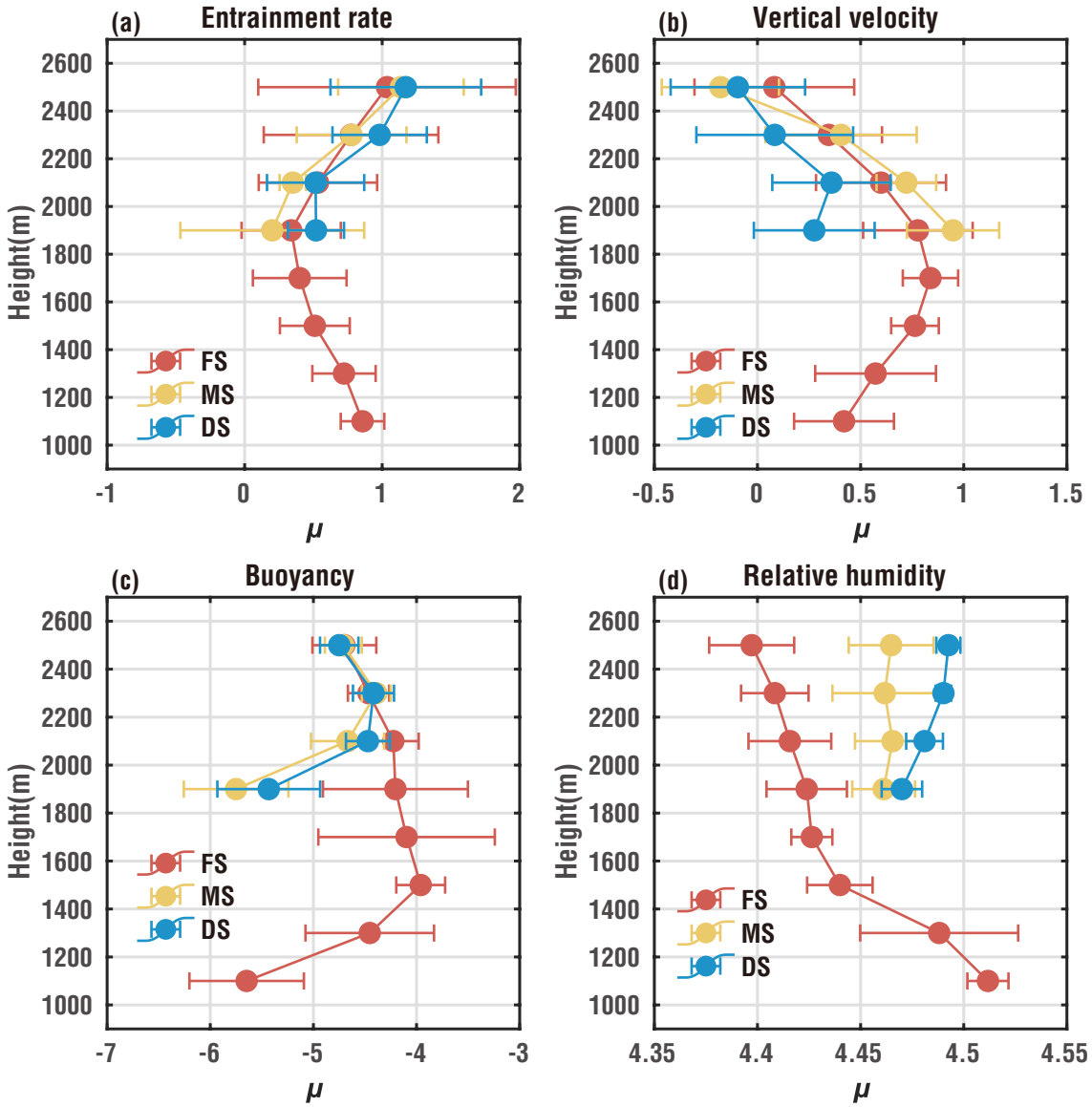

Fig. S1. Mean (μ) of the log-normal fit of the probability density functions of (a) entrainment rate (λ), (b) vertical velocity (w), (c) buoyancy (B), and (d) environmental relative humidity (RH_e) in each 200-m layer as a function of height in the three stages of cloud ensemble evolution. Error bars represent the standard deviation (σ). The formation (1500–1900 UTC), maintenance (1900–2200 UTC), and dissipation (2200–0020 UTC the next day) stages are represented by FS, MS, and DS, respectively.

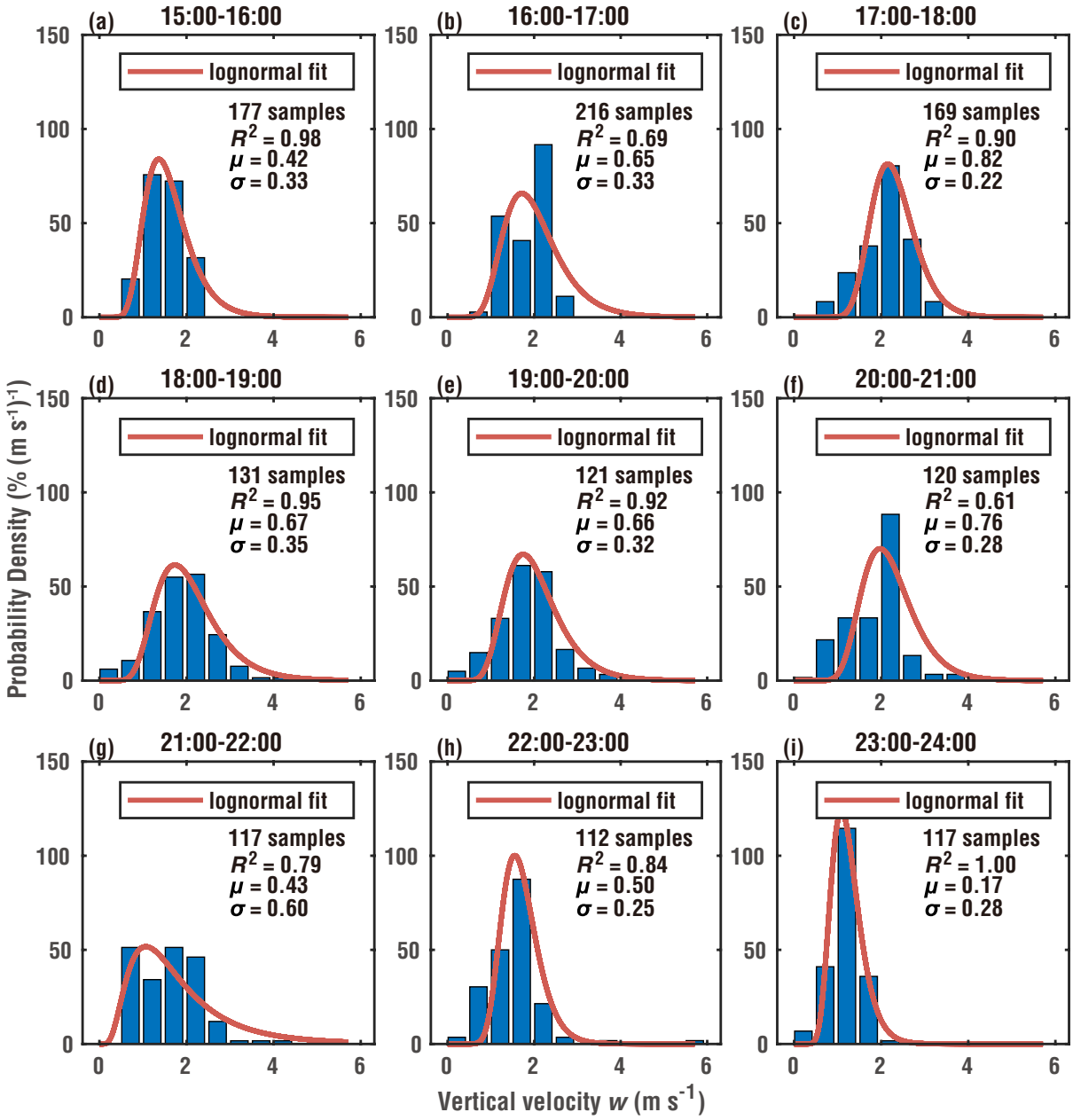

Fig. S2. Panels (a–i) represent the probability density function of the vertical velocity (w) in hourly intervals from 1500 to 2400 UTC. The number of samples, coefficient of determination (R^2), mean (μ), and standard deviation (σ) of ln(w) of the log-normal fit (red line) in each time interval are provided.

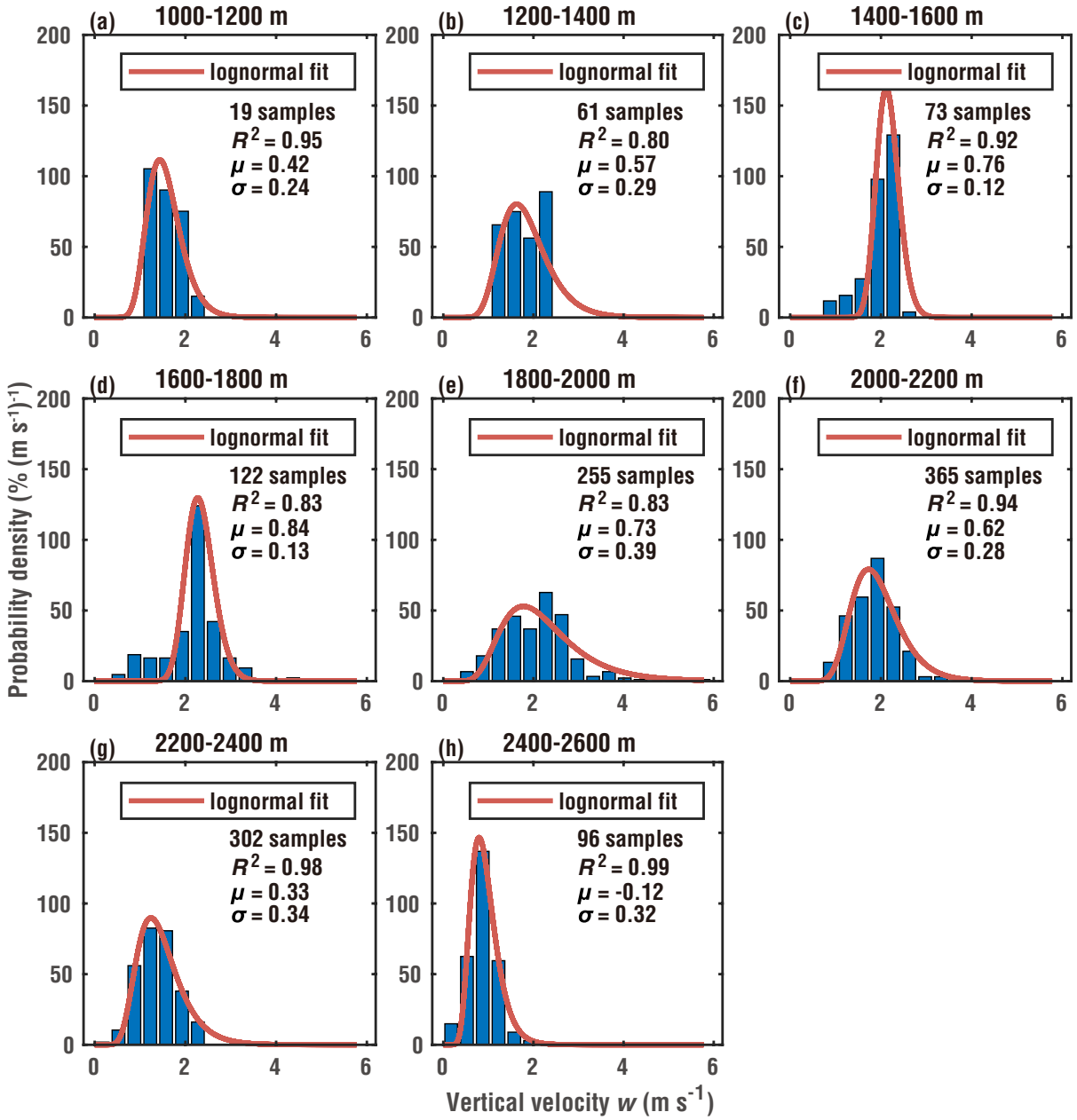

Fig. S3. Panels (a–h) represent the probability density function of the vertical velocity (w) per 200 m in the range of 1000–2600 m. The number of samples, coefficient of determination (R^2), mean (μ), and standard deviation (σ) of ln(w) for the log-normal fit (red line) for each 200 m are provided.