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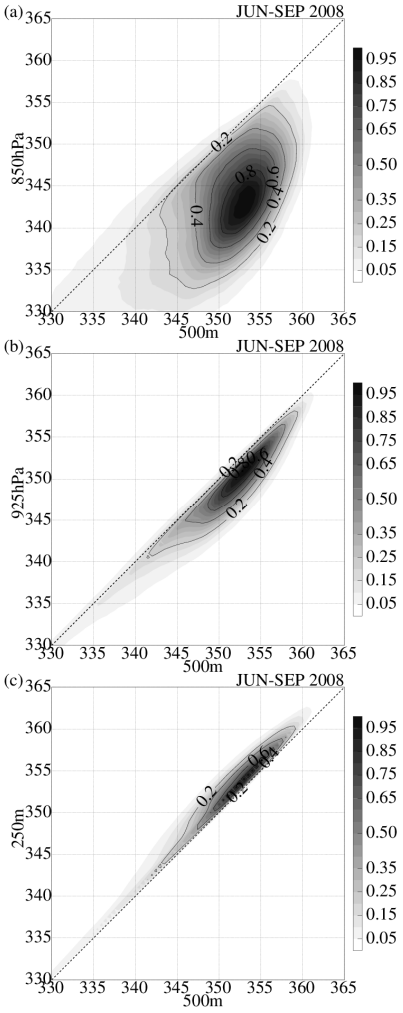
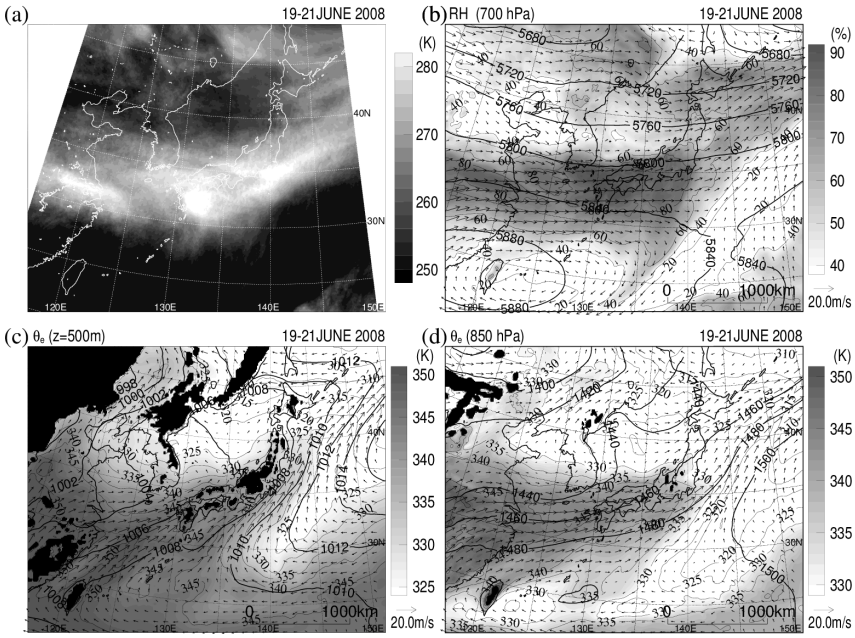


←Figure 1. Appearance frequency distributions of equivalent potential temperature (K) at (a) 850 hPa and (b) 925 hPa and (c) 250 m height relative to that at 500 m height.



↓Figure 2. (a) MTSAT cloud image; (b) 700-hPa relative humidity and 500-hPa height; (c) equivalent potential temperature (θ_e) at 500 m height and sea-level pressure; and (d) θ_e and height at 850 hPa averaged over 19–21 June 2008.

- Cloud base heights of moist convection with strong updrafts were simulated mainly around 500 and 300 m heights above sea level over land and over the ocean during April–August 2008, respectively. This result indicates that low-level humid air below a height of 500 m is very important for the initiation of strong moist convection.
- Equivalent potential temperature θ_e at 500 m height from 10-km-resolution objective analysis data was statistically compared with θ_e at various heights and pressure levels over the ocean south of 35 °N in East Asia during June–September 2008. These comparisons (Fig. 1) showed that analyses at the 850-hPa level could not represent the low-level water vapor field. The θ_e field at 925 hPa also could not adequately represent the low-level water vapor field, but the difference in θ_e between heights of 250 and 500 m was very small.
- In the Baiu season since the 850-hPa θ_e distribution, but not the θ_e distribution at 500 m height, is close to the distribution of a humid region found at 700 hPa, produced by convective activity, it was strongly influenced by convective activity over the Baiu frontal zone (Fig. 2).