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2 **A New Method for Estimating Atmospheric Turbulence from Global High-**

3 **Resolution Radiosonde Data and Comparison with the Thorpe Method**

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12 **Supplementary materials**

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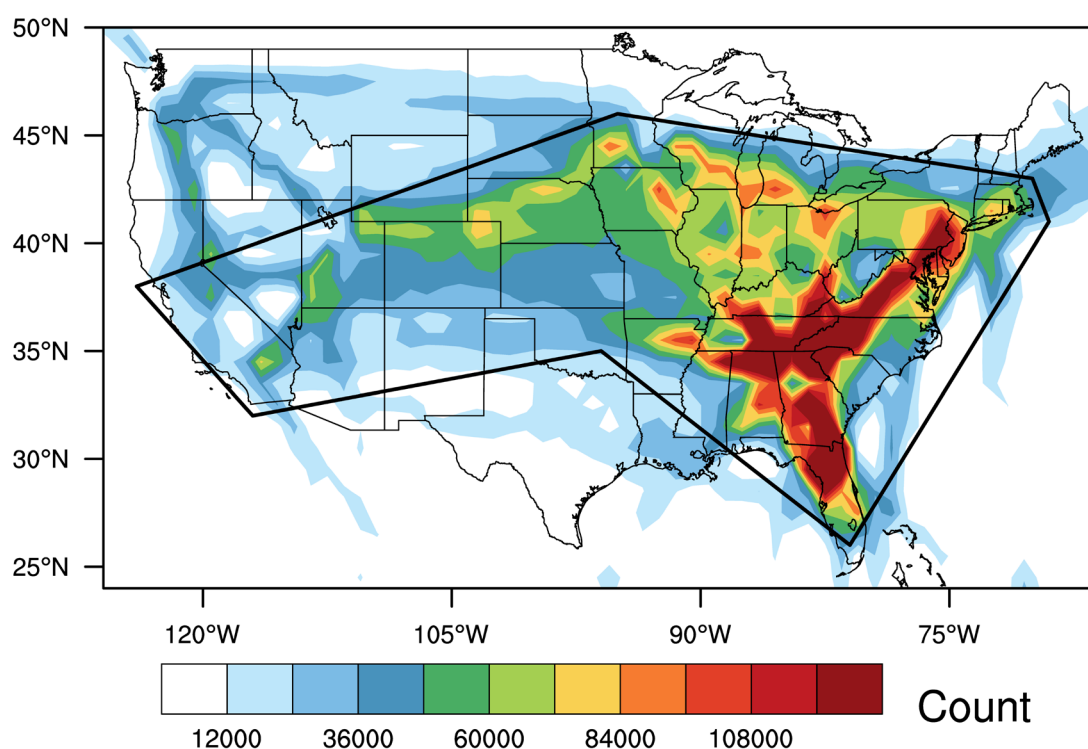
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(a) flight-EDR



(b) HVRRD stations

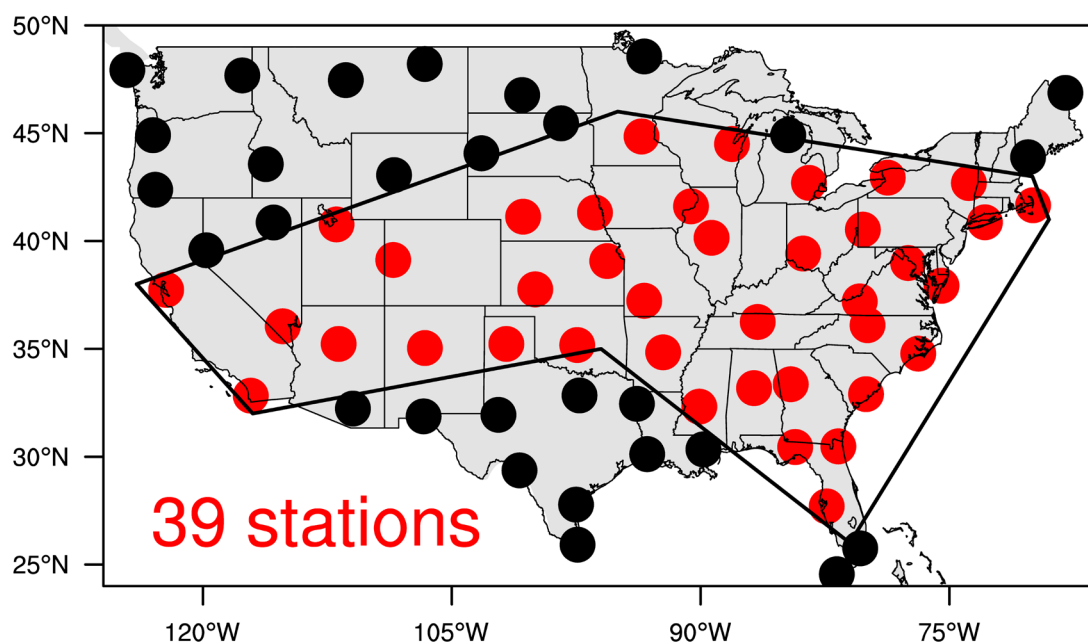


Figure S1. (a) Horizontal distributions of flight-EDR counts at $z = 20\text{--}40$ kft over a 10-year period (2015–2024), and (b) locations of HVRRD stations (red: inside the main flight routes, black: outside the main flight routes). In (b), the number of stations within the main flight routes is 39.

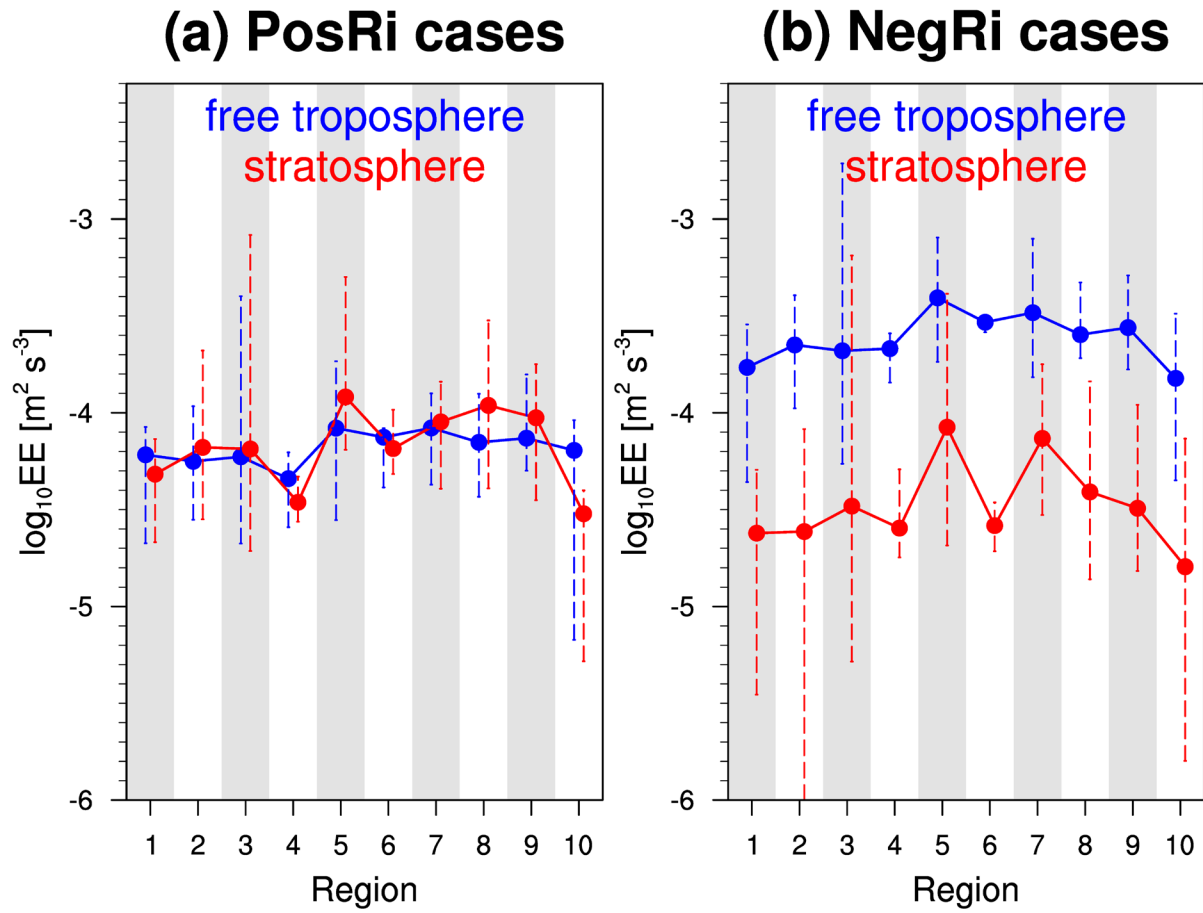


Figure S2. Median (dots) and full range (dashed lines) of $\log_{10}EE$ in each region in the free troposphere (from 3 km above the station height to the tropopause; blue) and stratosphere (red), shown separately for (a) positive Ri (PosRi) and (b) negative Ri (NegRi) cases.