

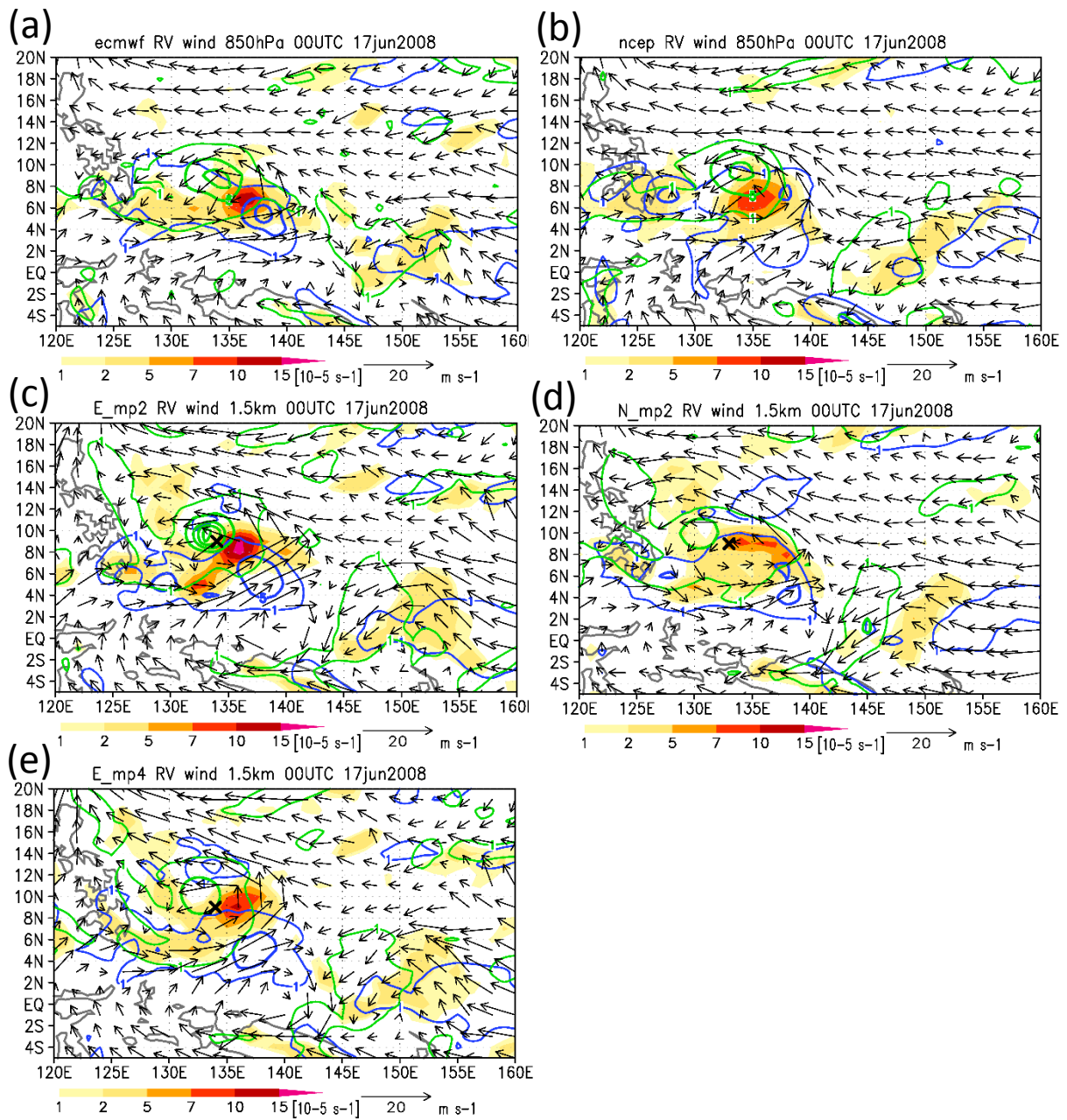


Fig. S2. Relative vorticity (shading) and wind vectors at 0000 UTC on 17 June 2008, in the (a) ECMWF YOTC and (b) NCEP FNL at 850 hPa, and those in the simulation cases (c) E_mp2, (d) N_mp2, and (e) E_mp4 at the 1.5-km altitude. Contour lines for the relative vorticity averaged between 6-hours before and after 0000 UTC on 16 (blue) and 18 (green) June 2008, at the same height level (1, 5, and $10 \times 10^{-5} \text{ s}^{-1}$) are also plotted. Crosses in (e)-(f) indicate the center of the large-scale gyre.