

Figure S1. Z500 anomalies (m) associated with the wintertime North Atlantic weather regimes in NCEP : a) Atlantic Ridge ; b) NAO- ; c) NAO+ ; d) Blocking. The climatological frequency of each regime is also given (based on the 1948-2013 period). e-f-g-h) Same except for CAM5 (based on the 50-year control run CTL).

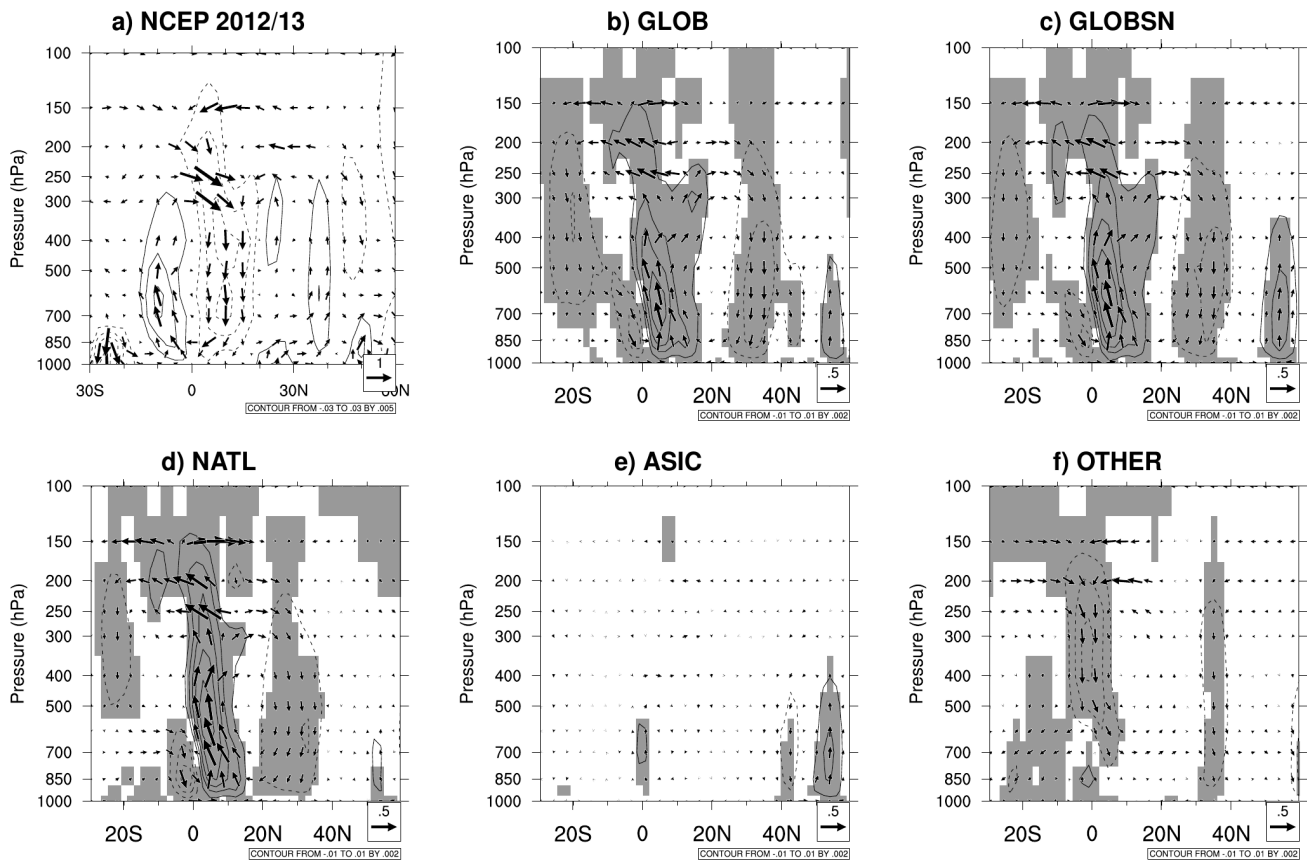


Figure S2. North Atlantic Hadley cell in the [80W/30W] cross-section for : a) 2012/213 anomaly in NCEP ; b) response in GLOB ; c) response in GLOBSN ; d) response in NATL ; e) response in ASIC ; f) response in OTHER. The Hadley cell vectors are defined using the divergent component of the meridional wind (m.s-1) and the vertical velocity (Pa.s-1). The vertical velocity is scaled for display. Original values of the vertical velocity anomalies are shown in contours (interval of 0.005 Pa.s-1). Responses of the vertical velocity that are significant at the 95% confidence level are shaded.

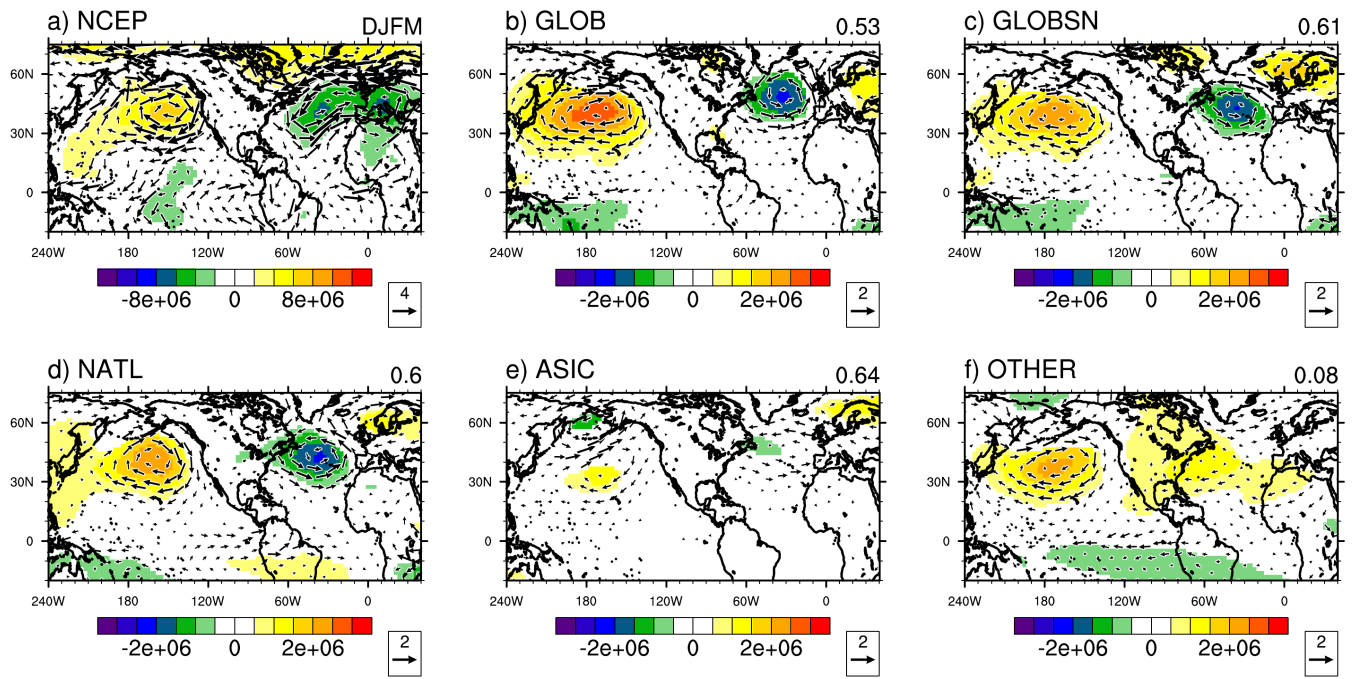


Figure S3. Same as Fig. 8 except for the 850 hPa streamfunction (kg/s, shading) and the 850 hPa wind vectors (m/s).

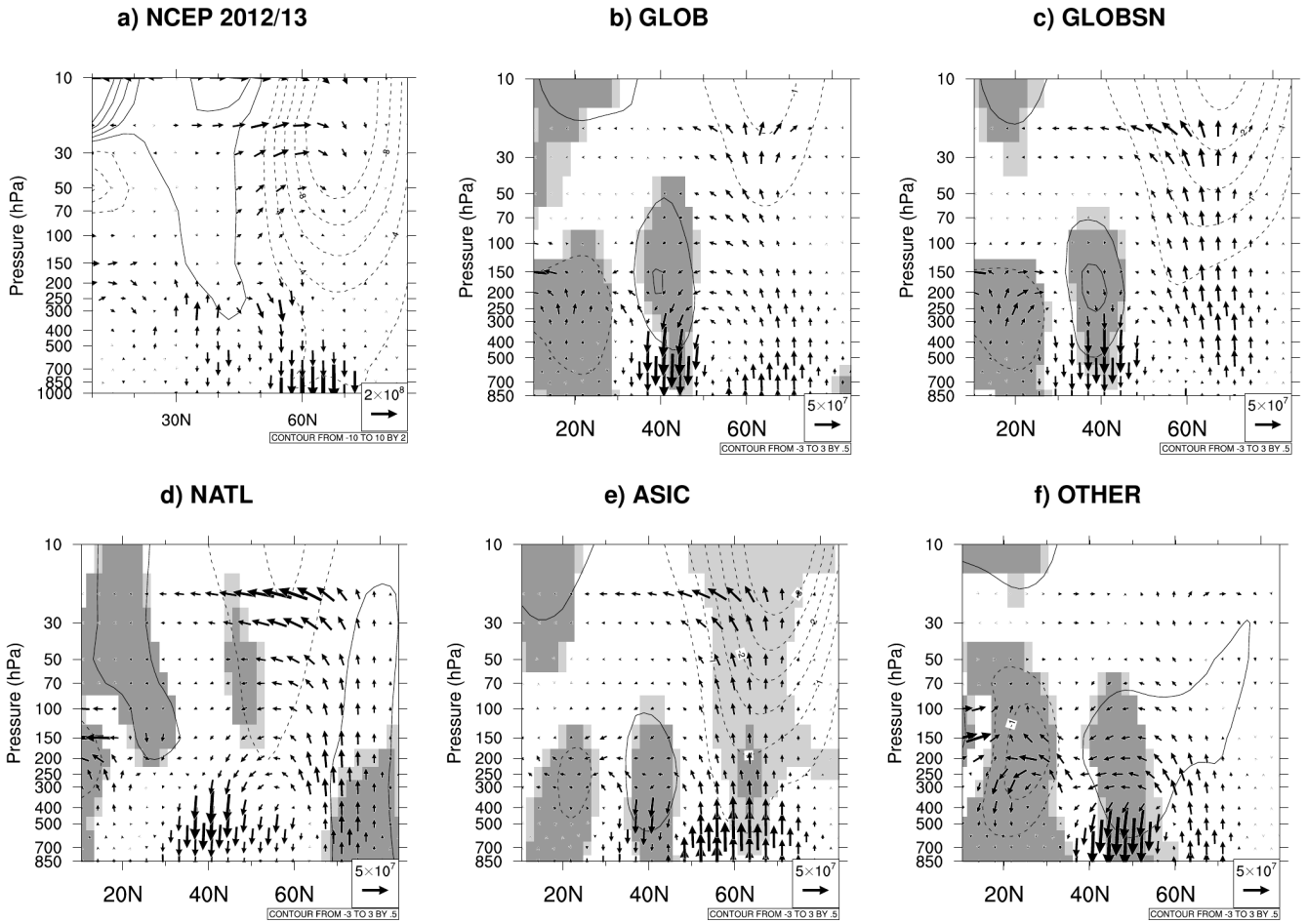


Figure S4. Zonally averaged zonal wind (black contours, m.s-1) and EP flux (Edmon et al. 1980, vectors, kg. m-1.s-2) in average over DJFM. a) 2012/213 anomaly in NCEP ; b) response in GLOB ; c) response in GLOBSN ; d) response in NATL ; e) response in ASIC ; f) response in OTHER. Light (dark) shading indicates the 90% (95%) significance level for zonal wind anomalies. For display, the vertical component of the EP flux is multiplied by 100 and the EP flux vectors are multiplied by the square root of p ($p = \text{pressure}/1000 \text{ hPa}$).

Reference

Edmon H.J., B.J. Hoskins and M.E. McIntyre (1980) Eliassen-Palm cross-sections for the troposphere. *J. Atmos. Sci.*, 37, 2600-2616 .