

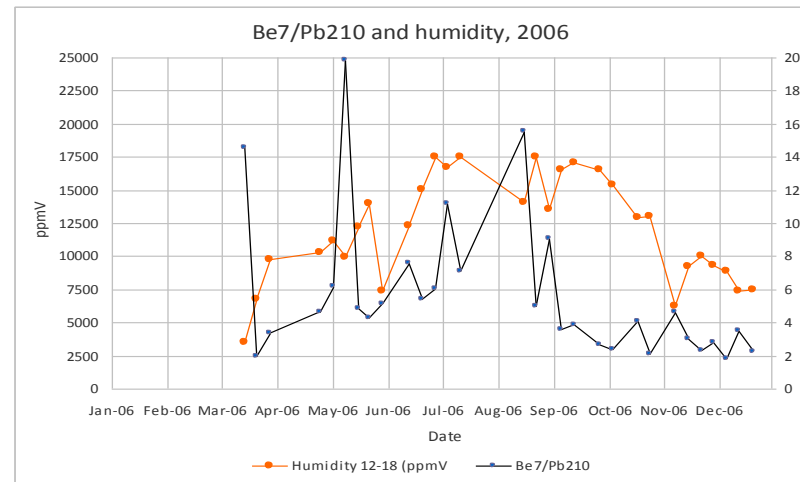
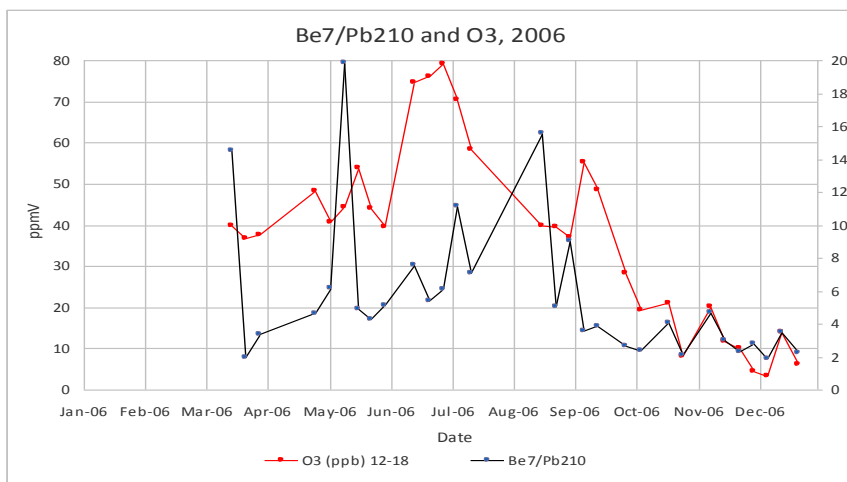
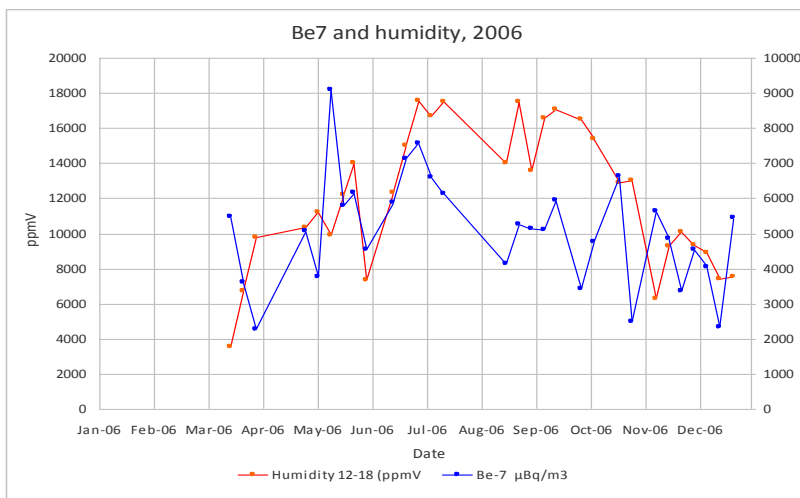
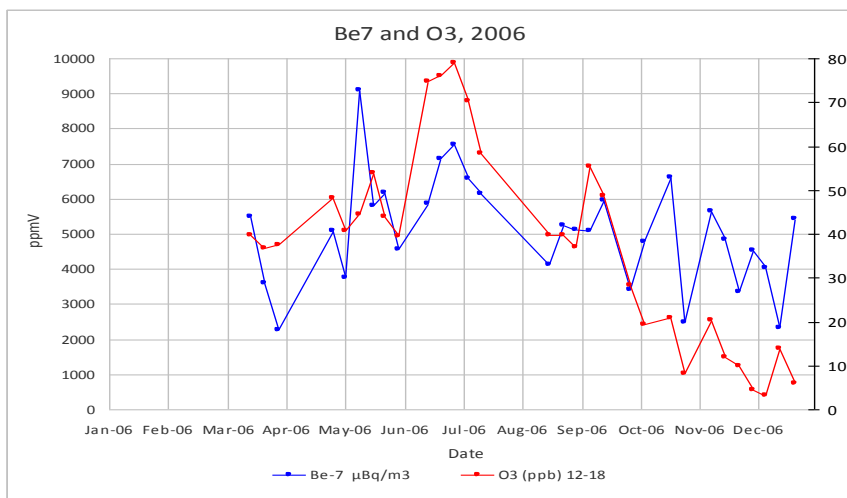


Fig. S1: Weekly averages for ^7Be ($\mu\text{Bq m}^{-3}$), ozone 12:00-18:00 (ppb), specific humidity 12:00-18:00 (ppm) and $^7\text{Be}/^{210}\text{Pb}$ ratio at the JRC-Ispra station for 2006.

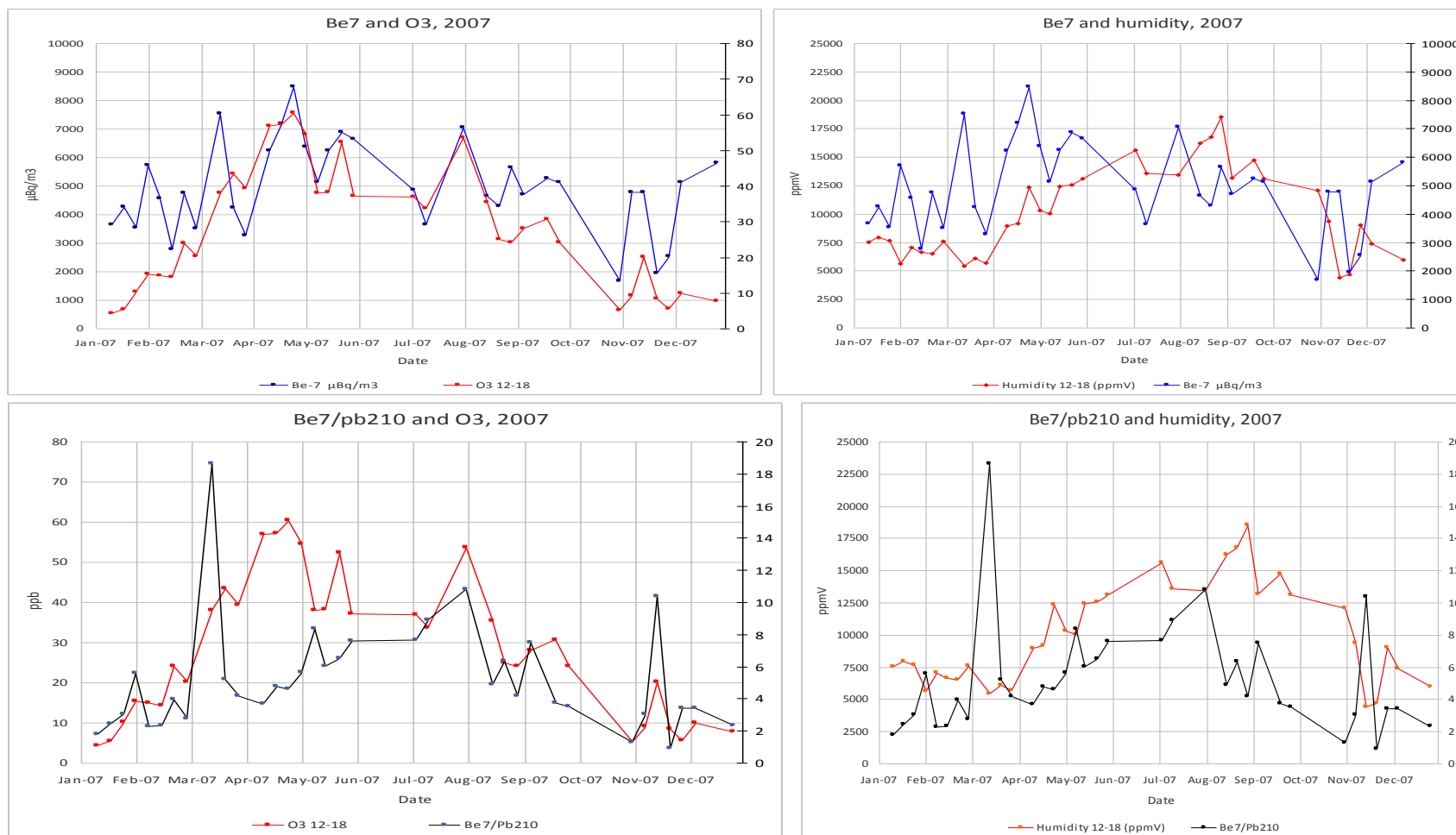


Fig. S2: Weekly averages for ^7Be ($\mu\text{Bq m}^{-3}$), ozone 12:00-18:00 (ppb), specific humidity 12:00-18:00 (ppm) and $^7\text{Be}/^{210}\text{Pb}$ ratio at the JRC-Ispra station for 2007.

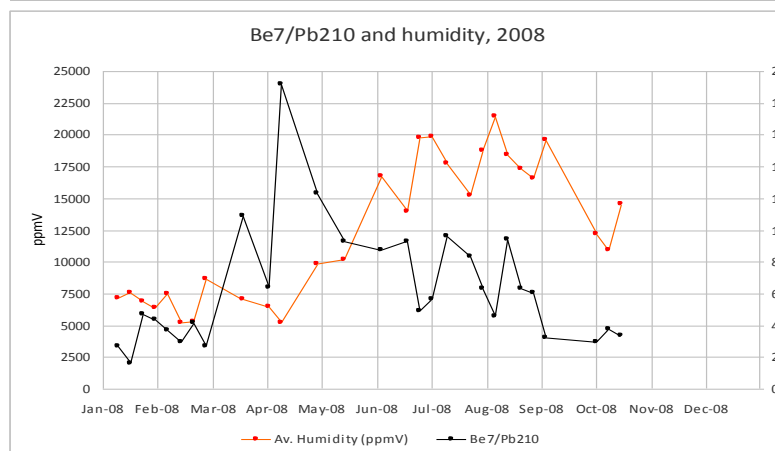
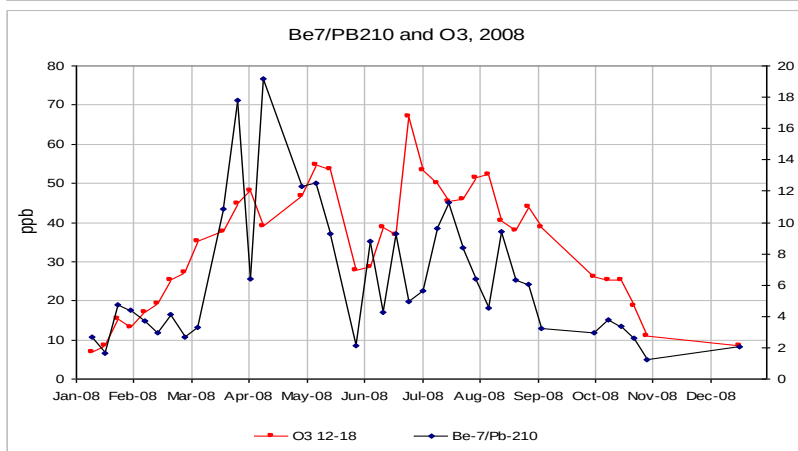
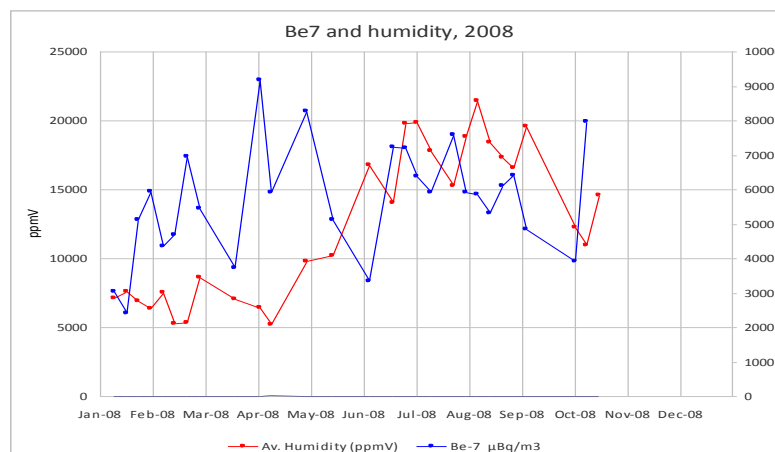
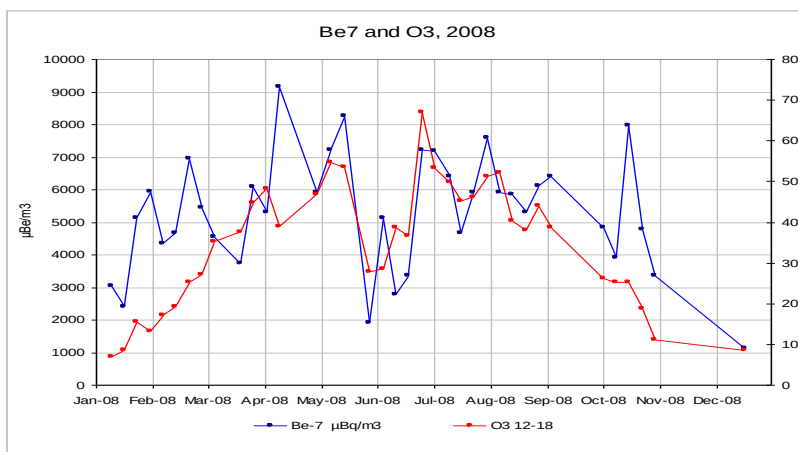


Fig. S3: Weekly averages for ^7Be ($\mu\text{Bq m}^{-3}$), ozone 12:00-18:00 (ppb), specific humidity 12:00-18:00 (ppm) and $^7\text{Be}/^{210}\text{Pb}$ ratio at the JRC-Ispra station for 2008.

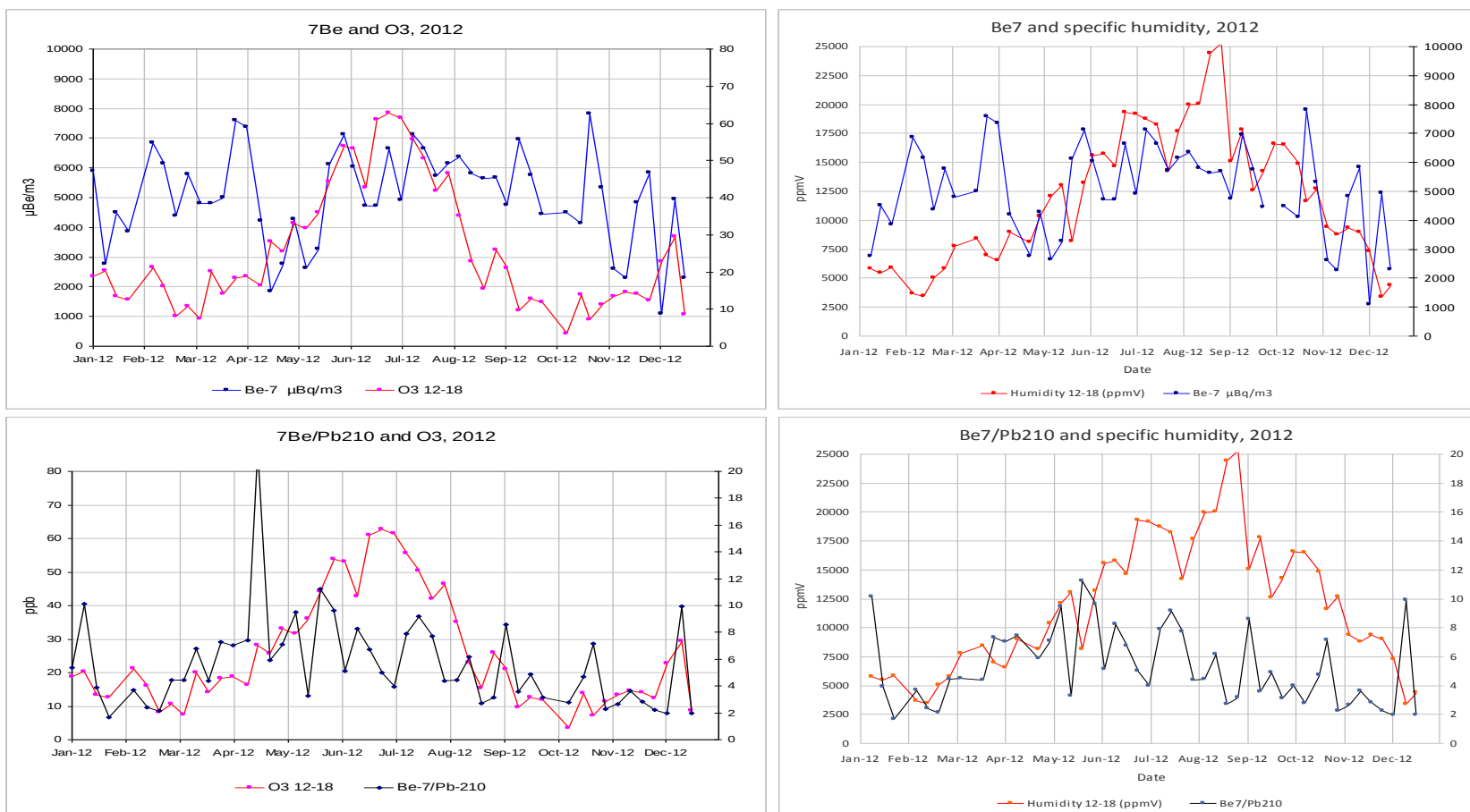


Fig. S4: Weekly averages for ^7Be ($\mu\text{Bq m}^{-3}$), ozone 12:00-18:00 (ppb), specific humidity 12:00-18:00 (ppm) and $^7\text{Be}/^{210}\text{Pb}$ ratio at the JRC-Ispra station for 2012.

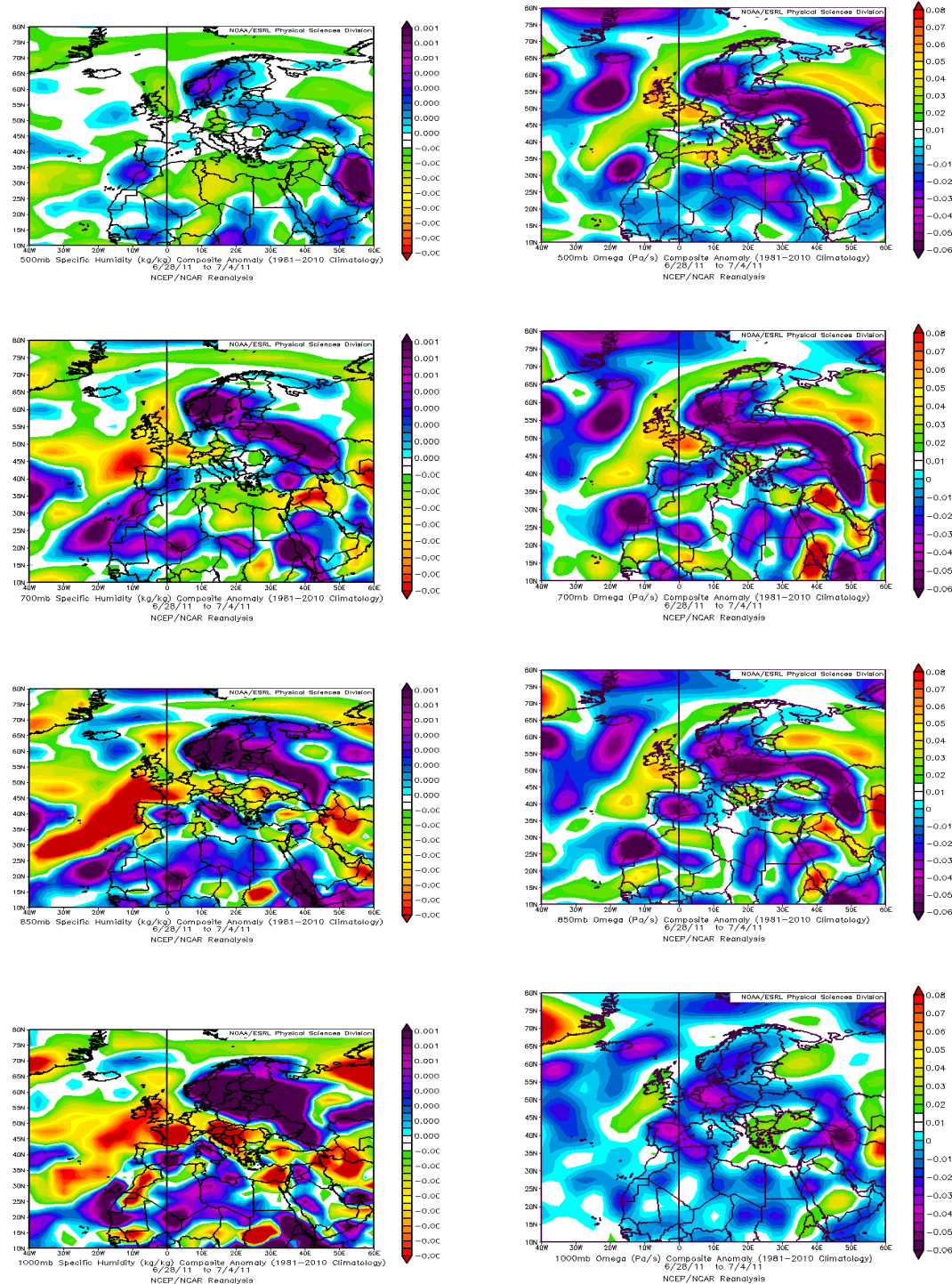


Fig. S5 (Left column): Composite charts of 28 Jun-04 July climatology for specific humidity anomaly at 500, 700, 850 and 1000hPa. (Right column): Composite charts of 28 Jun-04 July 2011 for Omega vertical velocity anomaly at 500, 700, 850 and 1000hPa.

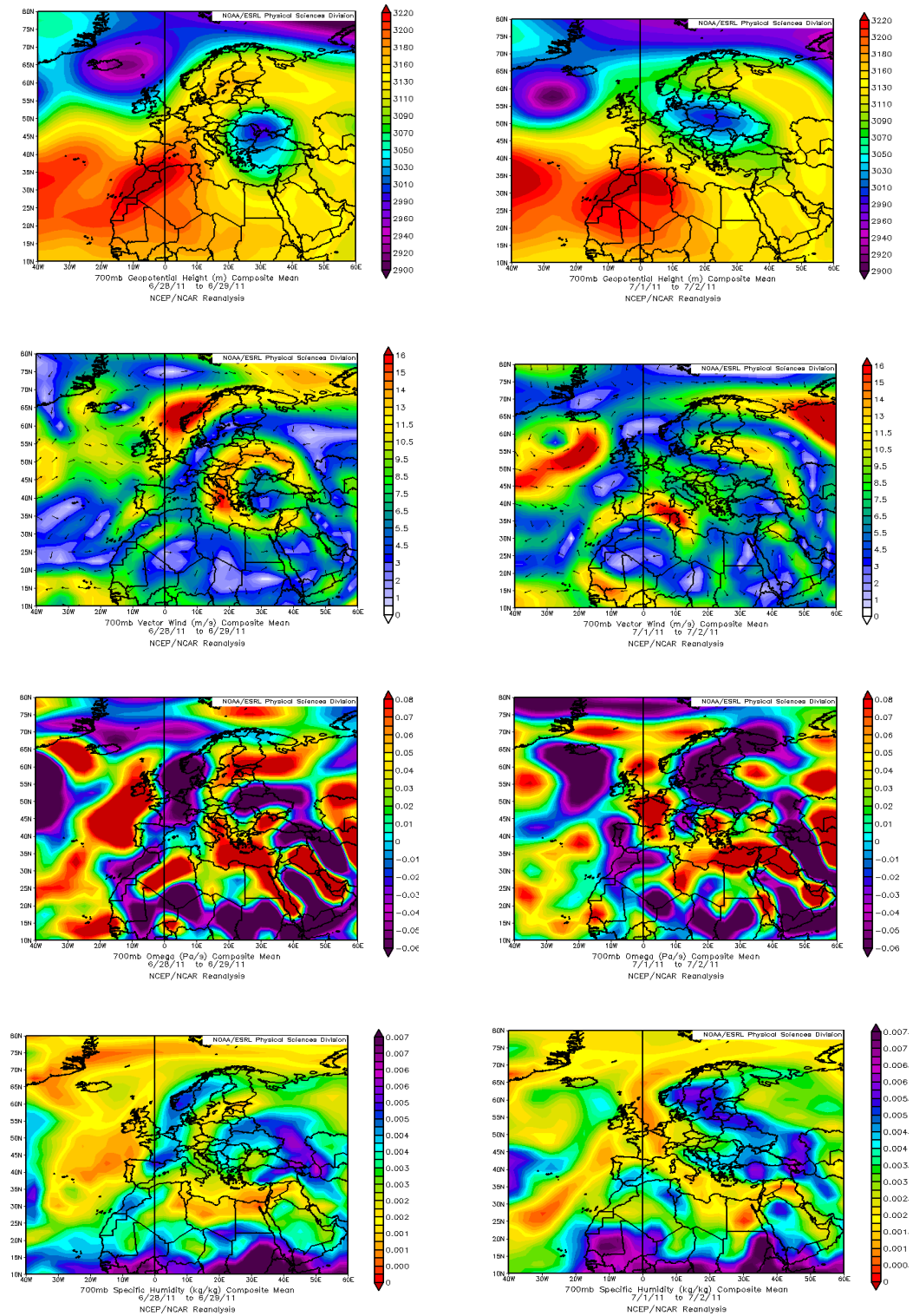


Fig. S6: Composite NOAA/ESRL weather maps of geopotential height, vector wind speed, omega vertical velocity and specific humidity for 28-29 June 2011 (left column) and for 1-2 July 2011 at JRC-Ispira, Italy (right column).

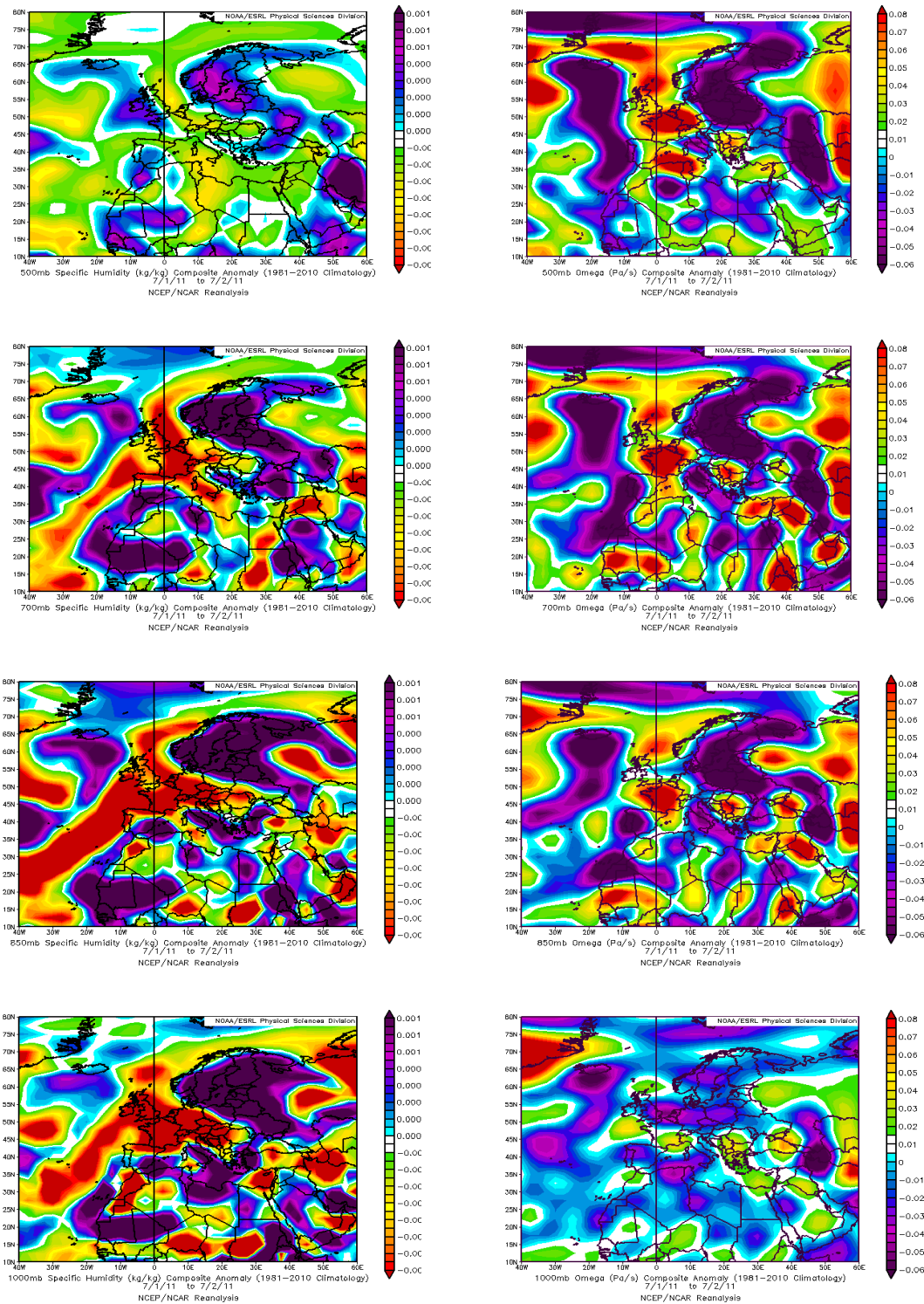


Fig. S7 (Left column): Composite charts of 1-2 July 2011 for specific humidity anomaly at 500, 700, 850 and 1000hPa. **(Right column):** Composite charts of 1-2 July 2011 for Omega vertical velocity anomaly at 500, 700, 850 and 1000hPa.

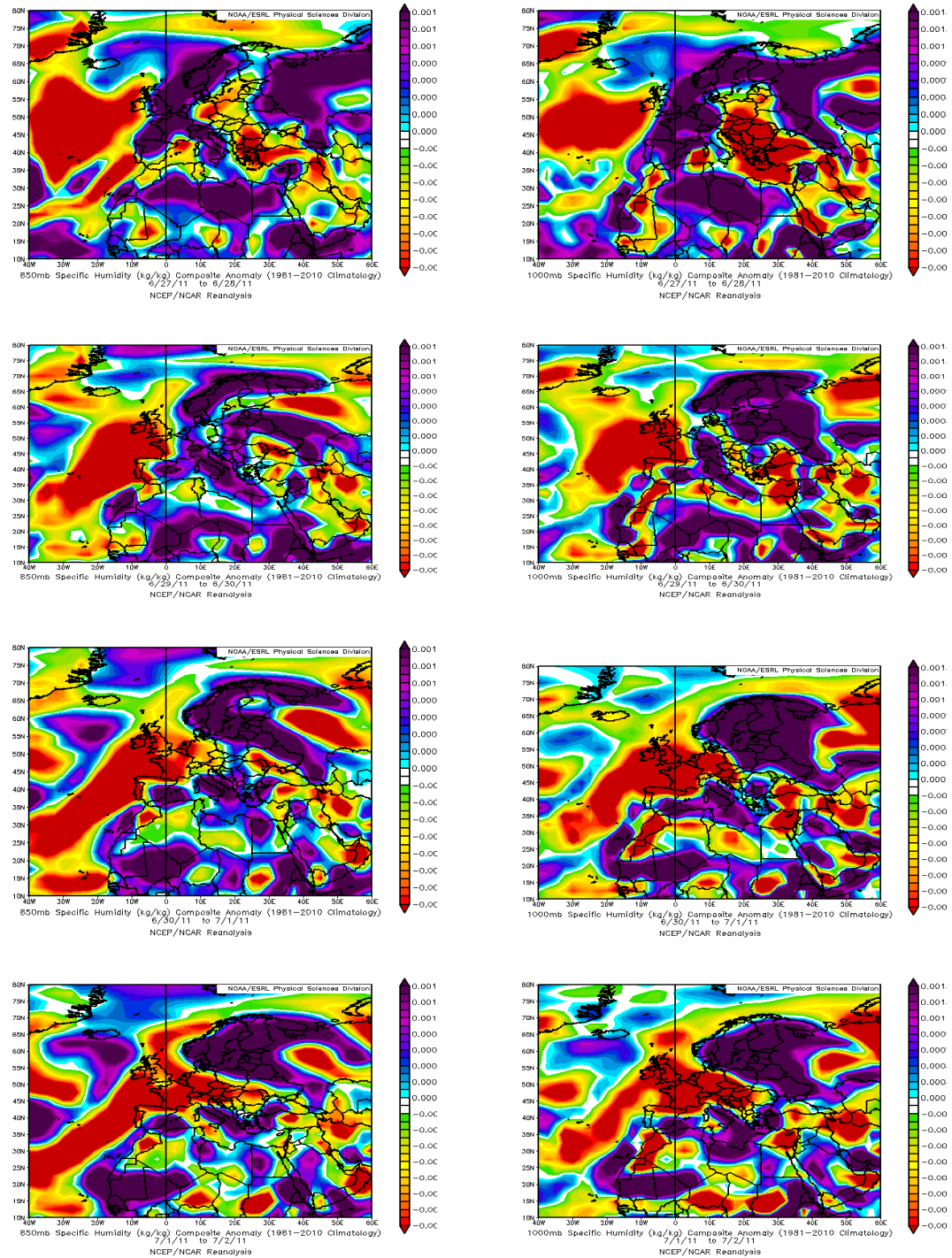


Fig. S8: (Left column, from above): Composite charts for specific humidity anomaly at 850 hPa 5-days, 3-days, 2-days before, and on July 1-2, 2011.

(Right column, from above): Composite charts for specific humidity anomaly at 1000 hPa 5-days, 3-days, 2-days before, and on July 1-2, 2011.