### 14. Supplementary Figures



Figure S.1 Daily averaged IWV, measured by MODIS onboard the Terra (a, b) and Aqua (c, d) satellites. The spatial resolution is 1°x1°. The shown dates are 25-Oct-2012 (a, c) and 26-Oct-2012 (b, d). The products used are MOD08\_D3 and MYD08\_D3.



Figure S.2. HYSPLIT 24h backward trajectories initialized on 26-Oct-2012 1800 UTC supplementing the results of Fig. 6.c. They show the height levels at which ellipse A (a) and ellipse B (b) trajectories travel.

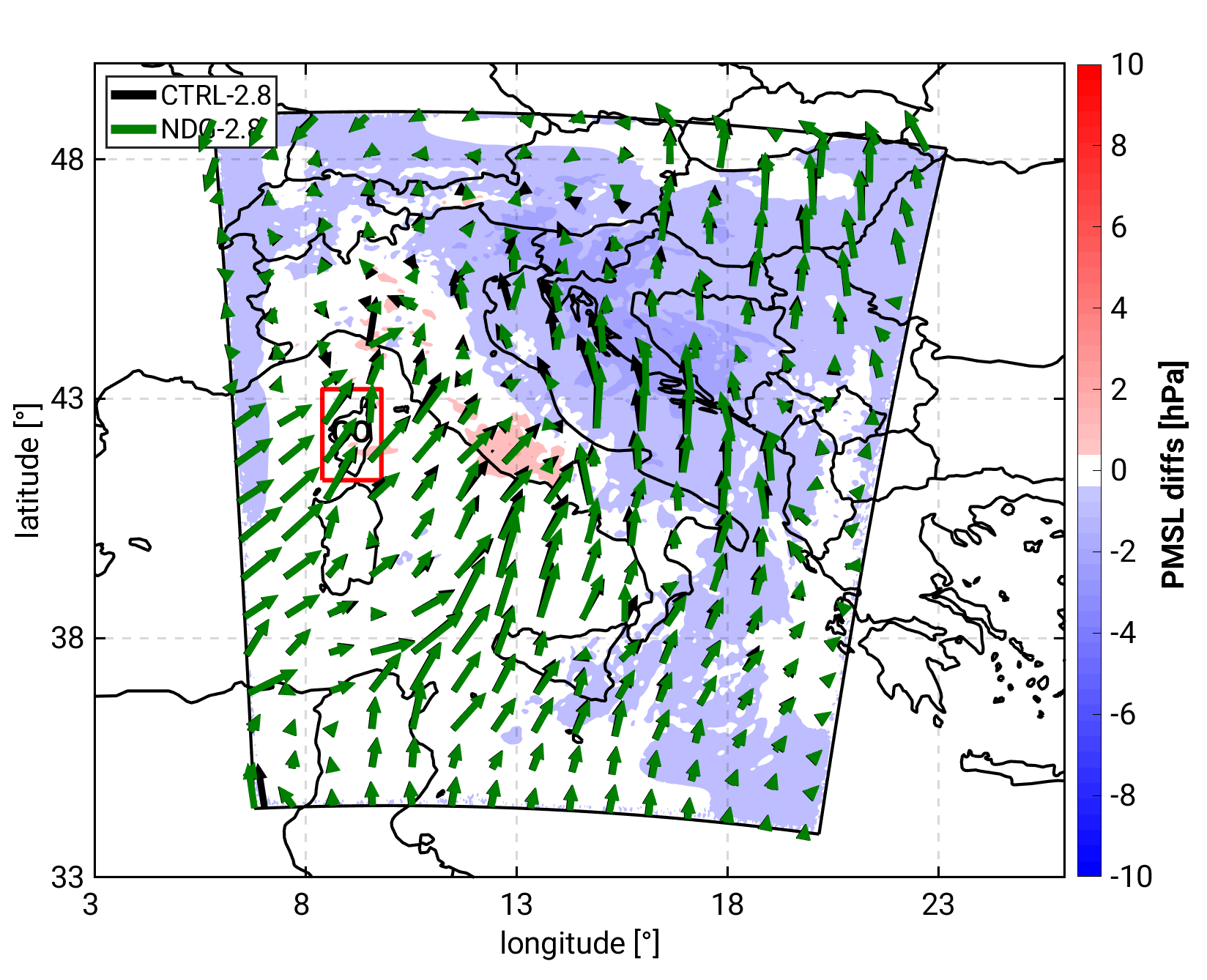


Figure S.3 Spatial distribution of the differences in Pressure at the Mean Sea Level (PMSL) between NDG-2.8 and CTRL-2.8 on the 26-Oct 2300 UTC. Blue colours represent higher PMSL in CTRL-2.8. Horizontal winds at 950 hPa are represented by black (CTRL-2.8) and green (NDG-2.8) arrows.

|  |  |  |
| --- | --- | --- |
| 1. CTRL-7 | 1. NDG-7 | 1. NDG-7-1h |
| 1. CTRL-2.8 | 1. NDG-2.8 | 1. NDG-2.8-1h |

Figure S.4. Precipitation amount as in Fig. 8 for the additional simulations initialized on the 20-Oct-2012 to study the dependency on the nudging temporal resolution. The accumulation time window is 26-Oct 1300 UTC to 27-Oct 1500 UTC.