

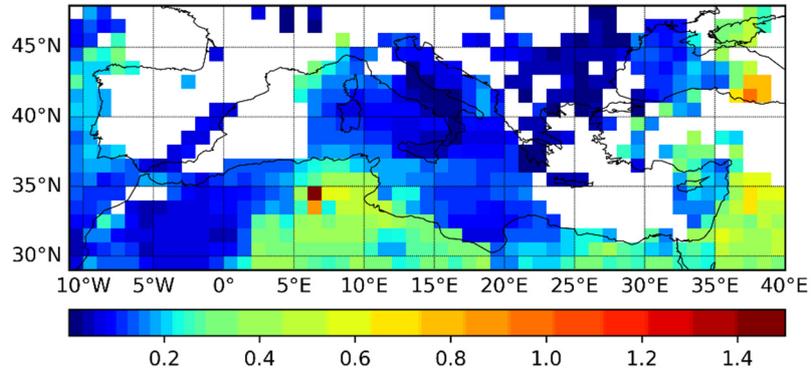


Article

Modification of Temperature Lapse Rates and Cloud Properties during a Spatiotemporally Extended Dust Aerosol Episodes (16–18 June 2016) over the Mediterranean Basin Based on Satellite and Reanalysis Data

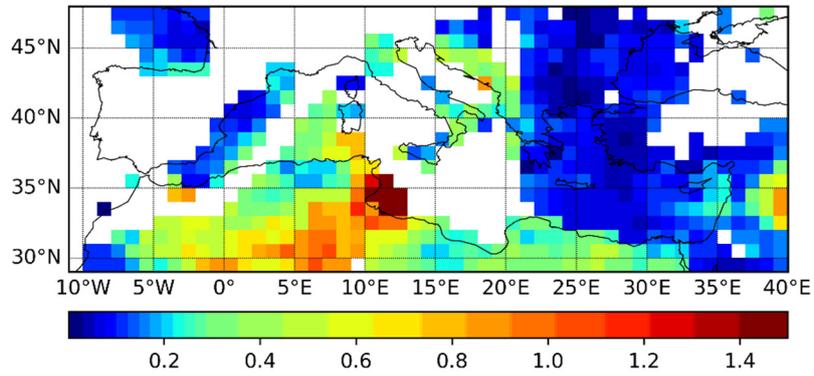
Supplement

D-0



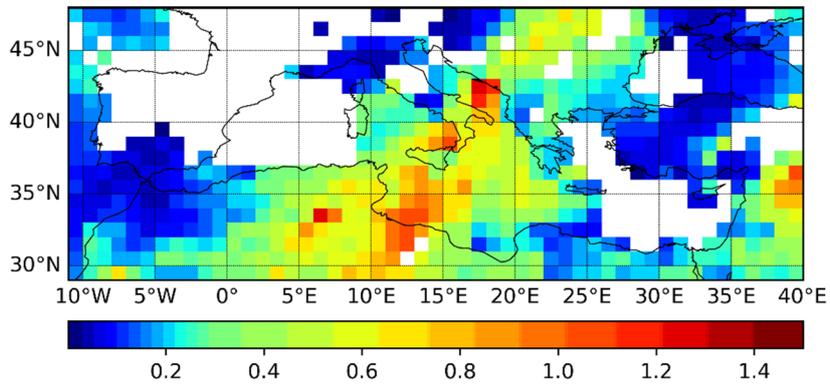
(a)

D-1



(b)

D-2



(c)

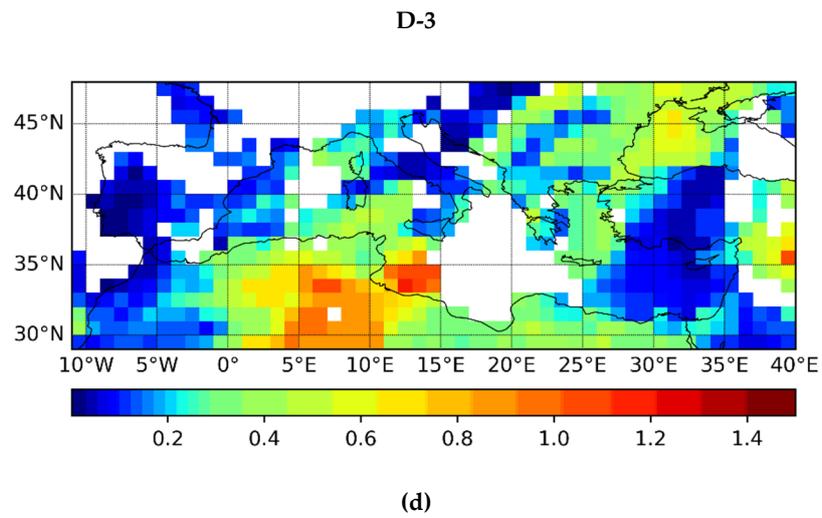
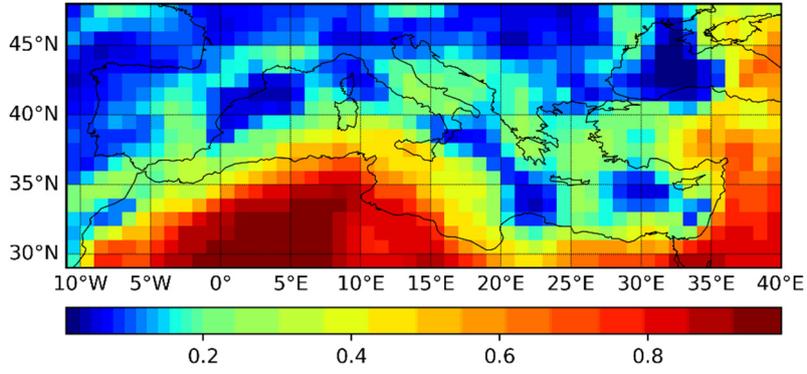


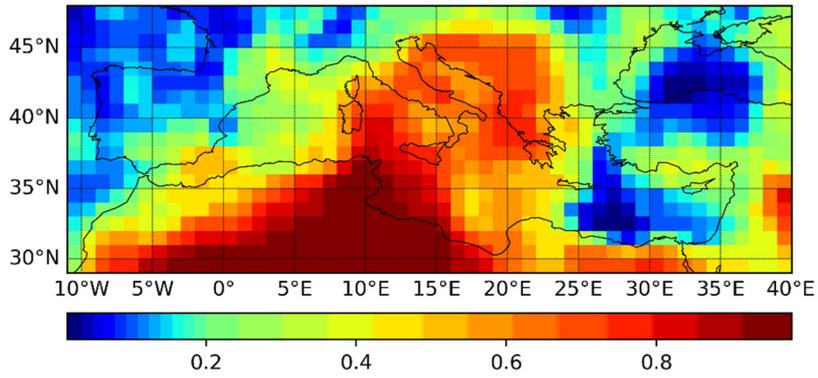
Figure S1. Geographical distribution of MODIS AOD during one day before the DAEC (D-0, a), and during the first (D-1, b), second (D-2, c) and the third (D-3, d) day of the DAEC that took place during 16-18 June 2016 over the Mediterranean Basin. The colorbar is forced to range from zero up to 1.5, with all values greater than 1.4 being indicated with deep red color, in order to match the colorbar of the corresponding map with MERRA-2 AOD values (Figures 4ii-a,b,c,d).

D-0



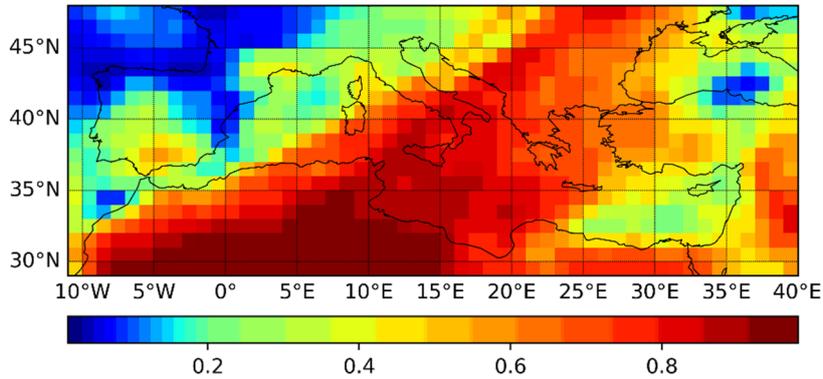
(a)

D-1



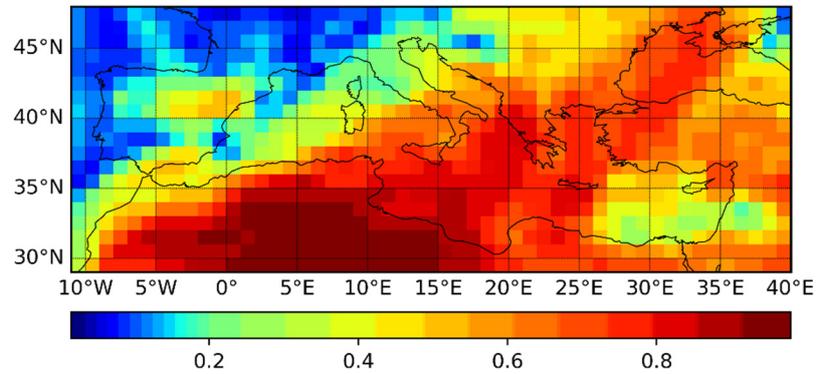
(b)

D-2



(c)

D-3



(d)

Figure S2. Geographical distribution of the MERRA-2 dust contribution (DOD/AOD) during one day before the DAEC (D-0, a), and during the first (D-1, b), second (D-2, c) and the third (D-3, d) day of the DAEC that took place during 16-18 June 2016 over the Mediterranean Basin.

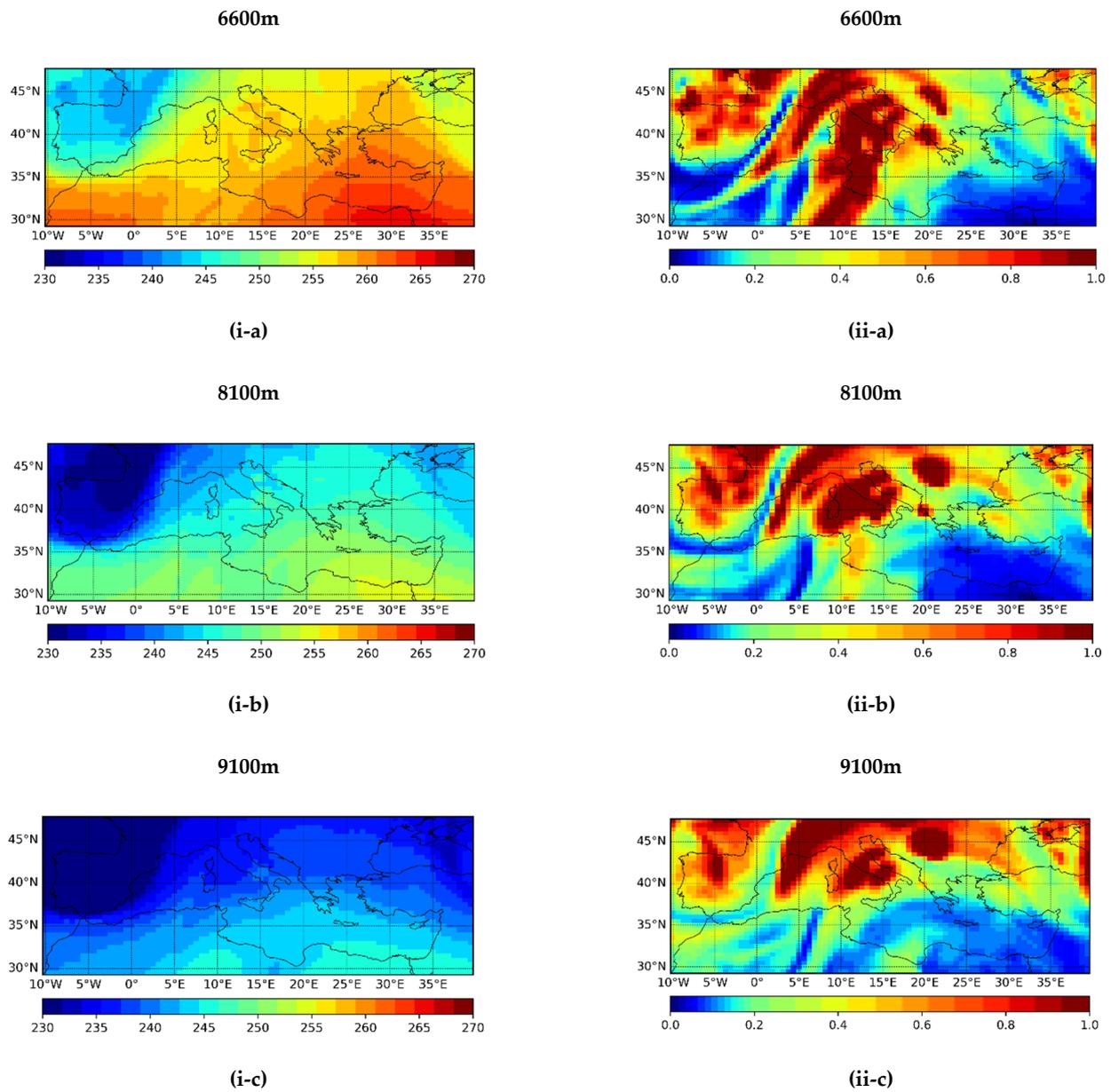


Figure S3. Horizontal cross sections of temperature (in K, left column) and relative humidity (right column) at specific altitudes (indicated at the top of each map) below and close to the top of clouds formed over the dust export region (see Figure 6 of main paper, left column and first row), on the first day of DAEC (16/06/2016).

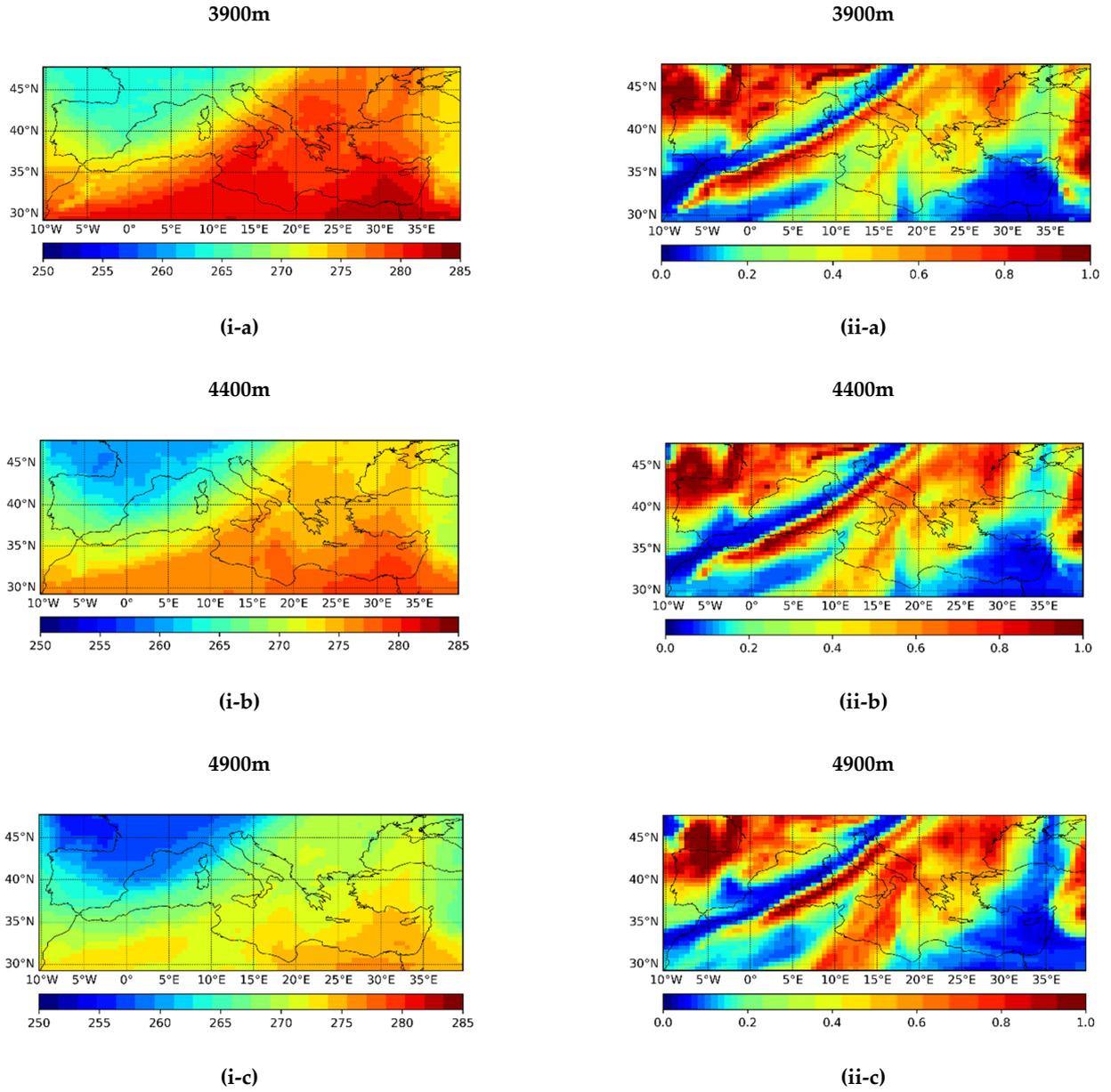


Figure S4. As in figure S3, but for the second day of DAEC (17/06/2016).

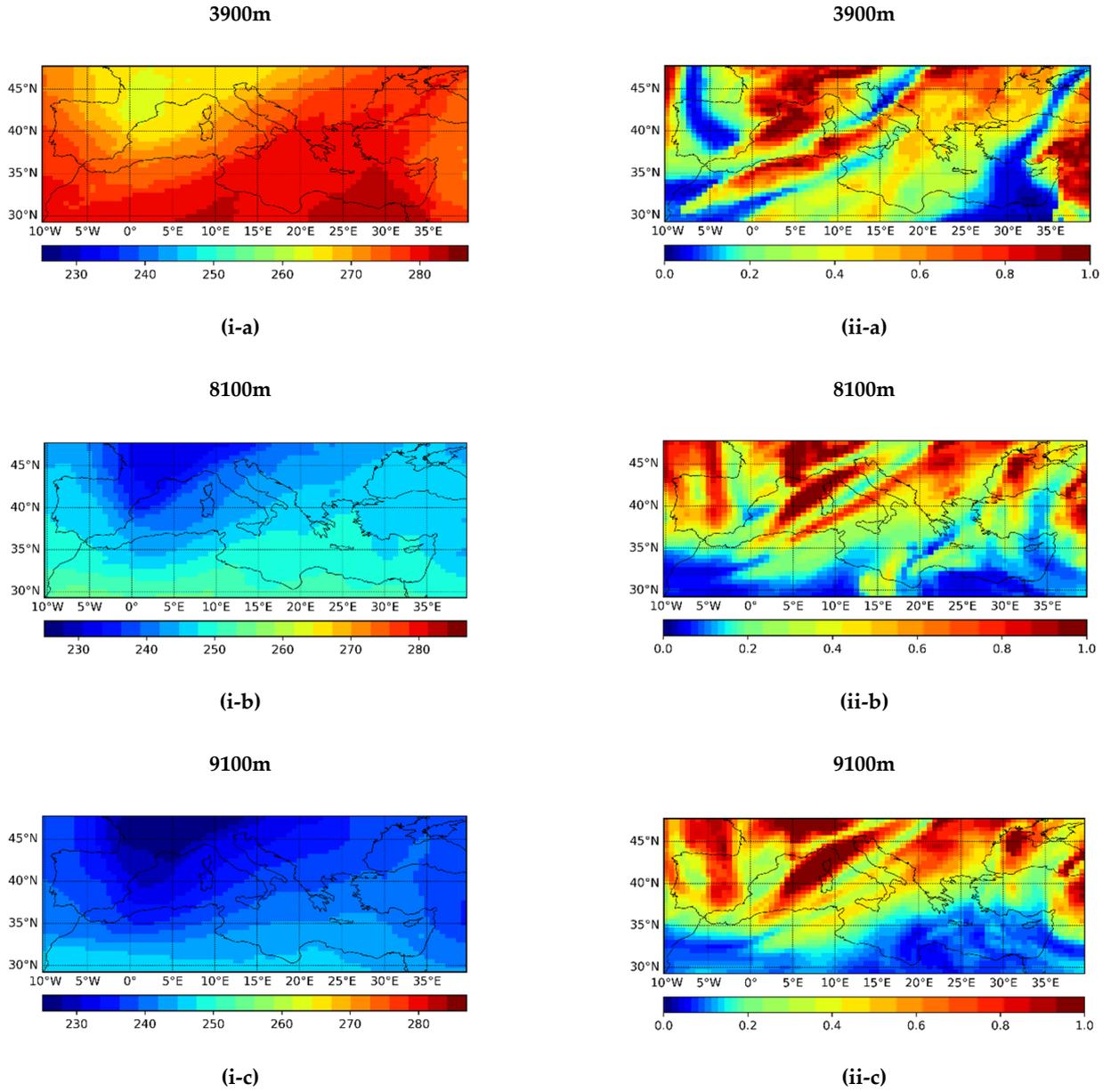


Figure S5. As in figure S3, but for the third day of DAEC (18/06/2016).

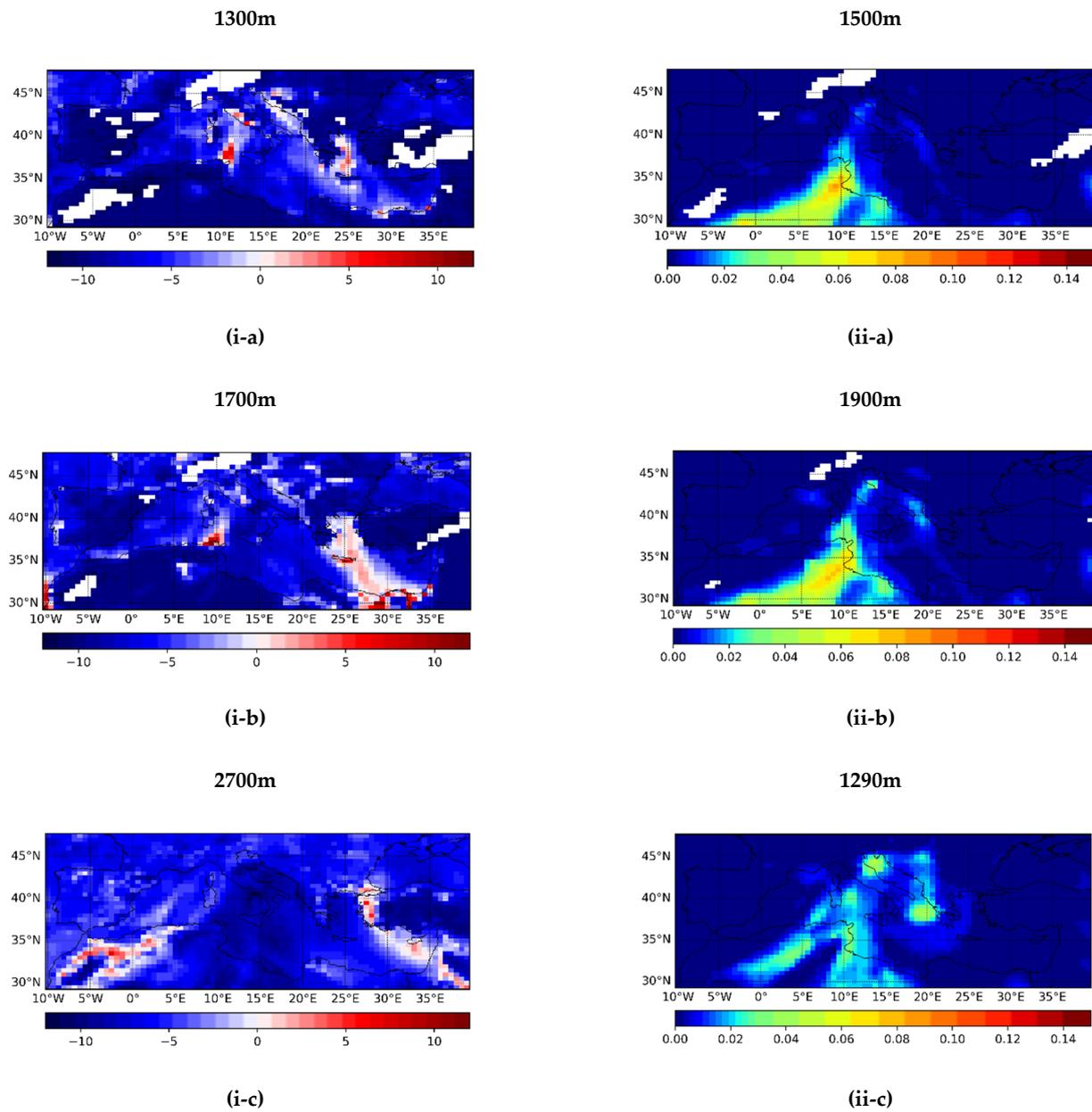


Figure S6. Horizontal cross sections of temperature gradient (in K/Km, left column) and DOD (right column) at specific altitudes (indicated at the top of maps) below and close to the dust layer (see Figure 7, left column and first row), on the first day of DAEC (16/06/2016).

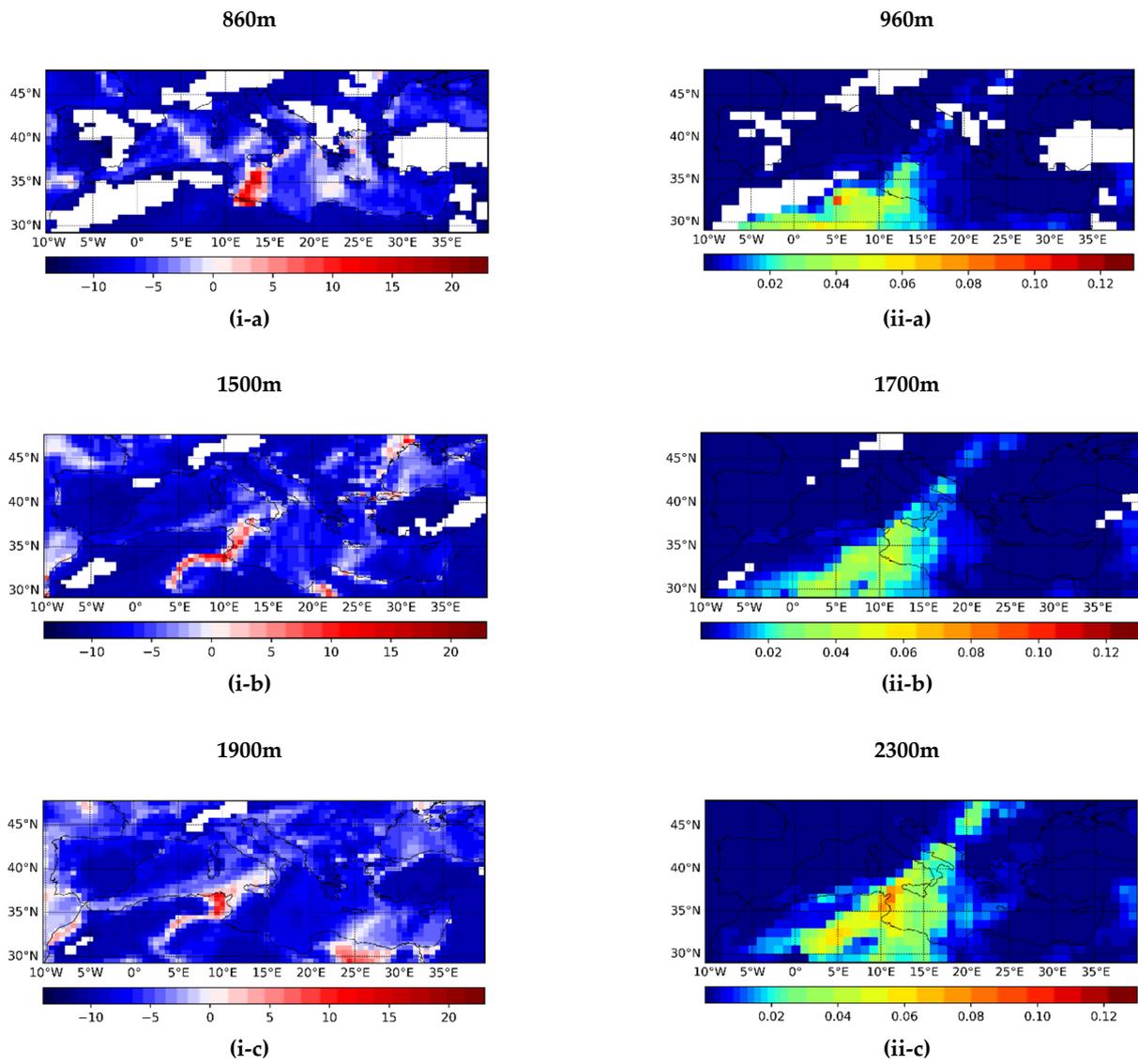


Figure S7. As in Figure S6, but for the second day of DAEC (17/06/2016).

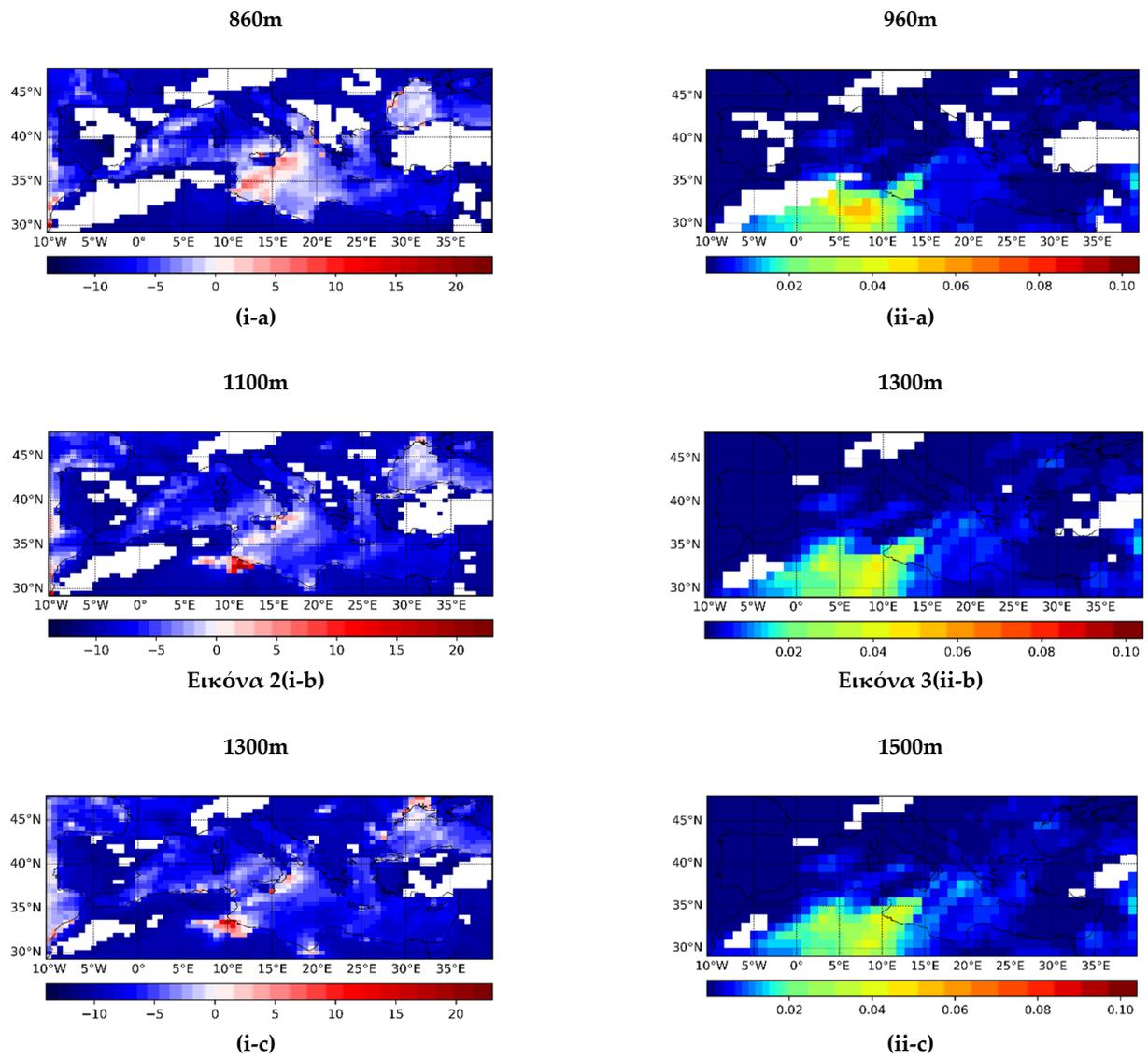


Figure S8. As in Figure S6, but for the third day of DAEC (18/06/2016).