Dust Aerosol trends over the Eastern Mediterranean region during 2003-2019

By:

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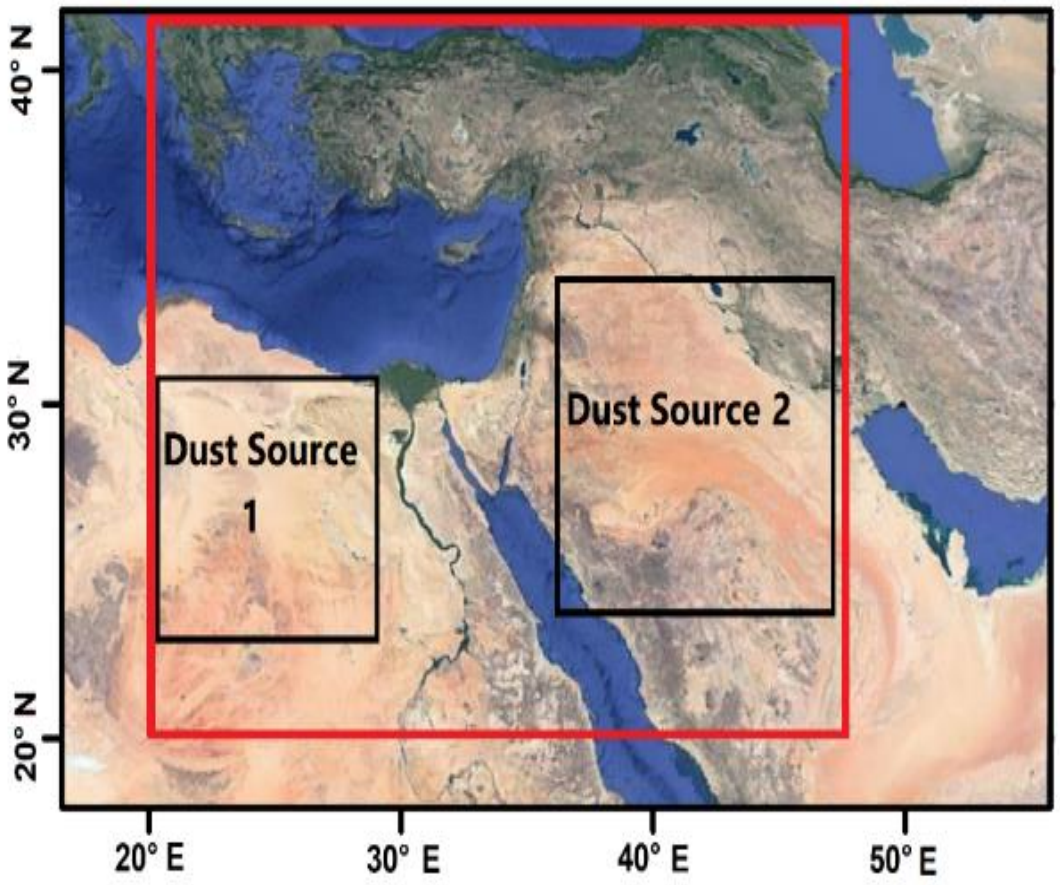
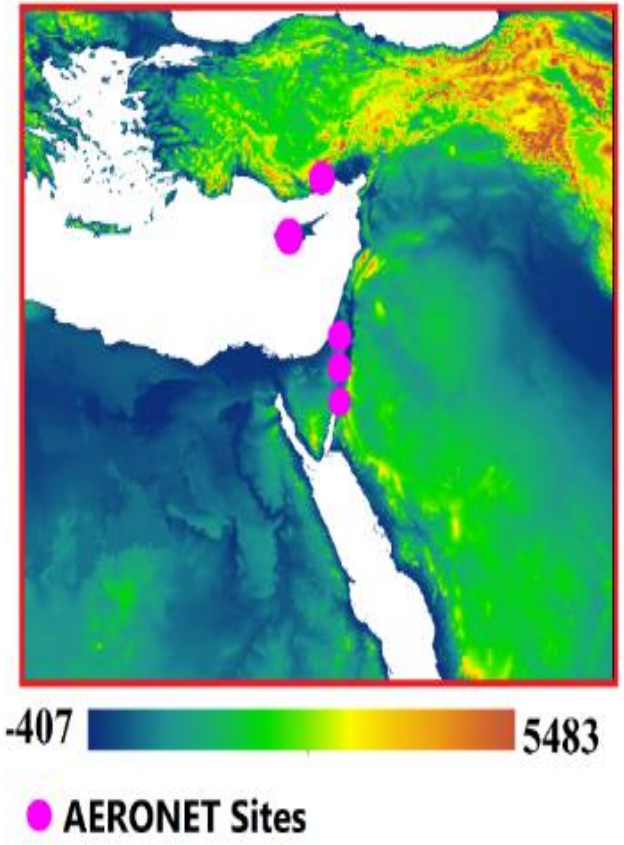
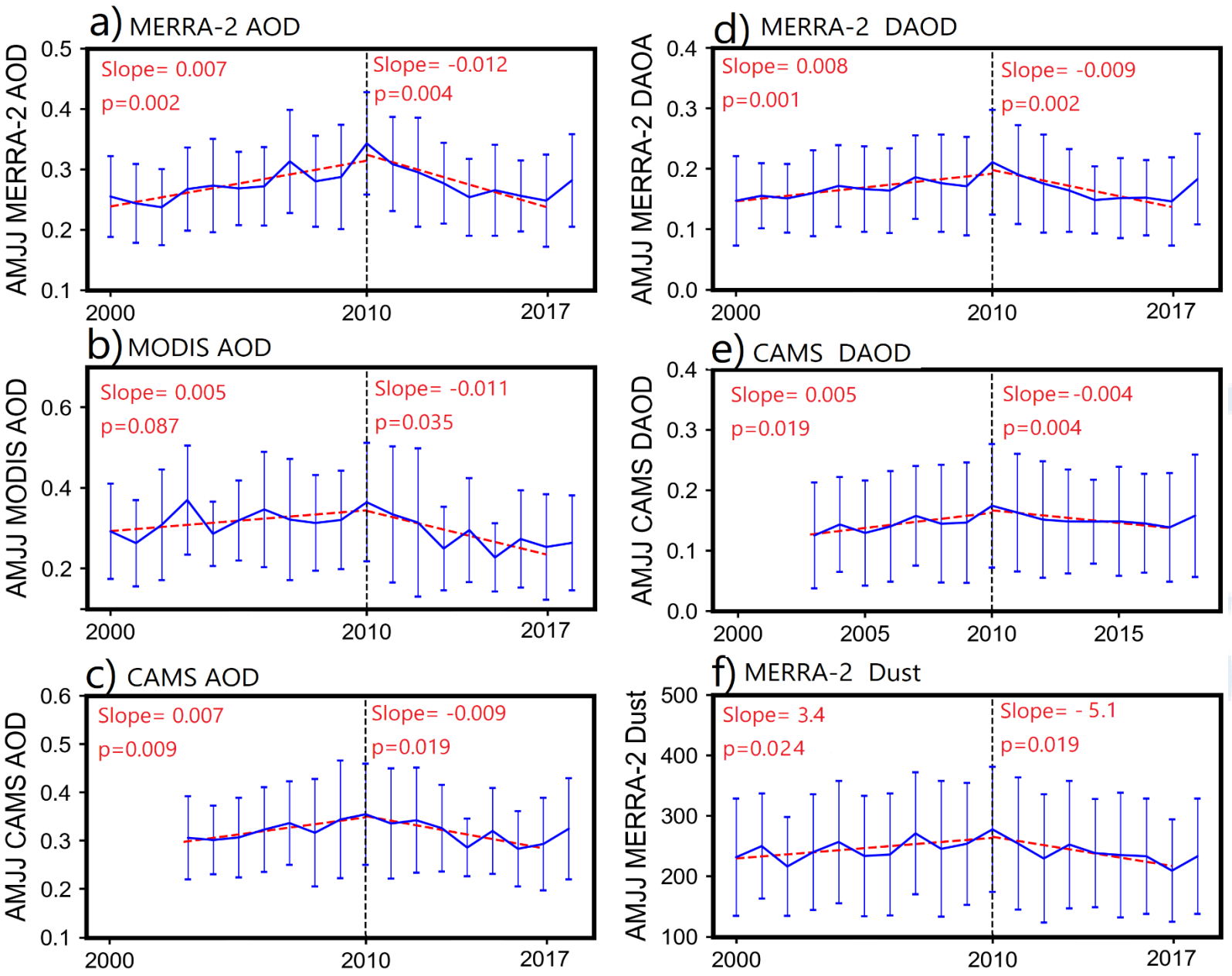
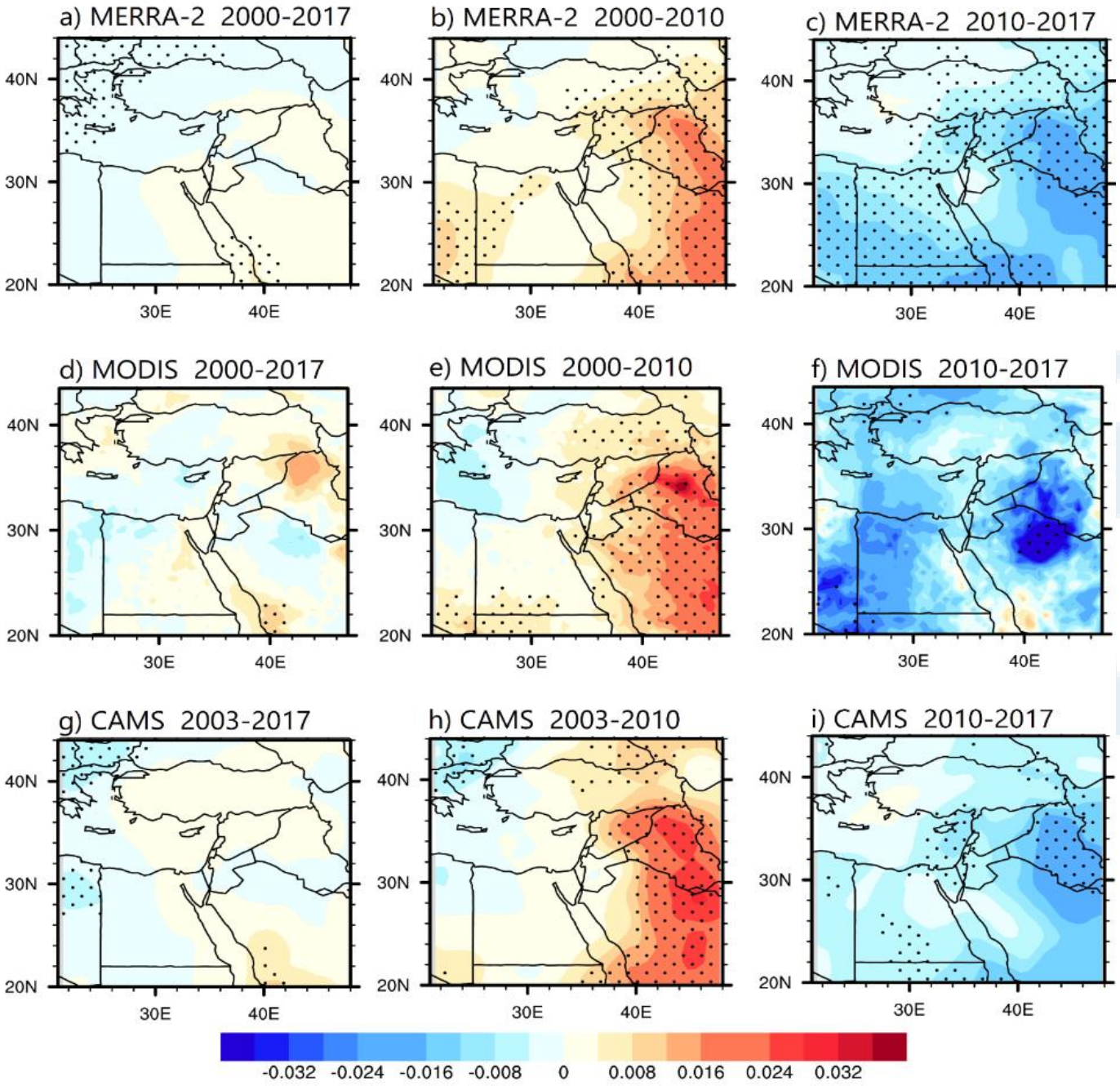




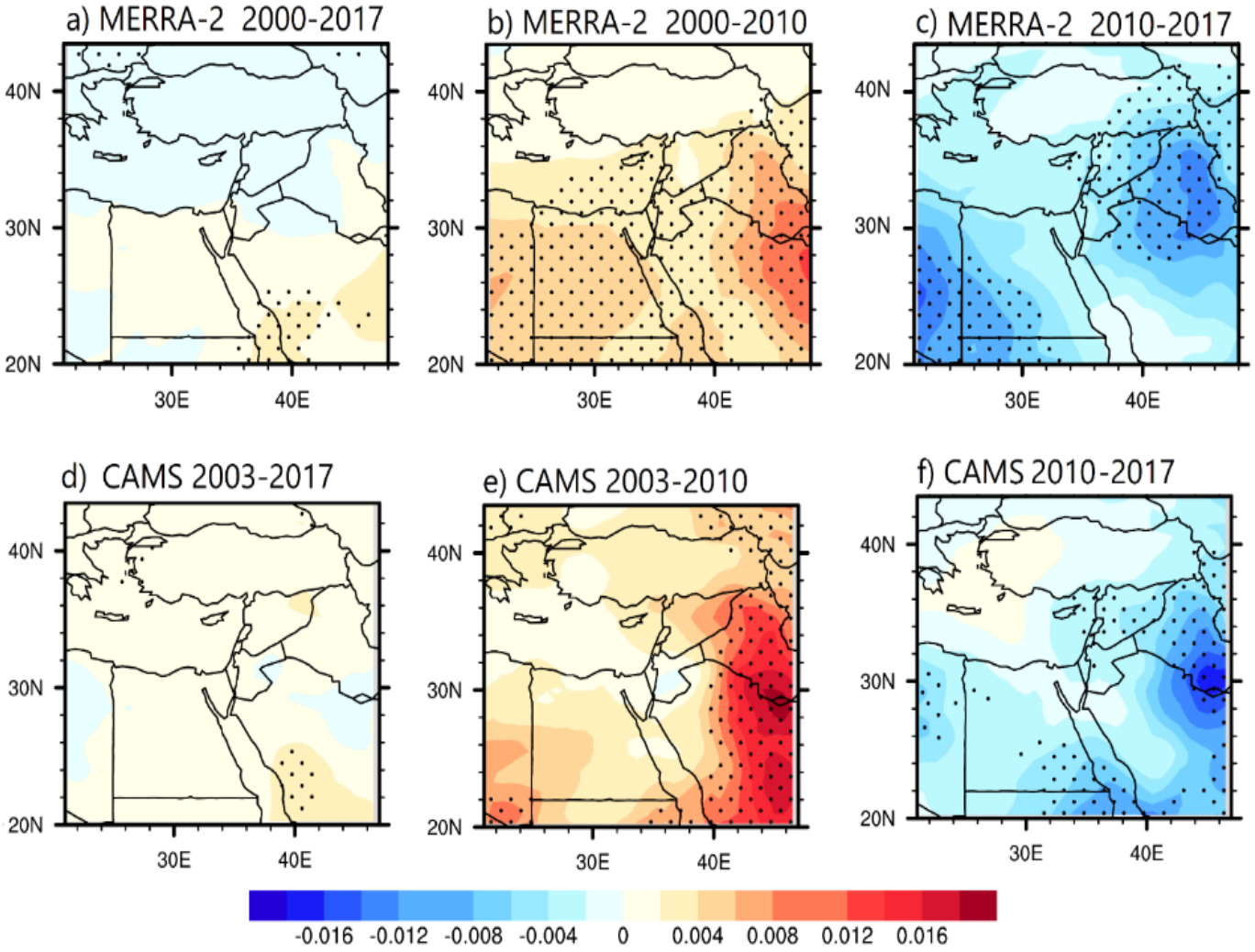
The left diagram shows the study region (red box), and two dust-source regions of interest (Dust Source 1 and Dust Source 2). The right diagram shows the locations of 5 AERONET sites, with shaded elevation in meters



Interannual variations in AMJJ mean AOD from (a) MERRA-2, (b) MODIS, and (c) CAMSRA; DAOD from (d) MERRA-2 and (e) CAMSRA; and dust concentration from (f) MERRA-2. The vertical bars represent the standard deviation of AMJJ mean AOD within the specific region of interest (ROI). Dash lines represent the linear trend lines during the periods of 2000-2010 and 2010-2017 for MERRA-2 and MODIS data and during the periods of 2003-2010 and 2010-217 for CAMSRA data. The trend and *p* values are noted at the top of the panels.



Spatial distributions of the linear trends in AOD calculated from MJJA anomalies for MERRA-2 (a, b, c) and MODIS (d, e, f) during the periods of 2000–2017, 2000–2010, and 2010–2017, and, and for CAMS (g, h, i) during the periods of 2003–2017, 2003–2010, and 2010–2017. Stippling indicates regions where the linear trend was statistically significant at the 90% confidence level by applying the Student's t-test for each grid cell.



Spatial distributions of the linear trends of DAOD calculated from MJJA anomalies for MERRA-2 (a, b, c) during the periods of 2000–2017, 2000–2010, and 2010–2017. Also shown for CAMSRA (d, e, f) during the periods of 2003–2017, 2003–2010, and 2010–2017. Stippling indicates regions where the linear trend was statistically significant at the 90% confidence level by applying the Student's t-test for each grid cell.