



Supplement of

Modeling CMAQ dry deposition treatment over the western Pacific: a distinct characteristic of mineral dust and anthropogenic aerosols

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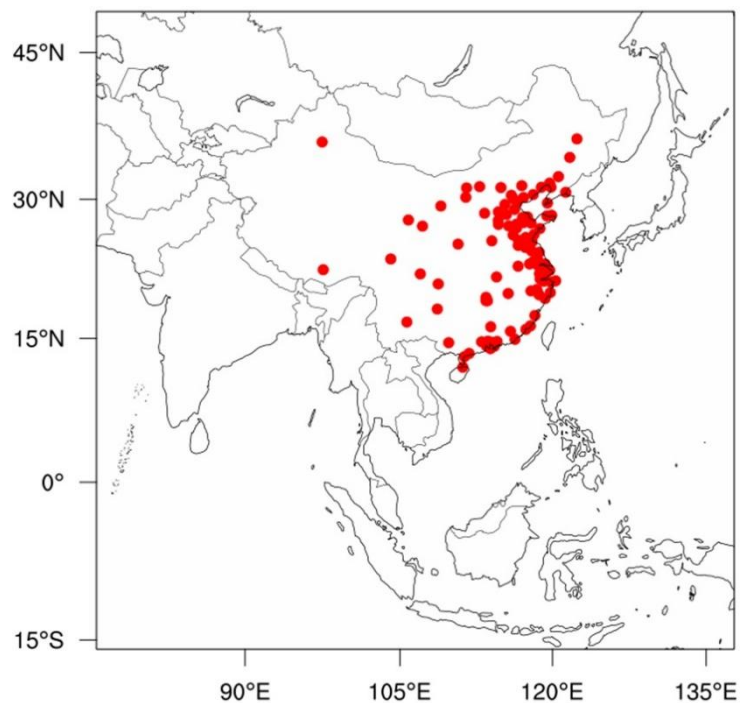


Figure S1: The location of monitoring sites over mainland China used for model evaluation (<http://www.aqistudy.cn/>).

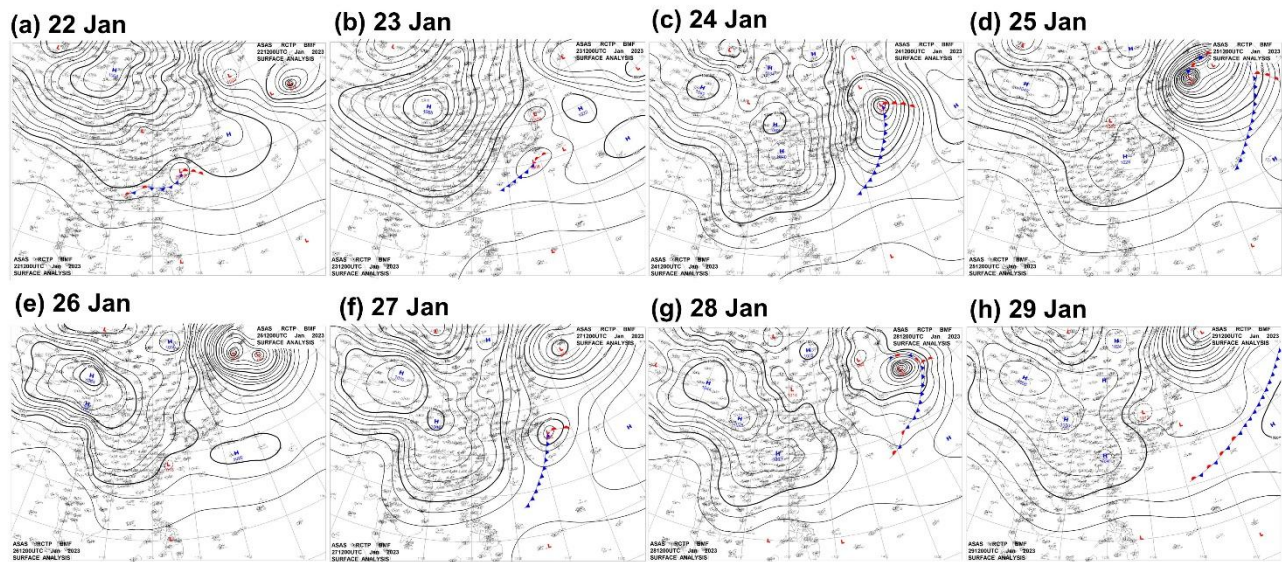


Figure S2: Surface weather maps for the weather pattern obtained by Taiwan Central Weather Bureau (<https://www.cwa.gov.tw/>).

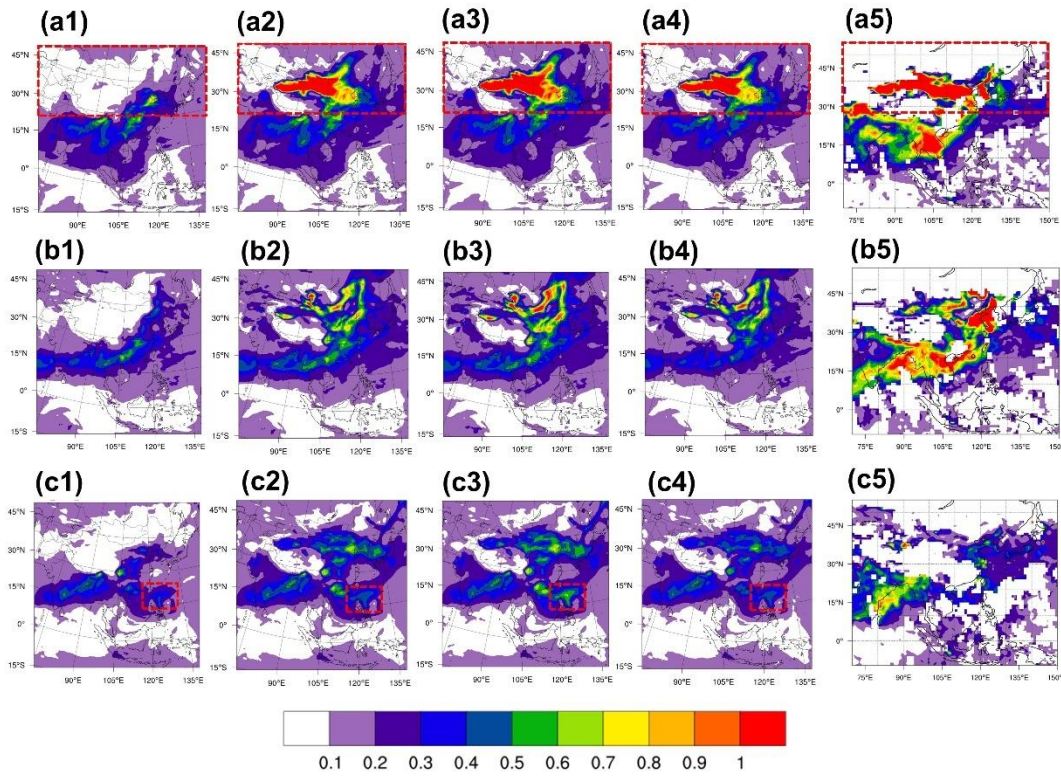
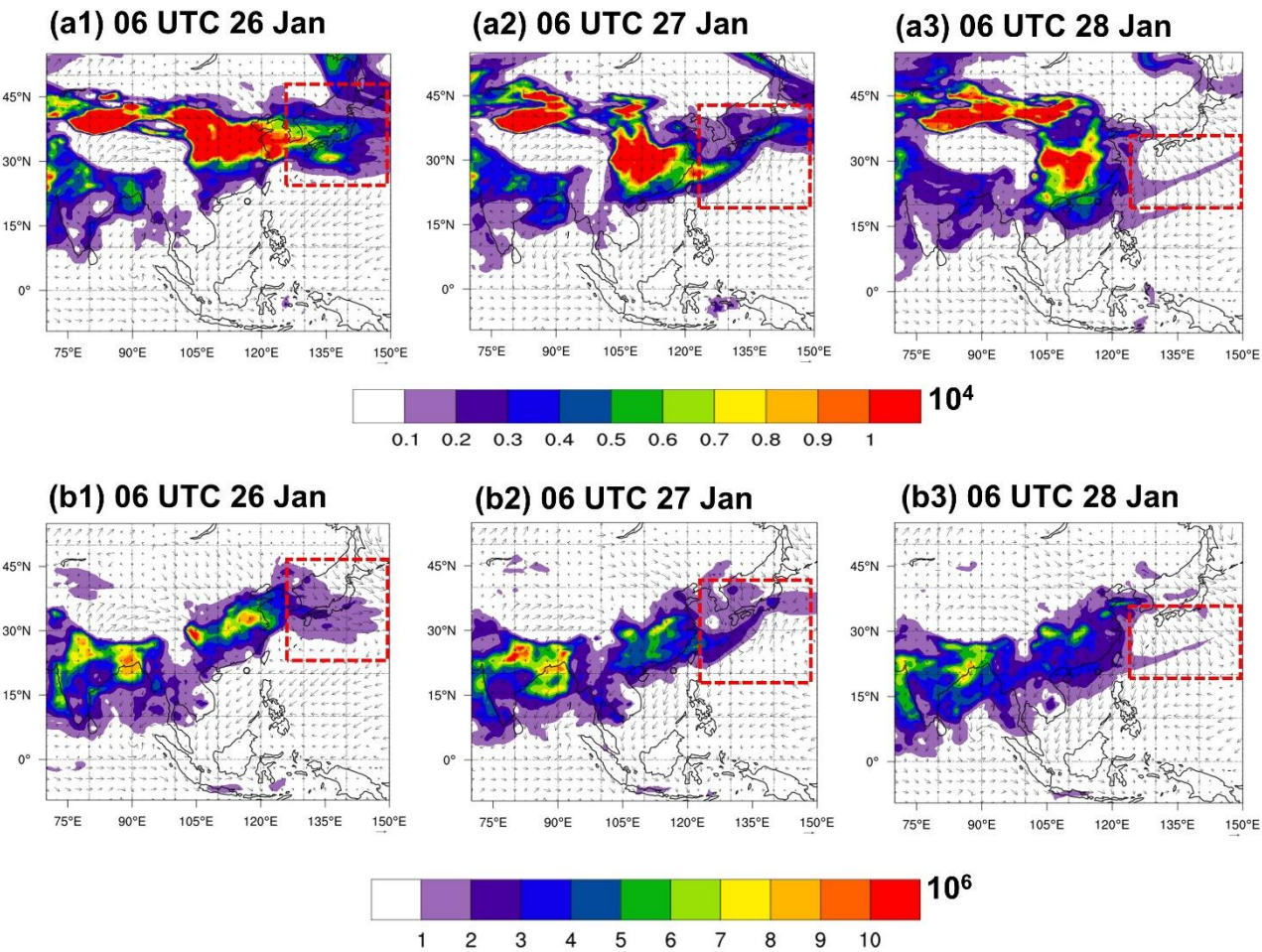


Figure S3: The 3-days mean averaged AOD over East Asia region, for (1-4) CMAQ and (6) MODIS during 14-16 March 2021 (a1-a5), 26-28 March 2021 (b1-b5) and 17-19 April 2021 (c1-c5). The simulations are the CMAQ_Off_S22 (a1, b1, c1), CMAQ_Dust_S22 (a2, b2, c2), CMAQ_Dust_E20 (a3, b3, c3) and CMAQ_Dust_P22 (a4, b4, c4).



82 **Figure S4:** MERRA2 dust (a1-a3) and BC (b1-b3) mass column during 06 UTC (a1, b1) 26 January, (a2,
83 b2) 27 January and (a3, b3) 28 January 2023.