

Figure S1: Box plots of seasonal and annual vertical profiles of ozone concentrations for 2010: Boulder and Stony Plain.

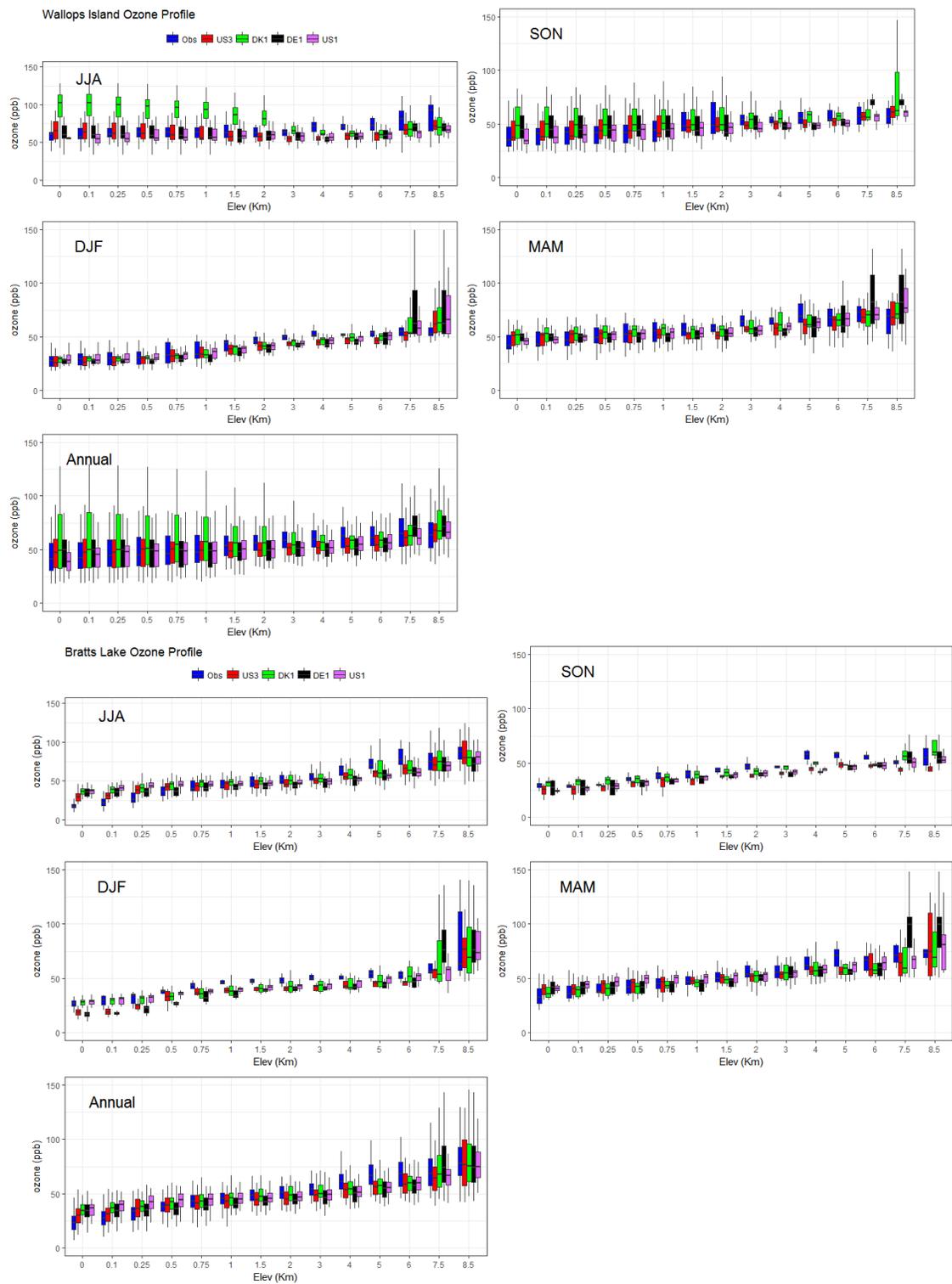


Figure S1 (cont.): Box plots of seasonal and annual vertical profiles of ozone concentrations for 2010: Wallops and Bratts Lake.

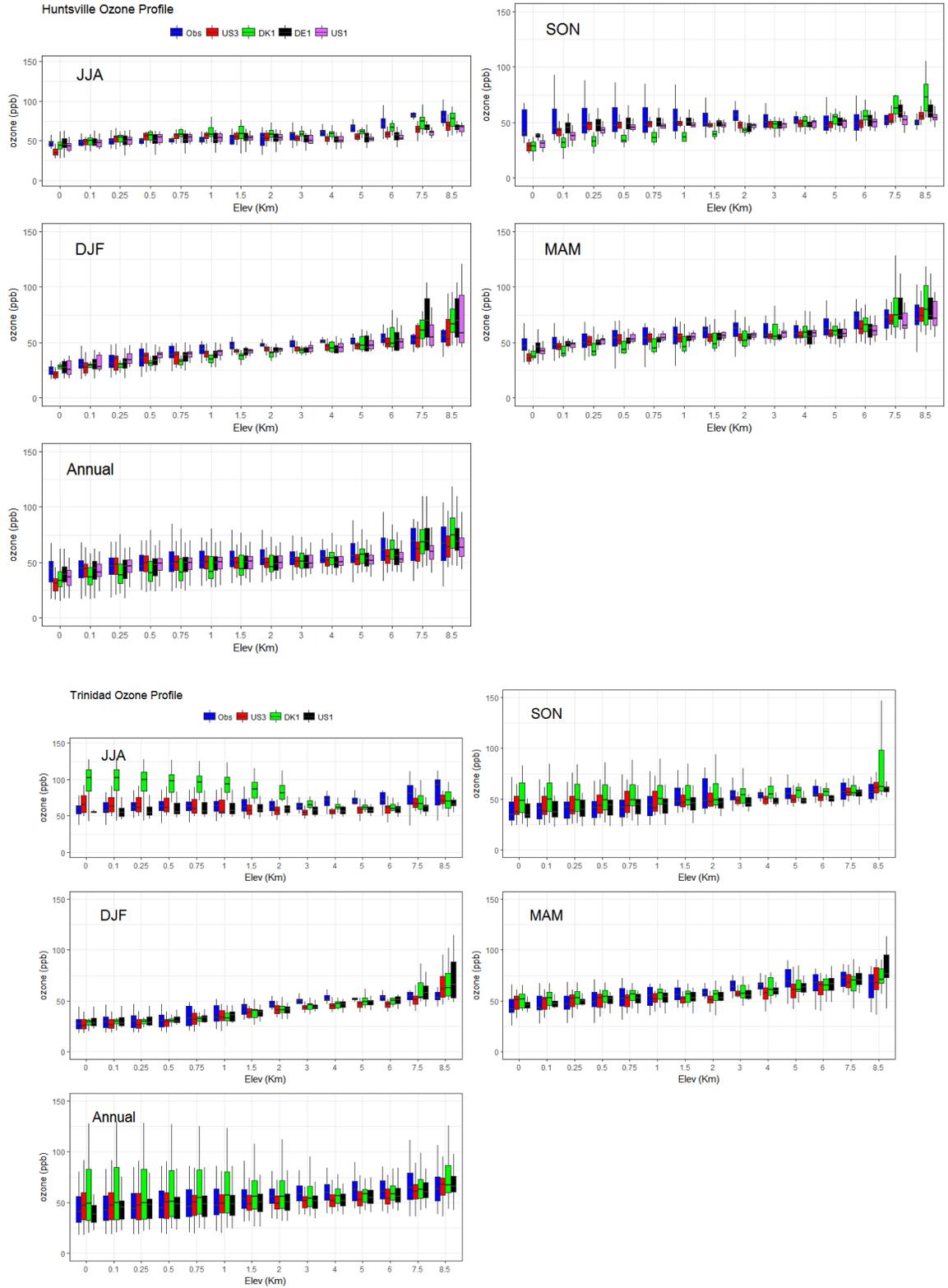


Figure S1 (cont.): Box plots of seasonal and annual vertical profiles of ozone concentrations for 2010: Huntsville and Trinidad Head.

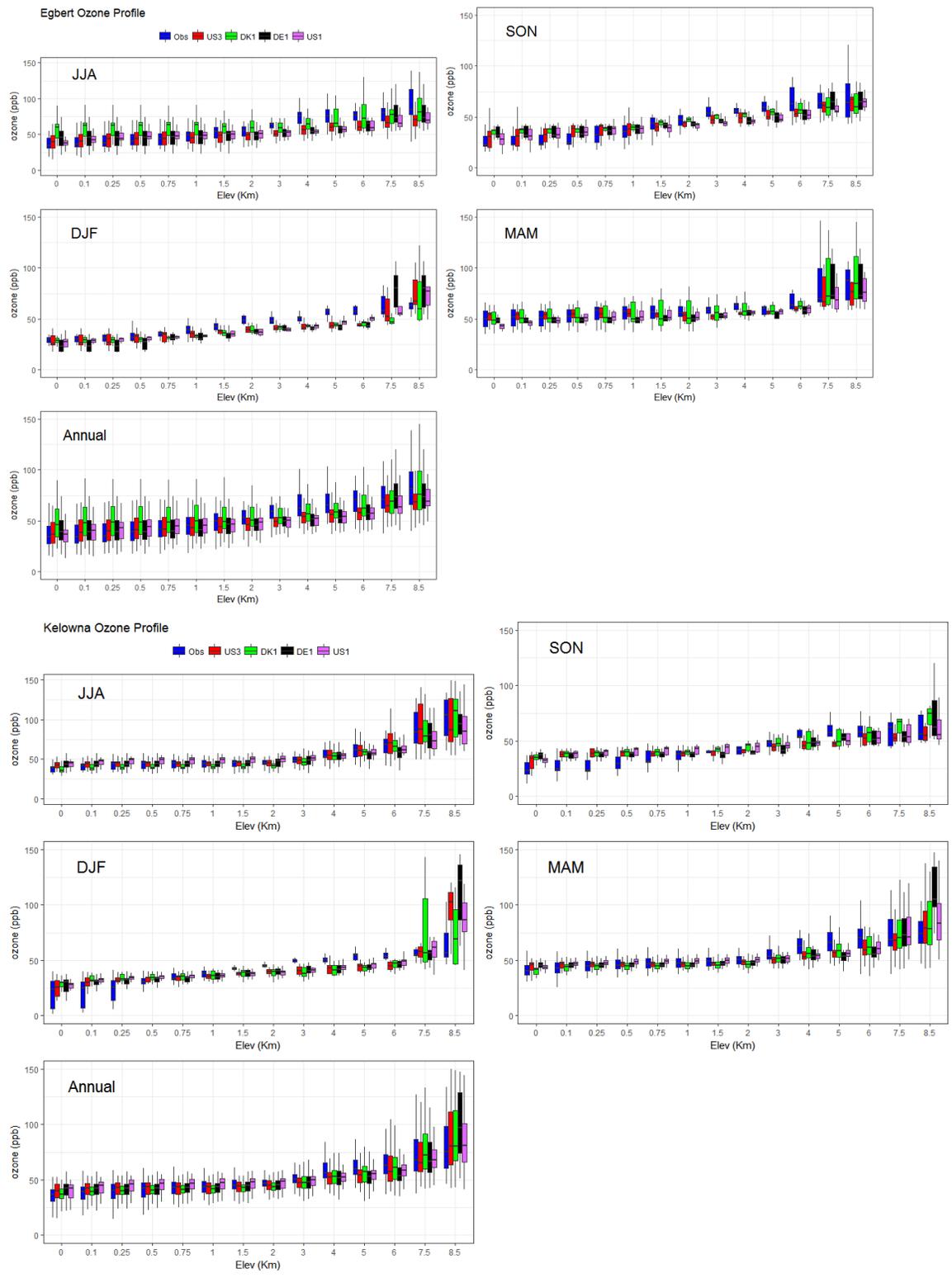


Figure S1 (cont.): Box plots of seasonal and annual vertical profiles of ozone concentrations for 2010: Egbert and Kelowna.

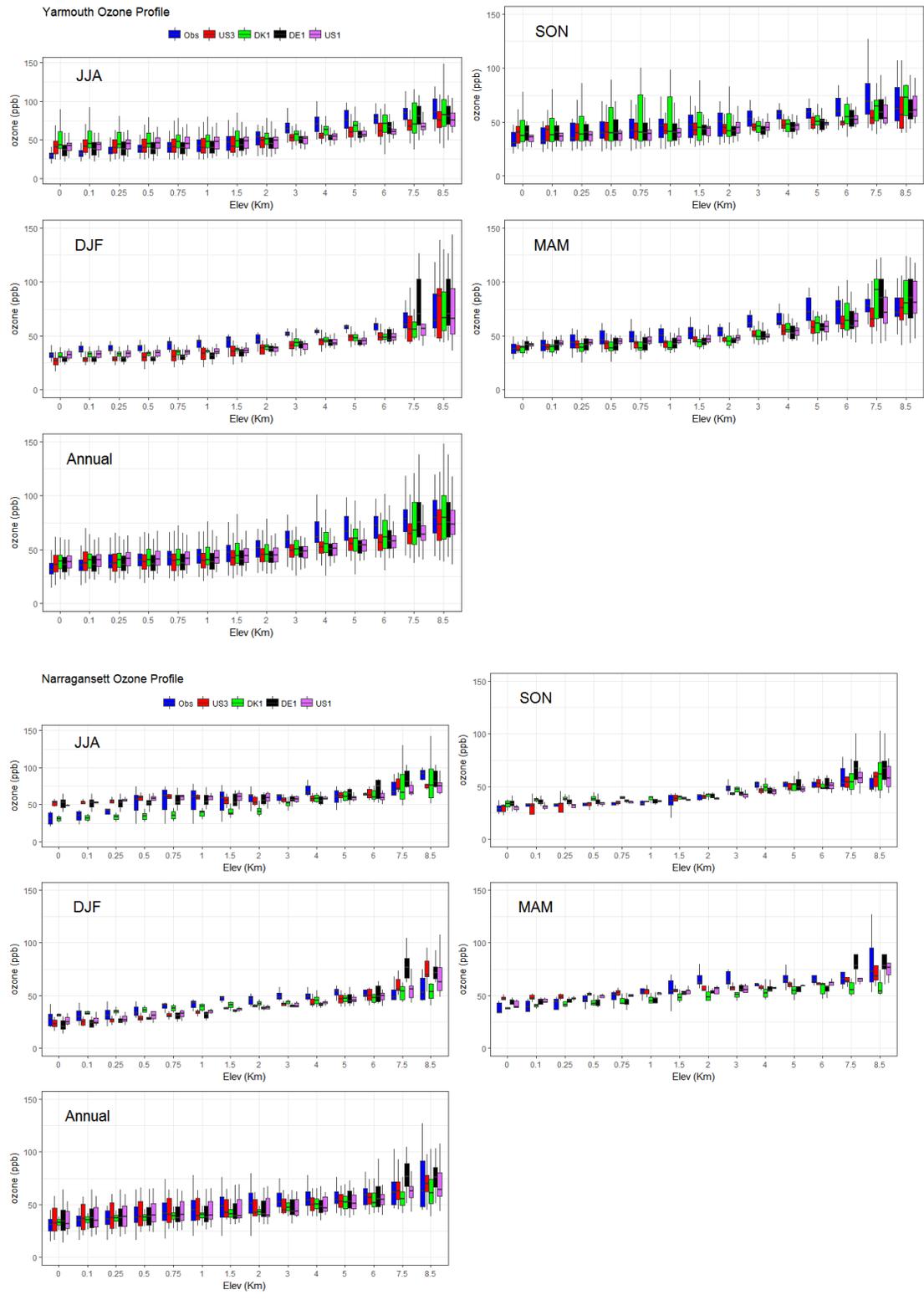


Figure S1 (cont.): Box plots of seasonal and annual vertical profiles of ozone concentrations for 2010: Yarmouth and Narragansett.

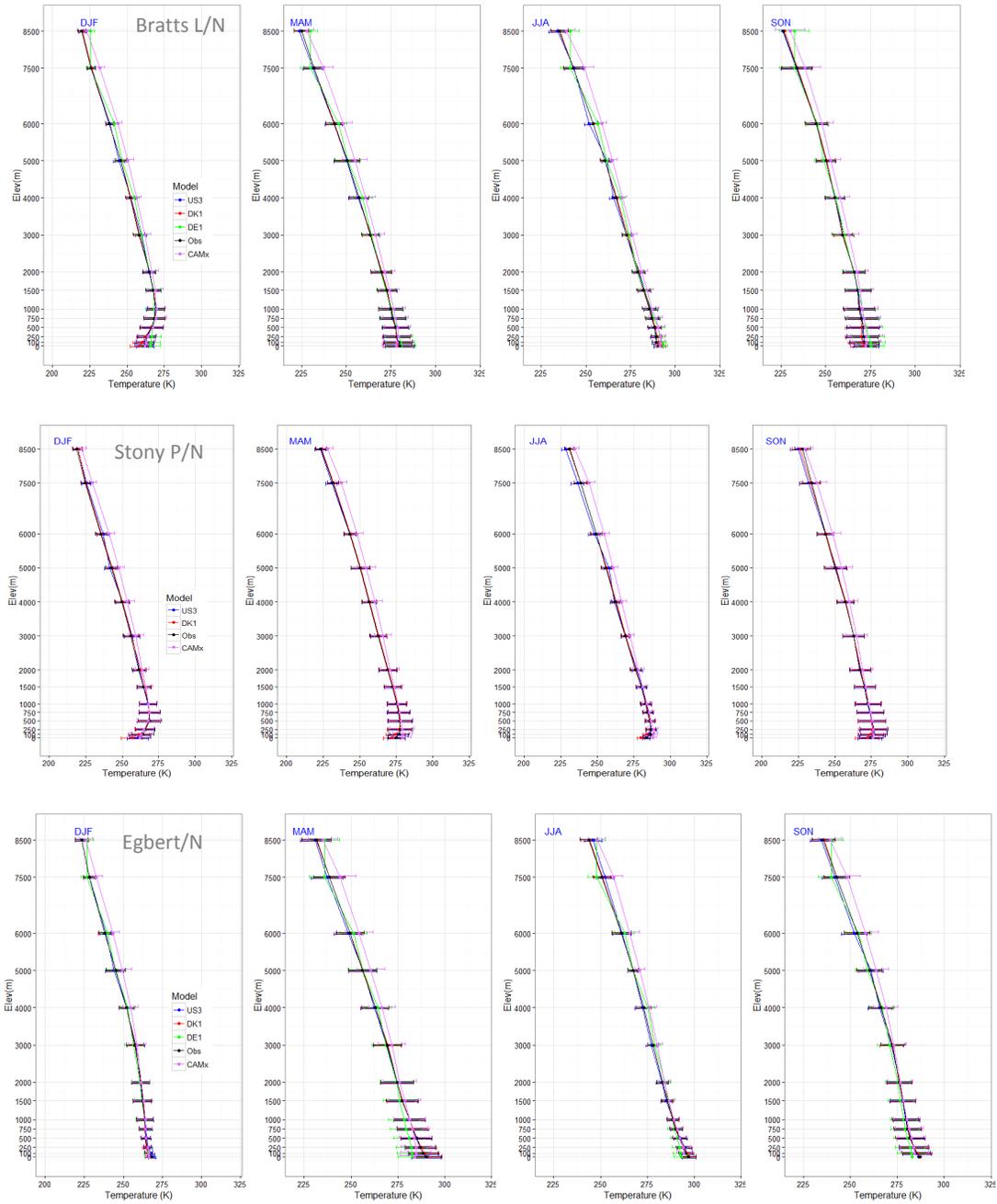


Figure S2: Vertical profiles of mean seasonal temperature for 2010. Standard deviation is denoted by the horizontal lines at each vertical height.

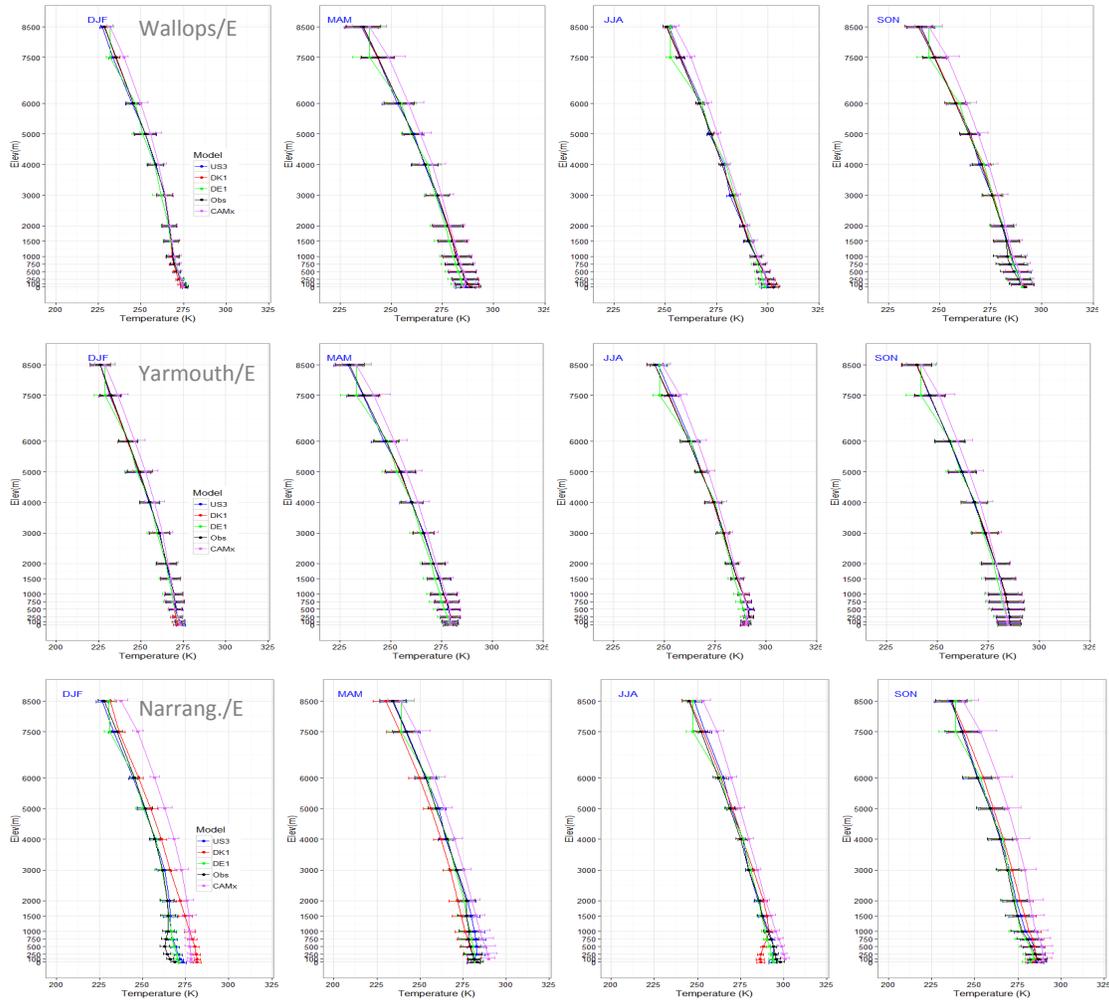


Figure S2 (cont'd): Vertical profiles of mean seasonal temperature for 2010. Standard deviation is denoted by the horizontal lines at each vertical height.

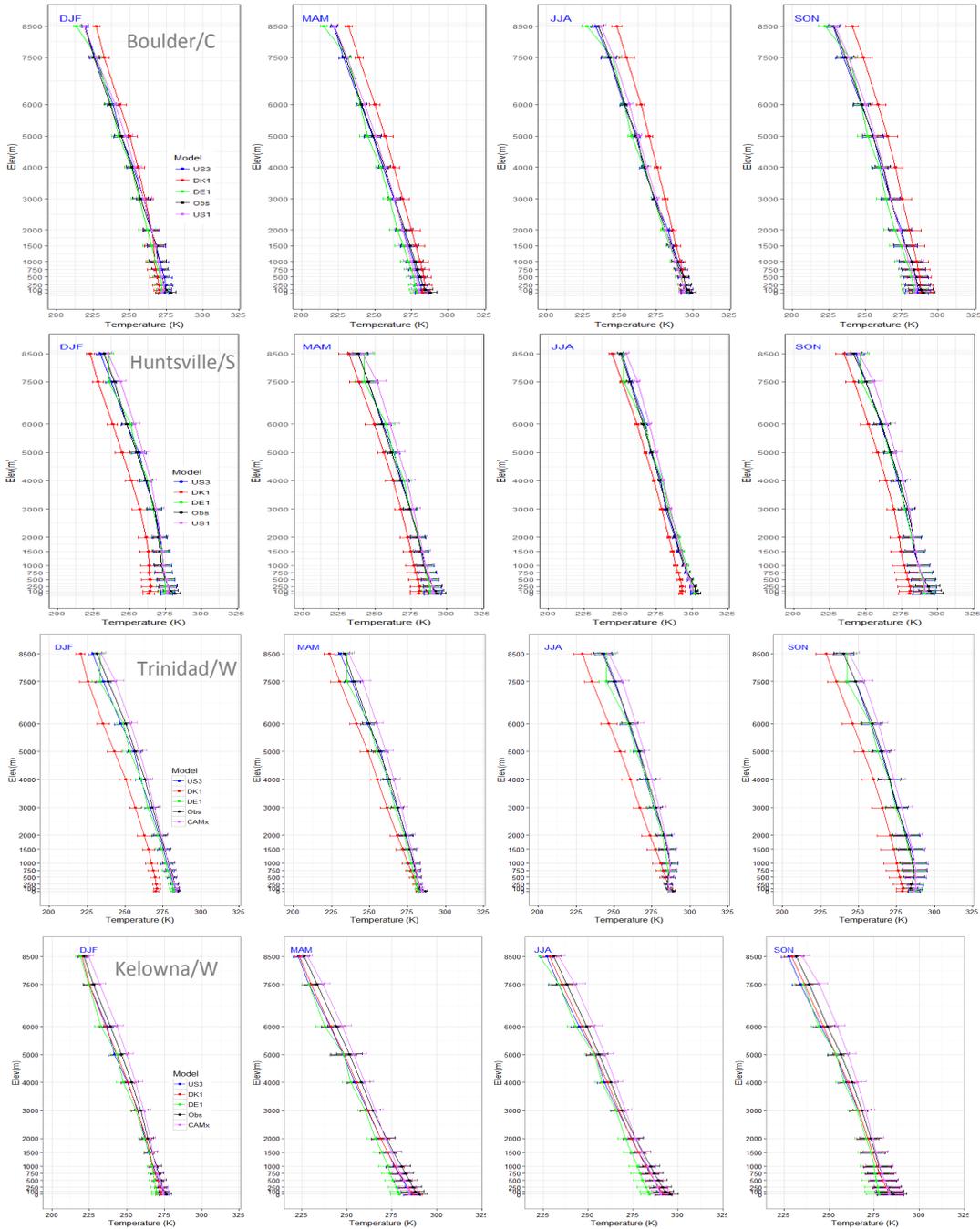


Figure S2 (cont'd): Vertical profiles of mean seasonal temperature for 2010. Standard deviation is denoted by the horizontal lines at each vertical height.

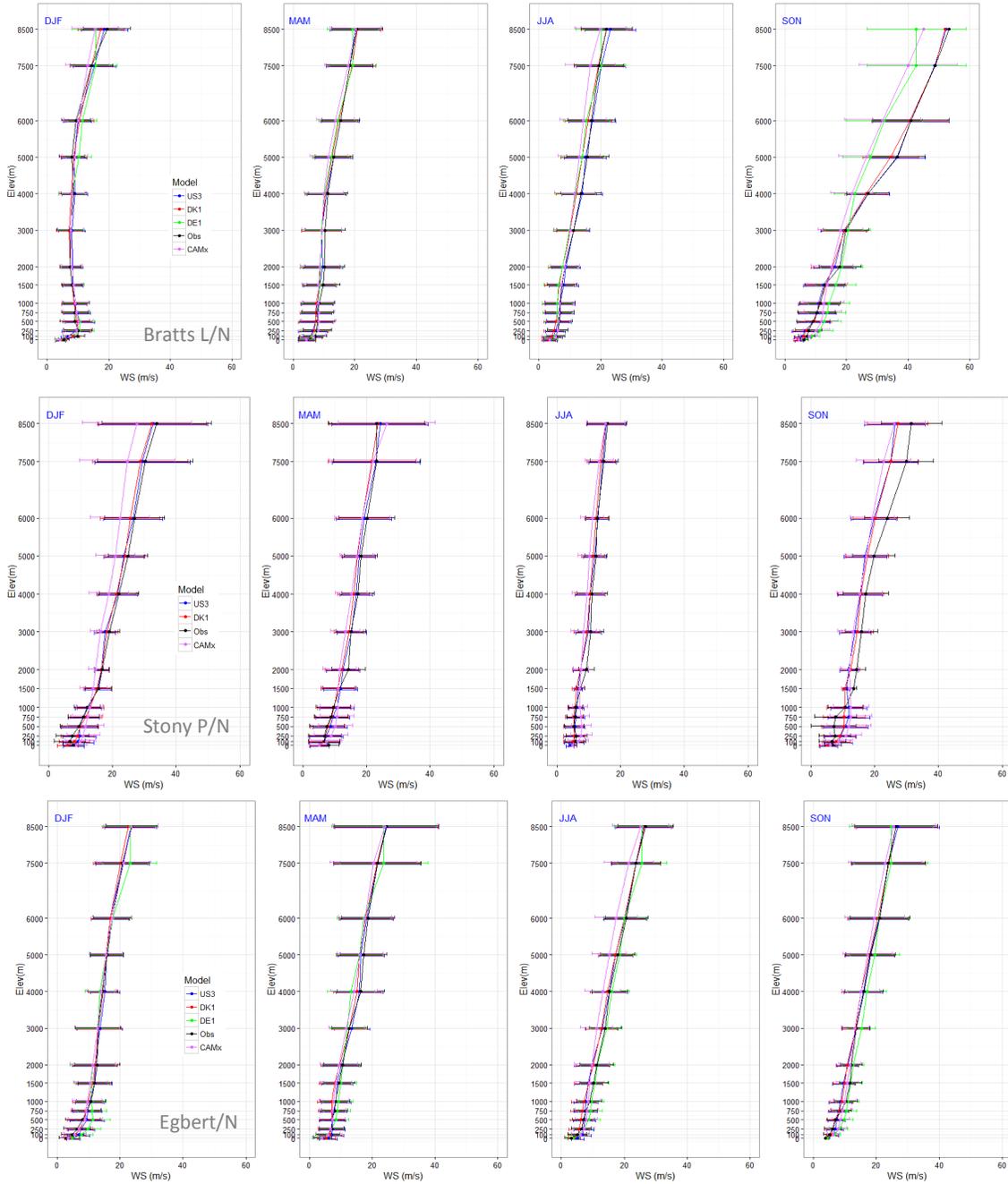


Figure S3: Vertical profiles of mean wind speed for 2010. Standard deviation is denoted by the horizontal lines at each vertical height.

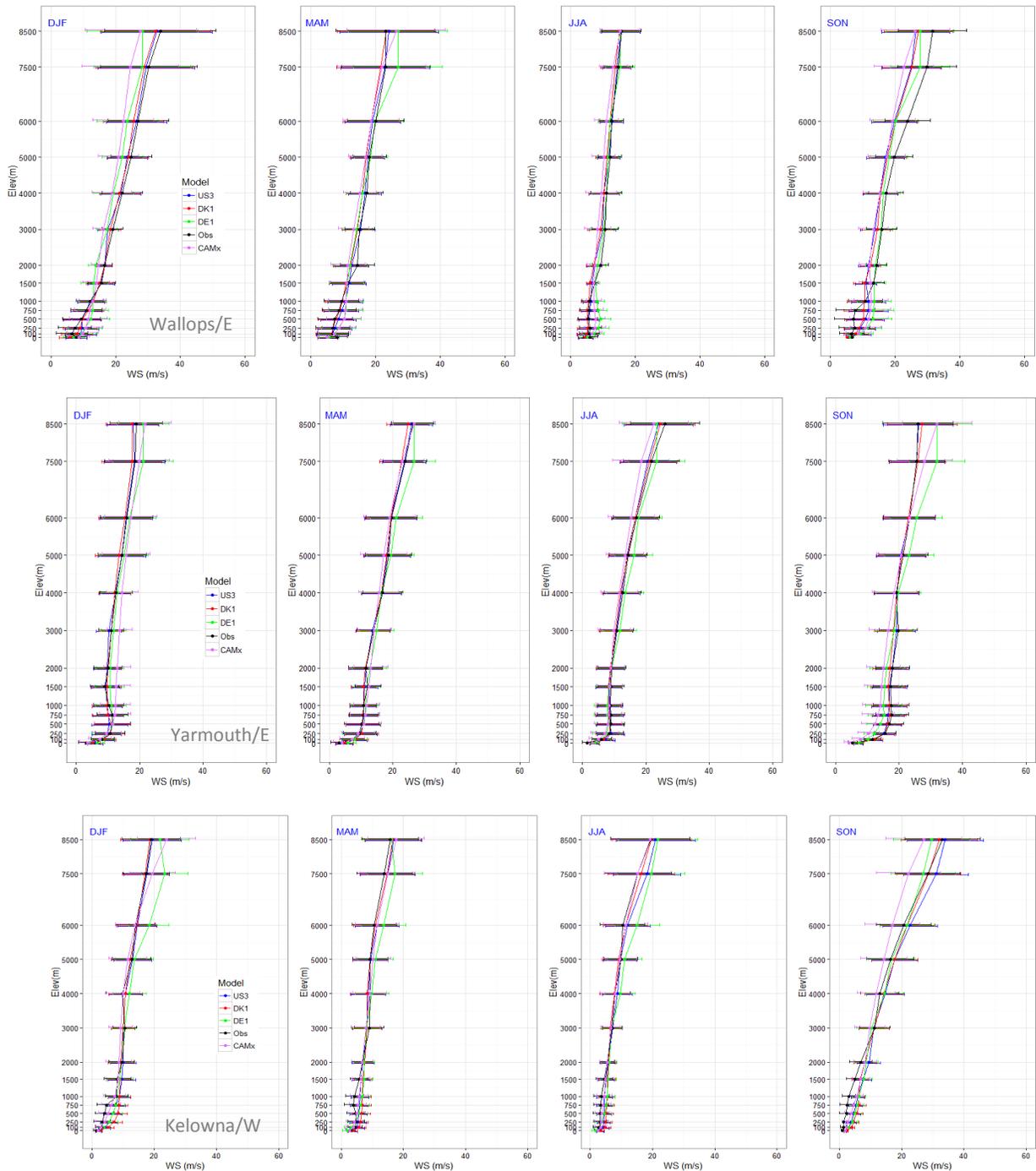


Figure S3 (cont'd): Vertical profiles of mean wind speed for 2010. Standard deviation is denoted by the horizontal lines at each vertical height.

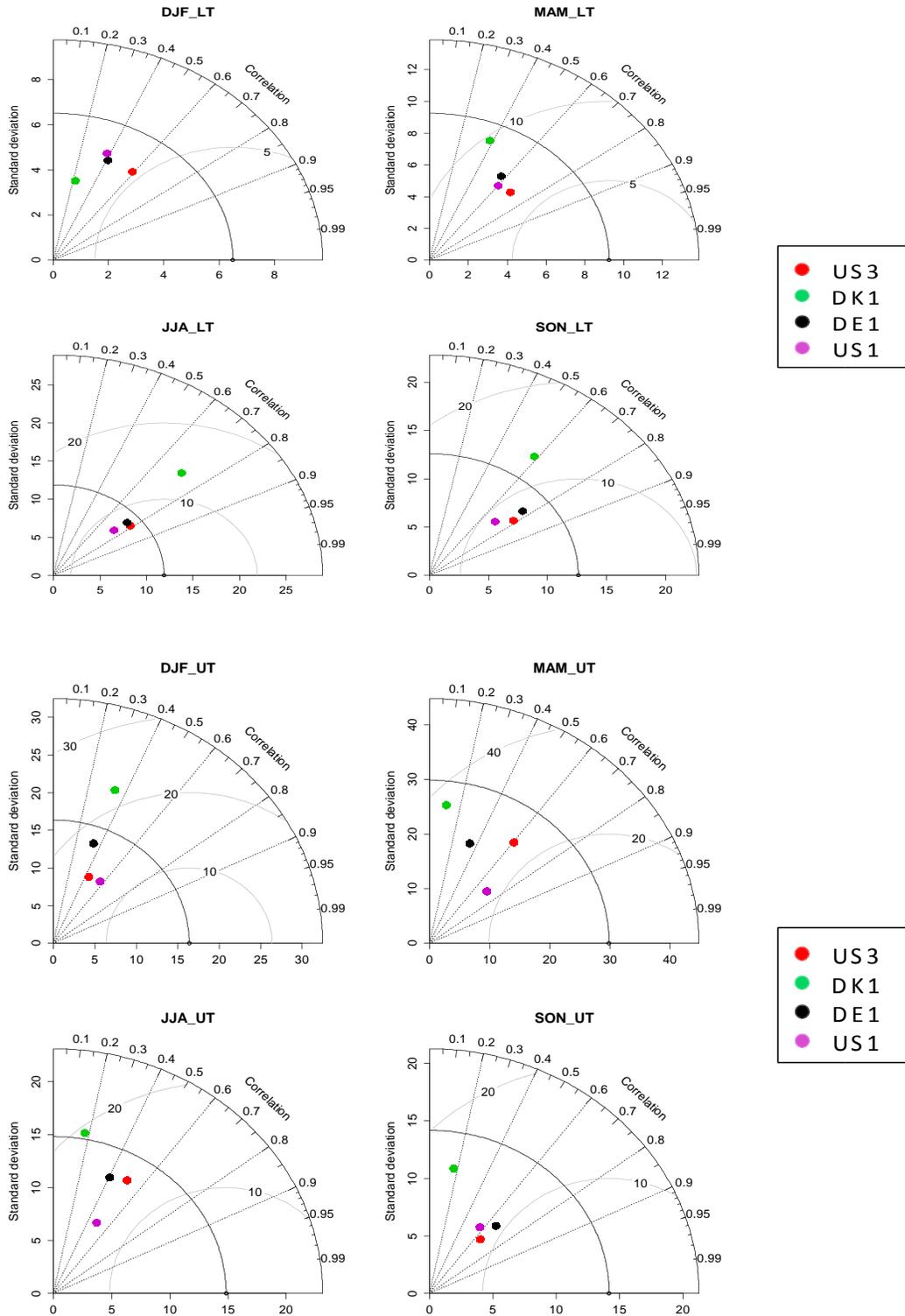


Figure S4: Seasonal Taylor diagrams using standard deviations for two height ranges: LT (lower troposphere=0-2km) and UT (upper troposphere=2-8.5km). Each point represents all stations for each modeling system.

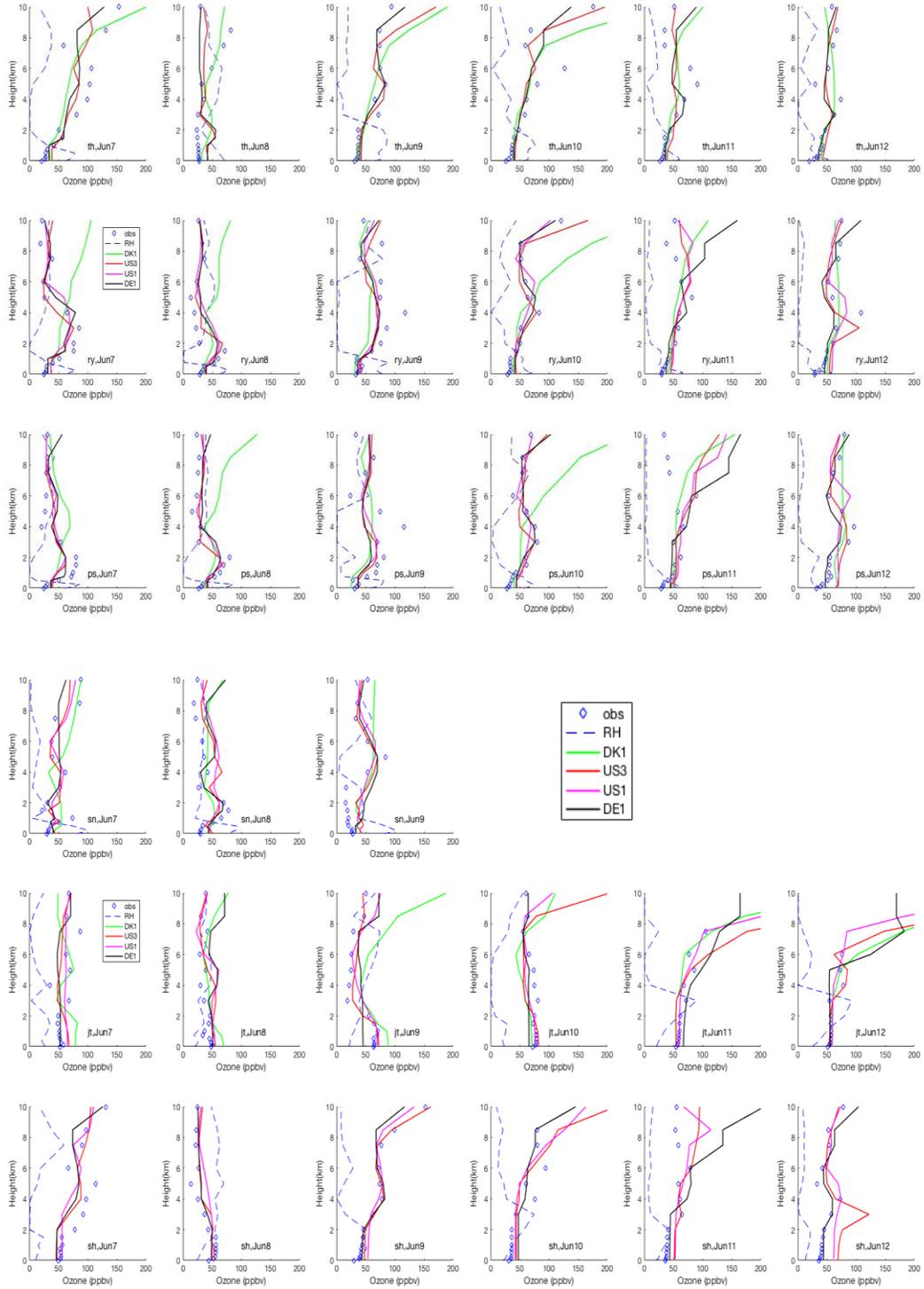


Figure S5. Ozone profiles (observed: circle; modeled: colored lines) and relative humidity (dashed line) at each IONS site during the June 7-12 intrusion.

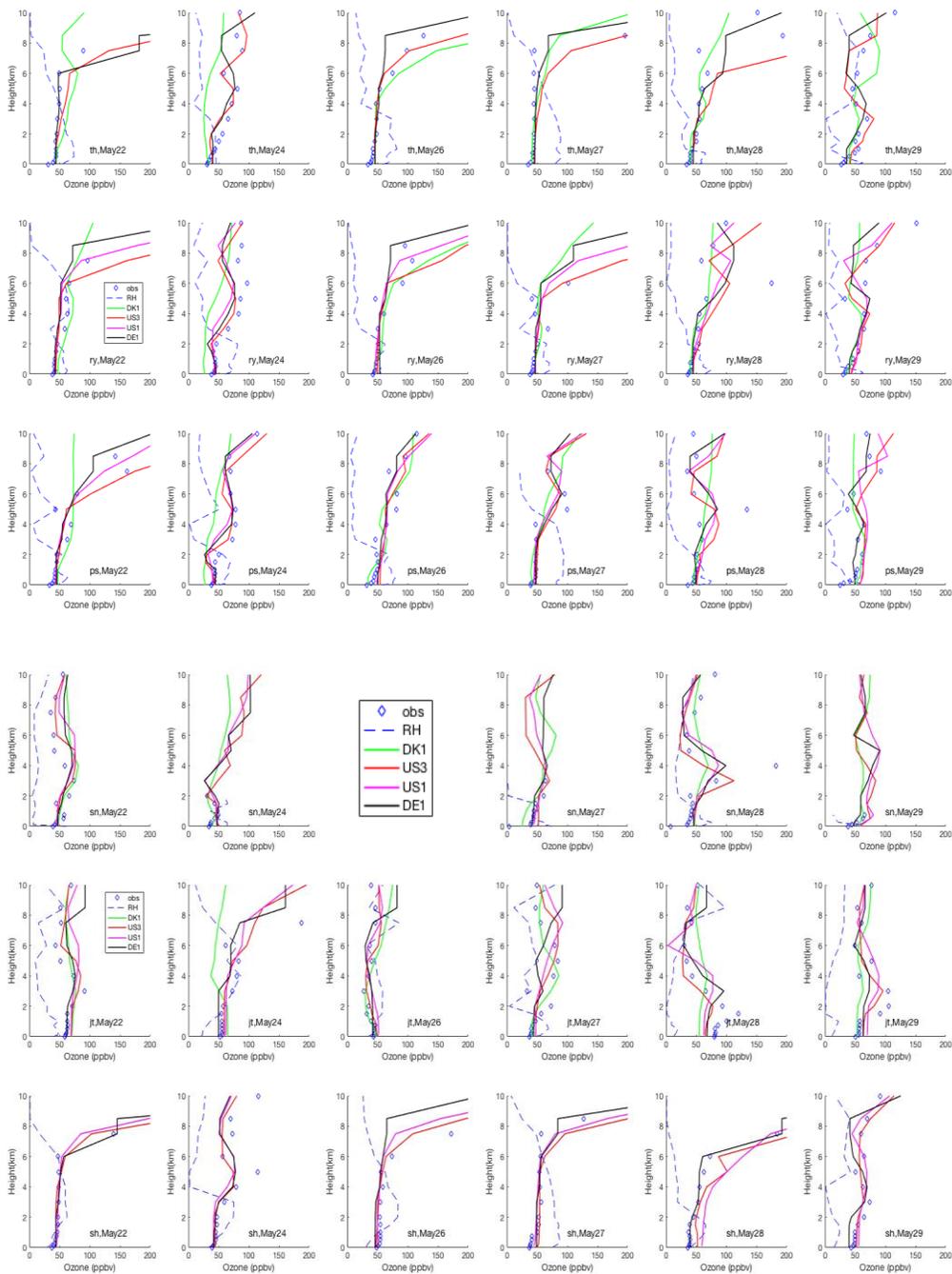


Figure S5 (continued). Ozone profiles (observed: circle; modeled: colored lines) and relative humidity (dashed line) at each IONS site during the May 22-29 intrusion.