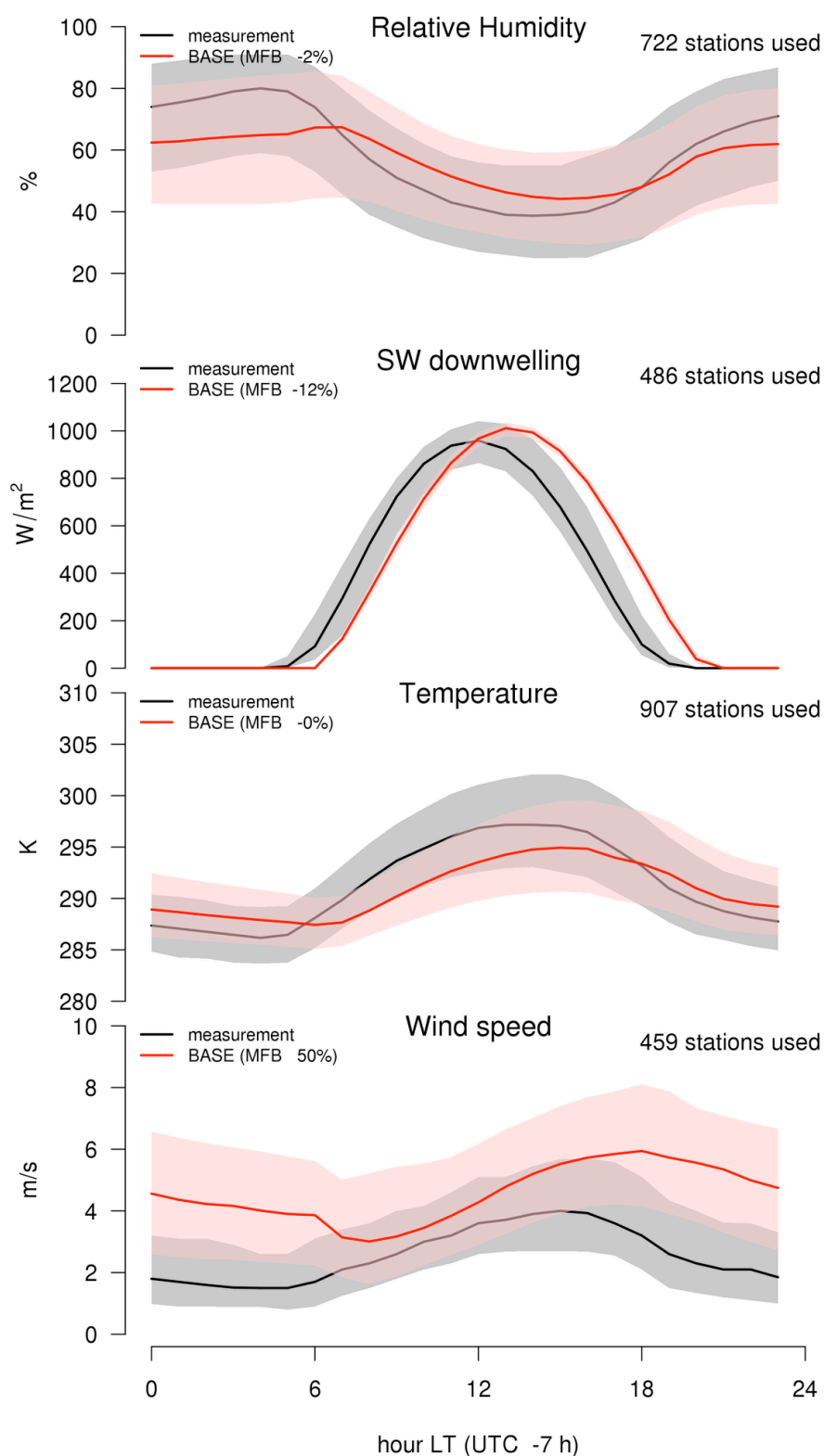


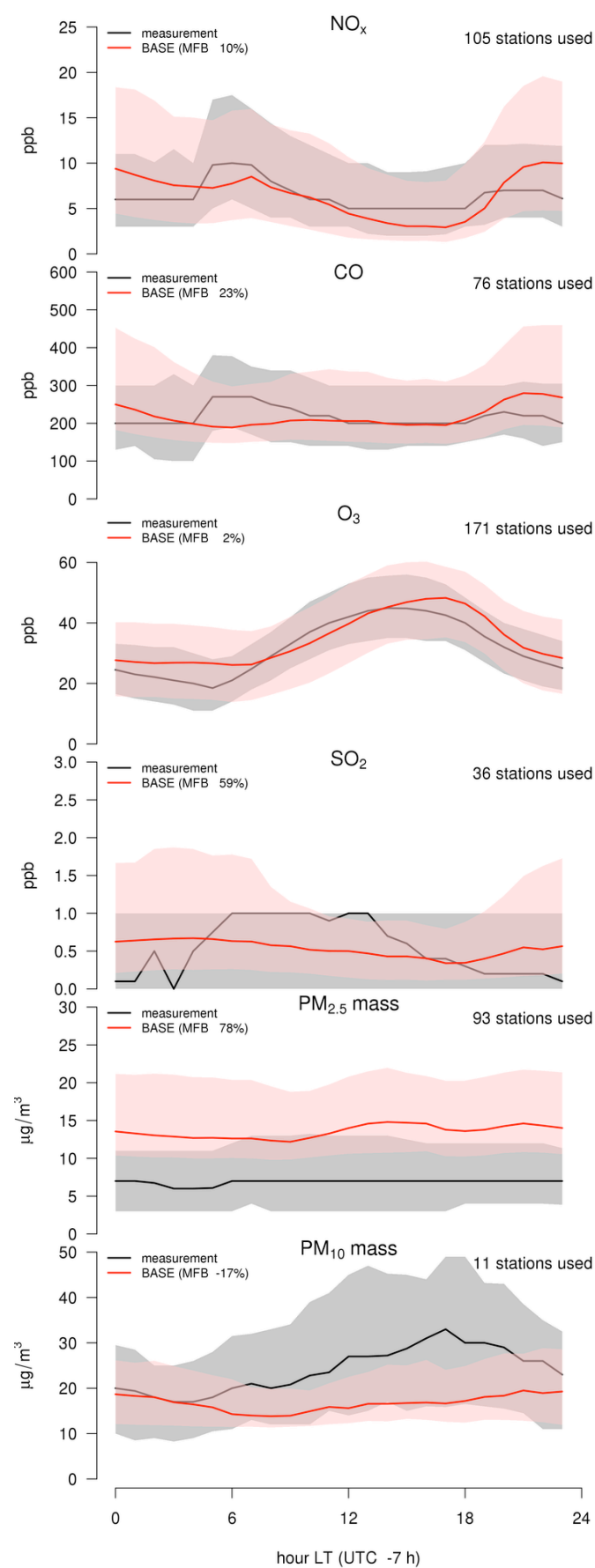
**Supplement to**

**Knote et al., „Simulation of semi-explicit mechanisms of SOA formation from glyoxal in a 3D model“**

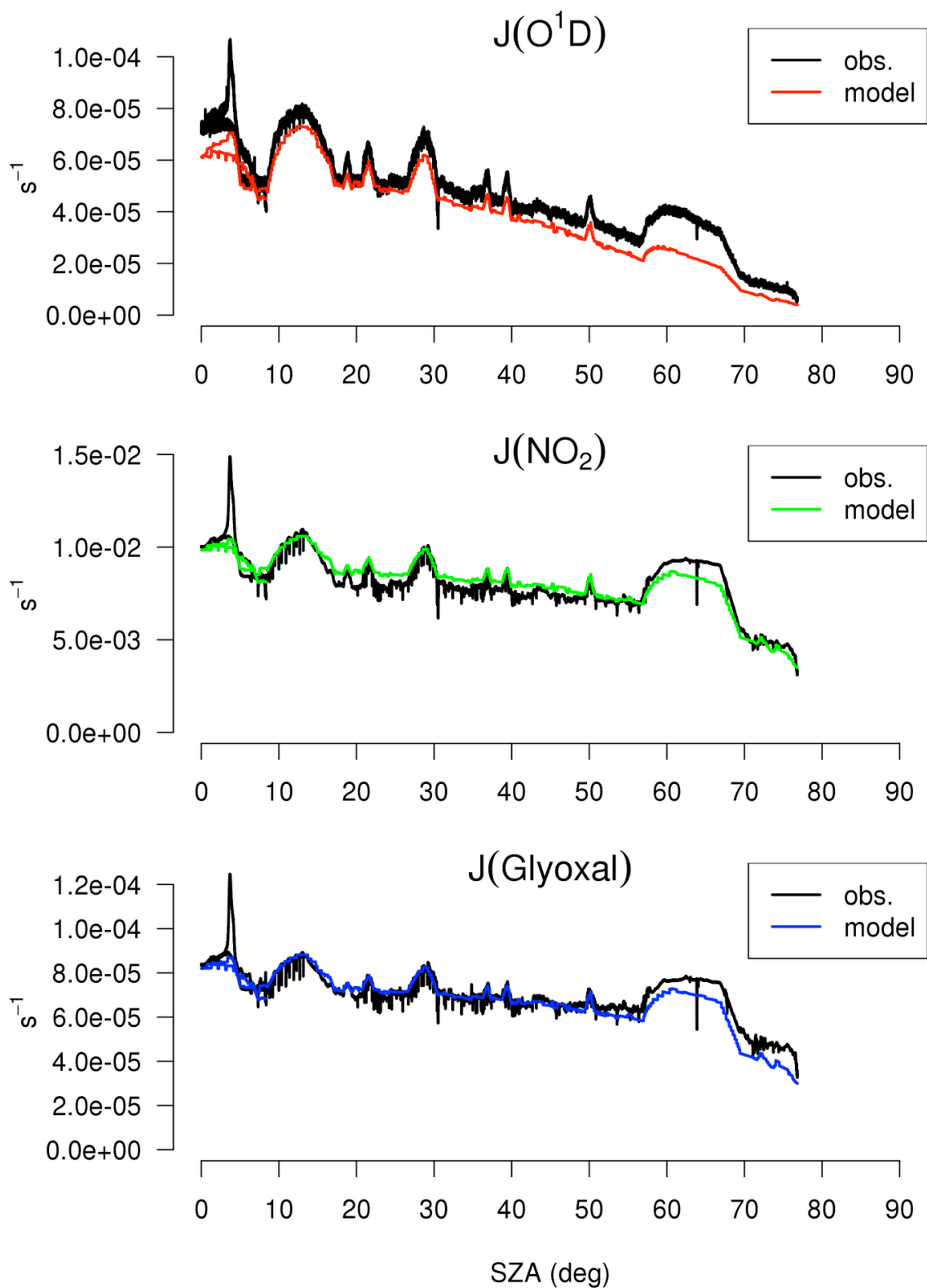
**Additional model evaluation plots**



**Figure S1.** Averaged diurnal cycles of measurements of meteorological quantities at CARB stations (black) and model results (red). Shown are the mean as solid line and the 25 - 75 % range as shaded areas. The number of stations on the top right indicates how many stations have been used in the comparison for each species. MFB (top left) is mean fractional bias against measurements.



**Figure S2.** As Figure S1, but for chemistry quantities.



**Figure S3.** Comparison of measured and modelled photolysis rates. Measurements were taken during the NOAA WP-3D flight on 06/14/10. See <http://www.esrl.noaa.gov/csd/groups/csd7/measurements/2010calnex/P3/flighttrack/> for flight tracks.