Supplementary figures

Figure S1: Mean and standard deviation in the bias in the diurnal variation among WRF simulated surface variables at Cochin and at Gadanki against surface observations. Figures a), b), c), and d) represents the temperature, relative humidity, wind speed and wind direction at Gadanki, respectively. Figures g) and i) represents temperature and relative humidity at Cochin, respectively.

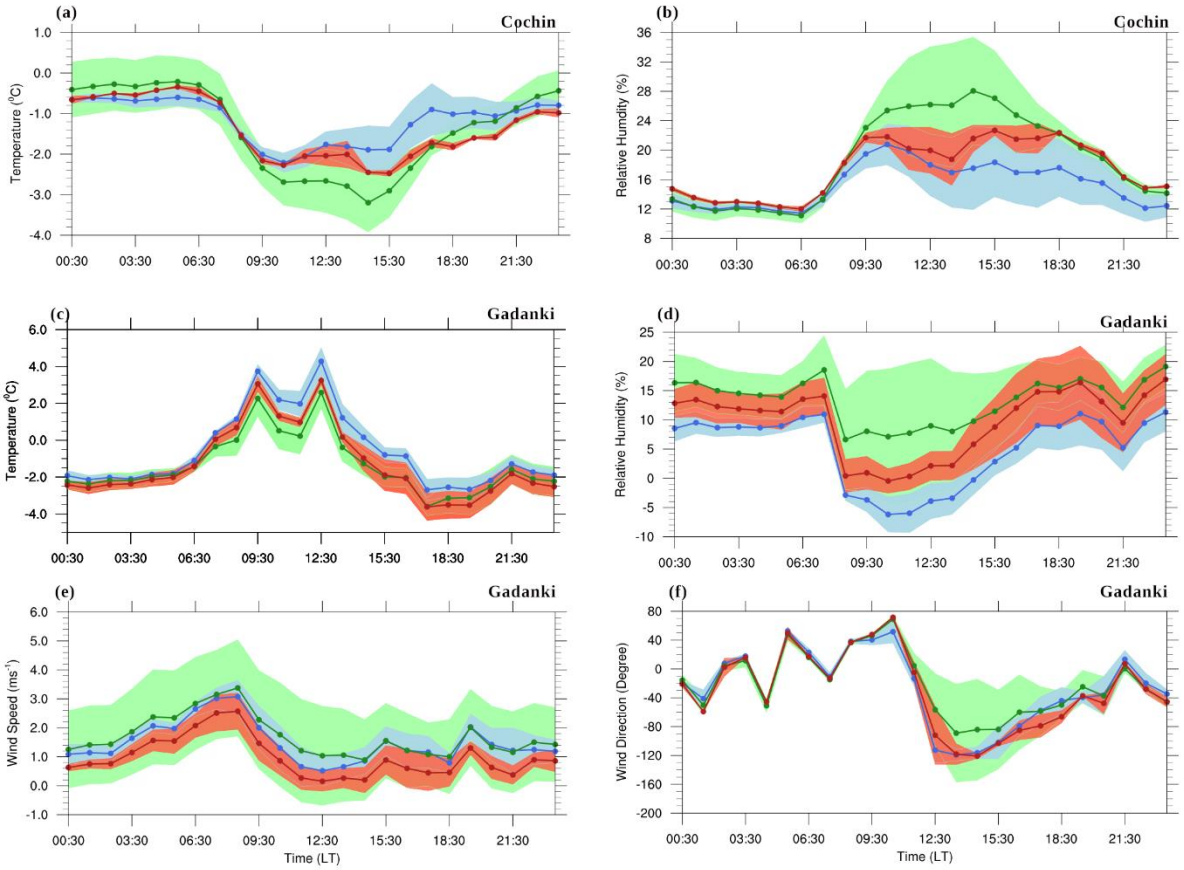

Figure S2: Monthly averaged diurnal variation of Temperature at 2 m (a & c), Relative Humidity at 2 m (b & d) for Cochin and Gadanki, respectively; e & f represent wind speed and wind direction at Gadanki. The black thick curve represents the observations, and the coloured curves represent different WRF model simulation experiments.

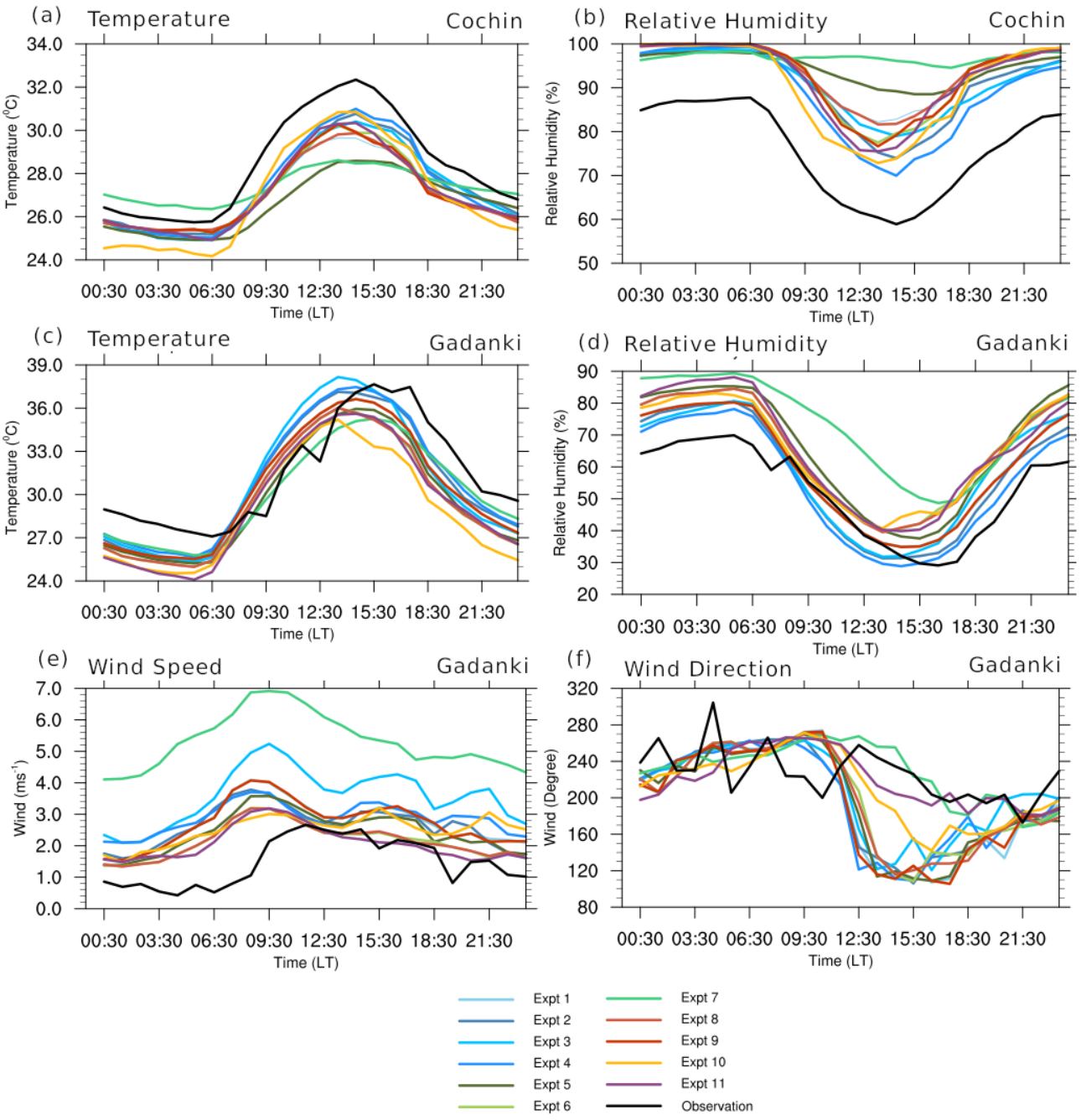

Figure S3: Monthly averaged vertical profile of temperature at Cochin for 0 to 8 km at 2 different time steps in a) daytime and b) nighttime with black line showing observational MWR profile.

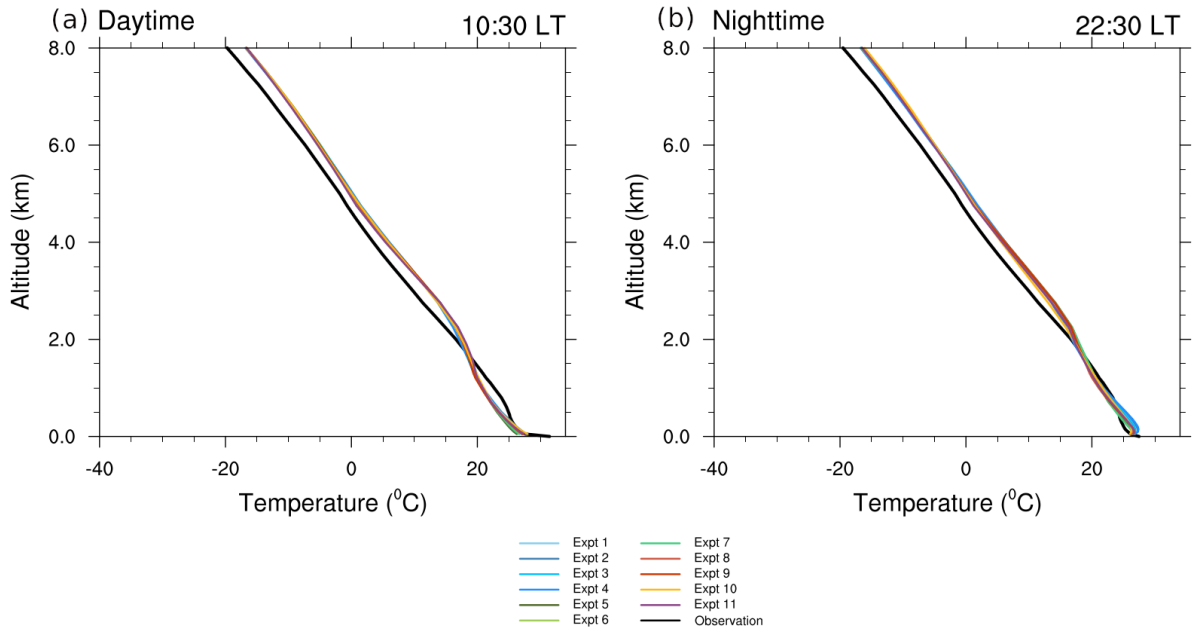
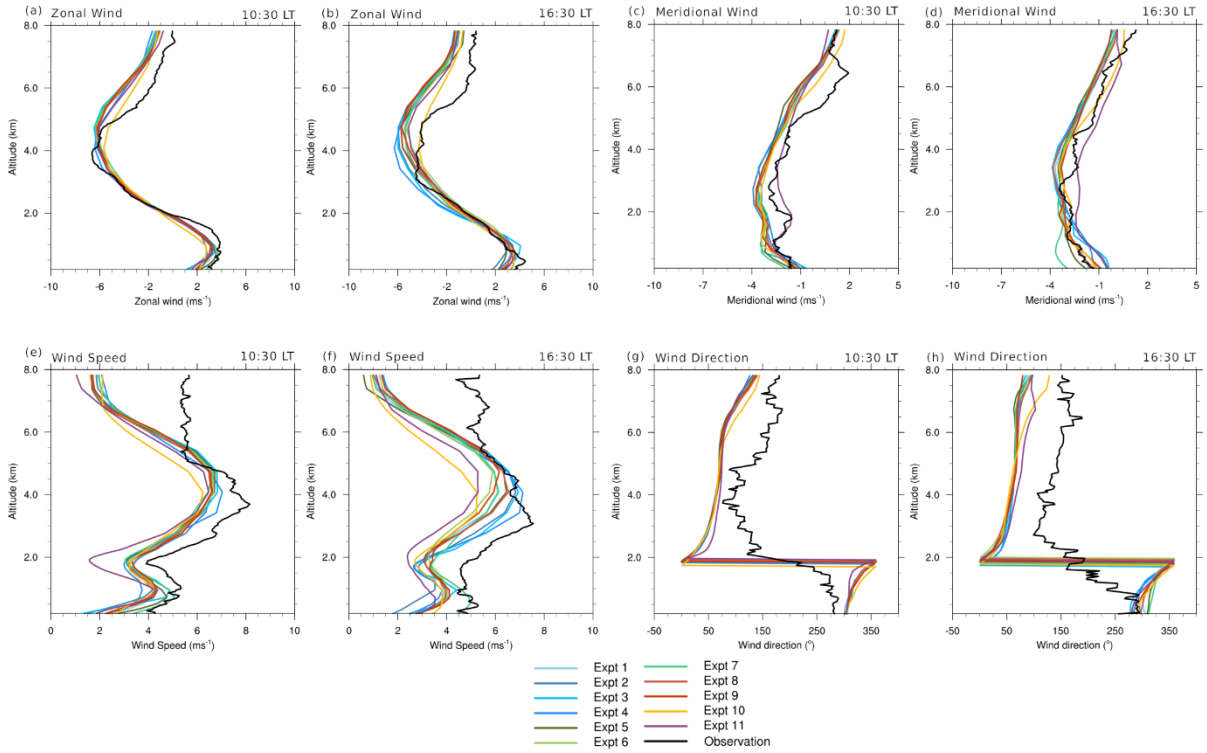
Figure S4: Mean and standard deviation in the bias among WRF simulated monthly averaged vertical profiles of 0 to 8 km at Cochin at 2 different time steps of the day (10:30 LT and 16:30 LT) for a) & b) zonal wind, c) & d) meridional wind, e) & f) wind speed, g) & h) wind direction against observational STR profile.