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Annual variability of atmospheric surface layer characteristics and wind/temperature patterns in Qatar REZA SADR, YUAN LI, Texas AM University, College Station — Surface wind patterns influence the anemochory, pollutants dissipation. The research of the characteristics of surface layer and turbulence exchange processes can contribute to the local economic construction and understanding of regional plant ecological environment. This work reports on the weather variation in the coastal region of northern Qatar peninsula in the Persian Gulf. Wind velocity, direction, humidity and temperature data for the coastal site of Qatar are recorded from August 2015 to September 2016. Sonic anemometer and weather station data was collected at 9 m height tower. Seasonal wind patterns are analyzed. Shamal wind from Northwest is prevailing for all the four seasons and the annual wind speed is 4.67 m/s. Temperature in June, July, August and September are the highest, with the lowest air pressure and the most occurrence of the summer Shamal. Two other public data are used for comparison with the present data. The normalized variance of wind components and temperature are studied within the framework of Monin-Obukhov similarity theory. Heat and momentum fluxes are calculated and compared with other reported values world-wide.

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