

Abstract

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Assessment of weather variability over Safaga harbour, Egypt

Meteorological conditions are key elements in the management of any harbour. The present study aims to present and analyse the meteorological conditions over Safaga Harbour of Egypt. The work is based on meteorological data recorded on hourly basis from January 2007 to December 2017 from the automated weather station in the Harbour. Results revealed a general trend of slight increase in the mean annual air temperature anomaly over the study period with a rate of 0.01 °C/year. The mean annual sea level pressure anomaly also had an increasing trend with a rate of 0.11 hPa/year. The dominant wind directions over the Harbour were N-NW-WNW during the study period. The year 2015 was the year of the lowest annual mean wind speed (9.74 kt), while 2008 was the year of the highest one (13.40 kt). There was a trend of decrease in the mean annual wind speed anomaly with a rate of -0.3 kt/year. Results also revealed a general trend of decrease in the mean annual relative humidity anomaly with a rate of -0.37%/year. Six, seven, thirteen and seventeen extreme values were detected for the air temperature, sea level pressure, wind speed and relative humidity, respectively.