



Abu Dhabi Polytechnic

Students' Graduation Project Abstract

Department:	Meteorology	Semester:	Spring-2022
Project Title:	Synoptic Study of Fog formation over UAE during Autumn months Part-2		
Supervisor:	Rajkumar Sivaprahasam		

Abstract:

This study aims to improve and develop local fog stability index (DFSI) as logarithm of horizontal visibility over Abu Dhabi airport, UAE during the most frequent months of the phenomenon, a proposed relation for visibility and Modified fog stability index are suggested. The results showed that winter seasons has maximum hourly fog frequency with long duration during the period 2005-2021, so the DFSI regression equations were developed and validated for these season. The regression equations was developed for months from November to January. It is found that a fitting relation between reanalysis data are determined, $(\Delta T_s-d_1, \Delta T_s-850_1, W85_1)$, $(\Delta T_s-d_2, \Delta T_s-850_2, W85_2)$..., $(\Delta T_s-d_n, \Delta T_s-850_n, W85_n)$ in which is matrix of independent variables, while all $\log(vis)_1, \log(vis)_2, \dots, \log(vis)_n$ are dependent ones of observed data. Also, the supposed A, B and C coefficients are acquired. The correlation between the actual visibility, $T_s - T_{850}$, $T_s - T_d$ and windspeed at 850 geopotential level are figured out, The proposed relation are examined, verified and extended to actual case