	# Abu Dhabi Polytechnic

Students' Graduation Project Abstract

Department:	Meteorology	**Semester:**	Spring-2022
Project Title:	Enhancing the Fog Stability Index for Predicting Fog over Abu Dhabi OMAA		
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 this season. The regression equations was developed for months from November to January (DFSI N-J). It is found that a fitting relation between reanalysis data are determined, (ΔTs-d_1, ΔTs-850_1, $W85\_1$), (ΔTs-d_2 , Δts-850_2, $W85\_2$) ..., (ΔTs-d_n , ΔTs-850_n, $W85\_n$) in which is matrix of independent variables, while all log(vis) $\_1$, log(vis) $\_2$ ...... , 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, Ts -$T850$, Ts -Td and windspeed at 850 geopotential level are figured out, The proposed relation are examined, verified and extended to actual case.