



**MARMARA UNIVERSITY
FACULTY OF ENGINEERING
ENVIRONMENTAL ENGINEERING DEPARTMENT**

**ENVE 4197/4198 ENGINEERING PROJECT
PROPOSAL FORM
FALL 2020-2021**

Instructor : Prof. Dr. S. Sinan Keskin

Project Title : Impact of air mass trajectories on air pollution parameters in Black Sea Region.

Proposal No. : Sinan Keskin-1

Number of Students : 3-4

Requirements (from students) : Meteorological data retrieval, running a trajectory model, combining pollution data and trajectory data to identify the impact of different source regions.

Scope of the Project :

Air pollution parameters measured in meteorology stations depend both on local pollution sources and origin of air masses transporting those pollutants from other regions. Air mass trajectories will be obtained on daily basis for a specific year by running a trajectory model and they will be grouped according to their origins and pathways. Air pollution parameters obtained on daily basis from local meteorology stations for the selected year will be used to identify the impact of each source region on those parameters.

Hardware/Software/Lab/Equipment Requirements :

Air pollution data from Turkish State Meteorological Service, NOAA HYSPLIT trajectory model software, personal computer, spreadsheet and graphics software.

Development Plan :

Within the first semester, air pollution data will be obtained for different meteorological stations within the Black Sea Region. HYSPLIT model will be obtained and training runs will be accomplished. Six months of daily trajectory data will be created for the selected year using the model.

Within the second semester, the remaining six months of daily trajectory data will be created. Air pollution data on daily basis will be combined with air trajectory data for the selected year. Results will be evaluated to understand the impact of air mass source regions on air pollution parameters.