



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

**ENVE 4197/4198 ENGINEERING PROJECT  
PROPOSAL FORM  
FALL 2023-2024**

**Instructor :** Prof. Dr. S. Sinan Keskin

**Project Title :** Investigation of the possible long range transport of air pollutants released by the European forest fires to some Aegean and Mediterranean cities in Türkiye.

**Proposal No. :** Sinan Keskin-2

**Number of Students :** 2-3

**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. Long range air mass trajectories will be obtained for some Aegean and Mediterranean cities in Türkiye on daily basis for specific periods coinciding with large scale European forest fires, especially in Aegean and Mediterranean countries. For this purpose, a trajectory model will be used and results will be grouped according to their origins and pathways. Air pollution parameters obtained on daily basis from local meteorology stations for the selected cities 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, large scale forest fires in Europe and their specific properties will be investigated through literature search. Air pollution data for the selected cities in Türkiye will be obtained from different meteorological stations for the predefined periods. HYSPLIT model will be obtained and training runs will be accomplished.

Within the second semester, HYSPLIT model runs will be performed for the predefined periods on daily basis. Air pollution data on daily basis will be combined with air trajectory data for the selected periods. Results will be evaluated to understand the impact of long range air mass source regions on domestic air pollution parameters.