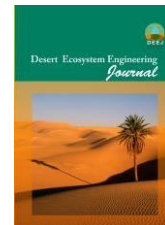




University of Kashan

Desert Ecosystem Engineering Journal

Journal homepage: <http://deej.kashanu.ac.ir>

## Climatic fluctuations and dusty days in the west and southwest of Iran

Dariush Yarahmadi<sup>1</sup>, Behrouz Nasiri<sup>2</sup>, Asadollah Khoshkish\*<sup>3</sup>, Hatam Nikbakht<sup>4</sup>

Received: Oct/02/2014

Accepted: Feb/04/2015

### Abstract

Climatic fluctuations and Climate change has become a widespread and relatively dominant phenomenon at present. It has affected many atmospheric processes such as rainfall, dust storms, temperature increasing and so for. These changes are very important for the living environment and thus needed to study and understand. Therefore the main objective of this study is to investigate the temporal and spatial variations of the dust storms over the northwest of Iran. For this purpose the daily data of temperature, rain, dusty days and wind speed of five stations in the area were obtained from Meteorological Organization of Iran for the years 2001-2005. In addition to the temporal analysis of the dusty days the synoptic patterns at the 500 hPa level and sea level and satellite imagery of a case dust storm were analyzed. The results showed that the dominance of a deep trough at the 500 hPa level and a surface low brings the dusts from the west and northwest through the westerly and northwesterly winds to the area. As a result, the main source for the dust storms is the dried and barren lands of Iraq and the main carrier is the atmospheric winds.

**Keywords:** climate change, Dust storms, Air Pollution, Surface Cyclone, west Iran.

---

1. Assistant Professor of Geography, Lorestan University

2. Assistant Professor of Geography, Lorestan University

3. PhD student of Climatology, Lorestan University Corresponding Author Email: Khoshkish87@yahoo.com

4. MSc, Ecotourism Faculty of natural resources and Geoscience, University of Kasha