

integrity, riparian functionality, and riparian habitat potential.

We found that a substantial amount of the streams in or close to urban areas had lost their functionality. Furthermore, around 10 percent of all streams in the peri urban areas had been channelled. Water quality has also been deteriorated in many streams. For example average NO_3 concentration at the urban streams was 76.63 mg L^{-1} while it was 2.67 mg L^{-1} at the forested part of the same watershed.

Acknowledgement: The study was supported by TUBITAK with the Project number 107Y149.

Impacts of Land Use and Climatic Changes on Dust Emission in South-West of Iran

Mohammad SHAFIEZADEH, Hossein MORADI, Sima FAKHERAN
Department of Natural resources, Isfahan University of Technology, Isfahan, 84156-83111, Iran

E-mail: hossein.moradi@cc.iut.ac.ir

Historical records of dust storms show that during the past decade dust storms have increased in arid or hyper arid parts of Iran. Population growth and a need to provide food, fiber, water, and shelter causing dramatic changes in land use and land cover. Besides to these human activities, natural desertification processes and climate changes increase dust sources. The purpose of this study is to investigate the potential of the land use, land cover and climatic changes to alter dust emission in South-West of Iran (Khuzestan province). Three main sources has been recognized for dust emission in Khuzestan province, first loss of vegetation cover due to wetlands destruction and agricultural lands abandonment; Second, blocking rivers such as Karoon, Dez and Karkheh by dams, and third climatic changes and its effect on precipitation. In this study, we evaluate the most related synoptical parameters to dust emission, such as temperature, wind speed, number of dusty days and visibility below 2 kilometres, derived from data records of synoptical weather stations located in Khoozestan province. We tested how climatic parameters have changed during the last 50 years and how the changes in dusty days are correlated with the changes in climatic parameters. We found that increasing in minimum temperature and relative humidity are the most influential climatic factors on dust emission in the study area. To investigate impact of the land use changes on dust emission, Land use and land-cover maps of the area will be prepared for recent decades and in addition changes in landscape patterns (including Number of Patches, Edge Density, Largest Patch Index, Fractal Dimension and Shannon's Diversity Index) will be quantified for the study area. The results of this study can reveal the relative importance of land use, climatic change and their interactive effects on dust emission in the study area.

References

- Field JP, Belnap J, et al. 2010. The ecology of dust. *Frontiers in Ecology and the Environmen* 8: 423-430, doi:10.1890/090050
- Zhao C, Dabu X, Li Y, 2004. Relationship between climatic factors and dust storm frequency in Inner Mongolia of China, *Geophysical Research Letters*, 31, L01103,