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Air quality study over Cyprus: The AERAS project

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Air quality has attained considerable scientific interest during the last decades. Several studies and projects have attempted to deal with aerosol monitoring and assessment both for naturally and anthropogenically induced aerosol particles. To this end, satellite remote sensing has been widely used for air quality monitoring on a global scale. This research is an attempt to study air quality in terms of monitoring dust events in the SE Mediterranean region, and especially over Cyprus through AERAS project. The project aims at the development and establishment of an appropriate system that can be used for spatial mapping and temporal evolution forecasting of particulate air pollution load resulting mainly from the Saharan dust transport in SE Mediterranean region and secondary, from anthropogenic sources. It is based on the development of an efficient neural network classification system. The system integrates meteorological maps of synoptic situation, remotely sensed data and in-situ measurements for the development of statistical models. The main results that would derive at the end of the project include:

- Climatology analysis of particulate air pollution based on remotely sensed data and in-situ air pollution measurements.

- Development of Spatial Synoptic Classification algorithms using neural networks.

- Development of statistical models for forecasting air pollution levels.

- Monitoring / Mapping of significant pollution events using remotely sensed imagery.

- Development / improvement of algorithms for the localisation of urban pollution and

airborne dust using remotely sensed imagery.

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