



## **Studies and research on global climate change produced in Dobrogea**

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Atmospheric phenomena risk, high acuity products in recent years compels us to a more careful study of the phenomena caused by global climate change produced in Dobrogea. Risk atmospheric phenomena and quick release is characterized by extremely high energies that are catastrophic, sudden and hard to prognosis in current contexts.

In our paper we clarify the concept of aridity, and discusses related concepts including indices of aridity, and their influence on Dobrogea area and soil features including climatic water deficit. The drought impact is evaluated by calculating different indices of drought from meteorological and hydrological point of view.

In Dobrogea, the phenomena mentioned already manifested by hail, violent storms, tornadoes, heavy precipitation, rainfall, manifested in short periods, producing floods and landslides.

Sudden changes, increased environmental air parameters (temperature, humidity, atmospheric pressure) creates, in turn, serious human discomfort and other negative effects of socio-economic. These "risk events" is frequently interleaves severe periods of drought, completing the sequence of natural disasters are difficult to predict.

Another characteristic of desertification in Dobrogea is eroding - cruel impoverishment of the soil created by strong winds and violent rain causes strong erosion.

Dust storms and sand pits desert areas severely affects state land, forests and degrade air quality breathable, cruelly destroying into ozone.

Summarizing, the objective of this paper is to present some results using drought indices and a Grid computing application, which estimates the land surface temperature (LST) and normalized difference vegetation index (NDVI) at regional scale.