

## **Long-term Monitoring on Rangelands in Southwest Algeria and Impact of Overgrazing and Droughts on Biodiversity and Soil: Case of the Rogassa Steppe (Wilaya of El Bayadh)**

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**Abstract :** One of the main problems of degradation of arid steppe rangelands in the southern Mediterranean is the loss of plant diversity and changes in soil properties. During the last decades, these rangelands faced two main driving forces: climate through more or less lasting and recurrent droughts and overgrazing by sheep. In the present work, the preexisting system was an arid steppe with alfa grass (*Stipa tenacissima* L.) as the dominant plant, which was considered to be the "keystone" species toward the whole ecosystem structure and functioning. Vegetation and soil change was monitored for 45 years along a grazing intensity gradient. Changes in species richness and diversity, in the vegetation and in the soil, enabled to better understand climate fluctuations effects in comparison to overgrazing ones. The aim is to assess the impacts of grazing and climatic variability and change on biodiversity, vegetation and soil over a period of 45 years, based on data from seven reference years.

**Keywords :** biodiversity, desertification, droughts, el bayadh, overgrazing, soil, steppe

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