



Master oficial  
**Geoforest**

CURSO 2020-2021

## Analysing the effects of climatic databases on ecological niche models (ENMs)

### **Descripción:**

Ecological niche models (ENMs) are empirical or mathematical approximations to the ecological niche of a species. ENMs relate physiological or chorological (i.e., species location) data to environmental variables using statistical methods or theoretically derived response surfaces, with the aim of describing, understanding and/or predicting the distribution of species. ENMs have been traditionally limited to the use of abiotic variables, such as climate, elevation, land use, or soil type. Until recently, the only available global dataset of climatic variables was Worldclim. However, nowadays there are several datasets available: CHELSA, EuMedClim, CRU TS, CliMond, Terraclimate, MERRAclim, MARSPEC, and Bio-ORACLE. Only one paper has analysed the effect of using different climatic datasets (WorldClim, MERRAclim, CHELSA, MARSPEC, Bio-ORACLE) in ENMs. It is lacking therefore a complete study including all climatic datasets. An already compiled datasets of species records in the Iberian Peninsula will be used as input for ENMs. Several algorithms such as Maxent, GLM, and Random Forest will be used to calculate the ENMs.

### **Referencias:**

Morales-Barbero, J. & Vega-Álvarez, J. (2019). Input matters matter: Bioclimatic consistency to map more reliable species distribution models. *Methods Ecol. Evol.* 10, 212–224.

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