

Aptitud agroclimática actual y potencial de la región patagónica para el cultivo de nogal (*Juglans regia* L.) en un contexto de cambio climático

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Revista Argentina de Agrometeorología RADA, v. VIII (2017): 15-27

Summary

The evaluation of the current and potential aptitude of English walnut (*Juglans regia* L.) crop in the Patagónica Argentina; is an essential element to know its possible spatial expansion considering the factors of climate change in the region. The aim of this investigation was to evaluate the temporal changes of climatic and agroclimatic temperature indices in the central and northern region of Argentinean Patagonia with the aim of establishing a first approximation to the determination of their current and potential aptitude for walnut cultivation, in a context marked by climate change. The methodology included the analysis of 7 climates and 3 agroclimatic indices, from meteorological data of the study area. To analyze the trend Mann Kendall test was applied and to quantify the slope, Sen method was used. The study period was 1970-2016 and also with the aim to compare recent decades on changes observed in atmospheric circulation, time series was divided in 1997-2016. The results indicated general increases of regional thermic availabilities, that as an example in the case of annual mean temperature was 0.8 °C for the 1970-2016 period, while for the 1997-2016 was 0.6 °C. From the increases thermal registered in this investigation, as well as those thrown by future climate models, the central and northern Patagonia region, could be positioned as an area of great potential for walnut cultivation and also, in turn, expansion of this species could be extended towards mountainous areas and valleys of the south-central region.

Palabras clave: Patagonian region; agroclimatic feasibility; nut fruit trees; chills hours; heat requirements