Testing the reliability of 13C of tree rings as climate tool in Pistacia khinjuk of Syrian desert

Valentina Caracuta and Girolamo Fiorentino
Laboratory of Archaeobotany and Palaeoecology, University of Salento, Lecce, Italy (v.caracuta@alice.it)

High-resolution measures of past climate variations have been found to be of a critical importance for understanding anthropic resilience in drought-sensitive areas. The hills (Jebels) Abu-Rujmain and Abd al Aziz, with their 350 millimetre of rain and their steppe-forest spreading in the middle of the flat syrian desert, represent an unicum where analysing the effect of short term climate changes on pastoral communities.

Thanks to a cooperation project in Syrian Arab republic with CIHEAM-Mediterranean Agronomic Institute of Bari –Italy (Rationalization of Ras El Ain Irrigation systems), we were allowed to carry out dendroclimate and carbon isotope analyses on tree-rings of local Pistacia khinjuk, a long-lived wood taxon, in order to test their reliability as tool for determining annual and seasonal rainfall/temperature variations. Comparison between the last 25 year rainfall and temperature values of the nearby meteorological stations and dendro-isotopes values have been carried out to point out which factor mostly affect the growth pattern of the trees in that particular area.