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

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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.