

**Table S1:** Pearson's correlation coefficients between growth of H and D trees, and the climatic data (precipitation and maximum temperature) for the period 1950-2013, considering each month and the whole year (from previous October till September). Values highlighted in bold are significant (P<0.05).

RAINFALL	Oct <sub>p</sub>	Nov <sub>p</sub>	Dec <sub>p</sub>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Year (Oct <sub>p</sub> -Sept)
mean D	-0.052	0.081	-0.191	-0.118	-0.116	0.137	0.035	0.036	<b>0.362</b>	0.124	0.042	0.038	0.047
mean H	-0.038	0.047	<b>-0.254</b>	-0.209	-0.143	0.123	0.060	0.102	<b>0.362</b>	0.168	-0.004	-0.004	-0.013
<b>T. MAX</b>													
mean D	-0.045	-0.140	-0.141	-0.116	0.005	-0.126	-0.190	-0.168	<b>-0.339</b>	-0.245	-0.209	0.046	<b>-0.259</b>
mean H	0.045	-0.131	-0.081	-0.077	-0.038	-0.110	-0.104	-0.137	<b>-0.283</b>	-0.170	-0.151	0.107	-0.171

**Table S2:** Pearson's correlation coefficients between growth of H and D trees, and the climatic data (precipitation and maximum temperature) for the period 1950-2013, considering: the dormant season (October-March), the extended dormant season (adding progressively data for successive months), the growing season (April-September), the extended growing season (adding progressively data for successive months). Values highlighted in bold are significant (P<0.05).

RAINFALL	Oct <sub>p</sub> -Mar	Oct <sub>p</sub> -Apr	Oct <sub>p</sub> -May	Oct <sub>p</sub> -Jun	Oct <sub>p</sub> -Jul	Oct <sub>p</sub> -Aug	Apr-May	Apr-Jun	Apr-Jul	Apr-Aug	Apr-Sept
mean D	-0.105	-0.095	-0.084	-0.005	0.021	0.032	0.061	0.250	<b>0.277</b>	0.248	<b>0.250</b>
mean H	-0.184	-0.169	-0.136	-0.056	-0.018	-0.019	0.141	<b>0.313</b>	<b>0.354</b>	<b>0.285</b>	<b>0.259</b>
<b>T. MAX</b>											
mean D	-0.159	-0.223	-0.208	<b>-0.308</b>	<b>-0.301</b>	<b>-0.273</b>	-0.215	<b>-0.321</b>	<b>-0.327</b>	<b>-0.293</b>	-0.137
mean H	-0.118	-0.142	-0.145	-0.235	-0.205	-0.188	-0.146	<b>-0.249</b>	-0.241	-0.214	-0.050

**Table S3:** Pearson's correlation coefficients between isotopic composition of tree rings in H and D individuals, and the climatic data (precipitation and maximum temperature) for the period 1950-2013, considering each month and the whole year (from previous October till September). Values highlighted in bold are significant (P<0.05).

RAINFALL	Oct <sub>p</sub>	Nov <sub>p</sub>	Dec <sub>p</sub>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Year (Oct <sub>p</sub> -Sept)
H δ <sup>13</sup> C/12C	0.033	<b>0.336</b>	0.162	-0.122	-0.245	0.005	-0.140	-0.229	0.062	0.168	-0.239	-0.122	-0.067
D δ <sup>13</sup> C/12C	0.105	-0.043	0.065	0.009	-0.181	-0.051	0.030	<b>-0.306</b>	0.039	0.100	-0.143	-0.075	-0.124
H δ <sup>18</sup> O/16O	-0.230	-0.038	0.036	<b>-0.312</b>	<b>-0.306</b>	-0.205	0.117	-0.251	0.212	<b>0.497</b>	-0.212	-0.085	<b>-0.335</b>
D δ <sup>18</sup> O/16O	-0.109	-0.130	0.161	-0.096	-0.268	-0.142	0.079	<b>-0.364</b>	0.037	0.184	-0.227	0.025	-0.279
<b>T. MAX</b>													
H δ <sup>13</sup> C/12C	-0.143	0.003	0.061	-0.074	<b>0.319</b>	0.108	0.189	<b>0.474</b>	0.124	-0.066	<b>0.349</b>	0.089	0.267
D δ <sup>13</sup> C/12C	-0.094	-0.135	0.128	-0.179	0.058	0.016	-0.035	0.267	-0.057	-0.139	0.036	-0.071	-0.021
H δ <sup>18</sup> O/16O	-0.117	-0.120	0.121	0.117	<b>0.353</b>	<b>0.433</b>	0.073	0.295	0.001	-0.201	0.098	0.123	0.225
D δ <sup>18</sup> O/16O	0.103	-0.080	-0.028	0.034	0.159	<b>0.440</b>	0.037	<b>0.369</b>	0.155	-0.104	0.174	0.239	0.278

**Table S4:** Pearson's correlation coefficients between isotopic composition of tree rings in H and D individuals, and the climatic data (precipitation and maximum temperature), considering: the dormant season (October-March), the extended dormant season (adding progressively data for successive months), the growing season (April-September), the extended growing season (adding progressively data for successive months). Values highlighted in bold are significant (P<0.05).

RAINFALL	Oct <sub>p</sub> -Mar	Oct <sub>p</sub> -Apr	Oct <sub>p</sub> -May	Oct <sub>p</sub> -Jun	Oct <sub>p</sub> -Jul	Oct <sub>p</sub> -Aug	Apr-May	Apr-Jun	Apr-Jul	Apr-Aug	Apr-Sept
H δ <sup>13</sup> C/12C	0.108	0.074	-0.005	0.011	0.048	-0.023	<b>-0.350</b>	-0.229	-0.119	-0.215	-0.270
D δ <sup>13</sup> C/12C	-0.009	-0.001	-0.096	-0.086	-0.063	-0.101	-0.283	-0.191	-0.115	-0.166	-0.201
H δ <sup>18</sup> O/16O	<b>-0.401</b>	<b>-0.397</b>	<b>-0.434</b>	<b>-0.372</b>	-0.265	<b>-0.324</b>	-0.148	0.016	0.235	0.088	0.028
D δ <sup>18</sup> O/16O	-0.210	-0.199	<b>-0.300</b>	-0.289	-0.246	-0.297	<b>-0.301</b>	-0.205	-0.087	-0.189	-0.162
<b>T. MAX</b>											
H δ <sup>13</sup> C/12C	0.119	0.193	<b>0.419</b>	0.285	0.108	0.296	<b>0.394</b>	0.285	0.115	<b>0.298</b>	0.225
D δ <sup>13</sup> C/12C	-0.059	-0.051	0.173	0.051	-0.063	-0.002	0.148	0.047	-0.061	-0.002	-0.048
H δ <sup>18</sup> O/16O	<b>0.307</b>	0.180	0.284	0.142	-0.051	0.046	0.221	0.120	-0.057	0.044	0.108
D δ <sup>18</sup> O/16O	0.248	0.130	<b>0.318</b>	0.254	0.065	0.151	0.248	0.224	0.056	0.147	0.240