
Climatological evidence of Younger Dryas-style oscillations at the termination of oxygen isotope Stage 14 (Funza I site, Colombia)

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Selected intervals of the Funza I core were studied to evaluate Younger Dryas-style climatic oscillations in previous glacial-interglacial transitions. The core is located on the high plain of Bogotá (Eastern cordillera, Colombia). Three cooling events during the transition from glacial to interglacial conditions in pollen zones 18 and 17 (Hooghiemstra, 1984) are evidenced. This interval has an age from ca 535 ka to 500 ka and is correlated with the transition of $\delta^{18}\text{O}$ Stages 14 to 13 of the marine paleoclimatic record.

At least two cooling events of Younger Dryas signature are documented between the selected depth interval of 116.0–119.5 m. Based on a linear interpolation between age control points (Hooghiemstra et al., 1993), the duration of the cooling events are estimated 1300–2800 years. The first cooling event of Younger Dryas signature is registered at the beginning of oxygen isotope Stage 13 at 118.5–118.7 m core depth. The duration of this event is estimated in the order of 1300 years, with an estimated temperature decrease of ca 4°C. After this event, there is a rapid upslope shift of the Andean forest belt (temperature increase), which reached almost maximum elevation (ca 2700 m) in the 117.5–117.9 m core interval.

In the 117.1–117.5 m interval a second cooling event of Younger Dryas signature is noted. It is characterised by a rapid decrease of Andean forest elements and an increase of (cold) subparamo and paramo elements. The estimated temperature decrease is ca 5°C and the upper treeline dropped from 2700 to 1700 m. There are also rapid changes in the composition of marsh and aquatic taxa, indicating a simultaneous lowering of the lake level. The duration of this second Younger Dryas-style event is estimated in the order of 2000 to 2800 years and can be divided in two parts with a duration of ca 1200–1400 years each. The last part of the second cooling event is considerable drier than

the first part, suggesting a change from cold-wet to cold-dry climatic conditions.

The occurrence of more than one cooling event of Younger Dryas-style at glacial to interglacial transitions, is in agreement with the bipartite and tripartite terminations observed by Sarnthein and Tiedemann (1990) in a marine core offshore northwest Africa.

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