



## Lacustrine isotope records reflect environmental changes in southern Patagonia (Argentina) since the Late-Glacial

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Sediment cores from volcanic lakes situated in the steppe of southern Argentina are used within the project SALSA (South Argentinean Lake Sediment Archives and Modelling) to reconstruct Late-Glacial and Holocene climatic and environmental conditions. The 19 m long sediment core PTA03/12 recovered from Laguna Potrok Aike provides a 16,000 calendar year environmental record. Age control is given by 14 AMS-<sup>14</sup>C dates and two dated tephra layers.

A high resolution  $\delta^{13}\text{C}_{org}$  record of this continuous sediment archive reveals distinct variations that reflect climatic changes during the Late-Glacial and the early Holocene. The  $\delta^{13}\text{C}_{org}$  variations of the Laguna Potrok Aike sediment record are interpreted in terms of changes in the sources of organic matter and lacustrine bio-productivity triggered by climatic changes. For the period of the Late-Glacial and the transition to the Holocene,  $\delta^{13}\text{C}_{org}$  variations are in phase with TOC/TN ratios, suggesting variable input from different organic matter sources as a possible reason for isotope variations. Maximum values of TOC/TN and  $\delta^{13}\text{C}_{org}$  around 13,500 cal. BP occur contemporaneously to a last glacier advance in the Strait of Magellan and to the Antarctic Cold Reversal.  $\delta^{18}\text{O}$  values of aquatic moss cellulose (mainly *Drepanocladus* sp.) extracted from various sections of the sediment core allow reconstructing the isotopic composi-

tion of lake water for several time slices.