

Biomarkers - Climatic fingerprints of the past

Terrestrial and aquatic plants, algae as well as bacteria and archaea capture the information of the environment in which they grow. Precipitation and temperature variations over time can be reconstructed with the help of organic material preserved e.g. in lake sediments. The organic material in sediments is a heterogeneous mixture containing different kinds of molecular fossils so-called biomarkers (e.g. plant leaf waxes or microbial membranes). They can show variations in their chemical structure depending on temperature and aridity changes, which I can use to reconstruct the climate history of Southern Patagonia. For this purpose, I investigate lake sediments from Laguna Potrok Aike situated at the southernmost part of Argentina, which is located in a climatic sensitive region and mainly influenced by the southern westerly winds. Understanding its variation over the past will help us to gain an idea how the most important wind system in the southern hemisphere will behave in the future.