



Photo: Valérie Schwab-Lavrič

At the End of the World

Dusty, windy, desolate – “an end one would rather not see” is how Argentinian author Mempo Giardinelli describes the Patagonian *mesetas*. Yet Gerd Gleixner and his colleagues from the Max Planck Institute for Biogeochemistry specifically chose the region for one of their research expeditions: its enormous, grassy, high plateaus of volcanic origin offer conditions that are hard to find anywhere else in the world.

The steep slopes of the Andes mean that the clouds arriving on westerly winds from the Pacific release their rain on the Chilean side of the mountain range. But the clouds carried over from the east also pass over the flat plateaus, the only significant rainfall in the region occurs near the mountains. These exceptional geographical circumstances of the *mesetas* make it possible to take soil and sediment samples over thousands of miles along a north-south route that always has identical precipitation conditions, thus affording a unique opportunity to investigate the effect of temperature on the soil's carbon exchange rate isolated from the influence of rainfall.

Gleixner's research group is particularly interested in how ecosystems react to climate change. By identifying resistant biomolecules and using them as biomarkers, the researchers are able to exploit the soil and sea sediments in the Argentinian *mesetas* as a climate archive. Gleixner's team is reconstructing climatic events from the past 10,000 to 20,000 years in order to determine the capacity of organisms and ecosystems to adapt to future climatic changes.

For the researchers, the old refrigerator in the middle of this image, which someone disposed of in the grassy expanse of the plateaus, symbolized the need to find parameters that can help cool our planet's climate systems down again.