

6 **T**he Abisko National Park in northern Sweden is a remote natural paradise popular with tourists and hiking enthusiasts. The two people in the picture, however, are not on vacation; they are researchers from the Max Planck Institute for Biogeochemistry in Jena. Not far from the national park, they are investigating changes in the permafrost soil, most of which remains frozen even in summer.

The research team has been conducting fieldwork in this region during various seasons over the past two years. A key piece of equipment they carry with them is a portable system consisting of several chambers. This is used on site to measure greenhouse gases released by the thawing soil, such as methane, carbon dioxide, and nitrous oxide. In addition, the team collects data on weather conditions and other environmental factors. The portable system enables the researchers to thoroughly examine the landscapes typical of Arctic permafrost regions, such as wet depressions and dry plateaus, and their extremely varied characteristics.

In its frozen state, the permafrost soil of the northern hemisphere stores vast quantities of carbon in an organic form. When it thaws, microorganisms are then able to decompose the organic substances in the soil which leads to the formation and release of greenhouse gases. This can also lead to the release of methane deposits lying deeper underground. If these greenhouse gases make it into the atmosphere, they accelerate global warming. The results of the field research can be used to refine physical models of the climate system, which serve as a basis for predicting future climate developments.

*FEVER IN THE
ARCTIC CIRCLE*



ON LOCATION



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