



Where I work Maarten de Moor

I'm fascinated by the raw power of volcanoes. As a volcanologist, being in a crater and feeling the movement and pressure under your feet is almost a spiritual experience.

I'm based at the National University of Costa Rica in Heredia (I also have an affiliation at the University of New Mexico in Albuquerque). We're surrounded by very active volcanoes here, including Poás and Turrialba. I call the craters my natural laboratory.

My work here involves warning people about potential hazards. I set up remote systems to do near-real-time monitoring so we can be alerted immediately to any changes in the composition of the gas emitted by the volcano, an indicator of a forthcoming eruption.

In this photograph, I'm at the Olca volcano in northern Chile, helping to work out where the carbon that's released from local volcanic systems comes from. My collaborators and I drove through 5,000 kilometres of desert, sampling the gas coming out of Earth's crust across the subduction zone.

I'm pictured using a titanium tube that we push into the ground as close as possible to the gas source to draw gas into a glass flask filled with a sodium hydroxide solution. The gas bubbles through and condenses, and we later measure its composition in the lab. The glass gets up to nearly 100°C – so I wear a glove. The rest of my clothes protect me from the Sun at a very high altitude, and permanently smell of sulfur. I don't mind. You get used to that smell.

Volcanoes have personalities and change year by year. Volcanology here once involved a scientist from a Western country flying in, taking samples, and saying 'this is the gas composition'. That's helpful, but not enough – these are dynamic systems. I'm building a longer, deeper understanding of the volcanoes of Costa Rica. That's the beauty in being based here: finding that deeper perspective and contributing to local science.

Maarten de Moor is a volcanologist at the National University of Costa Rica in Heredia. Interview by Jack Leeming.

Photographed for *Nature* by Jacopo Pasotti.