OU Research

Predicting Volcanoes

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Nothing prepares me for standing literally of the rim with a two hundred meter drop in front of me that this beautiful turquoise blue sulphuric acid lake and these steaming fumerals in front of it, it's just the most extraordinary view ever.

I suppose Poás is my favourite volcano in the world because it's the first volcano that I ever saw. I've been making measurements there for over twenty five years now. The work we've done here at the Open University is using gravity changes, so very, very small changes in the acceleration due to gravity at the top of the volcano are caused by sub surface mass changes and over the years we've seen increases and decreases on our sort of cycle basis. Now we're beginning to get to a situation where we can actually predict what's going to be happening in the future just because we've seen it there in the past.

What seems to be happening now, is we've got another gravity build up, just like the one we saw in the 1980s. Now it's a little bit early to be absolutely sure, but it does look as though the same sort of precursors are happening and that could well mean that there will be an environmental crisis very similar to the one that we saw in the early 1990s at Poás.
That's why we need to go back and make some more measurements. We'll be taking our usual instrumentation, take our gravity meters and our GPS and all these sorts of things and we are going to try out something new as well this time. We are going to see if there are some small genetic changes that happen in plants. We're hoping that we're going to be able to see small changes very similar to the changes that have been seen as a result of traffic pollution. If we can see those as a result of volcano pollution, it could be a very cheap, efficient and environmentally friendly way of monitoring a volcano and certainly a lot easier than carting lots of gravity meters and other things up into the summit area of the volcano.