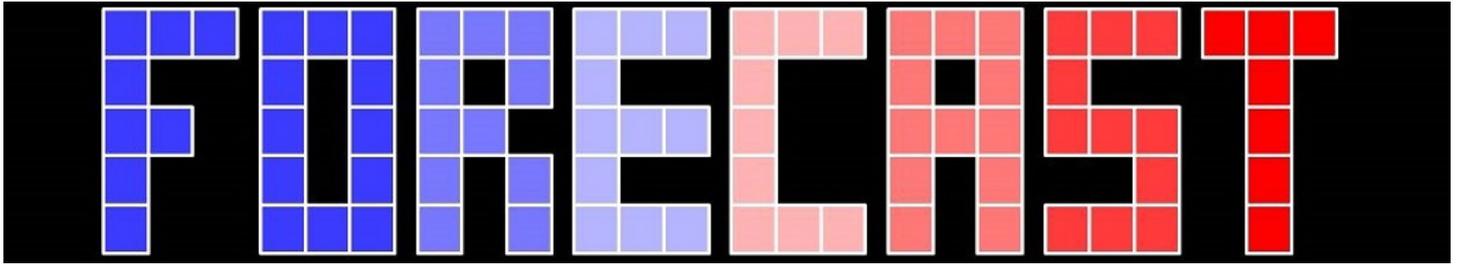


Forecast

A podcast about climate science and climate scientists



Paleoceanography proxies

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[Tina van de Flierdt](#) from the [Department of Earth Science and Engineering](#) at Imperial College London is an international leader in the use of geochemical proxies – particularly neodymium (Nd) – for reconstructing past ocean circulation, water masses and weathering. But her childhood and early interests pointed in a different direction.



Tina (right) in the lab with graduate students.

Tina grew up on a dairy farm in rural western Germany, raised by parents who were largely tied to the land but entirely

supportive of her outside interests and desire to attend summer camp away from home. By her late teens, Tina knew she had a keen interest in geology, but didn't realize that it existed as a field. It took the combination of an inspirational teacher and a sharp career counselor to set her down the path that's led her to where she is today.

Initially, however, Tina wanted to be a hard rock geochemist, or to study volcanoes and mantle processes — passions that drew her to work in Namibia. Then, following an off-hand comment by a friend, Tina sent her CV to [Alex Halliday](#), at the time working at ETH Zurich. Although she had no particular interest in paleoceanography, the moment she entered the lab, Tina thought "...well, screw it, I'll do paleoceanography". That's all it often takes to switch gears entirely.

Tina then dove into early work on the use of Nd to trace water masses, and was a first-hand participant in the seemingly inevitable progression of a new proxy from optimism to pessimism and later reconciliation. Along the way, Tina helped to lead the [GEOTRACES](#) program, a massive international effort to disentangle the many influences on geochemical tracers. As I keep hearing on the podcast, it was a case of being in the right place at the right time, particularly if that place was Lamont.

Tina is particularly interested in the marine-terminating sector of the East Antarctic Ice Sheet during past warm periods. With her team, Tina is already producing evidence to suggest that it may be as sensitive to warming as the West Antarctic Ice Sheet. If so, the implications for sea level rise are obviously startling, and Tina is now working to move from qualitative statements to a quantitative reconstruction of past mass loss.

For a long time, the modeling community was well ahead in trying to generate these sorts of estimates, but as Tina tells it, the geochemists are rapidly catching up and the field is now in a fantastic-sounding state of collaboration and mutual stimulation of ideas.

We talk through several career topics, too: watching out for open-ended technical analysis in your early days; the unexpected rewards of teaching; the merits and problems of the UK academic assessment process; and management of peer review, particularly now that Tina is an editor at [Geochimica et Cosmochimica Acta](#).

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