

More data, less work: Introducing the Syp automatic fluid sampler

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From Waikato to the world

- Regular water sampling is key to various environmental applications, including water quality monitoring, impact assessments, or scientific research
- This can be expensive and time-consuming, especially where access is challenging
- Originally developed to support the University of Waikato's cave climate research in New Zealand and the South Pacific, over a dozen of units have since been delivered to researchers in Europe, the UK, and the USA.
- Current Syp deployment sites include remote caves in the Southern Alps, Switzerland, Siberia, Scotland, California, Wyoming, and the Peruvian Andes!**

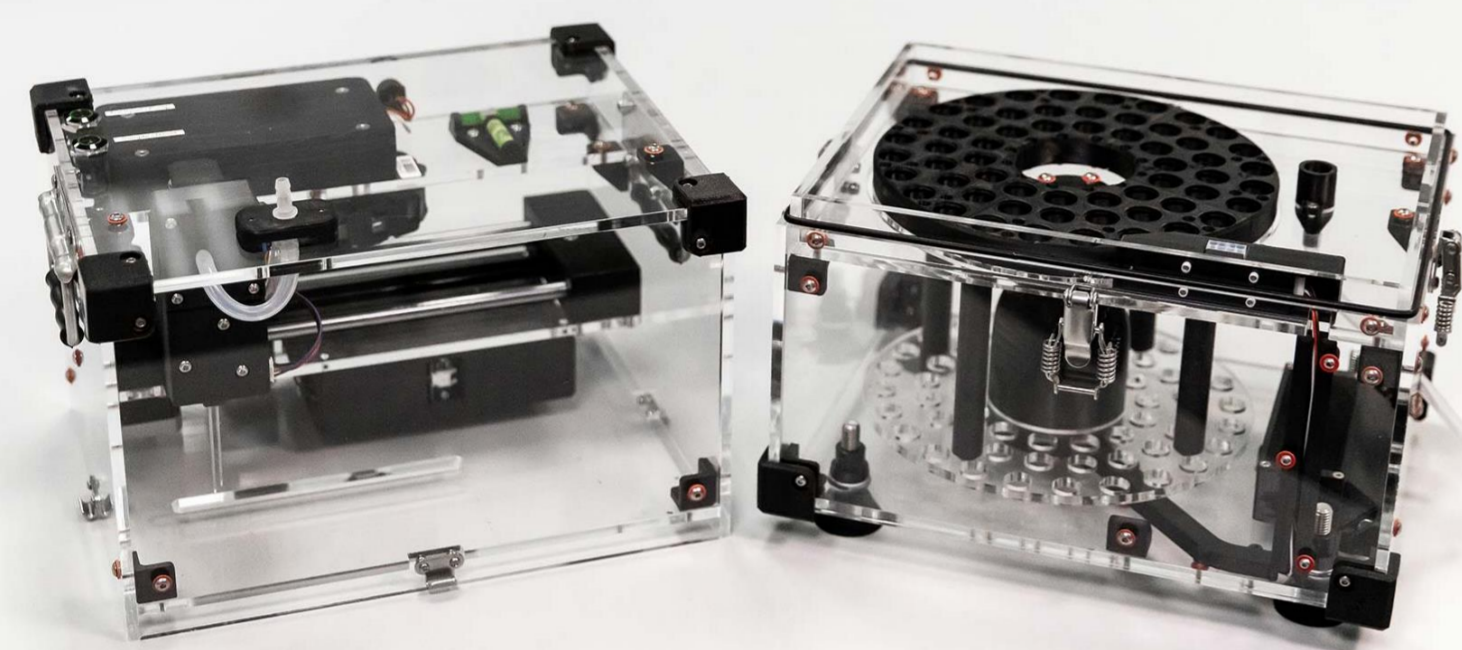


Scan here for more information!



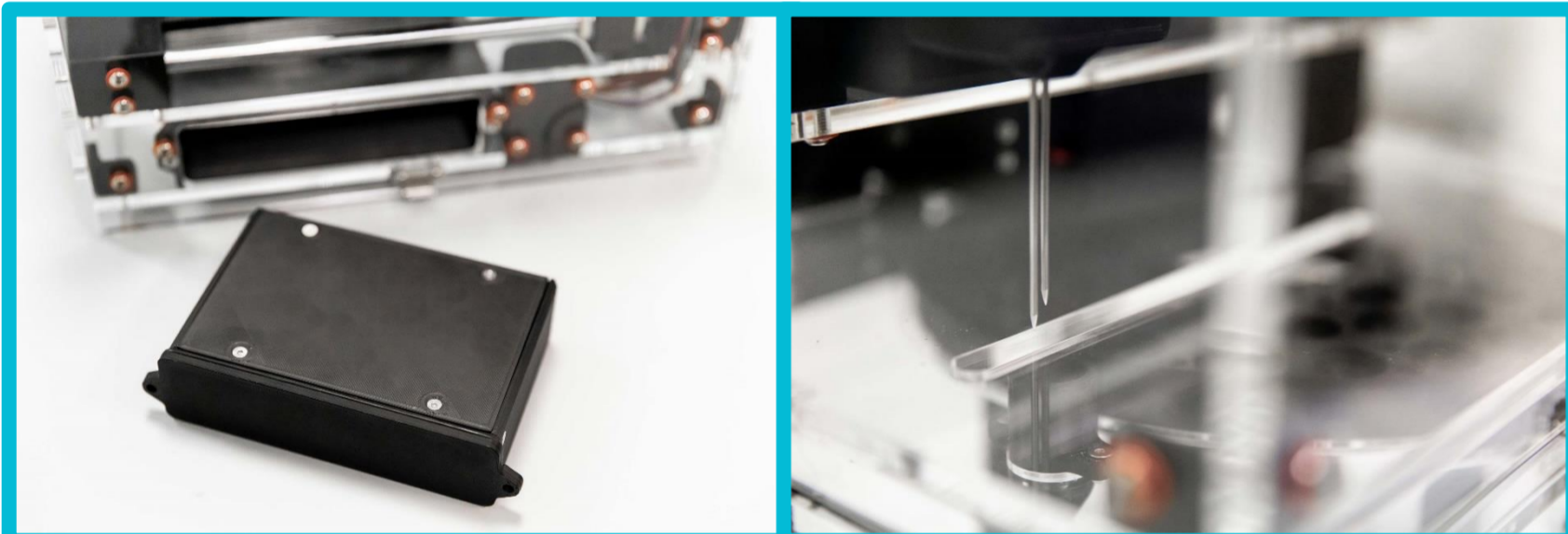
Get in touch!

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Modular design for easy transport and servicing

AA battery pack (left) and injection needles (right)



Features

- 58 discrete, sealed 15 mL sample vials
- Fully adjustable sample & rinse schedules via intuitive browser-based interface, including sensor-based sampling triggers
- Passive (gravity) and active (peristaltic pump) sampling modes
- Anti-coring needles for sample injection and flow stop valve ensure minimal carry-over
- 12+ months continuous operation on AA batteries
- Lightweight, modular design

Your partner in the field and lab

Sample preservation during storage

Experimental exposure of deionised water in Syp vials to fan-forced evaporation suggests **preservation of stable water isotope ratios** by new and used self-sealing rubber stoppers, compared to open vials.

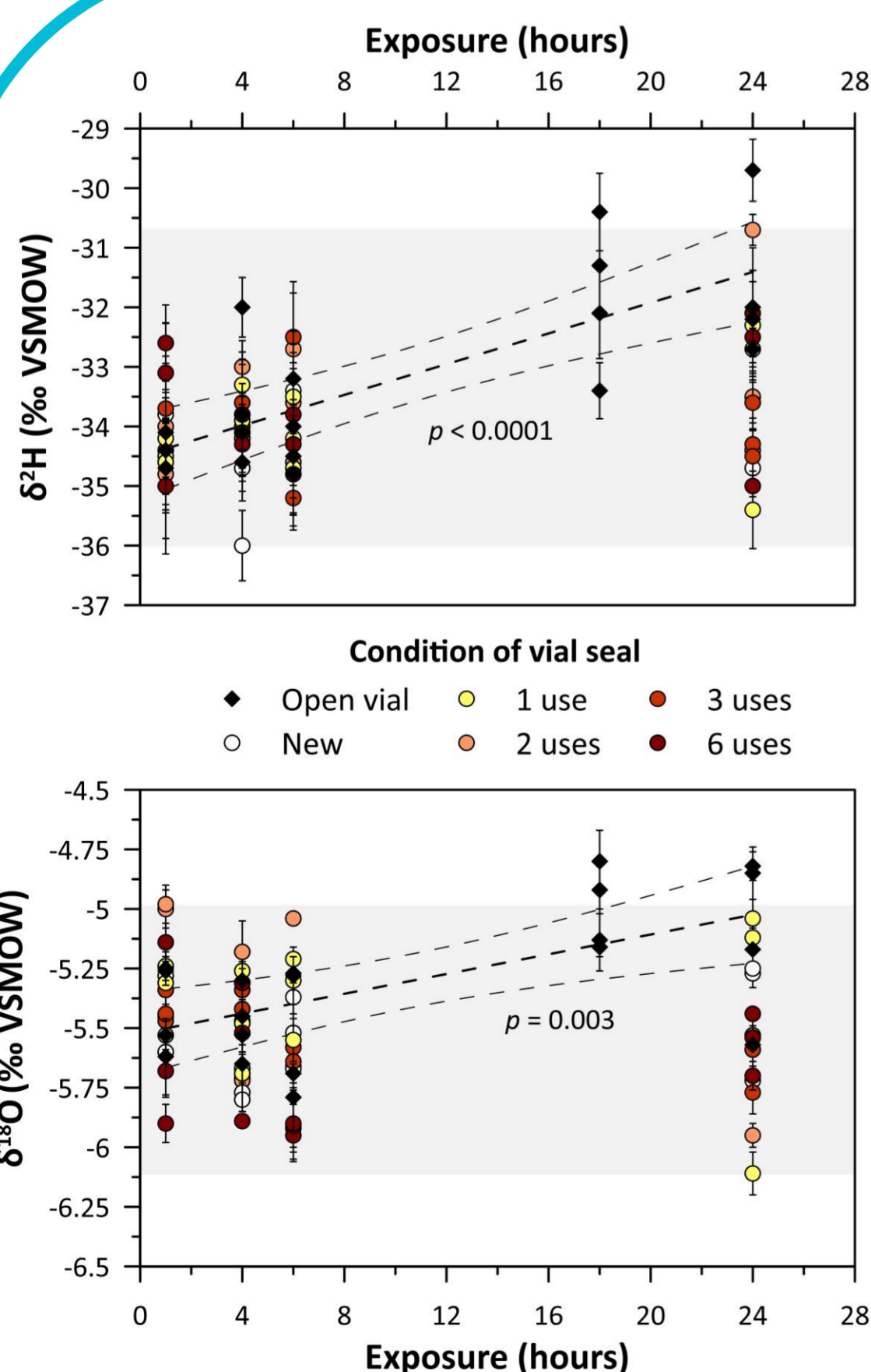


Fig. 1: Stable water isotope ratios (via liquid water isotope analyser, LGR) of deionised water to test for evaporative effects during Syp sample storage. The grey boxes indicate the ranges of values for sealed samples.

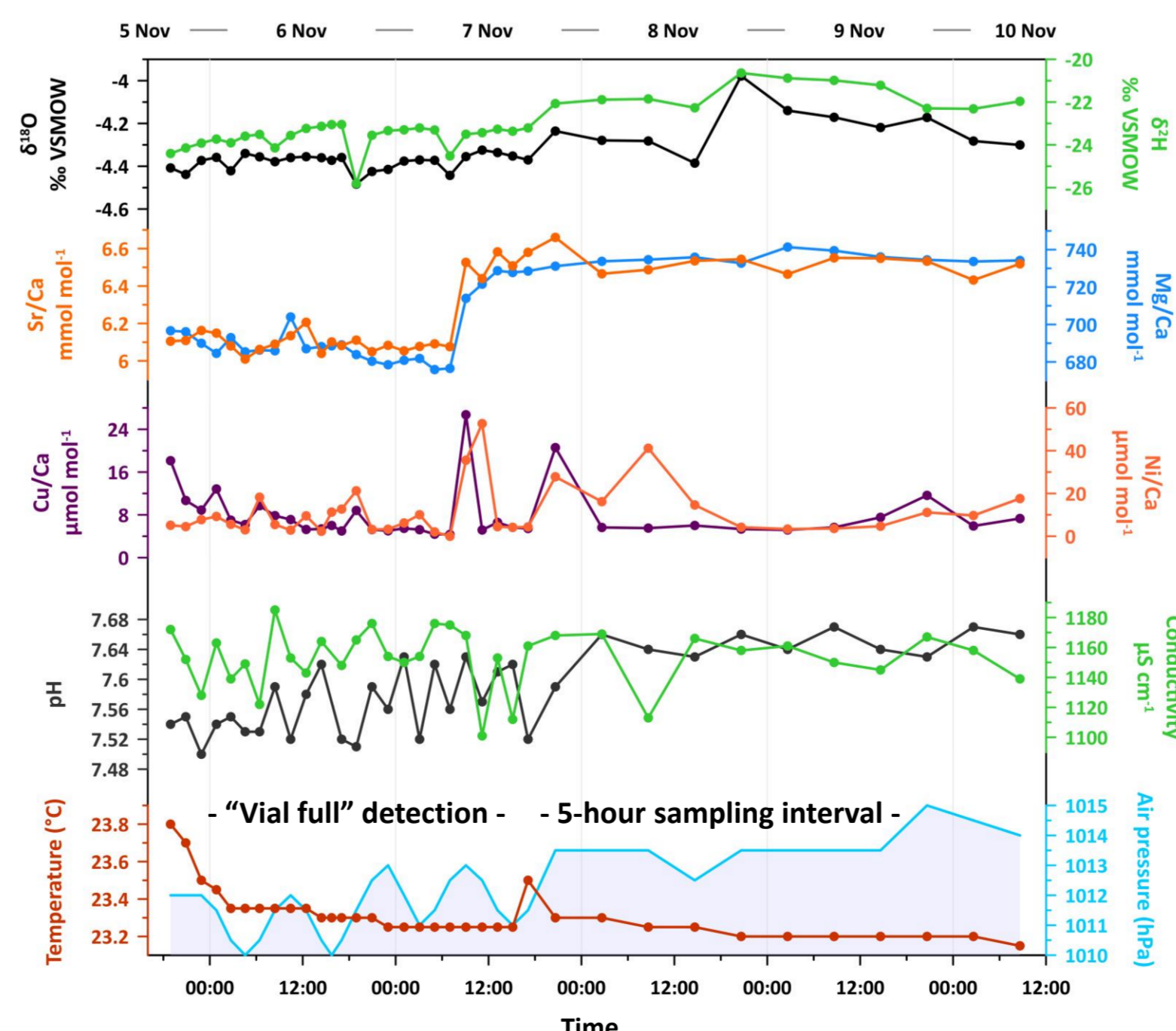


Fig. 2: Example data from a high-resolution sampling sequence over 5 days in Nov 2022 in Anapala Cave, Niue. On Nov 7, heavy local rainfall resulted in distinct chemical changes.



Weekly dripwater samples, Niue

Nov 2022 – Oct 2023



Syp setup for drip collection using a funnel and tubing

Flexible sample resolution

A "vial full" detection mechanism in passive sampling mode (i.e. catching drips as they fall) provides additional information. Alternatively, regular sample intervals can be selected. In active mode, an optional pump automatically fills the vials at pre-defined intervals.



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