Little Dome C

Beyond EPICA Oldest Ice Drilling Site (75.29917 °S, 122.44516 °E)

Situation Report #38, 24th December 2025

Personnel @LDC:
Gianluca Bianchi Fasani (ENEA, Camp Leader), Katrin Ederer (AWI), Matthias Hüther (AWI, Chief Driller), Iben Koldtoft (UCPH), Marion Lahuec (IPEV), Gunther Lawer (AWI), Johannes Lemburg (AWI), Philippe Possenti (CNRS), Barbara Seth (UNIBE, PI in the field), Henrique Traeger (UNIBE), Mohammad Vafadarmianvelayat (AWI), Sergio Zannini (ENEA)

Personnel @DC:
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Weather at LDC: some clouds in the morning, slight wind and cold
Meteo at DC 7:20 am: T = −18.9 °C, Wind speed = 8.7 kt, Windchill T = -28 °C, Humidity = 79%

Yesterday late evening, we finished the run using the Danish mini-logger. Back at the surface, the logger was dismounted from the antitorque. A first test of downloading the expected files was not successful, and we hoped it was only a matter of temperature. Hence, we left the logger in the workshop over night to warm up.

However, in the morning, we realised that the logger did not record any data, and it showed a similar pressure seal failures across both the sensor and the logging pressure tube as on our first attempt four weeks ago. This is really unfortunate, as the logger's bore hole inclination data would have been very useful for understanding, why we were not successful deviating in the hole at around 2350 m depth, and for deciding how and where to proceed with deviating into a new hole.

While waiting for a strategic decision from Europe, we use the time to test, if we can yoyo at another depth in the hole for orienting the drill where we have higher inclination (hence, having the gravitation on our side) and, therefore, where it is more promising to deviate. For this first yoyo run, we attached the broaching tool – while mounting, we realised that the first bearing had a broken cage. However, we used the motor section for yoyoing as we did not intend to use the motor, and the second motor unit has intermittent communication.

We got a small update to our surface control unit from Danmark attempting the usage of pure accelerometer data for the roll orientation which we had to slightly adapt in the field. Using this data for roll estimate seems viable. However, the accelerometer obviously drifts with temperature (observed hanging on the tower all night) making it unreliable at small angles.

For lunch, we welcomed our four guests Milena, Ivan, Olivier, and Joël from Concordia. They arrived with the PB100 and brought a heavy dead weight sent by Kiki (thanks!), which Lemmi welcomed immediately in the workshop! Additionally, they brought of cause welcomed supplies for Christmas and beyond.

By 4 pm, the drill team stopped working and got prepared for the Christmas dinner.

All afternoon, Gianluca, Philippe, Sergio and several helpers were busy preparing the big dinner, our guests were shown around and found their sleeping places, and everybody got dressed up for Christmas.

The LDC team wishes a Merry Christmas and cheerful days to everybody!

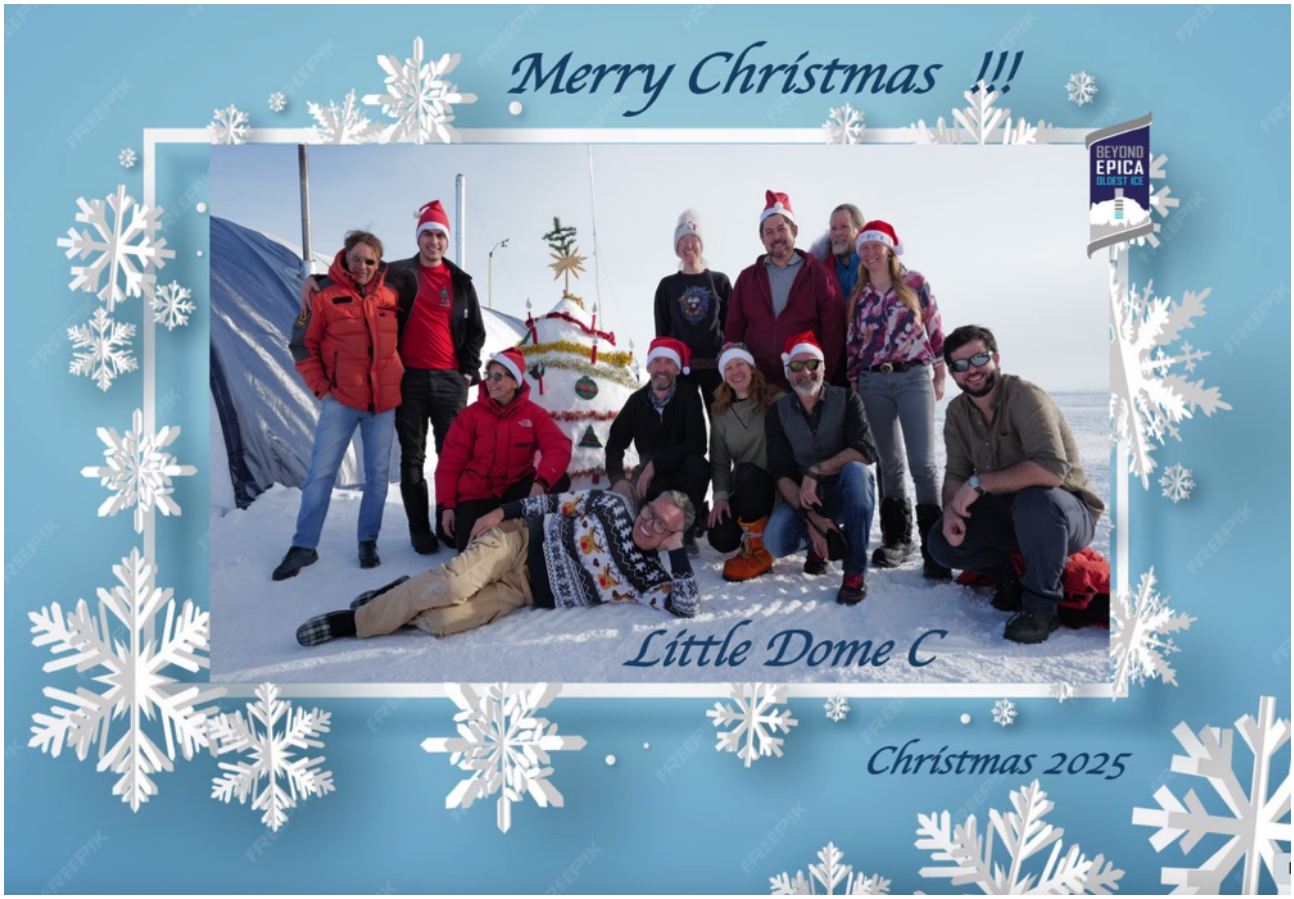
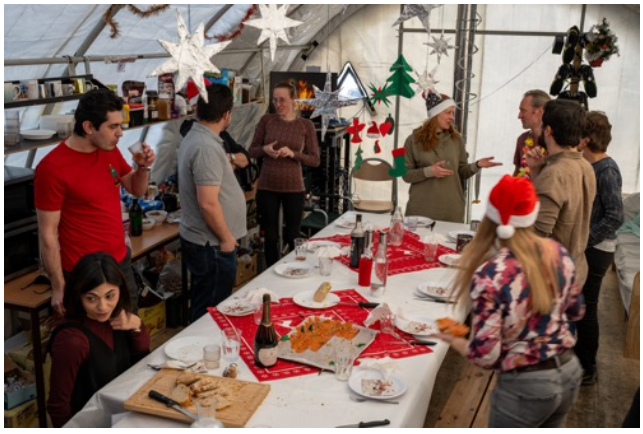
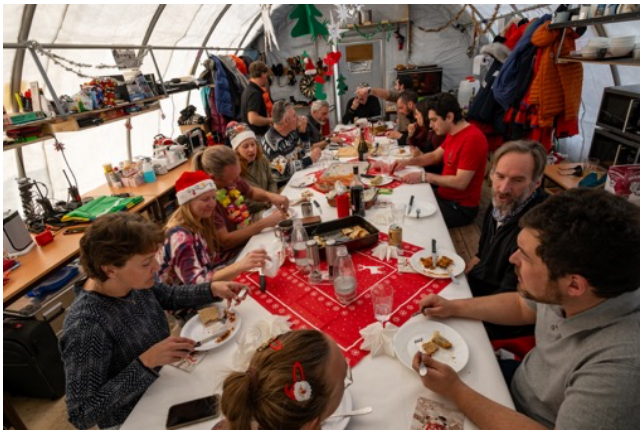
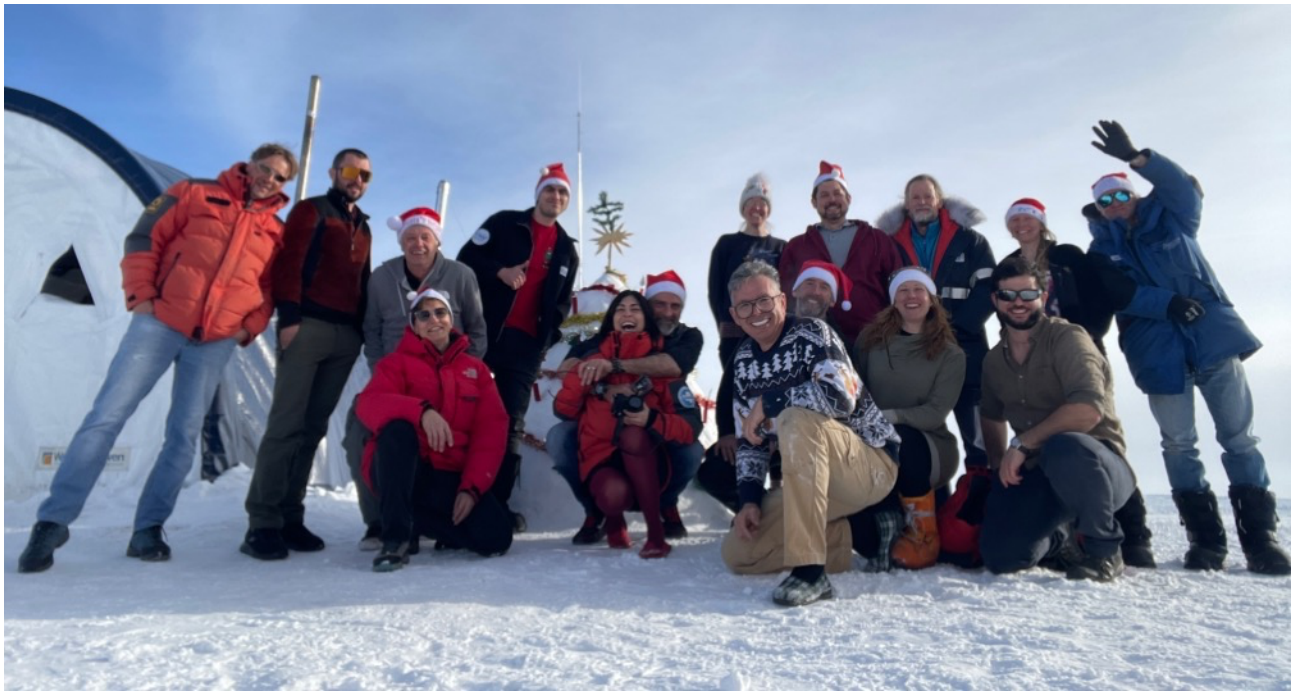


Photo by Milena, designed by Lemmi and Barbara (without using AI).

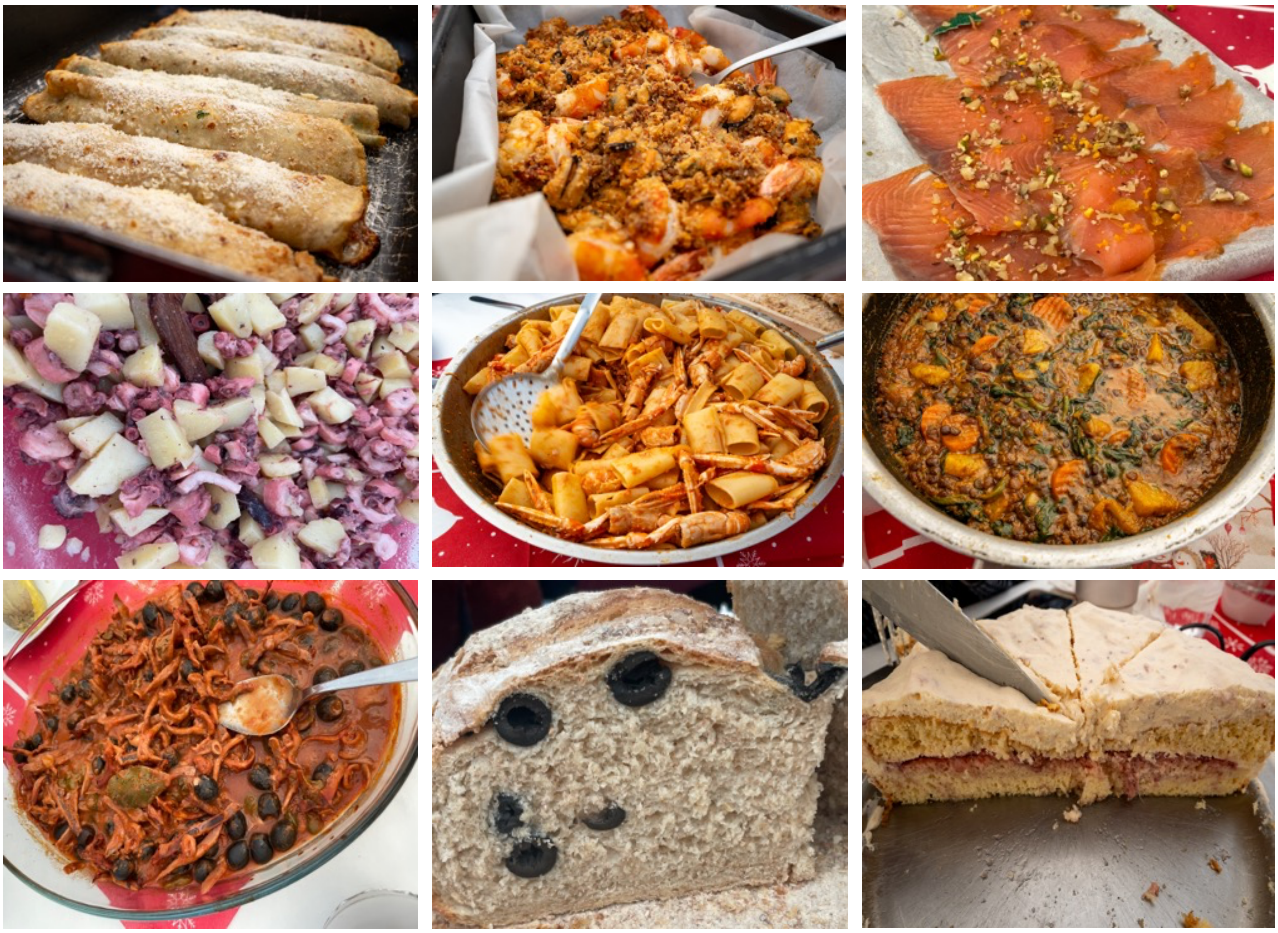




Enjoying the Christmas dinner. Photos by G. Lawer



Standing (l to r): Sergio, Ivan, Joël, Mohammad, Iben, Matthias, Gunther, Marion, Olivier;
front (l to r): Barbara, Milena, Gianluca, Philippe, Lemmi, Katrin, Henrique. Photo by B. Seth



A selection of delicacies prepared by our (various) chefs. Photos by G. Lawer and B. Seth.

CB, GBF, BS & MH; LDC, 24.12.2025