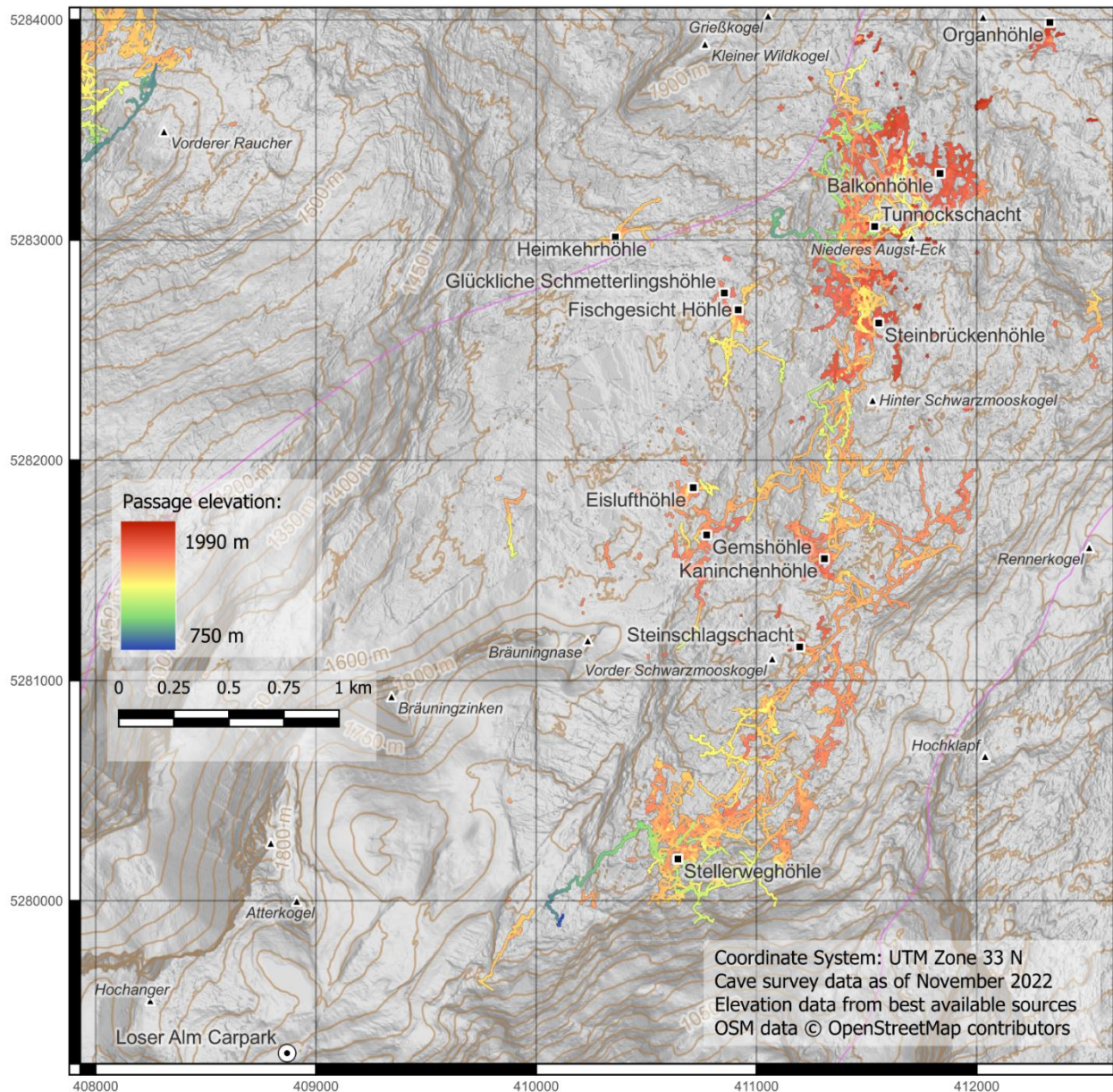


Totes Gebirge 2022 Expedition Report

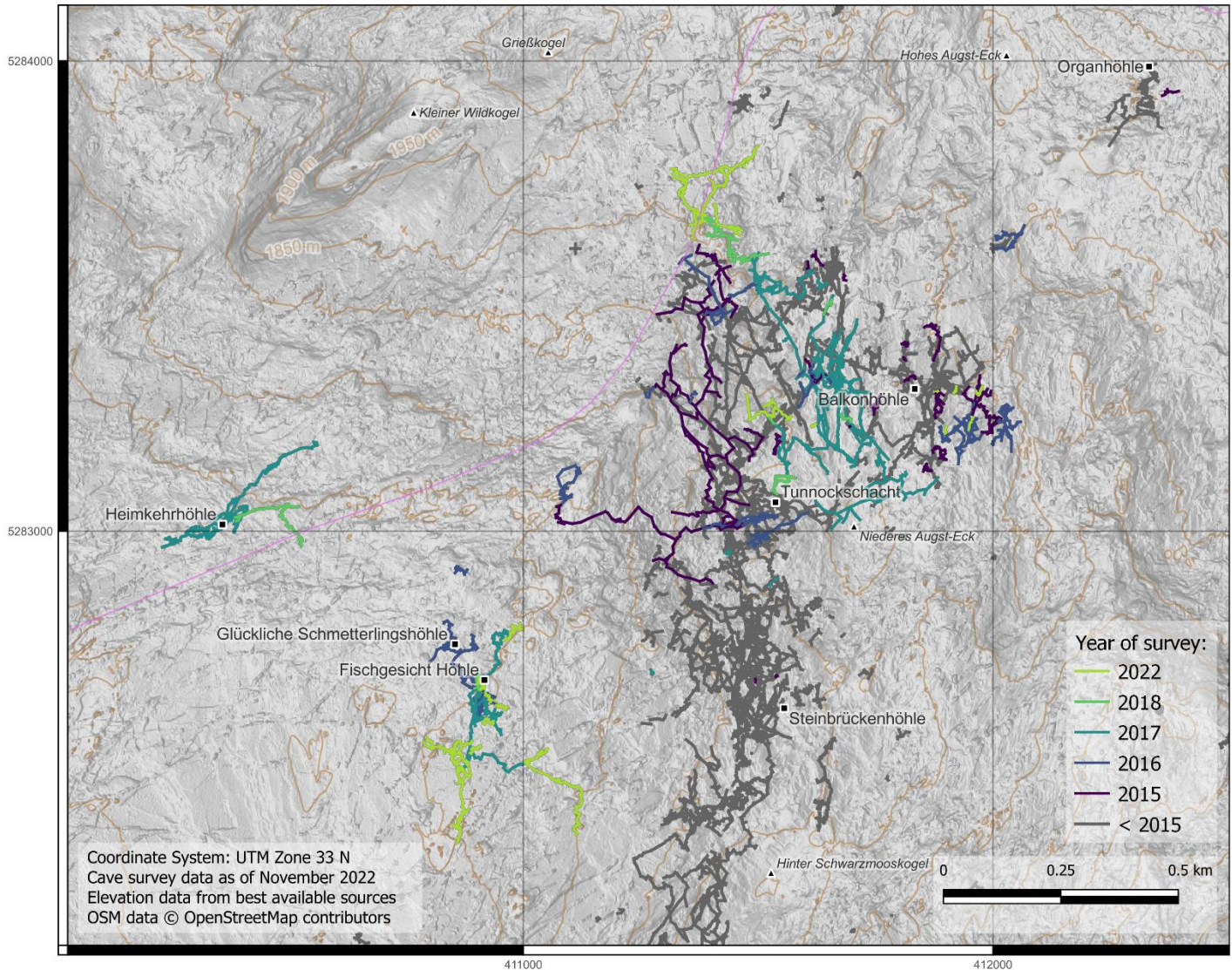
Since 1976, Cambridge University Caving Club has explored and documented caves in the Totes Gebirge mountains, mostly in Kataster area 1623. The expedition enjoys excellent support from local Austrians including the Wilpernig family at the Gasthaus Staund'n'wirt, where we have our base camp, and the Verein für Höhlenkunde in Obersteier, a caving club based in Bad Mitterndorf. We have also formed a friendly partnership with the German Arbeitsgemeinschaft Höhle und Karst Grabenstetten (ARGE), with whom we have shared exploration of the Loser Augst-Eck plateau since 1992. We are exceedingly grateful for the warm welcome that is extended to us year after year!

In the early years of the CUCC expedition, most of the caves that were explored were to the south of the Vorder Schwarzmöskogel, close to the Loser Alm car park, including Stellerweg (1623/41), Eislufthöhle (1623/76) and Gemshöhle



Overview map of the SMK system. Note the Loser Alm carpark to the SW (bottom left) and the Schönberg system to the NW (top left). Between the SMK and Schönberg systems is Heimkehrhöhle straddling two Kataster areas, 1626 and 1623 (boundary shown in pink).

1623/107. Since then, exploration has gradually moved north, along the Schwartzmooskogel (SMK) ridge. We focused for many years on Kaninchenhöhle (1623/161), then moved to Steinbrückenhöhle (1623/204), Tunnockschacht (1623/258), and finally Balkonhöhle (1623/264; discovered by CUCC in both 2002 and 2005 but only explored from 2014). All of these caves (Stellerweg, Kaninchenhöhle, Steinbrückenhöhle, Tunnockschacht and Balkonhöhle) together with many others are now connected into the 137 km long, 1112 m deep SMK system, the 17th longest cave in the world. Connecting the the Schönberg system into the SMK system would create one of the world's deepest, longest caves. Recent prospecting has concentrated on areas to the west and north of the SMK system, with the aim of discovering new entrances to extend SMK towards the Schönberg system. COVID-19 meant that there was no expedition in 2020 or 2021.



Overview map showing date of survey (i.e., date of exploration) of passage at the Northern end of the SMK system and in adjacent caves

Exploration in 2022 was focused on two caves: Balkonhöhle and Fischgesicht Höhle (1623/290). Over 1.5 km of passage was discovered in deep Balkonhöhle, with trips requiring underground camping to reach the >500 m deep pushing front. Meanwhile, Fischgesicht Höhle (discovered in 2017) was connected to Glückliche Schmetterlingshöhle (1623/291), also discovered in 2017. 2.2 km of new passage was surveyed here, which extended the depth of this new system to 412 m (from its previous depth of 250 m). This year was extremely warm and dry, enabling the exploration of several pitch series (in both Balkonhöhle and Fischgesicht Höhle) that are likely to be unpleasant or even inaccessible in normal water conditions. Drought conditions in central-west Europe were made worse by anthropogenic climate change and the expedition took steps to minimise its carbon emissions, and all travel to and from the expedition was carbon offsetted.

Prospecting also led to the discovery of several promising cave entrances which we hope to explore in 2023. Austria, rather than being unnecessarily transported across Europe. This minimised the cost and also carbon emissions of cars travelling back to the UK.

Conclusion

Over five weeks the 2022 expedition discovered and surveyed more than 3.8 km of passage in the Totes Gebirge mountains by a team of 37 cavers. Despite challenges caused by a Europe-wide heat wave, over 10 cavers who had not previously been on expedition learnt how to cave safely in unexplored, alpine caves.

Exploration of passage in Balkonhöhle (below the Tartarus pitch) extended the SMK system northwards, unexplored leads were left and these will be revisited by future expeditions. Large pitches descended or partially dropped this year in Fischgesicht Höhle will likely lead to another horizontal level, present in the broader SMK system, but not yet broken into for this cave. Fischgesicht Höhle is now only ~150 m from connecting into the SMK system (between Apis Medicus and Razordance. It is highly likely that within the next five years, Fischgesicht Höhle will connect into the SMK system.



Top left – Unusual speleothem discovered below the Tartarus pitch. (photo Nat Dalton)

Bottom left – Luke Stangroom bolting in Fischgesicht Höhle (photo Rob Watson)

Right – Fish vertebrae discovered in Balkonhöhle (photo Rob Watson)