



**CUCC Expedition Report to Loser Plateau,
SMK (Schwarzmooskogel-höhlensystem)**

1976 – 2024

Introduction

This report delineates the findings and insights garnered from the 2024 CUCC Loser Plateau Expedition, an endeavor made possible through the generous support of the European Speleological Federation Foundation and other contributors. Following the expedition, a dedicated team undertook the rigorous tasks of data compilation, analysis of findings, and management of post-expedition activities, while simultaneously laying the groundwork for planning in 2025.

The expedition attracted a diverse cohort of participants, ranging from novice cavers to seasoned veterans with extensive experience on the CUCC expedition and other caving expeditions worldwide. This diversity cultivates an environment rich in collaboration, innovation, and shared expertise, thereby significantly enhancing the overall impact of our collective efforts. The camaraderie fostered at our camps further enriches the experience, highlighting the vital importance of teamwork and community in our pursuits.

Despite the inherent challenges posed by the rugged and often unforgiving terrain of the plateau, the accomplishments of this year's expedition team are commendable. Our efforts to access an expanding list of prospective caves—now extending further northeast—have rigorously tested our endurance and determination. Notable technological advancements and enhancements to our infrastructure have established a solid foundation for future explorations. As we prepare to pass the Carbide to future generations of CUCC explorers, we are inspired by the conviction that each descent possesses the potential for extraordinary discoveries waiting to be unveiled.

Esto dracones (Here Be Dragons)

— Jonathan Lester, Expedition Leader 2024 —

Sponsorship

The success of this expedition would not have been possible without the generous support of our sponsors. Their contributions have been instrumental in helping us achieve our exploration and research objectives. We are especially grateful to the organisations that have supported the CUCC expedition over the years, enabling us to train the next generation of cavers and continue pushing the boundaries of discovery.

A heartfelt thank you goes to **The European Speleological Federation**, **Kordas** and **The Ghar Parau Foundation**, whose enduring support has allowed us to sustain and advance our expedition goals. Your sponsorship is essential to the continued success and progress of CUCC's exploration efforts, and we deeply appreciate your commitment to our mission.



Brief History & Overview

The Cambridge University Cave Club (CUCC) expeditions to Austria began in 1976, when a small, informal group of CUCC graduates ventured into the region for cave exploration. What started as a casual adventure quickly grew into a significant annual event. By 1978, the expeditions were primarily organised by CUCC undergraduates, though experienced speleologists also joined, contributing their expertise to these ambitious undertakings.

Initially, the group camped near Altaussee in the Austrian Alps. However, since 1983, their base of operations has been at Gasthof Staud'n'Wirt, located on the Grundlsee road from Bad Aussee. A small former ice hurling hut dubbed "The Tatty Hut" has since become a central hub for the expeditions, offering a space for the cavers to prepare and regroup after long days underground and up on the plateau.

Each year (with the exception of 1986 and the years disrupted by the COVID-19 pandemic), the CUCC team has focused on exploring and mapping the vast karst systems of the SMK (Schwarzmooskogel-höhlensystem) under the Loser plateau. This area offers a challenging and rewarding environment, where the cavers continuously push the boundaries of exploration, this has also been aided by a longstanding and productive relationship with the Verein für Höhlenkunde in Obersteier (VHO), the Austrian Caving Club based in Bad Mitterndorf.

The results of these expeditions have significantly contributed to CUCC's journal, *Cambridge Underground*, and the ExCS (Alumni) journal. Additionally, findings have been published in the *British Cave Association's Speleology magazine*, *Descent*, *VHO Journals* and other relevant speleological journals. An online archive of expedition reports, maps, photographs, and logbooks provides the public with a comprehensive resource on the group's discoveries.

Logbooks, detailing the daily activities and discoveries of each expedition, have been transcribed and uploaded online. These entries, varying in formality, offer a personal glimpse into the cavers' experiences and the challenges they face on the expo capturing both the technical aspects of exploration and some other none caving related activities that take place each year on the expo.



The 2024 CUCC Loser Plateau Expedition

The 2024 CUCC Loser Plateau expedition brought together 39 cavers to continue the ambitious goal of expanding the Schwarzmooskogel-Höhlensystem (SMK) and working towards a potential connection with the Schönberg Höhlensystem, which could ultimately create one of the largest cave systems in the world.

This year's efforts were concentrated on two primary cave systems: Homecoming (Heimkommenhöhle) and Balcony (Balkonhöhle). Both caves presented significant opportunities, as well as challenges. Homecoming, located on the western edge of the plateau, remains a promising lead in the effort to connect the SMK to Schönberg. Balcony, while already an extensive system, presented the team with technical challenges, particularly in navigating the 140-meter deep Mongol Rally chamber.

Despite these difficulties, the 2024 expedition made remarkable progress. The Homecoming Cave was extended from 3,442 meters to 4,653 meters in length and increased in depth from 373 meters to 450 meters. The Balcony Cave, already substantial in size, expanded from 18,265 meters to 19,277 meters in length, while maintaining its depth of 581 meters. Deep within Balcony, the team discovered a large, previously unknown chamber, along with intriguing hydrological shifts in the cave's geology. Furthermore, speleothem formations—rare for the region—were found in several sections, adding scientific interest to the expedition's findings.

These breakthroughs were facilitated by improvements in logistics and infrastructure. A new tarp and rigging system helped enhance conditions at the main camp, while the secondary camp's capacity was doubled, allowing the team to carry out deeper explorations with greater ease. At its peak, the expedition operated for the first time two surface camps and two underground camps, ensuring that exploration could continue efficiently.

Technological advancements also played a crucial role in this year's expedition's success. Real-time communication and tracking systems allowed for instant text and location updates across the plateau, which greatly improved both safety and coordination. These systems were especially vital in scouting new shafts and cave entrances, setting the stage for future exploration efforts.

The 2024 CUCC expedition marks a significant chapter in the ongoing exploration of the Loser Plateau. The progress made in both Homecoming and Balcony caves, combined with the logistical upgrades and technological innovations, has paved the way for even more exciting discoveries in the coming years.



Goals and Objectives

The objectives guiding the 2024 CUCC Loser Plateau Expedition were ambitious and strategically aligned with nearly five decades of sustained exploration in the region. The primary goal was to extend and document the Schwarzmooskogel-Höhlensystem (SMK), with a specific focus on exploring its potential connection to the neighboring Schönberg Höhlensystem. Establishing this connection would create one of the world's largest known cave systems, marking a significant achievement in speleological research.

Key goals and objectives of the 2024 expedition include:

Expansion of the Schwarzmooskogel-Höhlensystem: The primary objective was to extend the Homecoming and Balcony systems, which are central to CUCC's strategy for linking the Schönberg-Höhlensystem to the Schwarzmooskogel network. The expedition aims to increase the surveyed length of these caves, following promising leads that could bridge the gap between the two systems, with what was hoped a connection between Homecoming and Fishface, however this never came to fruition, despite being only 22 meters off based on survey data.

Survey and Documentation: CUCC is committed to maintaining rigorous standards in cave documentation. Detailed surveying is a key objective, utilising advanced tools such as Survex and TunnelX to produce precise maps. The goal is not only to extend the cave system but also to generate highly accurate records for dissemination within the global speleological community.

Surface Prospecting for New Cave Entrances: Historically, surface prospecting has led to significant discoveries in the Loser Plateau region. Expedition members continue this tradition by actively searching for new cave entrances, particularly in the western areas, where unexplored shafts may provide direct connections to the Schönberg Höhlensystem, further exploration to the west utilising LiDAR data has proven hopeful for new shallower leads in 2025.

Advancement of Speleological Science: Recent CUCC expeditions have increasingly integrated scientific research into their explorations. The 2024 expedition includes objectives centered on geological, hydrological and speleothem studies and that of new communication systems that we trialed this year to great success. With the discovery of rare formations in the region, the group is committed to enhancing the scientific understanding of the cave systems through careful study and documentation.

Ensuring Safe and Sustainable Exploration: was key objective is to continue improving expedition infrastructure and safety protocols. Over its decades of exploration, CUCC has established a reputation for safe and sustainable practices in challenging environments. The 2024 expedition implemented a number of new safety technologies, including real-time tracking and communication systems, to mitigate the risks inherent in deep cave exploration that we trialed this year to great success, along with updates to the 'Stone Bridge' camp tarp and an expansion to 'Garlic camp'. With further work

List of Participants

This years expedition saw 8 different nationalities join us, from **British**, **German**, **Norwegian**, **Latvian**, **Polish**, **Canadian** and **American**.

Adam Erskine-Jones

Aidan Kuhlmann

Aila Taylor

Alex Faunce

Anthony Day

Becka Lawson

Charlotte Payne

Christian Kuhlmann

Christopher Holt

Colin Foord

Dickon Morris

Ellie Davies

Fiona Zhang

Harry Kettle

Isaac Neale

Janis Huns

Jacob Chuck

James McAllister

James Waite

Jono Lester

Julia Day

Lara Bartleet

Liam Tracy

Lucy Hyde

Marie Donovan

Mark Shinwell

Nat Dalton

Philip Balister

Rob Watson

Rosa Brew

Ruairidh MacLeod

Sam Tittensor

Sarah Parker

Sieds Lykles

Thomas Phillips

Todd Rye

Wassil Janssen

Wookey

Financial report I

Major Expense Categories:

Base Camp Consumables:

- Includes items like food supplies, herbs, and miscellaneous groceries.
- Total: **Approximately £949.21**

Caving Consumables:

- Includes survey paper, gas, bin bags, etc.
- Total: **Approximately £744.52**

Initial Food Orders:

- Includes bulk purchases such as noodles, spices, and milk powder.
- Total: **Approximately £1,135.54**

Caving Gear:

- Includes karabiners, maillons, and drills.
- Total: **Approximately £2,803.33**
 - Subcategories:
 - Karabiners, Maillons, etc.: **£2,102.16**
 - Drills and Batteries: **£671.37**

Miscellaneous Caving Expenses:

- Includes permits, first aid supplies, and smaller items.
- Total: **Approximately £127.82**

Non-Caving Gear:

- Includes items like the top camp tarpaulin.
- Total: **Approximately £145.03**

Net Totals:

- **Deposits & Grants: £5,045.56** (positive contribution).
- **Tied Transactions (Net): -£3,184.76** (adjustments or refunds).

Transfers (2023 Credit/Debit): +£429.71.

Final Total:

After accounting for all transactions, including deposits and adjustments

Net Total: £217.15

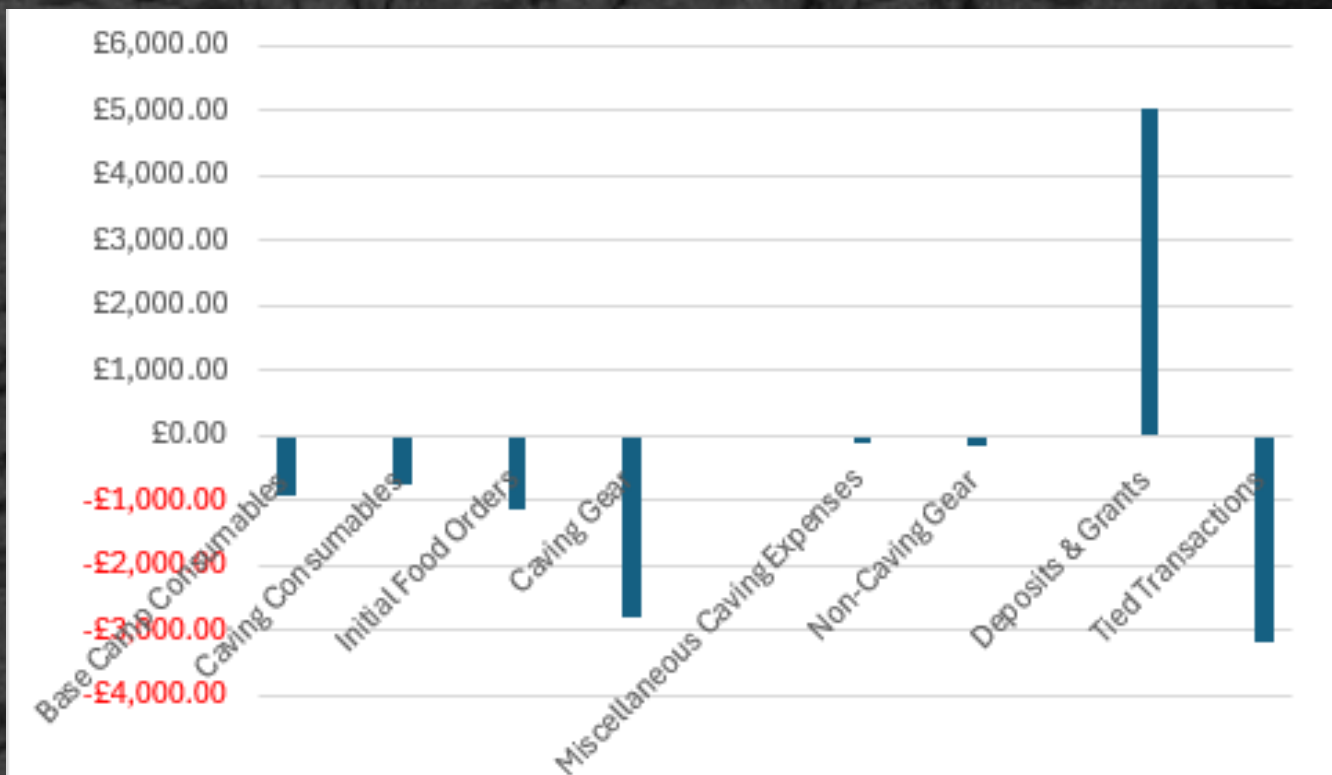
Financial report II

Table 1: Expenses

| Category | Amount (£) |
|-------------------------------|-----------------|
| Base Camp Consumables | 949.21 |
| Caving Consumables | 744.52 |
| Initial Food Orders | 1,135.54 |
| Caving Gear | 2,803.33 |
| Miscellaneous Caving Expenses | 127.82 |
| Non-Caving Gear | 145.03 |
| Total Expenses | 5,905.45 |

Table 2: Contributions and Adjustments

| Category | Amount (£) |
|-------------------------------|---------------|
| Deposits & Grants | 5,045.56 |
| Tied Transactions (Net) | -3,184.76 |
| Transfers (2023 Credit/Debit) | 429.71 |
| Final Total | 217.15 |



Expedition

1. Basecamp and Initial Setup

The team arrived and faced immediate setup challenges. Despite having secured keys, the camp setup at Gasthof revealed that their designated fridge was occupied by others' supplies, limiting cold storage. Additionally, our cooking tent was missing its door, leading the team to improvise by rigging a tarp for coverage. Safety became a concern when a gas hose detached from the burner, causing a large flame plume; this incident was managed without injury, and warranted the purchasing of newer kitchen equipment.

Essential supplies came with the arrival of more teams, including critical food supplies, including large quantities of milk powder and mashed potato (SMASH), being delivered. This bulk of essentials allowed the team to establish a self-sufficient base in our isolated locations, ensuring that they could remain operational in the field.

2. Fishface - Rope Retrieval and Exploration

The Fishface mission focused on retrieving ropes that had been purposefully left there in 2023 as we were unsure if this cave would form a key objective for 2024 at the time. This undertaking involved a team equipped with multiple bags of heavy rope, metalwork, and caving kits. The goal was to reach the rope cache located at the bottom of the fourth pitch.

Challenges in Navigation and Rigging: Upon arriving, they found minimal snow but struggled with unmarked bolts, missing reflectors, and icy conditions. Charlotte's attempt to rig the icy tube pitch was initially unsuccessful due to a misinterpretation of older topography, requiring a period of recalibration and backtracking to locate the correct bolts. Despite these setbacks, the team persevered, often resorting to unconventional techniques like adapting spare gear to secure themselves.

The expedition became a bonding experience, with team members huddling together in a group shelter, singing and sharing snacks to stay warm. They even wrote a new verse to their caving song "Hard Caver," commemorating the trials of navigating Fishface. The descent and retrieval were ultimately successful, with each member prusiking out large bags of retrieved rope.

As they exited, the team was greeted by the clear night sky, under which they walked back, encouraged by a beautiful view of the Milky Way.

Expedition II

3. Garlic Cave (Camp Establishment and Operations)

The Garlic Cave Camp was established due to its proximity (just under a two-hour walk) to the main cave exploration sites, particularly Homecoming. The team assembled a comprehensive camp setup with a reliable water collection system, solar panels, and a durable tarp shelter. The water collection was tailored to withstand environmental factors, and adjustments were made to ensure ease of use in future expeditions.

During stormy weather, team members at Garlic improvised by using bivy bags as blankets and engaged in a book-reading session to pass the time. This downtime highlighted the camp's role as a sanctuary, providing a temporary escape from the physically and mentally demanding caving operations.

Garlic Camp served as the main launch point for exploration of Homecoming Cave and other nearby sites. Its infrastructure allowed team members to rest and reconfigure their equipment as needed before and after long expeditions, becoming an indispensable asset to the team's strategy, being a camp that has been growing in strength year on year since it was set up in 2023.

Expedition III

4. Homecoming Cave Exploration Overview

The exploration of Homecoming Cave (1626/359) involved extensive rigging activities aimed at ensuring safe navigation through its complex networks. Initial efforts focused on clearing rerigging routes from previous expeditions, a task that required considerable time and dedication. By untangling and reorganising these ropes, the team emphasised the importance of thorough de-rigging for long-term cave maintenance, thereby preventing similar obstacles in future explorations.

During the expedition, the Second Coming Passage presented additional challenges. Team members detected significant airflow, indicating a possible connection to deeper cave systems. However, the tight rift and absence of necessary nuts for bolts complicated safe rigging. Prioritising safety, the team opted to mark the area for future exploration rather than risking an incomplete rig.

Environmental factors also posed challenges; heavy rainfall outside led to unexpected water surges within the cave, resulting in flooding that halted progress. This situation underscored the necessity of continuous environmental monitoring in dynamic cave systems, prompting the team to reassess their routes accordingly.

One of the overarching objectives of the 2024 Expo was to enhance safety and accessibility in both Homecoming Cave and Balkonhöhle. Each team focused on securing traverses, establishing new anchor points, and improving rope management to streamline future explorations. Wet conditions and limited visibility influenced planning, necessitating adaptive strategies for both rigging and navigation.

The exploration methodology incorporated various rigging techniques to enhance safety and efficiency. Through-bolting and traverse rope installations were utilised to secure hazardous sections, while reflectors were added along paths to improve visibility in low-light conditions. Each rigging trip included real-time assessments, allowing team members to make on-site adjustments based on the geological and environmental characteristics encountered.

A significant focus was placed on rope management protocols. Teams systematically reorganised rope caches within both cave systems, coiling and storing tangled and poorly managed ropes from previous expeditions. This careful reorganisation allowed for faster deployment and reduced the risk of equipment damage. Ropes were categorized by length and strength, streamlining access for designated routes.

In addition, surface surveys were conducted near key cave entrances, with GPS coordinates recorded and detailed photographs taken. This data provided essential context for linking surface features to known passages in both Homecoming and Balkonhöhle, facilitating future mapping and exploration efforts.

In Homecoming, initial expeditions focused on rope retrieval and reorganisation. Teams retrieved abandoned ropes from Fishface, which posed logistical challenges that necessitated a systematic rigging approach. Safety measures were adapted to navigate challenging passages, and ropes retrieved from the 4th pitch significantly augmented resources for future routes.

Subsequent expeditions prioritised the untangling and storing of rope caches at the entrance to Homecoming Cave. Ropes were carefully untangled, coiled, and secured to prevent further disarray, greatly improving equipment access and establishing new protocols for efficient rope storage.

An emergency bivouac was unplanned due to a series of illnesses among the team, highlighting the need for enhanced emergency preparedness and effective communication at base camp. Future expeditions would benefit from dedicated emergency kits and more structured response plans for adverse conditions, something we have started to put in place using 'Meshtastic'.

In the Second Coming Passage, rigging advancements were made by extending rigging efforts with the addition of new bolts and anchor points along traverses and pitches. Real-time assessments determined the optimal locations for safety equipment, significantly improving the stability and reliability of this critical route.

Expedition IV

5. Balkonhöhle (264) - Rigging and Technical Challenges

Balkonhöhle served as a critical training ground for rigging under the guidance of experienced team members. Early efforts focused on establishing secure rigging from the Balcony entrance series toward the Mongol Rally. Reflectors were strategically placed along the paths to enhance navigability, while proactive measures were taken to secure rigging sections against forecasted storms. This foundational work not only reinforced the rigging skills of team members but also allowed new members to learn essential techniques for securing anchor points and navigating complex passages.

During the exploration of the Honeycomb and Hangman's sections, the team faced significant rigging challenges. They encountered a flood pulse that necessitated a temporary retreat, and illness related issues further complicated the situation, as he was required to wait in the upper passages, limiting the resources available for descent. Despite these setbacks, the team successfully continued the exploration of the Mongol Rally and Honeycomb pitches once conditions improved, enhancing the rigging setup by adding new bolts to strengthen anchor points.

As the exploration season approached its conclusion, the team focused on a long-term derigging strategy. They returned to dismantle specific rigged sections while ensuring that key areas remained accessible for future expeditions. This process underscored the logistical complexity involved in managing cave systems and highlighted the team's commitment to safety and long-term planning by preserving essential points for future access.

Expedition V

- Additional Noteworthy

6. Surface Survey and Mapping of Nearby Entrances

In conjunction with rigging efforts, surface surveys were conducted along the plateau near Griesskogel. This involved recording GPS coordinates and photographing entrances, which contributed valuable data to enhance the understanding of how Balkonhöhle's deep sections align with surface formations. The insights gained from these surveys will inform future integration of surface and subsurface routes, improving overall navigation and exploration efficiency.

7. Entrance Hunting and Surveying of Unexplored Passages

The team set out to discover and document new potential entrances, particularly those that could connect to existing systems like Balkonhöhle. Equipped with cameras and GPS, they photographed various entrances to create a clearer map of the plateau. Their records included the precise locations of entrances identified in the past but lacking full documentation.

The alignment of certain entrances with deep sections of Balkonhöhle suggested possible extensions of the cave. Specific surface features, such as a chossy gully near the entrance to 1623/261, supported this theory. The inaccuracy of a surface compass and GPS at the time meant the exact alignment could not be confirmed, but the team made note of these details for future geological studies, and a revisit in 2025 with more precise surveying gear.

During their explorations, they discovered a rusty WWII-era fuel tank, thought to be a reserve fuel tank from a downed aircraft. This unexpected find added a historical layer to the exploration, underscoring the plateau's complex history beyond its geological and speleological features.

Expedition VI

Additional Noteworthy Expeditions and Challenges

Garlic to Homecoming Route Adjustments: Due to the physical toll on cavers, the route between Garlic and Homecoming was frequently modified. Heavy loads and narrow passages in Homecoming's entrance meant that teams often took additional breaks or rerouted through the plateau's less challenging areas.

Use of New Technology: CUCC introduced three new 12v battery powered hammer drills, Meshtastic radio nodes and solar systems at Garlic Camp. These radios enhanced communication across the plateau, reducing the need for team members to leave camp unnecessarily. Technical trials of the solar systems and radios demonstrated their potential to improve safety and logistical efficiency, although further adjustments were needed to maximise functionality.

Improvised Strategies and Team Bonding: The taxing conditions fostered camaraderie and resilience. For example, team members shared moments like inventing verses to "Hard Caver" and assisting each other through stormy conditions. The challenging experiences bonded the group. With further inventive problem-solving, and the creation of makeshift songs during difficult rigging and camping trips.



Expedition Conclusion I

The 2024 CUCC Loser Plateau Expedition has marked a significant milestone in the ongoing exploration and study of the Schwarzmooskogel-Höhlensystem (SMK), further demonstrating the enduring commitment of the Cambridge University Caving Club (CUCC) to advancing speleological knowledge. This year's expedition successfully brought together a diverse team of 39 cavers, ranging from novices to seasoned cavers, fostering a rich environment of collaboration and innovation. The expedition's achievements can be encapsulated in several key areas: substantial cave extensions, advancements in technological and logistical support, integration of scientific research, and ongoing commitment to safety and sustainability.

Expansion of Cave Systems

A primary achievement of the expedition was the notable expansion of two critical cave systems: Homecoming (Heimkommenhöhle) and Balcony (Balkonhöhle). The Homecoming Cave was extended from 3,442 meters to 4,653 meters in length and increased in depth from 373 meters to 450 meters, reinforcing its significance as a promising lead toward a potential connection with the Schönberg Höhlensystem. The Balcony Cave also saw considerable growth, expanding from 18,265 meters to 19,277 meters while maintaining its depth of 581 meters. The discovery of a previously unknown chamber within the Balcony system, alongside unique hydrological shifts which is suggesting the cave feeds two separate resurgences and rare speleothem formations, adds a vital layer of scientific interest to our findings. Additionally, rare speleothem formations, a bat bone grave yard and fungus were identified, adding scientific significance to our findings. Further to this a special thankyou needs to go to Kordas for providing us with rope. The rope formed a key part in the exploration Homecoming.

Technological and Logistical Innovations

The 2024 expedition benefited immensely from enhancements in logistics and infrastructure. The introduction of a new tarp and rigging system at the main camp improved working conditions, while the doubling of capacity at the secondary camp facilitated deeper explorations with greater ease. The implementation of advanced communication and tracking technologies enabled real-time updates across the plateau, significantly enhancing both safety and operational efficiency. These innovations not only supported current exploration efforts but also laid a robust foundation for future expeditions.

Integration of Scientific Research

This year's expedition also underscored CUCC's commitment to integrating scientific research into cave exploration. The expedition team engaged in geological, hydrological, and speleothem studies, contributing to a more nuanced understanding of the cave environments. The identification of rare formations and the study of hydrological shifts within the caves offer exciting opportunities for further scientific inquiry and publication, reflecting CUCC's dedication to advancing speleological science.

Expedition Conclusion II

Commitment to Safety and Sustainability

Safety and sustainability have been at the forefront of CUCC's operational practices for decades, and the 2024 expedition continued this tradition. The adoption of real-time tracking and communication systems has enhanced safety protocols, ensuring that all expedition members can explore with reduced risks. Additionally, the focus on sustainable practices in challenging environments reinforces CUCC's reputation as a responsible organisation committed to preserving the integrity of the caves we explore. These practices are essential because caves are fragile ecosystems that can take centuries to form and are highly sensitive to human impact. Our efforts include the careful documentation and protection of speleothem formations and other natural features within our caves, ensuring they remain undisturbed and free from damage. Speleothems, such as stalactites and stalagmites, are delicate and grow at an extremely slow rate, making even minor disturbances potentially irreversible, on top of the fact the region sees very little in the way of speleothem formations compared to other cave regions. By preserving these formations, we help maintain the delicate balance of the cave environment.

In addition to protecting physical features, we prioritise the removal of waste from cave regions, striving to leave minimal environmental impact. Cave ecosystems are often isolated and lack the natural processes to break down or remove waste, meaning litter or pollutants can persist for long periods and harm both the environment and any cave-dwelling organisms.

To further promote sustainability, we encourage carpooling, the use of public transport, and the adoption of a vegetarian diet during expeditions, all of which contribute to reducing our overall carbon footprint. Minimising transportation-related emissions and resource consumption helps mitigate the broader environmental effects that can indirectly impact the caves and surrounding areas.

By implementing these practices, CUCC not only protects the caves we explore but also sets an example for others in the caving community, ensuring that future generations can continue to study and enjoy these extraordinary, yet vulnerable, environments.

Future Prospects

Looking ahead, the potential for future discoveries remains promising. The ongoing efforts to establish a connection between the Schwarzmooskogel and Schönberg Höhlensystems could lead to the creation of one of the largest cave systems globally, marking a monumental achievement in speleology. The collaborative spirit fostered among expedition members and the continued support from organizations like the Ghar Parau Foundation will be crucial in realising these future objectives.

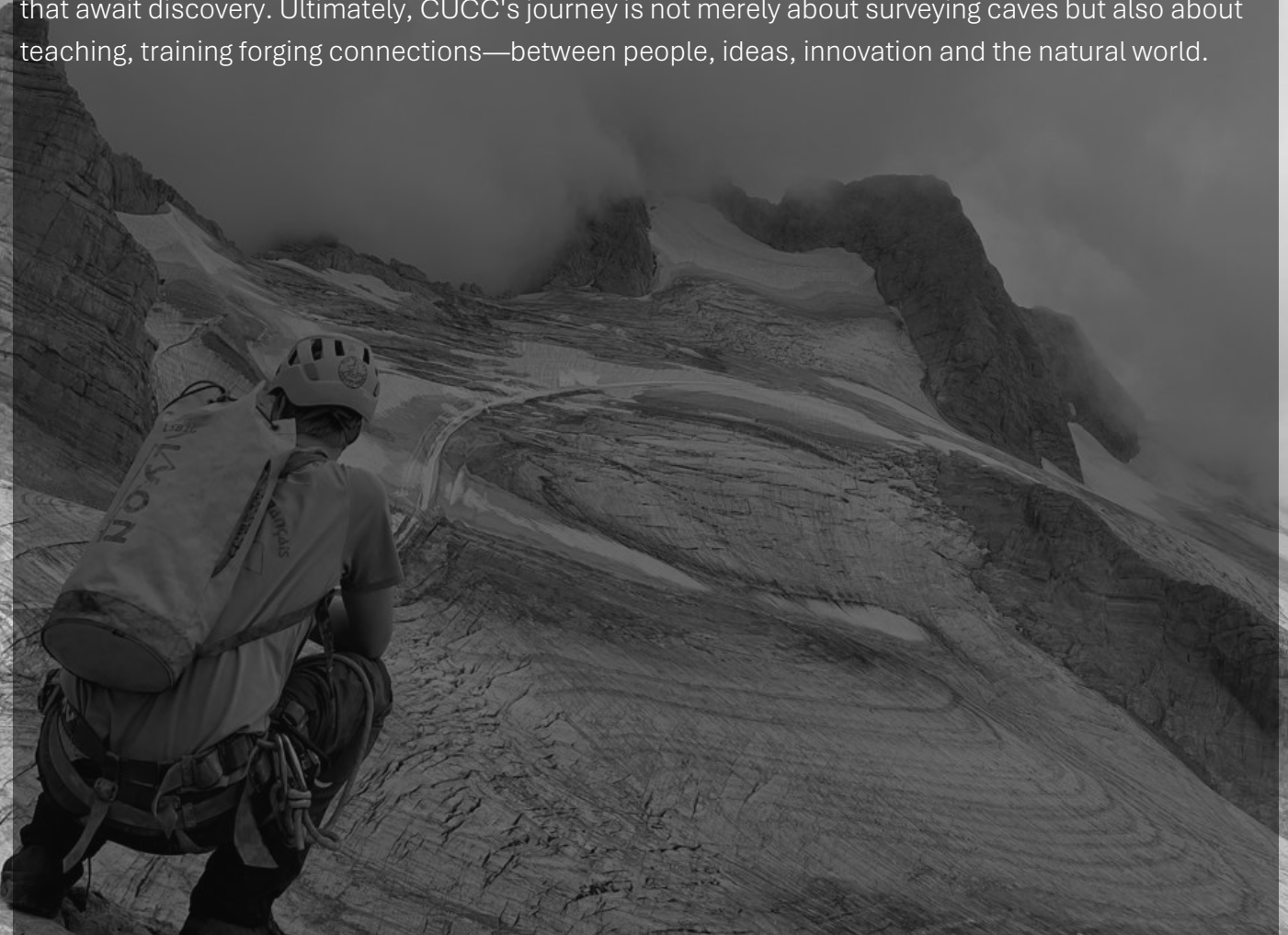
Expedition Conclusion III

A Legacy of Exploration

In conclusion, the 2024 CUCC Loser Plateau Expedition has not only advanced the exploration of the SMK but has also reinforced the principles of community, collaboration, and scientific integrity that have defined CUCC's journey over nearly five decades. The expedition stands as a testament to the power of passion and expertise converging in the pursuit of knowledge, illuminating the rich complexities of the subterranean world.

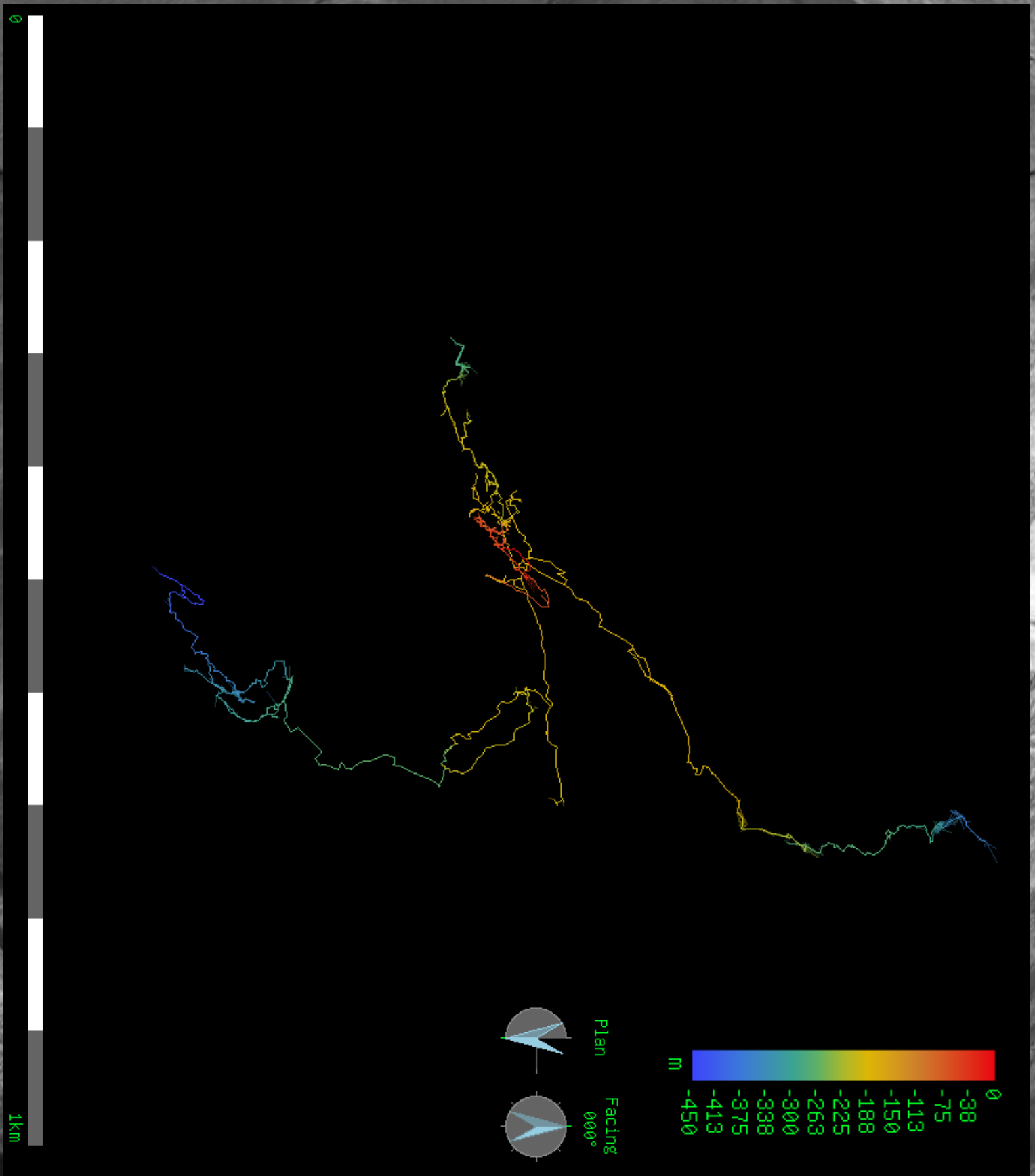
The legacy of CUCC extends beyond its immediate achievements; it encapsulates the ethos of exploration itself—an enduring quest to understand the unknown and to push the boundaries of human knowledge. As the club and friends reflect on its storied past and look forward to the future, it remains committed to fostering an inclusive environment that encourages the next generation of cavers. Through educational outreach, mentorship programs, and collaborative research, CUCC aims to inspire a renewed interest in speleology, ensuring that the spirit of adventure continues to thrive, helping to also teach the next generation of expedition explorers.

As CUCC embarks on future expeditions, the principles of safety, sustainability, and scientific rigor will guide its endeavours. The legacy of exploration will undoubtedly continue to inspire generations of cavers and researchers, fostering a deeper understanding of the remarkable underground landscapes that await discovery. Ultimately, CUCC's journey is not merely about surveying caves but also about teaching, training, forging connections—between people, ideas, innovation and the natural world.



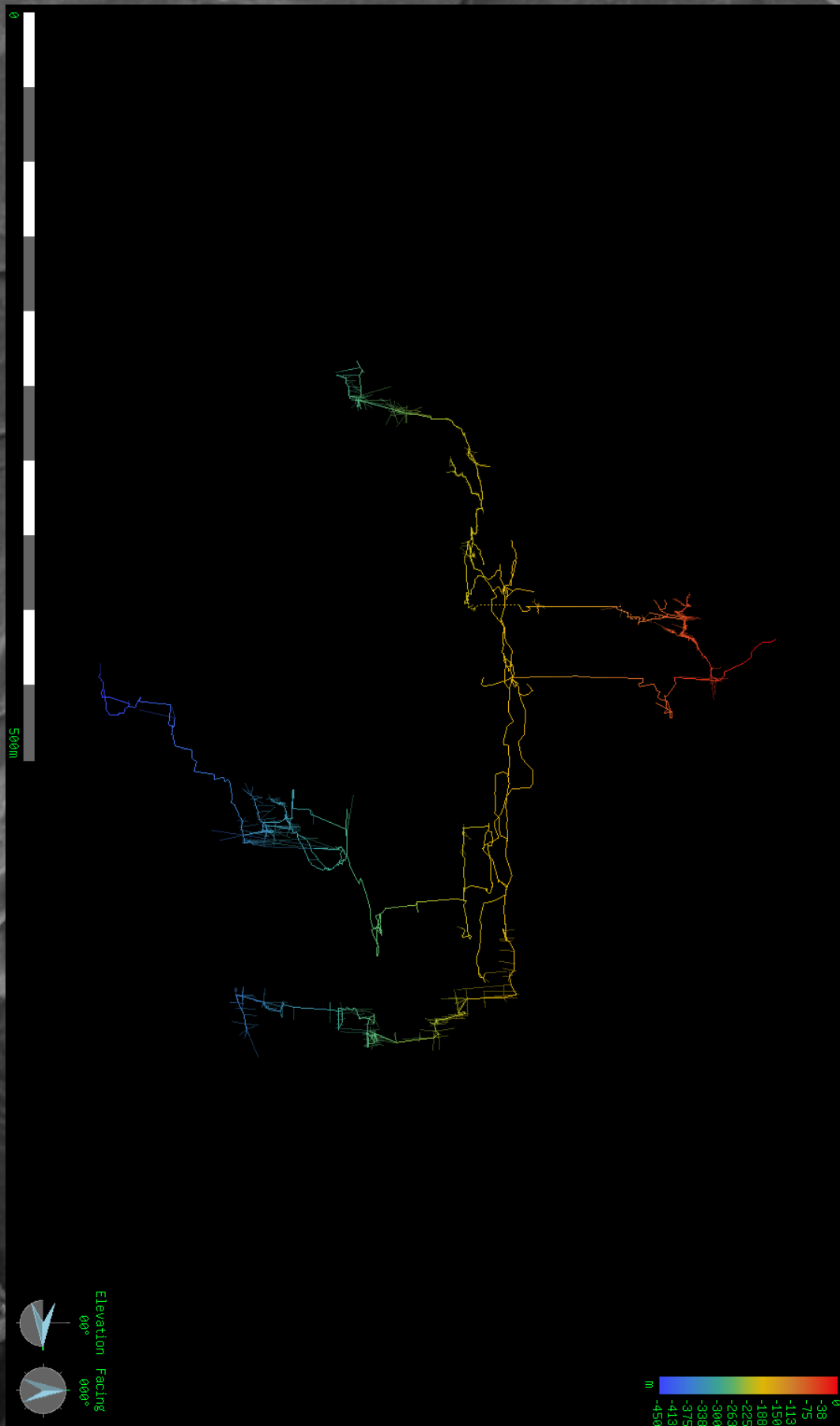
Homecoming - 2024 Centreline Survey

North Plan



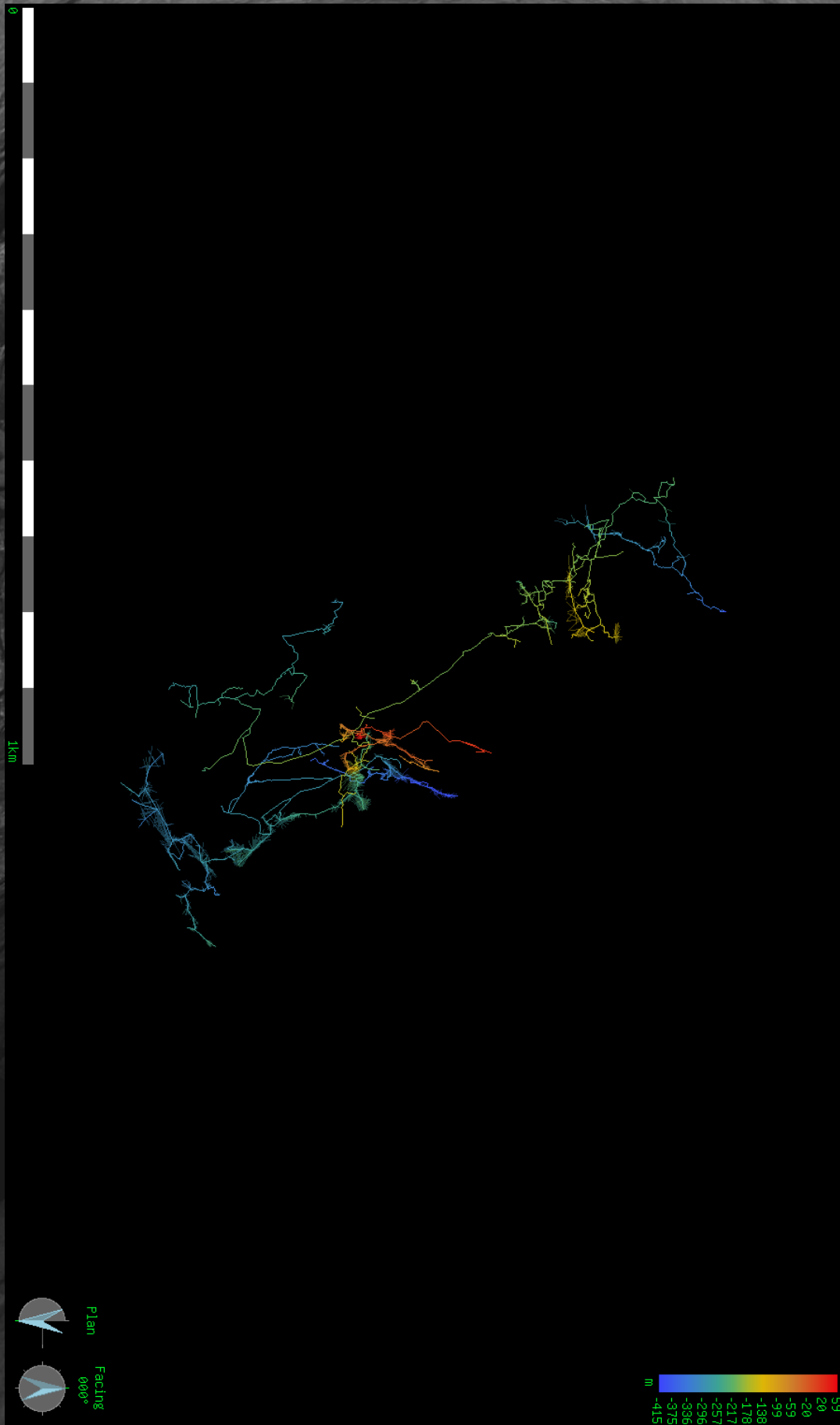
Homecoming - 2024 Survey

North Elevation



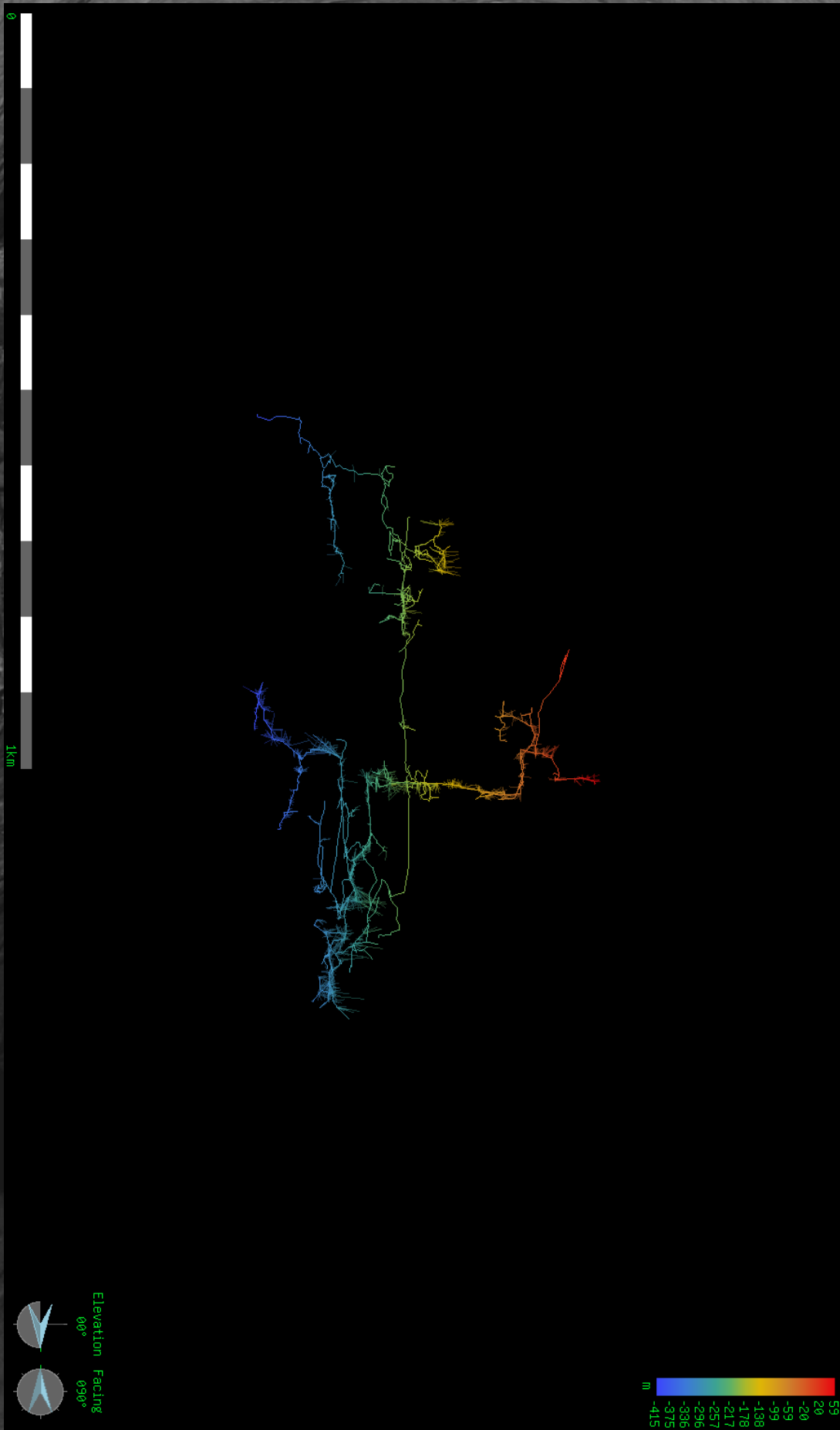
Lower Balcony - 2024 Centreline Survey

North Plan



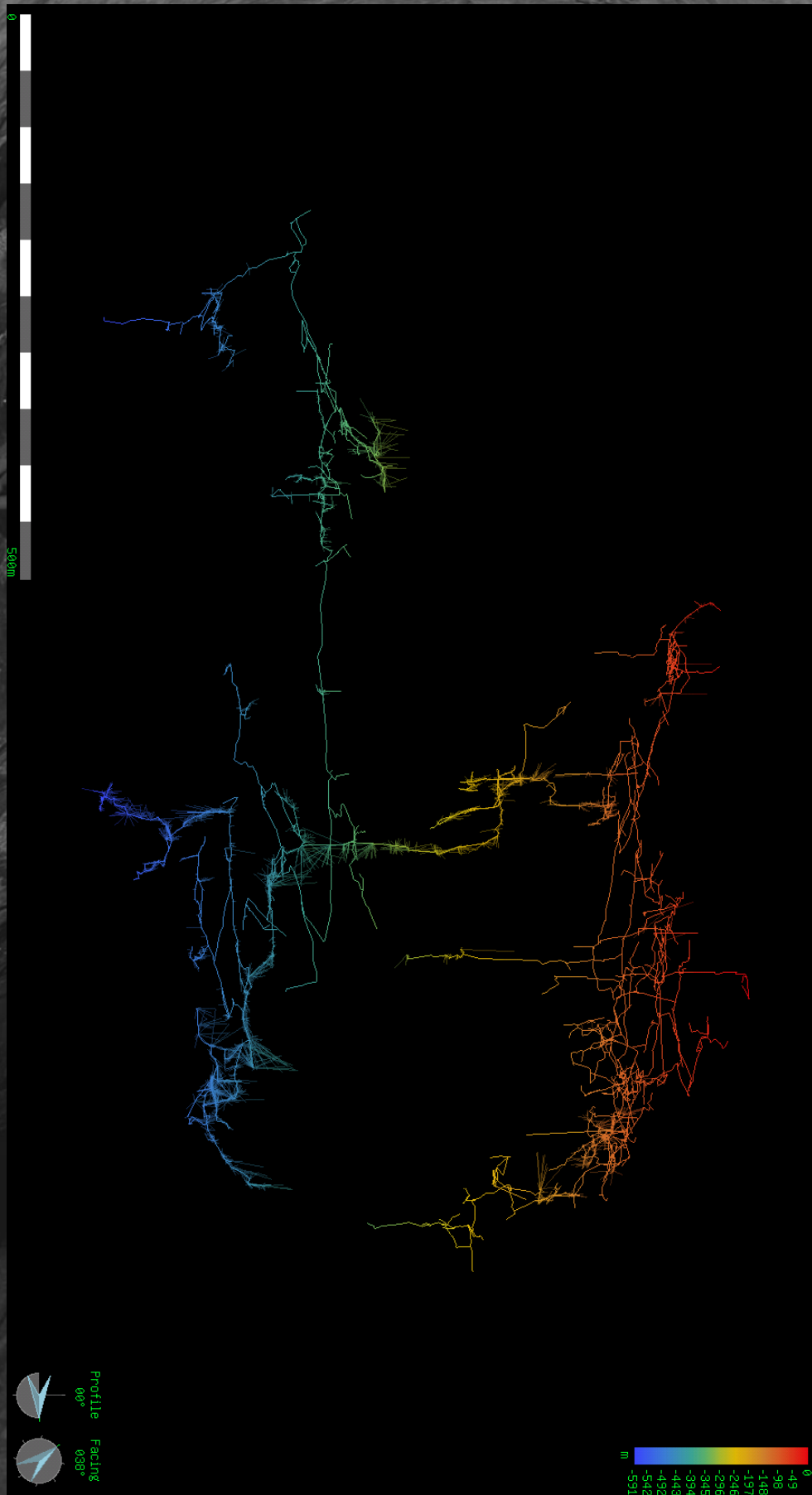
Lower Balcony - 2024 Centreline Survey

East Elevation



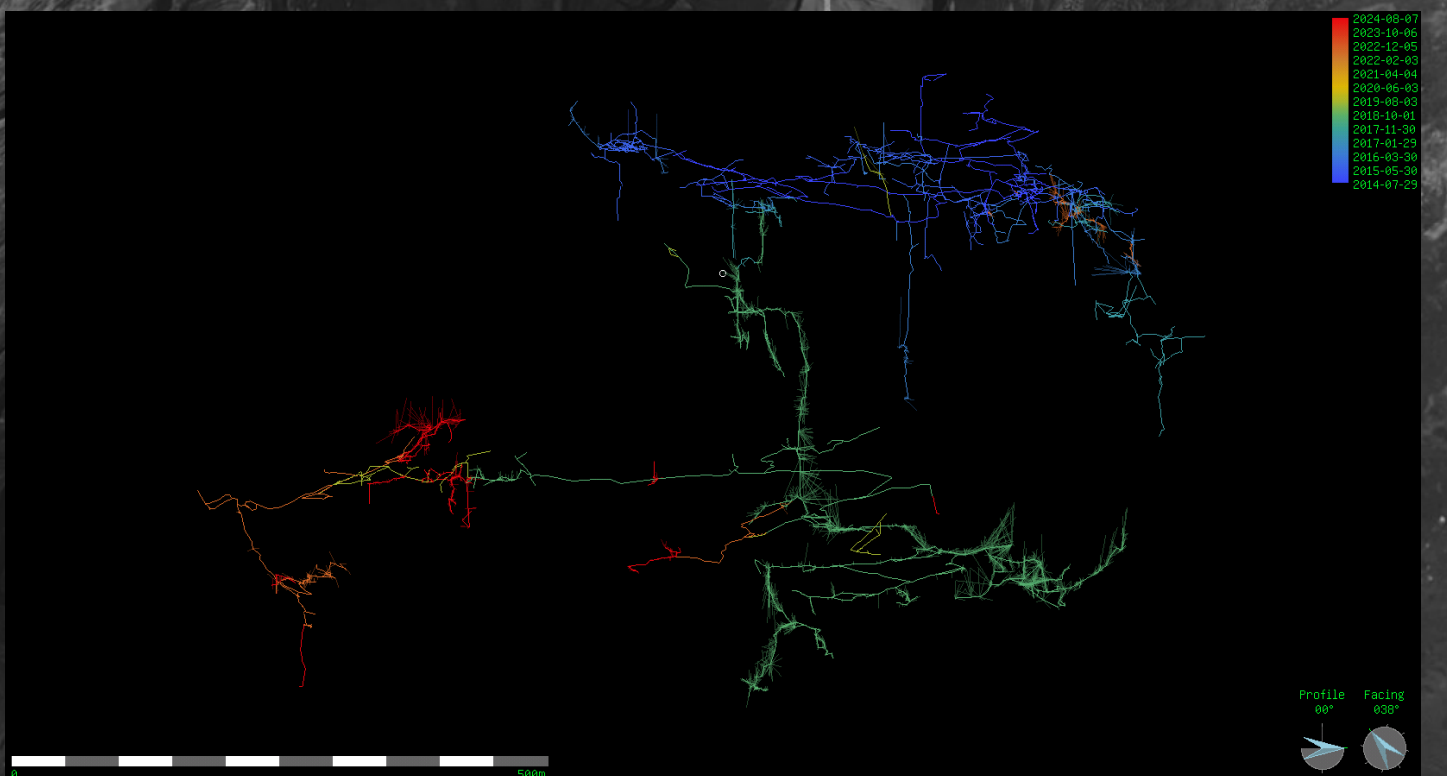
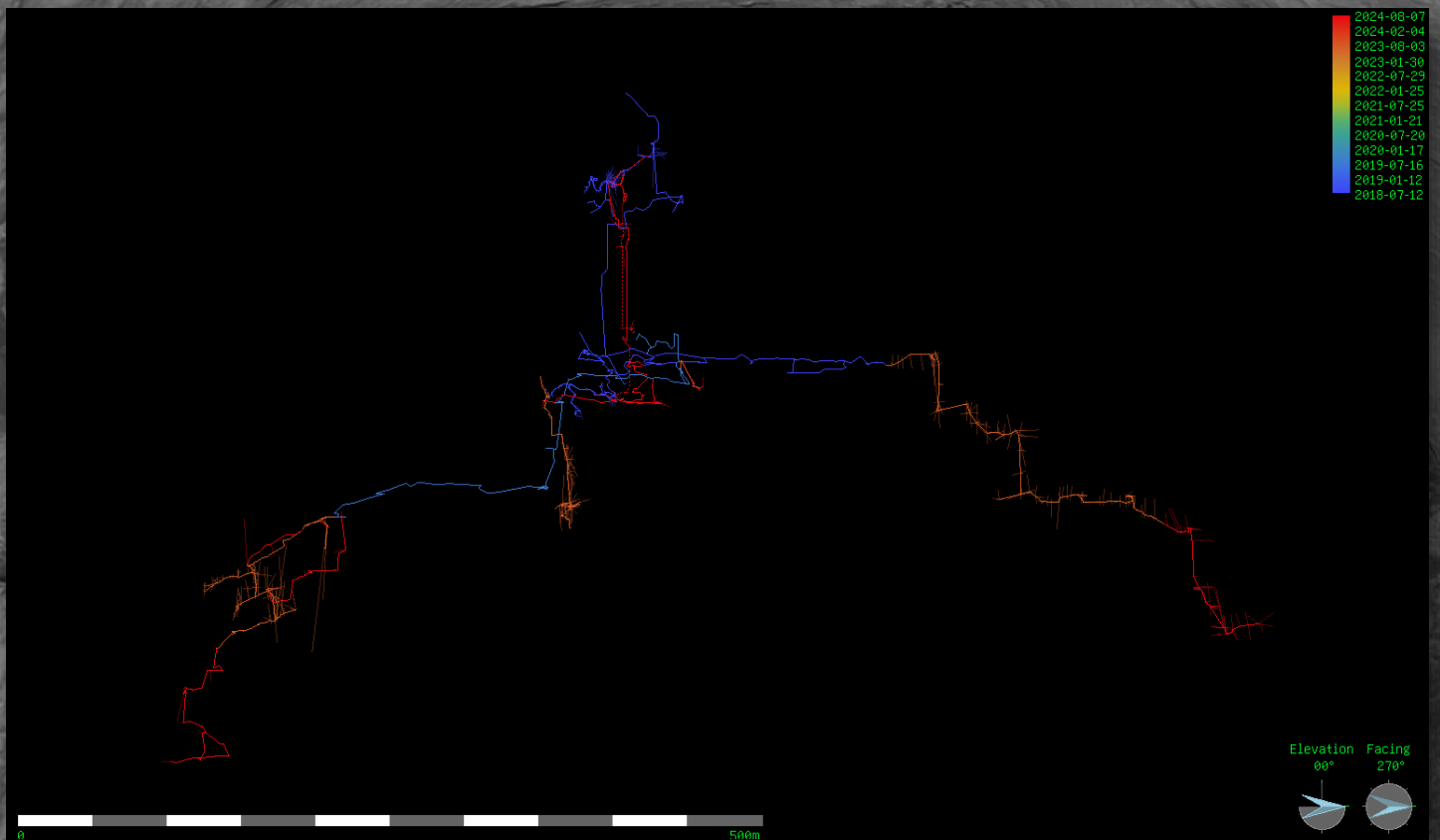
Balcony - 2024 Survey

East Elevation



Homecoming & Balcony - 2024 Survey

West & East Elevation—2014 to 2024



Appendices I



Photo of Christopher Holt in Lower Balcon – Jonathan Lester

Appendices II



Speleothem near camp in Lower Balcon – Jonathan Lester

Appendices III



James Waite Rigging Homecoming Entrance Series – Charlotte Payne

Appendices IV



New Drills in Homecoming – Charlotte Payne

Appendices V



'Tatty Hut' Camp Life – Aila Taylor

Appendices VI



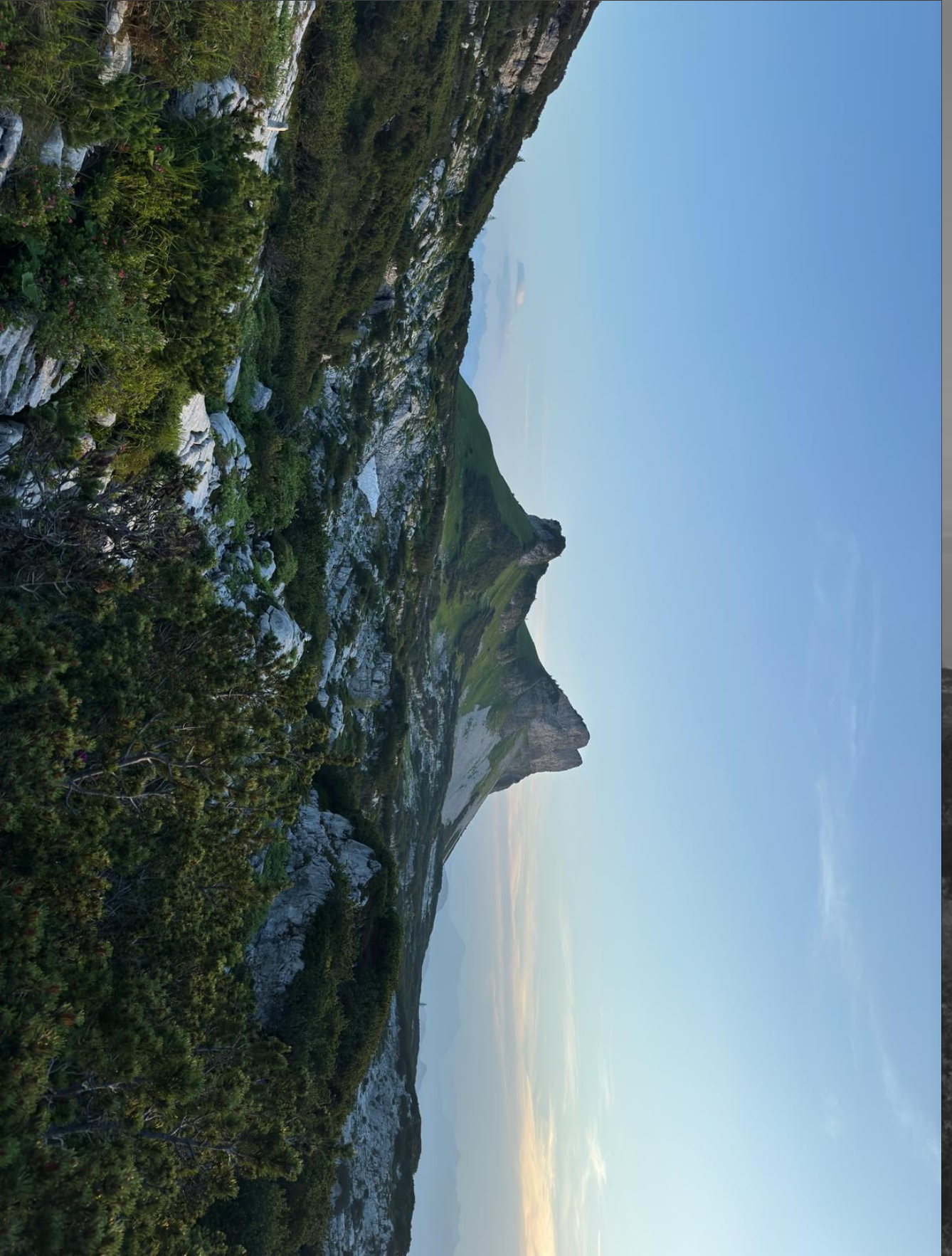
Navigating the Plateau – Charlotte Payne

Appendices VII

Dropping the 'Eye of Sauron' in Homecoming on our kindly donated Kordas Rope - Adam Etskne-Jones



Appendices VII



The Plateau – Jonathan Lester

Appendices IX



Expo Meal Photo – 2024

