



**2026  
Sistema Cheve  
Expedition**

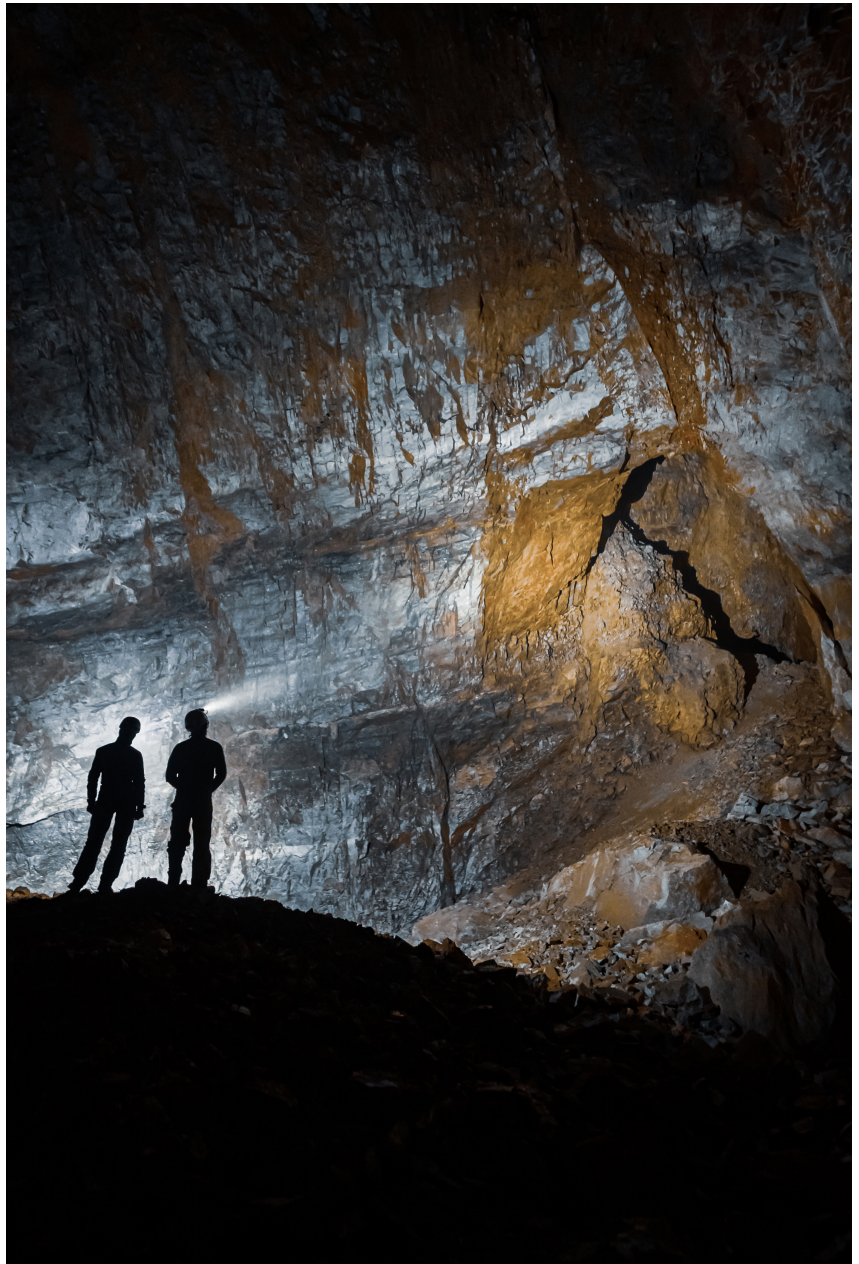
*Where no one has gone before ...*

## Cheve 2026: The Quest for the World's Deepest Cave

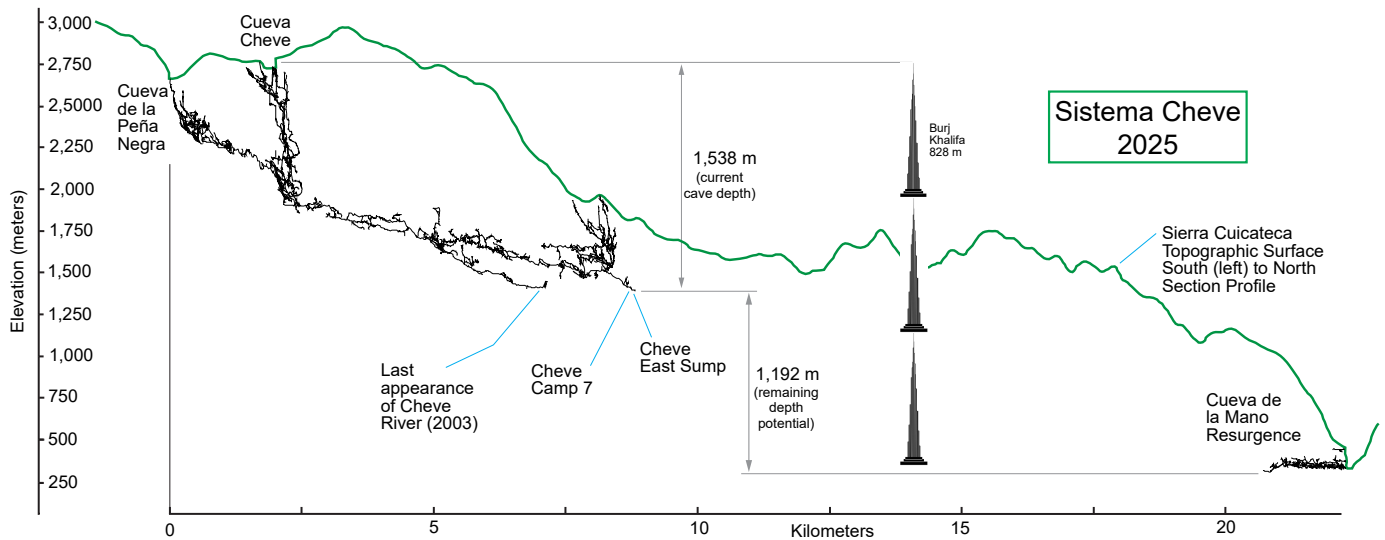
*"One doesn't discover new lands without consenting to lose sight, for a very long time, of the shore" ... André Gide; 1925*

In February of 2026 one of the most significant exploration projects in modern history will begin. An unexplored subterranean underwater tunnel. At the bottom of one of the most remote and deep places reached by humans inside the Earth. Five years in the making, the team from the National Geographic movie "The Deepest Cave" is back to take on the unknown frontier ... and go beyond. Led by veteran explorer Dr. Bill Stone and lead cave diver Dr. Gilly Elor, the three-month expedition will seek to prove that Sistema Cheve, in southern Mexico, is in fact the deepest cave on Earth. The expedition will involve multi-month stays in total darkness to explore beyond the underwater tunnel at the current limit of exploration. We will thus be confronting not only one of the last true terrestrial frontiers of exploration, but also crossing new psychological ground in extreme remoteness, beyond any possibility of rescue. *The United States Deep Caving Team is seeking individuals, foundations and corporations to support the effort. Without your help we cannot make this happen.*

**Why:** Human nature endows us with an intrinsic motivation to seek out new experiences, knowledge, and understanding. The drive to explore is a core aspect of our nature. As astronaut and Apollo commander Frank Borman put it "*Exploration is really the essence of the human spirit.*" Ultra-deep "supercaves" are the last terrestrial frontier. Unlike mountains or the depths of the ocean, we cannot use technology to remotely study caves. To explore a cave one must go, in person, where no one has gone before. Deep cave exploration is equal parts an athletic endeavor and scientific pursuit. Athletically, it requires Tour-de-France-class endurance for weeks on end (underground stays ranging from 20-30 continuous days are now common in Sistema Cheve and we are expecting significantly longer pushes in 2026). Like the original siege assaults on Everest, exploration at the bottom of Sistema Cheve involves a continuous chain of personnel moving 20 kg haul sacks of food, camping, climbing, and diving equipment through a vertical jungle gym of deep pits, roaring waterfalls, freezing pools, collapsed mazes and body tight restrictions. Teams underground are subjected to cold, wet, and driving wind conditions, sleeping in uncomfortable places – often in hammocks slung from rock bolts, and eating dehydrated food for weeks on end. It also requires an incredibly diverse skill set.



*Right: Entering the Dream Theater, -1,348 m level in Cueva Cheve, just beyond Camp 6.*



*The current map, in profile view, of Sistema Cheve and the resurgence of the subterranean river at Cueva de la Mano. Successful human passage will represent a natural cavern with a depth of 2,730 m, signifying the deepest cave in the world, quite possibly for all time. Beyond the Cheve East Sump is totally unknown territory.*

Our team is an international assembly of extraordinary multi-disciplinarians, skilled in deep vertical caving, cave diving, big-wall climbing, and digital survey. Scientifically, we seek to answer the question: where is the deepest cave on our planet? Can humans physically go there? And, what will we discover when we do? Currently, the cave with the potential to be the deepest by far is Sistema Cheve in the remote Sierra Cuicateca mountains of Oaxaca, Mexico. This is known through hydrological tracing — dye injected into the Cheve river was observed 20 kilometers to the north and 2,730 m vertically down the mountain in a cave called Cueva de la Mano at the bottom of the Rio Santo Domingo canyon. Whether humans can follow the path of the water is not known. A connection between Cueva Cheve and Cueva de la Mano would produce the deepest natural abyss on Earth.

The exploration of Cueva Cheve is truly an Olympic level event attracting the world's best and most skilled cavers. The gold medal equivalent is finding the continuation of the cave from the bottom of Cueva Cheve – at the giant chamber known as Harmony Hall – to the Cueva de la Mano. However, unlike an Olympic record there is a very good chance that such a connection would make Cheve not only the deepest cave on the planet, but the deepest cave in the world for all time.



*The Pena Negra section of Sistema Cheve consistently presents enormous tunnels, but it unexpectedly stopped at a collapse several kilometers south of the present limit of exploration. One theory is that if the East Sump is successfully passed the continuation of the Pena Negra “megatunnel” will be discovered, potentially leading the way downward.*

Exploring and mapping caves leads firstly to understanding the structure of the cave and mountain, but it could also lead to discoveries in biology (e.g. extremophiles have been identified in caves), geology, archaeology and has repeatedly motivated technical advancements in exploration technology.

**Where:** Cueva Cheve<sup>1</sup> was first discovered in 1986 by modern explorers seeking caves at high elevation in the Sierra Cuicateca of northeastern Oaxaca, Mexico. It is presently 1,538 meters deep and is the second deepest known cavern in the Western Hemisphere and the world's 12th deepest. The end of the cave is legendarily remote from the historic entrance – a journey of five and a half days. The above map shows the surface topography together with the known subterranean passages in Sistema Cheve and the resurgence cave Cueva de la Mano. Cueva Cheve alone currently has 91 kilometers of mapped tunnels. What is known was obtained through difficult exploration and mapping during 25 expeditions over 40 years. The cave, and the expeditions to it, have been the subject of several books<sup>2</sup>, magazine articles<sup>3</sup> and documentary films. The most recent film was National Geographic's "Explorer: The Deepest Cave," an hour-long documentary now streaming on Disney+, which followed the USDCT's 2021 expedition. The 4-month 2021 project resulted in a dramatic breakout that massively extended the northern limit of Cheve. More than 20 kilometers of previously unknown passages were discovered. These new tunnels are mostly horizontal in nature (although there are level changes of nearly 300 meters between some sections of the labyrinth). The vast majority of the tunnels average 40 x 40 meters in cross section and in places reached 60 m wide by 80 m high (notably at Harmony Hall, the current end of the cave).



*The extreme verticality of Cheve is exemplified by the Elephant Shaft at the -300 m level of the cave. Hundreds of such shafts must be traversed to reach the current limit of exploration. When carrying supplies team members burn more calories per day than Tour de France cyclists*

**When:** Access to Sistema Cheve is only safe in the dry season for Latin America, generally between the end of January, following the last of the Gulf hurricane season storms, and no later than mid-May, when freak orographic storms can dump up to a meter of water on the mountain. Cheve is extraordinary in that its creation was driven by water that collects in a 5 kilometer diameter sinkhole. Large storms can, and have, flooded the lower tunnels of the cave to the roof of the passage, sometimes in excess of 25 meters of water rise. Since we will mainly be working in the lowest sections of the Cave

<sup>1</sup> Latitude: 17.864656° ; Longitude: -96.794541°

<sup>2</sup> For example: <https://www.amazon.com/Blind-Descent-Quest-Discover-Deepest/dp/0812979494>

<sup>3</sup> For example: <https://www.newyorker.com/magazine/2014/04/21/in-deep-2>



*The Cheve East Sump, 300 m east of Camp 7 – the main subterranean base in 2026 from which the diving effort will be launched.*

in 2026, the expedition is scheduled to be on site on the mountain from February 1 through April 30, 2026. The total duration of the project will be closer to four months accounting for pre-departure gear preparation and packing as well as dive team rehearsals.

**The Challenge:** The 2021 expedition culminated in the scaling (with big wall aid climbing gear) of a 70 m tall dome in Harmony Hall. During a 29 day underground camp, Bill Stone and Gilly Elor succeeded in reaching the top of the dome only to discover that the way on was sealed by a travertine flow. Without a clear continuation beyond Harmony Hall and no sign of the main Cheve river, last seen below Camp 3 in 2017 several kilometers to the south, the following 5 years focused on finding alternative passages around the apparent end of the cave. None of these efforts yielded success. Yet we know, from the dye trace, that the water gets through. During the 2021 expedition a 12m tall flowstone cascade on the east side of the Harmony Hall chamber, was bolt-climbed. At the top of the climb 200 m of large tunnel was discovered leading east to a sump<sup>4</sup>. This *East Sump* is poised to be the key to solving the mystery of Cheve – the tunnel leading to the sump is aligned with a strike-slip cross fault that stops the northern continuation of the cave at Harmony Hall. The East Sump, despite being a water-filled tunnel, appears to be far enough east to be the way onward.

Cave diving is a last resort in deep caves of this nature. The amount of logistics, gear, time, and support team needed to place a very limited number of divers beyond a sump (where very few people in the world can go) is typically reserved for when all other options have been exhausted. The past 5 years have led to this moment, where finding out what is beyond the East Sump is our strongest move in this game of subterranean chess.

<sup>4</sup> In cave explorer jargon, a totally water-filled tunnel within an otherwise air-filled cave is referred to as a “sump.” If this flooded tunnel is at significantly higher elevation than known springs it is commonly possible, using advanced diving technology, to pass the underwater section and continue on in air-filled tunnels.



**The tools of expeditionary deep cave exploration:**

*(Clockwise from Top Left): Vertical work in heavy water - more than 12 kilometers of 9 mm rope are rigged throughout Sistema Cheve in order to descend vertical shafts and traverses; Underground camping - human endurance limits force the establishment of a camp for every 10-12 hours of travel; Big wall aid climbing - geology is multi-level; when the cave stops or is blocked in the downward direction, we go up to find bypasses; Cave diving - the final resort; supercaves frequently have flooded tunnels as part of their morphology; we have developed novel life support technology to allow us to safely pass these obstacles.*

**The Mission:** The *East Sump* represents completely unknown territory – never before seen by any human being. The length, depth and complexity is unpredictable, but other sumps that have been dived in the Sierra Cuicateca, and combined with information on the local geology, suggest that successfully passing the sump is within the range of our technology. We will be prepared to deal with an underwater tunnel of up to a kilometer in length and 30 m depth. A reconnaissance dive will initially be conducted with closed circuit rebreathers. The hope is that the underwater tunnel will be relatively short and the rest of the dive team can follow through using ultra-high pressure (450 bar) open circuit carbon-epoxy scuba gear to reduce the equipment transport load. Our plan for the 2026 expedition will be to support a team of up to 4 cave divers working continuously beyond the Harmony Hall *East Sump*. The expedition will initially set up an advanced base at Camp 7. If the East Sump is successfully passed in the initial exploratory dives it is our plan to establish a new camp on the other side and move sufficient materiel there to support a 1-month+ exploration and mapping push. This will allow



*The lead diving team for Cheve 2026: (left to right): Dr. Gilly Elor, Dr. Bill Stone, Oscar Berrones, Dr. Jean Krecja.*

us to acquire as much new data as possible, hopefully resulting in both the continuation of the cave and a dry bypass to the sump being discovered. The expedition will stage out of Austin, Texas the last week of January of 2026 and will be in the field for three months. Should the dive effort be successful the effort in March and April will focus on extending exploration of the trunk tunnel north towards Cueva de la Mano.

**The Team:** Team members have been recruited from the best expedition cavers from around the world and we anticipate a final support crew size of 45 who will make possible the diving push at the limit of exploration. The lead dive team members include: Dr. Gilly Elor (USA/Israel); Dr. Bill Stone (USA); Oscar Berrones (USA/Mexico); and Dr. Jean Krecja (USA):

**Be a Sponsor:** We are seeking help from individuals, foundations and corporations to support our effort. Without your help we cannot make this happen. Expeditions of this nature involve significant equipment transport to the mountain; custom-designed freeze-dried food for underground camps; rope, rigging, and climbing gear; underground camping gear; and in 2026, highly specialized closed-cycle life support systems and carbon-epoxy high pressure gas tanks. This is an all-volunteer effort and we count on public support to put the team in the field. The USDCT is a 501(c3) non-profit scientific and educational corporation. All contributions are tax deductible.

**Further Information:** The United States Deep Caving Team, Inc. ([usdct.org](https://www.usdct.org)) maintains an extensive library of free, downloadable high resolution books and publicly-accessible maps on expeditions to Sistema Cheve over the past 40 years. The download link is: <https://www.usdct.org/downloads.php>

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