

Unit 12: Sea Caves

Nicolas Barth: Yeah let's go for it! I actually went to New Zealand to study the other side of the island. But to satisfy my curiosity, I started exploring this coastline. And that turned out to be the day that I actually discovered the longest sea cave in the world.

Narrator: To survey the cave, geologist Nicolas Barth and his team paddled their canoes through the cave's tunnels. They discovered that Matainaka Cave is around one point five kilometers long—70 percent longer than any other sea cave in the world.

This cave system on the Otago Coast contains six of the ten longest sea caves in the world. Exploring sea caves is a very difficult task. Some parts of the cave are extremely narrow. Others are filled with water right up to the ceiling. The team must swim underwater to find their way out to the next section of the cave.

In this part of the cave, the team found some creatures called isopods. In larger rooms, they found some impressive rock formations. These formations carry a record of climate change over time. It's one more piece of the global climate puzzle.

The team is also studying the cave for evidence of past earthquakes and tsunamis. Such data helps geologists understand the area's risk for earthquakes and tsunamis in the future. The team also mapped the cave using both traditional 2-D cave surveys. And also, newer 3-dimensional surveying tools. With these 3-D tools, the geologists can get better data about the shape and structure of the caves. Barth's study of Matainaka Cave has also shown that it is around 80,000 years old and getting about 2 centimeters deeper each year. But there is still a lot of work for these geologists to do, and future studies will hopefully reveal even more about this incredible place.