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WKU geoscientist calls cave rescue 'miracle'

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On Monday, a Western Kentucky University geoscientist shared his uniquely qualified perspective on the underwater rescue mission in Thailand.

"(Cave diving) is just totally unforgiving, and that's under the best circumstances," said Chris Groves, WKU distinguished professor of hydrogeology and director of the Hoffman Environmental Research Institute.

But despite the danger, the underwater rescue mission was ultimately the best option, he said. The alternatives were drilling another entrance into the cave or waiting until the water subsided.

Drilling sounds straightforward, but "in principle, it's very difficult," and the cave sits under a mountain range, Groves said.

And waiting was high-risk. Unlike southcentral Kentucky's consistently rainy climate, Southeast Asia's monsoon climate brings both dry and rainy seasons – with rainy seasons lasting extensive periods of time.

The experts in Thailand were concerned that it could be weeks or months before the water level dropped to the point that the kids could exit the cave without having to dive through the dangerous passage, and the boys were gradually becoming weaker because of falling oxygen levels.

So that left diving, which presented several significant obstacles.

First, the divers can't see more than a few feet in front of them, at most.

"Visibility is near zero," Groves said.

And second, divers wear numerous pieces of equipment with tube-like structures that could easily get snagged on rocks, according to Groves.

Then, there's one other big issue: "If you have any problems at all, (such as) equipment malfunctions, there's nowhere to go, you can't come up," Groves said. "Things have to go perfectly, or you die."

On Friday, a retired Thai Navy SEAL ran out of air and died during an overnight rescue mission while trying to place extra air tanks inside the jungle cave.

"It's one of the most dangerous activities that people can participate in," Groves said.

Groves experienced this danger while diving in Florida caves as a teenager in the 1970s, and said he remains thankful to this day for having remained safe during his escapades.



Groves also knows a little bit about being stranded in a cave. Some years ago, Groves fell into a rock pit while exploring a cave with two other colleagues. He broke a few bones, and consequently couldn't crawl through some of the narrow passages between his location and the entrance.

One of his colleagues separated to go find help, and Groves imagined the worse. "I convinced myself that no one was coming to get us, I was feeling pretty dire about it," he said.

When a rescuer's light illuminated the underground terrain, "that was one of the most intense experiences of my life," he said.

That was just four hours.

"I thought a lot about those kids being there for nine days," Groves said. "That's got to be a remarkable group of people. I have a lot of respect for their fortitude."

For spelunkers and cave explorers in the area, Groves warns that a similar situation is in the realm of possibilities.

In the late 1990s, Groves and other researchers placed computers in Mammoth Cave to monitor flooding events, and recorded one storm that increased water levels by 94 feet in 12 hours – with a speed of 24 feet per hour at one point, which translates to about a 15-minute window to get out of a passage that's tall enough to stand up in.

"Flooding is a very real danger," Groves said.