

The 'Indiana Jones' of a Shrinking Realm

But Passion for Science, Not Adventure, Inspired Researcher's 50 Ice Cap Expeditions
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SICUANI, Peru -- The local official raised the coca leaf to his forehead with two hands and chanted a mantra beseeching the gods of the leaf to bless this scientist's efforts. Lonnie Thompson smiled amiably. It wasn't the first ceremony to seek divine oversight for his work: Once he had to sacrifice a blindfolded alpaca to the gods before he could go up a mountain.

While the theories of global warming spill out in the dry academic language of scientific journals and reports, Thompson and scientists like him are doing the tough work of collecting the evidence of what is happening to the planet.

He has led 50 expeditions to glaciers around the world, enduring often brutal conditions to drill deep into the ice and extract ice core samples.

"Lonnie Thompson is one of the true scientific heroes of our age," said Gavin Schmidt, a climatologist with NASA's Goddard Institute for Space Studies. Harvard geochemist Daniel Schrag has called Thompson "the closest living thing to Indiana Jones."

Thompson, 58, has none of the adventurer's swagger. He prefers to talk about science rather than physical exploits. But pressed, he acknowledges the allure of being first.

"It's the difficulty of the sites that produces the challenge of doing the science," he said. "I do enjoy the challenge. But if I was told to go to the Himalayas to climb for the adventure of it, I wouldn't go. There has to be something else."

Thompson grew up poor in West Virginia. He wears a droopy hat atop his lanky frame and speaks with a soft drawl. He said he was determined to escape poverty and wound up at Ohio State University, where he is now a professor.

His initial idea of studying the glaciers in the tropical zone was dismissed by senior scientists who felt the altitude would be impossible to work in and the research less promising than that in the polar regions. Through the years, as his solar-powered glacier drill extracted priceless records of climate change going back 1,500 years, he won the skeptics' grudging praise.

"I am more and more convinced these glaciers are going to disappear," Thompson said. "There is such a thing as too late."

His research is done in such remote areas as Tanzania, Bolivia, Peru and China. He has used yaks, donkeys, horses, porters and even hot-air balloons. On a jolting mountain pass this month, his vehicle squeezed past a truck full of workers, a slaughtered sheep hanging over the side. But much of the traveling is done on foot, trudging up mountainsides and over glacier tops in air so thin the lungs gasp for oxygen.

"It's just what you have to do to get there," Thompson says with a shrug. "If you look at anything where advances were made, there was a risk. You can stay in the comfortable zone, or you can move forward."

The book "Thin Ice," which explores the topic of climate change and is written largely about Thompson, concludes that he has spent more time than any other scientist in the oxygen-deprived "death zone," the space above about 18,000 feet where mountain climbers usually linger only a few days. Thompson figures he has spent about 3 1/2 years of his life at that altitude.

It can be dangerous, even fatal. Thompson was hospitalized in 1981 and told never to return to high altitudes. One colleague became intermittently blind at those heights. A graduate student on an expedition died of an infection after being evacuated.

But it is not just the loss of the majestic ice caps -- and the myriad problems it will bring to people who depend on the stored water -- that troubles Thompson. He fears a greater, less predictable change. Just as water "is nice and happy" as ice at 31 degrees but turns quickly to water when the temperature warms just one degree, wholesale climate changes can occur -- and have done so -- with equally sudden swiftness, Thompson has concluded.

"People will adapt to gradual change. It's when you suddenly lose your water resources that it's a human problem," he said. "I think we are going through an abrupt change right now. The rate at which these changes take place is accelerating.

"There are some big forces out there that we don't understand," he said of the planet, "and we don't want to trigger those."