

The Crystal Eye of Nunavik



During World War 2, an American pilot flying over the Canadian arctic saw something extraordinary. A midnight blue lake, 2 miles across, shaped in a perfect circle.

The Allies kept it a secret, using the lake as a navigation landmark during the war. But in 1950, photos hit the media, and the lake became a sensation...because it shouldn't exist.

There were no rivers leading into it, and none leading out. There was not enough liquid groundwater in this frozen landscape to fill it. It was as if the lake had been dropped from the sky. And in fact, it had. Scientists soon determined it was formed by a huge meteorite.

Its trajectory would have been straight down, striking Earth at 30,000 miles an hour, with the force of 8,000 Hiroshima bombs. It bored a hole more than 800 feet deep, and pushed up 500-foot high ridges around it, isolating it. Of course, the natives had known of the crater for centuries, calling it the Crystal Eye of Nunavik -- because it contains some of the clearest surface water on Earth.

Research confirmed that the water came from melting Ice Age glaciers and is only recharged by melting snow and ice.

With no rivers to bring in sediment, the soils on the lake bottom contain mostly dust, pollen and diatoms -- from millennia ago, preserved in the frigid water.

In this way, the Crystal Eye literally lets scientists "see" into the distant past.

I'm Scott Tinker.

From above, Pingualuit Crater appears as a perfect circle etched into the tundra. This ancient scar is filled with crystal-clear water from Earth's past.

Credit: NASA. Courtesy of Denis Sarrazin
<http://earthobservatory.nasa.gov/IOTD/view.php?id=79743&src=eoaiotd>, Public Domain

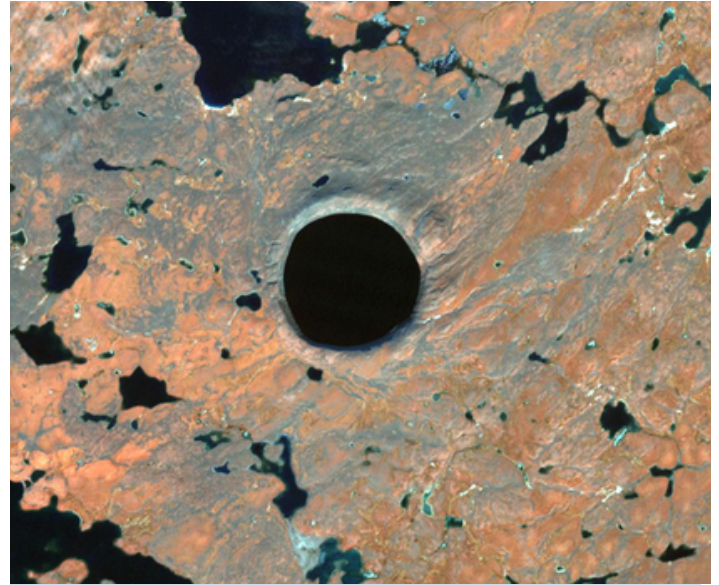
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Background: The Crystal Eye of Nunavik

Synopsis: Hidden in the tundra of northern Quebec, Pingualuit Crater is a near-perfect circle formed by a meteorite strike more than a million years ago. Once sacred to the Inuit and later used as a wartime landmark, its crystal-clear waters now offer scientists a rare window into Earth’s ancient climate and cosmic history.

A Perfect Circle in the Tundra

- High on the tundra of northern Quebec, an almost perfect circle of water, gleams like glass. From the air, it looks like a jewel set in stone. To the Inuit of Nunavik, it is Crystal Lake or Pingualuit (pronounced PING-wah-loo-eet), the “pimple” where “the land rises.”
 - The crater itself is astonishing: a nearly perfect ring more than 3.4 km (2 miles) wide, with walls that tower 400 m (1300 feet) high and rise about 159 m (500 feet) above the surrounding tundra.
 - Within those walls lies a deep, blue lake that plunges more than 267 m (876 feet), a striking contrast against the stark, lunar-like landscape around it.



This 2021 satellite image shows Pingualuit Crater’s perfect circle –just as WWII fighter pilots once saw it from above, when they used the landmark as a navigational guide.

Credit: By NASA/METI/AIST/Japan Space Systems, and U.S./Japan ASTER Science Team - This image or video was catalogued by Jet Propulsion Laboratory of the United States National Aeronautics and Space Administration (NASA) under Photo ID: pingualuit., Public Domain. -

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Land of Legends and Healing

- Long before scientific study, the Pingualuit region was shaped by Inuit life and tradition.
 - Evidence of camps, rock shelters, and stone tent rings shows that Inuit groups, often called Nunamiut, traveled inland to follow migrating caribou.
- The crater’s elevated ridges supported traditional hunting practices.
 - High ground offered clear views across the tundra, helping hunters locate caribou and other game.
 - Animals taken during hunts were fully used for food, clothing, tools, and fuel.
- Inuit communities in Nunavik continue to maintain connections to this landscape today.
 - People from nearby communities such as Kangiqsujuaq still practice subsistence hunting, fishing, and gathering.
 - Inuit retain the right to carry out these activities within Pingualuit National Park.
- The Crystal Eye remains a living cultural landscape where knowledge, skills, and respect for Arctic ecosystems continue to be passed between generations.

A Secret Revealed

- For generations, it’s waters were only known to the Inuit people. Then, during World War II, American pilots scanning the Arctic skies saw something unusual, a perfect circle where no lake should be.
 - The fighter pilots took photos of the huge, circular lake that is 3.4 km (2.1 miles) in diameter. Information shared only with other Allied pilots as this landmark was too useful to reveal.

Diamonds and Volcanoes

- When the photos were first released in 1950, the world was captivated. Newspapers hailed the mysterious crater as the Eighth Wonder of the World.

Background: The Crystal Eye of Nunavik

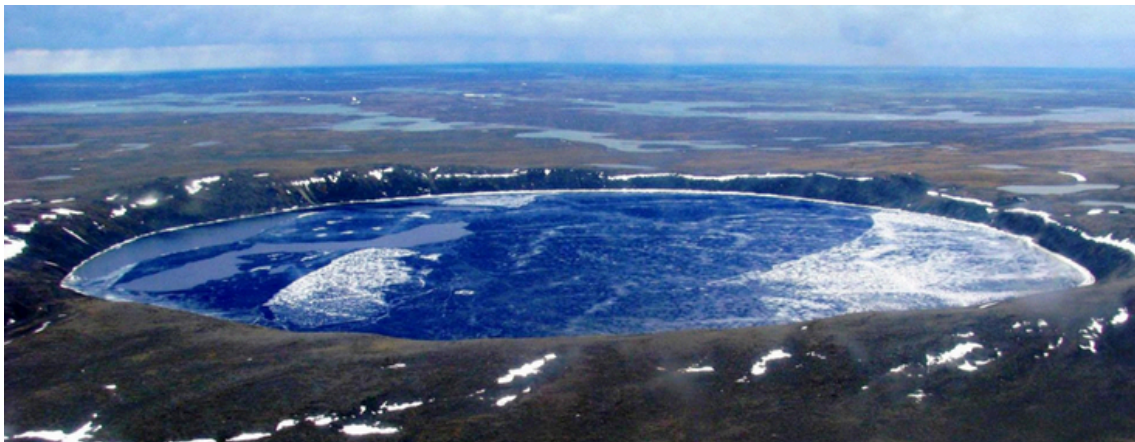
- Fred Chubb, a prospector from Ontario, was certain that the circular lake marked the site of an ancient volcano. And volcanoes, he knew, could mean diamonds.
- He enlisted the help of geologists from the Royal Ontario Museum to lead an expedition, funded by the National Geographic Society.
- For decades, the crater was called Chubb Crater after the ambitious prospector.
- But the first expedition brought disappointing news. This was not a volcano. Whatever had carved this perfect circle was stranger still.
- Radiometric dating of these impact materials established that the crater formed about 1.4 million years ago.
 - Together, these lines of evidence confirmed that Pingualuit was created by a high-velocity meteorite striking Earth nearly head-on.
- Pingualuit's confirmation helped scientists recognize and classify dozens of other impact craters across Canada, revealing a long history of cosmic collisions with the planet.

Impact from Space

- In the 1950s, mineralogist Victor Meen proposed that Pingualuit formed from a meteorite impact, based on early magnetic measurements.
 - At the time, no meteorite fragments were found, leaving the crater's origin uncertain.
- Later geological research provided definitive proof of an impact origin.
 - Scientists identified shock-metamorphic feature in rocks around the crater rim, structures that form only under the extreme pressures of a meteorite strike.
 - Impact melt rocks, created when bedrock was instantly melted by the collision, were also documented.

Crystal Waters of Nunavik

- When the last ice sheet retreated, the crater filled with meltwater, creating a remarkably deep lake that plunges 267 meters (876 feet).
 - With no rivers or streams flowing in or out, its only sources are rain and snow. The result is water so pure and transparent that it has been called the clearest freshwater lake in the world.
 - Objects as deep as 35 m (115 feet) remain visible to the naked eye.
 - Locals know it as the Crystal Eye of Nunavik.
 - Despite its isolation, the lake holds a small but resilient population of Arctic char.
 - With no other fish to compete against, they have survived by turning on each other. Scientists have documented signs of cannibalism in the lake's char, making them a unique study in adaptation.



Known to the Inuit as the Crystal Eye of Nunavik, Pingualuit's deep blue waters have long been a place of legend, healing, and wonder.

Credit: Lkovac - <https://commons.wikimedia.org/w/index.php?curid=16993896>

Background: The Crystal Eye of Nunavik

Window Into Earth's Past

- The mystery of the crater's formation has been solved, but scientists are still learning much from the unusual formation.
- Although continental glaciers covered the region, Pingualuit's deep, steep-walled basin likely protected the lake from erosion.
 - Scientists think the ice sheet flowed over the crater while water and ice within the basin prevented direct contact with the lakebed.
 - This shielding allowed fine sediments to survive glaciation, preserving a rare record of past climates.
- Meanwhile, genetic studies of Arctic char show this population is distinct from those in nearby lakes, a sign of long-term isolation and evolutionary divergence.
- For countless generations, the Inuit regarded Pingualuit as a sacred place of legend and healing. Hidden from the outside world until the 20th century, it has since become a scientific discovery offering a window into space's violent encounters with Earth.
- Pingualuit remains more than a crater. It's crystal lake bridges between Indigenous traditions and scientific discovery, linking people, planet, and cosmos.



Made of 99.99% pure silver, this Royal Canadian Mint coin shows Pingualuit Crater from space in daylight –and under black light, it reveals the fiery meteorite impact that created it.

Credit: <https://dailyhive.com/vancouver/coin-canada-glow-in-the-dark>

References: The Crystal Eye of Nunavik

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