



TŪHUA, also known as **MAYOR ISLAND**, holds deep ancestral significance as the home of Te Urungawera, a hapū of Te Whānau a Tauwhao (Ngāi Te Rangi). Geologically, Tūhua is a collection of overlapping volcanic shields and pumice cones, and several collapse calderas, situated 28 km northeast off Waihi Beach and 40 km north from Tauranga on the Bay of Plenty coast. The island we see is the volcano summit, measuring about 600 m in height from seafloor to summit and 6 km in diameter under the water. Tūhua serves as a wildlife refuge, overseen by the Tūhua Trust Board.

WHEN DID IT LAST ERUPT?

From our current knowledge and research, Tūhua/Mayor Island last erupted around 2,000 years ago and has had at least 31 eruptions in the past 54,000 years, with large eruptions every 7,000 to 8,000 years. The largest eruption was around 7,200 years ago, which deposited tens of centimetres of ash on the mainland, with other large eruptions around 14,000 and 35,000 years ago.

COULD IT ERUPT AGAIN?

Tūhua/Mayor Island is a dormant volcano, meaning it is not currently active or restless, but could erupt again.

An eruption is considered unlikely within our lifetimes.



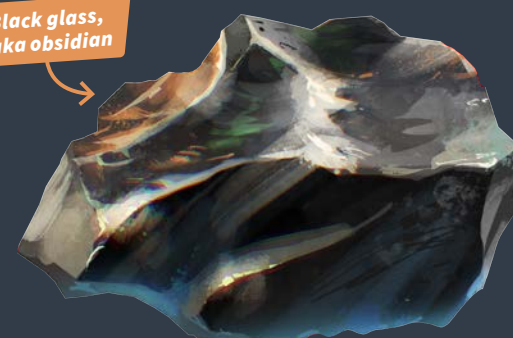
WHAT ARE THE DIFFERENCES BETWEEN TŪHUA AND WHAKAARI/WHITE ISLAND?

Whakaari/White Island is a cone volcano (like Ruapehu and Taranaki) whereas Tūhua is a unique mix of lava shields, pumice cones and several collapse calderas. Whakaari is much more frequently active with smaller eruptions than Tūhua, which erupts less frequently but with larger eruptions.

WHAT MAKES TŪHUA UNIQUE?

Tūhua is located to the west of NZ's main volcanic arc. Tūhua magma is unusually runny for its chemical composition when compared to similar magmas in the Taupō Volcanic Zone. This means it can erupt both explosively or by forming lava flows. When Tūhua lava flows cool, they cool rapidly forming **black glass** (aka **obsidian**) from which Tūhua derives its name.

Black glass,
aka obsidian



WHAT ARE THE HAZARDS FROM A TŪHUA ERUPTION?



Volcanic ash

Currently, Tūhua is showing no signs of volcanic activity. When Tūhua next erupts, a range of hazards could occur.

Volcanic ash is the fine fragments of rocks and glass that explode out of the volcano forming an ash cloud. **Ashfall** is when these particles land on the ground. Several past Tūhua eruptions have deposited ash on the mainland as could future ones. Tūhua ash contains toxic fluorine and chlorine, which are harmful to plants and animals if eaten.

Volcanic gases are often released before, during and after an eruption, but can occur without an eruption, during periods of unrest. Gases may be most hazardous in low lying areas on the island and are typically blown downwind.

Tsunami is a series of powerful waves with strong currents. At near-shore volcanoes they can be caused by explosive eruptions, flank failures, caldera collapses, and pyroclastic flows. The 7,200-year-old eruption from Tūhua may have generated a tsunami that impacted the Bay of Plenty coast.



Pyroclastic flows, ballistics and lava

Pyroclastic flows are fast moving clouds of steam, debris and hot ash. They flow down a volcano's slopes destroying nearly everything in their path and may flow some distance across water.

Ballistics or **volcanic bombs** are flying rocks ejected during an eruption within a few kms of the eruption site.

Lava flows are streams of molten rock that pour from an eruption site and flow down valleys and may enter and flow into the ocean.



Tsunami

WHERE COULD BE IMPACTED?

If an eruption were to happen, the impacts will be different depending on where you are. Most of the impacts would be felt on the island and on the surrounding water. Ashfall and gas impacts are usually greatest downwind of the volcano.

Impacts on the island or in the water close to the island: Volcanic ballistics, pyroclastic flows and tsunami would be life threatening and damaging.

Impacts to mainland: Ashfall, volcanic gases and tsunami could reach the coastal regions of the mainland. Ashfall and volcanic gases and tiny particles in the air can be bad for your health, plants, and even infrastructure. Tsunamis are dangerous. They can cause strong coastal currents causing a lot of damage and putting lives at risk.

WHY ARE WE TALKING ABOUT THIS NOW?

While Tūhua is not currently active, we are providing this information in response to increased public interest, and to share details about current research being conducted.

Special thanks to the Tūhua Trust Board for their valuable time and the insights they have contributed to this project.

GeoNet constantly monitors the island and will provide any change in activity on [geonet.org.nz](https://www.geonet.org.nz)

BE PREPARED



- Go to [geonet.org.nz](https://www.geonet.org.nz) for monitoring, updates and the current Volcanic Alert Level.
- If the volcano is active, stay away from the volcano.
- During volcanic activity follow official advice provided by Emergency Management Bay of Plenty and emergency services.

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