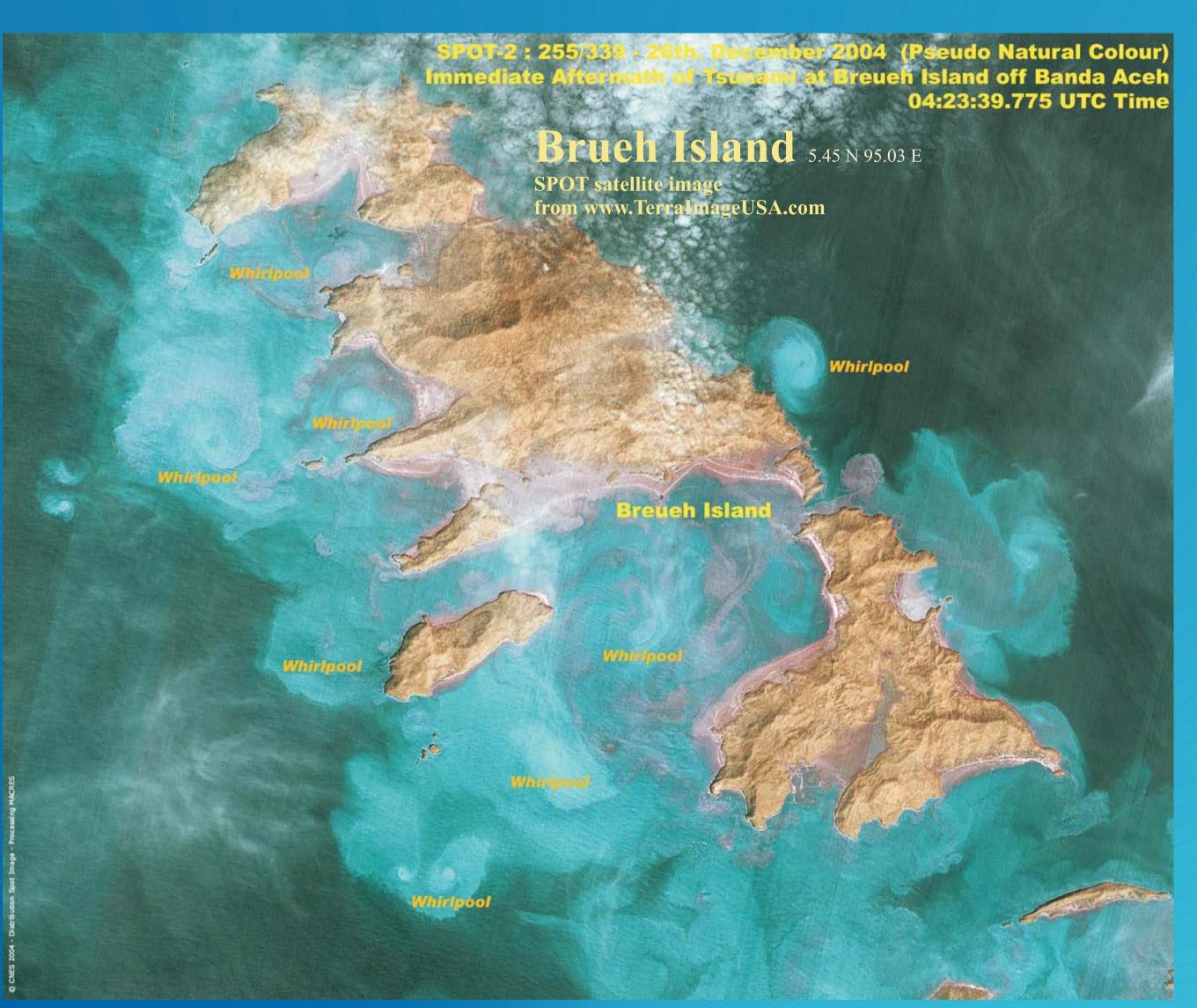
Tsunamis and Whirlpools; Representation in Art and Myth

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Numerous Whirlpools occurred in the 2004 Indian Ocean Tsunami



Other Whirlpools in the 2004 Indian Ocean Tsunami

Telaga Marina Langkawi, Malasia

"Telaga Marina seemed the worst hit. Despite being behind a substantial breakwater, the wave had been bottlenecked by the narrow entrance to the marina. Once inside, the water created a

whirlpool effect, sucking boats underwater and forcing people to run for their lives." http://www.rimbundahan.org/bilgis/images/tsunami in langkawi/ "I looked up ... to see a 4-meter wave come into the anchorage outside Telaga Harbour Marina ... The

wave broke as it reached shallow water — it knocked Pollen Path flat and some water came over the stern. The anchorage turned into a swirling vortex of muddy water — the water mucky brown and full of vicious overfalls, eddies, and wicked currents. The wave bounced off the shore as the water continued to pour into the anchorage creating steep waves. Boats ... smashed into each other, cruisers frantically fending off boats and trying to evacuate the anchorage. ... the current sucked us towards the entrance to the marina, which is surrounded by rocks. Friends watched in horror as [our boat] was sucked back and forth through the whirlpool, completely at the mercy of the strong currents. With only the 10hp outboard we could not fight the currents and were sucked between the markers,

narrowly missing one, and spat out into the sea." Latitude: 6° 19′ 60 N, Longitude: 99° 45′ 0 E)

Rebak Marina "Regarding the status at Rebak Marina I have less definite information. Rebak is on an island, so not easy to get to. The marina is about 10 years old and has had ZERO maintenance for probably the last 5 years. The pontoons were already breaking up, pilings breaking or tilted over. The wave/surge hit the docks there broadside, piling them in on top of one another. Again, the whirlpool effect swept docks and boats round and round and out to sea on retreat of the surge."

http://www.setsail.com/s_logs/liggett/sunflower139.ht Penang, Malaysia

"I did not feel the aftershock but just before 1.30 p.m. local time I stood up to look at the sea and was stunned to see a huge whirlpool in front of my apartment. To my right, I could see the tsunami heading on towards the northeast corner of Penang. As the waves approached the shallows, it was possible to see them rise in height and crash onto the shoreline. It looked like a giant washing machine in front of my apartment. We were lucky as we were away from the beach and up the hill

behind. There was no warning." Reuben Walters, Penang, Malaysia http://www.cnn.com/2004/WORLD/asiapcf/12/28/more.emails/

South Ari Atoll, Maldive Islands

Burmese Thai border (?) "While the Moken off Thailand had been on dry ground, these Moken in Burmese waters had been in their boats, at sea. "The water had such unbelievable strength", said one Moken man. "It was swirling like a whirlpool as if it was boiling and coming from the depths of the earth."

Similan Islands Richelieu Rock, Koh Surin Marine Park "We were diving at a remote site in the open ocean called Richilieu Rock, a pinnacle in about 120 feet of water ... A whirlpool started forming around us ... our mooring rope was cut to avoid being

sucked into the whirlpool or hitting "the giant wave created a whirlpool with incredibly strong currents" Lat. 09 21 506 N. Long. 098 01 001 E. and http://www.cdnn.info/industry/i041228e/i041228e.html

"like a horror movie, I actually saw the seaplane getting sucked under by the vortexes and eddies that were 20 feet across.....i was just waiting for the engines to smash into the water and see the plane flip over, when the crew cut the rope, jumped on board, and the plane bobbed up and took off." Lat: 3.50° N Long: 72.75° E Reported through Tsunami bulletin board: tsunami bb@infolist.nws.noaa.gov

ABSTRACT

A petroglyph from southeast Alaska is said to tell "the Haida story of the great flood." It shows a spiral inside the body of a sea-monster, an earthquake-related figure in Haida mythology. The spiral may represent tsunami-generated whirpools.

Many tsunami whirlpools formed during the 2004 Indian Ocean tsunami. These features were photographed by SPOT satellites and reported by observers., and whirlpools have previously been reported in a number of other tsunamis.

In Greek legend, a whirlpool feature in the strait of Messina is said to be "Charybis, the nymph-daughter of Poseidon and Gaia who flooded lands for her father's underwater kingdom" until Zeus turned her into a whirlpool. An earthquake in 1783 obliterated the natural vortex feature, and in 1908, the city of Messina was destroyed by a tsunami for the first time since its foundation c. 750 BCE.

In Cascadia, Salish carvings from the inland side of southern Vancouver Island, show whirlpool-like symbols with depictions of the Thunderbird and Whale; supernatural characters used to explain the origins of earthquakes and tsunamis by tribes on the outer coast of Vancouver Island.

TSUNAMI WHIRLPOOLS IN OTHER EVENTS

- discovered through a brief search on google

Lisbon; 1755

"It was at the time of which I am now speaking, that the fine new quay, built entirely of rough marble, at an immense expense, was entirely swallowed up, with all the people on it, who had fled thither for safety, and had reason to think themselves out of danger in such a place: at the same time, a great number of boats and small vessels, anchored near it (all likewise full of people, who had retired thither for the same purpose), were all swallowed up, as in a whirlpool, and nevermore appeared...

Eyewitness account by Rev. Charles Davy, cited in: Eva March Tappan, ed., The World's Story: A History of the World in Story, Song and Art, 14 Vols., (Boston: Houghton Mifflin, 1914), Vol. V: Italy, France, Spain, and Portugal, pp. 618-628) http://www.drgeorgepc.com/Tsunami1755Lisbon.htm

Papua New Guinea; 1957 and 1998

Holtekamp beach 1998 "...One eye-witness, Godlief Samallo, recalled hearing a sudden noise before the waves arrived. He saw a succession of many waves creating a whirlpool-like effect"

"Yowel Rolo also described a tsunami-related event that occurred in Skouw Mabo in 1957. A body of turning water, about 3 m high and described as whirlpool, caught and drowned a man who was near the beach." The Impact of the 1998 Aitape Tsunami at Jayapura, Indonesia, Nelson Joku, Geosciences Division, University of Papua New Guinea http://www.pmel.noaa.gov/~tsunami/PNG/Upng/N joku020402/

Manzanillo Mexico, M 8.0, 1995

"When the wave began to recede, eyewitnesses saw a whirlpool form just outside the entrance of the harbor." Mexican Earthquake Generates Tsunami, New Data, and Unusual Photos Earth in Space, Vol. 9, No. 7, March 1997, pp.5-8.© 1997 American Geophysical Union. http://www.agu.org/sci_soc/eisborerro.html

Puerto Rico M 7.5 1867

Port of St. Thomas: "A whirlpool appeared in the center of the bay and everything that was floating began to move towards it.'

Reported by commander of US Navy Atlantic Squadron. http://poseidon.uprm.edu/public/The-Earthquake-of-the-Century.pdf The Earthquake of the Century (The Devil's Scream) Author: Peter Avilés

Whirlpools in European Iconography and Myth

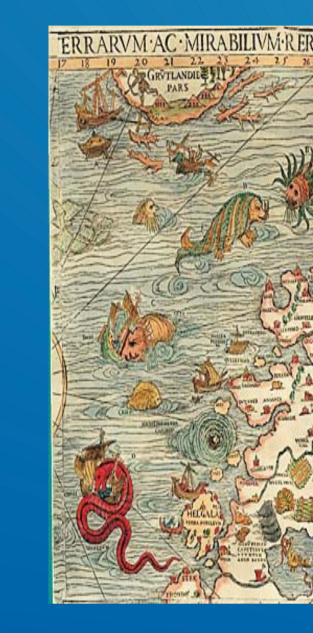
The Lofoten Maelstrom

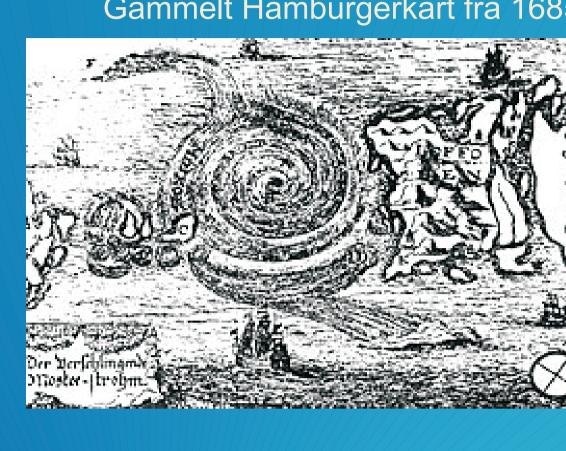
The Lofoten Maelstrom is a tidal whirlpool off the coast of Norway that has represented a danger to mariners for centuries.

European maps represent the Lofoten Maelstrom as a vortex. Additional sideways "S" symbol appears to represent a strong current, and a serpent devouring a ship indicates danger to mariners.

The Lofoten maelstrom was memorialized in Edgar Allen Poe's story "The Maelstrom"

Gammelt Hamburgerkart fra 1685





Italienske forskere mener at det var Moskstraumen Odyssevs kom ut for på sin reise.

http://www.lofoten-startside.no/moskstraumen.htm

Charybdis, the Whirlpool in the Strait of Messina

"Charybdis was once a nymph-daughter of Poseidon and Gaia who flooded lands for her father's underwater kingdom until Zeus turned her into a monster and have her suck in and out water three times an day. She lived in a cave at one side of the Strait of Messina, opposite the monster Scylla, the two of them forming a dangerous threat to

The story of Odysseus and Scylla and Charybdis, as told by Thomas Bulfinch www.pantheon.org/articles/c/charybdis.html

"Traditionally the location of Charybdis has been associated with the Strait of Messina ... separating Sicily from the tip of Italy ..." www.absoluteastronomy.com/ encyclopedia/C/Ch/Charybdis.htm

"Apparently a whirlpool did exist beneath the cliffs of Scilla until an earthquake in 1783 shifted the sea bottom, easing up the currents of both Scilla and Charybdis. However to sail the strait even today, one would have to plan the wind and tidal currents accurately." http://www.searoom.com/veleda/logsec06/veleda4-log33J.htm

The Destruction of Messina by Tsunami in 1908

"The city of Messina ... was founded around c.750 BCE [and] .. has several times been struck by major earthquakes, the ones of "1783 and 1908 being the most documented." In 1908 the city of Messina was destroyed. Not just damaged, destroyed. The earthquake of December 28, 1908 began with a 35-second major shock wave, followed by a month of after-shocks. The affected area was an arc 18 miles long, 12 miles wide, with Messina in the center, and causing 60,000 fatalities. After the major shock, the tidal wave which followed soon after destroyed both coasts along the Strait of Messina. Over 90 percent of Messina was obliterated. And not only the buildings were destroyed, but the very streets themselves disappeared in the rubble as the mountainside slipped down in places." http://www.ancientroute.com/cities/messina.htm

Is Charybdis a legend from before 750 BCE?

Whirlpool Petroglyph tells the Haida story of the Great Flood in SE Alaska

A petroglyph associated with "the Haida story of the great flood" (Dorris, 1975). Located in southeast Alaska, this petroglyph represents a sea-monster associated with earthquakes in Haida stories, with a vortex-like spiral within its body. "Y" shapes enclosing the spiral indicate water. The sideways "S" shape is similar to iconography used to represent strong currents on antique European maps.

Dorris, Michael, 1975, Native Americans: 500 Years After, NY: Thomas Y. Crowell



Haida Tsunami Myths

The water monster opens his mouth, and currents flow into it. Stone-Ribs puts on the water-monster skin, inundates canoes, makes the salt-water boil, and swallows fishermen. He causes a house to fall flat towards the sea, breaks the rock door that has traps him in the mountain, pushes fish into a cave, and creates a canoe passage by flopping across a spit.

Sacred-one-standing-and moving, Stone-Ribs, and Upward, pp. 197-206

The Swirling Hat

Story 1: A-slender-one-who-was-given-away pp. 151, 157

An ocean flood comes out of a magical hat, When the hat is returned to it's owner,

"He had a surf-bird for a hat. ... A round white thing was on top of his hat. This was a foamy wave. The foam was turning round and round rapidly. As soon as they had refused him the earth changed. Out of the earth water boiled up. Then, when this island was half covered, the frightened town people thought of giving the woman up. Then they all cried and ... let her go. Then the stranger gave them his father's hat covered with surf-birds which kept flying out from it and back again."

Story 2: Raven Traveling pp. 122-124.

The swirling-foam-topped hat invokes a flood in a story with the disordered elements of an earthquake and tsunami event: First. whales are stranded when water recedes suddenly, then a taboo is broken and an earthquake occurs, followed by a

"On the top of the chief's hat that he wore a round fleck of foam swirled rapidly ... Something on his head began turning around very rapidly. Then a strong current of sea water poured into the house."

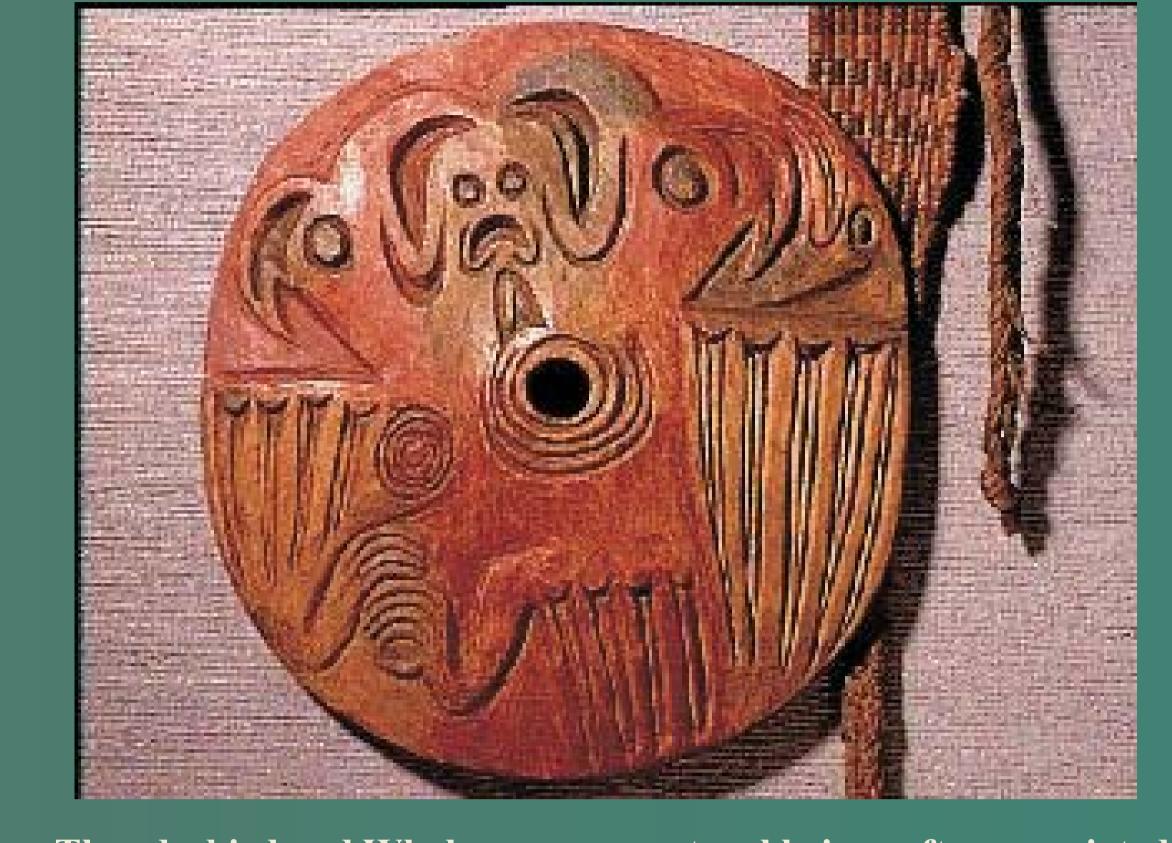
Stories from: Swanton, J., 1905, Haida Texts and Myths, Skidegate Dialect, Bulletin 29, Bureau of

CONCLUSIONS

- Whirlpools are a notable feature of tsunami events from the perspective of human observers.
- Native groups on the Pacific Coast of North America associated tsunamis with whirlpool events
- The legend of Charybdis, referring to the Strait of Messina between Italy and Sicily, may describe a tsunami that occurred prior to the founding of Messina c. 750 BCE

Tsunami Whirlpool Motifs from Southern Vancouver Island

Whirlpool images are shown with Thunderbird and Whale, supernatural beings often associated with tsunamis on the outer coast in Salish spindle whorls from the inner coast of Vancouver **Island.** American Museum of Natural History, ethographic collection: http://anthro.amnh.org/ - 161 1874 161 1865 161 9572 161 9574 161 9571



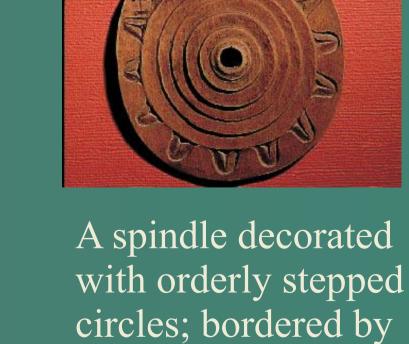
Thunderbird and Whale are supernatural beings often associated with tsunamis on the outer coast. This example shows two Thunderbirds with wave-like beaks towering over a distressedlooking figure. Grooves around the central hole suggest a vortex, as does another set of concentric circles on the left-hand Thunderbird. The Raven appears on the upper right.



The Thunderbird and Whale appear in many stories containing earthquake and tsunami elements. Deeply incised circular grooves around the central hole suggest a chaotic vortex.



A spindle decorated with a Thunderbird, wolf, and unknown figure. The incised groove around the central opening is present, but not pronounced.



whale fins. The orderly

appearance is only weakly suggestive of a vortex.

6/11/05 UW Tsunami Meeting