Activity—Tsunamis and Floods in Native American Oral Tradition and Mythology

Cascadia Megathrust Earthquakes in PNW Indian Legend

http://www.ess.washington.edu/SEIS/PNSN/HIST_CAT/STORIES/

Earthquake and flood references are common in Native oral traditions all along the Cascadia margin from Yurok territory in northern California to Kwakwaka’wakw territory at the northern end of Vancouver Island. Some stories are literal, and clearly refer to recent historical happenings. Other stories refer to earthquake or tsunami effects metaphorically. The battle between the Thunderbird and Whale is a famous First-Nations story from the coast of Washington and British Columbia that appears to be related to great subduction zone earthquakes on the coast of Cascadia. References to Thunderbird (or analogous wind figures) and to whale (or analogous water figures) are found in connection with shaking and flooding all along the Cascadia coast.

Science Standards (NGSS; pg. 287)

- From Molecules to Organisms—Structures and Processes: MS-LS1-8
- Ecosystems—Interactions, Energy, and Dynamics: MS-LS2-4, HS-LS2-8
- Earth’s Systems: MS-ESS2-2, HS-ESS2-2, MS-ESS2-3
- Earth and Human Activity: HS-ESS3-1, MS-ESS3-2

Television Program on Internet about Tsunami History of Pacific Northwest

Watch ~10-minute Oregon Field Guide show that shows evidence for a Cascadia tsunami in offshore deposits of sand and mud: http://www.opb.org/programs/ofg/segments/view/1715?q=tsunami

On page 12 of Brian Atwater’s book Orphan Tsunami, he notes that the oral traditions of Cascadia’s native peoples tell of flooding from the sea. An extract from James Swan’s diary in January 1864 records a conversation with a leader of the Makah tribe at Neah Bay WA:

**DIARY OF JAMES SWAN FOR JANUARY 12, 1864**

Billy also related an interesting tradition. He says that “an'karty” but not “hias an'karty” that is at not a very remote period the water flowed from Neah bay through the Waatch prairie, and Cape Flattery was an Island. That the water receded and left Neah Bay dry for four days and became very warm. It then rose again without any swell or waves and submerged the whole of the cape and in fact the whole country except the mountains back of Clyoquote. As the water rose those who had canoes put their effects into them and floated off with the current which set strong to the north. Some drifted one way and some another and when the waters again resumed their accustomed level a portion of the tribe found themselves beyond Nootka where their descendants now reside and are known by the same name as the Makahs—or Quinaitchetchat. Many canoes came down in the trees and were destroyed, and numerous lives were lost. The same thing happened at Quillehuyte and a portion of that tribe went off either in canoes or by land and formed the Chimakum tribe at Port Townsend.

There is no doubt in my mind of the truth of this tradition. The Waatch prairie shows conclusively that the waters of the ocean once flowed through it. And as this whole country shows marked evidence of volcanic influences there is every reason to believe that there was a gradual depression and subsequent upheaval of the earth's crust which made the waters to rise and recede as the Indian stated.

The tradition respecting the Chimakums and Quillehuytes I have often heard from both those tribes.
The Quinault Indian Tribe of Washington was the first Native American community in the country to receive a “TsunamiReady” designation on May 30, 2002. The Quinaults will be able to set a standard for other tribes to establish infrastructure and systems to save lives and protect property. This is a very important step since earthquake dangers exist in the Pacific Northwest.

In the past century, tsunamis have damaged the Pacific Northwest coastline (Northern California, Oregon and Washington). When a magnitude 9.0 earthquake occurred January 26, 1700, tribal coastal communities were probably destroyed by these large ocean waves. The area in which the oceanic tectonic plate (Juan de Fuca) is pulled or driven beneath a continental plate (North American) is called the Cascadia Subduction Zone. A major CSZ earthquake and subsequent tsunami would have reached the shore in less than 30 minutes.

Ruth S. Ludwin, University of Washington, Pacific Northwest Seismograph Network (PNSN) has researched Native American stories along the coast of Cascadia from the Yurok territory in northern California to Kwakwaka’wakw tribal lands at the northern end of Vancouver Island. These subduction zone events are represented in the oral literature of the Pacific Northwest Indians.

The battle between the Thunderbird (wind) and Whale (water) are referenced in connection with the shaking and flooding all along the Cascadia coast. Thunderbird holding a whale is a prominent theme in Native American art as well.

TsunamiReady Communities
http://www.magazine.noaa.gov/stories/mag158b.htm

TsunamiReady Designation Given to First Native American Community
http://www.nws.noaa.gov/com/nwsfocus/fs060302.htm

Protecting our Ports and Harbors – Pacific Northwest Earthquake History
http://www.csc.noaa.gov/products/tsunamis/htm/cascadia/e_hist.htm

Tsunami Hazard Mitigation Field Trip
Paleotsunami Deposits – Crescent City, California

Related Links

Cascadia Megathrust Earthquakes In Pacific Northwest Indian Myths and Legends

Native American Legends of Possible Tsunamis

Native American Legends of Tsunamis in the Pacific Northwest
http://walrus.wr.usgs.gov/tsunami/NAlegends.html

Cascadia Subduction Zone Map (1700)
Cascadia Sand Layer Covers the Remains of Native American Fishing Village
http://pubs.usgs.gov/circ/c1187/

Visualization of the 1700 Cascadia Tsunami
http://www.pge.nrcan.gc.ca/press/index_e.php
Thunderbird and Whale


Stories of the Hoh and Quilleute Indians of the northwestern Olympic Peninsula relate the epic struggle between Thunderbird and Whale. Thunderbird is a bird of monstrous size, “when he opens and shuts his eyes he makes lightning. The flapping of his wings makes the thunder and the great winds.”(1) Thunderbird lives in “a dark hole under the foot of the Olympic glacial field” (1).

“The great thunderbird finally carried the weighty animal to its nest in the lofty mountains, and there was the final and terrible contest fought.”(2) “There were ... a shaking, jumping up and trembling of the earth beneath, and a rolling up of the great waters.”(2)

“Thunderbird ... soared from her .. dark hole in the mountains....far out over the placid waters and there poised herself high up in the air and waited for [Whale] to come to the surface of the water ... It came and as quick as a flash, the powerful bird darted and seized it in her flinty talons. Then above the watery surface she lifted it and with great effort soared away toward the land areas.”(2)

“Passing beyond the oceans with her ponderous load, she ... was compelled to alight and rest her wings; and each and every time the bulky beast was allowed to reach solid land there was a terrible battle; for it was powerful and fought for its life with terrible energy.”(2) “Again Thunderbird would seize him... Again ...Whale would escape. Again Thun-derbird caught ... Whale.”(3) “High into the air the bird carried it over the land, ... dropping it to the land surface at Beaver prairie. Then at this place there was another great battle.”(2)

Tsunamis and Floods in Coos Bay Mythology

by Patricia Whereat Phillips

The principal evidence for major prehistoric earthquakes associated with subduction comes from investigations of estuarine marsh sediments buried by sand layers. These deposits suggest that portions of the coast subsided abruptly and were then overwashed by extreme tsunamis, or “tidal waves,” that swept over the area and deposited the sand. . . . The number of these layers . . . indicate that catastrophic earthquakes have occurred along the Northwest coast at least six times in the past 7,000 years, at intervals ranging from 300 to 600 years, with the last having occurred about 300 years ago.

— Paul Komar

Tsunamis are terrifying and destructive events but relatively infrequent from the standpoint of a human lifetime. It is no wonder, then, that tsunamis appear in the mythology of coastal peoples. To my knowledge, no one has looked in depth at a particular Oregon coastal people’s language and their mythology to assess the scope and effect of these events from the point of view of Native people. I will focus on the mythology of the Coos Bay Indians and on the Hanis language (along with Milluk, it was one of the two languages that was spoken on Coos Bay), as it is the one I am the most familiar with.
The linguistic data on this subject are unfortunately quite limited. The sole phrase recorded in the Hanis language for earthquake is tl’ta lishtats. It translates literally as ‘earth shaking’, from tl’ta (or tl’də) for ‘earth, land, ground’ and the verb root lish- ‘to shake, to move’. Although there are a handful of Coos texts that mention tsunamis, there are none explicitly about earthquakes. In various interviews with ethnologists and linguists, however, some mention of earthquakes has been recorded. In a 1942 interview with linguist John P. Harrington, Hanis Coos informant John Waters said, “My [grandmother] told when years ago there was a big earthquake that caused cracks in the ground.” In 1881, when George Bissell was working on a vocabulary list with an unidentified Lower Umpqua woman, he listed só hwass as a word for earthquake and noted next to it on his schedule that “yúohy for a caving in.” The woman volunteering ‘caving in’ along with ‘earthquake’ hints that she had heard accounts of earthquakes.

Several words and phrases describe high and low tides, which is to be expected in the vocabulary of a coastal people. I was able to find only one word in Hanis Coos that can be translated as ‘flood’, ma’atl, but there was no further definition of the semantic domain for the word. The word was recorded only once, as the title of a tsunami story told by James Buchanan, from the Hanis village Wu’allah (near Empire). Ma’atl probably refers to flooding in general and not specifically tsunamis. More often in the Hanis language, phrases are used to describe tsunamis, as ‘when the flood time came there was no ebb tide,’ ‘now the water rushed in,’ and ‘the water ran ashore far across the land’. I will consider these descriptions within the context of the narratives in which they appear.

Although dozens of Coos myths (both in Hanis and Milluk) and other narratives have been recorded, they represent only a small portion of the narratives that have existed. Most of the narratives that have come down to us are primarily from two Hanis-speaking informants — Jim Buchanan, who worked principally with Henry Hull St. Clair and Leo Frachtenberg in the first decade of the twentieth century, and Annie Minor Peterson, who worked with Melville Jacobs in 1933 and 1934. Annie Peterson, who was born on Coos Bay near Wu’laençh (Cooston) but raised at the Yachats reservation, also spoke Milluk, the language spoken at Cape Arago and South Slough on Coos Bay.

The traditional narratives can be divided loosely between myths and historical narratives. Throughout the Northwest, Indians recognized this division of their stories. As Melville Jacobs noted,

Long ago, [Franz] Boas and others pointed to the larger Pacific Northwest’s natives own contrast of myths versus tales. Boas wrote correctly that this larger region’s myths
comprised recitals of happenings dated in an early era when things were rather different from what they were in the more recent era that was described in tales. . . . It was the natives’ own laconic way of commenting about the two recital forms which they recognized.¹

This was a division that the Coos Indians also recognized, dividing tales into logauwiyat’as, which were about ‘happenings, customs, events, true history’, and hæchit, which were defined as ‘story, myth, prehuman world’.²

If we include Jim Buchanan’s version of the creation story, which describes great waves washing across the newly created earth, then there are essentially three narratives that can be interpreted as describing tsunami events. In traditional storytelling, rarely are detailed descriptions of characters or events expressed, so at times it is not clear if flooding or a tsunami is being described. The narratives tend to be spare, because their audiences probably already understood them well from a cultural context and because they had heard them throughout their lives. Also, there are no clear references to earthquakes in Buchanan’s narrative, except for one brief mention of “sinking land.”

The other two narratives are highly symbolic rather than historical narratives, although one of the stories combines history and myth with a possible reference to the most recent tsunami event in January 1700. It may be
a stretch to include a creation story here, which is an entirely mythological rather than a historical event and, since it happened in prehuman times, was also understood by Natives to be a heechit’, ‘myth’. But I believe this narrative illustrates how deeply the image of great waves roaring across the land is embedded in Hanis Coos culture. At the beginning of the story, the world is covered with water. Two young men from the sky world drop five disks of blue clay down into the water, but it is not stable. The story continues as follows, which I retranslated from Frachtenberg:

The land stuck out.
They watched the heavy waves.
The water continually went back and forth.
They watched it from above.
“How is your heart? Shall we try it again?”
“What shall we try?”

And the water was going back and forth.
“Let’s split this mat in two.”
“We shall try it.”
They did indeed try it.
From above they laid it down.

Joined together there they put it down.
They were afraid.
There they went down.
Still the land was not solid, when they laid down the matting.
The waves were rolling over the matting.

Now one said “that basket we should split in two.”
Surely they put it down.
Joined together there they put it down.
Now on the ocean beach they put it down.
Beach sand was on the land.

There they put it down.
The basket was split.
Now it held back the waves.
Now indeed that is the way it got, when it held back the waves.
The water ran down (through the basket).

Now there they went down.
It was held back.
Again the water went through (the basket)…?
Another heavily mythologized image of a tsunami appears in a narrative told by Annie Peterson, “Salmon Did Ill to Boys.” In this myth, a tsunami is caused by some young men acting disrespectfully while fishing by pretending that a salmon is one man’s wife. In traditional Coos culture, behaving disrespectfully toward animals that are hunted for food was considered dangerous.

Another year, and then the salmon came up river (again). Now they heard something (jingling), everybody went outside and watched it. “Ho! quantities of salmon are coming.” But out in front a baby was being held aloft (on the salmon), and its decorations were what was jingling. “You should not watch a thing like that!” So some of them indeed did not go outside (to look). Now water (a tidal wave) rushed in, and thus all of those people (who had gone outside to look at the salmon baby) drifted away (with the flood). Pretty nearly all the people were gone.

That is how it is not a good thing when the children do all sorts of tricky things. You are not to do such things. You should not belittle food, because the people die (from that). You should not perpetrate all sorts of tricks!

The original line describing the tidal wave was in Milluk Coos:

hei-mâ•tsi-há•p'-he’gwen, wen-gu•s-kwi•-ge´-tkxi-tke-k’a
PAR PAR water rush.in, thus all PAR ? drift ART people
Now water rushed in, and thus those people drifted away.

The third narrative, which recounts a flood from the sea washing people away, has been told in different versions by three different storytellers — Jim Buchanan, Annie Peterson, and Annie’s niece, Lottie Evanoff. The oldest recorded version was told by Jim Buchanan to Leo Frachtenberg. Buchanan called the story ma’atł, which Frachtenberg translated simply as ‘flood’. Buchanan himself said this story was true history rather than haechit’, a myth from prehuman times. He told Melville Jacobs:

It’s “history” that there was a flood that made the people get on qa’latl mountain in Coos Bay, the only one that stayed above water. . . . They say that lots of people who went inland never came west again, but settled “east.”

The flood in Buchanan’s story was caused by a tl’uni ‘flood tide’ that did not ebb. This is also the only story that has a line that might describe an earthquake. Buchanan said, “The earth sunk into the water,” using the verb tōk’wil, which means to sink or to dive.

In this story, people get into canoes to save themselves. Some anchor onto trees, other canoes ride out the currents. Eventually, the water recedes, and people become scattered around the world. My retranslation of the entire story is included later in this article, but here are some of the relevant lines.
The story opens:

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  i la L n hats n tEwi tsu
  when DEM flood.tide CONJ NEG ebb.tide
  When the flood tide came there was no ebb tide.
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People run and get into their canoes. A few more lines down, there is a mention of the earth sinking into the water, which could be a reference to the subsidence of earth that often accompanied coastal seismic events.

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  TEk_wI IE x patc IE L ta
  to.dive/sink ART water.LOC ART earth
  The earth sank into the water.
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  Qantc he tsâ’ yux en_ k exEm la tc_hE i k ka
  where ART small stick.out.PROG DEM there ART 3PL go
  Wherever a small bit of land stuck out, that’s where they went.”
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Annie Peterson recounted what appears to be a shorter version of this story, which she titled in Milluk tl-di•hâ•p’-he•wi. Melville Jacobs translated this as ‘the water got high’, but a more literal translation is ‘the water grew’. Although I do not have translations for all of the Milluk words, here is the gist of the opening lines based on Jacobs’s transcription:

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  tlô he•niye gu•s-min ileq
  ART long.time all time rain
  Long ago it rained all the time.
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  Án-wá• ílges, e•t’cili-ilges
  NEG ? Rain, small rain
  It was not a heavy rain, small raindrops
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  he•niye ileq’
  long.time rain
  A long time it rained.
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  Hei-má•tsi báldi•mes phwi-lat’
  PAR PAR ocean raised
  Then the ocean raised
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  wenkwi hewi tlô ha•p
  PAR grew ART water.LOC
  Then the waters grew23
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Perhaps the most interesting part is at the end of her narrative, where Annie says that, as a child, her maternal grandfather, Minkws (Quiet), saw a survivor from this flood:

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My grandfather (Minkws) saw one of the old women (survivors) who had been left alive. She had been hung up on a tree, and the limbs of that tree were too high up. So she took her pack line and tied it to a limb, and then when she wanted to go down by means of that, she fell, she was just a girl when she fell from it. Her back was broken from it (she had a humpback thereafter). That is what she told about the raised water.

Could Minkws have met a survivor from the 1700 tsunami event? It is possible, but I am far from certain. Annie Peterson was born in 1860. It is not known when Minkws was born, but it is not unreasonable to assume somewhere around the year 1800, give or take a decade. If he was acquainted...
with a survivor from the 1700 event, she was very elderly indeed by the time of Minkws's youth. I think it is more likely that Minkws heard the story of this survivor from his parents or grandparents and passed it on to his granddaughter.

Annie Peterson’s niece, Lottie Evanoff, told the same story, but she placed the cause of the flood on a boy who killed crows when he was told not to. This echoes the belief that a tsunami is punishment for a transgression, as in the “Salmon Did Ill to Boys” myth. Lottie also recalled the family lore that Minkws had met one of the survivors of the flood. Her narrative was recorded, primarily in English, for J.P. Harrington as follows (normalized for grammar and spelling):

A boy was told, don’t you ever kill crows, and he killed them, several, only one crow was saved, one crow flew away. That killing was what started the flood, thereupon it rained fine rain for five days.

It was this flood, that the canoe landed on top of Blue Ridge.

The Indians that had no canoes, drowned.

They call fine rain crow’s tears, when fine rain always call it thus, for the surviving crow wept, má•Katł’ ts’xwá’las.

My mother’s grandfather told the flood story. The water was just rising slowly when the flood came but when the flood subsided, then it went fast & that was when lots of Indians got drowned. A woman grabbed a standing spruce tree as the log she was clinging to butted against that standing spruce, and the woman fell loose but grabbed the spruce and as the water subsided found herself high above the ground in that spruce. She decided to jump to the ground and as she did so, she broke her back.

My mother’s grandfather saw that woman who had a broken back, she was already old, her back was broken near the shoulders, at Yachats, she was a heavy-set woman, awful white.  

Although Lottie’s placement of the tsunami in time is about a century off — the Yachats reservation period lasted from 1860 to 1875 — her narrative, like her aunt’s, describes what may have been an actual survivor of a tsunami.

One can also get a sense of how narratives of devastating historical events become interwoven into mythological narrative. A tsunami was perhaps the most destructive single event that could befall a coastal community. Few riverine floods could rival it for the amount of destruction and loss of life. The human mind tries to impose patterns and predictability onto chaotic and not always predictable nature. Myths try to put the inexplicable into a comprehensible context. One hundred and fifty years after the most recent tsunami event, the story of the survivor with the broken back was interwoven into flood myths.
The ocean was regarded as a setting of powerful forces worthy of respect. When traveling by canoe, correct behavior had to be observed, and people were expected to behave in a serious manner and not to point at floating logs or other objects. The image of the powerful currents of the sea and tides ran deep in Coos cosmology. In the creation story, the ocean existed before the land, and after the land was formed the waves ran across it until beaches were created. The ocean was responsible for scattering the people so that the entire world was populated.

The “Salmon Did Ill to Boys” and Lottie’s flood story have a different connection to the power of the sea in Coos cosmology. Crows had the power to understand human speech and see the immediate future, and they were supposed to be close friends of the Thunderbirds, who had power over the ocean and all of its creatures. Salmon were the most beloved of the sea’s children in the eyes of the Thunderbirds. Although not explicitly stated in either narrative, the Coos may have understood the Thunderbirds sending tsunamis as punishment for maltreatment of what they held dear.

The power of the tsunamis and the myths reminded the people to treat the nonhuman world with respect. As Annie Peterson noted, when taboos are broken or people behave foolishly and recklessly, “the people die (from that). You should not perpetrate all sorts of tricks!”
MA’ATŁ, THE FLOOD

In 1909, linguist Leo Frachtenberg worked with Jim Buchanan on Coos myths and cultural traditions. One of the stories that was recorded was “The Flood” (see Frachtenberg, Coos Texts, pages 44-49). I have retranslated the story from the Hanis and arranged the translation into lines of verse. In this way, I hope to illustrate Buchanan’s use of repetition of imagery and rhythm in his narration.

When the flood tide came there was no ebb tide.
All was full of water.
It was wholly filled.

The world was full of people.
There were too many people.
They looked, when that water reached its fullness.

Some people had large canoes.
And some had small canoes.
All kinds of people crowded in when they settled down on the earth.

Some people were ready with braided ropes they’d stored away.
So they quickly went into the canoes.
all people became scared.

The earth sank into the water.
Wherever a small bit of land stuck out,
that’s where they went.

A small bit of land was sticking out
Here the people assembled.

All the animals came there in twos.
All small birds came there in twos.
All kinds of things came there in that manner.

They were mixed together there with the people.
It’s as though they did not know one another,
when they were mixed together with the people.
Wherever the top of a fir tree was sticking out, there they fastened the canoes.
And some people were without braided ropes.
Some people drifted far away.

Many people had braided ropes.
They no longer knew one another.

The small piece of land kept on floating.
The small bit of land’s name was Qalal (Kentuck).
It was sticking out.

There the people were assembling.
There all manner of things were assembling.
There were many kinds of animals there among the people.
All kinds of birds were mixed together there in pairs.

They did not know anyone.
Fear was in their hearts.

Nothing was sticking out.
They scattered far away, the people drifted far and wide.
The water carried them far away.

When night came, the people’s canoes were fastened.
They were watching their canoes.
They were watching the canoes when they were made fast.

Some of the ropes were short.
Suddenly some were loosed, and they drifted away.

Water carried them away.
Thus in that manner half the people drifted away.
They no longer knew one another.

When it became evening, the water ran down.
Everywhere one person had a canoe that was fastened.
They did not know how to take care of the canoes when the water went down.
Whenever a canoe caught on a tree limb, they freed that canoe.
Some people didn’t watch the canoes.
They did not watch them, they tipped over.

When ever a canoe got hung up, when it became caught on a tree limb, their canoes tipped over, when evening came.

Thus they worked.
They could not sleep, when they watched their canoes.

When the earth again became dry, the people dropped onto the earth with their canoes.
So again they returned there.

Everywhere they settled down individually.
One man with one woman.
Thus they settled.

The animals, they again returned to shore, when the earth dried.
Likewise the small birds.
Everywhere the small birds went in pairs.

They did not know the place where they dropped down, and the people began to go farther away.
They did not know where they dropped down.
Thus the people were scattered.

In this manner is the story being told.