In the Loop

Bringing the Aleutians East Borough, the AEB School District and Eastern Aleutian Tribes together by sharing common goals.

Tsunami Experts Highlight Sand Point’s Vulnerable Areas in Tsunami Inundation Maps

Residents living in Aleutian coastal communities are no strangers to harsh, stormy weather as well as earthquakes, all of which occur frequently in this part of the world. However, knowing how to survive a monster tsunami that may follow a quake could be foreign to most people unless they’re prepared or
have lived through such a disaster.

If you’ve ever wondered how fast a tsunami can be generated following a massive earthquake, think back to March 11, 2011 when a colossal 8.9 magnitude earthquake struck Japan with incredible force 231 miles northeast of Tokyo. It was the fourth largest earthquake on record. About an hour after the quake, towering waves of up to 30 feet high pounded the Japanese coast, sweeping away vehicles and collapsing buildings as if they were mere toys. The total number of confirmed deaths and missing is nearly 22,000.

The 9.2 magnitude earthquake and subsequent tsunami that devastated Anchorage and other southcentral communities in 1964 caused 131 deaths. The quake and resulting tsunami reached as far as Hawaii and Japan. Tsunami waves can travel at the speed of a commercial jet plane (more than 500 miles per hour).

Not only can tsunamis be incredibly destructive, they can also be very unpredictable. The 1946 Aleutian Islands earthquake, with a magnitude of 7.4, generated destructive waves that rose to heights ranging from 45 – 130 ft. The tsunami annihilated the Scotch Cap lighthouse on Unimak Island and killed all five lighthouse keepers. Despite the destruction to Unimak, the tsunami had little effect on the Alaskan mainland. Historians and experts believe that was due to the presence of the Aleutian Islands, which absorbed the brunt of the tsunami’s power, shielding the mainland. Five hours after the Aleutian earthquake, the tsunami waves produced extensive destruction along the shorelines of the Hawaiian Islands. Wave heights across the islands reached an estimated maximum of 55 feet. A total of 159 people were killed.
Because tsunamis are so dangerous and unpredictable, it’s crucial that people know what to do about the impending danger. Residents in Sand Point learned that the low-lying areas that are at greatest risk during such a disaster include the harbor, the location of the Trident Seafoods plant and the airport.

Experts from UAF, the State of Alaska Department of Homeland Security and Emergency Management & NOAA’s National Weather Service joined forces to create the tsunami inundation modeling and mapping project for various communities throughout Alaska. Earlier this month, two experts, Dmitry Nicolsky from the Geophysical Institute, UAF and Louise Fode, a Warning Coordination Meteorologist with the National Weather Service, conducted a workshop hosted by the Qagan Tayagungin Tribe in cooperation with the Sand Point Police Department. The earthquake and tsunami experts unveiled Sand Point’s tsunami inundation maps and provided residents with essential information.

“The big take-away from this is we’re able to outline where the high ground is so community members can look at the map and see if the places where they work or live are in the risk zone so they’ll know where to go in case a tsunami occurs,” said Fode.

“There are a few low-lying residential streets near the downtown area that would need to evacuate,” Sergeant Mike Chiesa of the Sand Point Police Department said.

From an emergency management perspective, there are two different scenarios regarding a tsunami risk that the public needs to be aware of. One includes a locally-generated tsunami. The other could occur much further away, such as in Japan, for example.

“The Tsunami Warning Center and UAF recommend that if you feel the ground shaking for longer than 20 seconds or if the earthquake is so strong that you’re unable to stand up (localized), don’t wait for the official evacuation order,” Fode said. “Take yourselves to higher ground immediately.”
“Those few extra minutes could be the difference between life and death,” Chiesa said.

“However, in the case of a tsunami arriving from Chile, for example, you have hours of notice and more time to evacuate,” Fode explained.

Chiesa said the good news is that most of Sand Point’s infrastructure and residences are built above the inundation zone.

“So many of the residences and businesses such as our AC Store, the power supply and the clinic are actually above the projected maximum wave height for the worse-case scenario tsunami,” said Chiesa, “so that would be the positive side.”

Chiesa also pointed out that even the low-lying Trident Seafoods plant with its large population of cannery workers can still access safety fairly quickly.

“There’s the hill right above where the apartments and the bed and breakfast are located, so workers would just need to evacuate up to that area first to be in a position of safety,” he said.

If a strong earthquake occurred indicating a subsequent tsunami while people were down at the harbor, they would also have a safe place to go.

“There’s a hill right behind the harbor,” Fode explained. “So instead of crossing through the harbor and trying to get to the school, they could just hike up the hill behind the harbor and that would be a safe location. At that point, local emergency managers could collect everybody to take them to a shelter, if necessary.”

Fode said most people seem to be fairly knowledgeable about the tsunami risk in the Aleutians. However, she said many believed that the islands surrounding Sand Point would prevent a tsunami from making it into the harbor.

“We were able to dispel that myth, and to say, no, the islands do not protect Sand Point from
tsunamis. A tsunami wave can spread around islands and still make it into the harbor. So that’s an important point that residents learned during the meeting.”

Anyone who’s interested can view the hard copies of the Sand Point inundation maps that the experts left behind. They’re also available online through the Alaska Earthquake Center.

“I encourage people to check them out,” Fode said.

Chiesa said he was honored to have both Louise Fode and Dmitry Nicolsky in Sand Point.

“They provided some worthwhile information for the community,” he said. “They also had a meeting with local emergency planners,” Chiesa said. “It helped us to improve our plans for evacuations and gain a better understanding of infrastructure needs for the city. That was very valuable.”

Chiesa said the Sand Point Police Department is working with the State of Alaska to develop an evacuation map and brochure which will be distributed to the community as soon as it becomes available.

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**Redstar's Summer Exploration Program Defines Drill Targets at the Unga Gold Project**

The Redstar Gold Corporation has released results from the company’s 2016 summer geological mapping program at the Empire Ridge Prospect, which is part of the corporation’s 100% controlled Unga Gold Project. The company also provided information regarding work on the Shumagin Zone. The Unga Gold Project covers portions of Unga and Popov

“We wanted to revisit the Unga gold project to follow up on our drill program in 2015,” said Redstar President & CEO Peter Ball. Photo courtesy: Redstar Gold Corporation.
Islands, located about two miles west of Sand Point.

“What we wanted to do was revisit the Unga gold project to follow up on our drill program in 2015. It had some very good, high-grade gold intercepts at the Shumagin Zone, which is part of two trends,” said Redstar President & CEO Peter Ball.

The Shumagin Trend is six miles long, heading northeast to southwest. The other zone, the Apollo-Sitka Trend, is another six miles long.

“We mapped out and took some rock and geochemical soil samples across the Shumagin Zone because we wanted to determine other potential drill targets,” Ball said.

Ball said Redstar crews also traveled to Orange Mountain, one of the tallest peaks along the southwest of Shumagin to conduct rock and geochemical samples and structural analysis. They also hiked further southwest in the same zone up the Shumagin Trend to look at the Aquila and Amethyst Zone.

“So what we wanted to do overall is see how they’re all connected,” Ball said. “We also did the same thing at the Apollo-Sitka Zone where the old historical Apollo-Sitka mine was located. We went southwest of that zone to the Empire Ridge Zone where we conducted geochemical,
structural and overall review of that mountain to see how it linked with the Apollo-Sitka Zone.”

Ball said the objective was to evaluate all of the different zones along the two trends to check for continuity of structures and determine whether they are all linked. The other goal was to update where the corporation is in regards to having drill targets ready for the company’s next program, which will be much larger and developed within three stages.

“We tested all of the rock structures, tested the zones, conducted soil sampling, mapped the areas and then reviewed all of the models,” Ball said. “Orange Mountain looks like it’s connected with Shumagin and Aquila. Amethyst looks like it’s connected with Orange Mountain, which we already believed. More data was gathered, and now we have a better understanding.”

Ball said because it’s expensive to drill anywhere in the north, gaining a better understanding of the overall geological makeup of the structures is key.

“So before we head up there and commit to a heavier investment in regard to an extensive drill program, we had better have all of our ducks in line.”
Ball said the next step is to outline an extensive drill program, possibly during the spring of next year. He said before anything is announced, Redstar would like to go there and meet with people in nearby Sand Point as well those with the Unga and Shumagin Corporations to bring them up to speed.

“We haven’t finalized anything yet, however, we’re in the stages of planning a program at Unga to follow up in 2017,” Ball said.

Ball said there are many potential economic benefits to the nearby community of Sand Point.

“For example, if we go out there and build a camp, we’re hoping to work closely with the local community and hire locally to potentially operate some of the machinery needed to build a drill pad or an access road.”

Ball said the end result in the future would be to hopefully build an underground mine that is non-invasive to the environment.

“However, we would have to find gold first, and find enough of it,” he said.

Ball said in addition to gold, there is quite a bit of silver.

“So for every ounce of gold, there’s about 4 to 5 ounces of silver. It’s a precious metal focus-driven project,” he said. “There are so many gold zones that the opportunity for a big discovery is there, but it will take a significant amount of dollars to build it to the point where we would actually have the ability to push forward for a mining operation.

Ball said a mining operation on Unga Island could potentially create years of employment for the community of Sand Point.

“The goal is to provide employment and long-term sustainable development on Unga Island over many years,” he said.

Ball acknowledged that mining operations typically take about five to seven years to build. He’s hopeful Redstar can begin by developing a much bigger program in 2017.

“We look forward to getting back up to Unga. It’s a beautiful place, and we’ve developed some great relationships with people in the community. We just got financed, and the money is starting to come into our company,” Ball said. “So we’ll have the ability to look at our budget and see what we can do.”
Plans to Provide Clinic, School with Excess Heat from Wind Power Gaining Momentum

Next month, Sand Point will take another step forward toward breathing new life into a renewable energy project using excess wind power to heat the community’s health clinic and the school. The goal would be to offset heating fuel costs utilizing wind to thermal energy.

“This is a promising concept,” said Jan Tierson, TDX Sand Point Generating General Manager. “Sand Point is an excellent demonstration site. We’re hopeful the City (which owns the clinic building) and the school district will be part of this cooperative effort to prove this out so we can allow this project to go forward.”

Last year, Sand Point Generating (SPG) received a $380,000 grant administered by the Alaska Energy Authority to move forward with plans to heat buildings in Sand Point using excess wind power. The utility considered a number of buildings in town in order to figure out the public benefit for such a project. Ultimately, SPG determined that the school and the clinic are the most appropriate heating loads providing the highest public benefit. SPG met with Sand Point City Administrator Andy Varner to provide him with information.

“City Administrator Varner has been briefed on the project,” said Tierson. “He agrees that it’s a good concept, and the mayor and the City Council are on board.”

The next step is to meet with officials with the Aleutians East Borough School District (AEBSD) to explain the overall concepts of the project as well as the benefits for the Sand Point School. Initially, SPG was planning to provide a presentation to the AEBSD school board and administration during the summer. However, the meeting was postponed until October. Tierson is looking forward to providing school board members and the district’s administration with information and is ready to answer questions.
“This is a step toward making the community of Sand Point more sustainable and to increase use of locally-produced energy,” Tierson said. “This keeps more of the energy dollars spent within Sand Point and we hope people will be excited about that.”

However, Tierson said it’s important to approach this project with realistic expectations.

“The idea is we see that we have available energy that’s not being utilized right now,” he said. We’re looking for a feasible means to utilize this excess energy while making the heating bills more sustainable and allowing the utility to be a little more profitable. But please bear with us because there may be technical difficulties. This is going to be a new application.”

Tierson said there are a number of variables to consider.

“It’s pretty complicated to say, ‘O.K., how many times during the year do we have excess wind energy, and does it coincide with the times that the building needs heat? Are the wind turbines going to be down for maintenance during some of that time? There are a lot of unknowns.”

To help the City and the school district to have a better understanding of the project and its potential benefits, Tierson sent both entities projections. Based on historical temperatures and fuel consumption data for both buildings, for an average season (based on a 15-year average) the school would be projected to burn 35,270 gallons of diesel (without wind to heat) and would save 45.6% or 16,083 gallons of diesel with wind to heat installed. The clinic is projected to burn 11,778 gallons of diesel (without wind to
heat) and would save 46.8% or 5,512 gallons of diesel (with wind to heat installed). The savings projection is based on two years of City load data and daily average wind speed as measured by the wind turbine anemometers. It also assumes a power plant genset minimum load of 180kw and the need to absorb 50kw of excess wind at the power plant for frequency regulation purposes.

Tierson said the boiler size selected for the school is 300kw and 75kw for the clinic. The projections assume the school and the clinic divide the excess energy proportionally based on these boiler sizes.

Cost savings would depend upon the cost of fuel and rate for excess electricity. For example, Tierson said assuming the school pays $3.75 per gallon, the value of the fuel saved at the school would be $60,311.

It is important to note that this isn’t the amount of dollars saved, but rather the amount of fuel that could be replaced with wind energy. Although the wind is free, there are costs associated with getting the wind energy into the heating systems.

Tierson provided an example using a previously discussed cost of $0.06 per kWh. To replace the 16,083 gallons of fuel with electricity, the projected savings would be $23,999.

SPG would own and maintain all equipment required to provide heat to the building loop. This would require an access agreement similar to situations where a utility’s electric meter is located within customer premises.

Tierson said he believes this project should be viewed as an experiment and a prototype.

“We’re here as a partner, working with the community,” said Tierson. “We’re invested in the community because the utility is part of Sand Point. We’re looking for a way to improve sustainability and improve our business model of sustainability in our remote communities. We would like to be viewed as a community business facing the same hardships all the businesses in Sand Point face. We believe that successful businesses are key to a successful community and vice versa.”
Alaska Recognizes Cold Bay FAA Fire Chief Fred Barnett at Fallen Firefighter Memorial Ceremony

Earlier this month, firefighters from throughout Alaska, along with family members, paid homage to the state’s first responders who died in the line of duty while battling fires. On Sept. 11th in Anchorage, during a solemn ceremony, the Alaska Fallen Firefighter Memorial recognized three additional firefighters this year by adding their names to plaques that were installed into the memorial wall.

“Every name on the plaque has a story,” said Mark Barker, member of the Alaska Fallen Firefighter Memorial Committee. “It’s important to let firefighters and their families know that we will always remember their sacrifice.”

One of the names recognized during the ceremony was that of Cold Bay FAA Fire Chief Fred Barnett who died on Sept. 9, 1964. On that day, Barnett and his fire department responded to a two-alarm fire at the power plant.

“At the scene, while climbing a ladder at the rear of the building, Chief Barnett suffered a heart attack,” Barker said. “He was 58 years old at the time of his death. He was survived by his wife, Mary Ann.”

Former Sand Point police officer Michael
Livingston, PhD, and Rick Koch of the FAA and manager for the Anchorage Air Route Traffic Control Center, installed Barnett’s plaque into the wall. Koch said he wasn’t aware that Barnett died while working for the FAA in Cold Bay until Livingston brought it to his attention.

“This (recognition) really means a lot,” Koch said. “It makes us proud. The history of that part of our organization was something that was unknown to us. We (the FAA) had a much larger role in the community back then.”

Livingston, who grew up in Cold Bay, brought Barnett’s name to the attention of the FAA and the Alaska Fallen Firefighter Memorial after conducting months of extensive research. He provided the Memorial Committee with documentation resulting in Barnett’s name being added to the Memorial wall.

“It’s very important that Fred Barnett is remembered and honored for his sacrifice,” Livingston said. “When someone takes the time to protect their community, and in that process, loses his life, it’s important that he or she is never forgotten. I’m Aleut, and it’s part of our Aleut values to pay tribute to those who have died while protecting their community by honoring them in songs and various public ceremonies, such as this one.”

During his research, Livingston attempted to reach Barnett’s relatives, but was only able to connect with distant relatives.

“I’m going to continue trying to reach close relatives,” he said.
The name of firefighter Frank Cannon, who worked at the U.S. Coast Guard in Kodiak, was also added to the wall. He died in 1976 while fighting a fire on base. The third name added this year was that of Anchorage Fire Chief George Burns who died following a cardiac event during the 1964 earthquake.

At the end of the memorial service, a special bell was rung to “ring home” those firefighters in Alaska that were killed in the line of duty.

“This memorial is important to the firefighters’ families and loved ones,” said Barker. “It’s important that we never forget.”

That is the goal of the Alaska Fallen Firefighter Memorial – to honor those who paid the ultimate price while protecting their communities. More firefighters will be added to the wall as their names and unique circumstances are brought to light.

“I can’t help but wonder if there aren’t other heroes out there that we just don’t know about yet,” Livingston said. “We need to find out about them and recognize their sacrifices.”

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**King Cove, Sand Point Athletes Shine at Cross-Country Regionals**

King Cove cross-country athletes squared off against Sand Point runners at the regional competition in Sand Point last week (September 21st). Sand Point had a total of 8 athletes (4 boys and 4 girls competing) while King Cove had six runners (3 boys and 3 girls) vying for the top spots.

The course at Sand Point began and ended at the school.

“It was very hill-based,” said Sand Point Cross-Country Assistant Coach Austin Roof. “It had a lot of 4-wheel trails. Then it headed toward the dump, and veered off to Green Hill, one of the steepest hills in Sand Point. That was an incredibly difficult part of the race,” he said.
The course traveled up on 4-wheeler trails and through several hilly areas. Then it cut off to an old 4-wheel path, traversing through tundra, onto the dump road and back out towards the school.

“It was a fantastic course,” Roof said. “It had been drizzling on and off throughout the day. It was a little wet, but not too wet. Thankfully, the rain was very stop-and-go. It was a little slippery in places but nothing like it was at state (last year in Anchorage).”

King Cove Cross-Country Coach Etta Kuzakin said her athletes were up to the challenge of the hill-based course since they run on plenty of hills back home.

“It was a good race,” she said. “I’m really proud of all of them.”

Sand Point’s Colten Mack took first place among the boys, with a time of 22:36. Second place went to Ian Samuelson of King Cove, with a time of 23:16. Graydon Severian of King Cove came in third, with a time of 23:53.

Elaina Mack of King Cove took first place among the girls, with a time of 27:02. Second place went to Brittany Gardner of Sand Point, with a time of 30:27. Abi Voss of Sand Point took third place, with a time of 30:35.

“The Sand Point runners ran a great race,” Roof said. “King Cove also has some incredibly competitive runners, and they did a fantastic job. This has been an extremely competitive year for Sand Point and King Cove. Every single runner, whether they qualified for state or not, tried their hardest and did great.”

Competing in cross country races is challenging in itself. For the athletes, it’s a lot of hard work within a very short season.

“It takes a lot to run cross country,” Kuzakin said. “We only get to run two races, so you only run for two months. Some of the kids participating only get to run one race. So it’s a very disciplined sport.”

King Cove and Sand Point will each take their top three runners to the state cross country championship tomorrow (Oct. 1st) in Anchorage at Bartlett High School. You can bet that both teams will be running on the course today to prepare for Saturday’s statewide competition.

“I guess it hasn’t rained in a while in Anchorage, and there’s no rain in the forecast (for tomorrow),” Kuzakin said. “So we’re really excited about that.”
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