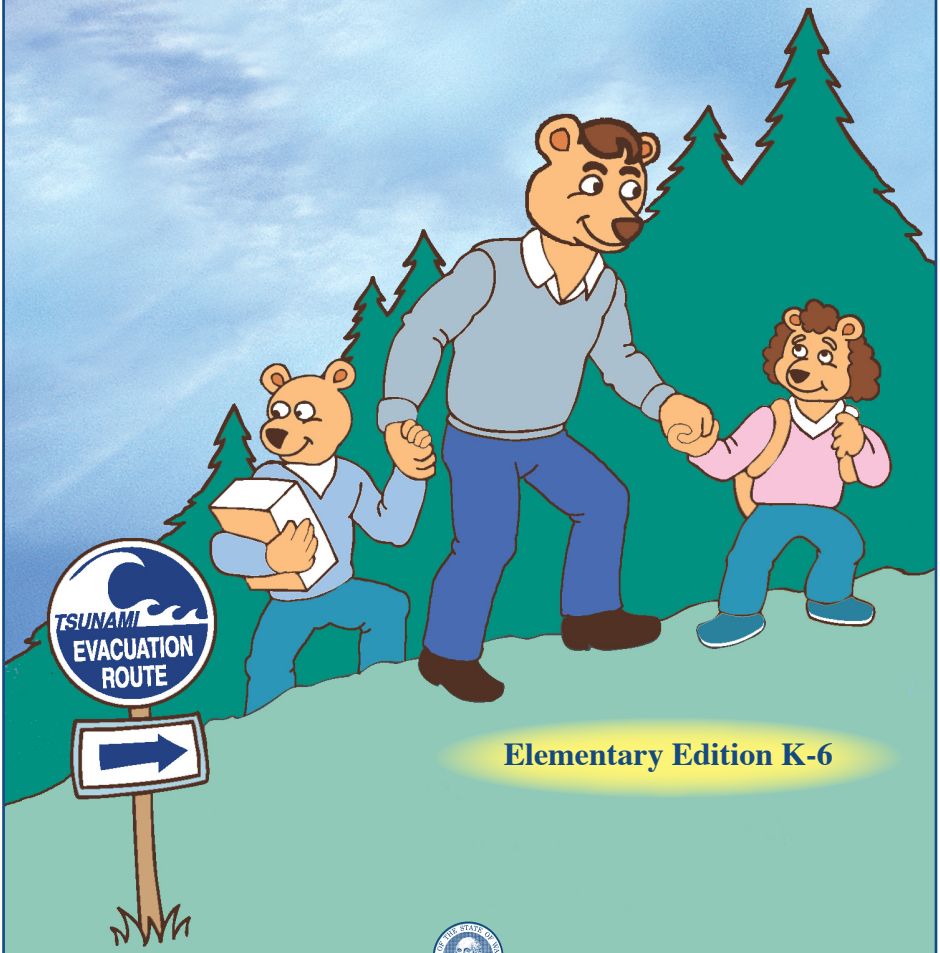
How the Smart Family Survived a Tsunami



Elementary Edition K-6

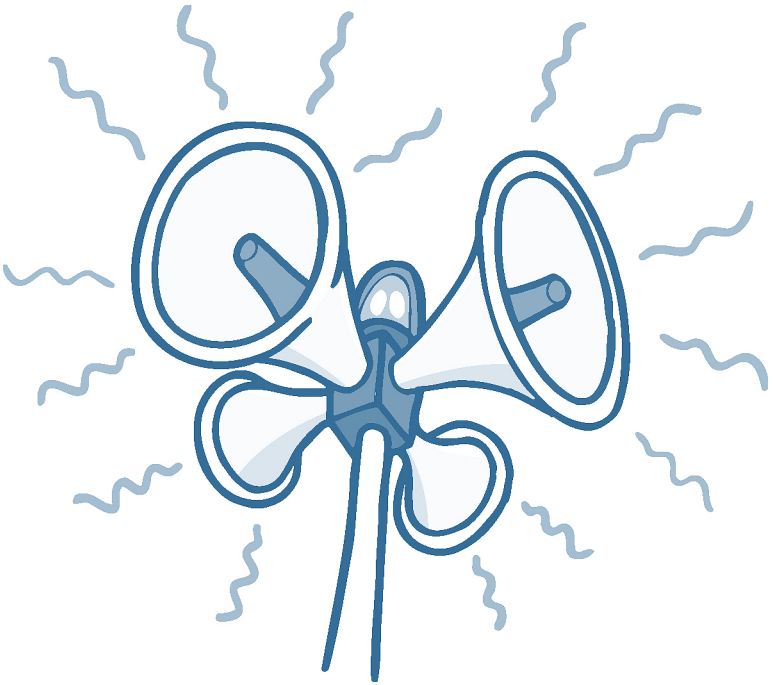
WASHINGTON MILITARY DEPARTMENT
Emergency Management Division

It's breakfast time in Alaska, on a bright sunny day. Suddenly the ground begins to shake. It's a powerful 8.5 earthquake! The houses begin to rattle and things begin to topple over.

Erik and Rebecca know the right thing to do during an earthquake. They "drop, cover and hold" under a sturdy piece of furniture, or move up against an inside wall away from windows. Rebecca knows that running outside during an earthquake is the most dangerous thing you can do.

Once the shaking had stopped, families began to leave their homes and walk quickly to higher ground, because they know a tsunami might be coming. Erik's family got into the car and began the drive inland away from the seashore. They were well prepared for an earthquake and knew exactly what to do to stay safe.

Far away in Washington State it was a warm sunny day. The Smart family had just finished breakfast. McKenzie and Kassidy were getting ready for school, and Mom was getting Macie ready to go to daycare. No one had heard about the earthquake in Alaska. They didn't know a tsunami might be on the way.

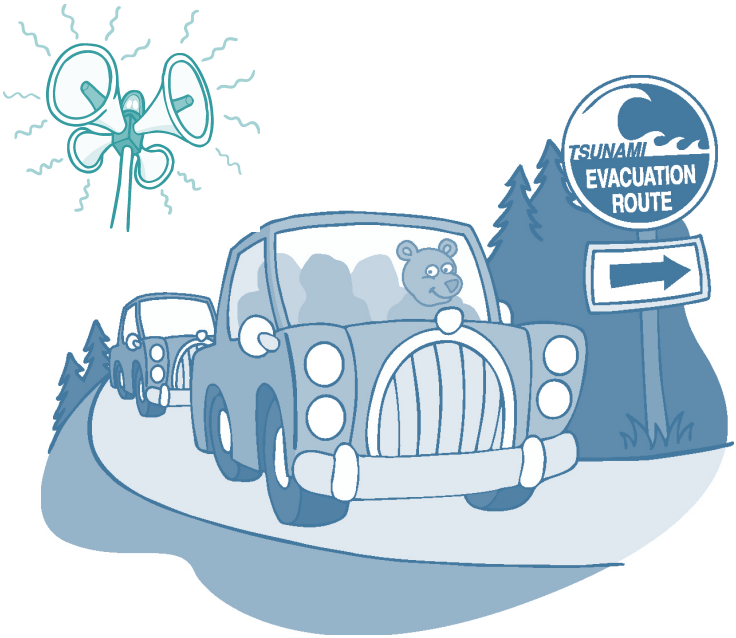


However, scientists at the West Coast/Alaska Tsunami Warning Center in Palmer, Alaska, knew about the earthquake. Seismographs told the Warning Center exactly where the earthquake took place off the Alaskan coast and how big it was.

Large objects called buoys are floating in the ocean. These buoys are connected to instruments on the ocean floor that can measure the size of a tsunami. When the instrument detects a tsunami, the buoy sends information to a satellite orbiting high above the earth. The satellite then sends the information back to earth to the Tsunami Warning Center.

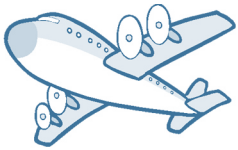
The Warning Center received the information that a tsunami had been generated by the Alaskan earthquake and immediately sent out a Tsunami Warning for the Washington coast. Because of that early warning, the people along the coast of Washington had time to evacuate to higher ground.

Kassidy heard the tone alert on the family's NOAA Weather Radio. Mom and Dad came quickly into the room to listen to the message about the tsunami. McKenzie was outside playing and heard the siren and warning message from the Tsunami Warning System that had been installed on the beach. She quickly ran inside.

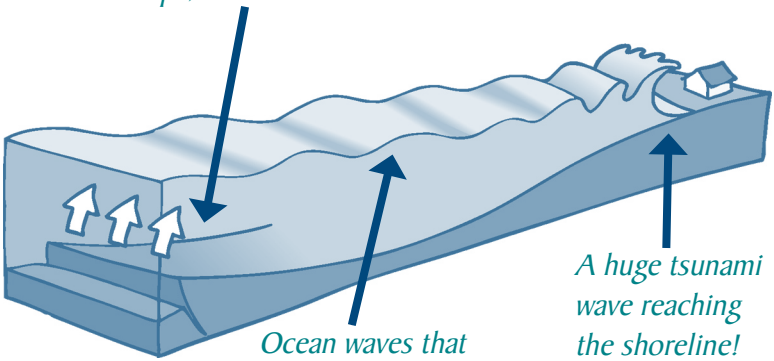


Mom and McKenzie picked up the disaster supply kit while Dad got the car out of the garage. The Smarts began their journey to higher ground. In the car, McKenzie said, "We talked about the Tsunami Warning System in school this week. It is like a radio on a pole. On the top of the big 40-foot pole is a flashing blue light to alert people that danger is approaching. A NOAA Weather Receiver is attached to the pole and a tsunami alert message is sent out to people who live on the coast. The alert message can be heard for one mile," she said, "and guess what, Dad, it's louder than a fire truck siren."

When the Smarts reached the highway, the evacuation routes had been clearly marked with blue and white tsunami evacuation signs. McKenzie said, "Follow the signs to high ground, Dad." The Smart family knew exactly how to follow the signs to higher ground because they had practiced when the signs were first put up in their community.



An earthquake on the ocean floor that forces water, both where the sea floor moves up, and also down where it drops, and sends waves in all directions.



A huge tsunami wave reaching the shoreline!

Ocean waves that become larger as they move towards the shoreline.

Macie asked her Dad, "Hey Dad, what is a tsunami?" As they continued to drive up the hillside he said, "Well, kids, a tsunami is a series of ocean waves affecting shorelines. Tsunamis are caused by earthquakes, and they can also be caused by underwater landslides or underwater volcanic eruptions. Tsunami waves are big, destructive waves that can rise as high as 100 feet or more. A tsunami can move faster than people can run. That's why we have a NOAA Weather Radio in our house to notify us a tsunami is on the way."

"When we talked about tsunamis in school, we learned what to do if a tsunami occurs while we're in school," said Kassidy. "School buses will come and take us to higher ground where we'll be safe, far away from the coastal shores. If the buses can't come, we will start walking, very quickly, up the hill until we are safe. Miss Julie, our teacher, will take care of us until our parents come for us. Last month we had an earthquake drill followed by a tsunami drill. We all walked through town and up the hill to safety. Miss Julie said we did a good job."

When the Smart family got to the top of the hill they went to a shelter that had been set up to take care of the town's people until it was safe to return home. Macie and Kassidy saw lots of their friends who were arriving at the shelter. Whitney, Wade and their Mom, Mrs. Sandy, came in right behind the Smarts.

McKenzie and Whitney started to play and do puzzles in the shelter while they were waiting for the official "all clear." Macie, Kassidy and Wade were so hungry they ate some snacks from the disaster kit and soon fell asleep.

Later that night the official “all clear” was announced. This meant that the danger of the tsunami was over. The Smarts and all their friends left the shelter and drove back to town. Everything was fine at the Smart’s house, but Whitney and Wade had a lot of water damage in their house from the tsunami.

Many buildings in their town had suffered damage during the tsunami. The school was flooded and Mr. Dan, the principal, was busy mopping up the water.

Before the tsunami arrived, many boats had gone out to sea for safety. But those that stayed in port were tossed up on the shore, and many were destroyed. Some of the shops on the beach were also damaged. There was a lot of cleaning up to do after the tsunami.

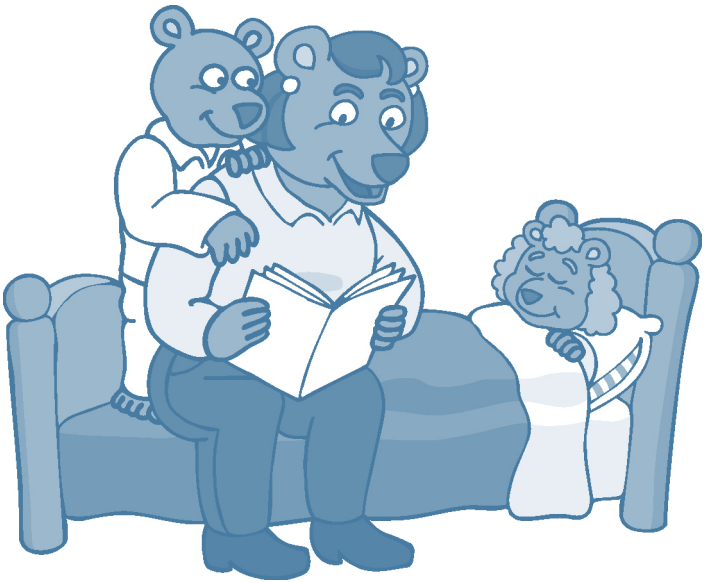
The next evening the Smarts were watching a TV program featuring the Emergency Manager from their local Emergency Management Office. She said everyone had done very well during the tsunami because they had prepared in advance.

Later in the show the TV newsman reviewed the things people must do when an earthquake occurs near the coast. He said everyone should:

- Develop a family disaster plan and practice the plan BEFORE an earthquake or tsunami occurs.
- Gather supplies, including water and enough food for every member of the household to be on their own for at least three days.

When people feel the ground shake they should:

- Drop, Cover and Hold!
- Get under a sturdy piece of furniture and hold on, or get near an inside wall away from windows.
- Very quickly move inland to higher ground as soon as the shaking stops. Do not wait for an official warning. Time is very important.
- Be alert for aftershocks, and stay away from the coast. Waves may continue to arrive for hours. The waves may increase in size as time goes on.
- Listen to their radio or NOAA Weather Radio for an official "all clear" from local authorities before returning home.



"Well kids, it's time for bed," said their Mom.

As McKenzie, Kassidy and Macie got ready for bed, they knew they were safe because their family took time to plan for a disaster. They had talked about the things that could happen and then created and practiced their safety plan. Whitney and Wade's Mom had just purchased a NOAA Weather Radio and stocked their disaster supply kit. They were ready for the next disaster.

How about you? Does your family have a disaster plan?

Use the following checklist to see if you and your family would be safe if an earthquake or tsunami occurred in your community.

Safety Plan Checklist:

- Have a plan and drill the plan.
- Purchase a NOAA Weather Radio.
- Know the evacuation routes from your home and how to get to high ground.
- Have a three-day supply of food, water, medical supplies, etc., in your disaster supply kit.
- Have an out-of-area phone contact.
- Decide where your family will reunite when a disaster happens if you can't go home.
- Conduct earthquake, tsunami, and fire drills once every six months.
- Store enough food and water for your pet.
- Make arrangements for your pet if you have to evacuate after a disaster. Remember, pets can't go into shelters.

Your Disaster Supply Kit should include (at a minimum):

- Water, one gallon per person per day
- First aid kit
- Food (non-perishable) and eating utensils
- Battery-powered radio with extra batteries
- Flash light with extra batteries
- Medications
- Food and water for your pet
- Sanitation supplies (toilet paper, trash bags)
- Heavy gloves, sturdy shoes

Remember...

Washington State is earthquake country!

Having a disaster plan and a disaster supply kit will help to keep you safe when disaster strikes.

This booklet will help children prepare for disasters. Knowledge is power, and knowing what to expect and what to do will increase their confidence when disasters occur.

For more information about earthquake and tsunami safety, please contact your local emergency management office.

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