



## Know the risks



### Landslides:

Landslides are a type of mass wasting, which is when any down-slope movement of soil and rock is caused by gravity. Almost all landslides have multiple causes ranging from rainfall, snowmelt, water level changes, stream erosion, earthquakes, volcanic activity and human disturbance. During a landslide, pieces of rock, earth or other debris move down a slope, such as a hillside. The volume of flow can range from a few cubic meters to more than 10 km<sup>3</sup>, and the rate of movement can range from virtually imperceptible to greater than 100 km/hour. That's faster than an Olympic downhill skier!

Landslides can also occur under water, sometimes resulting in a tsunami.

The largest landslide in recorded history occurred during the 1980 eruption of Mount St. Helens, a volcano in the Cascade Mountain Range in the State of Washington, U.S. The volume of material was 2.8 cubic kilometers.

During heavy rainfall or rapid snowmelt, water can rapidly accumulate in the ground and turn into a flowing river of mud. This is called "slurry" and can cause debris flows. Debris flows can move rapidly with little or no warning at avalanche speeds. They can also travel a great distance from their source, growing in size as they pick up trees, boulders, cars and other materials.

**WARNING SIGNS:** Slides and flows can occur quickly, often with little notice. The best way to prepare is to stay informed about changes in and around your home that could signal that a landslide is likely to occur.

Leave the area immediately if you observe the following:

- » A faint rumbling sound that increases in volume
- » Unusual sounds, such as trees cracking or boulders knocking together

Call your local fire, police or public works department if you see any of the following:

- » Rapid increase or decrease in creek water levels
- » Abnormally dirty water
- » Sudden or rapid changes in flow or sediment
- » Unusually large and recent accumulation of debris (logs, sediment, etc.)

For further information, visit NRCan or the USGS.

For information on landslides, visit Know the Risks > Landslides on PreparedBC.