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Natural dams occur when a force of nature causes an impermeable substance to move and impede proximate liquid (usually water) flow. Some types of natural dams are:

- Beaver dams
- River ice jams
- Avalanche dams
- Glacial dams (Glacial Lake Outburst Floods (GLOFs))
- Moraine dams
- Landslide dams
- Lava or ash dams
- Dams of volcanic origin (calderas)

This presentation will explore the geomorphology associated with natural dams, including: locations/conditions favorable to formation, formation mechanisms, development time, size, monitoring methods, failure mechanisms, failure speed, and public safety issues.

Each type of natural dam will be illustrated by one or more dramatic examples from the past. Examples include:

Keystone Canyon, Alaska – avalanche dam

Bear Glacier, Kenai Fjords National Park, Alaska – GLOF

Gros Ventre Lake, Wyoming – landslide Dam

Mendenhall Glacier, Alaska – GLOF

Mount St. Helens Spirit Lake, Washington State – ash flow

Sabai Tao, Himalayas, 1998 – moraine dam

Major natural dams are somewhat rare, but occur regularly in glaciated areas and can occur in other mountainous regions. Because these dams can be very large, store large volumes of water, and can fail quickly, it is important to understand conditions favorable to their formation so when they occur we can promptly manage risks to the public and downstream infrastructure.