

Snowmelt Flooding

What is a “snowmelt flood”? A flood is considered a snowmelt flood when melting snow is a major source of the water involved. Unlike rainfall, which reaches the soil almost immediately, snow stores the water for some time until it melts, delaying the arrival of water at the soil for days, weeks, or even months. Once it does reach the soil, the water either soaks into the ground or runs off. If more water runs off than soaks in, flooding occurs.

How common are snowmelt floods? Are they severe? Snowmelt flooding typically occurs every year in the northern United States, with most snowmelt events being minor and localized. Eight of the most significant floods of the 20th century (in terms of area affected, property damage, and deaths) were related to snowmelt.

What causes snowmelt flooding? High soil moisture conditions prior to snowmelt, frozen ground, heavy snow cover, widespread heavy rain during the melt period, and rapid snowmelt (unseasonably warm temperatures, high humidity, rainfall, etc.).

Ice Jams

What are ice jams? Ice jams are a buildup of water behind ice on a body of water. Ice jam floods can occur because of snowmelt flooding adding to the amount of water in the river or lake.

How quickly do ice jam floods occur? The rates of water level rise can vary from feet per minute to feet per hour during ice jam flooding. This means some communities have as little as one hour before flooding occurs after ice breakup up to many hours.

What kind of problems do ice jams cause? Ice jams are responsible for loss of life, approximately \$125 billion in damages annually, and disrupt commercial navigation and hydropower operations. Ice jams also scour streambeds and may adversely affect fish and wildlife.

Debris Flow

What is debris flow? Debris flow is caused by rainfall on burned hill slopes. Just a small amount of rainfall on a burned area can lead to these hazards.

Why should I be worried about debris flows? The powerful force of rushing water, soil, and rock, both within the burned area and downstream, can destroy culverts, bridges, roadways, and structures, and can result in injury or death.

What is being done to prevent debris flows or at least mitigate the impact? The U.S. Geological Survey and the National Weather Service are working together to develop improved landslide hazard assessments, better post-disaster response, and public information and outreach.

Tropical Cyclone Inland Flooding

What is tropical cyclone flooding? “Tropical cyclone” is a generic term for a hurricane, typhoon, or tropical storm. Tropical cyclone flooding is flooding due to these systems, particularly when they have slow forward speed or stall.

Why should I be worried about tropical cyclone flooding? Flooding associated with tropical storms

accounts for more than half (59%) of U.S. tropical cyclone deaths over the past 30 years.

How severe will the flood be? NWS products convey the magnitude of flooding by using severity categories; minor, moderate, and major. Each category has a definition based on property damage and public threat. The impacts of floods vary locally, so be sure and look for gages near you on the [AHPS page](#).