

What is snowmelt and why is it important?

CAUSE AND EFFECT WORKSHEET

INSTRUCTIONS

Step 1: Read [this article](#) from TreeHugger.com titled “What is Snowmelt and Why is it Important?”.

Step 2: Use the information within the text to help understand some of the things that cause snow to either stick around or melt away. Fill out the cause and effect chart on page 2.

Step 3: Once you’ve created your chart, look back at the events that caused snow conditions to change this past winter and spring. Draw some conclusions about your findings. You can fill out your conclusions on page 3.

Cause and Effect Chart

Event	Consequence
Precipitation and sustained low temperatures	Snow accumulates on land
	Snowpack compresses
Temperature reaches above 32 F or 0 C	
Meltwater soaks into the ground	
	Humans have access to groundwater for drinking
10 – 12 inches of snowfall melts	_____ inch of liquid water is produced
Several tenths of an inch of snow melts per day	Snowmelt is gradual
Temperatures warm and melt snow quicker than the land can absorb it	
	Landslides and debris flows
	Rain on snow event
Warmer winters	
Shorter winters	
	Less water for hydroelectric power
	Less water for irrigating crops

Conclusions

What events trigger snow to melt?

What is the consequence of snow melting faster than it can be absorbed into the ground?

In what ways are plants and animals (including humans) impacted by:

- 1) High amounts of runoff and fast snow melt?
- 2) Low amounts of runoff and moderate amounts of infiltration?

Answer Key

Event	Consequence
Precipitation and sustained low temperatures	Snow accumulates on land
Heavy snow accumulates and adds weight	Snowpack compresses
Temperature reaches above 32 F or 0 C	Snow starts to melt
Meltwater soaks into the ground	Groundwater is replenished, crops can be irrigated, drinking water becomes available
Groundwater is recharged	Humans have access to groundwater for drinking
10 – 12 inches of snowfall melts	1 inch of liquid water is produced
Several tenths of an inch of snow melts per day	Snowmelt is gradual
Temperatures warm and melt snow quicker than the land can absorb it	Springtime flooding occurs
Fast moving snowmelt and run off	Landslides and debris flows
Rain falls on snowpack (can't be absorbed)	Rain on snow event
Warmer winters	Less snow accumulates
Shorter winters	Less snow accumulates
Less snowpack/snowmelt	Less water for hydroelectric power
Less snowpack/snowmelt	Less water for irrigating crops