What are Snowpacks?

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About Snowpacks

- In mountainous areas that experience a winter season, precipitation can fall in the form of snow.
- Snow that has fallen on the ground and does not melt for months due to below-freezing temperatures is called a snowpack.
- Snowpacks can consist of multiple layers of snow, each one from a different snowfall, that become compacted under the weight of the subsequent layers that lie on top.
- The snowpack remains on the ground until the arrival of above-freezing temperatures in the spring, which causes it to start to melt.
- The water from the melting snowpack is called snowmelt.
    - It is an important water source that keeps streams flowing in the warmer months.
    - It is also an important water source for humans, replenishing reservoirs.
- The depth of the snowpack is influenced not only by the amount of snowfall but also by temperature and wind.

    - Strong winds can evaporate snow cover, eroding the top layers of the snowpack, while an increase in temperature can cause layers to melt.
- In areas with an abundance of snow and proper conditions, the snowpack can accumulate to a depth of three meters (10 feet) or more.
- The density of a snowpack—how closely packed the snow particles are—increases as more layers accumulate, pushing down on the layers below.
- Weak layers, such as snow-covered surface hoar, can increase the risk of avalanches.
- Snowpack data is valuable for monitoring the effects of climate change.

Q1) What is an avalanche?

An avalanche is a mass of material moving rapidly down a slope. An avalanche is typically triggered when material on a slope breaks loose from its surroundings; this material then quickly collects and carries additional material down the slope. There are various kinds of avalanches, including rock avalanches, ice avalanches , and debris avalanches .

Source: New technique devised to measure water held in snowpacks, could help manage supply

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