

Science on the Slopes

Environmental Education & Wellness Program



Physical Science

Best Conditions

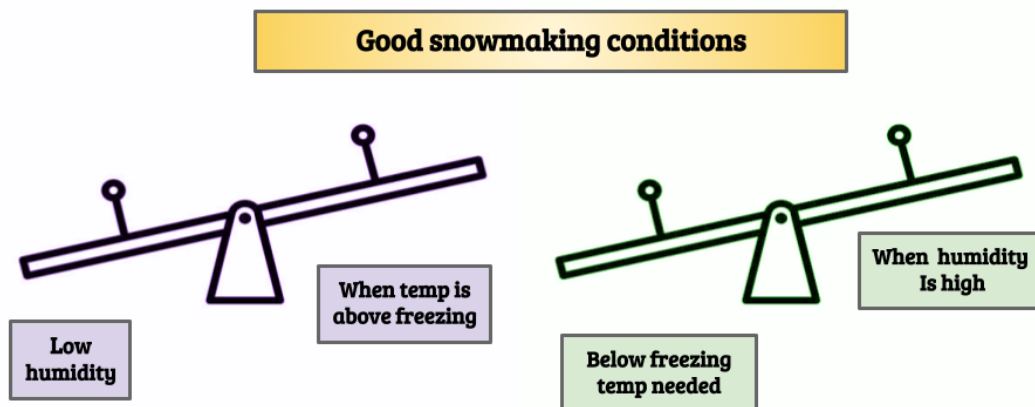
Humidity's Role in Snowmaking

Weather is the main factor to successful snow creation for both human made or natural. Snowmaking can help ski areas lay a base before natural snow and the consistent cold temperatures of winter arrive.

What are the Right Conditions Needed to Begin Making Snow?

For snow to be made it requires just the right balance between cold outdoor temperatures (water freezes at 0°C or 32°F) and how much water vapor is in the surrounding air. Therefore, the snowmaking team at Wachusett mountain watches these two components of the weather very closely– the temperature and the amount of water vapor in the air (atmospheric humidity).

At Wachusett Mountain they can start making snow when the temperature is above freezing if the humidity is very low, meaning there is not much water vapor in the air. The **drier the air, the better conditions** for producing snow faster and more efficiently. High humidity makes it harder **for the small water droplets to freeze into snow crystals** and postpones the snowmaking process until the outside temperatures drop below freezing (32°F). [For a More Detailed Explanation See this Link or Return to the Homepage.](#)



Picture a seesaw with outside temperature on one side and atmospheric humidity on the other side. When one is high the other must be low and vice versa.