EnviroKids!

Educational Tools for Tomorrow's Environmental Heroes

Issue Created by NATIONAL WEATHER SERVICE

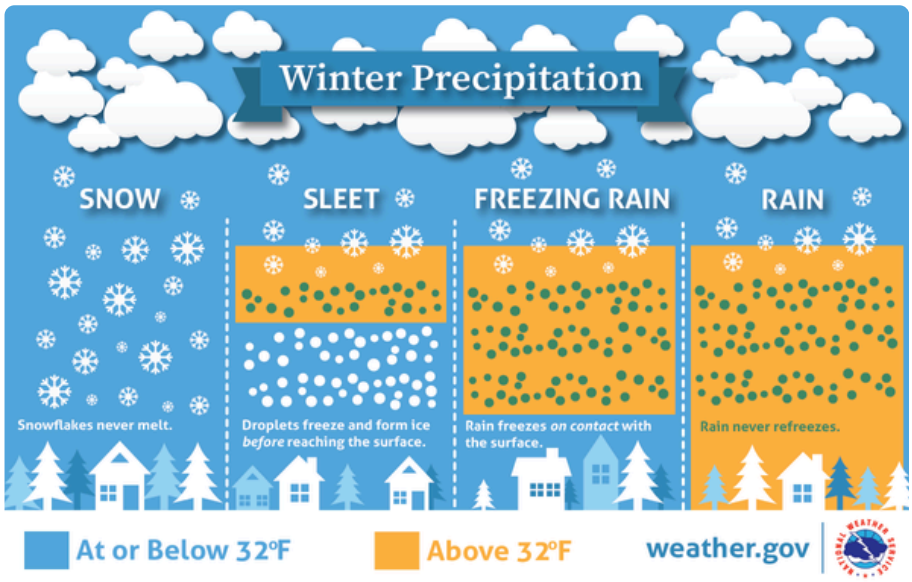
Winter Snow, Ice and Fog

Winter can bring a variety of precipitation and clouds to the Inland Northwest. Precipitation is the water that falls from the clouds which could be in the form of rain, snow, sleet, or freezing rain. The air temperature plays a big part in that!

When precipitation falls from the clouds and the air temperature is warm - water freezes below 32 degrees - it will fall as rain.

When the air temperature is below 32 degrees, precipitation falling from the clouds will come down as snow.

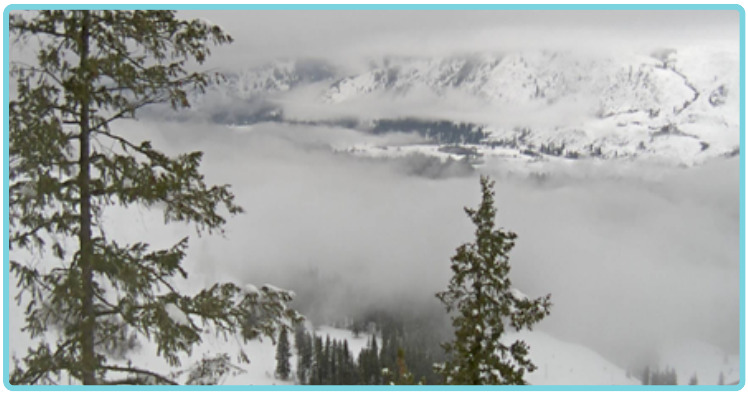
A wintry mix of precipitation is what happens when the air temperature changes from warm to cold between the cloud and the ground. Sleet is small balls of ice that form when there is a small layer of warm air and but it is colder at the ground. Freezing rain forms when the layer of warm air gets larger but the ground is cold and it turns to ice on contact.



Clouds are made up of tiny droplets of water. They form when water vapor in the air turns into droplets of water and join together. This is called condensation. Clouds can form at different levels in the atmosphere. A cloud that forms near the ground is called fog.

Clouds and fog are common in winter. It has a lot to do with our terrain. Heavy cold air can settle in low valleys and produce fog. If warmer air arrives first, it may slide over the trapped fog causing an inversion. It usually takes a strong weather change to move out an inversion. On strong inversion days, it may be foggy and cold in Spokane and Spokane Valley but sunny and mild on top of Mount Spokane.

Freezing fog forms when air temperatures fall below freezing. This fog can produce drizzle and these tiny droplets freeze when they come into contact with surfaces, like roads, vehicles, or trees. This can make them frosty or icy.



Snow, ice, and fog may be fun to play in, yet they can be a big problem when people have to travel. Thousands of driving accidents and air travel delays happen each year because of winter weather.

WINTER WEATHER WORD SEARCH

H	S	D	S	M	A	C	G	U	W	G	O	F	E	C
F	T	E	W	U	O	I	T	N	K	A	E	H	I	L
L	E	P	P	L	P	W	K	N	I	L	T	N	D	O
X	L	O	D	E	O	E	S	C	A	Z	V	E	V	U
N	P	S	X	R	C	Z	R	T	X	E	E	N	R	D
Q	O	I	Q	K	V	I	S	V	R	K	O	E	G	O
V	R	T	W	V	S	Y	U	S	O	V	T	Y	R	P
I	D	I	X	S	R	V	I	H	C	O	A	O	N	F
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K	N	J	F	T	E	K	D	S	F	X	J	O	M	Q
T	S	O	R	F	R	A	O	H	K	O	E	X	B	R
C	Q	Q	S	Q	G	G	R	S	Q	R	F	A	E	V
P	O	M	K	U	L	U	V	Q	V	E	H	O	G	P

- CLOUD
- COLD
- CONDENSATION
- CRYSTAL
- DEPOSITION
- DROPLETS
- FOG
- FREEZING
- HOARFROST
- ICE
- INVERSION
- SUPERCOOLED
- VAPOR
- WATER

FUN WEATHER FACT

During the winter when snow falls in the mountains and temperatures stay cold, snow begins to stack up forming a snowpack. When it warms in the spring, the snowpack melts and water runs down the mountain. The amount of mountain snow can vary from year to year as do the temperatures. Some years when it's warm and dry, the snow melts fast. Other years, it remains wet, cold, and snowy into the spring and the snow melts slowly. The melted snow leads to runoff that fills streams, lakes, and rivers. It's all part of the water cycle! This process provides cold, clean water in the Spokane River for fish, wildlife and people to enjoy. It's fun to visit Mount Spokane to see the snowpack and then go downtown during the spring melt to see how powerful the Spokane River water is!

OUTDOOR WINTER SAFETY!

Be careful when you head outside to play! Ice and snow can be slippery. Wear shoes or boots that can keep you warm and give good traction when out sledding or hiking. Remember to dress for the weather with a hat and gloves. Shorts in the snow?....Hmm, what do you think?

SNOW WATER EQUIVALENCY EXPERIMENT

Do an experiment to see how much water is in the snow! Scientists call this "Snow Water Equivalency" or SWE. Try this experiment with snow in your backyard!

INSTRUCTIONS:

1. **Get a clear jar and fill it to the top with snow.**
2. **Use a marker (or tape) to mark the level of snow and write the time.**
3. **Check your jar every 15 minutes to record the snow level.**
4. **When all the snow is melted, compare how much water there is.**

DID YOU KNOW? Snow is less dense than water. When water drops freeze into snow flakes, they spread out and contain lots of tiny air pockets.

Envirokids is a collaborative effort among multiple environmentally focused agencies in the Spokane region working to provide locally relevant educational resources to teachers and families.