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**Puniw - Winter 2018**

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*Types of Winter Weather* from NOAA.gov

**WINTER STORMS**

A winter storm is a combination of heavy snow, blowing snow and/or dangerous wind chills. A winter storm is life-threatening.

**Blizzards** are dangerous winter storms that are a combination of blowing snow and wind resulting in very low visibilities. While heavy snowfalls and severe cold often accompany blizzards, they are not required. Sometimes strong winds pick up snow that has already fallen, creating a ground blizzard.

An **ice storm** is a storm which results in the accumulation of at least .25" of ice on exposed surfaces. They create hazardous driving and walking conditions. Tree branches and powerlines can easily snap under the weight of the ice.

**Lake effect storms** are not low pressure system storms. As a cold, dry air mass moves over the Great Lakes regions, the air picks up lots of moisture from the Great Lakes. This air, now full of water, dumps the water as snow in areas generally to the south and east of the lakes.

**Snow squalls** are brief, intense snow showers accompanied by strong, gusty winds. Accumulation may be significant. Snow squalls are best known in the Great Lakes region.



**TYPES OF WINTER PRECIPITATION**

**SNOW**

Most precipitation that forms in wintertime clouds starts out as snow because the top layer of the storm is usually cold enough to create snowflakes. Snowflakes are just collections of ice crystals that cling to each other as they fall toward the ground. Precipitation continues to fall as snow when the temperature remains at or below 0 degrees Celsius from the cloud base to the ground.

- Snow Flurries. Light snow falling for short durations. No accumulation or light dusting is all that is expected.
- Snow Showers. Snow falling at varying intensities for brief periods of time. Some accumulation is possible.

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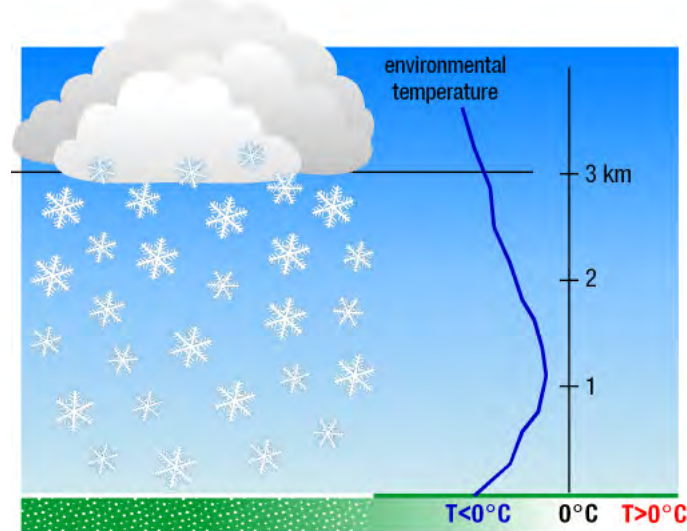
*Wishing you peace  
and joy this  
holiday season*

*Cara - Matt - Sam - Sharri - Sue*



### Types of Winter Weather (continued)

- Snow Squalls. Brief, intense snow showers accompanied by strong, gusty winds. Accumulation may be significant. Snow squalls are best known in the Great Lakes Region.
- Blowing Snow. Wind-driven snow that reduces visibility and causes significant drifting. Blowing snow may be snow that is falling and/or loose snow on the ground picked up by the wind.
- Blizzards. Winds over 35mph with snow and blowing snow, reducing visibility to 1/4 mile or less for at least 3 hours.



Precipitation falls as **SNOW** when air temperature remains below freezing throughout the atmosphere

### SLEET

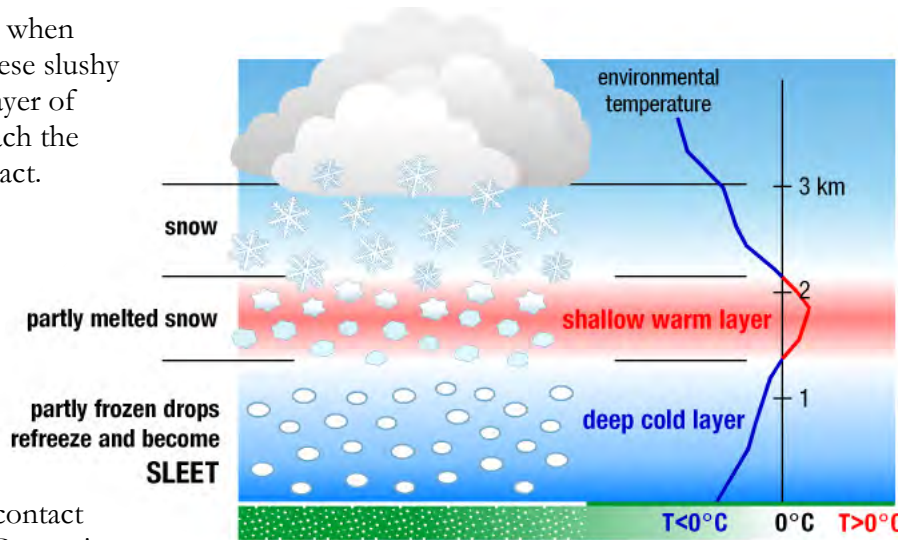
Sleet occurs when snowflakes only partially melt when they fall through a shallow layer of warm air. These slushy drops refreeze as they next fall through a deep layer of freezing air above the surface, and eventually reach the ground as frozen rain drops that bounce on impact.

### FREEZING RAIN

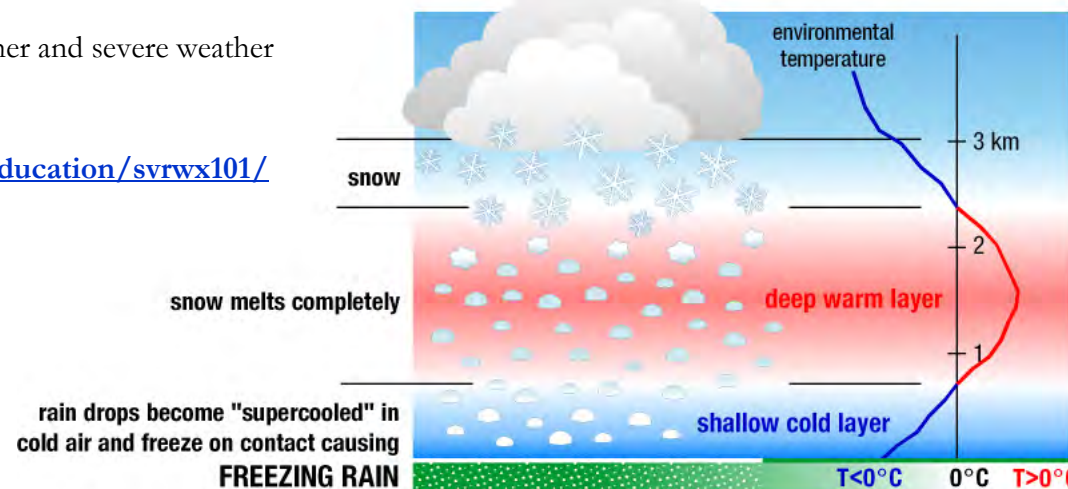
Freezing rain occurs when snowflakes descend into a warmer layer of air and melt completely. When these liquid water drops fall through another thin layer of freezing air just above the surface, they don't have enough time to re-freeze before reaching the ground. Because they are "supercooled," they instantly refreeze upon contact with anything that is at or below 0 degrees C, creating a glaze of ice on the ground, trees, power lines, or other objects. A significant accumulation of freezing rain lasting several hours or more is called an ice storm.

For more information about weather and severe weather in general check out

<http://www.nssl.noaa.gov/education/svrwx101/winter/types/>



sleet falls when snowflakes partially melt as they fall, and then refreeze before they reach the ground



Freezing rain falls when snowflakes melt completely before reaching the surface, and refreeze upon contact with anything that is at or below 0 degrees C.

### So . . . How Much Snow Did You Get?

Now that Winter is here, (though not officially until the Solstice on December 21) everyone seems to be asking this question. As you know, different snow conditions and your specific location can yield different answers. Using these tips from NOAA (National Oceanic and Atmospheric Administration) and the National Weather Service (NWS), you can get a more accurate measurement.

If weather is your thing, you can sign up for weather spotter training and report your findings directly to your local NWS office. In Aroostook County, that office is located in Caribou, Maine ([www.weather.gov/car](http://www.weather.gov/car)).

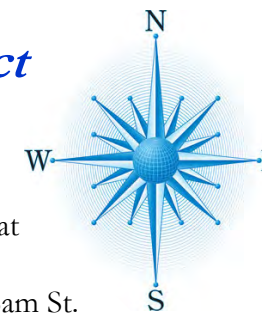
NOAA

Six Basic Steps for Properly MEASURING SNOW

Accurate and timely snowfall measurements are extremely important to your National Weather Service office, your community, local media, and many others. Here are the six steps you need to know for measuring snow:

- 1 Supplies**  
Ruler or yard stick  
24" X 24" white board, flag
- 2 Planning**  
Find an open area away from tall objects, but sheltered from wind
- 3 Set-up**  
Set up before snow begins  
Put your board out and mark it with the flag
- 4 Measuring Snow**  
Record your total to the nearest tenth of an inch  
Wipe the board off after measuring  
Measure once daily at the same time, after measuring place the board on top of snow
- 5 When Snow Stops**  
Measure as soon as the snow stops to avoid lower totals due to melting, settling and drifting
- 6 Reporting**  
weather.gov social media  
SEND us your report!

### GIS II Class project by Sam St. John



In an advanced class offered through the University of Maine at Presque Isle, Natural Resources employees Cara O'Donnell and Sam St. John have chosen two potential HBMI projects as the subjects of the final project for the class.

Sam has chosen to create a final project based on culvert data collected by the Nature Conservancy (INC). Culverts located within the Meduxnekeag river watershed have all been rated on accessibility to upstream fish habitat. Using this data, future culvert renovation projects can be planned and priority locations can be chosen based on the information displayed on a map.

Cara intends to use information gathered by HBMI and other agencies to create a comprehensive map of optimal Atlantic Salmon habitat in the Meduxnekeag Watershed.

### Word Search Puzzle Answers

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





# Dendrology Corner

Dendr = tree ology = study of

Prepared by: Matthew P. Edberg, HBMI Natural Resources Specialist



**Speckled alder:** (*Alnus incana* ssp. *rugosa*) *Alnus*= red or brown, *incana*= grey. *ssp. rugose*= wrinkled or folded. (see photo below left).

**Habitat:** Speckled alder (*A.incana* ssp. *rugosa*) is most associated with wetlands and riparian zones around lakes, streams and wetlands, however it can also be found growing in drier sites such as an old field. It is found growing on a variety of soils from sandy to mucky-clay

**Natural History:** Speckled Alder (*A.incana* ssp. *rugosa*) is a small multi-stemmed shrub that grows around 20' feet

tall with a stem diameter of 2"-3" inches (old growth alders can attain a stem diameter of 6"-8" inches) leaves are alternate in arrangement, simple with a doubly serrate leaf margin. The flowers are wind pollinated catkins, the male being long and dangling the female a small cone. The bark is brownish-gray and has many horizontal lenticels.

**Special Uses:** Speckled alder has important cultural significance to Native Americans as it is one of the alders used in the construction of a traditional sweat-lodge.

**Medicinal Uses:** Alder bark has been used as an anti-inflammatory and as a treatment for diarrhea to name two. **This is not an endorsement of use for medical purposes, use caution as many herbal remedies have not been medically tested and can be dangerous.**

**Edibility:** There is little information as to the edibility of speckled alder (*A.incana* ssp. *rugosa*)

**Note:** When collecting any wild plant species for medicinal or edible use be absolutely sure you have identified the species correctly. Furthermore, be respectful of nature and use a hunter-gather ethic, leave something for the future and for others.

**Utilitarian:** Its wood is used as fuelwood and was a species favored by blacksmiths as it is very hot burning. It is also used to fabricate floral baskets and twig furniture. Speckled alder has little commercial value.

**Ecological Values:** Speckled alder has important ecological values and is used by a variety of wildlife species such as the woodcock (*Scolopax minor*). It is an important wetland species. In addition Alders are nitrogen fixing plants having a symbiotic relationship with a filamentous bacteria of the genera *Frankia* sp. which form root nodules (see photo) that can resemble tiny Mickey mouse hands. As a result of this nitrogen fixing trees growing near alders do much better than trees not next to alders.



"Society for Actinomycetes Japan" (SAJ)

### Literature Cited

Maine Forest Service Department of Conservation, 2008. Forest Trees of Maine.

Society of Actinomycetes Japan (SAJ)

USDA, Plants Profile, NRCS

[www.naturalmedicinalherbs.net/herbs/a/alnus-rugosa=speckled-alder.php](http://www.naturalmedicinalherbs.net/herbs/a/alnus-rugosa=speckled-alder.php)



**Native Range:** Found throughout most of the U.S. and Canada (note *ssp. rugosa* is found mostly in the Eastern half of the United States)

## FLIR Training by Sam St. John



This past summer, members of the HBMI Water Resources department attended a United States Geological Services (USGS) training using FLIR (forward looking infrared) thermal imaging cameras. During the weeklong training, cold-water seeps on the Santuit River in Massachusetts, were located and mapped. Three FLIR cameras of increasing sensitivity were used to show spots on the river where colder groundwater seeps into the warmer river. These changes were indicated on the camera by a colder purple color mixing with a warmer red. The information gathered in the training could be applied in various ways, such as showing focus areas of habitat restoration for sea-run trout that migrate up the Santuit River to spawn. HBMI plans to use these cameras in similar ways, primarily looking for areas to focus on for Atlantic salmon habitat restoration.

## Year of the Salmon by Sam St. John

2019 has been designated Year of the Salmon by a large group of cooperating conservation agencies all over the world. Actions were taken by many local, state, federal and international agencies in 2018 to help accelerate recovery efforts for threatened salmon species in North America and Europe. HBMI is helping the Maliseet Nation Conservation Council and the Department of Fisheries and Oceans Canada, with recovery efforts on Inner and Outer Bay of Fundy Atlantic Salmon. The fish from those areas have been found to be genetically distinct enough to warrant special action. HBMI Water Resources were spurred into assisting recovery efforts by the discovery of Atlantic salmon parr (adolescents) in tributaries on the Canadian side of the Meduxnekeag; something not seen since the installation in 1968 of the Mactaquac Dam on the main stem of the Saint John River outside of Kingsclear, NB.



## Winter Word Search

Find the Maliseet Words about Snow in the puzzle below

- Apci-psan** It continues to snow
- Asakonihtehson** A crust starts to form on the snow
- Etutawahtek** The snow is very deep
- Kuhkukhahsuwi-psan** It snows in big flakes
- Mehci-psan** The snowstorm is over
- Miski-psan** It snows often
- Nahnakalihike** Light fluffy snow has fallen
- Piski-psan** It is snowing so hard that it's hard to see
- Psan** It snows
- Psaniyie** It is snowing lightly
- Samaqahte** The snow is too deep
- Spalihike** There is deep snow
- Toli-psan** It is snowing
- Wast** Fallen snow
- Wastapksonut** Snowball
- Wastewikuwam** Igloo

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

## What Does The Poinsettia Have to Do With Christmas?

By Sam Abramson



You can find a poinsettia's scarlet, star-shaped leaves everywhere you turn during the holidays. Poinsettias are one of the most popular Christmas decorations around, with more than \$200 million in sales every holiday season [source: [University of Illinois](#)]. But how did this plant from the Mexican countryside become a botanical staple in our season of giving? Who brought it to America? And is there any truth to the belief that munching on one of its leaves could be fatal?

Poinsettias (*Euphorbia Pulcherrima*) have a rich cultural history. The tropical shrubs, which have about 100 different species and reach heights of up to 12 feet tall in their natural habitat, were known as "Cuetlaxochitl" to the Aztecs and used to dye clothing and cure fevers [source: [Perry](#)]. Poinsettias were also used in Aztec religious ceremonies since the [Aztecs](#) considered the color red a symbol of purity.



Many mistake the poinsettia's leaves as flower petals, but the flowers are actually the smaller, yellow buds in a poinsettia's center. These bracts - the upper portion of the leaves - are famously red, although they actually bloom in a variety of hues, such as pink, white and yellow. Poinsettias, also known as the "lobster flower" or "Mexican flame leaf," bloom in December, making them an ideal holiday flower.

History of the Poinsettia. Poinsettias didn't arrive in the United States until the 19th century. The plant is named for the first U.S. Ambassador to Mexico, Dr. Joel Roberts Poinsett, who introduced America to the poinsettia in 1828, after discovering it in the wilderness in southern Mexico. Dr. Poinsett, who dabbled in botany when he wasn't politicking between nations, sent cuttings of the plant back to his South Carolina home. While it wasn't initially embraced, its caught on over the years, and by the 20th century it was a holiday mainstay. In fact, National Poinsettia Day is celebrated on Dec. 12, honoring both the plant and the man who brought it to America [source: [University of Illinois](#)].

So what does a poinsettia have to do with Christmas? One interpretation of the plant is as a symbol of the Star of Bethlehem, the heavenly body that led the three magi, or wise [men](#), to the place where Christ was born. A Mexican legend tells of a girl who could only offer weeds as a gift to Jesus on Christmas Eve. When she brought the weeds into a church, they blossomed into the beautiful red plants we know as poinsettias, known as Flores de Noche Buena in Mexico (Spanish for "flowers of the holy night").

A common myth that has existed for generations is that a poinsettia's leaves are poisonous. Although it's probably not a good idea to have a [competitive-eating contest](#) with poinsettia bracts since they could cause diarrhea, research has shown that a child could consume as many as 500 poinsettia bracts without any toxic effects [source: [Perry](#)]. A tot who accidentally nibbles on a leaf may not feel well, but the consequences won't be fatal.

<https://people.howstuffworks.com/culture-traditions/holidays-christmas/christmas-poinsettial.htm>

Celebrate the holidays  
with the Christmas favourite

## Poinsettias

### CARE TIPS

- Place Poinsettias in bright indoor areas.
- Do not place it near sources of heat. (Direct sunlight, heat vents etc.)
- Poinsettias enjoy room temperatures.
- Water soil thoroughly when it is dry to the touch but avoid over watering.
- Fertilising is not required when your Poinsettias are in bloom.

Contrary to popular belief, this Christmas favourite is  
neither toxic to humans nor to animals.



## The Gifts of the Tree People shared by Imelda Perley

“Does not the Sun and Rain give to all?” Then why should people hold anything back for themselves?

Neket Pihce, Pihce, Piche, each of the Red

children brought his/her gift to the tribe. Their gift was the thing they could do best and the thing that they loved best to do.

The best arrow-maker became the arrow-maker teacher of the tribe and taught the others how to make arrows.

The one who could tell the best story became teacher of stories. It made no difference what the gift was, whether it was moose meat, deer meat, corn, blanket, basket, story or a song, it was of value, if it was of use to the people and made them happy, and each was happy in bringing their gift and had no thought as to what he or she would get in return.

It was long before the other families came that the Red children learned this beautiful lesson of giving and they did not forget it when they met with the other families.

First they gave them a seat by their fire and a soft skin to sit upon, their best frybread, salmon, fiddleheads and warm skins to wear, a place in which to live and hunting and fishing grounds.

But the other families had not learned to give to the Red Family as the Red Family had given to them. Koluskap is sure that all the children who listen to this story will wish to share their gifts.

The Tree People taught the two-leggeds how to give because they were here before the two-leggeds. All families were welcomed by the tree people. They were glad to share the gifts of Mother Earth with them. The Tree People hosted the First Giveway: each gave the best gift of all: themselves.

**Sonaw/Maple** “I will give sweet water to drink and from my heart they can make a bowl from which to drink”

**Akomahq/Ash** “Let me give baskets with which to carry food and if they come to sit beside me, I will

show them how to bend and shape my hearts so that it will serve others, also how to make bows for hunting. Together we will make baskets of all kinds. Let the women come too, to learn how to carry things. I will make for them a basket in which to bear their little ones, then their burdens will be light.”

**Mihiqimus/Beechnut and Pokaniums / Butternut** “We will fill their baskets cried the nut brothers”

**Kuwes/Pine** “They will need shelter, I will teach them to make a lodge”

**Masqemus/Birch** “I too will help them to make lodges and canoes to travel with, no water ever gets through my skin, sew it together with the cords from Elm.”

**Kakskuks/Cedar** “They can use my boughs for their sweat lodges, drums and their beds.”

**Nehpskihqamk/Red Willow Tobacco** “They can use my skin for offerings and for their Sacred Pipes”

**Stahqon/Fir:** I will give them my heart for their Sacred Fires and they can use me for their Winter Celebrations”

All the tree people gather round the Sacred Fire and spoke to all peoples:

“The fire of love dwells in all our hearts. Take it and use it, it will keep you warm forever. When the sun hides his face and your heart is cold and heavy, take the heart of any one of us, place it upon the fire which you have learned to call forth from the heart of Stahqon, you will find that anyone and all of your tree brothers will give you warmth and light. We give you our life and our love. Go forth, and give to your brothers and sisters what the Tree people have given you.

*All My Relations!*

