Houlton Band of Maliseet Indians
Natural Resources Department
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Attention Tribal Youth in Grades 5-8

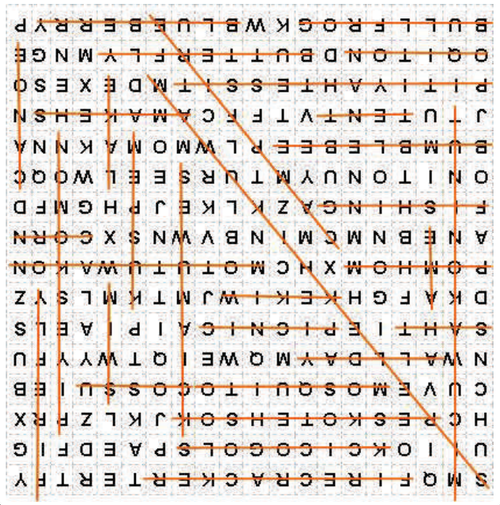
Now that summer is here, it won't be long until it's time for Skitkomiq Culture in Science Camp. This year's camp will take place from August 13 - 16.

This year's activities will include: traditional medicine teachings, fish habitat studies, canoe safety, sweatlodge teachings and construction, plus much more!

We will be posting updates to the schedule via the Natural Resources Facebook page. Anyone interested in attending the camp or volunteering their time are encouraged to contact via e-mail Cara O'Donnell, water@maliseets.com or Jenna Matthews, jmatthews@maliseets.com or by calling the Tribal Offices at 532-4273 ext. 212

Follow us on Facebook

Word Search Answers



Nipon - June 2018
Clarissa Sabattis - Tribal Chief
Susan Young - Editor

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In this issue:

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Sue Young - ext. 202

What's the Difference Between Weather and Climate? *By Nat'l Oceanic & Atmospheric Administration*

Take a moment and think about the weather today where you are. Is it normal or typical? Is it what you'd expect? If it's been cool the past few days but the temperature is climbing today, is that weather or climate? Are weather and climate the same thing? Though they are closely related, weather and climate aren't the same thing. Climate is what you expect. Weather is what actually happens.

What exactly is weather?

More specifically, weather is the mix of events that happen each day in our atmosphere. Even though there's only one atmosphere Earth, the weather isn't the same all around the world. Weather is different in different parts of the world and changes over minutes, hours, days, and weeks.

Most weather happens in the part of Earth's atmosphere that is closest to the ground - called the troposphere. And, there are many different factors that can change the atmosphere in a certain area like air pressure, temperature, humidity, wind speed and direction, and lots of other things. Together, they determine what the weather is like at a given time and location.

What exactly is climate?

Whereas weather refers to short-term changes in the atmosphere, climate describes what the weather is like over a long period of time in a specific area. Different regions can have different climates. To describe the climate of a place, we might say what the temperatures are like during different seasons, how windy it usually is, or how much rain or snow typically falls.

When scientists talk about climate, they're often looking at averages of precipitation, temperature, humidity, sunshine, wind, and other measures of weather that occur over a long period in a particular place. In some instances, they might look at these averages over 30 years. And, we refer to these three-decade averages of weather observations as Climate Normals.

While descriptions of an area's climate provide a sense of what to expect, they don't provide any specific details about what the weather will be on any given day. Looking at Climate Normals can help us describe whether the summers are hot and humid and whether the winters are cold and snowy at a particular place.

Continue on page 4

NEPA Training Hosted by HBMI Natural Resources

Our Natural Resources Department, with the support of the Bureau of Indian Affairs (BIA), recently hosted a training on the National Environmental Policy Act, or NEPA for short. The training also included a session on Section 106 of the National Historic Preservation Act (NHPA) and a day on completing Phase I Environmental Site Assessments. Luckily for us, the federal agencies we deal with complete most of the reviews required by these laws, and BIA regulations, but it is crucial for us to understand what is needed and the potential environmental and historic implications of the projects we do.

Instructors Herb Nelson and Don Sutherland, both retired from BIA, brought their knowledge, expertise, and humor to our sessions held at the Houlton Higher Education Center in Houlton.

By hosting this training we were able to have 8 employees attend. Taking part from HBMI were, Matthew Edberg, Jeremy Hiltz, Sharri Venno, Sue Young, Cara O'Donnell, Jenna Matthews, Sam St. John, and Wade Hanson.

In addition to HBMI staff, we had representatives from the Aroostook Band of Micmacs, Passamaquoddy Tribe - Indian Township, BIA Cherokee Agency, EPA, Campbell Environmental, Poarch Band of Creek Indians, Mississippi Band of Choctaw Indians, Seminole Tribe, and USET (United South and Eastern Tribes).

Field Exercise from left: Sharri Venno, Tina Street and Yannick John - Seminole Tribe, Martin Dana - Passamaquoddy Tribe - Indian Township, Sam St. John, Instructor Herb Nelson.

WaYS - Wood Turtle Research Project

Wambli Martinez participated in a wood turtle research project overseen by Professor Dave Putnam, (Univ. of Maine at Presque Isle) this spring as part of the WaYS (Wabanaki Youth in Science) program. The project required canoeing various river reaches, stopping at large sandy bars and islands, which is ideal wood turtle habitat, to collect data on any wood turtles found. Wood turtles emerge in the spring shortly after ice out, and spend time on the river banks to warm up in the sun.

(left) Cara O'Donnell, Gertie the turtle dog and Wambli Martinez (right) Wambli holding wood turtles

An 8 year old juvenile wood turtle (Glyptemys insculpta).
All photos by Dave Putnam

Data collected through the survey included presence, gender, general population density, and locations of wood turtle clusters within the river's drainage. Additional data collected included water and air temperatures, habitat, gender, carapace length, and photos of the carapace (hard upper portion of shell) and plastrons (under shell) of all captured turtles. The overall objective of the project was to assist Maine Department of Inland Fisheries and Wildlife complete their statewide assessment of wood turtle populations.

The wood turtle is listed as endangered or threatened in all states within its range except for Connecticut and Maryland. It is listed as a 'Species of Special Concern' in Maine. More data is needed to determine if it requires listing as endangered here in Maine as well.

For more information on wood turtles: https://en.wikipedia.org/wiki/Wood_turtle

Tips for a Happy Toilet System

Whether you live in a town or a city and have public water or sewer, or if you live in a place with a private well and septic system, it's good to practice good toilet habits. We're not just talking about putting down the lid or flushing the toilet when you're done - we're talking about ***what*** you flush down the toilet.

It may seem that toilets are great disposals for anything and everything but they are far more delicate that you think. Many items tossed in the toilet can plug up and damage the system, causing it to smell and sometimes costing hundreds or even thousands of dollars to fix. Just because an item says it's septic safe, do not assume it is okay. Many "septic safe" items when used in quantity can plug a waste line very quickly. So when in doubt leave it out.

Also be mindful of how you clean your toilet, many chemicals like bleach and chlorine cleanser can wreak havoc on the delicate balance in your septic tank and system. Vinegar and baking soda are great alternatives to commercially available cleaners.

Maliseet Word Search Puzzle

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

Find the Maliseet and English words in this summer time puzzle

Amakehs	Butterfly
Ame	Fishing
Cossu	Mosquito
Kci-Amuwes	Bumblebee
Kci-cogols	Bullfrog
Kekiw	All day
Kuspem	Lake
Micuwakoninut	Picnic (Basket)
Motutuwakon	Campfire
Oqiton	Canoe
Peskotehsok	Firecracker
Pitiyahtessit	Firefly
Piyeskomon	Corn
Pomhom	Swim
Saht	Blueberry
Sipelekhikuwam	Tent

Gleotrichia in Drews Lake *by Cara O'Donnell Water Resources Specialist*

(above & Right) Algae bloom of Gleotrichia at Drews Lake, 9/16/2017

What is Gleotrichia and should I be concerned?

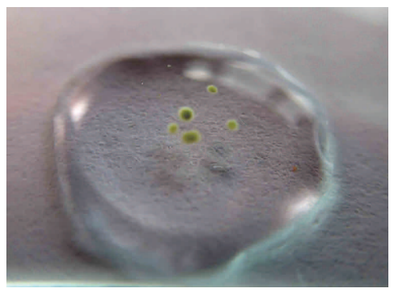
Gleotrichia is a type of algae that often has no effect on human health. When effects occur, they are usually limited to gastrointestinal upsets and skin or mucous membrane irritation. Gleotrichia blooms can make recreation less enjoyable. Gleotrichia has been found in Drews Lake during mid to late-summer, since 2015.

Why is Gleotrichia in Drews Lake? Linda Bacon, Maine DEP Aquatic Biologist, says that Gleotrichia is a sign that the lake is becoming eutrophic (meaning it has too many nutrients), which will lead to problems for fish and other aquatic life, if nutrient sources to the lake continue.

What can landowners around the lake do? Since nutrients enter the lake in may different ways, landowners can work to reduce or eliminate nutrient sources such as:

- Failing septic systems, or leachate reaching lake (human waste)
- Animal and pet waste (animal waste)
- Applications of fertilizers to lawn and garden near lake (fertilizers)
- Using soaps while in the lake (soaps)
- Using drain pipes from camp to lake (soaps, human waste)

When it rains, nutrients from the above sources wash into the water surface, or by way of shallow groundwater.



Photos:
(left) Gleotrichia in a drop of water
(right) Gleotrichia under a microscope

For more information contact:
Cara O'Donnell, Water Resource Specialist,
(207) 532-4273 ext. 212 or water@maliseets.com

Meet the Summer Techs

Summer's finally here and so are the summer techs.

We are pleased to announce Jenna Matthews is back again this year to work with Cara and Sam in the Water Resources Program.

We are also welcoming Jeremy Hiltz to our department. Jeremy will be working with Matthew on a variety of Natural Resources projects.

Summer Techs left to right Jeremy Hiltz & Jenna Matthews

14 Fun Facts about Dragonflies *by Sarah Zielinski, Smithsonian Magazine*

Flying insects are usually annoying. Mosquitoes bite you, leaving itchy red welts. Bees and wasps sting. Flies are just disgusting. But there's something magical about dragonflies.

1) Dragonflies were some of the first winged insects to evolve, some 300 million years ago. Modern dragonflies have wingspans of only two to five inches, but fossil dragonflies have been found with wingspans of up to two feet.

2) Some scientists theorize that high oxygen levels during the Paleozoic era allowed dragonflies to grow to monster size.

3) There are more than 5,000 known species of dragonflies, all of which (along with damselflies) belong to the order Odonata, which means "toothed one" in Greek and refers to the dragonfly's serrated teeth.

4) In their larval stage, which can last up to two years, dragonflies are aquatic and eat just about anything - tadpoles, mosquitoes, fish, other insect larvae and even each other.

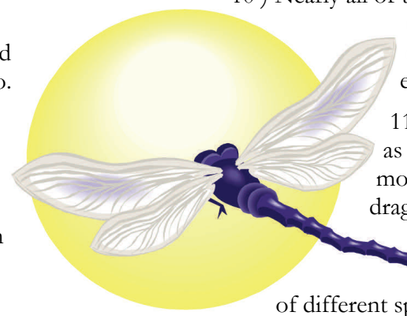
Dragonfly hatching Meduxnekeag River (HBMI Nat. Res.)

5) At the end of its larval stage, the dragonfly crawls out of the water, then its exoskeleton cracks open and releases the insect's abdomen, which had been packed in like a telescope. Its four wings come out, and they dry and harden over the next several hours to days.

6) Dragonflies are expert fliers. They can fly straight up and down, hover like a helicopter and even mate mid-air. If they can't fly, they'll starve because they only eat prey they catch while flying.

7) Dragonflies catch their insect prey by grabbing it with their feet. They're so efficient in their hunting that, in one Harvard University study, the dragonflies caught 90 to 95 percent of the prey released into their enclosure.

8) The flight of the dragonfly is so special that it has inspired engineers who dream of making robots that fly like dragonflies.



9) Some adult dragonflies live for only a few weeks while others live up to a year.

10) Nearly all of the dragonfly's head is eye, so they have incredible vision that encompasses almost every angle except right behind them.

11) Dragonflies, which eat insects as adults, are a great control on the mosquito population. A single dragonfly can eat 30 to hundreds of mosquitoes per day.

12) Hundreds of dragonflies of different species will gather in swarms, either for feeding or migration. Little is known about this behavior, but the Dragonfly Swarm Project is collecting reports on swarms to better understand the behavior.

13) Scientists have tracked migratory dragonflies by attaching tiny transmitters to wings with a combination of eyelash adhesive and superglue. They found that green darners from New Jersey traveled only every third day and an average of 7.5 miles per day (though one dragonfly traveled 100 miles in a single day).

14) A dragonfly called the globe skinner has the longest migration of any insect -11,000 miles back and forth across the Indian Ocean.

Common Whitetail - Male commonly found in Maine (Stokes Beginners Guide to Dragonflies)

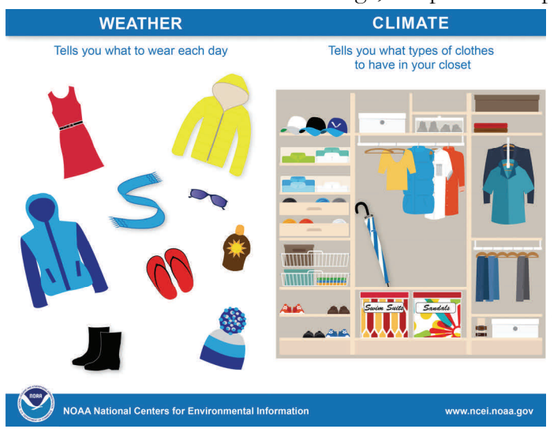
https://www.smithsonianmag.com/science-nature/14-fun-facts-about-dragonflies-96882693/#rCaC9KL9p5Qfc2XZ.99

What's the Difference Between Weather and Climate? *Cont'd*

How do weather observations become climate data?

Across the globe, observers and automated stations measure weather conditions at thousands of locations every day of the year. Some observations are made hourly, others just once a day. Over time, these weather observations allow us to quantify long-term average conditions, which provide insight into an area's climate.

In many locations around the United States, systematic weather records have been kept for over 140 years. With these long-term records, we can detect patterns and trends. And, as the Nation's official archive for environmental data, it's our job to collect, quality control, and organize these data and make them available online for scientists, decision makers, and you.



Are regional climates different from the global climate?

Global climate is a description of the climate of a planet as a whole, with all the regional differences averaged. Like the United States, different regions of the world have varying climates. But, we can also describe the climate of an entire planet - referred to as the global climate. Global climate is a description of the climate of a planet as a whole, with all the regional differences averaged. Overall, global climate depends on the amount of energy received by the sun and the amount of energy that is trapped in the system. And, these amounts are different for different planets. Scientists who study Earth's climate look at the factors that affect our planet as a whole.

How does the climate change?

While the weather can change in just a few minutes or hours, climate changes over longer time frames. Climate events, like El Niño, happen over several years, with larger fluctuations happening over decades. And, even larger climate changes happen over hundreds and thousands of years.

Today, climates are changing. Our Earth is warming more quickly than it has in the past according to the research of scientists. Hot summer days may be quite typical of climates in many regions of the world, but warming is causing Earth's average global temperature to increase.

The amount of solar radiation, the chemistry of the atmosphere, clouds, and the biosphere all affect Earth's climate.

As global climate changes, weather patterns are changing as well. While it's impossible to say whether a particular day's weather was affected by climate change, it is possible to predict how patterns might change.

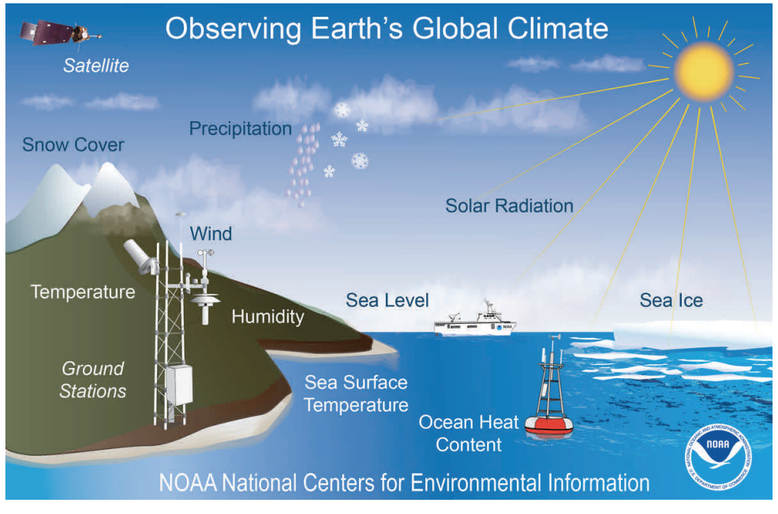
For example, scientists predict more extreme weather events as Earth's climate warms.

Why do we study climate?

Climate, climate change, and their impacts on weather events affect people all around the world. Rising global temperatures are expected to further raise sea levels and change precipitation patterns and other local climate conditions.

Changing regional climates could alter forests, crop yields, and water supplies. They could also affect human health, animals, and many types of ecosystems. Deserts may expand into existing rangelands, and features of some of our National Parks and National Forests may be permanently altered.

For more information:
https://www.ncei.noaa.gov/news/weather-vs-climate



AmeriCorps Team Build Sacred Fire Circle at Elders Center

Beginning stages of fire pit with gravel for drainage

AmeriCorps National Civilian Community Corps Team Maple 40 was in the area to work on a greenhouse project with SAD 70 (Hodgdon) and they were looking for a project to work on in their off hours and weekends.

Cara O'Donnell talked with team leader Jessica Williams and mentioned a project we had discussed here at the Tribe; building a stone walkway to the sacred fire pit.

After discussing the matter with Chief Sabattis and gathering the materials for the project members of the AmeriCorps team began creating the walkway and fire pit seen in these photos.

The AmeriCorps team members come from all across the US. Team leader Jessica Williams is from Seattle, Washington; Jodi Cruz is from Charlotte, Texas; Zack Marks is from Northampton, Massachusetts and Stephen Magnuson is from Midlothian, Virginia. We can't thank them enough for their work on this project. ***Kuli Kiseht!***

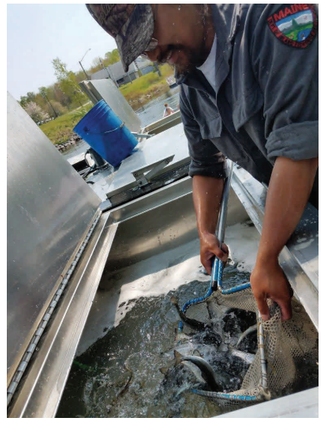
Left - Jessica Williams and Stephen Magnuson packing the stones in.

Below: Stephen Magnuson works to level the stones

Salmon Release 2018

On May 25th, Wabanaki students from Houlton along with students from Hodgdon, Greater Houlton Christian Academy, and Danforth released landlocked salmon parr at the East Grand Lake Thoroughfare. With assistance from the Maine Department of Inland Fisheries (DIF&W) and Wildlife and Chiputneticook Lakes International Conservancy (CLIC), Wabanaki students had the opportunity to release 263 landlocked salmon parr that had been incubated in the HBMI Natural Resources Department aquarium. Elder Dayna Boyce provided a prayer and song, explaining to the students and staff the cultural importance of the salmon to Maliseet people.

(from left) Joey Tompkins and Raistlin Gogan scoop salmon fry from the cooler to count then release into East Grand Lake.



(Above) DIF&W staff scoop yearling land-locked salmon in preparation for release into East Grand Lake