Wild TIMES for kids!

CLIMATE, WEATHER, HABITAT, and WILDLIFE

One of the first things most people do when they wake up in the morning is to look out the window to see what the weather is like outside, which helps them to plan their day. When weather is observed for a long time, usually for over thirty years, it is then called ***climate***. Climate affects the kinds of plants that grow in a region and this affects the kinds of animals that can live there. Weather and climate are very important to people–and they are also very important to wildlife.

WEATHER AND CLIMATE

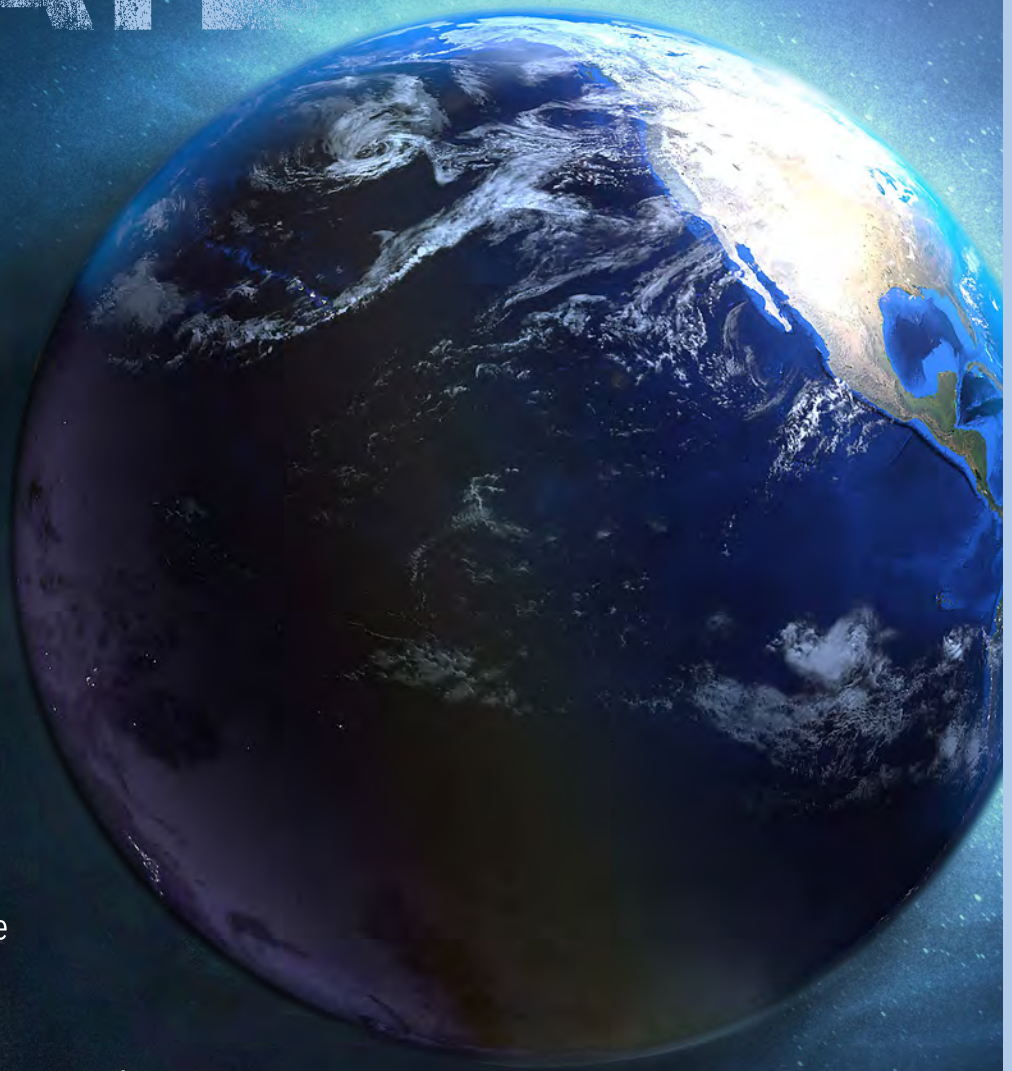
KNOWING THE DIFFERENCE

Weather is the state of the atmosphere at any given time—like when you get up in the morning—and includes the current conditions such as temperature, precipitation, wind, and cloud cover. Weather is what we see every day, and winds and storms will cause day-to-day changes to it.

Weather conditions change from season to season and year to year. Some winters will produce a lot of snowfall and others will not, just like some summers are very dry while others are wet and humid.

Climate is the average of weather conditions in a large area over a long period of time (at least 30 years). Areas with similar average temperatures and precipitation are called ***climate zones***. These zones all have different characteristics and are referred to as: polar/subpolar, temperate, subtropical/dry, and tropical.

EFFECTS OF A CHANGING CLIMATE



Climate scientists are called ***climatologists***. They monitor the global climate, which is the average climate around the world. The Earth's air, water, and land are all related to one another, so a change in temperature or precipitation in one place can lead to other changes somewhere else. Climatologists investigate differences in climates around the globe to better understand how conditions will change here in the future.

When average long-term air temperatures rise, for example, the oceans will absorb more heat from the atmosphere and become warmer too. Warmer oceans will then cause stronger storms, and these storms will affect rivers, streams, and forests. These types of events associated with climate change also change wildlife habitat and the animals, birds, amphibians, insects, and reptiles found in them.

THE HABITAT FACTOR

Wildlife habitats with narrow temperature ranges and water requirements may be the first to be negatively affected by climate change. Examples in New Hampshire include the alpine zone (mountain tops where there are no trees), high- and low-elevation spruce-fir forests, coastal islands, vernal pools, and water habitats of all kinds. As a habitat changes over time, so will the animals that live there.

Alpine zone: White Mountains of New Hampshire

If the warming trend continues, the future of trees that thrive in cold climates, such as sugar maple, spruce, and fir, is uncertain, as is the future of the wildlife that depend on them.

A Home for WILDLIFE

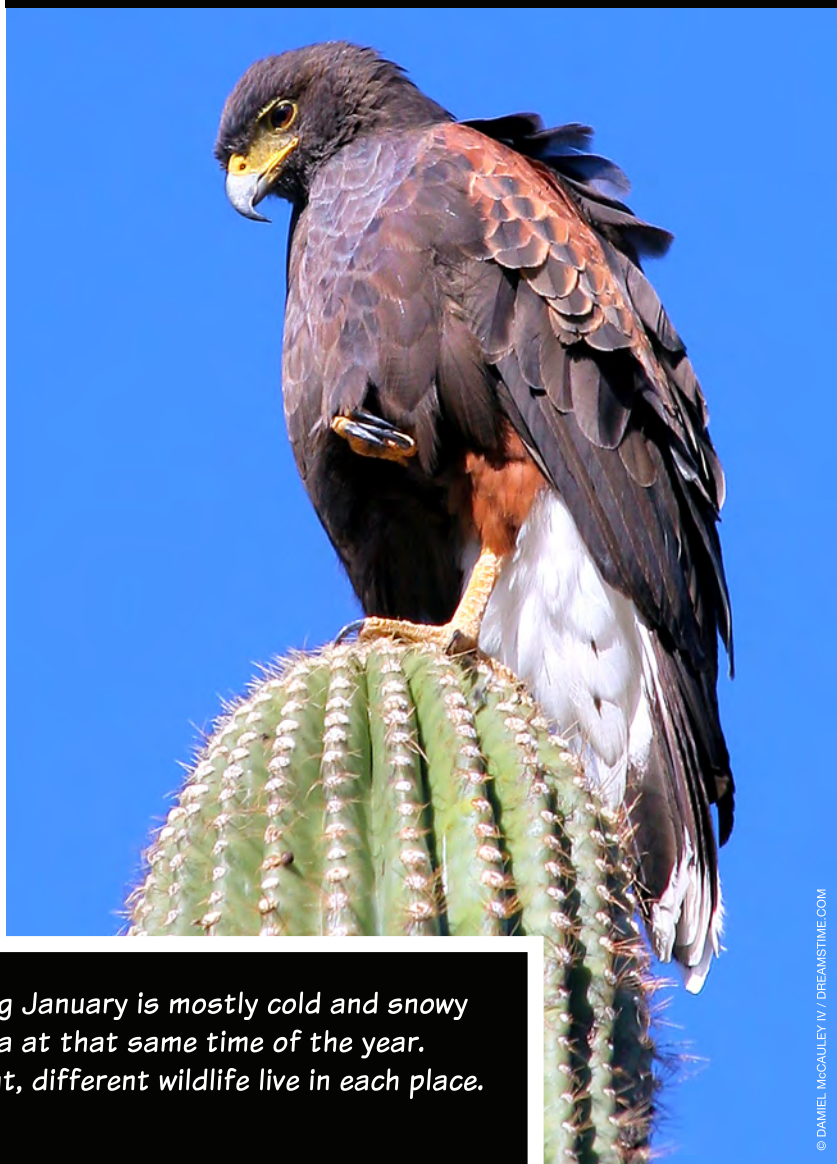
Just like you, all wildlife needs a home, and their home is called ***habitat***. It's easier to think of habitat like a neighborhood instead of a house with walls and a roof. Each species of wildlife needs a different neighborhood to survive, one that provides them with food, water, shelter, and the space they need for life-supporting activities such as grazing and raising their young. If any of these habitat essentials are disturbed or removed altogether it will affect the wildlife there and may cause them to look for a new home that better meets their needs.

SNOWY OWL

During the winter months, snowy owls can be found hunting for prey in New Hampshire.

HARRIS HAWK

The Harris hawk lives in the desert regions of Arizona, Texas, and Mexico.



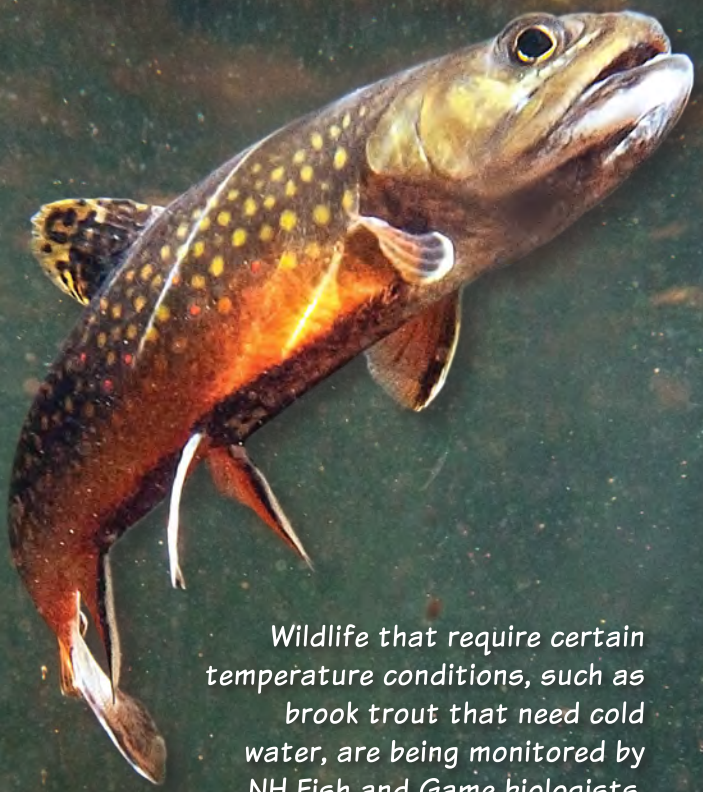
The climate in New Hampshire during January is mostly cold and snowy while it's warm and dry in Arizona at that same time of the year. Because the climates are so different, different wildlife live in each place.

NEW HAMPSHIRE'S WILDLIFE

IN A CHANGING CLIMATE

In New Hampshire, we don't have penguins or crocodiles. Why not? The habitat and climate are not right for those animals. Instead we have wildlife that can live in a temperate climate zone, such as moose, purple finch, and eastern brook trout.

Over the past 120 years, the average temperature in the Granite State has increased by 3.5°F. This may not sound like much, but this change in our climate has reduced the number of days that we have snow on the ground and ice on our lakes and ponds. Our weather is also less predictable now. In recent years, New Hampshire has experienced many more severe ice- and rainstorms. We don't like to be stuck inside when it's too hot or rainy to go outside so imagine how difficult climate change is for wildlife.



Wildlife that require certain temperature conditions, such as brook trout that need cold water, are being monitored by NH Fish and Game biologists.

Moose are perfectly adapted for extreme cold, but have a tough time handling the heat.

Alpine butterflies such as the White Mountain fritillary may be the first to disappear as warmer temperatures change their habitat.

The purple finch, our State Bird, is shifting further northward and may no longer be able to nest in the state if average temperatures get too warm.

Counting on CLOUDS

Clouds are fun to watch and they also play an important role in global climate. Clouds produce rain and snow, which are important to the water cycle all over the world. Clouds help to cool the Earth's surface by blocking the light from the sun, but they also help to insulate the planet by trapping the sun's heat overnight. The conditions on Earth affect the numbers and types of clouds that form in the sky. Changes in the climate affect clouds, too. As the climate warms, fewer clouds will form to help protect the Earth.

The clouds you see depend on the weather conditions. Try keeping a journal of the types of clouds you see throughout the day or over a week. Record what happens to the weather in your backyard when you see different clouds overhead.

CUMULUS

Fluffy white clouds (heaped and puffy), with dark bases, usually mean fair weather.

STRATOCUMULUS

Low, water-carrying clouds mean that it is probably raining, snowing, or drizzling.

ALTOCUMULUS

Parallel bands or rounded masses of shaded clouds, altocumulus clouds are often seen in advance of a cold front.

CUMULONIMBUS

Sometimes called "thunderheads," these towering clouds may rise to 75,000 feet and often bring thunderstorms.

CIRRUS

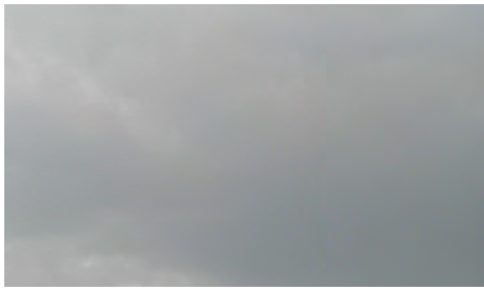
Commonly referred to as "mares' tails," wispy cirrus clouds are created by tiny beads of ice and are often seen before a cold front.

STRATUS

These layered clouds look like a gray blanket and can bring rain or snow.

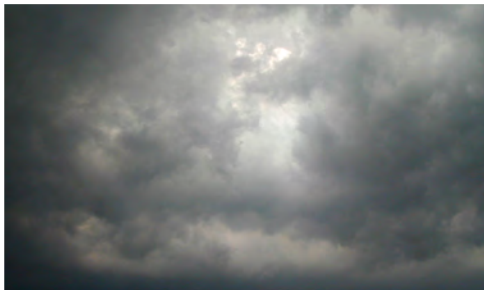
ALTOSTRATUS

Gray or blue gray, these clouds cover the whole sky and usually form ahead of a storm. The sun or moon may shine through them, but will appear fuzzy.



NIMBOSTRATUS

Heavy dark clouds that usually appear before rain or snow; they are common in winter.



COOL WATERS

Help Brookie the brook trout avoid the harmful effects of a changing climate as he searches for cool water. Watch out for warm pools, flood waters, and increasing predators!

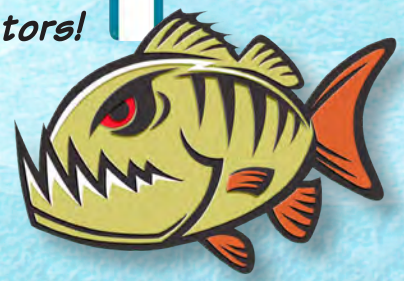
START

Warm Pool

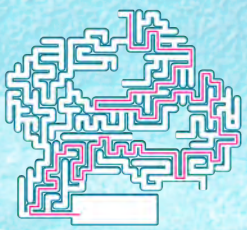
Flood!

Cool Waters

Predators!



MAZE ANSWER



Wild Times for Kids is published annually by the New Hampshire Fish and Game Department. Multiple copies are available for schools and youth groups upon request. Send your request to:

N.H. Fish and Game Department, Public Affairs Division
11 Hazen Drive, Concord, NH 03301 • 603-271-3211 • *WildNH.com*

Support for this issue of *Wild Times* is provided by the **Wildlife Heritage Foundation of New Hampshire,** the official non-profit partner of the New Hampshire Fish and Game Dept.