2-1 Weather Lore

Outcomes:

1. Discuss the relative accuracy of weather forecasting by folklore and scientific methods. (115-2)
2. Compare the ways older generations forecasted weather (folklore) with the scientific methods used today. (115-6)
3. Identify examples where scientific understanding was enhanced or revised as a result of the invention of a technology. (116-1)
4. Identify questions to investigate that arise from practical problems and issues (e.g., develop questions related to the effect of heat energy transfer within the hydrosphere). (212-1)
5. Analyze the interactions between the atmosphere and human activities. (330-4)

Introduction

The current atmospheric conditions outside is what we call ***weather***. For example, how strong the wind blows, if it is cloudy or clear, rain fall and temperature are used to describe the weather. *Climate* is the average of the measures used to describe weather over a longer time period, usually years.

Weather: The condition of the atmosphere with respect to heat or cold, wetness or dryness, calm or storm, clearness or cloudiness

Climate: The average condition of the weather at a place usually over a period of years as exhibited by temperature, wind speed, and precipitation

To get an accurate weather forecast in our modern world, all you need to is do switch on the radio, television, or even the internet. With the use of satellite and radar images, electronic atmospheric measuring devices and computer programs, weather forecasting has become a fairly accurate science. It is even possible for forecasters to predict weather a week in advance and even a season in advance!

This was not possible even 50 years ago. How did the people in the past predict weather? Careful observations of their surroundings were the key to knowing in advance the arrival of good and bad weather. People watched the cloud patterns in the sky, the behavior of animals, and growth of plants to predict weather. They were also aware of seasonal changes as marked by certain events occurring on certain dates. For example, spring and fall were marked by observing that there were two days each year that have equal amounts of daylight and darkness. These are the equinoxes when the amount of daylight equals night. This is the beginning of Autumn and Spring (roughly September 20 and March 20 each year).

Weather Lore in Newfoundland and Labrador

In Newfoundland and Labrador, the development of weather forecasting in the past was a matter of life or death. Historically, our people depended heavily on the land and sea to survive. The land and sea provided food, materials to build, fuel for heating, travel, and employment. Knowing when conditions were most favourable to pursue any of these necessities was extremely important. Depending on the season, getting caught in a storm could have meant disaster. This was particularly true for fishermen.

Also, predicting the weather could mean knowing when and where to fish and hunt. Animals also respond to changes in the atmosphere and are somehow sensitive to these changes more so than people. For fishermen, observing the movements of fish and birds was, and still is, important for successful hunting and keeping track of weather changes. Even the average person who trout fishes knows that wind from the northeast usually means poor fishing.

From the centuries of observations in Newfoundland and Labrador arose what is known as ***weather lore***. This ability to predict weather has been gained through careful observations and has been passed on from generation to generation. The passing of weather knowledge has traditionaly been done through sayings and rhymes. These sayings have been made after many years of noticing events prior to a change in the weather. After witnessing the same result over and over, the observations become a predictor of weather change. Some sayings predict ***short term*** changes, from one day to another. Other sayings are for ***long term*** or seasonal changes.

Weather lore: traditional knowledge of weather based on observations made by people over a number of years

Short Term: Involving a relatively short period of time, usually days

Long Term: Involving a relatively long period of time, usually weeks, months or year

Perhaps the most commonly known of these rhymes would be:

> "Red sky at night, a sailor's greatest delight; Red sky in the morning, sailors take warning."

This saying has its roots in the observation that when a sky is red at sunset, it is an indicator of fair weather the next day (short term). However, if the sky is red at sunrise, it is a sign of poor weather to come that day. How does this work? We see the sun setting in our western sky. Changes in the weather usually come from the west. When there is lots of moisture in the air, the red rays of the sun won't shine through. So when you see a red sunset, it means there is no moisture gathering. You'll have a nice day ahead. "A red sky in the morning" means that good weather is moving out. But, watch out, there might be rain within 24 hours.

Another traditional sign of poor weather to come is:

> "If the sun has a halo around it, poor weather is sure to follow."

According to folklore, a ring around the sun means rain is coming. In fact, high icy cirrus clouds that produce haloes often, but not always, come before stormy weather. This again uses observations of atmospheric conditions to predict that a change in weather conditions is on the way.

Still another sign of poor weather is:

> "When the wind comes from the east, 'Tis neither good for man nor beast."

In this case, the direction of the wind is the sign to indicate poor weather. Generally speaking, in Newfoundland and Labrador, the ***prevailing wind*** is westerly. Fair weather is associated with these types of winds. Easterly winds tend to be associated with poor weather because they bring cooler weather conditions in from the ocean.

Prevailing Winds: Winds most often experienced that generally come from one direction

This saying uses animal behavior to predict the weather:

> "Sea birds keeping near the land, Tell a storm is near at hand. But flying seaward out of sight, you may stay and fish all night."

The behavior of sea birds, as with other animals, can tell if the weather to come is fair or poor. As with people, animals rely heavily on weather conditions for feeding and survival. If we carefully observe them, their actions can help us with weather watching.

Many of the sayings and rhymes have a high percentage of accuracy because the observations have been repeatedly made over many years by many people. This is an important part of doing good science. Although the observations were not likely recorded using specific dates and locations, they were preserved through folklore. The older generations devised sayings and rhymes to remember their observations and pass them on to the younger generations and so on.

Some of the traditional sayings are not as accurate as others. These usually deal with expected weather related to observations made on specific dates. The best example of this, due to its popularity, would be

the annual February 2nd event known as Groundhog Day. As tradition goes, should the appointed groundhog see his or her shadow on this particular day, there is expected to be six more weeks of hard winter (long term). On the other hand, should the shadow not be observed, the worst of winter is over and an early spring can be expected. The history of Groundhog Day is directly linked to the European celebration of Candlemas. When German settlers arrived in Pennsylvania, they brought with them the celebration of Candlemas. This is a Christian extension of an old tradition that marked the midpoint between the date of the ***winter solstice*** and the ***spring equinox***. The tradition went, the weather on that day would predict the extent of winter's hold. A sunny day would mean 6 more weeks of winter weather. A dull day indicated a lessening on the length of winter. Germans used a badger emerging from hibernation as the animal whose shadow would be the weather predictor. In Pennsylvania it became the groundhog. Punxsutawney Phil was the name he was given and his accuracy after 118 years of forecasting was 39%. That means that the predictions made are only correct 4 times for every 10 made. Obviously the degree of accuracy is low and not really to be trusted. The Canadian cousin to Phil is Wiarton Willie from Wiarton, Ontario.

Winter Solstice: The time when winter begins, also the least amount of dayligth hours. December 21 or 22

Spring Equinox: The time when day and night are everywhere of equal length, March 20 or 21

Another Candlemas related saying in Newfoundland and Labrador is:

> "If the wind's in the east on Candlemas Day,
> There it will stick till the first of May"

Like the groundhog and his shadow, this one uses wind direction to predict a longer winter. In Newfoundland and Labrador, we have another date related weather prediction - Sheila's Brush. It is usually a storm with heavy snowfall that arrives around the 18th of March. Sheila's Brush is the last of winter usually arriving just after St. Patrick's Day. Legend has it that Sheila was a relative or acquaintance of St. Patrick and the snow is a result of Sheila's sweeping away the last of winter. Sometimes a storm before "Paddy's" Day is called Patrick and Sheila. Newfoundland sailors always counted on a storm around St. Patrick's Day and once the brush blew through it signaled that spring was just around the corner.

Newfoundlanders and Labradorians have also paid close attention to the changes in plants. As one saying goes:

> "A lot of dogberries on the trees in the fall means a hard winter ahead."

Although difficult to determine the origins and accuracy of this saying, many older people feel it is true. Why the amount of dogberries on a tree would be an indicator of a hard winter is unknown.

In today's world, the forecasting of weather has advanced significantly since the days when people relied on observations of the natural world. There are even television stations dedicated to providing current and upcoming weather conditions across Canada.

Weather is an important part of our lives. It determines our daily activities, travel plans, where we choose to live, and our recreational activities. Therefore, predicting the weather is, and has always been, important.

Analysis

1. What is weather? How is it related to climate?
2. What is weather lore?
3. Why is (was) weather forecasting so important to people?
4. Identify three observations in nature used to predict weather.
5. What is a short term forecast? What is a long term forecast?
6. Are forecasts made using weather lore accurate? Explain.
7. When does the winter solstice occur and what does it signify?
8. When does the spring equinox occur and what does it signify?

Extension

1. Suggest what these weather related sayings might mean (internet research may be necessary):

   "A fine Christmas, A fat churchyard"

   "April showers bring forth may flowers"

   "March came in like a lamb and goes out like a lion"

   "If Candlemas Day be fair and fine Half the Winter is left behind"

   "If the wind's in the east on Candlemas Day, There it will stick till the first of May"

   "Winter thunder means summer's hunger"

   "A year of snow, a year of plenty"

   "A peck of March dust is worth a king's ransom"

   "When the winds of October won't make the leaves go; then a frosty Winter and banks of snow"

   "A warm Christmas, a cold Easter"

   "Evening red and morning grey; double signs of one fine day"

   "A red sun got water in his eye"

   "The moon with a circle got water in her beak"

   "Clear moon, frost soon"

   "When the rain comes from the south, it blows the bait into the fishes mouth"

   "When the wind veers against the sun, trust it not, for back 'twill run"

   "Rain before seven, Lift before eleven"

   "After a storm come a calm"

   "Quick thaw, long frost"

   "If the goats come home in file, get your fish in covered piles"