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# LIVING



Terry Carpenter, special to The Examiner

Indian summer stirs the soul with thoughts of how temporary and fragile the sunshine and warmth are, because winter awaits just around the corner.

# Our second summer

*This dreamy Indian-summer day,  
Attunes the soul to tender sadness;  
We love — but joy not in the ray —  
It is not Summer's fervid gladness,  
But a melancholy glory*

**Susanna Moodie**

One of the pleasures of fall in the Kawarthas is the gift of abnormally warm temperatures that usually come in the second half of October or early November. When it arrives after a period of cold, wintry weather, or, at the very least, after a killing frost, we typically use the term Indian summer. The melancholy warmth of this "second summer", as it is sometimes called, has always stirred the souls of artists and writers alike.

To meteorologists, Indian summer is known as a weather singularity; that is, an identifiable weather event that usually occurs around the same calendar date each year. In eastern North America, this typically means the latter part of October. However, it can also be earlier, later, or not happen at all. Some years may even have two or three Indian summer periods.

Typically, Indian summer days are warm and still, with blue, cloudless skies. Because there is no wind, smoke from burning leaves or other pollutants hangs on the horizon. Temperatures climb progressively higher with each passing day. Through it all, the sun shines with a soft, hazy light. Should the period coincide with a full moon, the rising lunar body glows orange in the evening sky. An Indian summer night can still be quite cool, however, and even bring frost. Tradition dictates that this period of benevolent weather must last for at least several days to truly count as Indian summer.

Having already had a foretaste of ice and cold, any lingering thoughts of July and August have usually begun to fade by the



**OUR  
CHANGING  
SEASONS**  
Drew Monkman

time Indian summer arrives. This makes the event stand out all the more. Indian summer can become a sentimental, almost melancholy time, however. It stirs the soul with thoughts of how temporary and fragile the sunshine and warmth are, because winter awaits just around the corner.

Weather records show that the term Indian summer was already in use in Canada early in the 19th century. The actual origin of the name, however, is obscure. The explanation I like best is that European settlers were told by the indigenous peoples that a period of warm weather would come each fall. The settlers may therefore have named this spell of summer-like conditions after the people who gave them the good news.

Another theory attributes the name to the belief — certainly true in some cases — that the haziness of Indian summer days was due to the fact that native people hunted game during warm spells in the fall and set fires to drive the animals out. Some tribes also burned their fields at this time in order to prepare the ground for spring planting.

The hazy, dream-like quality of the light and sky during these autumnal warm spells is due to the interplay of three factors: There is usually a large amount of water vapour in the air in the fall; smoke and other pollutants often accumulate during Indian summer periods; and the angle of fall sunlight is shallower than in summer because the sun is lower in the sky. These factors combine to produce a feeling of reverie and stillness.

Although primarily associated with eastern North America, Indian summer conditions can occur all over the northern hemisphere. In Europe, depending on the date, the phenomenon is often called St. Luke's or St. Martin's summer. The term second summer is also commonly used.

Indian-summer conditions occur immediately after a cold, arctic air mass has brought winter's first bite to central Ontario. This will typically have caused a hard frost, bitter northerly winds, and possibly even snow.

However, as the arctic air mass flows off the Atlantic coast, it is replaced by another air mass known as the subtropical Bermuda high. This system sits up over the mid-Atlantic states and funnels warm, humid, southerly breezes into Ontario. What is special about an Indian summer system, however, is that it locks in for days — sometimes a week or more.

The air mass can be so large that it alters the flow of the polar jet stream by pushing it further north.

Unfortunately, a large, stagnant Indian summer air mass often allows the accumulation of air contaminants. Along with the large amounts of water vapour that are present in the fall, the pollutants give a hazy look to the sky and can produce very poor air quality after several days. Eventually, though, a heavier cold air mass from the Arctic regions displaces the Bermuda High and a new wave of "normal" fall weather returns with frosty nights.

According to Dave Phillips, a senior climatologist at Environment Canada, climate change will cause Indian summer to occur later in coming years. It may soon become more of an event of mid-November or even December. The long-range forecast for this fall, however, is for average weather conditions, so we hopefully will experience Indian summer conditions within the normal date range.

In order to qualify as a bona fide Indian summer, there must first of all have been a hard or killing frost — one that requires some strenuous scraping of the car windshield. This almost always occurs sometime in October. According to the 1971-2000 weather averages for Peterborough, the temperature falls below freezing on about nine

different days in October. In November, this increases to an average of 20 days.

Frost, the icy cousin of dew, usually forms on clear, cold nights with little wind. It is simply water vapour that has condensed and formed ice crystals on a cold surface at a temperature below the freezing point.

However, because some surfaces such as glass and metal lose heat more rapidly than the surrounding air, they can become cold enough for frost to form on even when air temperatures are slightly above freezing. This is why car windshields can frost over when surrounding surfaces such as plants and asphalt are frost-free.

The reason low-lying areas are more susceptible to frost formation is because cold air is heavier than warmer air. It therefore "flows" like water, downhill, and collects in low areas.

Like Indian summer, frosty fall mornings have a special beauty that should not be missed. Even in November, when colour has largely drained from the landscape, Jack Frost's arrival leaves a finish of sparkling beauty as the morning sunlight is scattered and reflected in countless directions. Take a few minutes to appreciate the magic of it all.

As Keith Heidorn writes in his book, *And Now the Weather*, we need to "train our weather senses so that we become more aware of the conditions surrounding us and begin to enjoy the beauty and joy of weather, rather than dread its expression." Like paying attention to the birds and plants, it is one more way that we can more fully develop our sense of place.

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