

Climate of Maine

Introduction

This publication consists of a narrative that describes some of the principal climatic features and a number of climatological summaries for stations in various geographic regions of the State. The detailed information presented should be sufficient for general use; however, some users may require additional information.

The National Climatic Data Center (NCDC) located in Asheville, North Carolina is authorized to perform special services for other government agencies and for private clients at the expense of the requester. The amount charged in all cases is intended to solely defray the expenses incurred by the government in satisfying such specific requests to the best of its ability. It is essential that requesters furnish the NCDC with a precise statement describing the problem so that a mutual understanding of the specifications is reached.

Unpublished climatological summaries have been prepared for a wide variety of users to fit specific applications. These include wind and temperature studies at airports, heating and cooling degree day information for energy studies, and many others. Tabulations produced as by-products of major products often contain information useful for unrelated special problems.

The Means and Extremes of meteorological variables in the Climatography of the U.S. No.20 series are recorded by observers in the cooperative network. The Normals, Means and Extremes in the Local Climatological Data, annuals are computed from observations taken primarily at airports.

The editor of this publication expresses his thanks to those State Climatologists, who, over the years, have made significant and lasting contributions toward the development of this very useful series.

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Topographic Features- Maine occupies 33,215 square miles, almost exactly one-half of New England's total area. Its southern boundary lies near the 43rd parallel with its northern boundary at a latitude of 47.5° North or about 300 miles for its total north-south distance. The State extends about 200 miles in an east-west direction at its widest part or about six degrees of longitude starting from its eastern edge at 67° West.

Overall, the terrain across much of the State is hilly. Elevations range from sea level at the coast of the Gulf of Maine to over 5,000 feet in the central mountains. Mt. Katahdin, located within Baxter State Park, is the highest point in Maine. Its peak is at an elevation of 5,267 feet, that is, 4,500 feet above its base. Elevations in the southeastern part of the State are generally below 500 feet. The terrain rises northward from this coastal plain to heights of 1,000 feet in northernmost Maine (Aroostook County) and northwestward to the peaks within the central to western part of the State that top out in the 3,000 to 5,000 foot range. Most of these peaks are in the Longfellow Mountains, the northern part of the Appalachian chain within the United States. Highest elevations in the extreme northwest part of the State are in the 1,000 to 1,500 foot range.

The present-day landscape is a direct result of glacial erosion and deposition from the large ice sheets that completely covered Maine as recently as about 14,000 years ago. A variety of glacial deposits cover the State providing much variety in the overall landscape as well as abundant sand and gravel for construction material. Many of these deposits also are excellent sources of ground water (that is, aquifers) for household and industrial water supplies. In addition, glacial deposits and erosion are directly responsible for the more than 1,600 lakes found in the State. The combined area of these lakes cover more than 2,200 square miles. Moosehead Lake is the largest. Abundant wetland areas that provide habitat for many ecosystems also are a result of past glaciation in combination with existing climatic conditions. Flat land is found along the southeastern coastal plain, along many of the larger river systems, such as near the mouths of the Androscoggin and Kennebec rivers, and particularly, within Aroostook County in the north and northeastern part of the State. The topography in Aroostook County helps contribute to the abundant agricultural development including abundant potato farming. Overall, about 2,000 square miles of the State is in farmland.

The Maine coast is famous for its ruggedness and scenic views resulting from the many inlets, bays, harbors, promontories and rocky islands found along almost its entire length. Sandy beaches are most prevalent along the southwestern coast, whereas the Mid-Coast region is dominated by lengthy peninsulas and hills including Mount Cadillac (elevation of 1,530 feet) on Mount Desert Island. Mount Cadillac is the highest point on the eastern coast of the United States. Many harbors and inlets characterize the Down East part of the coast providing a natural haven for fisherman and especially lobster fisherman in the region. The irregularity of the coastline produces a total length of about 2,400 miles, more than 10 times the distance from Kittery to Eastport.

Maine is the most forested state in the United States with 90 percent of the State being in woodland. This leads to abundant logging and vast unsettled areas as well as limited highway development in these regions. Forests provide habitat for abundant wildlife and together with the large number of lakes provide a great resource for sportsman.

Maine's climate is characterized by a great deal of variability not only across the State, but also from day-to-day (weather conditions), season-to-season and year-to-year in any one location. This variability is a function of latitudinal differences, distance from the ocean, elevation, storm tracks and topography relative to moisture source. These parameters produce three distinct climatic divisions within the State with boundaries running parallel to the coastline. The Northern Division is 17,916 square miles or 54 percent of the State. This division is least affected by marine influences and it contains most of the central and western mountainous regions. The Southern Interior Division consists of the 10,307 square miles adjacent to the Northern Division or 31 percent of the State's area. The smallest division is the Coastal Division that occupies a 20-30 mile band along the coast or 4,992 square miles, 15 percent of the State's area. This division is most affected by the ocean with minimal elevation change and thus, minimal climatic impact from any topographic controls.

Air masses that flow into Maine often originate in the "prevailing westerlies", the belt of generally eastward moving air that circumnavigates the globe in the mid-latitudes. When combined with the influence of semi-permanent circulation features such as the Icelandic Low and Bermuda-Azores High, Maine is under the influence of air masses that originate from several general regions. Continental air masses originating in the polar regions of North America bring dry, cool to cold air into the State. Maritime or humid air entering the State can originate from either the subtropical Atlantic Ocean or Gulf of Mexico, thus a warm airmass, or it can originate from the subpolar areas of the North Atlantic, thus a cool airmass. Modified air from the Pacific Ocean can reach Maine at times. This airmass will be mild. Nevertheless, given its location within the westerlies, Maine's climate is predominantly continental, although it may be modified by maritime conditions especially in areas close to the coast. In addition, almost all storm tracks across the United States converge on Maine and New England as a whole. This scenario helps contribute to the frequently changing air masses that enter the State.

The different air masses that enter the State in combination with the frequent passage of storms both along the coast and to the north through the St. Lawrence River valley with their trailing cold front all contribute to the great changeability of Maine's weather and thus, Maine's climate. Add the changes in elevation from the central mountains to the coast to the mix and the many parameters that comprise Maine's climate show a great range in values. These parameters include temperature, precipitation (both rain and snow), wind speed and direction, barometric pressure and amount of sunshine.

Moreover, specific weather and climatological events such as heat waves and cold spells, droughts and rainstorms, nor'easters, ice storms, tornadoes and hurricanes all are a part of Maine's climate.

Temperature- Maine's average annual temperature based on the long-term record beginning in 1895 is 41 degrees Fahrenheit (° F). However, there is a great deal of variability throughout the State especially by climatic divisions. Average annual temperature in the Northern Division is 39° F with an increase to 43 in the Southern Interior and to 45 in the Coastal Division. Within the Northern Division, there also is a great deal of variability, as the lowest average annual temperature of around 36° F occurs in the northwest part of the division and highest annual averages, around 42° F, occur in the south-central part of the division. Latitude and elevation play a large part in the temperature differences across the State, as does its proximity to the Atlantic Ocean. Highest temperature ever recorded in the State is 105° F, whereas the lowest is -48° F.

Average daily temperatures also increase noticeably from the northern part of the State to the south; however, the amount of this change is a function of season. The range in average summertime temperatures is only about five degrees from north to south. This difference increases to seven or eight degrees during the transition seasons of spring and fall and to over 10 degrees during the winter. Daily average temperatures during the summer are usually cool relative to most of the rest of the nation. Highest daily averages barely exceed 70° F, as is found in the central parts of the State around Augusta and Lewiston. Average summer temperature statewide is 64° F. Average winter temperature is 17. Spring and fall average temperatures are 39 and 45° F, respectively. These temperatures produce over 9,000 heating degree-days (HDD) in the north with some stations averaging over 10,000 HDD. In the Southern Interior, HDD average around 7,500 to 8,000, whereas the Coastal Division averages around 7,000 to 7,500 HDD. Cooling degree-days (CDD) are among the lowest in the contiguous 48 states. Some places in the far north average less than 100 CDD a year. This number increases to the 300 to 400 range in the Southern Interior, but only to the 250 to 300 range along the coast given the cooling effect of the ocean.

A greater number of temperature extremes from a lifestyle perspective occur during the winter than the summer. For instance, maximum summer time temperatures equal or exceed 90° F, on average, only four or five times a year in the Southern Interior division, the highest number in the State. The cool sea breeze keeps the number down along the coastal zone despite a more southerly location for some stations. In the Northern Division, temperatures greater than 90° F rarely occur in any one year. During the wintertime, however, minimum temperatures drop subzero around the State almost every winter at one time or another. As expected, the greatest number of days with a minimum temperature of 0° F or less occurs in the Northern Division with around 40 to 50 days. The Southern Interior averages about 20 days a year below 0° F, whereas the moderating effect of the ocean only allows about 10 such days along the coast. Furthermore, temperatures can drop below freezing almost anytime from late August or September to June in the Northern Division, and from mid-September to mid-May in the Southern Interior. Consequently, frost can occur eight to 10 months per year in most of Maine. Again, the maritime influence along the coast limits the number of months when frost may occur compared to other parts of the State.

The number of days between the first and last frost results in a growing season of 90 to 120 days in the Northern Division and 120 to 180 in both the Southern Interior and Coastal Divisions. The higher parts of that range are found closer to the coast. However, microclimates around the State

can produce local growing seasons that may differ by a significant amount compared to the regional trend. Deep valleys in the hilly terrain can lead to very early frosts in the fall and late frosts in the spring, thereby decreasing the growing season in these parts of the State compared to the climatic division as a whole. On the other hand, proximity to marshland and particularly, coves along the coastline can be well protected from frost resulting in much longer growing seasons, especially for home gardens.

Precipitation- Maine's average amount of precipitation based on the long-term record since 1895 is 42.60 inches. This includes the conversion of all snowfall to a water-equivalent. Distribution of this precipitation throughout the year is fairly uniform from month to month in the Southern Interior and the Coastal Divisions with a slight seasonality to precipitation in the Northern Division. From a statewide perspective, average monthly precipitation is between three and four inches, with November being the wettest month and February being the driest month. Average precipitation in the Southern Interior is 44 inches with only a 1.1-inch difference between the wettest month (4.2 inches on average in November) and the driest month (3.1 inches on average in February). Coastal sites show a similar month-to-month distribution and difference between maximum and minimum monthly precipitation, although the proximity to the ocean produces an overall average value of 46 inches per year. The fairly equal distribution of precipitation during the year is driven, in part, by winter precipitation amounts that are greater than summer precipitation amounts. Down East Maine and the lee side of the Great Lakes are the only places east of the Rocky Mountains which receive more precipitation during the winter than the summer. Coastal storms provide the abundant winter precipitation. Conversely, the cool ocean water and sea breeze help to limit convective activity during the summer thus inhibiting abundant thunderstorm activity that is responsible for so much of the summer precipitation in the rest of the central and eastern parts of the country. The Northern Division receives more abundant summer showers and thunderstorms resulting in a summer maximum of precipitation. Annual precipitation is 41 inches in the Northern Division reflecting a lessened influence of coastal storms. In addition, there is a 1.4-inch difference between the average 4.0 inches recorded in August (wettest month) and the 2.6 inches recorded in February (driest month).

The convergence of major storm tracks on New England, including Maine, leads to an abundance of precipitation activity originating from cyclonic activity (that is, low pressure systems and their associated fronts). This activity is least prevalent during the summer which has convective processes that lead to shower and thunderstorm activity. Convective activity is more prevalent inland compared to coastal regions. However, these thunderstorms can become quite strong producing torrential rains at the rate of one to two inches an hour. Downpours of that magnitude can lead to flash floods, washed out roads and significant erosion of stream banks. Storms of this type can be quite isolated as nearby towns may not see a single drop of rain from this same storm.

Extremes in rainfall amounts reflect the influence of the nearby Atlantic Ocean especially on time scales of a few days, although some of the greatest monthly and yearly totals may be the result of a few days of exceptional rainfall amounts. One major cause of these extreme events is heavy rainfall associated with tropical systems either directly from a land-falling tropical system or a tropical system that made landfall elsewhere along the Eastern Seaboard. That type of system will still carry copious amounts of precipitation into Maine. Stalled extratropical storm

systems and stationary fronts are additional causes of high precipitation amounts. Highest daily totals have exceeded 10 inches in the State, such as the 11.7 inches recorded in Portland on 21 October 1996, although extreme daily rainfall amounts are more likely to be in the four to five inch range. Brunswick recorded 8.05 inches on 11 September 1954. Highest monthly totals around the State are generally proportionate to these big storm events with some of the greatest monthly totals falling into the eight to 10 inch range. Both March 1902 and June 1917 averaged over 10 inches of precipitation statewide. Wettest years receive more than 55 inches statewide, on average, with the wettest year being 1900 when 58 inches was the average total for the State. Although Maine is a “wet” state overall, drought conditions do occur and they occur more frequently than most individuals are likely to think given the abundant wetlands and lakes across the landscape. The driest months have had precipitation amounts below an inch such as the 0.55 inch netted in Caribou August 2002. That month was the driest August on record for the State. The driest year on record was the 29.50 inches, on average, recorded in 2001. This was almost two inches less than the previous driest year of 1965. One of the greatest impacts found in drought years is the lowering of groundwater levels to the point that many household wells dry-up.

Winter precipitation takes on many potential forms from snow to sleet to freezing rain to rain. This range of precipitation type can epitomize the classic “Nor’easter” or coastal storm during the winter. Greater amounts of all snow will fall the further inland and the higher in elevation one goes. Sleet and freezing rain are more frequent in Southern Interior and Coastal sections. The appearance of all rain during a winter storm is more common along the coast as warm air off the ocean turns the precipitation to all rain. The entire State may receive rain from a large winter storm when its track is west of the State. The storm track is all-important in a winter storm as only a few miles to tens of miles can mean the difference between all snow, mixed precipitation (sleet and freezing rain) and rain. The glaze from an icing event can lead to many accidents. Ice storms such as the 5-9 January 1998 storm can produce a thick covering of ice leading to downed trees and electrical wires. Some locations around the State lost electricity for several weeks following the 1998 storm.

Measurable amounts of precipitation, that is 0.01 inches or greater, fall on average about every third day over most of the central and southern parts of the State. In the northern part of the State, this rate increases to once in every two days. Caribou receives measurable precipitation on an average of over four out of every 10 days.

Average seasonal snowfall amounts generally increase north and northwestward from the coastal region. Total seasonal snowfall in the Coastal Division ranges between 50 and 80 inches, whereas the Southern Interior region receives 60 to 90 inches on average. Greatest snowfall totals are the 90 to 110-plus inches in the Northern Division, particularly in the northwestern and northeastern parts of the State. The largest average seasonal snowfall totals from lengthy records are the 113 inches per winter season from Jackman and the 116 inches per winter season from Caribou. Higher snowfall totals may be found locally, particularly at higher elevations in the northwest mountains. A general increase of one inch in seasonal snowfall total per 25-foot increase in elevation has been suggested.

The number of days per season with one inch or more of snow varies from around 15 for coastal stations to 20 and more for the most northern stations. Larger storms that drop four or five inches or more may occur several times during the winter season. Large coastal storms can easily produce 10 to 20 inches or more in a single day, especially with quickly deepening low-pressure systems or with very slow moving systems. An almost stationary storm in February of 1969 dropped over 50 inches in northwestern Maine, whereas a very strong storm produced over 25 inches on 30 December 1962 in Bangor. Ripogenus Dam (Piscataquis County) received 46 inches in that same storm.

The snowfall season usually runs from late October (in the north) or November (most of the rest of the State) to April and sometimes into May. Occasionally an early season storm can bring snow in early October even along the coast. January is usually the snowiest month throughout the State with many stations averaging over 20 inches of snow while December usually averages out to be the second snowiest month. Year-to-year variability in snowfall amounts is lower in the northern parts of the State and much greater along the coast. Years with a greater number of snow-producing coastal storms will result in high snowfall totals along the coast, whereas years with a lower number of coastal storms are more likely to produce winter seasons deficient in snow. For example, Eastport's greatest seasonal accumulation is 188 inches (1906 - 1907), but low snow years may only produce around 30 inches.

Persistent snow cover varies across the State further reflecting the overall north to south differences in the winter season. Snow cover in coastal regions may melt away at some time during the winter, although in many years the cover reappears with mid- to late-season storms. The snow cover may persist throughout the winter in the north, especially in the western mountains. On average, the length of maximum snow cover ranges from about 50 days along the coast to over four months in the northern and particularly the northwestern part of the State. Maximum temperatures that average well below freezing in those parts of the State assist in maintaining the snow cover as does cover provided by trees in the wooded, hilly terrain. Average maximum snow depth is on the order of 36 inches in Aroostook County with maximum depths often occurring late February and possibly into early March. Along coastal sections, average maximum snow depth is closer to 20 inches. This depth is usually reached by early February. Again, maximum snow depth is much more variable along the coast compared to interior and northern sections. The snowpack makes an important contribution to both surface and groundwater supplies, and years with a low snowpack can lead to water shortages by late summer. Melting of the snowpack in April and May is often gradual enough to prevent serious flooding, although there have been times when a quick melt has led to disastrous conditions.

The five principal rivers in the State from southwest to northeast are the Saco, Androscoggin, Kennebec, Penobscot and Saint John. Source of these rivers are either in the central mountains of Maine or in New Hampshire with all of them predominantly flowing southward toward the coast. The Saint John comprises part of the boundary with New Brunswick, Canada, before it flows more eastward into Canada. The high amount of forested land and abundant wetlands, including ponds and lakes, help retard direct runoff into the river and stream systems, thereby reducing the potential for flooding.

Although widespread flooding may not be a problem in most years, there are cases of some very large flood events. The most frequent cause for flooding is the rapid melting of a large snowpack in the spring. This scenario places abundant amounts of water into the stream systems which are then not able to move the water to the ocean quickly enough to prevent flooding. The problem is exacerbated when the winter is cold enough to form abundant river ice. As this ice begins to break up in some places, but not others, ice jams can form that lead to significant flooding behind the jam with the addition of abundant melt water into the river system. Luckily, in most winters, areas closer to the coast will experience a quicker melt of snow and break-up of ice compared to the interior and the north; thus, the transport of the snowpack's meltwater may be moved through the entire system without significant flooding. One of the largest spring flood events in Maine's recent history is the "All New England Flood of 1936". The flood resulted from a few large rain events on a very heavy snowpack. Other major springtime floods occurred in 1895, 1896, 1917, 1923, 1953 and 1987 primarily from the quick melt of a large snowpack.

Major floods also can occur in the fall from the abundant precipitation associated with the movement of a tropical system or its remnants into the area. At the same time, heavy rainfall from a stalled low-pressure system or the presence of a stationary front associated with a cut-off low at upper levels of the atmosphere can produce quite extensive flooding. Moreover, the interaction between an extratropical low-pressure system and a tropical system can produce a quite interesting scenario for Maine. This was the likely situation in October of 1996 when tremendous flooding, particularly in York County of southern Maine, followed rainfall amounts of 19.3 inches in less than 3 days at places like Camp Ellis and Gorham.

The amount of possible sunshine averages from 50 to 60 percent in most of the southern half of the State. Similar values occur along the coast with about 50 percent available sunshine around Eastport to about 50 percent around Portland. These numbers drop to about 45 percent in northern Maine and in the mountains. The average number of clear days ranges from 80 to 120 days in the southern one-half of the State and from about 50 to 90 days in the northern one-half.

Fog occurs quite frequently in Maine, and, in fact, areas of the State are among the foggiest in the country. Heavy fog, with visibility less than one-quarter mile, occurs on 35 to 40 days of the year along easternmost sections of the coast and north-central areas. Greater than 40 days per year with heavy fog occur along the rest of the coast and into the central parts of the State. Coastal fog is especially frequent in the summer owing to the sharp contrast between temperatures on land and the cold ocean waters. Further inland, fog is often found in river valleys and in wetland areas at various times of the year.

Droughts can occur in Maine with some of the most severe occurring in 2001, the mid-1960s, particularly in 1965, and the late 1940s. By late summer and early fall, these drought conditions can lead to very high forest fire hazards. This was the case in 1947 when a very large fire engulfed a significant portion of Mount Desert Island including Acadia National Park. Forest and brush fire hazards are even more common in early spring prior to leaf-out. Forest litter from the previous year may be especially dry should there be a lack of early season rains in the spring following complete melting of the snowpack. Forest fires are most common in resort and recreation areas.

Prevailing wind direction varies across the State with both season and location. Local influences such as orientation of a valley also may play a key role in dictating prevalent wind direction at any one location. Most of the State is under northwest to west-northwest winds throughout much of the year and particularly during the winter. During the summer, southwest to southerly winds may become quite frequent across the State. In fact, southerly winds prevail along the Mid-Coast and Down East portions of the State during the summer. Part of the reason for the prevalence of winds from these directions during the summer is the frequent formation of a sea breeze. A sea breeze can kick-in anywhere along the coast during the spring, as well. The formation of a sea breeze especially occurs when regional winds are weak during the summer months. The sea breeze produces the cool, refreshing temperatures during the summer along the coast.

The two large-scale types of storms that play a major role in Maine's climate are "nor'easters" and hurricanes. Nor'easters are extratropical coastal storms that can produce tremendous amounts of precipitation, strong winds, coastal flooding and damage, not to mention tremendous disruption to society when the precipitation is in the form of snow, sleet or freezing rain. These storms are prevalent in most years during the winter, spring and fall. They rarely develop during the summer. Precipitation amounts can exceed several inches of water equivalent (20 - 30 inches of snow or more), while wind speeds can frequently be equal to or greater than those for hurricanes that reach Maine. The "Groundhog Day nor'easter" in 1976 produced 100-knot (115 mph) winds at Southwest Harbor. The impact of hurricanes and tropical storms on Maine is often restricted to flooding associated with the copious amounts of moisture these storms can carry even this far north. Winds can still be of hurricane force, but they will usually only be at a Category 1 or 2 level out of five. Nevertheless, these winds can cause damage through the uprooting of trees (especially in saturated soil) and through coastal damage from waves and high tide levels pushed onshore by storm-driven winds. A tropical system affects New England, including Maine, about once every two years, although a landfalling hurricane only reaches this far north about once every five years. It is rare, but two hurricanes have impacted Maine within a short period of time, such as when Carol and Edna came through within a two-week period in August/September of 1954. Interestingly, the interaction of extratropical storms and hurricanes can produce events of a significant magnitude such as the floods of October 1996 and, in particular, the "All Hallows Eve" or "The Perfect Storm" of October 1991. The latter storm produced tremendous coastal damage in southern Maine from several days of excessive waves and tidal levels.

Although not common in Maine, tornadoes do occur. On average, about two tornadoes per year are recorded somewhere in the State. Fortunately, these tornadoes are rather weak in a relative sense, as they usually are only rated as a F0 or F1 tornado out of five. Many tornadoes that do form in the State only impact forested areas or open farmland, thus limiting personal injuries. In contrast, the 15 August 1958 tornado in the Allagash region destroyed the forest along a 20-mile path up to 300 - 400 yards wide. Most tornadoes occur from mid-May to mid-September with a majority of these in July and August. The prime time for a tornado is late afternoon or early evening. Many tornadoes in Maine have a tendency to travel from the northwest to the southeast often in association with thunderstorms generated by an advancing cold front into warm, humid air over the State.

As is the case for tornadoes, thunderstorms and thunderstorms that produce hail occur in the State, but they occur less frequently than in any other state east of the Rocky Mountains. The line that denotes 20 days per year with thunderstorms essentially runs north-south down the middle of the State. To the west of this line, there are slightly more than 20 days a year with a thunderstorm, on average, whereas east of this line there are less than 20 days with a thunderstorm, on average. The formation of a sea breeze and the cool ocean waters essentially knock the bottom out of thunderstorms in coastal areas as the convective process is cut off by the cool sea breeze. Severe thunderstorms that can produce large hail rarely occur more than once a year, although small hail may occur several times around the State during any one year. Nevertheless, even small hail can be very damaging to crops and sometimes to personal property. The most common time for thunderstorms is similar to those for tornadoes, that is, during the summer, particularly July and August, in the afternoon and evening.

Climate and the Economy- Much of the socioeconomic infrastructure of Maine is influence by climate. The forestry industry is just one of the many industries highly dependent on climate and weather conditions, particularly given that 90 percent or 17 million acres of the State is forested. The various components of the forestry industry impacted by climate include lumbering, papermaking, wood products manufacturing and other related industries. Not only does the annual statewide average precipitation of 42.6 inches provide sufficient water for forest growth, but also the resulting waterways and river systems have always provided a means to transport felled timber and for water needed in all forestry related industries.

In addition to the forestry industry, agriculture is highly influenced by climate including the ability to produce high-value specialized crops. Maine ranks very high in the Nation in cash receipts per acre from farm marketing. The principal crop is potato with Maine producing more annually than any other state. Many hours of daylight during the summer, favorable precipitation, temperature and soil types that are also highly influenced by climate, allow Aroostook County to be the Nation's leading potato-producing area. Other important farm products include peas for both freezing and canning, corn, oats and hay. Many truck gardens are found in coastal regions, as are large commercial blueberry fields, particularly in Down East Maine. Apples are the most abundant tree fruit grown. Climate also highly influences tree type and especially the ability of sugar maples to grow in Maine. Sugaring is abundant enough for commercial production. The raising of poultry as well as dairying are two additional agriculture-related industries found in Maine.

Other industries in the State that benefit from adequate water supplies include textiles, shoes and shipbuilding. These industries also benefit from both the abundance of water and from the use of water systems for transportation. The fishing and particularly the lobster industry also rely to a great deal on climatic conditions as fishermen are at the mercy of weather and climatic conditions when going to sea.

The tourist industry is a major proportion of Maine's economy and it, likewise, is highly controlled by climatic conditions, particularly year-to-year variability. Although much of this industry relies on summer climatic conditions, the abundant snowfall is excellent for skiing and snowmobiling. Hot summers inland will bring many to the water, both to lakes and to the coast. However, the tourist industry is at the mercy of climatic conditions as cool, wet summers can

severely limit tourism in the summer and warm, snow-free winters can damage winter sport activity. Fall foliage and the resulting “leaf-looking” industry is directly a function of Maine’s climate, as well. Overall, Maine’s climate is a rich, natural asset favorable to further economic development of the State.