

Climate Research Lab

Prince Edward Island Annual Climate Summary 2015



Figure 1 Fox roaming on ice at Darnley Basin, February, 2015

Background

The UPEI Climate Research Lab is in the process for establishing a new meso-network of climate stations located in key locations across the province. This can help to reduce model uncertainties in temperature and precipitation variances and to provide reference ground truth data to aid in the evaluation of climate model simulations and to enable assessment of micro-climate environments in the province.

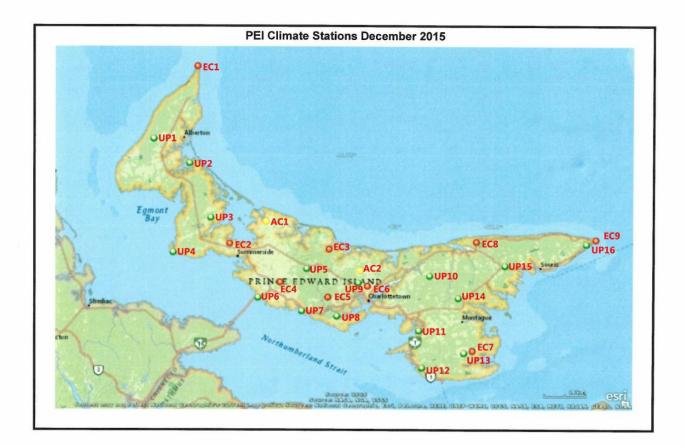
In 2015 the UPEI Climate Research Lab expanded its network of climate monitoring stations by adding 5 new stations in geographic areas without a pre-existing climate station. The new stations are all equipped with Davis Vantage Pro 2 equipment which has instrumentation to measure temperature, precipitation, barometric pressure, relative humidity, wind direction, wind speed, solar radiation and UV Index. Four new stations were also added in conjunction with the PEI Department of Agriculture at apple orchards (2) and vineyards (2) to provide information on micro-climates in those

areas. Growers are also interested in the length of frost free periods, extreme cold, and extreme wind and drought conditions in their plantation areas.

During 2015, most of the UPEI monitoring stations were converted to a Raspberry Pi system to provide a more reliable connection to the internet. The Raspberry Pi computers utilize a Linux operating system and an open source software program called, WeeWX for connection to Weather Underground (WUndergroud.com). The data collected is being compiled in a database called COADE, which in addition to climate data also stores coastal erosion and tide logger data.

| ID Code | Map ID | Community | Lat. | Long. | Date Installed | Equipment |
|------------|--------|-------------------|----------|------------|-------------------|----------------------|
| IPRINCEE11 | UP9 | Winsloe South | 46.229 | -63.177 | 13-Sep-13 | Davis Vantage Pro 2 |
| IPRINCEE13 | UP12 | Flat River | 46.9836 | -62.851 | 06-Nov-13 | Davis Vantage Pro 2 |
| IPRINCEE14 | UP11 | Orwell Cove | 46.131 | -62.867 | 13-Nov-13 | Davis Vantage Pro 2 |
| IPRINCEE15 | UP2 | Foxley River | 46.7208 | -64.0356 | 20-Nov-13 | Davis Vantage Pro 2 |
| IPRINCEE16 | UP15 | Dingwells Mills | 46.359 | -62.431 | 14-Nov-13 | Davis Vantage Pro 2 |
| IPRINCEE17 | UP14 | Cardigan Head | 46.2461 | -62.66833 | 01-May-14 | Davis Vantage Pro 2 |
| IPRINCEE21 | UP8 | St. Catherine's | 46.182 | -63.286 | 25-Jun-15 | Davis Vantage Vue |
| IPRINCEE22 | UP13 | Alliston | 46.052 | -62.638 | 25-Jun-15 | Davis Vantage Vue |
| IPRINCEE26 | UP4 | Cape Egmont | 46.4067 | -64.118742 | 10-Sep-15 | Davis Vantage Pro 2+ |
| IPRINCEE27 | UP7 | Hampton | 46.2003 | -63.4652 | 11-Sep-15 | Davis Vantage Pro 2+ |
| IPRINCEE28 | UP1 | Brockton | 46.80649 | -64.21685 | 23-Sep-15 | Davis Vantage Pro 2+ |
| IPRINCEE30 | UP5 | Glen Valley | 46.34884 | -63.439941 | 06-Oct-15 | Davis Vantage Pro 2+ |
| IPRINCEE31 | UP16 | East Point | 46.43554 | -62.018632 | 16-Jul-15 | Davis Vantage Vue |
| IPRINCEE32 | UP10 | Fanning Brook | 46.32419 | -62.8141 | 05-Nov-15 | Davis Vantage Pro 2+ |
| IPEBORDE2 | UP6 | Borden - Carleton | 46.248 | -63.687 | 26-Jan-95 | Davis Vantage Pro 2 |
| Remote | UP3 | Arlington | 46.52964 | -63.927503 | 30-Jun-15 | Davis Vantage Vue |

The location of all stations listed on tables 1 and 2 is provided on the map labelled figure 2. As shown on the map, the stations are located throughout the province and can be expected to provide a reasonable distribution of climate conditions across the province.





Data Summary

Data was compiled from seven (7) Climate Stations managed by the UPEI Climate Research Lab and from eleven (11) other climate stations in the province. The data from the eleven other stations was obtained from the Environment Canada Climate Archives website or from the Agriculture Canada, AgWeather Atlantic website. A summary of the data obtained is provided in table 2.

| Table 2 – UPEI 2015 Annual Climate Station Summar | ry for 18 Stations across PEI |
|---|-------------------------------|
|---|-------------------------------|

| Climate Station Name | Map ID | Type of Site | Tmean | Tmax | Tmin | Annual PPT (mm) | Avg. Wind Speed kn/h | Max. Wind Speed km/h | Max. Daily PPT (mm) | Max. PPT Date |
|----------------------------|-----------|-----------------|-------|------|-------|-----------------------|-------------------------------|----------------------------|------------------------------|----------------------|
| Alliston/Peter s Road | EC7 | manual | 6.2 | 31.0 | -22.0 | 1436.2 | Na | Na | 56.6 | June 21 |
| Baltic | AC1 | auto | 5.5 | 30.2 | -24.0 | Inc | 14.9 | 71.0 | 68.8 | Nov. 23 |
| Borden | UP6 | auto | 5.7 | 27.6 | -22.5 | 698.3 | 12.8 | 94.9 | 56.8 | Aug. 27, Sept. 11 |

| Cardigan Head | UP14 | auto | 5.1 | 31.4 | -26.3 | Inc | 2.5 | 56.3 | 38.4 | Nov. 23 |
|--------------------|------|--------|-----|------|-------|--------|------|-------|-------|----------|
| Ch'town Airport | EC6 | auto | 5.4 | 30.4 | -25.3 | 1386.7 | na | 128.0 | 74.0 | Aug. 22 |
| Dingwells | UP15 | auto | 5.8 | 31.6 | -30.7 | 953.9 | 6.4 | 59.5 | 49.8 | June 22 |
| East Point | EC9 | auto | 5.6 | 28.7 | -21.1 | 961.5 | 22.1 | 120.0 | 47.4 | Aug. 22 |
| Elmwood | EC5 | manual | 5.9 | 31.0 | -23.0 | 1487.8 | Na | Na | 68.0 | Feb. 15 |
| Flat River | UP12 | auto | 6.4 | 31.1 | -24.8 | 865.4 | 8.0 | 88.5 | 71.1 | June 22 |
| Foxley River | UP2 | auto | 6.0 | 30.9 | -26.7 | 812.2 | 4.0 | 120.7 | 97.0 | Sept. 30 |
| Harrington | AC2 | auto | 5.3 | 30.7 | -23.7 | 1282.0 | 14.7 | 89.3 | 67.7 | Aug. 27 |
| Maple Plains | EC4 | auto | 4.9 | 30.5 | -31.0 | inc | 11.4 | 88.2 | 65.6 | Nov. 23 |
| New Glasgow | EC3 | manual | 5.4 | 31.5 | -28.5 | 1244.1 | Na | Na | 65.0 | Feb. 15 |
| North Cape | EC1 | auto | 5.5 | 30.7 | -22.5 | 1150.0 | 24.2 | 128.3 | 147.5 | Sept. 30 |
| Orwell Cove | UP11 | auto | 6.2 | 30.2 | -26.7 | 783.0 | 8.5 | 91.7 | 50.0 | June 22 |
| St. Peter's | EC9 | auto | 5.7 | 30.6 | -23.1 | 1019.0 | 15.6 | 82.3 | 35.8 | Feb. 15 |
| Summerside | EC2 | auto | 5.6 | 31.1 | -28.0 | 1008.9 | 19.1 | 115.7 | 75.8 | Sept. 30 |
| Winsloe South | UP9 | auto | 5.8 | 32.6 | -23.3 | 1260.1 | 3.8 | 62.8 | 45.2 | Aug. 27 |

Na = Not available

The mean monthly temperature variation from the 30 year normal for 18 climate stations, which operated for the full year and another 9 stations which operated for part of the year, are provided in table 3. The colour scheme shows the months when the temperature was cooler than normal to be in light blue and those that trended above normal transition from yellow to orangey yellow for those months. The normal for each station were taken from the nearest station listed on the Environment Canada weather archive website. The average temperature for 2015 for all 18 stations on PEI was 0.07 °C above normal with a range of 0.80 below normal to 0.82 degrees Celsius above normal. With the exception of May, the first seven months of 2015 were cooler than normal with February, March and April ranging from 2.5 to 4.4 degrees cooler than normal. The last five months of the year were all normal or above normal with December being an average of 4.1 degrees above normal across the province.

| Table 3 – Mean Monthly and Annual Temperature Variation from 30 Year Normal – PEI Climate Static | ons 2015 |
|--|----------|
|--|----------|

| | Jan | Feb | Mar | Apr | May | Jun | July | Aug | Sep | Oct | Nov | Dec | Year |
|--------------------|-------|-------|-------|-------|------|-------|-------|-------|------|-------|------|------|-------|
| Dingwells | 0.80 | -3.90 | -2.30 | -1.70 | 1.80 | -1.50 | -0.60 | 2.30 | 1.50 | -0.30 | 1.20 | 4.00 | 0.07 |
| Flat River | 1.50 | -2.80 | -1.60 | -1.60 | 1.30 | -1.60 | -0.30 | 3.60 | 2.60 | 0.80 | 2.20 | 5.30 | 0.82 |
| Orwell Cove | 1.20 | -3.50 | -1.90 | -2.10 | 1.70 | -1.10 | -0.50 | 2.90 | 3.00 | 0.70 | 1.90 | 5.80 | 0.72 |
| Winsloe South | 0.10 | -4.30 | -1.80 | -2.30 | 1.60 | -1.40 | -0.60 | 2.70 | 2.50 | 0.00 | 1.20 | 4.00 | 0.18 |
| Foxley River | 0.40 | -4.50 | -1.60 | -2.50 | 1.70 | -0.60 | 0.20 | 3.10 | 2.70 | 0.00 | 2.70 | 4.90 | 0.50 |
| Cardigan Head | -1.20 | 0.00 | -2.70 | -1.70 | 2.10 | -1.20 | -0.90 | 1.80 | 1.70 | -0.80 | 0.10 | 2.40 | |
| Borden | 0.40 | -4.40 | -2.10 | -2.30 | 0.40 | -1.60 | -1.20 | -0.40 | 3.20 | 0.70 | 1.90 | 4.80 | -0.02 |
| Ch'town Airport | -1.00 | -5.30 | -2.90 | -3.00 | 1.40 | -1.90 | -0.60 | 3.00 | 2.20 | -0.50 | 1.40 | 3.70 | -0.25 |
| East Point | 0.20 | -3.70 | -2.80 | -2.80 | 0.20 | -2.30 | -1.10 | 2.40 | 2.80 | 0.50 | 2.00 | 4.10 | -0.04 |

| Alliston | | | | | | | | | | | | | |
|--------------|-------|-------|-------|-------|------|-------|-------|------|------|-------|------|------|-------|
| /Peters Rd | 0.60 | -3.40 | -2.20 | -2.20 | 2.10 | -1.20 | -0.10 | 3.20 | 3.30 | 0.50 | 2.10 | 4.40 | 0.63 |
| St. Peter's | -0.80 | -4.70 | -3.10 | -2.20 | 1.80 | -1.40 | -0.80 | 2.40 | 2.30 | 0.10 | 1.90 | 3.50 | -0.13 |
| North Cape | -0.20 | -5.10 | -2.60 | -2.70 | 0.60 | -1.50 | -0.20 | 2.50 | 2.60 | 0.10 | 2.50 | 4.80 | 0.02 |
| Summerside | -1.70 | -6.70 | -3.20 | -2.40 | 1.70 | -0.80 | -0.40 | 2.70 | 2.90 | -0.30 | 2.40 | 4.00 | -0.13 |
| Elmwood | -0.30 | -4.10 | -2.20 | -2.20 | 2.10 | -1.00 | -0.30 | 3.20 | 2.80 | 0.00 | 1.50 | 3.90 | 0.33 |
| New Glasgow | -0.30 | -6.60 | -3.00 | -2.60 | 1.80 | -1.40 | -0.50 | 2.90 | 1.90 | -0.40 | 1.50 | 4.10 | -0.18 |
| Harrington | -0.90 | -5.50 | -2.90 | -3.10 | 1.30 | -1.50 | -0.70 | 2.30 | 2.30 | -0.30 | 1.60 | 3.00 | -0.32 |
| Baltic | -0.80 | -5.60 | -2.40 | -2.50 | 0.90 | -1.40 | -1.00 | 2.10 | 2.50 | -0.20 | 1.40 | 4.10 | -0.23 |
| Maple Plains | -1.30 | -6.30 | -3.10 | -2.80 | 0.60 | -2.00 | -1.60 | 1.60 | 1.30 | -1.00 | 1.00 | 3.90 | -0.80 |
| St. | | | | | | | | | | | | | |
| Catherines' | | | | | | | -0.40 | 3.50 | 2.70 | -0.70 | 0.70 | 4.20 | |
| Arlington | | | | | | | -0.50 | 2.90 | | 0.80 | 2.30 | 4.30 | |
| Alliston | | | | | | | | | | 0.10 | 1.20 | 4.00 | |
| Cape Egmont | | | | | | | | | | 0.10 | 1.20 | 4.30 | |
| Brockton | | | | | | | | | | -0.50 | 1.30 | 4.30 | |
| Hampton | | | | | | | | | | 0.20 | 1.00 | 3.80 | |
| Glen Valley | | | | | | | | | | | 0.40 | 3.30 | |
| East Point | | | | | | | | | | | | | |
| Winery | | | | | | | | | | | 0.70 | 3.80 | |
| FanningBrook | | | | | | | | | | | | 4.70 | |
| Average | -0.18 | -4.47 | -2.47 | -2.37 | 1.39 | -1.41 | -0.61 | 2.54 | 2.46 | -0.02 | 1.51 | 4.13 | 0.07 |

The climate normal data used in table 3 to determine the variation in 2015 was derived from Environment Canada data from sites on PEI. The data used is provided in Table 4.

Table 4 – Climate Normal Data for PEI Climate Stations

| Site | Normal Mean Temp. C | Normal Annual Precip mm | Reference stations |
|---------------|------------------------|----------------------------|------------------------------|
| Charlottetown | 5.6 | 1158.3 | AC2, EC6, EC7, UP8-13 |
| Summerside | 5.7 | 1072.9 | AC1, EC2, EC4, UP4, UP6, UP7 |
| Monticello | 5.8 | 1170.2 | EC9, UP14, UP15 |
| O'Leary | 5.5 | 1147.8 | UP2, UP3 |
| East Baltic | 5.6 | 1272.0 | EC3, UP16 |
| Alberton | 5.5 | 1053.1 | EC1, UP1 |
| New Glasgow | 5.8 | 1257.9 | EC3, UP5 |

February was the coldest month of 2015 and it was the second coldest February since records have been kept in the province beginning in the 1870s. The Summerside Airport Station recorded a monthly mean temperature of -13.6° C for the month.

Table 4 - Coldest February on PEI

| Year | Location | Mean Monthly Temp C |
|------|--------------------|---------------------|
| 1923 | Ch'town CDA | -14.1 |
| 2015 | Summerside Airport | -13.6 |
| 1923 | Ch'town old | -13.2 |

| 2015 | Maple Plains | -13.2 |
|------|-----------------|-------|
| 1993 | Bangor | -12.9 |
| 1993 | Ch'town Airport | -12.8 |
| 1993 | Tyne Valley | -12.7 |
| 1962 | O'Leary | -12.7 |
| 2015 | Ch'town Airport | -12.6 |
| 1914 | Ch'town CDA | -12.3 |
| 1962 | Stanhope | -12.2 |
| 1993 | Alberton | -12.1 |
| 1993 | Long River | -11.8 |
| 1962 | Monticello | -11.7 |
| 1904 | Ch'town Old | -11.6 |

August of 2015 tied with August of 1937 for the highest monthly mean temperature since temperature records have been kept in Charlottetown since the province joined Confederation in 1873. There have been only 12 times during 142 years that the mean monthly temperature exceeded 20.0° C in the month of August. Table 5 summarizes the warmest months of August at Charlottetown from 1873 to 2015. The high temperature of 32.6° C recorded at Winsloe South on August 18th was the highest temperature recorded in the Charlottetown area since August 19th, 1960.

| Table 5 – Warmest August at Charlottetown | (>20.0 C) 1873 to 2015 |
|---|------------------------|
|---|------------------------|

| Year | Station | Mean Monthly Temp C |
|------|-----------------|---------------------|
| 2015 | Ch'town Airport | 21.3 |
| 1937 | Ch'town CDA | 21.3 |
| 2012 | Ch'town Airport | 20.9 |
| 1939 | Ch'town CDA | 20.8 |
| 1944 | Ch'town Airport | 20.3 |
| 1984 | Ch'town Airport | 20.3 |
| 1990 | Ch'town Airport | 20.2 |
| 1920 | Ch'town CDA | 20.2 |
| 2001 | Ch'town Airport | 20.1 |
| 1935 | Ch'town CDA | 20.1 |
| 1917 | Ch'town CDA | 20.1 |
| 1901 | Ch'town CDA | 20.1 |

Another warmer than normal month in 2015 was the month of December, when the monthly mean at Charlottetown Airport was +0.4 $^{\circ}$ C. A search of the historical records at Charlottetown climate records revealed there have been only 4 Decembers with full monthly records that exceeded a monthly mean above 0.0° C as shown on Table 6. December of 2015 was the second warmest December ever in the climate records for Charlottetown stations going back to 1873.

Table 6 – Decembers with Monthly Mean Temperatures above 0° C (1873 to 2015)

| Year | Station | Mean Monthly Temp C |
|------|-----------------|---------------------|
| 2010 | Ch'town Airport | +1.4 |
| 2015 | Ch'town Airport | +0.4 |
| 1923 | Ch'town CDA | +0.2 |
| 1957 | Ch'town Airport | +0.1 |

Figure 3 shows the average monthly temperature for December at Charlottetown from 1873 to the present. The trend line shows that the average monthly temperature in December has increased by about 1.5 degrees Celsius in the past 142 years.

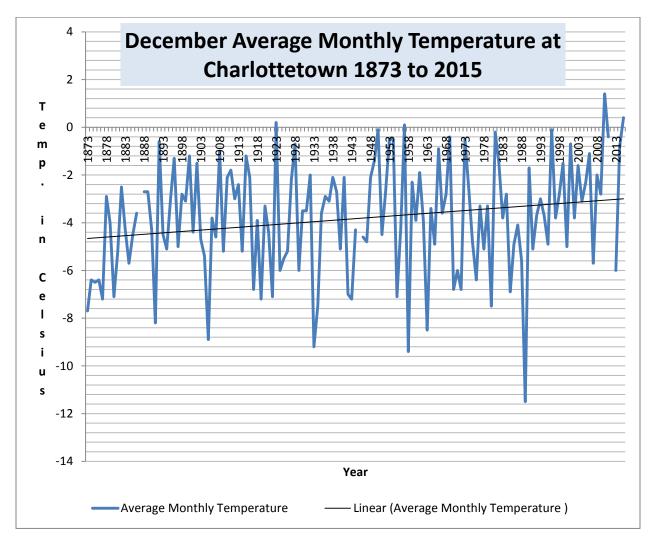


Figure 3 - Average Monthly Temperature at Charlottetown 1873 to 2015

The monthly precipitation variation from the 30 year normal for 10 stations reporting throughout the year across PEI is provided in table 4. Months which have below normal precipitation are shown with a minus sign in light purple for just below normal to a dark pink for months which are much below normal. Months which have above normal precipitation are shown from light blue if slightly above normal to dark blue at much above normal. Months which have a white background either had incomplete data or the heater on the rain gauge was not working during the winter months thus snow and ice pellet water equivalent amounts are not included in the totals. This included the stations at Dingwells Mills, Orwell Cove, Foxley River and Borden so the total annual precipitation at these stations is low due to frozen rain gauges during the winter months and precipitation amounts could not be recorded using the equipment available. Heaters were installed in several of these stations in the fall of 2015 so data should be available for the winter of 2015/16.

| | | | | | | | | _ | | _ | | | |
|------------------------|--------|-------|-------|-------|-------|------|-------|-------|-------|-----------|-------|-------|--------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
| Dingwells | -100.9 | | | 62.8 | -39.8 | 26.9 | -40.2 | 9.1 | -38.4 | -12.1 | -17.4 | | |
| Flat River | -101.0 | -83.2 | -86.3 | 28.3 | -52.6 | 56.1 | -22.5 | | -44.3 | | -20.0 | -10.2 | |
| Orwell Cove | -101.0 | | | 37.0 | -40.7 | 20.3 | -37.0 | -24.5 | -70.0 | -19.2 | -5.3 | | |
| Winsloe | 45.4 | 05.0 | 26.4 | 20 5 | 50.0 | 26.4 | 50 F | 42.0 | 46.6 | 4.6 | 42.2 | 26.6 | 101.0 |
| South | 15.4 | 95.0 | 36.4 | 39.5 | -50.6 | 26.4 | -52.5 | 13.8 | -46.6 | 1.6 | -13.2 | 36.6 | 101.8 |
| Foxley River | -99.0 | | | 0.4 | -53.6 | 38.9 | -68.1 | -33.6 | 44.0 | | -52.2 | 12.1 | |
| Cardigan Head | | | | 18.4 | -33.5 | -9.7 | -27.5 | -15.7 | -54.9 | -30.2 | -44.1 | | |
| Borden | -96.2 | | | -19.9 | -46.1 | 18.4 | -29.7 | -47.2 | -14.7 | 40.0 | 0.9 | -8.1 | |
| Ch'town | -90.2 | | | -19.9 | -40.1 | 10.4 | -29.7 | -47.2 | -14.7 | 40.0 | 0.9 | -0.1 | |
| Airport | 32.4 | 76.0 | 41.7 | 54.5 | -55.4 | 29.6 | -51.7 | 77.9 | -37.1 | -4.8 | 21.1 | 47.1 | 231.3 |
| East Point | | | | | | | · | | | | | | |
| | -38.1 | -19.9 | -38.4 | 30.0 | -46.3 | -7.7 | -38.0 | 2.7 | -77.8 | -16.3 | -20.3 | -26.2 | -310.5 |
| Alliston | 35.9 | 124.8 | 32.1 | 34.7 | -38.8 | 49.1 | -6.7 | -4.9 | -29.1 | -1.5 | 12.4 | 49.3 | 257.3 |
| St. Peter's | 68.9 | 32.9 | 28.0 | 28.2 | -44.5 | 3.3 | -59.6 | 8.9 | -43.8 | 58.0 | | 43.7 | -19.3 |
| North Cape | -31.4 | -23.8 | -29.3 | -8.8 | -35.8 | 34.2 | -77.1 | -5.0 | 126.3 | 40.3 | 5.6 | 7.0 | 2.2 |
| Summerside | -21.7 | -17.1 | -40.8 | 5.2 | -74.0 | 12.3 | -29.3 | 13.1 | 42.8 | -6.6 | 24.2 | 23.9 | -64.0 |
| Elmwood | 51.8 | 86.0 | 36.7 | 39.3 | -40.0 | 42.8 | -40.7 | 46.3 | -1.1 | -13.4 | 21.1 | 78.9 | 307.7 |
| New | | 0 | 24.0 | 40.0 | 10.1 | | 265 | | 45 7 | | 20.4 | 1.0 | 05.0 |
| Glasgow | 9.2 | 57.8 | 21.9 | 12.3 | -48.4 | 29.4 | -36.5 | -8.3 | 15.7 | -8.2 | 39.1 | 1.9 | 85.9 |
| Harrington | 31.8 | 15.5 | 20.1 | 87.2 | -32.9 | 12.7 | -37.7 | 17.3 | -28.3 | 0.7 | 21.1 | 68.8 | 176.3 |
| Baltic Manla Diaina | | | | | 44.2 | 11.8 | -36.6 | -8.8 | 13.3 | 9.10 | 23.10 | | |
| Maple Plains St. | | | | | -44.3 | 42.3 | -31.9 | 3.3 | -0.5 | 27.9 | 35.5 | | |
| Catherines' | | | | | | | -45.9 | 53.7 | -35.7 | -75.1 | -7.9 | -34.8 | |
| Arlington | | | | | | | -61.6 | | 5517 | , , , , , | 7.5 | -8.5 | |
| Alliston | | | | | | | 01.0 | | | -13.6 | -9.6 | 0.0 | |
| Cape Egmont | | | | | | | | | | _0.0 | 5.0 | | |
| Brockton | | | | | | | | | | -1.0 | -32.1 | 5.5 | |
| Hampton | | | | | | | | | | -28.3 | -32.5 | -32.0 | |
| Glen Valley | | | | | | | | | | | | | |
| East Point | | | | | | | | | | | | | |
| Winery | | | | | | | | | | | | -28.3 | |
| FanningBroo | | | | | | | | | | | | | |
| k | | | | | | | | | | | | 15.5 | |
| | | | | | | | | | | | | | |
| | -22.9 | 31.3 | 2.0 | 28.1 | -45.7 | 24.2 | -41.5 | 5.5 | -14.8 | -2.6 | -2.4 | 12.8 | 76.9 |

Table 4 – Mean Monthly Precipitation Variation from 30 Year Normal – PEI Climate Stations 2015

Table 5 lists the significant storms which occurred during the year. There were a number of substantial snow storms beginning on January 27th and these continued until the end of March.

Table 5- Significant Weather Events in 2015

| Date | Event | Measurement | Winds | Damage | Areas Impacted | |
|---------------------|----------------------------|-------------------|--|---|---|--|
| Jan. 27, 2015 | Snow storm and blizzard | 26.2 cm | cm Gusts to 85 Schools, gov't km/h offices and businesses closed | | Throughout the province | |
| Feb. 2, 2015 | Snowstorm | 36.4 cm | 72 km/h | | | |
| Feb. 3, 2015 | Snowstorm | 28.0 cm | | A two day blizzard smothers the province. | Roads were blocked, schools closed, offices shut down. | |
| Feb. 5, 2015 | Snowstorm | torm 24.0 cm 56 k | | The snowy cold weather was busting city water pipes causing an extra \$160K in expenses | Charlottetown and entire province. | |
| Feb. 15/16, 2015 | Snowstorm | 86.8 cm | Gusts up to 120.7 km/h @ Foxley River and 128.3 km/h @ North Cape | A major snowstorm which set the maximum amount of snow for one storm. | Entire province was shut down. Extra snow plows from New Brunswick were brought in to help with snow removal. | |
| Mar. 15, 2015 | Snowstorm | 47.6 cm | Gusts up to 89 km/hr | A pre St. Patrick's Day snow storm blocks roads. Mussel growers having trouble harvesting their socks due to snow, cold and access problems. | Entire province was shut down. | |
| Mar. 18, 2015 | Snowstorm | 23.4 cm | Gusts up to 76 km/h | A barn used to house Rowing PEI's fleet of boats collapses. One Island company had 1400 calls to remove snow | Stratford, remainder of the province | |

| | | | | from roofs. | |
|-----------------------------|--|---|-------------------------|---|---|
| Apr. 28, 2015 | Snowstorm | 17.0 cm | | This storm brought the total snowfall for the winter of 14/15 to 551 cm at Ch'town an all-time record | |
| May 28, 2015 | Daily High Temp. Record for PEI | 30.8 C - None | | None | Cardigan Head Station beat previous record set in 1950. |
| Aug. 22, 2015 | Severe thunderstorm and heavy rain. | 74.0 mm of rain | No major winds | 1600 flashes of lightning | Flooding of Red Shore race t rack resulted in Gold Cup and Saucer Race being cancelled. |
| Sept. 11, 2015 | Rainstorm | Over 50 mm | | None reported | Summerside and West Prince |
| Sept, 30 to Oct. 1, 2015 | Heavy rainstorm | Up to 147.5 mm | Gusts up to 96 km/h | Some flooding of basements and road shoulder washouts | West Prince |
| Oct. 18, 2015 | Snow squalls | | | First reported snowfall for winter of 2015/16 | |
| Oct. 29, 2015 | Heavy rainfall | 47.1 mm at North Cape | Gust s up to 74 km/h | None | North Cape area |
| Nov. 6, 2015 | Monthly high temp. record for PEI | 22.6 C | | None | Foxley River and FanningBank. Beat previous monthly high set in 1950s. |
| Nov. 22-23, 2015 | | | | No reported damage | 68.7 mm at Summerside on Nov. 23 rd . |
| Dec. 3, 2015 | Snow, and rain event | 10.8 mm of rain and 24.0 cm of snow | | Several tree branches and power poles down. Power outages for up to 4 days in some areas. | Across the province |
| Dec. 15, 2015 | Snow, freezing rain and ice | 25.6 cm of snow and 5.8 mm of rain | | UPEI, Gov't offices, schools closed. Power | Across the province. |

| pellets | and freezing | outages due to | |
|---------|--------------|-------------------|--|
| | rain | heavy wet snow | |
| | | and freezing rain | |

Discussion

Snow storms and more snow storms accompanied by cold temperatures was the main story for the first 4 months of the year. This was followed by alternating pattern of dry and wet months from May to August. Beginning in August the temperatures rose above normal and basically remained above normal for the remainder of the year. A heavy rainstorm on September 30th and October 1st brought heavy rain to the West Prince area.

The top three weather stories of the year were summarized by Dr. Adam Fenech, Director of the UPEI Climate Research Lab in an Op-ed story printed in the Charlottetown Guardian on December 24, 2015. A summary of these is provided below. For a more complete description please visit (http://projects.upei.ca/climate/2015/12/24/p-e-i-s-top-3-weather-stories-of-2015/).

- 1 The most snow ever recorded on Prince Edward Island occurred during the winter of 2014/15. A total of 551 cm of snow fell between October and May and this eclipsed all previous annual snowfall totals for provincial records dating back to 1873. The effects of this severe winter had impacts for several subsequent months on many activities such as delays in fishing season, delays in planting potatoes and other crops, delay in golf course openings, more mosquitos, black flies and other insects, delays in fall harvest due to late spring planting, among others.
- 2 PEI set a record for the most snow on the ground was set when 159 cm of snow was recorded on the ground at the Charlottetown Airport in March which surpassed the previous maximum amount from 1956 at 122 cm.
- Winter temperatures for 2015 were much below normal with February being 5.3 C below normal at the Charlottetown Airport and 4.5 C below normal across the province as shown on Table 3. March was also 2.5 C colder than normal across the province. February of 2015 was the second coldest February ever recorded on PEI as shown on Table 4. There was a stretch of 49 straight days where daily average temperatures were below freezing from January 20th to March 10th.

Summary

The mean annual temperature and precipitation totals for 2015 were close to normal for the province. There was considerable variation from the normal in some months with February and March being much colder than normal but December, August and September being much warmer than normal. Snowfall amounts for the winter of 2014/15 were the highest for the period of record beginning in 1873 when Prince Edward Island joined Confederation. The snow event on February 15 and 16th resulted in an accumulation of 86.8 cm of snow which is the maximum ever recorded in the province and eclipsed the previous record for a snow storm set during White Juan in 2004.

Late spring planting and a lack of rainfall during the months of May and July shortened the growing season and slowed the growth of some farm crops reducing yields at harvest time. Harvesting of mussels during the winter was impeded due to heavy snow and poor ice conditions.

The climate extremes for the year for all reporting stations listed in this summary are shown on Table 7.

| Parameter | Extreme Value | Date Observed | Station |
|---------------------|---------------|----------------------------|-----------------------|
| Daily Tmax (C) | 32.6 | August 18 th | Winsloe South |
| Daily Tmin (C) | -31.0 | February 8 th | Maple Plains |
| Highest Annual | 6.4 | | Flat River |
| Tmean | | | |
| Lowest Annual Tmean | 4.9 | | Maple Plains |
| Max Wind Gust | 128.3 | February 15 th | North Cape |
| (km/h) | | | |
| Max. Daily Ppt (mm) | 147.5 | September 30 th | North Cape |
| Highest Annual Ppt | 1487.8 | | Elmwood |
| (mm) | | | |
| Highest Annual | 551.0 | Oct. 1, 2014 to May | Charlottetown Airport |
| Snowfall (cm) | | 31, 2015 | |

A high temperature record was set for the month of November on November 5th when the temperature reached 22.6 C at the UPEI Climate Station at Fanning Brook and also at Foxley River. The previous high for the month of November was 22.5 C at New Glasgow in 1982.



Figure 4 - New climate station at Cape Egmont, September, 2015

D. Jardine, UPEI Climate Research Lab, February 4, 2016.