

## Climate Research Lab Monthly Meteorological Summary-May, 2017

### Background

This summary is produced by the UPEI Climate Lab for the month of May, 2017. Data is reported from 30 climate stations in the province as shown on Table 1. The annual summaries of PEI climate data for 2014, 2015 and 2016 and the monthly summaries for 2017 are now posted on the UPEI Climate Lab Website. (<http://projects.upei.ca/climate/research/>)



Figure 1 –Older Meteorological Instruments at Borden, PEI

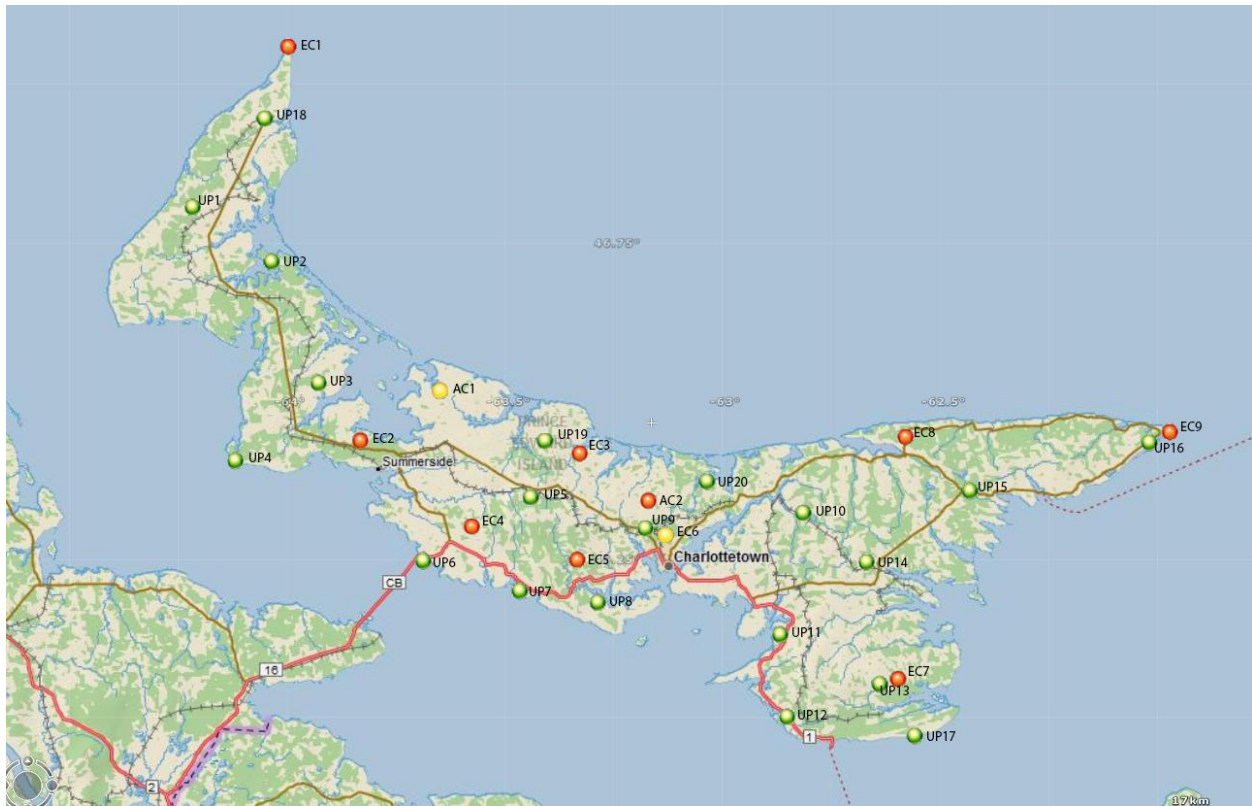


Figure 2 - Map showing climate station locations monitored by the UPEI Climate Research Lab

A listing of stations currently being monitored by UPEI is provided in Table 1. This includes Environment Canada, Agriculture Canada, Agriculture PEI, NAV Canada, UPEI and privately operated stations that operate on an annual basis.

Table 1 – PEI Climate Stations Monitored by UPEI

ID Code	Map ID	Community	Lat.	Long.	Date Installed	Operator
IPRINCEE22	UP13	Alliston	46.052032	-62.638389	25-Jun-15	CNP
8300100	EC7	Alliston/Peters Road	46.064393	-62.581808	01-Jan-36	M. Radvanyi
Remote	UP3	Arlington	46.52964	-63.927503	30-Jun-15	Arlington Orchard
KNW01	AC1	Baltic	46.517266	-63.648411	14-Aug-14	Kensington North
IPEBORDE2	UP6	Borden -	46.248346	-63.686935	26-Jan-95	G. Read

		Carleton				
<b>IPRINCEE28</b>	UP1	Brockton	46.80649	-64.21685	23-Sep-15	UPEI
<b>83000562</b>	EC8	Cable Head	46.4503	-62.5758	14-Aug-03	EC
<b>IPRINCEE26</b>	UP4	Cape Egmont	46.4067	-64.118742	10-Sep-15	UPEI
<b>IPRINCEE17</b>	UP14	Cardigan Head	46.2461	-62.66833	01-Oct-14	R. Angus
<b>8300300</b>	EC5	Charlottetown	46.28917	-63.119167	14-Sep-12	NAV Canada
<b>IPRINCEE16</b>	UP15	Dingwells Mills	46.362154	-62.432651	14-Nov-13	UPEI
<b>IPRINCEE31</b>	UP16	East Point	46.43554	-62.018632	16-Jul-15	Newman
<b>8300418</b>	EC9	East Point	46.45227	-61.971635	8-Dec-92	EC
<b>IPEIELMW2</b>	EC5	Elmwood	46.2508	-63.3342	01-Sep-93	B. Jameson
<b>IPRINCEE32</b>	UP10	Fanning Brook	46.32419	-62.8141	05-Nov-15	UPEI
<b>IPRINCEE13</b>	UP12	Flat River	45.999949	-62.852033	06-Nov-13	UPEI
<b>IPRINCEE15</b>	UP2	Foxley River	46.7208	-64.0356	20-Nov-13	UPEI
<b>IPRINCEE30</b>	UP5	Glen Valley	46.34884	-63.439941	06-Oct-15	UPEI
<b>IPRINCEE27</b>	UP7	Hampton	46.2003	-63.4652	11-Sep-15	M. Cassidy
<b>830P001</b>	AC2	Harrington	46.342506	-63.169736	01-Jul-00	Agric. Canada
<b>IPRINCEE 35</b>	UP19	Hope River	46.43816	-63.40707	10-May-16	A.MacKay
<b>8305500</b>	EC4	Maple Plains	46.3028	-63.575567	21-Jun-01	BBEMA
<b>IPRINCEE 4</b>	UP20	Mill Cove	46.37400	-63.03508	24-Apr-12	P. Lawlor
<b>8300497</b>	EC3	New Glasgow	46.408911	-63.350289	01-Oct-71	H. Dingwell
<b>8300516</b>	EC1	North Cape	47.05806	-63.998611	18-Oct-02	EC
<b>IPRINCEE14</b>	UP11	Orwell Cove	46.13153	-62.869768	13-Nov-13	UPEI
<b>IPRINCEE21</b>	UP8	St. Catherine's	46.182023	-63.286157	25-Jun-15	Matos Winery
<b>8300700</b>	EC2	Summerside	46.44111	-63.83806	19-Jul-99	EC
<b>IPRINCEE36</b>	UP18	Tignish	46.9453	-64.0516	02-May-16	UPEI
<b>IPRINCEE19</b>	UP17	White Sands	45.970	-62.558	25-Oct-14	M. Harwood
<b>IPRINCEE11</b>	UP9	Winsloe South	46.292358	-63.1727104	13-Sep-13	UPEI

## Data Summary

Table 2 summarizes the climate data recorded during the month of May 2017 for 31 stations being observed by UPEI Climate Research Lab. The station at Mill Cove was not reporting during the month. May of 2017 had normal temperatures and was wetter than normal. Snowfall was reported at only one station (Peters Road) in the province. Daily average solar radiation for stations which have solar radiation sensors is included to provide information on the potential for solar energy and for crop production.

**Table 2 – UPEI May 2017 Climate Station Summary for 31 Stations across PEI**

Climate Station Name	Map ID	Tmean °C	Tmax °C	Tmin °C	PPT (mm)	Snow (cm)	Avg. Wind Speed km/h	Max. Wind Speed km/h	Days with Frost	Daily Avg. Solar Radiation (kWh/m <sup>2</sup> /D)
Alliston / Peters Road	EC7	9.4	28.0	-0.5	134.9	1.0			1	
Alliston (CNP)	UP13	9.4	28.5	-1.8	138.4		7.7	49.9	1	
Arlington	UP3	9.8	28.5	-0.2	186.8		3.9	43.5	1	
Baltic	AC1	9.3	26.1	0.9	167.5		15.8	36.3	0	
Borden	UP6	10.0	25.3	2.2	143.3		7.0	53.1	0	4.64
Brockton	UP1	9.7	25.5	0.9	106.7		6.3	56.3	0	4.53
Cape Egmont	UP4	9.7	24.6	1.4	156.2		13.1	61.1	0	4.71
Cardigan Head	UP14	8.2	29.0	-3.1	136.8		4.2	46.7	8	
Ch'town Airport	EC6	9.5	26.6	-1.2	160.4			69.0	3	
Dingwells	UP15	8.9	29.2	-1.1	133.9		8.0	62.8	4	
East Point	EC9	7.5	24.6	0.8	102.5		20.4	63.0	0	
East Point (N)	UP16	7.2	24.7	-1.4	96.6		9.5	56.3	1	
Elmwood	EC5	9.9	27.8	0.0	160.8		8.0	48.3	1	
Fanning Brook	UP10	9.7	27.5	-0.5	111.8		9.3	56.3	1	4.96
Flat River	UP12	9.6	26.9	-1.1	100.3		9.9	54.7	2	
Foxley River	UP2	9.8	26.7	2.3	175.3		6.3	66.0	0	
Glen Valley	UP5	8.9	26.3	0.6	149.4		14.5	70.8	0	4.47
Hampton	UP7	9.2	24.4	0.6	123.4		14.2	62.8	0	4.70
Harrington	AC2	9.4	26.6	0.0	155.9		16.7	67.0	1	
Hope River	UP19	14.2?	29.7?	0.3	111.5		12.3	68.4	0	
Maple Plains	EC4	9.1	27.2	-1.3	143.6		13.5	38.4	2	
Mill Cove	UP20	Inc	28.1	-0.9	Inc		Inc	Inc	inc	
New Glasgow	EC3	8.9	26.2	0.7	177.0				1	
North Cape	EC1	7.6	19.0	0.4	161.9		22.8	72.0	0	

Orwell Cove	UP11	10.3	26.5	0.4	100.8		9.1	57.9	0	
St. Catherines	UP8	10.0	27.8	0.9	139.7		9.0	51.5	0	
St. Peter's	EC9	8.6	28.0	-0.5	108.1		14.5	70.0	1	
Summerside	EC2	10.0	27.1	1.2	148.4		20.4	63.0	0	
Tignish	UP18	8.8	25.4	-0.8	139.2		4.8	45.1	2	4.11
White Sands	UP17	8.9	27.8	-0.1	83.6		14.6	66.0	1	4.96
Winsloe South	UP9	9.4	26.8	0.8	152.1		5.3	48.3	0	

? Reading may be inaccurate.

Nr- Station not reporting

Inc – Incomplete record

The measurements from eleven (11) CoCoRaHS observers located on PEI are recorded in table 3. Some of the CoCoRaHS stations listed on table 3 are also climate stations listed on Table 2. This includes: UP6, EC5, UP14 and UP9.

**Table 3 CoCoRaHS Precipitation Amounts from Eleven Locations on PEI, May, 2017**

CoCoRaHS Station	Total Precipitation in mm	Total Snowfall in cm
CAN-PE-1 Stratford	138.9	0.0
CAN-PE-3 Wellington	172.0	0.0
CAN-PE-7 Morell	109.2	0.0
CAN-PE-10 New London	179.8	0.0
CAN-PE-13 Bedeque	126.0	0.0
CAN-PE-19 Winsloe South	145.8	0.0
CAN-PE-20 Bonshaw	164.3	0.0
CAN-PE-23 Borden-Carleton	146.3	0.0
CAN-PE-25 – Caledonia	114.8	0.0
CAN-PE-26 – Grand Tracadie	127.3	0.0
CAN-PE-27 – Cardigan Head	152.9	0.0
CAN-PE-28 – Peakes	126.5	0.0

Table 4 provides thirty year climate normal values for seven (7) climate stations in the province for the month of May.

**Table 4 May Climate Normal for PEI Stations 1981 to 2010**

Parameter	Ch'town A	New Glasgow	Summerside A	O'Leary	Alberton	Monticello	East Baltic
Mean Monthly T	9.2	9.2	9.5	9.4	8.7	8.6	8.3

in C							
<b>Mean Monthly Ppt. in mm</b>	91.0	98.3	94.9	102.9	92.7	90.1	93.1
<b>Mean Monthly Snow cm</b>	3.7	3.8	3.2	3.2	1.8	3.4	3.2

## Discussion

The monthly mean temperatures for May as shown on table 5 varied across the province and ranged from  $-1.1^{\circ}\text{C}$  cooler at North Point and East Point to  $1.1^{\circ}\text{C}$  above normal at Orwell. The highest monthly mean of  $10.3^{\circ}\text{C}$  was observed at Orwell with the lowest monthly mean of  $7.2^{\circ}\text{C}$  recorded at East Point, representing a 3.1 degree difference over the month between these locations. The maximum temperature for the month was  $29.2^{\circ}\text{C}$  at Dingwell's Mills on May 19<sup>th</sup>. The coldest temperature reported during the month for all stations listed in this summary was  $-3.1^{\circ}\text{C}$  which was recorded at Cardigan Head on May 30<sup>th</sup>. This temperature appears to be the coldest ever recorded on this date as the records show the previous low on May 30<sup>th</sup> was  $-3.0^{\circ}\text{C}$  in the year 2000 at Bangor, PEI. The Cardigan Head location also reported the most days with frost ( $\leq 0.0^{\circ}\text{C}$ ) at 8. There were 14 stations that reported no frost ( $\leq 0.0^{\circ}\text{C}$ ).

**Table 5 – Variation of May 2017 Monthly Mean Temperature from 1981-2010 Climate Normal**

Climate Station	May 2017 Mean C	30 Year Normal C 1981-2010	Variation from Normal C
Alliston / Peters Rd	9.4	9.2	0.20
Alliston CNP	9.4	9.2	0.20
Arlington	9.8	9.4	0.40
Baltic	9.3	9.5	-0.20
Borden - Carleton	10.0	9.5	0.50
Brockton	9.7	8.7	1.00
Cape Egmont	9.7	9.5	0.20
Cardigan Head	8.2	8.6	-0.40
Charlottetown A	9.5	9.2	0.30
Dingwells	8.9	8.6	0.30
East Point	7.5	8.3	-0.80
East Point – UP16	7.2	8.3	-1.10
Elmwood	9.9	9.2	0.70
Fanning Brook	9.7	9.2	0.50
Flat River	9.6	9.2	0.40
Foxley River	9.8	9.4	0.40
Glen Valley	8.9	9.2	-0.30
Hampton	9.2	9.5	-0.30

Harrington	9.4	9.2	0.20
Hope River		9.2	
Maple Plains	9.1	9.5	-0.40
Mill Cove		9.2	
New Glasgow	8.9	9.2	-0.30
North Cape	7.6	8.7	-1.10
Orwell	10.3	9.2	1.10
St. Catherine's	10.0	9.2	0.80
St. Peters	8.6	8.6	0.00
Summerside A	10.0	9.5	0.50
Tignish	8.8	8.7	0.10
White Sands	8.9	9.2	-0.30
Winsloe South	9.4	9.2	0.20

**Table 6 – Variation of May 2017 Total Precipitation Amounts from 1981-2010 Climate Normal**

Climate Station	Total PPT in mm May 2017	30 Year Normal C 1981-2010	Variation from Normal mm
Alliston / Peters Rd	134.9	91.0	43.90
Alliston CNP	138.3	91.0	47.30
Arlington	186.8	102.9	83.90
Baltic	167.5	94.9	72.60
Borden – Carleton (CoCo Can-PE-23)	146.3	94.9	51.40
Brockton	106.7	92.7	14.00
Cape Egmont	156.2	94.9	61.30
Cardigan Head (CoCo Can-PE-27)	152.9	90.1	62.80
Charlottetown A	160.4	91.0	69.40
Dingwells	133.9	90.1	43.80
East Point - EC	102.5	93.1	9.40
East Point – UP16	96.6	93.1	3.50
Elmwood (CoCo- Can-PE-20)	164.3	98.3	66.00
Fanning Brook	111.8	91.0	20.80
Flat River	100.3	91.0	9.30
Foxley River	175.3	102.9	72.40
Glen Valley	149.4	98.3	51.10
Hampton	123.4	94.9	28.50
Harrington	155.9	91.0	64.90
Hope River	111.5	98.3	13.20
Maple Plains	143.6	94.9	48.70
Mill Cove	inc	91.0	NR
New Glasgow	177.0	98.3	78.70
North Cape	161.9	92.7	69.20



<b>Orwell</b>	100.8	91.0	9.80
<b>St. Catherine's</b>	139.7	91.0	48.70
<b>St. Peters</b>	108.1	90.1	18.00
<b>Summerside A</b>	148.4	94.9	53.50
<b>Tignish</b>	139.2	92.7	46.50
<b>White Sands</b>	83.6	91.0	-7.40
<b>Winsloe South (CoCo-Can-PE-19)</b>	152.1	91.0	61.10

\* No rain collector heater on unit. Values are not accurate.

NR – Not reporting

Contrary to April, the precipitation amounts were above normal across the province during the month. The CoCoRaHS stations using volunteer observers reported total precipitation amounts ranging from 109.2 to 179.8 mm which were all above normal values. The maximum precipitation was reported at Arlington where 186.8 mm was recorded. Only one station at Peters Road reported snowfall during the month with 1.0 cm falling on May 27th.

Average wind speeds across the province ranged from 3.9 km/h at Arlington to 22.8 km/h at North Cape. The maximum gust for the month was 72.0 km/h reported at North Cape on May 6<sup>th</sup> and 9<sup>th</sup>. There were rainstorms of over 30 mm on May 6<sup>th</sup> and May 26<sup>th</sup> at Arlington.

The solar radiation values ranged from 4.11 kWh/m<sup>2</sup>/D at Tignish to 4.96 kWh/m<sup>2</sup>/D at Fanning Brook and White Sands.

## Closure

- Temperatures were close to normal across the province.
- Precipitation was above normal across the province with one location reporting up to 83 mm above normal amounts.
- Snowfall amounts were well below normal with only the Peters Road location reporting any snow.
- The maximum wind gust recorded was 72 km/h at North Cape.

Some phenological and weather events during the month are recorded on Table 7. There were a number of rain storms during the month.

**Table 7–May Weather or Phenological Events 2017**

<b>Date</b>	<b>Location</b>	<b>Type of Event</b>	<b>Comments</b>
May 5	Winsloe South	Dandelion in flower	First one observed at this location
May 6	Foxley River	Rain- 33.5 mm	Rain delayed peat harvesting
May 7	Baltic	Rain- 33.6 mm	
May 9	New Glasgow	Rain – 31.0 mm	
May 26	Cape Egmont	Rain – 34.0	



May 30

Cardigan Head

A low temperature of -3.1 C

A late frost



Figure 3- Rose Breasted Grosbeak at Winsloe South, May 2016

**Sources:**

Environment Canada Climate Data Archives

WUnderground.com

CoCoRaHS.org/Canada

AgraWeather Atlantic Website

Michael Radvanyi

PEIStormChaser

CBC News

D. Jardine, UPEI Climate Research Lab, July 6, 2017.