

Climate Research Lab Monthly Meteorological Summary-April, 2017

Background

The old rhyme by Thomas Tusser in 1557, “April showers bring May flowers” didn’t materialize on PEI in 2017 as there were few rain showers during the month. Ironically on PEI April usually reports the least amount of precipitation of any month but July. This summary is produced by the UPEI Climate Lab for the month of April, 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 are now posted on the UPEI Climate Lab Website. (<http://projects.upei.ca/climate/about-us/>)



Figure 1 –Flowing artesian well at St. Andrew’s PEI

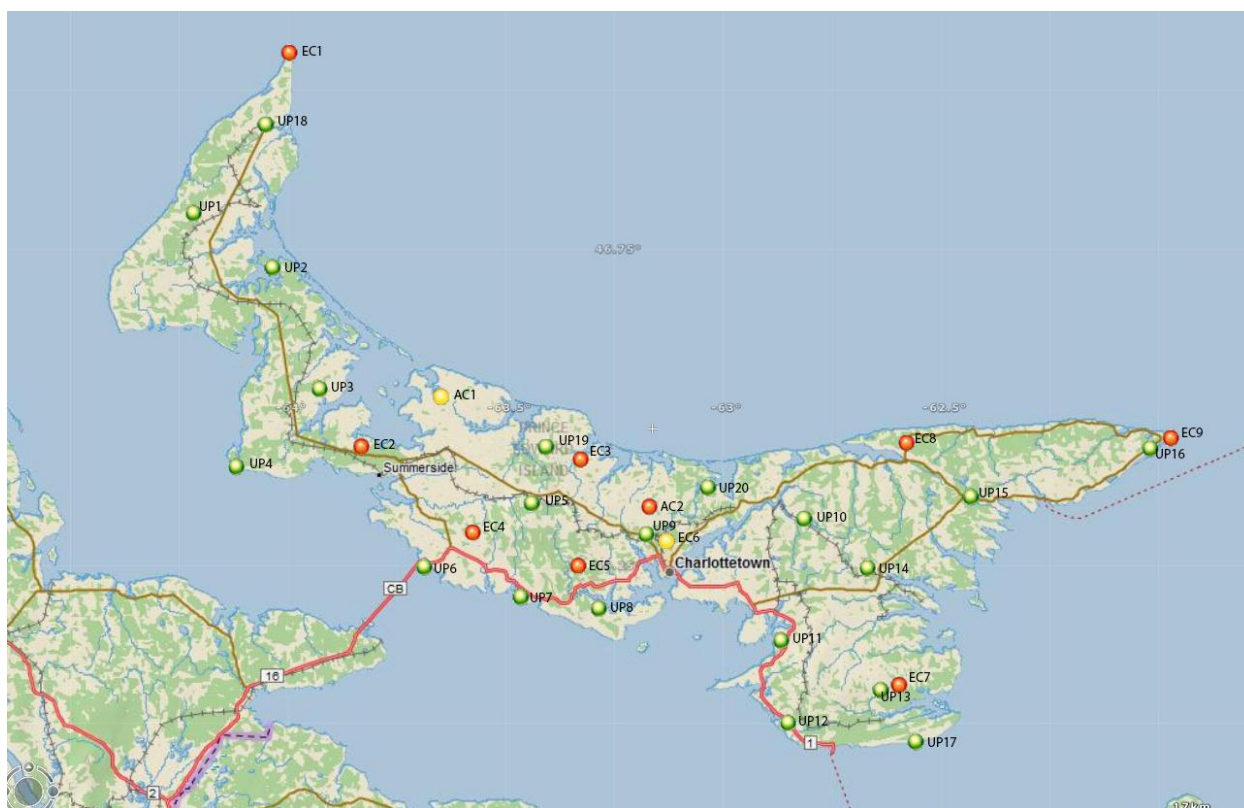


Figure 2 - Map showing climate station locations monitored by the UPEI Climate Research Lab

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

Data Summary

Table 2 summarizes the climate data recorded during the month of April 2017 for 31 stations being observed by UPEI Climate Research Lab. The station at Mill Cove was not reporting during the month. April of 2017 can be depicted as dry and warmer than normal. Snowfall amounts are measured at a few locations and this data is included where available. 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 April 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	Daily Avg. Solar Radiation (kWh/m²/D)
Alliston / Peters Road	EC7	5.2	21.0	-6.5	57.4	7.0			
Alliston (CNP)	UP13	Inc	20.2	-5.4	Inc		Inc	Inc	
Arlington	UP3	4.1	22.7	-7.9	28.4		3.1	46.7	
Baltic	AC1	4.1	21.3	-6.4	36.1		14.4	35.6	
Borden	UP6	4.5	16.4	-6.6	41.1	0	13.1	67.6	4.54
Brockton	UP1	3.9	21.0	-8.6	28.7		5.3	48.3	3.95
Cape Egmont	UP4	3.8	18.1	-7.7	40.1		10.7	54.7	4.06
Cardigan Head	UP14	3.8	22.1	-11.4	49.0	4.1	3.3	40.2	
Ch'town Airport	EC6	4.1	19.6	-8.9	41.9	1.9		63.0	
Dingwells	UP15	4.4	21.2	-7.1	41.4		7.3	57.9	
East Point	EC9	3.2	16.8	-2.5	45.4		20.0	61.0	
East Point (N)	UP16	2.4	16.2	-4.9	45.0		9.5	56.3	
Elmwood	EC5	4.7	19.2	-8.4	51.8	2.3	7.2	35.4	
Fanning Brook	UP10	4.9	21.1	-7.2	38.4		8.7	56.3	4.58
Flat River	UP12	4.9	18.3	-7.8	30.2		7.8	48.3	
Foxley River	UP2	4.4	22.9	-5.5	28.4		8.1	62.8	
Glen Valley	UP5	4.1	18.9	-6.2	37.1		14.0	61.1	4.29
Hampton	UP7	4.0	16.8	-8.7	42.7		11.3	61.1	4.25
Harrington	AC2	4.1	19.3	-5.9	40.9			57.0	
Hope River	UP19	5.8?	22.6?	-6.0	32.5		11.3	64.4	
Maple Plains	EC4	3.9	19.0	-11.1	37.4		11.9	35.0	
Mill Cove	UP20	NR	NR	NR	NR		NR	NR	
-New Glasgow	EC3	4.7	21.0	-7.0	53.6	0			

North Cape	EC1	2.9	15.6	-5.0	50.0		18.1	65.0		
Orwell Cove	UP11	5.2	21.2	-6.9	26.7		8.5	54.7		
St. Catherines	UP8	4.8	18.8	-6.7	35.6		8.2	49.9		
St. Peter's	EC9	3.9	22.2	-4.5	47.0		14.3	69.0		
Summerside	EC2	4.3	21.2	-8.3	33.3		18.4	67.0		
Tignish	UP18	3.9	20.4	-8.7	36.8		4.3	41.8		3.60
White Sands	UP17	4.4	20.3	-6.4	34.8		12.8	61.1		4.46
Winsloe South	UP9	4.4	19.2	-6.1	35.1	1.3	5.5	43.5		

? 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, April, 2017

CoCoRaHS Station	Total Precipitation in mm	Total Snowfall in cm
CAN-PE-1 Stratford	38.5	0
CAN-PE-3 Wellington	38.4	1.3
CAN-PE-7 Morell	17.8	0
CAN-PE-10 New London	35.8	1.0
CAN-PE-13 Bedeque	30.7	0.0
CAN-PE-19 Winsloe South	34.0	1.3
CAN-PE-20 Bonshaw	51.3	2.3
CAN-PE-23 Borden-Carleton	43.7	0
CAN-PE-25 – Caledonia	47.0	10.2
CAN-PE-26 – Grand Tracadie	37.1	0.2
CAN-PE-27 – Cardigan Head	49.5	4.1

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

Table 4 April Climate Normal for PEI Stations 1981 to 2010

Parameter	Ch'town A	New Glasgow	Summerside A	O'Leary	Alberton	Monticello	East Baltic
Mean	3.1	3.1	3.0	2.9	2.4	2.4	2.4

Monthly T in C							
Mean Monthly Ppt. in mm	83.7	95.6	84.2	86.8	80.1	86.8	92.7
Mean Monthly Snow cm	24.4	27.9	22.2	25.5	21.8	26.8	21.4

Discussion

The monthly mean temperatures for April as shown on table 5 were above normal across the entire province and ranged from 0.5⁰C warmer at North Cape to 2.1⁰C above normal at Peters Road and Orwell. The highest monthly mean of 5.2⁰C was observed at Peters Road and Orwell with the lowest monthly mean of 2.9⁰C recorded at North Cape, revealing a 2.3 degree difference over the month between these locations. The maximum temperature for the month was 22.9⁰C at Foxley River on April 27th. The coldest temperature reported during the month for all stations listed in this summary was - 11.4⁰C which was recorded at Cardigan Head on April 1st.

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

Climate Station	April 2017 Mean C	30 Year Normal C 1981-2010	Variation from Normal C
Alliston / Peters Rd	5.2	3.1	2.10
Alliston CNP		3.1	
Arlington	4.1	2.9	1.20
Baltic	4.4	3.0	1.40
Borden - Carleton	4.5	3.0	1.50
Brockton	3.9	2.4	1.50
Cape Egmont	3.8	3.0	0.80
Cardigan Head	3.9	2.4	1.50
Charlottetown A	4.1	3.1	1.00
Dingwells	4.4	2.4	2.00
East Point	3.2	2.4	0.80
East Point – UP16	2.4	2.4	0.00
Elmwood	4.7	3.1	1.60
Fanning Brook	4.9	3.1	1.80
Flat River	4.9	3.1	1.80
Foxley River	4.4	2.9	1.50
Glen Valley	4.1	3.1	1.00
Hampton	4.0	3.0	1.00
Harrington	4.1	3.1	1.00
Hope River	5.8?	3.0	

Maple Plains	3.9	3.0	0.90
Mill Cove		3.1	
New Glasgow	4.7	3.1	1.60
North Cape	2.9	2.4	0.50
Orwell	5.2	3.1	2.10
St. Catherine's	4.8	3.1	1.70
St. Peters	3.9	2.4	1.50
Summerside A	4.3	3.0	1.30
Tignish	3.9	2.4	1.50
White Sands	4.4	3.1	1.30
Winsloe South	4.4	3.1	1.30

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

Climate Station	Total PPT in mm April 2017	30 Year Normal C 1981-2010	Variation from Normal mm
Alliston / Peters Rd	57.4	83.7	-26.30
Alliston CNP	Nr	83.7	Nr
Arlington	28.4	86.8	-58.40
Baltic	36.1	84.2	-48.10
Borden – Carleton (CoCo Can-PE-23)	41.1	84.2	-43.10
Brockton	28.7	80.1	-51.40
Cape Egmont	40.1	84.2	-44.10
Cardigan Head (CoCo Can-PE-27)	49.0	86.8	-37.80
Charlottetown A	41.9	83.7	-41.80
Dingwells	41.4	86.8	-45.40
East Point - EC	45.4	92.7	-47.30
East Point – UP16	45.0	92.7	-47.70
Elmwood (CoCo- Can-PE-20)	51.8	95.6	-43.80
Fanning Brook	38.4	83.7	-45.30
Flat River	30.2	83.7	-53.50
Foxley River	28.4	86.8	-58.40
Glen Valley	37.1	95.6	-58.50
Hampton	42.7	84.2	-41.50
Harrington	40.9	83.7	-42.80
Hope River	32.5	95.6	-63.10
Maple Plains	37.4	84.2	-46.80
Mill Cove	NR	83.7	NR
New Glasgow	53.6	95.6	-42.00
North Cape	50.0	80.1	-30.10
Orwell	26.7	83.7	-57.00
St. Catherine's	35.6	83.7	-48.10

St. Peters	47.0	86.8	-39.80
Summerside A	33.3	84.2	-50.90
Tignish	36.8	80.1	-43.30
White Sands	34.8	83.7	-48.90
Winsloe South (CoCo-Can-PE-19)	35.1	83.7	-48.60

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

NR – Not reporting

Precipitation was below normal across the province during the month. The CoCoRaHS stations using volunteer observers reported total precipitation amounts ranging from 17.8 to 51.3 mm which were also all well below normal values. The maximum precipitation for the month was at Peters Road where 57.4 mm was recorded. The maximum snowfall for the month was at the CoCoRaHS station in Caledonia where 10.2 cm was measured. Snowfall during April was well below normal across the province with 5 locations reported none.

Average wind speeds across the province ranged from 3.1 km/h at Winsloe South to 20.0 km/h at East Point. The maximum gust for the month was 69.0 km/h reported at St. Peter's on April 7th. There weren't any major storms during the month so average and maximum wind speeds were lower than typically reported for April.

As expected the solar radiation values for the month of April increased from the previous month ranging from 3.60 kWh/m²/D at Tignish to 4.58 kWh/m²/D at FanningBrook.

Closure

- Temperatures were above normal across the province.
- Precipitation was significantly below normal across the province with some locations reporting up to 63 mm below normal amounts.
- Snowfall amounts were well below normal with five stations reporting no snow.
- The maximum wind gust recorded was 69 km/h at St. Peter's.

Some phenological events during the month are recorded on Table 7. No major storms were reported in April.

Table 7–April Weather or Phenological Events 2017

Date	Location	Type of Event	Comments
April 11	Winsloe South	Red Winged Blackbird	First sighting of 2017
April 14	Winsloe South	Purple Finch	First sighting of 2017
April 24	Winsloe South	Spring peepers	Heard for first time in 2017.



Figure 3- Cliff erosion (slumping) at Hampton after spring thaw period.

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, June 13, 2017.