

Climate Research Lab Monthly Meteorological Summary-March, 2018

Background

This summary is produced by the UPEI Climate Lab for the month of March, 2018. Data is reported for 31 climate stations in the province as shown on Table 1. The annual summaries of PEI climate data for 2014, 2015, 2016 and 2017 and the monthly summaries are now posted on the UPEI Climate Lab Website. (<http://projects.upei.ca/climate/research/>).



Figure 1 Climate Monitoring Station at Borden-Carleton, Read

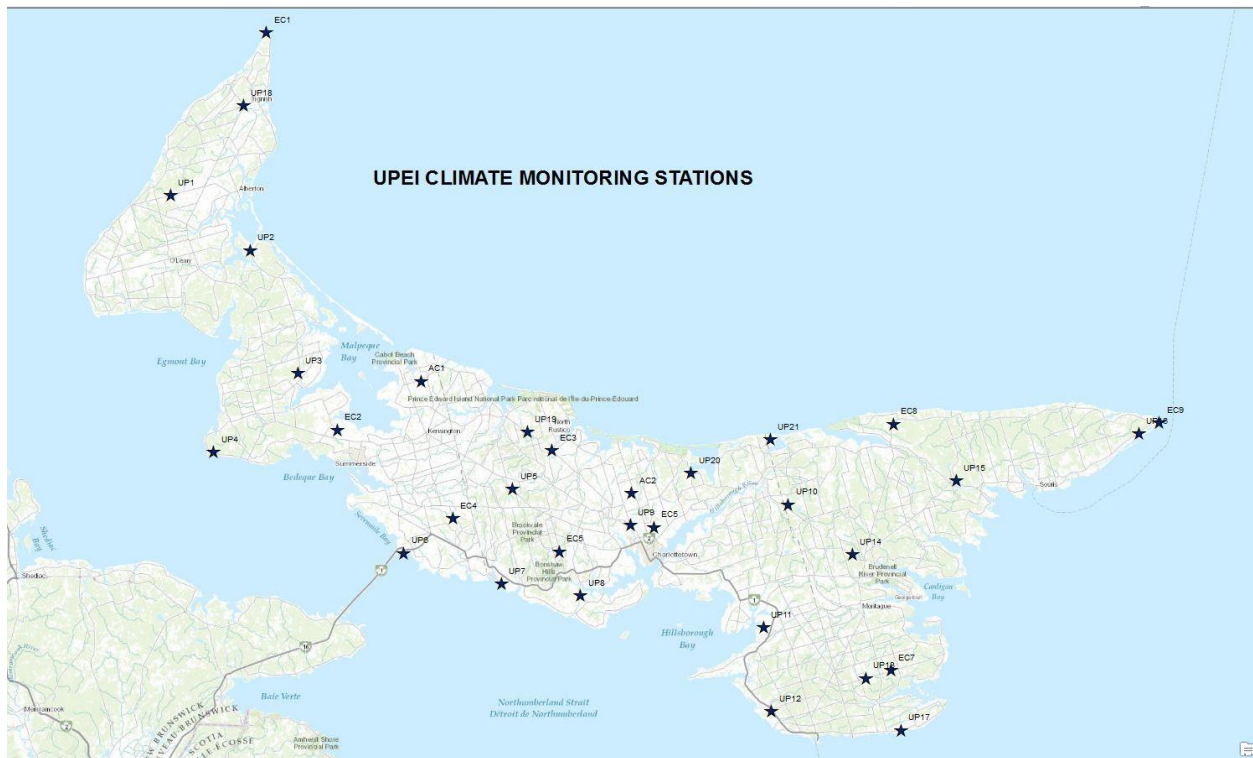


Figure 2 - Map showing climate station locations monitored by the UPEI Climate Research Lab

A listing of stations currently being monitored by UPEI Climate Research Lab 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
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 - Carleton	46.248346	-63.686935	26-Jan-95	G. Read
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-March-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
8300562	EC8	St. Peter's	46.4503	-62.5758	15-Aug-03	Airport CZSP
ISAVAGEH2	UP21	Savage Harbour	46.42587	-62.85565	June 27, 2017	Abegweit Conservation Society
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 March 2018 for all observation stations monitored by UPEI Climate Research Lab. Daily average solar radiation for stations which have solar radiation sensors is included to provide information for solar energy, crop production, and plant growth purposes. The Environment Canada Station at Maple Plains and the Agriculture Canada station at Baltic don't collect precipitation data during the winter season.

Table 2 – UPEI March 2018 Climate Station Summary for 32 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 (CNP)	UP13	-0.7	9.1	-9.6	21.3		10.7	61.1	
Arlington	UP3	-1.3	8.9	-11.8	34.2		5.1	51.5	

Baltic	AC1	-1.7	6.9	-11.7			17.5	56.9	
Borden	UP6	-0.7	5.8	-10.0	70.1		18.7	64.4	3.04
Brockton	UP1	-1.6	6.1	-13.1	17.5		10.0	69.2	2.30
Cape Egmont	UP4	-1.1	6.8	-12.1	57.1		15.8	78.8	2.65
Cardigan Head	UP14	-0.4	9.9	-15.3	53.		4.5	51.5	
Ch'town Airport	EC5	-1.4	7.4	-12.8	63.7	35.3		85.0	
Dingwells	UP15	-0.6	9.1	-14.8	44.7		7.7	62.8	
East Point	EC9	-0.3	6.8	-10.0	26.4		25.6	82.0	
East Point (N)	UP16	-1.0	6.1	-10.9	19.8		10.0	61.2	
Elmwood	EC5	-1.3	7.6	-10.5	72.1	44.7	10.4	59.5	
Fanning Brook	UP10	-0.3	9.6	-13.6	43.4		9.8	62.8	2.71
Flat River	UP12	0.3	8.8	-10.7	22.6		11.1	85.3	
Foxley River	UP2	-0.5	7.2	-10.7	74.9		11.7	70.8	
Glen Valley	UP5	-1.6	7.2	-11.3	43.9		17.4	83.7	2.39
Hampton	UP7	-1.0	5.9	-11.3	25.7		16.9	80.4	2.77
Harrington	AC2	-1.6	7.5	-10.4	42.4		19.7	80.0	
Hope River	UJP19	-0.3	12.2	-11.3	2.5		16.4	92.5	
Maple Plains	EC4	-1.9	6.0	-19.1			16.3	42.5	
Mill Cove	UP20	-0.8	8.1	-16.1	43.7		3.6	38.6	
New Glasgow	EC3	-1.5	8.0	-15.0	86.4	66.0			
North Cape	EC1	-1.9	4.5	-12.6	21.6		28.9	91.0	
Orwell Cove	UP11	0.1	7.9	-8.3	10.7		11.9	56.3	
St. Catherines	UP8	-0.7	7.7	-9.7	22.6		11.3	62.8	
St. Peter's	EC8	-1.2	9.0	-10.7	40.4		17.0	80.0	
Savage Harbour	UP21	-1.3	9.1	-11.6	19.6		13.3	69.2	2.65
Summerside	EC2	-2.1	5.0	-14.3	19.3		25.5	89.0	
Tignish	UP18	-1.5	6.6	-15.7	47.4		5.6	53.1	2.60
White Sands	UP17	-0.1	8.2	-8.4	24.1		19.9	77.7	2.73
Winsloe South	UP9	-1.1	7.6	-10.4	54.1	41.9	7.4	51.5	

Inc. Incomplete record, equipment malfunction

The measurements from ten (10) 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, and UP9.

Table 3 CoCoRaHS Precipitation Amounts from Ten Locations on PEI, March, 2018

CoCoRaHS Station	Total Precipitation in mm	Total Snowfall in cm
CAN-PE-1 Stratford	56.6	35.6
CAN-PE-3 Wellington	67.8	66.0
CAN-PE-7 Morell	41.7	37.3
CAN-PE-10 New London	70.6	48.3
CAN-PE-13 Bedeque	18.8	11.4
CAN-PE-19 Winsloe South	45.2	41.9
CAN-PE-20 Bonshaw	72.1	44.7
CAN-PE-23 Borden-Carleton	70.1	-
CAN-PE-25 – Caledonia	62.5	33.3
CAN-PE-26 – Grand Tracadie	43.7	22.4

Table 4 provides thirty year climate normal values for the 1981 to 2010 period for seven (7) climate stations in the province for the month of March.

Table 4 March 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 in C	-3.1	-2.8	-2.9	-3.2	-3.3	-2.8	-2.9
Mean Monthly Ppt. in mm	86.3	95.6	79.4	89.4	80.9	87.0	95.6
Mean Monthly Snow cm	44.1	50.5	47.4	51.7	48.3	44.8	47.3

Discussion

March temperatures were above normal across the province with the station at Flat River reporting 3.4°C above normal. The highest monthly mean for the province was 0.3°C which was observed at Flat River. The low monthly mean was -2.1°C at Summerside. The maximum temperature for the month was 12.2°C at Hope River on March 14th. The coldest temperature reported during the month for all stations listed in this summary was -19.1°C which was recorded at Maple Plains on March 26th.

Table 5 – Variation of March 2018 Monthly Mean Temperature from 1981-2010 Climate Normal

Climate Station	March 2018 Mean C	30 Year Normal C 1981-2010	Variation from Normal C
Alliston CNP	-0.7	-3.1	2.40
Arlington	-1.3	-3.2	1.90
Baltic	-1.7	-2.9	1.20
Borden - Carleton	-0.7	-2.9	2.20
Brockton	-1.6	-3.3	1.70
Cape Egmont	-1.1	-2.9	1.80
Cardigan Head	-0.4	-2.8	2.40
Charlottetown A	-1.4	-3.1	1.70
Dingwells	-0.6	-2.8	2.20
East Point	-0.3	-2.9	2.60
East Point – UP16	-1.0	-2.9	1.90
Elmwood	-1.3	-2.8	1.50
Fanning Brook	-0.3	-3.1	2.80
Flat River	0.3	-3.1	3.40
Foxley River	-0.5	-3.2	2.70
Glen Valley	-1.6	-2.8	1.20
Hampton	-1.0	-2.9	1.90
Harrington	-1.6	-3.1	1.50
Hope River	-0.3	-2.8	2.50
Maple Plains	-1.9	-2.9	1.00
Mill Cove	-0.8	-3.1	2.80
New Glasgow	-1.5	-2.8	1.30
North Cape	-1.9	-3.3	1.40
Orwell	0.1	-3.1	3.20
St. Catherine's	-0.7	-3.1	2.40
St. Peters	-1.2	-2.8	3.10
Savage Harbour	-1.3	-3.1	1.80
Summerside A	-2.1	-2.9	0.80
Tignish	-1.5	-3.3	1.80
White Sands	-0.1	-3.1	3.00
Winsloe South	-1.1	-3.1	2.00

Readings in red may not be accurate.

Table 6 – Variation of March 2018 Total Precipitation Amounts from 1981-2010 Climate Normal

Climate Station	Total PPT in mm March 2018	30 Year Normal mm 1981-2010	Variation from Normal mm
Alliston CNP	21.3	86.3	-65.00
Arlington	34.2	89.4	-55.20

Baltic		79.4	0.00
Borden – Carleton (CoCo Can-PE-23)	33.5	79.4	-45.90
Brockton	17.5	80.9	-63.40
Cape Egmont	57.1	79.4	-22.30
Cardigan Head (CoCo Can-PE-27)	53.8	87.0	-33.20
Charlottetown A	63.7	86.3	-22.60
Dingwells	44.7	87.0	-42.30
East Point - EC	26.4	95.7	-69.30
East Point – UP16	19.8	95.7	-75.90
Elmwood (CoCo- Can-PE-20)	19.8	95.6	-25.60
Fanning Brook	43.4	86.3	-42.90
Flat River	22.6	86.3	-63.70
Foxley River	74.9	86.8	-11.90
Glen Valley	66.5	95.6	-29.10
Hampton	25.7	84.2	-58.50
Harrington	42.4	86.3	-43.90
Hope River	60.7	95.6	-68.30
Maple Plains		79.4	-14.00
Mill Cove	43.7	86.3	-42.60
New Glasgow	86.4	95.6	-9.20
North Cape	21.6	80.9	-59.30
Orwell	10.7	86.3	-75.60
St. Catherine’s	63.2	86.3	-23.10
St. Peters	40.4	87.0	-66.70
Savage Harbour	19.6	86.3a	-66.70
Summerside A	19.3	79.4	-60.10
Tignish	47.6	80.9	-33.30
White Sands	24.1	86.3	-62.20
Winsloe South (CoCo-Can-PE-19)	54.1	86.3	-32.20

Readings in red may not be accurate due to no rain collector heater or gauge malfunction.

Precipitation was below normal across the province. As indicated on table 6 some stations did not accurately record precipitation due to lack of a heater unit to enable determination of the water equivalent or due to equipment malfunction. The highest precipitation total for March was 86.4 mm at New Glasgow and the lowest total was 19.3 mm at Summerside.

Snowfall was generally normal during March with the highest total snowfall recorded of 66.0 cm at the Wellington Station which was approximately 19 cm above normal.

Average wind speeds across the province ranged from 3.6 km/h at Mill Cove to 28.9 km/h at North Cape. The maximum gust for the month was 92.5 km/h reported at Hope River on March 22nd.

The solar radiation values ranged from 2.30 kWh/m²/D at Brockton to 3.04 kWh/m²/D at Borden-Carleton. These readings were slightly lower than those reported for the same month in the previous year.

Closure

- Temperatures were above normal across the province.
- Precipitation was below normal for all reporting stations with snowfall amounts ranging from normal to slightly above normal.
- No major storms were reported during the month and no major phenological events were recorded.

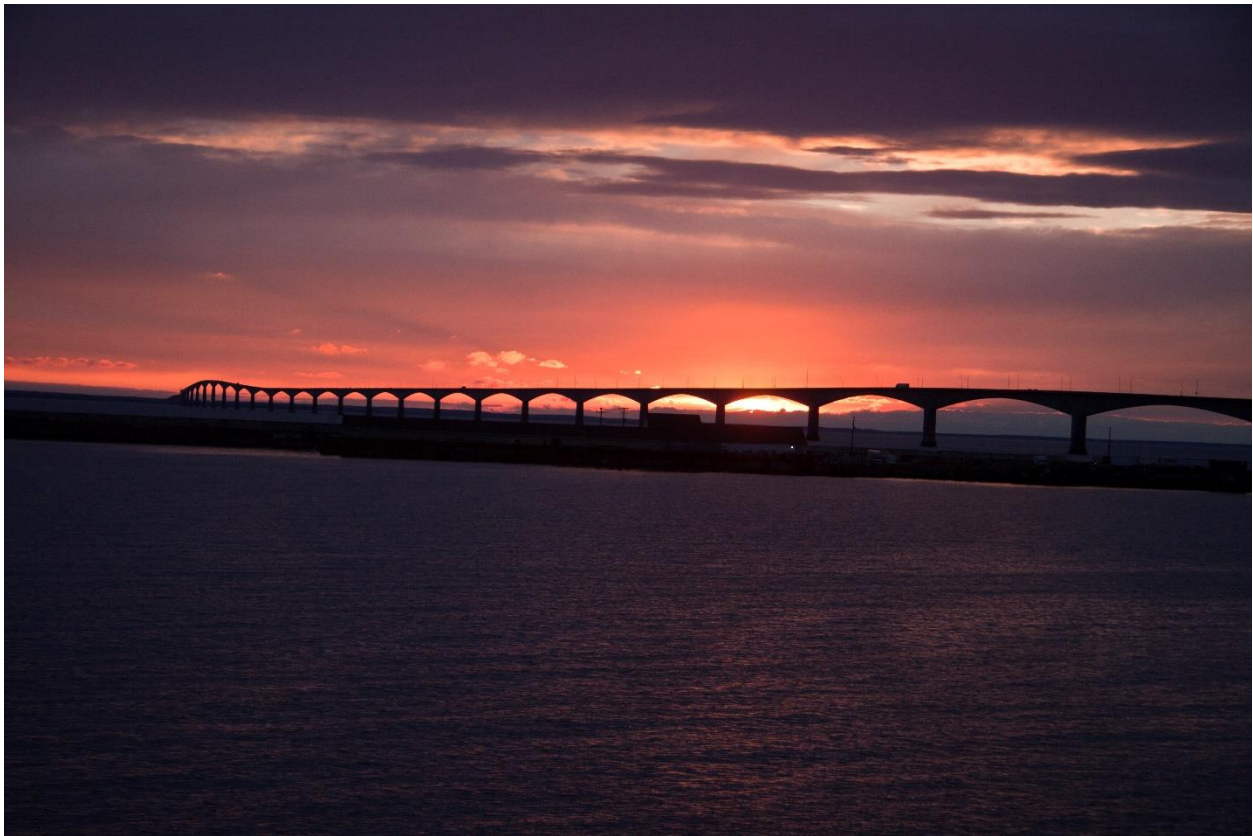


Figure 3- Confederation Bridge, Borden-Carleton

Sources:

Environment Canada Climate Data Archives and associated websites

WUnderground.com

CoCoRaHS.org/Canada

AgraWeather Atlantic Website

PEIStormChaser

CBC News

The Guardian newspaper

D. Jardine, UPEI Climate Research Lab, July 5, 2018.