

Climate Research Lab Monthly Meteorological Summary-February, 2018

Background

This summary is produced by the UPEI Climate Lab for the month of February, 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 –Juvenile Bald Eagles, Grand River – February, 2018

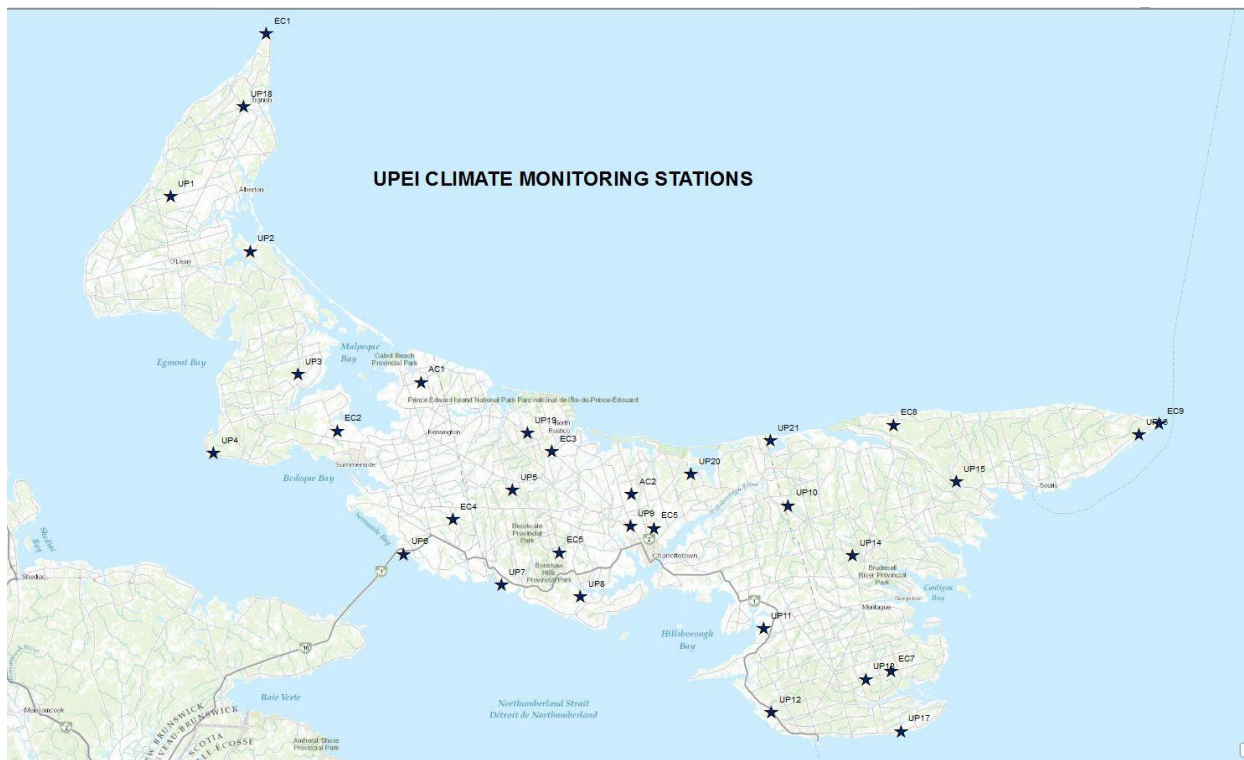


Figure 2 - Map showing climate station locations monitored by the UPEI Climate Research Lab

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-February-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 February 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. The St. Peter's station was down from February 21st to February 28th leaving an incomplete record for the month.

Table 2 – UPEI February 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/m ² /D)
Alliston (CNP)	UP13	-3.2	12.2	-17.7	36.3		6.6	54.7	
Arlington	UP3	-4.0	9.2	-21.4	46.8		3.7	46.7	
Baltic	AC1	-4.1	9.2	-18.0	inc		15.8	38.8	
Borden	UP6	-3.7	7.1	-17.7	52.6		14.8	64.4	2.39
Brockton	UP1	-5.0	9.1	-19.8	2.3		6.5	53.1	1.66
Cape Egmont	UP4	-4.4	6.4	-18.0	43.4		12.0	66.0	2.18
Cardigan Head	UP14	-2.9	12.2	-21.7	85.0		4.1	45.1	
Ch'town Airport	EC5	-4.2	8.4	-17.5	90.4	23.4		69.0	
Dingwells	UP15	-3.7	12.6	-21.2	81.5		7.9	64.4	
East Point	EC9	-2.9	11.2	-17.5	64.0		22.1	76.0	
East Point (N)	UP16	-3.8	9.9	-17.9	45.8		10.6	61.2	
Elmwood	EC5	-3.7	9.4	-18.3	61.2	31.2	8.2	43.4	
Fanning Brook	UP10	-3.0	11.2	-18.6	57.9		9.6	57.9	2.01
Flat River	UP12	-2.3	10.3	-16.6	34.3		9.0	61.1	
Foxley River	UP2	-3.7	9.5	-18.7	68.3		9.2	57.9	
Glen Valley	UP5	-4.0	8.9	-18.4	64.8		13.8	66.0	1.85
Hampton	UP7	-4.4	6.1	-17.8	52.1		14.4	66.0	2.05
Harrington	AC2	-4.2	8.7	-17.8	69.2		15.6	61.0	
Hope River	UJP19	-3.2	12.0	-17.7	18.5		11.9	68.4	
Maple Plains	EC4	-4.2	8.4	-21.4	inc		12.3	34.0	
Mill Cove	UP20				48.0				
New Glasgow	EC3	-4.3	8.0	-20.0	82.2	36.0			
North Cape	EC1	-5.6	8.2	-17.7	54.1		22.8	72.0	
Orwell Cove	UP11	-2.3	11.2	-15.8	36.8		10.5	54.7	
St. Catherines	UP8	-3.5	9.3	-17.6	35.3		7.8	43.4	
St. Peter's	EC8	inc							
Savage Harbour	UP21	-3.3	10.5	-17.7	36.8		13.0	74.0	1.84

Summerside	EC2	-5.1	8.3	-18.2	55.9		18.6	63.0	
Tignish	UP18	-4.6	10.1	-23.7	46.0		5.6	54.7	1.74
White Sands	UP17	-2.4	9.8	-16.2	46.5		15.2	64.8	1.95
Winsloe South	UP9	-3.4	8.7	-17.7	74.4	29.2	5.2	45.1	

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 Eleven Locations on PEI, February, 2018

CoCoRaHS Station	Total Precipitation in mm	Total Snowfall in cm
CAN-PE-1 Stratford	52.6	20.8
CAN-PE-3 Wellington	67.6	37.6
CAN-PE-7 Morell	-	-
CAN-PE-10 New London	92.2	33.8
CAN-PE-13 Bedeque	42.9	3.8
CAN-PE-19 Winsloe South	61.5	29.2
CAN-PE-20 Bonshaw	82.6	31.2
CAN-PE-23 Borden-Carleton	73.4	-
CAN-PE-25 – Caledonia	75.7	18.3
CAN-PE-26 – Grand Tracadie	78.7	23.1

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 February.

Table 4 February 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	-7.3	-7.3	-6.9	-7.7	-7.7	-7.0	-6.8
Mean Monthly Ppt. in mm	83.2	86.8	74.9	81.8	74.5	81.7	91.3
Mean Monthly Snow cm	58.3	56.9	53.4	55.2	56.0	52.9	62.6

Discussion

February temperatures were above normal across the province with the stations at Flat River and Orwell Cove reporting 5.0^oC above normal. The highest monthly mean for the province was -2.3^oC which was observed at both Flat River and Orwell Cove. The low monthly mean was -5.6^oC at North Cape. The maximum temperature for the month was 12.6^oC at St. Dingwells Mills on February 21st. The coldest temperature reported during the month for all stations listed in this summary was -23.6^oC which was recorded at Tignish on February 4th.

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

Climate Station	February 2018 Mean C	30 Year Normal C 1981-2010	Variation from Normal C
Alliston CNP	-3.2	-7.3	4.10
Arlington	-4.0	-7.7	3.70
Baltic	-4.1	-6.9	2.80
Borden - Carleton	-3.7	-6.9	3.20
Brockton	-5.0	-7.7	2.70
Cape Egmont	-4.4	-6.9	2.50
Cardigan Head	-2.9	-7.0	4.10
Charlottetown A	-4.2	-7.3	3.10
Dingwells	-3.7	-7.0	3.30
East Point	-2.9	-6.8	3.90
East Point – UP16	-3.8	-6.8	3.00
Elmwood	-3.7	-7.3	3.60
Fanning Brook	-3.0	-7.3	4.30
Flat River	-2.3	-7.3	5.00
Foxley River	-3.7	-7.7	4.00
Glen Valley	-4.0	-7.3	3.30
Hampton	-4.4	-6.9	2.50
Harrington	-4.2	-7.3	3.10
Hope River	-3.2	-7.3	4.10
Maple Plains	-4.2	-6.9	2.70
Mill Cove			1.70
New Glasgow	-4.3	-7.3	3.00
North Cape	-5.6	-7.7	2.10
Orwell	-2.3	-7.3	5.00
St. Catherine's	-3.5	-7.3	3.80
St. Peters			0.90
Savage Harbour	-3.3	-7.3	4.00
Summerside A	-5.1	-6.9	1.80
Tignish	-4.6	-7.7	3.10

White Sands	-2.4	-7.3	4.90
Winsloe South	-3.4	-7.3	3.90

Readings in red may not be accurate.

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

Climate Station	Total PPT in mm February 2018	30 Year Normal mm 1981-2010	Variation from Normal mm
Alliston CNP	36.3	83.2	-36.40
Arlington	46.8	81.8	-35.00
Baltic			0.00
Borden – Carleton (CoCo Can-PE-23)	52.6	74.9	-22.30
Brockton	2.3	74.5	-72.20
Cape Egmont	43.4	74.9	-31.50
Cardigan Head (CoCo Can-PE-27)	85.0	81.7	3.30
Charlottetown A	90.4	83.2	7.20
Dingwells	81.5	81.7	-0.20
East Point - EC	64.0	91.3	-27.30
East Point – UP16	45.8	91.3	-45.50
Elmwood (CoCo- Can-PE-20)	61.2	86.8	-25.60
Fanning Brook	57.9	83.2	-25.30
Flat River	34.3	83.2	-48.90
Foxley River	74.9	81.8	-6.90
Glen Valley	64.8	86.8	-22.00
Hampton	52.1	74.9	-22.80
Harrington	69.2	83.2	-14.00
Hope River	18.5	86.8	-68.30
Maple Plains	-	74.9	-14.00
Mill Cove	48.0	83.2	-35.20
New Glasgow	82.2	86.8	-4.60
North Cape	54.1	74.5	-20.40
Orwell	36.8	83.2	-46.40
St. Catherine’s	35.3	83.2	-47.90
St. Peters	-	81.7	-42.20
Savage Harbour	36.8	83.2	-46.40
Summerside A	55.9	74.9	-19.00
Tignish	46.0	74.5	-28.50
White Sands	46.5	83.2	-36.70
Winsloe South (CoCo-Can-PE-19)	74.4	83.2	-8.80

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

Precipitation was below normal with the exception of stations at Charlottetown Airport and Cardigan Head. 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 February was 90.4 mm at Charlottetown Airport and the lowest total was 34.3 mm at Flat River.

Snowfall was below normal during February with a highest total snowfall recorded of 37.6 cm at the Wellington which was approximately 20 cm below normal.

Average wind speeds across the province ranged from 3.7 km/h at Arlington Orchard to 22.8 km/h at North Cape. The maximum gust for the month was 76.0 km/h reported at East Point on February 21st.

The solar radiation values ranged from 1.66 kWh/m²/D at Brockton to 2.39 kWh/m²/D at Borden-Carleton. These readings were lower than those reported for the same month in the previous year.

Closure

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



Figure 3- Red Tailed Hawk, New Glasgow, February 2018

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, May 25, 2018.