



Maritimes Monthly Weather & Climate Summary October 2022

Overview

October was very warm and relatively dry. The month began fairly calm with brief periods of below and above normal temperatures and the only precipitation event was the remnants of Tropical Storm Ian that mainly affected southern regions. The weather pattern changed for the second half of the month as slow-moving frontal systems of tropical origins produced most of the precipitation for the month over mainly western and southern areas. The air mass change also caused much above normal temperatures that resulted in several daily maximum temperature records over the period.

Temperature – Anomaly

Temperatures were 2 to 4 degrees above normal across the Maritimes in October. Bas-Caraquet, Charlo NB, Halifax, NS and Charlottetown, PEI all reported their second warmest October on record with most other sites having their top 5 warmest month. Daily temperature anomalies ranged from five to thirteen degrees above normal for several days in the second half of month and contributed to the overall temperature outcome for the month.

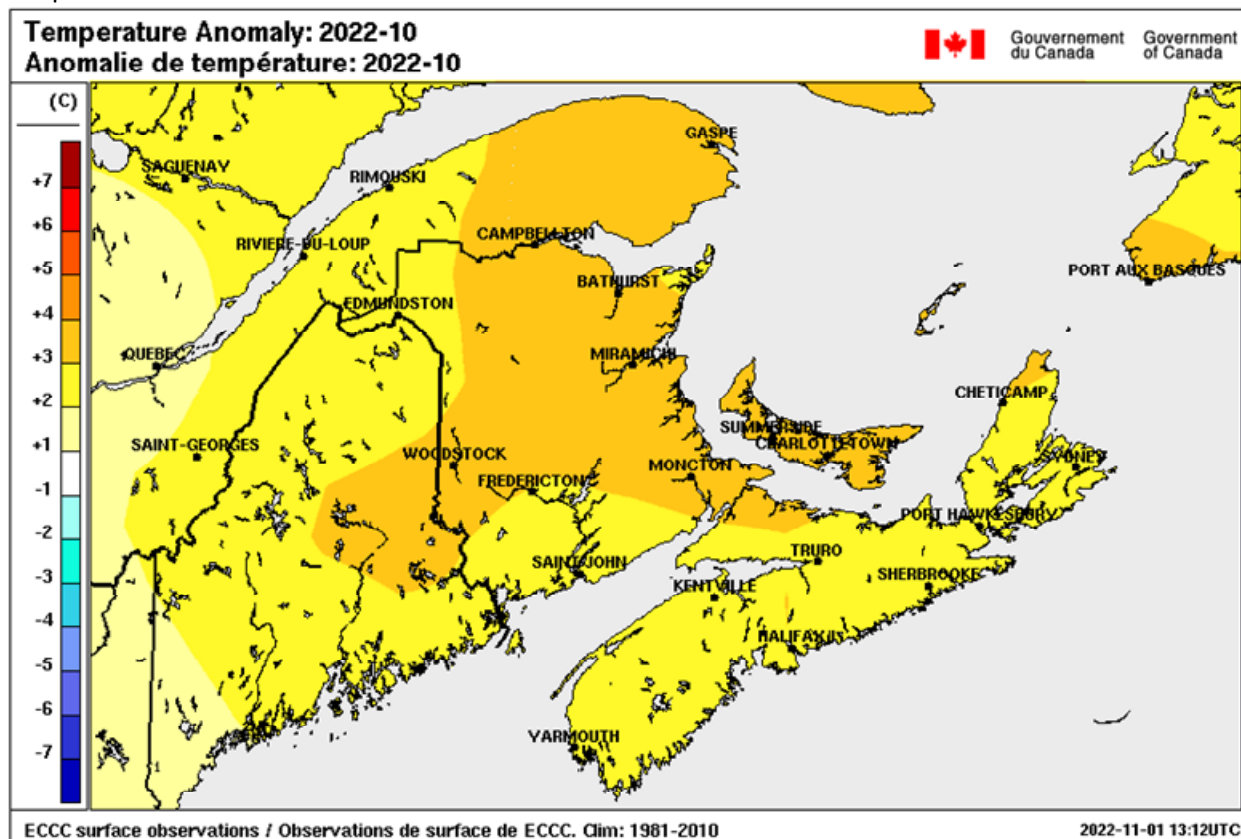


Figure 1: Monthly temperature anomaly map for October 2022 based on archived station data compared to 1981-2010 normals for the Maritimes.

Precipitation – Anomaly

Precipitation in October was generally below to near normal across the region. Only extreme northwestern NB and extreme southwestern NS were near to slightly above normal. Southeastern NB, PEI, Cape Breton and parts of northern NS reported the driest conditions.

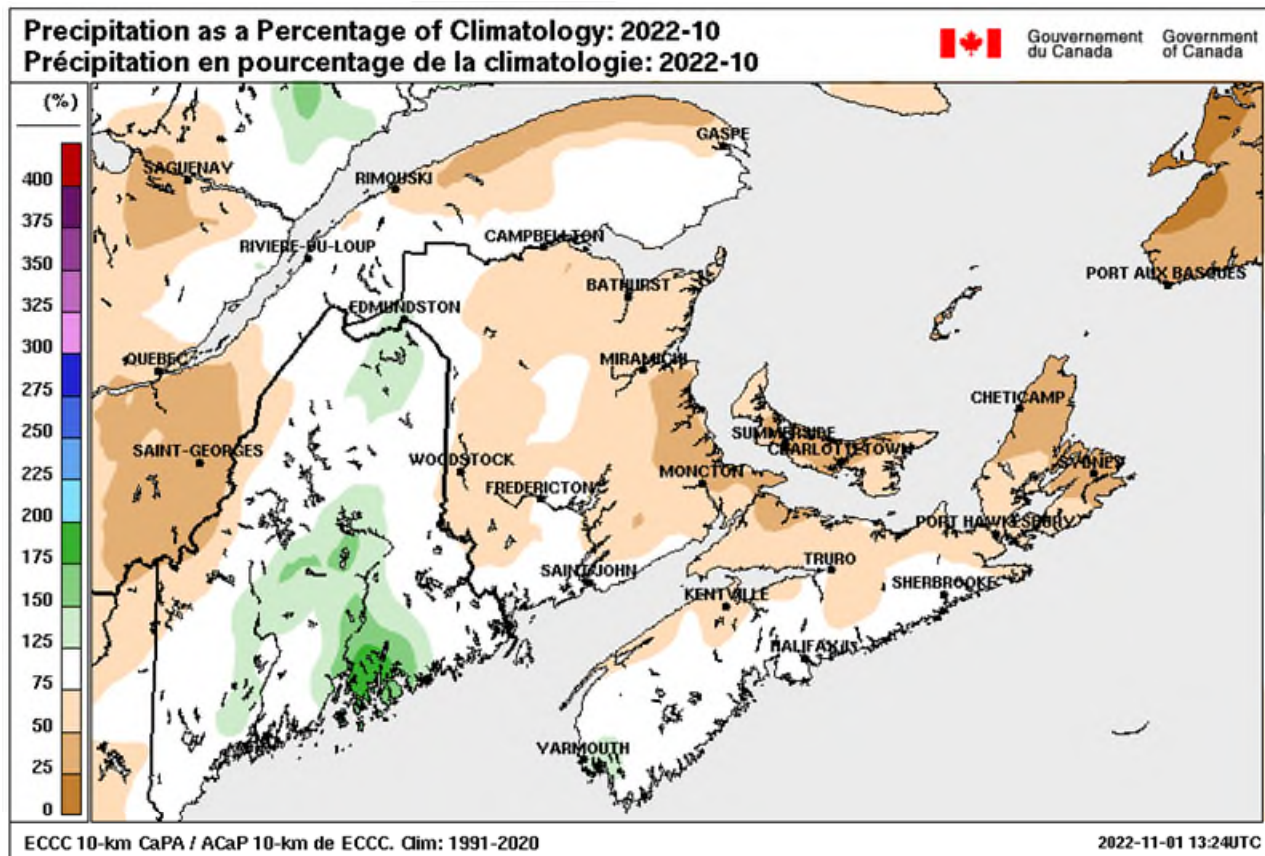


Figure 2: Monthly precipitation anomaly for October 2022 based on ECCC Canadian Precipitation Analysis (CaPA) a gridded blend of model, radar, and station data, compared to 1991-2020 normals for the Maritimes. (Anomaly: Precipitation as a percentage of the average).

Table 1: Monthly average temperature and total precipitation for October 2022 for selected locations in the Maritimes compared to 1981-2010 Canadian Climate Normals (for the same or a nearby station). Temperature difference from normal: cells shaded pink if $\geq 1^\circ\text{C}$, blue if $\leq -1^\circ\text{C}$. Precipitation as a percent of normal: cells shaded green if $\geq 125\%$ of normal, yellow if $\leq 75\%$ of normal. Rank (if included) provides a ranking of mean temperature (eg. 1 warmest, 2 second warmest etc.) for the month against long-term data for the month).

Location	Mean Temperature ($^\circ\text{C}$)				Total Precipitation (mm)		
	Monthly Mean	Normal Mean	Diff. from Normal	Rank (Warmest)	Monthly Total	Normal Total	Total as % of Normal
Bas Caraquet	10.3	7.6	2.7	2	87.3	108.0	81
Charlo	9.3	5.7	3.6	2	54.0	84.0	64
Fredericton	10.6	7.8	2.8	5	105.7	89.7	118
Moncton	11.0	7.6	3.4	3	54.2	113.4	48
Saint John	9.9	7.6	2.3	4	131.7	116.4	113
Woodstock	9.7	6.6	3.2	3	76.5	95.3	80
Amherst (Nappan)	11.4	8.5	2.9	3	57.8	102.8	56
Greenwood	11.0	8.7	2.3	6	106.2	98.8	108
Halifax	11.8	8.7	3.1	2	113.5	124.9	91
Halifax (Shearwater)	12.6	9.6	3.0	3	117.7	130.5	90
Sydney	10.6	8.5	2.2	9	83.2	142.9	58
Truro (Debert)	10.6	8.0	2.6	4	98.5	107.9	91
Yarmouth	12.1	9.4	2.7	5	158.0	112.5	140
Charlottetown	11.9	8.3	3.5	2	58.2	112.2	52
Summerside	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Significant Weather Events & Impacts

October 2-4 – A ridge of high-pressure brought mostly clear skies and near or below freezing overnight temperatures to much of the region. Several sites in all three provinces broke minimum daily temperature records. NB saw widespread values below zero degrees and this caused an early termination of the frost advisory program for the fourth straight year. Edmundston, NB reported the coldest temperature at -6.4°C on the morning of the 3rd.

October 6 – The remnants of Tropical Storm Ian brought moderate to heavy rainfall to many areas of mainland NS, Cape Breton and extreme eastern PEI. Rainfall amounts varied from 20 to 50 mm with localized higher amounts. The Halifax-Kootenay, NS site reported an extreme amount of 97 mm as the embedded heavy showers moved slowly across the region. The heavy rain also contributed to poor road conditions.

[2 dead, 2 seriously injured in Highway 103 crash | CBC News](#)

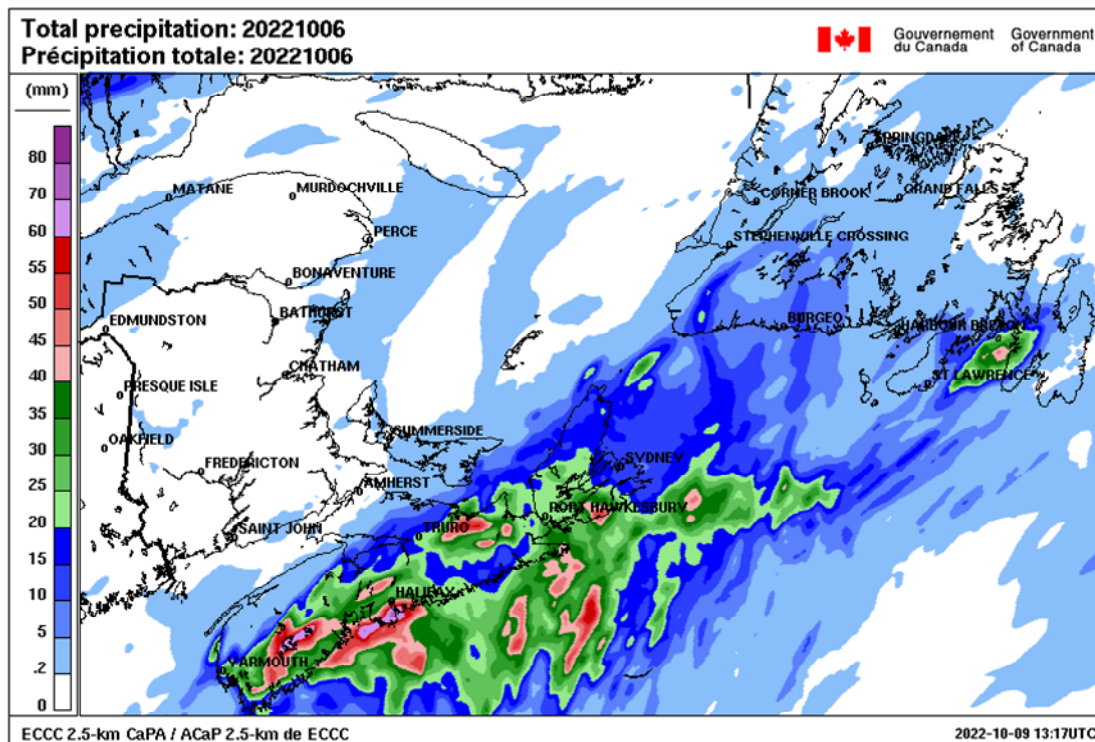


Figure 3: Daily total precipitation for October 6, 2022 based on ECCC Canadian Precipitation Analysis (CaPA) a gridded blend of model, radar, and station data

October 14-15 – A slow-moving frontal system brought rain to western NB and western NS. This was the first widespread event for NB for the month. Generally, 15 to 25 mm fell but localized amounts of 63 mm were reported in both the Edmundston, NB and Yarmouth, NS regions.

October 18-19 – Another slow-moving frontal system brought tropical moisture once again to western NB but was also more widespread across all three provinces. Western NB amassed 40 to 60 mm with a forestry station in Musquash, NB recording as much as 82 mm. Most other areas saw 20 to 35 mm with localized higher amounts on Cape Breton of up to 57 mm.

October 23-27 – A tropical-like air mass brought record warmth and moist conditions to the region. Several daily maximum temperatures were broken during the period with maximum temperatures reaching the 20 to 25°C range. Sussex, NB reached 25.2°C with a humidex of 30. Daily maximum temperature anomalies were 8 to 14 degrees above average on the 26th.

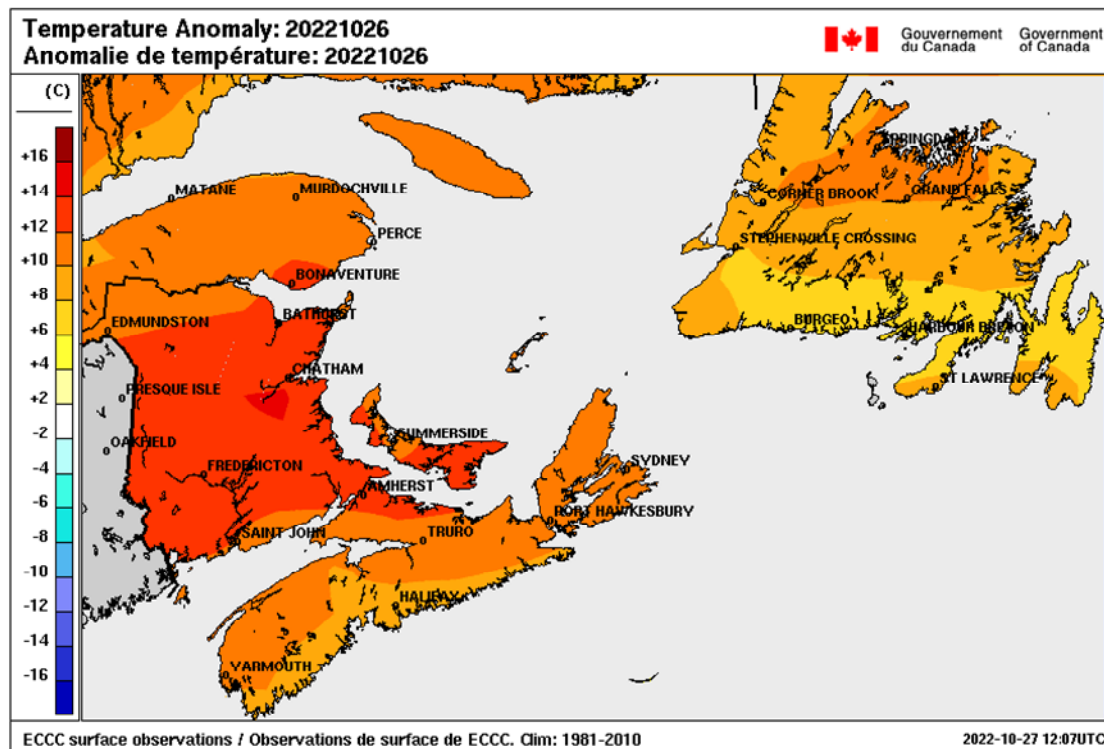


Figure 4: Daily mean temperature anomaly map for October 26, 2022.

Regarding precipitation during this period, it was showery in nature and varied across the region giving a range from 15 to 40 mm with localized higher amounts over southwestern NB and western NS of up to 70 mm. The brief but heavy downpours caused storm drains along some streets in the Halifax area to become inundated and overflow.

Daily Temperature and Precipitation Time Series

The precipitation time series below for the three provincial capitals indicate very little precipitation up until about mid-month for Fredericton and Charlottetown and Halifax is similar with the exception of the remnants of Ian during the first week. Precipitation totals were near normal at Fredericton and Halifax and below normal at Charlottetown for the month. The temperature time series are similar for all three sites with generally varying brief periods of below to above normal temperatures for the first half of the month and a pronounced warm period in the second half of the month.

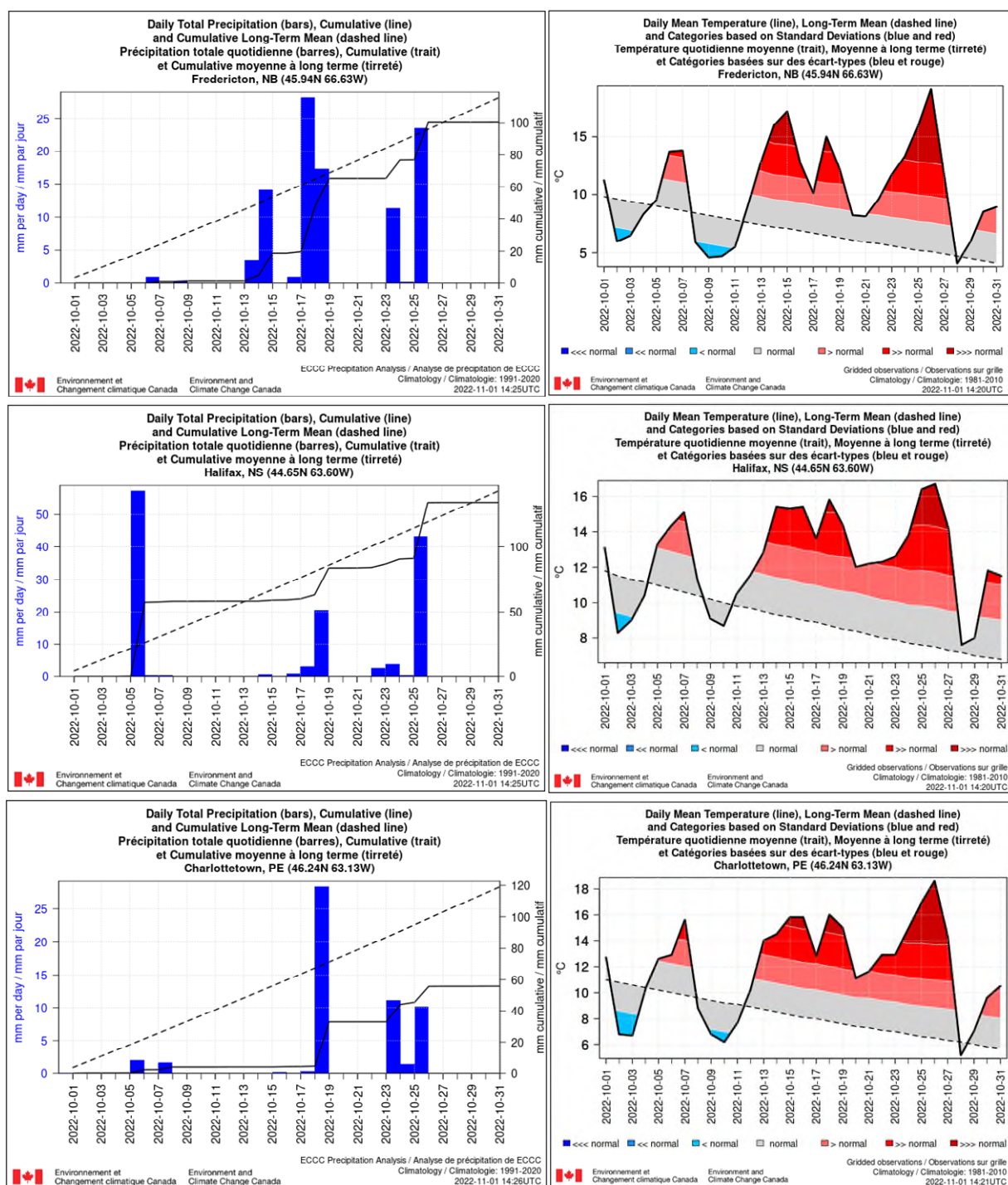


Figure 5: Daily total precipitation (Canadian Precipitation Analysis (CaPA) data) and mean temperature for Fredericton, NB (top), Halifax, NS (middle), and Charlottetown, PEI (bottom), for October 2022 based on gridded data, compared to long-term means (Canadian Precipitation Analysis (CaPA) data, 1991-2020, and temperature data, 1981 to 2010).

Sea Surface Temperature - Departure from Normal

The sea surface temperature (SST) departure from normal map during the week of October 24 to 30, 2022 indicates above normal conditions across the region. SST's have rewarmed since the passage of Fiona at the end of September. SST anomalies of 2 to 3 degrees above normal have been reported through portions of the northern Gulf of St. Lawrence and the eastern NS coast and adjacent waters. Meanwhile, areas in eastern NB waters, Northumberland Strait and eastern Bay of Fundy indicate some of the warmest anomalies at 5 degrees or more above normal.

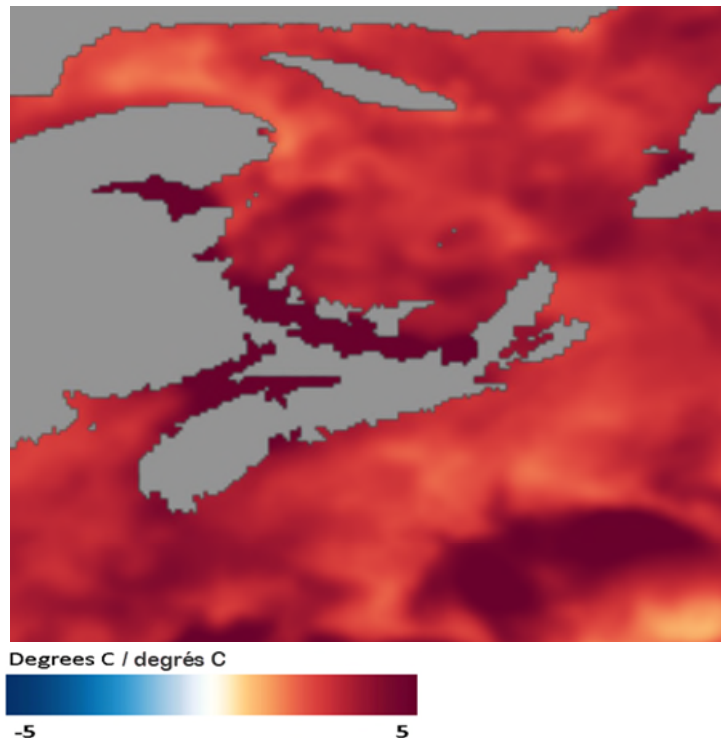


Figure 6: Sea surface temperature (SST) anomaly map for October 24-30, 2022. Data based on 1981-present. Source: <https://www.nnvl.noaa.gov/view/#SSTA>

Post-Fiona Related Information

[Prime minister announces \\$300M recovery package for Atlantic Canada in wake of Fiona | CBC News](#)

[More than 11,000 without power across Maritimes nearly 2 weeks after Fiona | CBC News](#)

[Fiona: Hurricane hunter who flew into the eye describes 'challenging' storm | CTV News](#)

[Wasps coming out of the Fiona woodwork on P.E.I. | CBC News](#)

[Insured damages from Fiona estimated at \\$660M | CBC News](#)

[Cape Bretoners displaced by Fiona struggle to find new homes | CBC News](#)

[Only 2% of lobster traps scattered by Fiona retrieved so far | CBC News](#)

[Non-emergency 911 calls to Kings District RCMP spiked during Fiona | CBC News](#)

Other Climate Related Information

[The bird population is shrinking. Here's why that could pose a serious threat to ecosystems | CBC News](#)

[Scientists say Atlantic coastline becoming a breeding ground for hurricanes | CBC News](#)

[North Atlantic right whale's population decline slows, but numbers still fell over past year | CBC News](#)
[Good weather key to wrapping up tough potato harvest season | CBC News](#)

Temperature & Precipitation Outlook

The four-week outlook for temperature and precipitation from the Canadian Global Ensemble Prediction System (GEPS) for October 31 to November 28, 2022 indicates a strong probability of above normal temperatures across the Maritimes. In terms of precipitation, a moderate to strong probability of below normal precipitation is forecast across the most of the region.

The four-week outlook from September 29th did not perform well for temperatures with all areas reporting above to much above normal temperatures when near normal was predicted. The precipitation outlook performed better and reasonably well in most areas with below normal precipitation expected, however, western NS and NB received near to above normal precipitation.

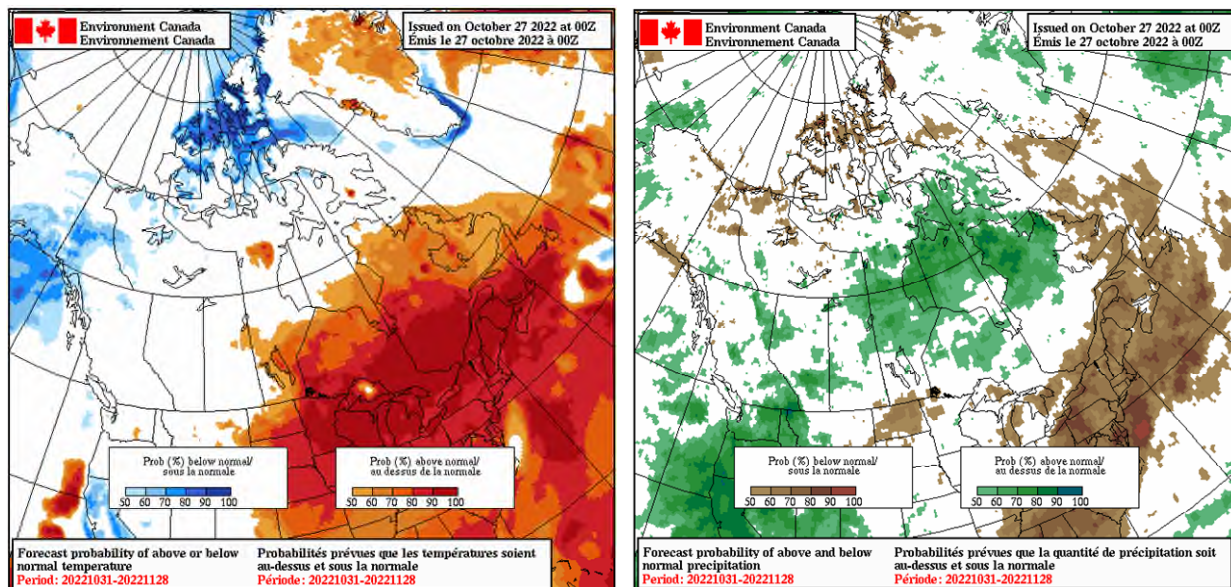


Figure 7: Temperature and Precipitation Anomaly Forecasts from the MSC Global Ensemble Prediction System issued October 27, 2022 for October 31 to November 28, 2022.

Source: http://collaboration.cmc.ec.gc.ca/cmc/ensemble/monthly/prev_mens_geps.html

Contact

Environment and Climate Change Canada, Meteorological Service of Canada,
Prediction Services Operations – Atlantic and Ice, Applied Climatology Services
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Appendix

Table A1: Station metadata for the selected locations in Table 1.

Location/ Emplacement	Station Name/ Nom de la station	Climate ID/ ID climat	Station Operator/ Opérateur de station ¹	Type ²
Bas Caraquet	BAS CARAQUET	8100467	ECCC-MSC	A
Charlo	CHARLO AUTO	8100885	ECCC-MSC	A
Fredericton	FREDERICTON CDA CS	8101605	ECCC-MSC	A
Moncton	MONCTON/GREATER MONCTON ROMEO LEBLANC INTL A	8103201	NavCan	H
Saint John	SAINT JOHN A	8104901	NavCan	H
Woodstock	WOODSTOCK NEWBRIDGE	8105603	ECCC-MSC	A
Amherst (Nappan)	NAPPAN AUTO	8203702	ECCC-MSC	A
Greenwood	GREENWOOD A	8202000	DND	H
Halifax (Shearwater)	SHEARWATER RCS	8205092	ECCC-MSC	A
Halifax Stanfield Intl A	HALIFAX STANFIELD INT'L A	8202251	NavCan	H
Sydney	SYDNEY A	8205701	NavCan	H
Truro (Debert)	DEBERT	8201390	ECCC-MSC	A
Yarmouth	YARMOUTH A	8206495	NavCan	H
Charlottetown	CHARLOTTETOWN A	8300301	NavCan	H
Summerside	SUMMERSIDE	8300596	ECCC-MSC	A

¹ Station Operator: CCN = Cooperative Climate Network, ECCC-MSC = Environment and Climate Change Canada, Meteorological Service of Canada, DND = Department of National Defence, NavCan = Nav Canada

² Type: A = Automatic observation, H = Human observation

Table A2: Monthly totals for October 2022 for New Brunswick stations compared to 1981-2010 Canadian Climate Normals (if available for same or nearby station). Temperature difference from normal: cells shaded pink if $\geq 1^{\circ}\text{C}$, blue if $\leq -1^{\circ}\text{C}$. Precipitation as a percent of normal: cells shaded green if $\geq 125\%$ of normal, yellow if $\leq 75\%$ of normal.

Station Name / Nom de la station	Prov	TC ID / ID de TC	Station Type / Type de station	Mean Temperature / Température moyenne ($^{\circ}\text{C}$)			Total Precipitation / Précipitations totales (mm)		
				Monthly Mean / Moyenne mensuelle	Normal Mean / Moyenne Normale	Diff from Normal / Écart avec la normale	Monthly Total / Total mensuel	Normal Total / Total normal	Total as % of Normal / Total en % de la normale
BAS CARAQUET	NB	WXS	AU8	10.3	7.6	2.7	87.3	108.0	81
BAS CARAQUET	NB		DAILY				78.0	108.0	72
BATHURST A	NB	ZBF	NCA	9.5	6.8	2.7	65.7	122.9	53
CHARLO AUTO	NB	ZCR	AU8	9.3	5.7	3.6	54.0	84.0	64
DOAKTOWN AUTO RCS	NB	ADN	AU8	10.0	7.0	3.0	91.0	100.8	90
EDMUNDSTON	NB	ERM	AU8	8.3			152.6	93.6	163
FREDERICTON CDA CS	NB	AFC	AU8	10.6	7.8	2.8	105.7	89.7	118
FREDERICTON INTLA	NB	YFC	NCA	10.1	7.5	2.6			
FUNDY PARK (ALMA) CS	NB	AFY	AU8	11.1	8.2	2.9	132.8	132.9	100
GARNETT SETTLEMENT	NB	AJH	AU8	10.2	7.6	2.6	133.8	116.4	115
GRAND MANAN SAR CS	NB	XGM	AU8	10.4			133.9		
KOUCHIBOUGUAC	NB	AKC	AU8	10.9	7.6	3.3	54.5	99.6	55
MECHANIC SETTLEMENT	NB	AMS	AU8	10.7			127.9		
MIRAMICHI RCS	NB	ACQ	AU8	10.9	6.9	4.0	57.1	89.7	64
MISCOU ISLAND (AUT)	NB	WMI	AU8	10.4			69.6		
MONCTON/GREATER MONCTON ROMEO LEBLANC INTLA	NB	YQM	NCH	11.0	7.6	3.4	54.2	113.4	48
OAK POINT	NB		DAILY	10.7			117.9	105.7	112
POINT LEPREAU CS	NB	WPE	AU8	11.2	7.6	3.6	131.2	115.8	113
RED PINES	NB	ARP	AU8	9.8	6.5	3.3	72.2	90.2	80
SAINT JOHN A	NB	YSJ	NCH	9.9	7.6	2.3	131.7	116.4	113
ST. STEPHEN	NB	WSS	AU8	10.2			114.0		
SUSSEX FOUR CORNERS	NB	ASF	AU8	10.9	8.1	2.9			
WOODSTOCK NEWBRIDGE	NB	EWD	AU8	9.7	6.6	3.2	76.5	95.3	80
Average				10.3	7.3	3.1	97.2	104.8	90
Max				11.2	8.2	4.0	152.6	132.9	163
Min				8.3	5.7	2.3	54.0	84.0	48

Table A3: Same as Table A2, for Nova Scotia.

Station Name / Nom de la station	Prov	TC ID / ID de TC	Station Type / Type de station	Mean Temperature / Température moyenne (°C)			Total Precipitation / Précipitations totales (mm)		
				Monthly Mean / Moyenne mensuelle	Normal Mean / Moyenne Normale	Diff from Normal / Écart avec la normale	Monthly Total / Total mensuel	Normal Total / Total normal	Total as % of Normal / Total en % de la normale
ALDERSVILLE	NS	ANR	AU8	11.0	8.8	2.2	106.1	112.0	95
BACCARO PT	NS	ACP	AU8	13.1			98.7	100.2	99
BEAVER ISLAND (AUT)	NS	WBV	AU8	12.7					
BEDFORD BASIN	NS	ABB	AU7	12.9	9.9	3.0			
BEDFORD RANGE	NS	ABR	AU7	11.2	8.8	2.4			
BRIER ISLAND	NS	WVU	AU8	12.7			105.4		
CARIBOU POINT (AUT)	NS	WBK	AU8	13.0	9.2	3.8	76.4	128.6	59
CHETICAMP HIGHLANDS	NS	AHT	AU8	11.6	9.0	2.6	43.3	129.8	33
COLLEGEVILLE AUTO	NS	AGL	AU8	10.4	8.3	2.1	105.1	140.6	75
DEBERT	NS	ZDB	AU8	10.6	8.0	2.6	98.5	107.9	91
EMERGENCY WEATHER STATION #2 (New Ross)	NS	ERU	AU8	10.6	8.8	1.8	117.0	112.0	105
ESKASONI FIRST NATION	NS	AEI	AU8	11.9	8.9	3.0	68.9	137.1	50
GRAND ETANG	NS	WZQ	AU8	12.6	9.0	3.6			
GREENWOOD A	NS	YZX	WOD	11.0	8.7	2.3	106.2	98.8	108
HALIFAX DOCKYARD	NS	AHD	AU7	13.1	9.9	3.2			
HALIFAX KOOTENAY	NS	AHK	AU7	12.4	9.6	2.8	166.0	130.5	127
HALIFAX STANFIELD INT'L A	NS	YHZ	NCH	11.8	8.7	3.1	113.5	124.9	91
HALIFAX WINDSOR PARK	NS	AHW	AU7	12.6	9.9	2.7	138.4	124.3	111
HART ISLAND (AUT)	NS	WRN	AU8	12.3					
INGONISH BEACH RCS	NS	XIB	AU7	10.7	8.8	2.0	93.1	175.6	53
KENTVILLE CDA CS	NS	XKT	AU7	11.4	9.4	2.0	73.1	89.0	82
LOUISBOURG	NS	AUU	AU8				75.9	158.3	48
LUNENBURG	NS	XLB	AU8	12.5	8.9	3.7			
MALAY FALLS	NS	XMY	AU8	11.2	8.2	3.0	146.5	165.8	88
MCNABS ISLAND (AUT)	NS	XMI	AU8	13.0	9.6	3.5			
NAPPAN AUTO	NS	XNP	AU8	11.4	8.5	2.9	57.8	102.8	56
NORTH MOUNTAIN CS	NS	XNM	AU7	9.8	7.3	2.6	37.0		
NORTHEAST MARGAREE (AUT)	NS	WNS	AU7	10.1	8.4	1.7	63.9	137.0	47
OSBORNE HEAD DND	NS	AOS	AU7	12.0	9.6	2.4	109.6	130.5	84
PARRSBORO	NS	APR	AU8	10.5	8.7	1.7	80.4	108.7	74
PORT HAWKESBURY	NS	YPD	NCA	10.7	9.0	1.8	86.2	156.5	55
SABLE ISLAND	NS	ASB	AU8	13.1	11.7	1.4	87.9	144.9	61
SABLE ISLAND A	NS	WSA	NCA	13.1	11.7	1.4			
SHEARWATER JETTY	NS	WZU	AU7	12.7	9.6	3.1	147.2	130.5	113
SHEARWATER RCS	NS	AAW	AU8	12.6	9.6	3.0	117.7	130.5	90
SHELBURNE SANDY POINT	NS	ESB	AU8	11.3			158.7		
ST PAUL ISLAND (AUT)	NS	WEF	AU8	11.6					
SYDNEY A	NS	YQY	NCH	10.6	8.5	2.2	83.2	142.9	58
SYDNEY CS	NS	AQY	AU8	10.9	8.5	2.4	64.9	142.9	45
UPPER STEWACKE RCS	NS	AOH	AU8	11.2	8.3	2.9	66.9	109.9	61
WESTERN HEAD	NS	WWE	AU8	12.1			127.0		
YARMOUTH A	NS	YQI	NCH	12.1	9.4	2.7	158.0	112.5	140
YARMOUTH RCS	NS	EQI	AU8	12.0	9.4	2.6	163.3	112.5	145
Average				11.8	9.1	2.6	101.3	127.5	81
Max				13.1	11.7	3.8	166.0	175.6	145
Min				9.8	7.3	1.4	37.0	89.0	33

Table A4: Same as Table A2, for Prince Edward Island.

Station Name / Nom de la station	Prov	TC ID / ID de TC	Station Type / Type de station	Mean Temperature / Température moyenne (°C)			Total Precipitation / Précipitations totales (mm)		
				Monthly Mean / Moyenne mensuelle	Normal Mean / Moyenne Normale	Diff from Normal / Écart avec la normale	Monthly Total / Total mensuel	Normal Total / Total normal	Total as % of Normal / Total en % de la normale
CHARLOTTETOWN A	PEI	YYG	NCH	11.9	8.3	3.5	58.2	112.2	52
EAST POINT (AUT)	PEI	WEP	AU8				54.5	122.5	44
NORTH CAPE	PEI	WNE	AU8	12.3			65.1		
ST. PETERS	PEI	ZSP	AU8	11.9	8.6	3.3	52.2	115.0	45
SUMMERSIDE	PEI	WSD	AU8						
MAPLE PLAINS	PEI	XMP	AU8	11.0	8.5	2.5			
HARRINGTON CDA CS	PEI	AHR	AU8				58.9	112.2	52
Average				11.8	8.5	3.1	57.8	115.5	49
Max				12.3	8.6	3.5	65.1	122.5	52
Min				11.0	8.3	2.5	52.2	112.2	44

Glossary

CaPA: The Canadian Precipitation Analysis. Full details available [here](#).

Standard Deviation: A statistical measure of how data compares to the mean (average) value. The standard deviation referenced in these monthly summaries is relative to the Canadian Climate Normals data set. The higher the standard deviation value, the further the data is from the normal value.

Temperature Anomaly: The deviation of temperature in a given region over a specified period from the long-term average value for the same region.

A more extensive glossary for weather and climate related terminology can be found [here](#).

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