



Maritimes Monthly Weather & Climate Summary August 2022

Overview

August was warmer than normal and has produced some of the warmest anomalies so far in 2022. A multi-day heat event at the beginning of the month contributed greatly to the overall temperature pattern for the month as well as warmer than normal minimum temperatures. Precipitation varied greatly from below normal to above normal across the region as only a few organized convective systems affected portions of NB and PEI mainly during the middle of the month.

Temperature – Anomaly

Temperatures were generally 1 to 3 degrees above normal with the warmest anomalies observed in NS. Most of the month was above normal with only a few days of near or below normal. Several sites ranked in their top five warmest for the month with Halifax, NS recording their warmest August ever. Several maximum daily temperature records were broken during a heat event from August 4-7 and also on the 30th.

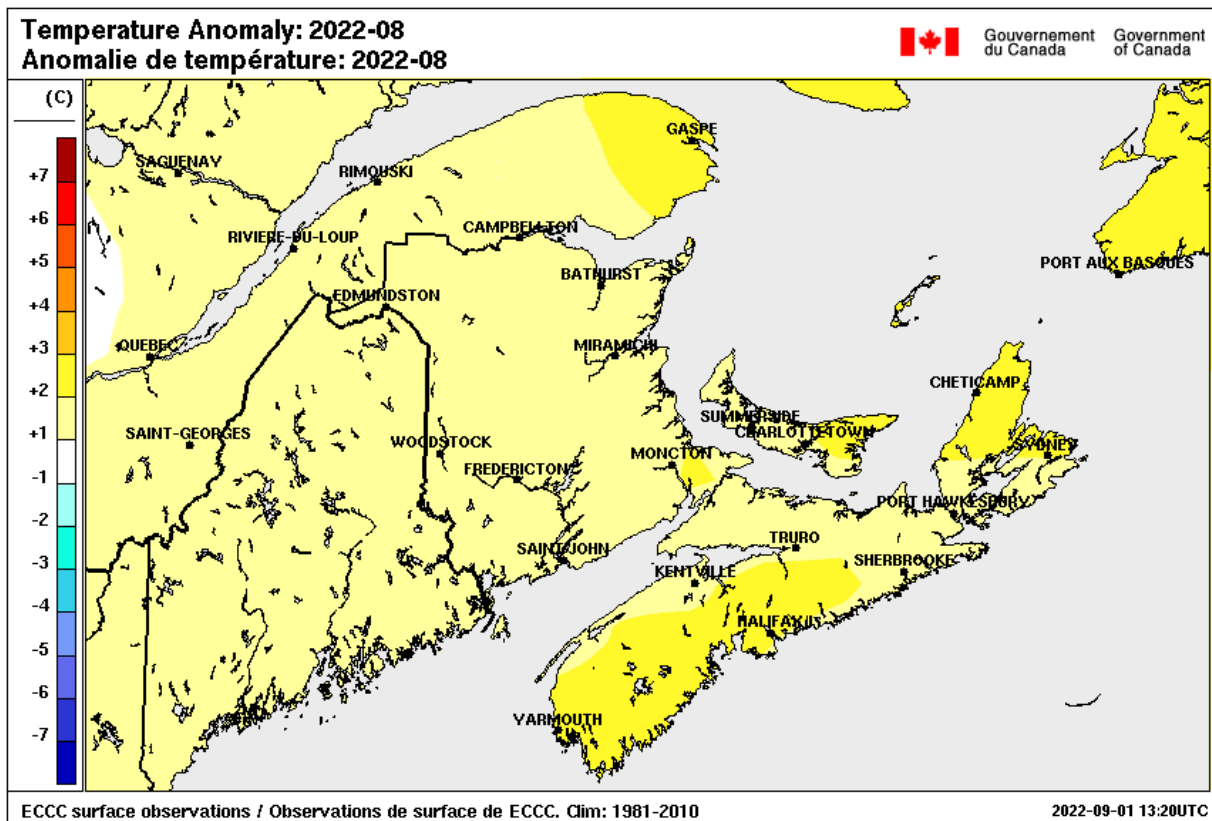


Figure 1: Monthly temperature anomaly map for August 2022 based on archived station data compared to 1981-2010 normals for the Maritimes.

Precipitation – Anomaly

Precipitation was highly variable across the region with all three provinces ranging from below to above normal. As was the case in July, southern and eastern NB along with western PEI saw above normal precipitation. Moncton, NB had its sixth wettest August on record with 167.3 mm. The Annapolis Valley of NS and southern Cape Breton also saw above normal precipitation. Northwestern NB, eastern PEI, and central/southwestern NS recorded below normal precipitation. This is the fourth consecutive month that southwestern NS has reported below normal precipitation. Elsewhere, near normal precipitation was observed.

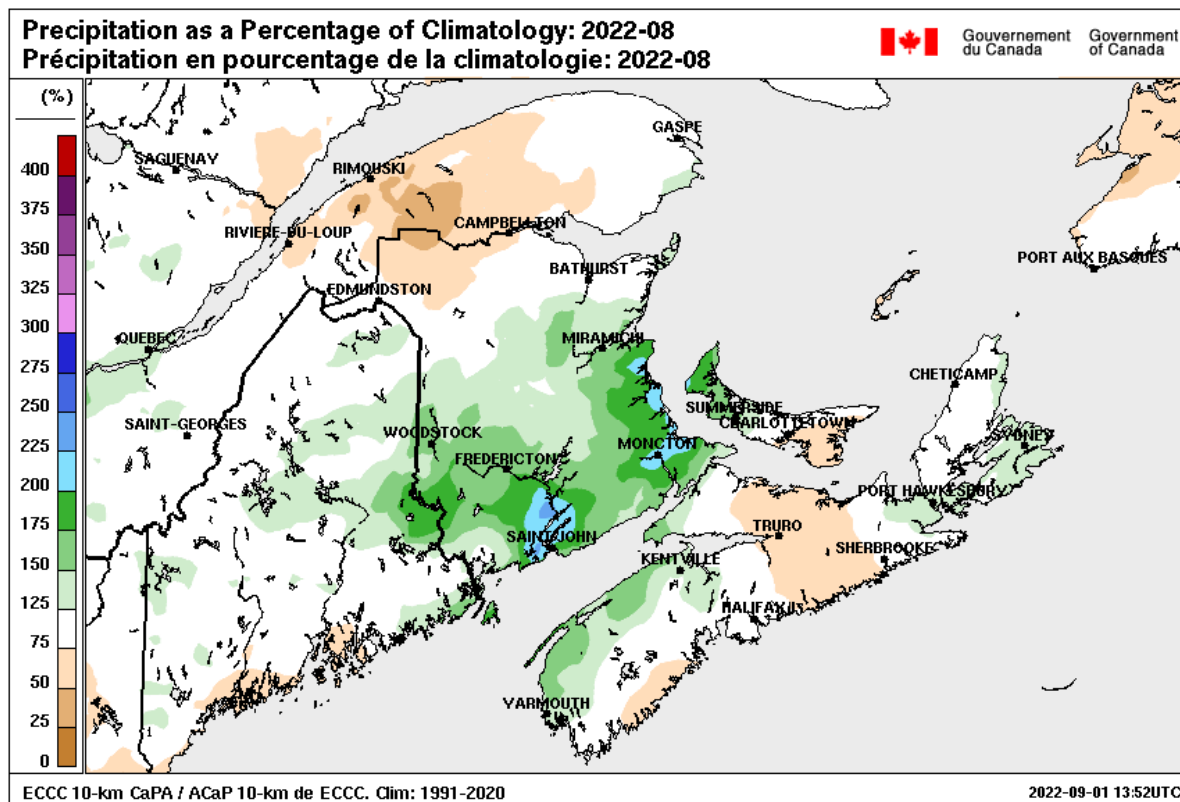


Figure 2: Monthly precipitation anomaly for August 2022 based on ECCC Canadian Precipitation Analysis (CaPA) a gridded blend of model, radar, and station data, compared to 1991-2020 normals for the Maritimes. (Anomaly: Precipitation as a percentage of the average).

Table 1: Monthly average temperature and total precipitation for August 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	19.6	18.6	1.0	8	117.0	95.0	123
Charlo	18.8	17.2	1.6	6			
Fredericton	20.1	18.6	1.5	>10	128.1	85.9	149
Moncton	20.5	18.2	2.4	4	167.3	80.8	207
Saint John	18.8	16.8	2.0	2	169.2	81.7	207
Woodstock	19.1	18.4	0.7	>10	126.6	100.6	126
Amherst (Nappan)	19.9	18.2	1.7	5	96.9	74.4	130
Greenwood	20.9	18.9	2.0	4	127.5	78.4	163
Halifax	21.0	18.7	2.3	1	76.1	93.5	81
Halifax (Shearwater)	n/a			n/a			
Sydney	20.0	18.0	2.0	7	134.5	100.2	134
Truro (Debert)	20.5	18.2	2.3	2	43.7	89.6	49
Yarmouth	19.3	17.0	2.3	2	112.4	84.3	133
Charlottetown	20.2	18.3	1.9	10	73.2	95.7	77
Summerside	20.7	18.6	2.0	3	160.1	92.7	173

Significant Weather Events & Impacts

August 4-7 – A heat wave brought oppressive conditions to most areas of the Maritimes as only parts of northern NB were spared. Several record setting daily maximum temperatures were observed in all three provinces, with maximum temperatures reaching 34.6°C in both NB and NS, and reaching 32.9°C in PEI. Humidex values greater than 40 were widespread across the region and reached as high as 43 in both NS and NB. Average daily temperatures on the 7th were 2 to 7 degrees above normal in NB and 4 to 7 degrees above normal in PEI and NS.

[N.S. heat warning extended into weekend | CBC News](#) (August 5 2022)

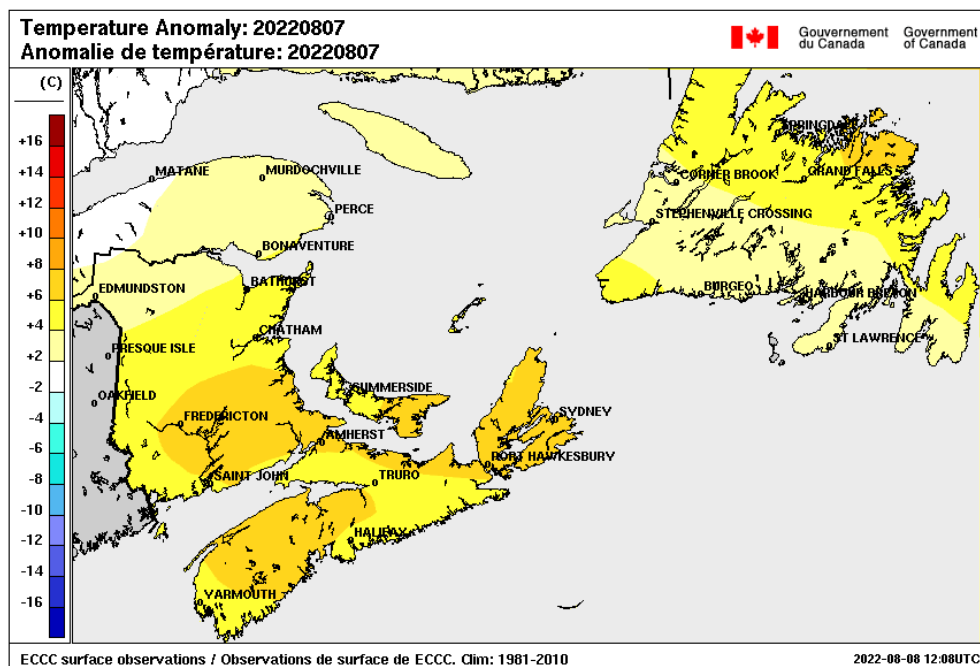


Figure 3: Daily mean temperature anomaly map for August 7, 2022.

August 8-9 – A slow-moving trough of low pressure crossed the Maritimes and provided much-needed rain to all areas except parts of western NS and parts of northeastern NB. Rainfall amounts totaled 20-50 mm with localized amounts exceeding 60 mm in embedded convective showers in southern NB and PEI. A volunteer observation near New London, PEI reported the greatest amount at 77 mm. The extensive cloud cover and cool northeasterly winds from the system also resulted in a substantial drop in temperatures (up to 19 degrees) in 24 hours.

August 13-14 – A low pressure system approached from the south and created nearly stationary north-to-south oriented bands of showers across southern areas of NB and NS. These bands of convective showers dumped over 50 mm in localized areas and caused minor street flooding in Shediac, NB where up to 95 mm of rain was reported in approximately 6 hours.

August 17-18 – Another broad area of moisture formed along the US eastern seaboard and moved up the coast towards the Maritimes. Rain fell across the region giving 5-20 mm to most areas with the exception of most of Cape Breton and eastern NS where 60-90 mm fell and also in southwestern and portions of eastern NB where 30-60 mm fell due to organized showers and thunderstorms. A station in Guysborough, NS reported the most rain at 119 mm as localized training of heavy bands of rain occurred over the area.

The heavy rain also caused flooding in Cape Breton with a portion of the Cabot Trail being washed out for a second time after being heavily damaged by flooding in November 2021. The thunderstorms caused lightning to strike a campsite in Kejimkujik Park, NS and narrowly missing a family.

[Heavy rain causes Cabot Trail washout near Ingonish | CBC News](#) (August 18 2022)

[Lightning struck this St. John's family's campsite — while they were caught in the middle | CBC News](#) (August 19 2022)

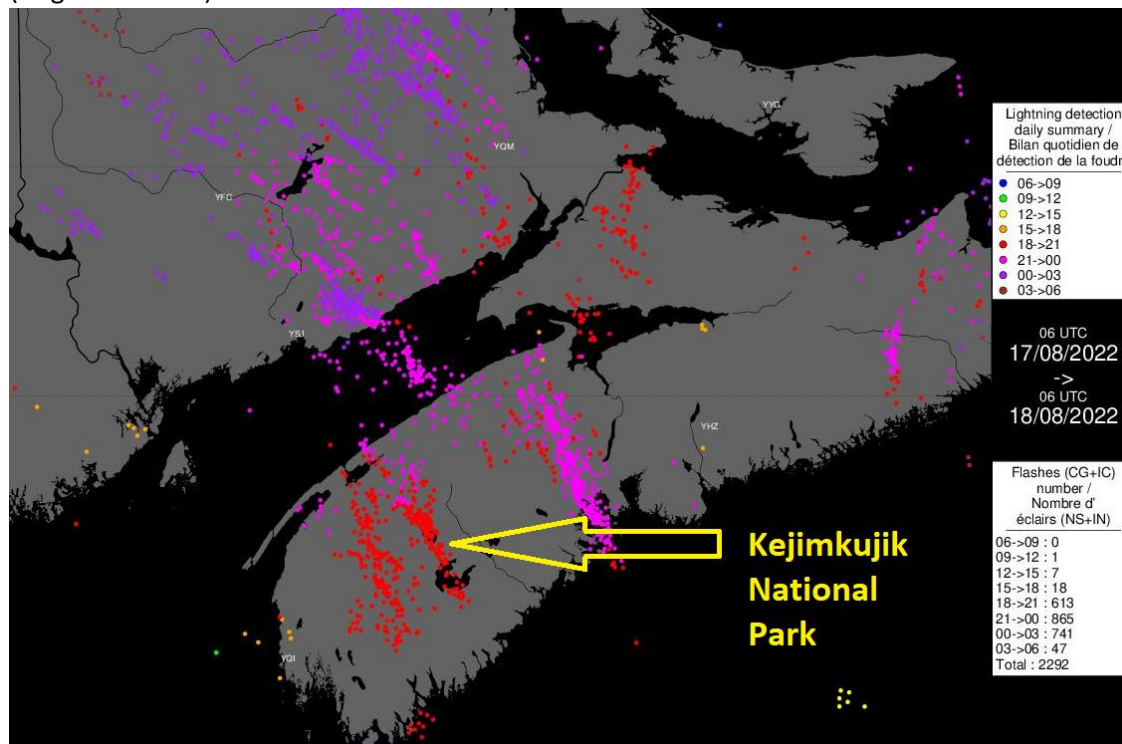


Figure 4: Lightning strikes August 17 2022

August 30 – A possible final farewell to summer as a warm and muggy air mass broke four maximum daily temperature records in NS and NB. Temperatures climbed to as high as 31.1°C along with humidex values of 40 in NB with slightly cooler values in NS and PEI.

August 31 – The final day of the month was a wet one for all areas with the heaviest rain falling in southern NB, western NS and western PEI as extensive showers moved slowly across these areas. The highest rainfall amounts were recorded in Saint Alphonse, NS at 127 mm, 54 mm at Waterside, NB and 40 mm at West Cape, PEI.

August Lightning – Lightning activity was below or much below normal across the region. PEI observed its lowest August activity and the year-to-date total is also the lowest on record. Year-to-Date activity is below normal also for NB and NS since record keeping began in 2002.

Province	August 2022 Observed	August Average	August 2022 Rank	Year-to-Date Observed	Year-to-Date Average	Year-to-Date Rank
NB	5,283	13,713	4th Lowest	31,680	46,623	6 th Lowest
NS	4,899	8,728	11 th Lowest	12,667	22,295	7 th Lowest
PEI	38	1,362	Lowest	714	3,040	Lowest

Daily Temperature and Precipitation Time Series

The time series below for the three provincial capitals indicate precipitation was above normal for Fredericton and below normal for Halifax and Charlottetown. Precipitation events were mainly confined to the first half of the month and were overall more frequent in Fredericton. In terms of temperatures, all sites were generally above normal for the entire month with the exception of a short period of below normal for Fredericton and Charlottetown around the 9th and also on the 27th.

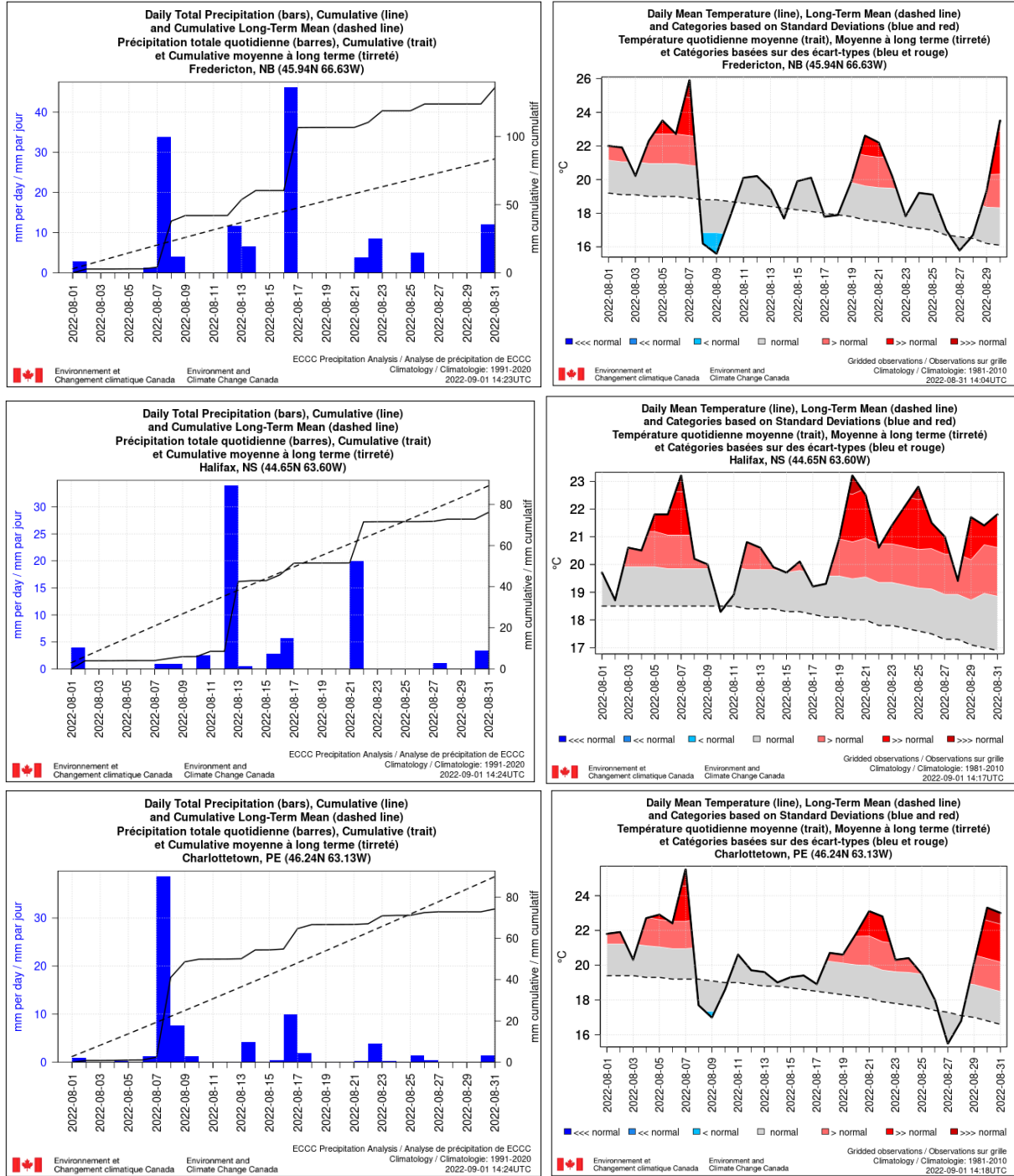


Figure 5: Daily total precipitation (Canadian Precipitation Analysis (CaPA) data) and mean temperature for Fredericton, NB (top), Halifax, NS (middle), and Charlottetown, PEI (bottom), for August 2022 based on gridded data, compared to long-term means (Canadian Precipitation Analysis (CaPA) data, 1991-2020, 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 August 22-28, 2022 indicates mostly above normal conditions with a few minor exceptions. The exceptions include two small areas that are up to 2 degrees cooler than normal with one near Havre-Saint-Pierre, QC and the other residing along the southwest tip of the Atlantic coast of NS. Elsewhere, the SST is above normal with several coastal areas more than 5 degrees above normal.

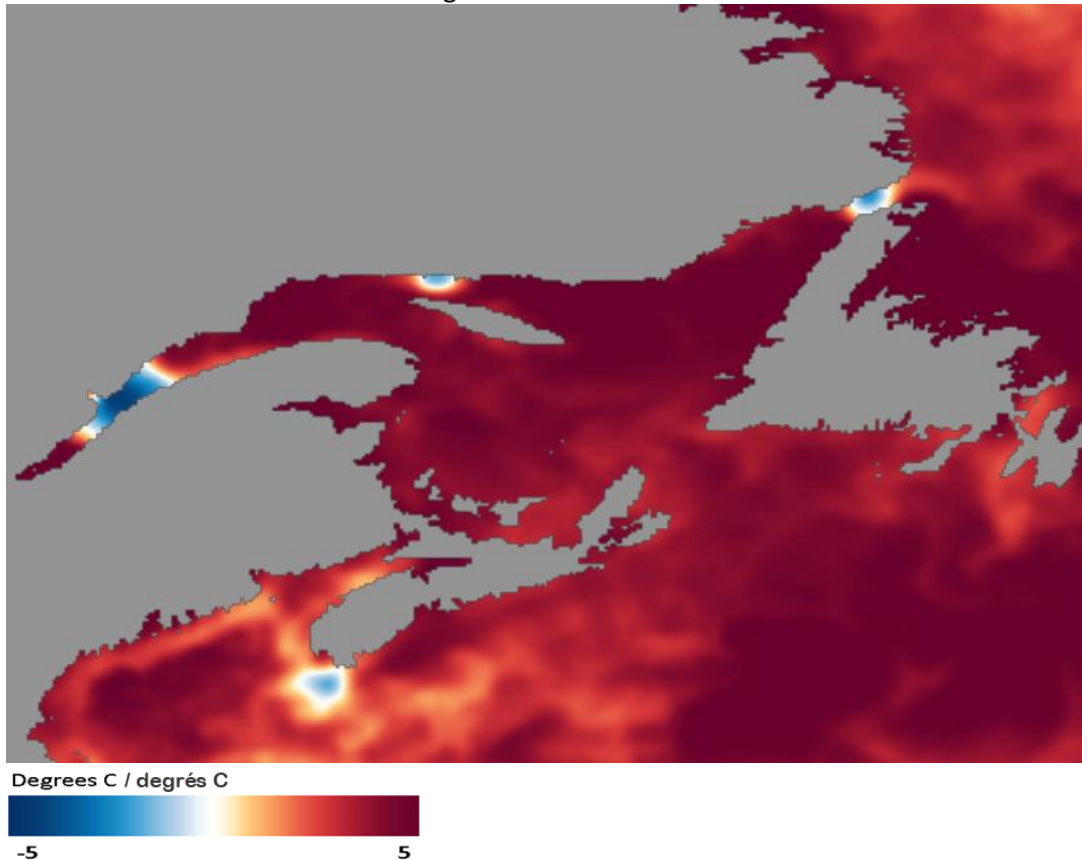


Figure 6: Sea surface temperature (SST) anomaly map for August 22-28, 2022.

Data based on 1981-present. Source: <https://www.nnvl.noaa.gov/view/#SSTA>

Tropical Weather Update

The updated forecast from August continues to favour an above-average season. Current atmospheric and oceanic conditions still support tropical storm development and the peak of the season statistically occurs during September. Most of July and August experienced very dry air from the Saharan region which inhibited development across most of the tropical Atlantic. So far this season there have been three named storms, with all of them occurring before July 3. This is only the third time on record that August failed to produce a named storm. No hurricanes have yet formed this season, however, climatology reveals that 88% of the season's activity occurs after mid-August.

For more details, see the link below for the latest Tropical Weather Outlook from the National Hurricane Center.

[NOAA still expects above-normal Atlantic hurricane season | National Oceanic and Atmospheric Administration \(noaa.gov\)](#) (August 4 2022)

[There have been no named hurricanes so far this summer. Here's why | CBC News](#) (August 31 2022)

Other Climate Related Information

[Berry good season: Blueberries bountiful on P.E.I. | CBC News](#)

[Climate change may be contributing to fish kills and algae blooms, P.E.I. scientists say | CBC News](#)

[P.E.I. fishers report seeing more sharks, including great whites | CBC News](#)

[UNB climate-change researchers study how seedlings react in range of temperatures | CBC News](#)

[As sea temperatures rose, the herring population fell in the Gulf of St. Lawrence | CBC News](#)

Temperature & Precipitation Outlook

The four-week outlook for temperature and precipitation from the Canadian Global Ensemble Prediction System (GEPS) for September 5 to October 3, 2022 indicates above normal temperatures are moderately probable across most areas except in PEI and Cape Breton where above normal temperatures are extremely probable. There is a weak to moderate signal of below normal precipitation for most areas of NB, western PEI and western NS, with near normal conditions possible elsewhere in the region.

The four-week outlook from July 28th performed well for predicted temperatures with all areas experiencing above normal conditions. The precipitation outlook performed moderately well for northwestern NB, eastern PEI and central/southwestern NS where precipitation was below normal as expected. However, for elsewhere in NB, western PEI, southern Cape Breton and portions of western NS above normal conditions occurred when forecasted conditions indicated below normal.

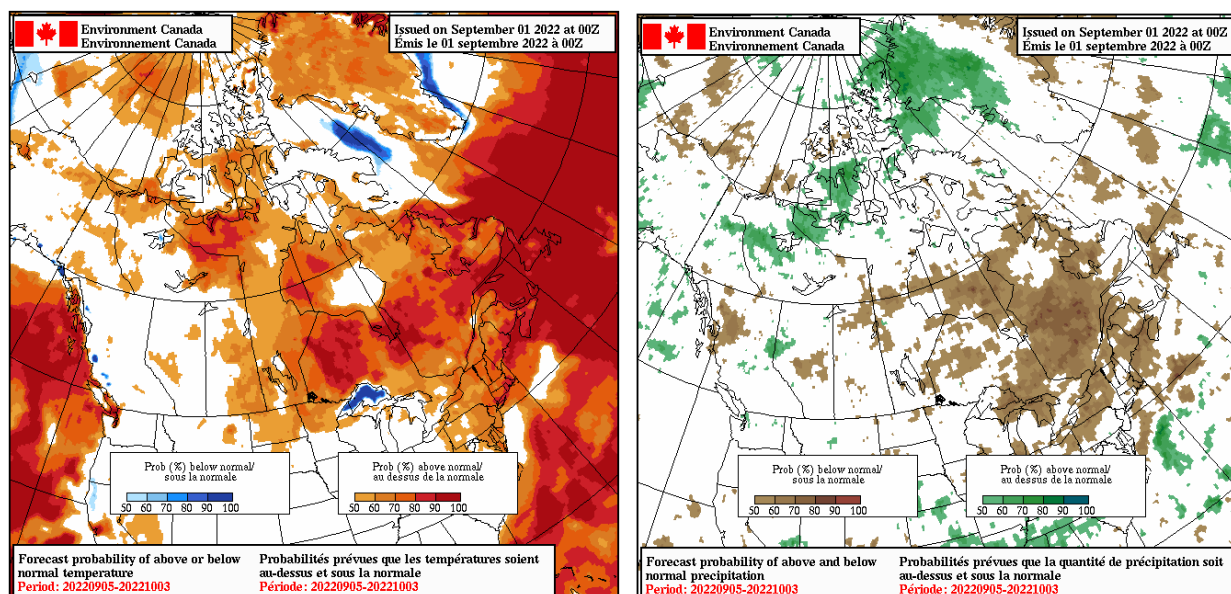


Figure 8: Temperature and Precipitation Anomaly Forecasts from the MSC Global Ensemble Prediction System issued September 1, 2022 for September 5 to October 3, 2022.

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
Email address: climatatlantique-climateatlantic@ec.gc.ca

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 August 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
AROOSTOOK	NB		DAILY	19.4	17.9	1.5			
BAS CARAQUET	NB	WXS	AU8	19.6	18.6	1.0	117.0	95.0	123
BAS CARAQUET	NB		DAILY				128.6	95.0	135
BATHURST A	NB	ZBF	NCA	19.3	18.2	1.1	100.2	82.0	122
CHARLO AUTO	NB	ZCR	AU8	18.8	17.2	1.6			
DOAKTOWN AUTO RCS	NB	ADN	AU8	19.1	18.4	0.8	95.8	94.4	102
EDMUNDSTON	NB	ERM	AU8	17.6	17.1	0.5	82.5	93.4	88
FREDERICTON CDA CS	NB	AFC	AU8	20.1	18.6	1.5	128.1	85.9	149
FREDERICTON INTL A	NB	YFC	NCA	19.8	18.4	1.4	143.6	85.6	168
FUNDY PARK (ALMA) CS	NB	AFY	AU8	19.3	17.2	2.1	139.4	93.9	148
GRAND MANAN SAR CS	NB	XGM	AU8	19.2					
KOUCHIBOUGUAC	NB	AKC	AU8	19.9	18.5	1.5	181.9	86.7	210
MECHANIC SETTLEMENT	NB	AMS	AU8	18.5			143.1		
MIRAMICHI RCS	NB	ACQ	AU8	19.8	18.5	1.4	107.6	93.1	116
MISCOU ISLAND (AUT)	NB	WMI	AU8	19.5					
MONCTON/GREATER MONCTON ROMEO LEBLANC INTL A	NB	YQM	NCH	20.5	18.2	2.4	167.3	80.8	207
OAK POINT	NB		DAILY	19.4	19.2	0.3	172.9	86.5	200
POINT LEPREAU CS	NB	WPE	AU8	18.1	15.6	2.4	144.4	98.0	147
RED PINES	NB	ARP	AU8	18.6	17.9	0.8	102.0	93.6	109
SAINT JOHN A	NB	YSJ	NCH	18.8	16.8	2.0	169.2	81.7	207
ST. STEPHEN	NB	WSS	AU8	20.0			96.5		
SUSSEX FOUR CORNERS	NB	ASF	AU8	20.1	18.8	1.3	117.9	74.3	159
WOODSTOCK NEWBRIDGE	NB	EWD	AU8	19.1	18.4	0.7	126.6	100.6	126
Average				19.3	18.0	1.3	129.7	89.5	148
Max				20.5	19.2	2.4	181.9	100.6	210
Min				17.6	15.6	0.3	82.5	74.3	88

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	20.3	18.9	1.4			
BACCARO PT	NS	ACP	AU8	15.8			69.4	82.1	85
BEAVER ISLAND (AUT)	NS	WBV	AU8	19.0					
BEDFORD BASIN	NS	ABB	AU7	21.0	19.1	1.9			
BEDFORD RANGE	NS	ABR	AU7	20.6	18.5	2.1			
BRIER ISLAND	NS	WVU	AU8	17.2			138.2		
CARIBOU POINT (AUT)	NS	WBK	AU8	21.2	19.1	2.1	59.8	81.4	73
CHETICAMP HIGHLANDS	NS	AHT	AU8	19.8	18.1	1.7	105.6	114.4	92
COLLEGEVILLE AUTO	NS	AGL	AU8	19.7	18.1	1.6	127.4	97.6	131
DEBERT	NS	ZDB	AU8	20.5	18.2	2.3	43.7	89.6	49
EMERGENCY WEATHER STATION #2 (NEW ROSS)	NS	ERU	AU8	21.1	18.9	2.2	107.4	88.9	121
ESKASONI FIRST NATION	NS	AEI	AU8	20.4	18.5	1.9	116.3	107.2	109
GRAND ETANG	NS	WZQ	AU8	20.6	18.1	2.5			
GREENWOOD A	NS	YZX	WOD	20.9	18.9	2.0	127.5	78.4	163
HALIFAX DOCKYARD	NS	AHD	AU7	20.7	19.1	1.6			
HALIFAX KOOTENAY	NS	AHK	AU7	20.5	18.5	2.1	100.0	91.8	109
HALIFAX STANFIELD INT'L A	NS	YHZ	NCH	21.0	18.7	2.3	76.1	93.5	81
HALIFAX WINDSOR PARK	NS	AHW	AU7	21.4	19.1	2.3	73.0	96.4	76
HART ISLAND (AUT)	NS	WRN	AU8	20.3					
INGONISH BEACH RCS	NS	XIB	AU7	19.8	18.5	1.3	137.0	114.2	120
KEJIMKUJIK 1	NS	WKG	AU8	21.3	18.0	3.4	92.9	89.9	103
KENTVILLE CDA CS	NS	XKT	AU7	21.0	19.0	2.0	120.5	76.7	157
LOUISBOURG	NS	AUU	AU8	19.6	17.6	2.0	133.9	107.8	124
LUNENBURG	NS	XLB	AU8	20.0	18.9	1.1			
MALAY FALLS	NS	XMY	AU8	20.0	17.6	2.4	71.3	91.1	78
MCNABS ISLAND (AUT)	NS	XMI	AU8	20.1	18.5	1.6			
NAPPAN AUTO	NS	XNP	AU8	19.9	18.2	1.7	96.9	74.4	130
NORTH MOUNTAIN CS	NS	XNM	AU7	17.8	17.0	0.8			
NORTHEAST MARGAREE (AUT)	NS	WNS	AU7	19.1	18.2	0.9	86.0	113.2	76
OSBORNE HEAD DND	NS	AOS	AU7	19.1	18.5	0.6	99.6	91.8	109
PARRSBORO	NS	APR	AU8	18.9	17.6	1.3	98.6	86.2	114
PORT HAWKESBURY	NS	YPD	NCA	19.7	18.2	1.5	129.7	81.8	159
SABLE ISLAND	NS	ASB	AU8	20.3	17.9	2.4	78.5	121.6	65
SABLE ISLAND A	NS	WSA	NCA	20.4	17.9	2.4			
SHEARWATER JETTY	NS	WZU	AU7	20.2	18.5	1.7	91.0	91.8	99
SHELBURNE SANDY POINT	NS	ESB	AU8	20.4			81.4		
ST PAUL ISLAND (AUT)	NS	WEF	AU8	19.6					
SYDNEY A	NS	YQY	NCH	20.0	18.0	2.0	134.5	100.2	134
SYDNEY CS	NS	AQY	AU8	20.2	18.0	2.1	130.6	100.2	130
TRACADIE	NS	XTD	AU8	20.8	18.1	2.7	130.2	97.6	133
UPPER STEWIACKE RCS	NS	AOH	AU8	20.4	18.1	2.3	63.3	94.4	67
WESTERN HEAD	NS	WWE	AU8	18.0			51.4		
YARMOUTH A	NS	YQI	NCH	19.3	17.0	2.3	112.4	84.3	133
YARMOUTH RCS	NS	EQI	AU8	19.3	17.0	2.3	102.5	84.3	122
Average				19.9	18.3	1.9	99.6	93.9	108
Max				21.4	19.1	3.4	138.2	121.6	163
Min				15.8	17.0	0.6	43.7	74.4	49

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	20.2	18.3	1.9	73.2	95.7	77
EAST POINT (AUT)	PEI	WEP	AU8	20.4	18.0	2.3	83.7	103.6	81
HARRINGTON CDA CS	PEI	AHR	AU8	20.2	18.3	1.9			
MAPLE PLAINS	PEI	XMP	AU8	20.0	18.6	1.4			
NORTH CAPE	PEI	WNE	AU8	20.5			123.6		
ST. PETERS	PEI	ZSP	AU8	20.2	18.4	1.8	75.5	88.9	85
STANHOPE	PEI	ANH	AU8	20.6			91.2		
SUMMERSIDE	PEI	WSD	AU8	20.7	18.6	2.0	160.1	92.7	173
Average				20.3	18.4	1.9	101.2	95.2	104
Max				20.7	18.6	2.3	160.1	103.6	173
Min				20.0	18.0	1.4	73.2	88.9	77

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](#).

Disclaimer:

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