



Maritimes Monthly Weather & Climate Summary June 2022

Overview

After a dry May, June precipitation increased to near normal or above normal for several areas across the region. Precipitation was greatly influenced by slow-moving low-pressure systems mainly over eastern areas and severe convective events were kept to a minimum partly due to this weather pattern. Temperatures remained relatively benign and near normal with no extreme swings in temperature experienced.

Temperature – Anomaly

Overall, temperatures were near normal. For the first half of June, temperatures were near normal before a brief period of cooler temperatures for the first day of summer. Following the cooler temperatures, an above normal period of temperatures ended the month. A few maximum temperature records were broken with temperatures surpassing 30°C for the first time in the month and since mid-May in NB and NS.

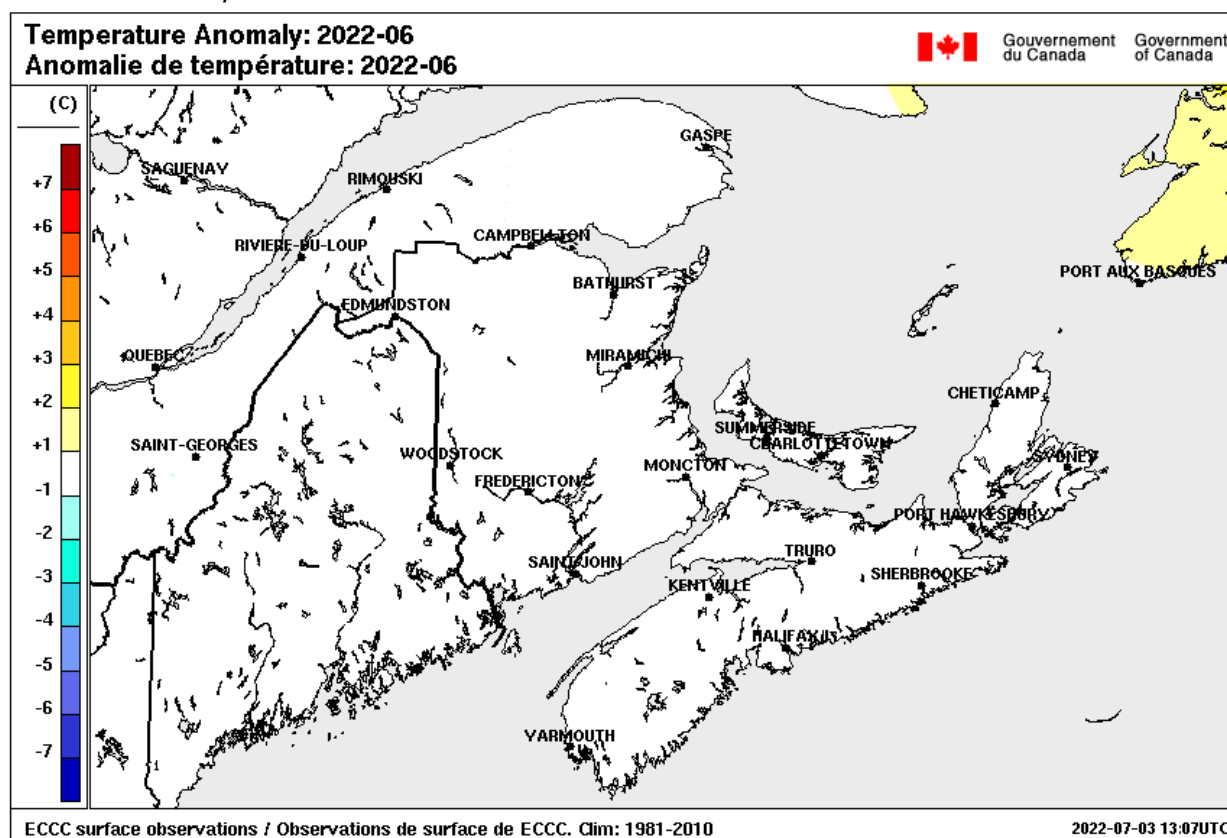


Figure 1: Monthly temperature anomaly map for June 2022 based on archived station data compared to 1981-2010 normals for the Maritimes.

Precipitation – Anomaly

Precipitation was variable across the region with parts of southern NB receiving slightly below normal precipitation while parts of northern NB received slightly above normal precipitation. In NS, western areas saw near normal precipitation amounts. Precipitation was above normal in PEI, eastern NS and Cape Breton and this offset the extremely dry conditions that were reported in May. In fact, southern Cape Breton was much above normal with Sydney reporting a total of 204.8 mm making it the third wettest June on record since records began in 1870.

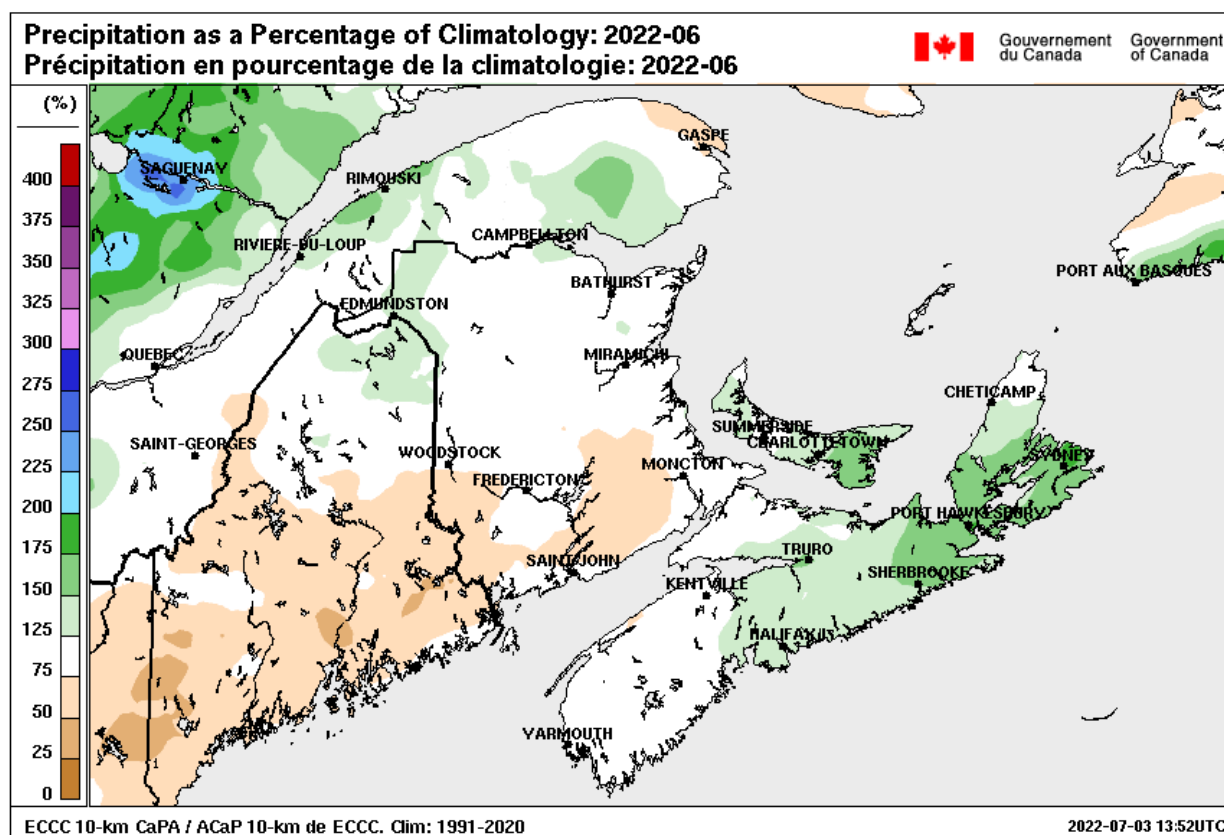


Figure 2: Monthly precipitation anomaly for June 2022 based on ECCC Canadian Precipitation Analysis (CaPA) a gridded blend of model, radar, and station data, compared to 1991-2020 normals for the Maritimes. (Anomaly: Precipitation as a percentage of the average).

Table 1: Monthly average temperature and total precipitation for June 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	14.7	15.0	-0.3	>10	71.7	74.9	96
Charlo	14.5	14.6	0.0	>10	129.7	85.1	152
Fredericton	16.2	16.4	-0.2	>10	107.2	86.3	124
Moncton	15.9	15.2	0.7	>10	88.2	94.6	93
Saint John	14.3	14.0	0.2	>10	87.3	101.0	86
Woodstock	15.2	16.3	-1.0	>10	92.0	91.0	101
Amherst (Nappan)	15.6	15.0	0.6	>10	99.2	82.6	120
Greenwood	16.2	16.2	0.0	>10	77.4	81.0	96
Halifax Stanfield Intl A	15.5	15.1	0.5	>10	147.4	96.2	153
Halifax (Shearwater)	15.0	14.3	0.6	>10	135.1	117.9	115
Sydney	13.9	13.2	0.7	>10	204.8	96.9	211
Truro (Debert)	15.3	15.1	0.2	>10	131.9	95.9	138
Yarmouth	14.4	13.8	0.6	>10	74.0	94.8	78
Charlottetown	15.2	14.5	0.7	>10	131.6	98.8	133
Summerside	15.8	14.7	1.1	>10	88.5	91.3	97

Significant Weather Events & Impacts

June 9-10 – A slow-moving system brought unseasonably steady rain to the Atlantic coast of western/central NS and Cape Breton. Most areas saw 50-70 mm of rain with embedded thunderstorms along with some daily precipitation records on the 9th. The rain was welcomed after the dry conditions experienced in May.

June 14-15 – Another slow-moving system brought more rain to eastern NS and Cape Breton where 50-80 mm of rain fell. The Sydney area reported up to 95 mm and broke their daily precipitation record for the 14th.

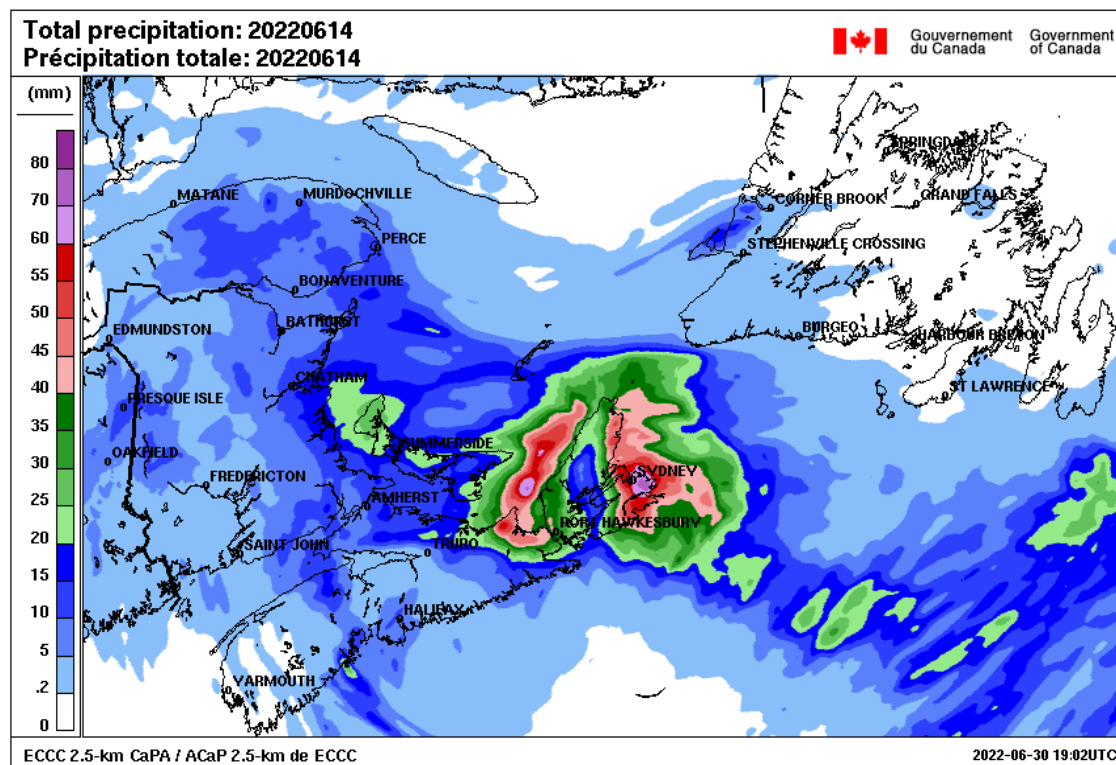


Figure 3: Daily total precipitation for June 14 2022 based on ECCC Canadian Precipitation Analysis (CaPA) a gridded blend of model, radar, and station data

June 18 – A cold front moved across the region igniting significant thunderstorms over eastern NB, PEI and northern NS late in the afternoon and evening producing pea-size hail and heavy downpours. Rain fell rapidly with a report of 23 mm in 30 minutes at a site in northern NS.

June 20-21: The first day of summer was accompanied by cool and clear conditions that were more like spring rather than summer. Minimum temperatures on the morning of the 21st brought some mild frost to mostly inland, western areas of NB. A record low of -0.1°C occurred in Edmundston making it the third latest below zero temperature on record. Average daily temperatures were up to 8 degrees colder than normal.

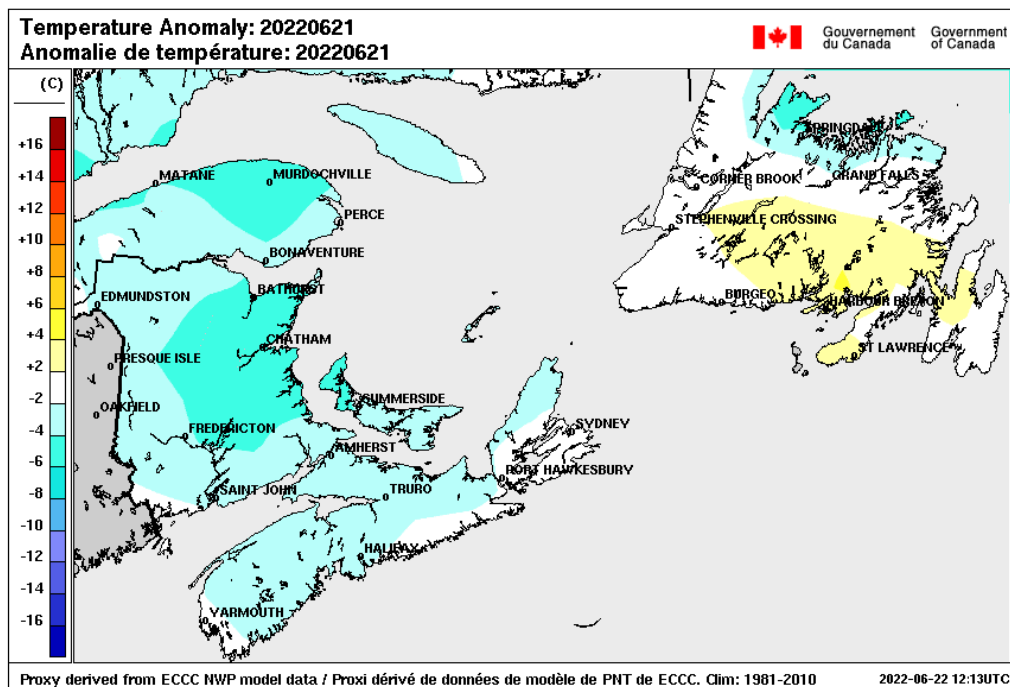


Figure 4: Daily mean temperature anomaly map for June 21, 2022.

June 24-25 – A nearly stationary trough affected eastern NS and Cape Breton providing consistent rain over the two days and setting a few daily precipitation records for June 24th. Rainfall amounts in the region totaled 30-50 mm. One volunteer observation near Baddeck reported 66 mm. Just adjacent to this area of precipitation, amounts in eastern PEI and central NS totaled 20-30mm.

June 25-26

A warm and humid air mass closed out the last weekend in June, especially in NB. Sunny skies and record setting daily maximum temperatures were observed across the area, with maximum temperatures in NB reaching 31.6°C, NS reaching 30.6°C, and reaching 27.9°C in PEI. Fredericton recorded its first heat event with two consecutive days of humidex values of 36 and several sites saw their only day this month to reach 30°C. The combination of recent rain and warm temperatures created blue-green algae growth in some lakes in NS.

[Blue-green algae now in five lakes in Halifax area | SaltWire \(2022-06-27\)](#)

June Lightning – Due to the lack of convective weather events and the overall weather pattern, lightning stroke counts across all three provinces were below average.

Daily Temperature and Precipitation Time Series

The time series below for the three provincial capitals indicate precipitation events throughout the month resulting in above normal precipitation. In terms of temperatures, the first week of the month was generally near normal. By around the 10th of the month temperatures warmed to above normal, following a period of below normal, then ending out the month rising again to above normal.

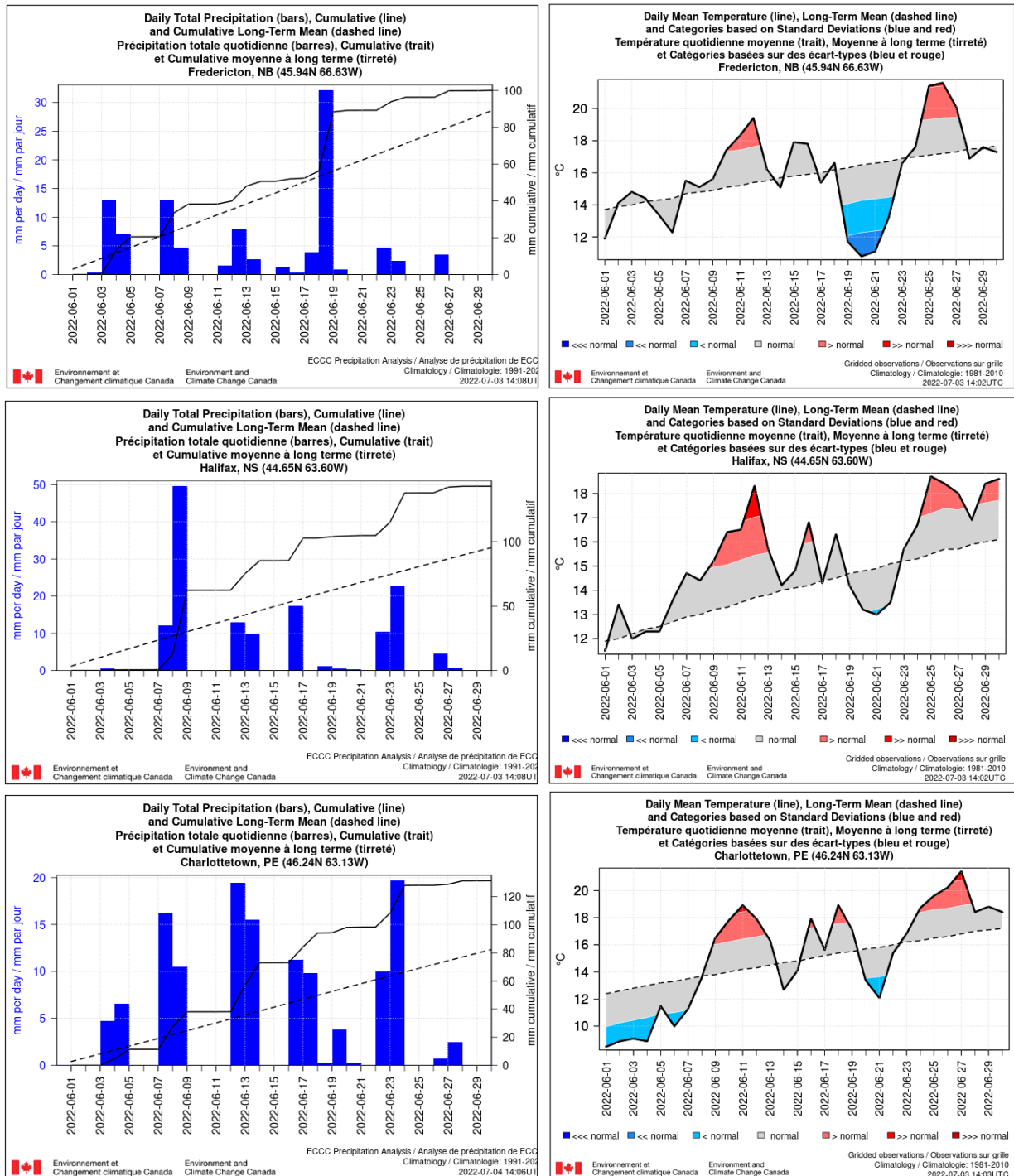


Figure 5: Daily total precipitation (Canadian Precipitation Analysis (CaPA) data) and mean temperature for Fredericton, NB (top), Halifax, NS (middle), and Charlottetown, PEI (bottom), for June 2022 based on gridded data, compared to long-term means (Canadian Precipitation Analysis (CaPA) data, 1991-2020,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

Sea Surface Temperature - Departure from Normal

The sea surface temperature (SST) departure from normal map for the week of June 20-26, 2022 indicates a small area of colder than normal SST over the northwest Gulf of St. Lawrence. Otherwise, SST are mainly near or above normal with some coastal areas more than 5 degrees above normal.

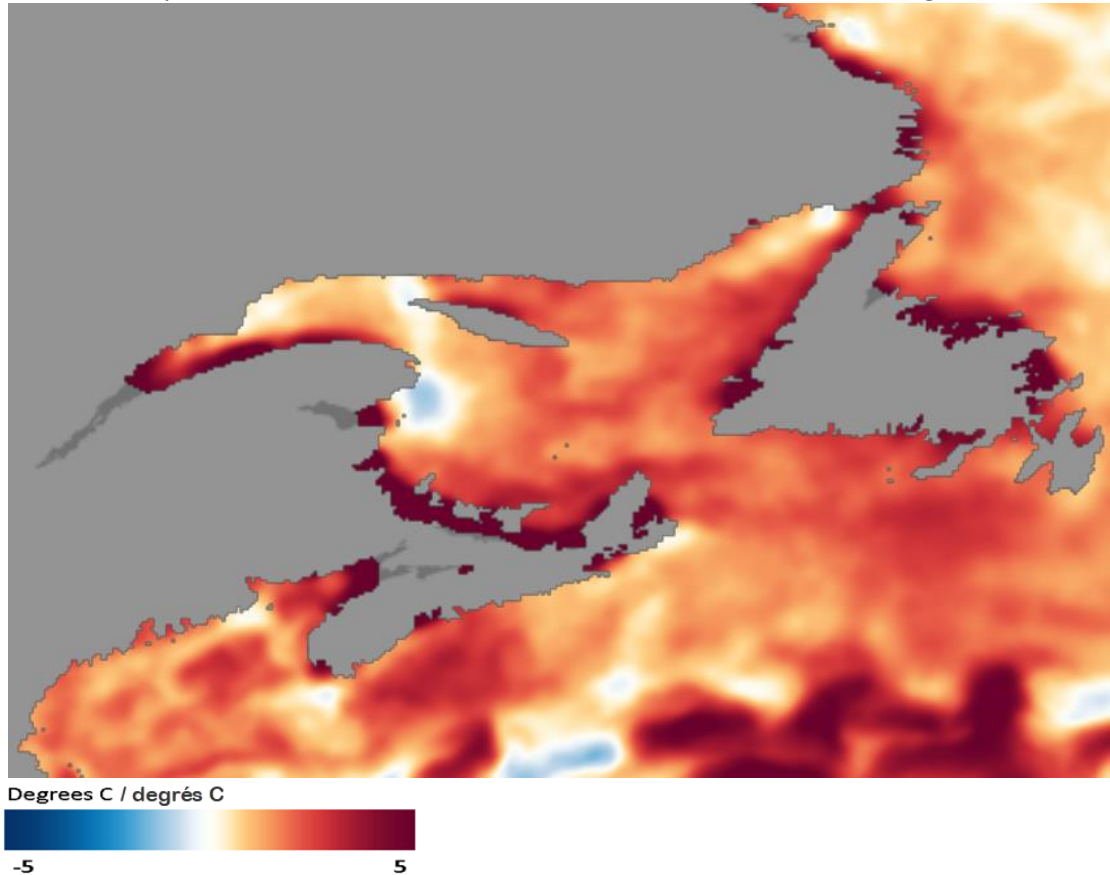


Figure 6: Sea surface temperature (SST) anomaly map for June 20-26, 2022.

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

Tropical Weather Update

Despite a May forecast of above average activity expected this season, the Atlantic Basin Hurricane season has been relatively quiet thus far. 2022 was the first time in seven consecutive seasons that failed to produce a storm before the official start of the season on June 1. However, one storm did form during June to officially begin the season; Tropical Storm Alex formed on June 2nd. A second storm, Potential Tropical Cyclone Two formed on June 27th. Both storms remained well south of Atlantic Canada and are close to the average number of storms expected for June.

Other Climate Related Information

[P.E.I. watershed groups planting trees in beaver meadows in new climate change project | CBC News](#)

[P.E.I. needs to prepare for deadly heat, says climate change expert | CBC News](#)

[McCain Foods planning for climate change with future farms initiative | CBC News](#)

[Scientists head to one of the foggiest places on Earth to study mysterious phenomenon | CBC News](#)

[Cape Breton park staff repairing infrastructure damage left behind by Mother Nature | SaltWire](#)

Temperature & Precipitation Outlook

The four-week outlook for temperature and precipitation from the Canadian Global Ensemble Prediction System (GEPS) for July 4 to August 1, 2022 indicates above normal temperatures are extremely probable. There is a weak to moderate signal of below normal precipitation for most areas except along parts of coastal NS where near normal conditions are possible.

The four-week outlook from June did not perform well for temperature as all areas were near normal instead of being above normal as forecast. The precipitation outlook performed moderately well for most areas except over eastern areas where above normal precipitation occurred and was not forecasted. In addition, western NS received near normal precipitation when below normal was forecasted.

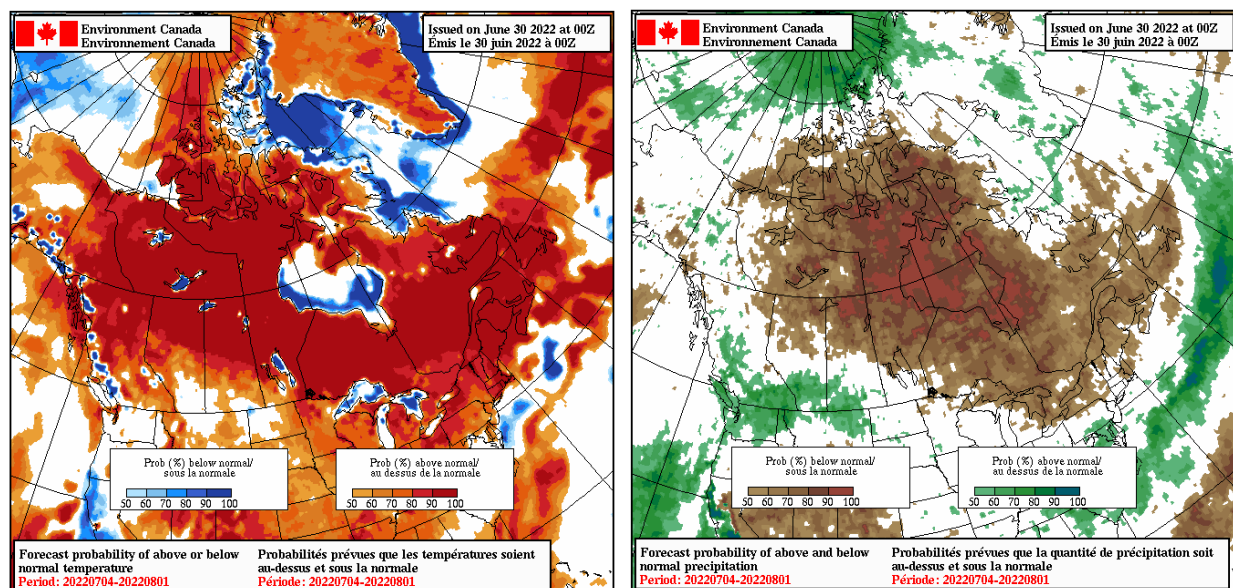


Figure 7: Temperature and Precipitation Anomaly Forecasts from the MSC Global Ensemble Prediction System issued June 30, 2022 for July 4 – August 1, 2022.

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 June 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.

				Mean Temperature / Température moyenne ($^{\circ}\text{C}$)			Total Precipitation / Précipitations totales (mm)		
Station Name / Nom de la station	Prov	TC ID / ID de TC	Station Type / Type de station	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	15.6	16.0	-0.4	167.2	86.3	194
BAS CARAQUET	NB	WXS	AU8	14.7	15.0	-0.3	71.7	74.9	96
BAS CARAQUET	NB		DAILY				84.0	74.9	112
BATHURST A	NB	ZBF	NCA	15.1	15.9	-0.8			
CHARLO AUTO	NB	ZCR	AU8	14.5	14.6	0.0	129.7	85.1	152
DOAKTOWN AUTO RCS	NB	ADN	AU8	15.6	16.0	-0.5	82.0	95.4	86
EDMUNDSTON	NB	ERM	AU8						
FREDERICTON CDA CS	NB	AFC	AU8	16.2	16.4	-0.2	107.2	86.3	124
FREDERICTON INTL A	NB	YFC	NCA	16.1	16.2	-0.1	120.7	82.4	146
FUNDY PARK (ALMA) CS	NB	AFY	AU8	15.1	13.8	1.2	103.1	110.0	94
GAGETOWN A	NB	YCX	WOD						
GRAND MANAN SAR CS	NB	XGM	AU8	13.7			110.2		
KOUCHIBOUGUAC	NB	AKC	AU8	15.4	15.5	-0.1	81.6	90.5	90
MACTAQUAC PROV PARK	NB		DAILY						
MECHANIC SETTLEMENT	NB	AMS	AU8	14.2			81.2		
MIRAMICHI RCS	NB	ACQ	AU8	15.8	15.7	0.1	91.1	86.3	106
MISCOU ISLAND (AUT)	NB	WMI	AU8	13.8			99.0		
MONCTON/GREATER MONCTON ROMEO LEBLANC INTL A	NB	YQM	NCH	15.9	15.2	0.7	88.2	94.6	93
OAK POINT	NB		DAILY	15.3	16.4	-1.1	80.1	86.1	93
POINT LEPREAU CS	NB	WPE	AU8	13.4	12.8	0.6	112.0	111.0	101
RED PINES	NB	ARP	AU8	14.6	15.4	-0.8	92.7	83.6	111
SAINT JOHN A	NB	YSJ	NCH	14.3	14.0	0.2	87.3	101.0	86
ST. STEPHEN	NB	WSS	AU8	15.6			62.0		
SUSSEX FOUR CORNERS	NB	ASF	AU8	15.9	16.0	0.0	70.7	88.4	80
WOODSTOCK NEWBRIDGE	NB	EWD	AU8	15.2	16.3	-1.0	92.0	91.0	101
Average				15.0	15.4	-0.1	95.9	89.9	110
Max				16.2	16.4	1.2	167.2	111.0	194
Min				13.4	12.8	-1.1	62.0	74.9	80

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	15.1	15.9	-0.7	103.7	99.2	105
BACCARO PT	NS	ACP	AU8	12.3	12.7	-0.4	59.0	95.1	62
BEAVER ISLAND (AUT)	NS	WBV	AU8	12.2					
BEDFORD BASIN	NS	ABB	AU7	15.7	15.2	0.5			
BEDFORD RANGE	NS	ABR	AU7	15.3	14.9	0.3			
BRIER ISLAND	NS	WVU	AU8	13.3			99.2		
CARIBOU POINT (AUT)	NS	WBK	AU8	15.3	15.3	-0.1	120.3	89.7	134
CHETICAMP HIGHLANDS	NS	AHT	AU8	15.0	14.1	0.9	107.5	96.4	112
COLLEGEVILLE AUTO	NS	AGL	AU8	14.1	14.2	-0.1	184.0	102.5	180
DEBERT	NS	ZDB	AU8	15.3	15.1	0.2	131.9	95.9	138
EMERGENCY WEATHER STATION #2 (NEW ROSS)	NS	ERU	AU8	15.8	15.9	-0.1	125.6	99.2	127
ESKASONI FIRST NATION	NS	AEI	AU8	14.2	13.9	0.3	134.2	104.8	128
GRAND ETANG	NS	WZQ	AU8	14.8	14.1	0.8			
GREENWOOD A	NS	YZX	WOD	16.2	16.2	0.0	77.4	81.0	96
HALIFAX DOCKYARD	NS	AHD	AU7	15.5	15.2	0.3			
HALIFAX KOOTENAY	NS	AHK	AU7	15.0	14.3	0.7	158.0	117.9	134
HALIFAX STANFIELD INT'L A	NS	YHZ	NCH	15.5	15.1	0.5	147.4	96.2	153
HALIFAX WINDSOR PARK	NS	AHW	AU7	16.0	15.2	0.8			
HART ISLAND (AUT)	NS	WRN	AU8	12.8					
INGONISH BEACH RCS	NS	XIB	AU7	14.1	13.6	0.5	119.3	90.6	132
KEJIMKUJIK 1	NS	WKG	AU8	16.1	15.2	0.9	99.6	101.5	98
KENTVILLE CDA CS	NS	XKT	AU7	16.2	16.0	0.1	94.9	81.6	116
LAKE MAJOR	NS		DAILY				166.5	109.1	153
LOUISBOURG	NS	AUU	AU8	11.8	11.9	-0.1	193.3	113.1	171
LUNENBURG	NS	XLB	AU8	14.7	15.6	-0.8			
MALAY FALLS	NS	XMY	AU8	14.4	13.7	0.7	134.6	108.2	124
MCNABS ISLAND (AUT)	NS	XMI	AU8	14.5	14.3	0.2			
NAPPAN AUTO	NS	XNP	AU8	15.6	15.0	0.6	99.2	82.6	120
NORTH MOUNTAIN CS	NS	XNM	AU7	13.4	13.6	-0.1	98.5		
NORTHEAST MARGAREE (AUT)	NS	WNS	AU7	14.6	14.1	0.6	121.8	89.9	136
OSBORNE HEAD DND	NS	AOS	AU7	13.5	14.3	-0.8	143.2	117.9	121
PARRSBORO	NS	APR	AU8	14.6	14.2	0.3	105.9	102.3	104
PORT HAWKESBURY	NS	YPD	NCA	14.1	13.9	0.2	187.1	97.3	192
SABLE ISLAND	NS	ASB	AU8	12.6	11.4	1.2	136.0	115.9	117
SABLE ISLAND A	NS	WSA	NCA	12.7	11.4	1.2	136.3	115.9	118
SHEARWATER JETTY	NS	WZU	AU7	14.7	14.3	0.4	133.0	117.9	113
SHEARWATER RCS	NS	AAW	AU8	15.0	14.3	0.6	135.1	117.9	115
SHELBURNE SANDY POINT	NS	ESB	AU8	15.1			97.9		
ST PAUL ISLAND (AUT)	NS	WEF	AU8	12.4					
SYDNEY A	NS	YQY	NCH	13.9	13.2	0.7	204.8	96.9	211
SYDNEY CS	NS	AQY	AU8	14.0	13.2	0.8	224.0	96.9	231
TRACADIE	NS	XTD	AU8	15.3	14.2	1.1	159.6	102.5	156
UPPER STEWIAKKE RCS	NS	AOH	AU8	15.2	14.7	0.5	138.0	98.4	140
WATERVILLE CAMBRIDGE	NS		DAILY	16.8	16.2	0.6	104.4	76.6	136
WESTERN HEAD	NS	WWE	AU8	12.7			103.4		
YARMOUTH A	NS	YQI	NCH	14.4	13.8	0.6	74.0	94.8	78
YARMOUTH RCS	NS	EQI	AU8	14.4	13.8	0.6	71.4	94.8	75
Average				14.5	14.3	0.4	127.8	100.0	131
Max				16.8	16.2	1.2	224.0	117.9	231
Min				11.8	11.4	-0.8	59.0	76.6	62

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

				Mean Temperature / Température moyenne (°C)			Total Precipitation / Précipitations totales (mm)		
Station Name / Nom de la station	Prov	TC ID / ID de TC	Station Type / Type de station	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	15.2	14.5	0.7	131.6	98.8	133
EAST POINT (AUT)	PEI	WEP	AU8	14.2	13.6	0.6	95.0	100.9	94
HARRINGTON CDA CS	PEI	AHR	AU8	15.0	14.5	0.4	123.6	98.8	125
MAPLE PLAINS	PEI	XMP	AU8	15.3	14.6	0.7			
NORTH CAPE	PEI	WNE	AU8	14.5			70.0		
ST. PETERS	PEI	ZSP	AU8	14.7	14.0	0.7			
STANHOPE	PEI	ANH	AU8	15.5			121.2		
SUMMERSIDE	PEI	WSD	AU8	15.8	14.7	1.1	88.5	91.3	97
Average				15.0	14.3	0.7	105.0	97.4	112
Max				15.8	14.7	1.1	131.6	100.9	133
Min				14.2	13.6	0.4	70.0	91.3	94

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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