

New Brunswick

**Integrated Climate Bulletin
Summer 2020 Review
& Fall Outlook**

Jill Maepea

**Meteorological Service of Canada
Environment and Climate Change Canada
September 2, 2020**



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June 2020; Climate Summary

Station Name	TC ID	Station Type	Mean Temperature (°C)			Total Precip (mm)		
			Monthly Mean	Normal Mean	Diff from Normal	Monthly Total	Normal Total	Total as % of Normal
AROOSTOOK		DAILY	17.1	16.0	1.1			
BAS CARAQUET	WXS	AU8	16.2	15.0	1.2	12.7	74.9	17
BAS CARAQUET		DAILY				16.0	74.9	21
BATHURST A	ZBF	NCA	16.8	15.9	0.9			
BOUCTOUCHE CDA CS	ABT	AU8	17.1	15.2	1.9	17.1	95.3	18
CHARLO AUTO	ZCR	AU8	16.4	14.6	1.8	15.6	85.1	18
MIRAMICHI RCS	ACQ	AU8	17.5	15.7	1.8			
DOAKTOWN AUTO RCS	ADN	AU8	17.1	16.0	1.0	27.7	95.4	29
EDMUNDSTON	ERM	AU8	15.5	15.2		31.0	97.4	32
FREDERICTON INTL A	YFC	NCA	17.4	16.2	1.2	25.8	82.4	31
FREDERICTON CDA CS	AFC	AU8	17.6	16.4	1.2	41.8	86.3	48
GAGETOWN AWOS A	YCX	AU5	18.2	16.4	1.8			
GRAND MANAN SAR CS	XGM	AU8	14.9					
KOUCHIBOUGUAC	AKC	AU8	17.0	15.5	1.5			
MECHANIC SETTLEMENT	AMS	AU8	15.7			28.3		
MISCOU ISLAND (AUT)	WMI	AU8	15.0					
MONCTON INTL A	YQM	NCH	16.9	15.2	1.7	34.3	94.6	36
MONCTON A	YQM	NCA	16.9	15.2	1.7			
OAK POINT		DAILY	16.2	16.4		24.6	86.1	29
POINT LEPREAU CS	WPE	AU8	13.4	12.8	0.6			
RED PINES	ARP	AU8	16.3	15.4	0.9	8.8	83.6	11
SAINT JOHN A	YSJ	NCH	15.3	14.0	1.3	82.5	101.0	82
SUSSEX FOUR CORNERS	ASF	AU8	17.2	16.0	1.2	32.4	88.4	37
WOODSTOCK NEWBRIDGE	EWD	AU8	16.7	16.3	0.4	28.6	91.0	31
Average			16.5	15.5	1.3	28.5	88.3	31
Max			18.2	16.4	1.9	82.5	101.0	82
Min			13.4	12.8	0.4	8.8	74.9	11



July 2020; Climate Summary

Station Name	Prov	TC ID	Station Type	Mean Temperature (°C)			Total Precip (mm)		
				Monthly Mean	Normal Mean	Diff from Normal	Monthly Total	Normal Total	Total as % of Normal
AROOSTOOK	NB		DAILY	20.8	18.9	1.9	101.0	105.7	96
BAS CARAQUET	NB	WXS	AU8	18.8	18.7	0.1	57.4	80.9	71
BAS CARAQUET	NB		DAILY				69.2	80.9	86
BATHURST A	NB	ZBF	NCA	19.2	19.1	0.2	103.0	100.8	102
BOUCTOUCHE CDA CS	NB	ABT	AU8	20.2	19.2	1.0	46.5	99.1	47
CHARLO AUTO	NB	ZCR	AU8	19.2	17.9	1.3	104.8	102.1	103
MIRAMICHI RCS	NB	ACQ	AU8	20.1	19.1	0.9			
DOAKTOWN AUTO RCS	NB	ADN	AU8	19.9	19.1	0.8	118.0	105.8	112
EDMUNDSTON	NB	ERM	AU8	19.1			80.0	113.8	70
FREDERICTON INTL A	NB	YFC	NCA	20.4	19.3	1.2			
FREDERICTON CDA CS	NB	AFC	AU8	20.8	19.4	1.5	77.7	89.0	87
FUNDY PARK (ALMA) CS	NB	AFY	AU8	17.7	17.1	0.7			
GAGETOWN AWOS A	NB	YCX	AU5	20.1	19.5	0.6			
GRAND MANAN SAR CS	NB	XGM	AU8	18.1					
KOUCHIBOUGUAC	NB	AKC	AU8	19.5	19.2	0.3			
MECHANIC SETTLEMENT	NB	AMS	AU8	18.3					
MISCOU ISLAND (AUT)	NB	WMI	AU8	17.9					
MONCTON INTL A	NB	YQM	NCH	20.3	18.8	1.5	67.6	92.1	73
OAK POINT	NB		DAILY	19.3			89.1	96.9	92
POINT LEPREAU CS	NB	WPE	AU8	16.1					
RED PINES	NB	ARP	AU8	18.7	18.6	0.1			
SAINT JOHN A	NB	YSJ	NCH	18.4	17.1	1.3	89.3	88.4	101
ST. STEPHEN	NB	WSS	AU8	20.0					
SUSSEX FOUR CORNERS	NB	ASF	AU8	20.2	19.2	0.9	97.5	84.0	116
WOODSTOCK NEWBRIDGE	NB	EWD	AU8	20.3	19.0	1.3	38.6	100.2	39
Average				19.3	18.8	0.9	81.4	95.7	85
Max				20.8	19.5	1.9	118.0	113.8	116
Min				16.1	17.1	0.1	38.6	80.9	39



August 2020; Climate Summary

Station Name	Prov	TC ID	Station Type	Mean Temperature (°C)			Total Precip (mm)		
				Monthly Mean	Normal Mean	Diff from Normal	Monthly Total	Normal Total	Total as % of Normal
BAS CARAQUET	NB	WXS	AU8	19.0	18.6	0.4	23.8	95.0	25
BAS CARAQUET	NB		DAILY				27.4	95.0	29
BATHURST A	NB	ZBF	NCA	18.4	18.2	0.2	42.8	82.0	52
BOUCTOUCHE CDA CS	NB	ABT	AU8	19.9	18.5	1.4	46.6	85.2	55
CHARLO AUTO	NB	ZCR	AU8	18.0	17.2	0.8	71.3	90.1	79
MIRAMICHI RCS	NB	ACQ	AU8	19.1	18.5	0.6	39.4	93.1	42
DOAKTOWN AUTO RCS	NB	ADN	AU8	18.6	18.4	0.3	26.9	94.4	29
EDMUNDSTON	NB	ERM	AU8	16.6			78.9	93.4	84
FREDERICTON INTL A	NB	YFC	NCA	19.2	18.4	0.8	45.0	85.6	53
FREDERICTON CDA CS	NB	AFC	AU8	19.9	18.6	1.3	50.1	85.9	58
FUNDY PARK (ALMA) CS	NB	AFY	AU8	18.8	17.2	1.6	43.8	93.9	47
GAGETOWN AWOS A	NB	YCX	AU5	19.6	19.2	0.5			
GRAND MANAN SAR CS	NB	XGM	AU8	17.7					
KOUCHIBOUGUAC	NB	AKC	AU8	19.1	18.5	0.6	43.9	86.7	51
MECHANIC SETTLEMENT	NB	AMS	AU8	18.2			45.4		
MISCOU ISLAND (AUT)	NB	WMI	AU8	18.4			32.0		
MONCTON INTL A	NB	YQM	NCH	20.2	18.2	2.0	42.9	80.8	53
OAK POINT	NB		DAILY	19.0			59.8	86.5	69
POINT LEPREAU CS	NB	WPE	AU8	16.8	15.6	1.2	58.4	98.0	60
RED PINES	NB	ARP	AU8	17.5	17.9	-0.4	37.2	93.6	40
SAINT JOHN A	NB	YSJ	NCH	17.2	16.8	0.4	87.4	81.7	107
ST. STEPHEN	NB	WSS	AU8	19.3			65.5		
SUSSEX FOUR CORNERS	NB	ASF	AU8	19.6	18.8	0.8	31.1	74.3	42
WOODSTOCK NEWBRIDGE	NB	EWD	AU8	18.6	18.4	0.2	36.0	100.6	36
Average				18.6	18.0	0.7	47.1	89.3	53
Max				20.2	19.2	2.0	87.4	100.6	107
Min				16.6	15.6	-0.4	23.8	74.3	25



Days* with Maximum Temperature $\geq 30^{\circ}\text{C}$

*Number of days as of August 31st in 2020

	May	Jun.	Jul.	Aug.	Total	Average	Rank
Moncton	1	4	7	11	23	4.6	1*
Fredericton INTL	2	5	8	8	23	N/A	N/A
Fredericton CDA	1	4	7	8	20	9.0	5
Miramichi	3	6	4	6	19	10.1	11
Woodstock	3	4	4	8	19	8.4	12
St. Stephen	N/A	4	8	7	19	N/A	1**
Edmundston	3	6	4	4	17	5.4	6
Bathurst	3	5	3	6	17	9.0	8
Charlo	3	5	3	2	13	4.6	10
Sussex	0	4	4	5	13	5.6	14
Saint John	0	0	1	1	2	0.93	12

***Record broken from 1937 with 21 days**

****Tied record from 1908**



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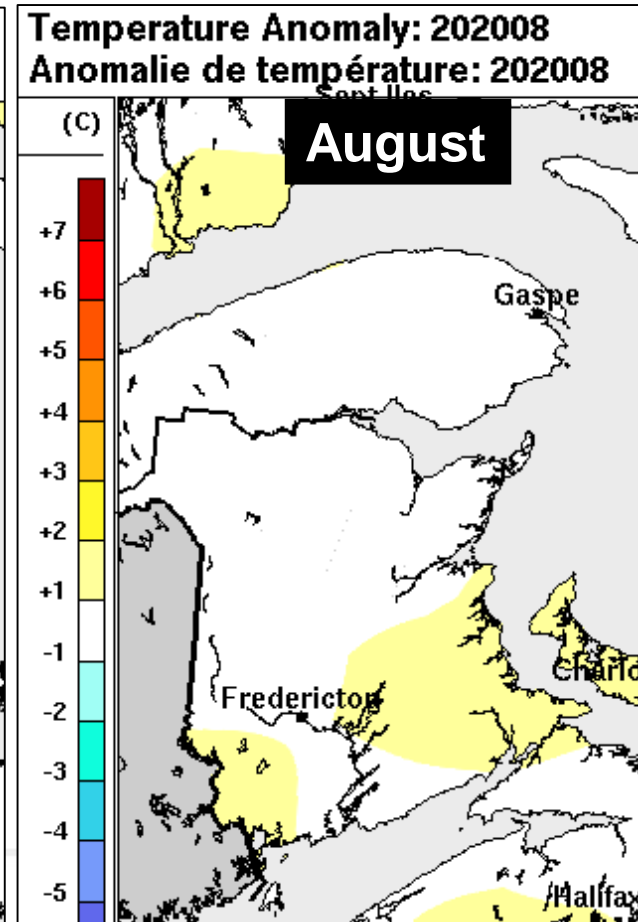
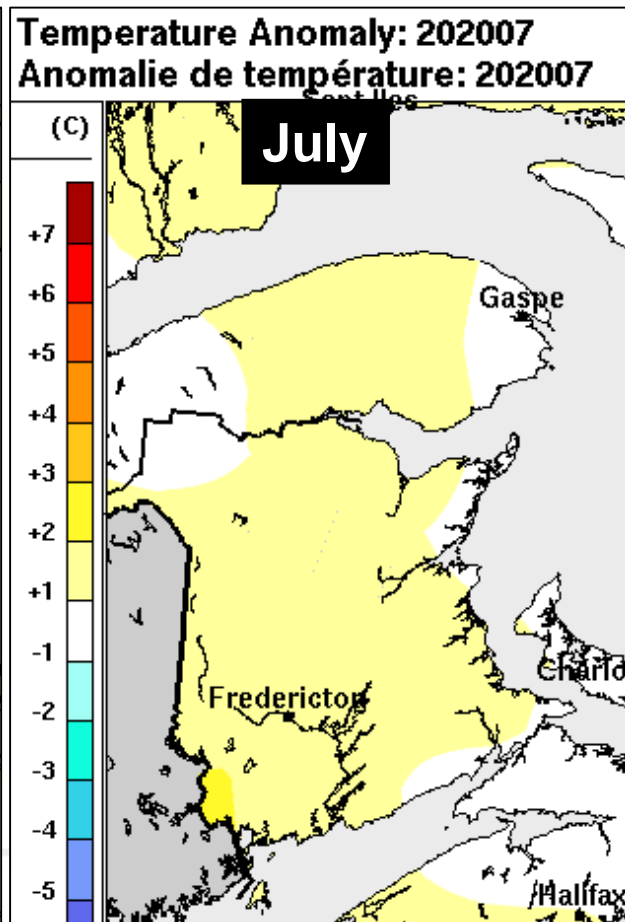
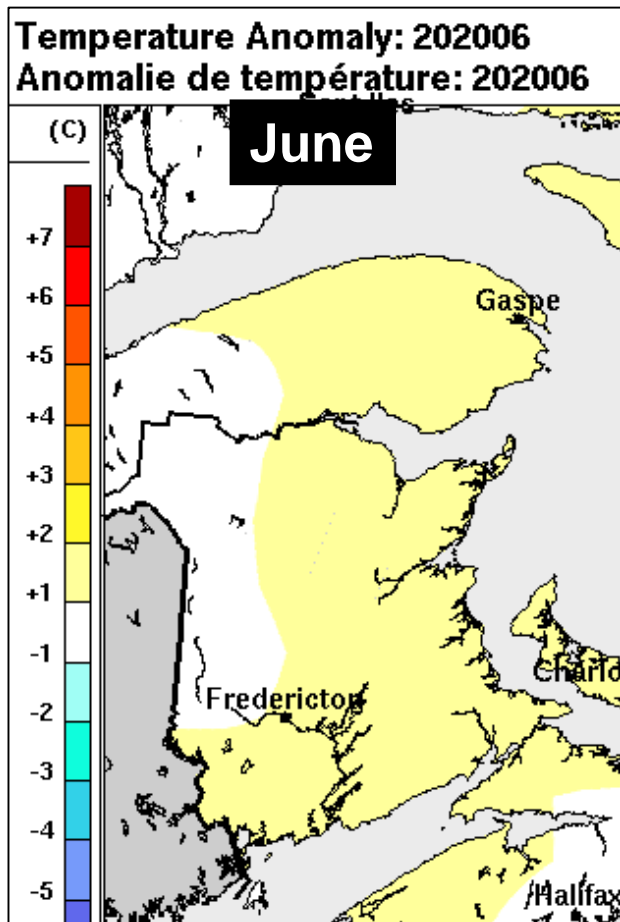
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Jun.-Jul.-Aug. 2020; Temperature departure from 1981-2010 mean

above normal (+0.4 to +1.9C)

above normal (+0.1 to +1.9C)

above normal (-0.4 to +2.0 C)



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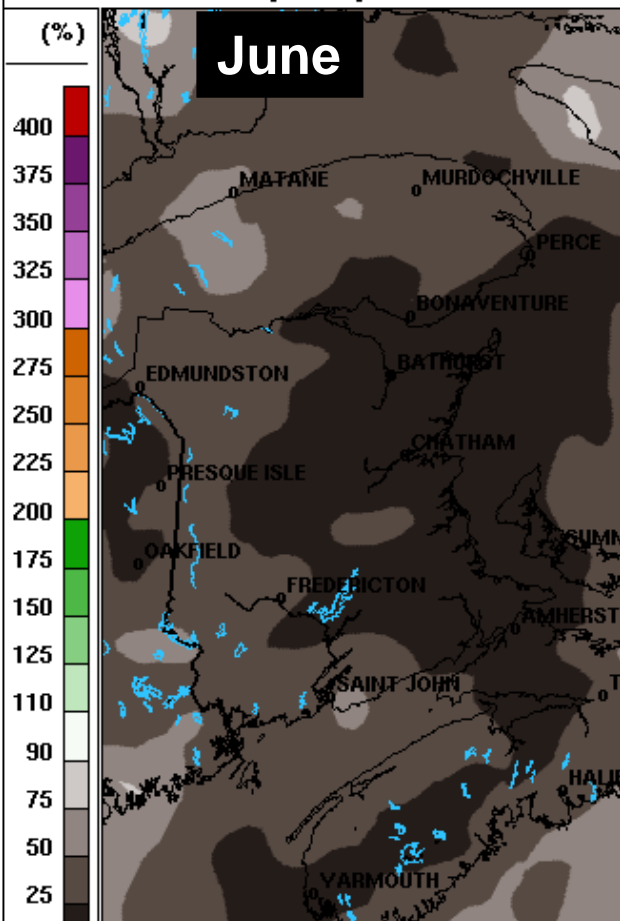
Jun.-Jul.-Aug. 2020; Precipitation departure from 2002-2019 mean

Much below normal

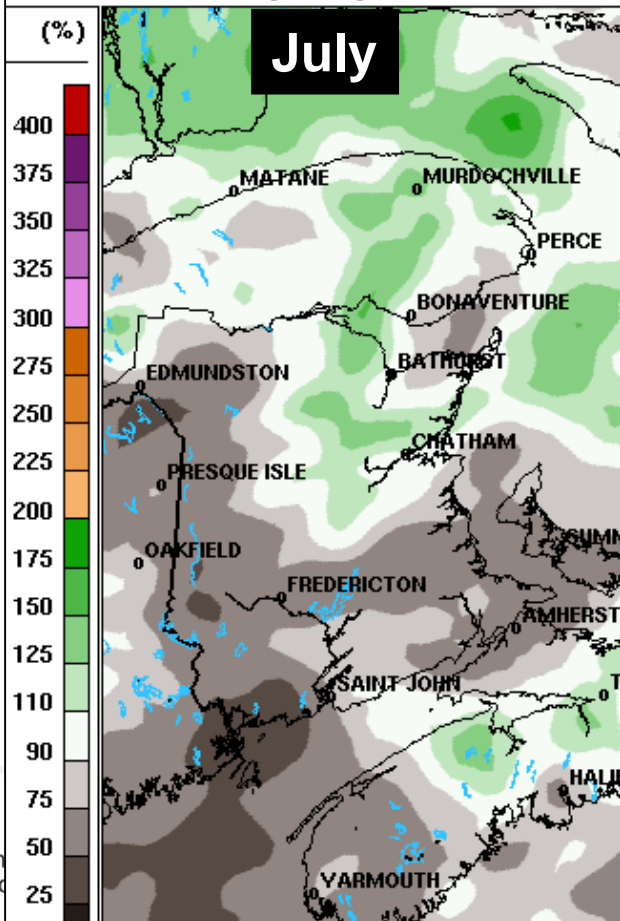
Slightly above normal northeast,
Near normal/below normal elsewhere

Below normal

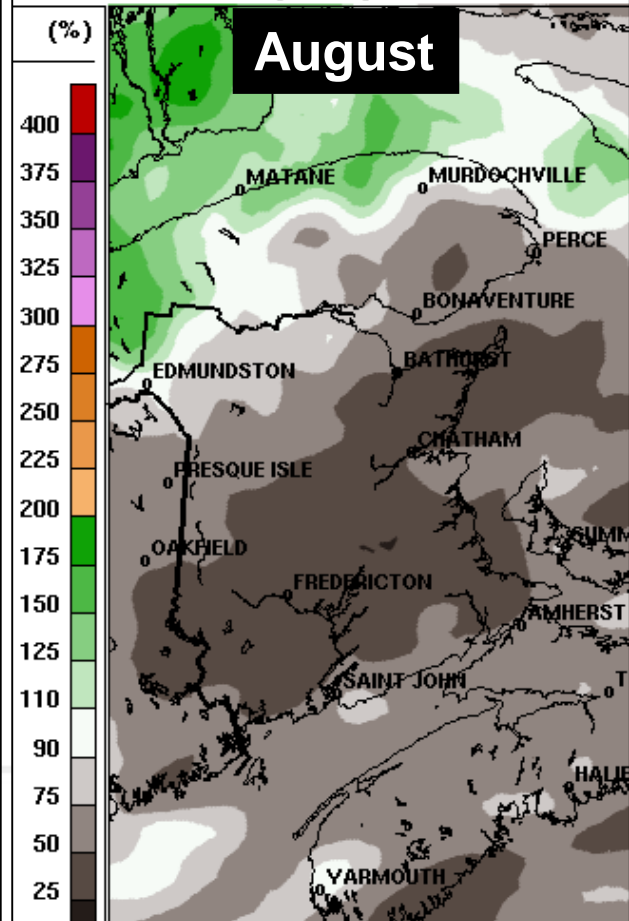
Precipitation Relative Total: 202006
Total relatif de précipitation: 202006



Precipitation Relative Total: 202007
Total relatif de précipitation: 202007

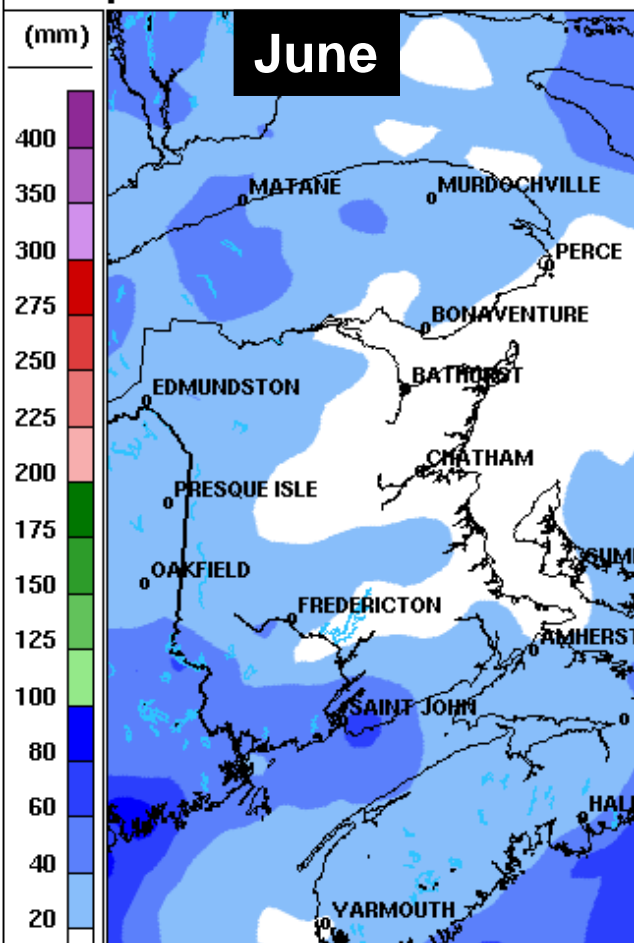


Precipitation Relative Total: 202008
Total relatif de précipitation: 202008

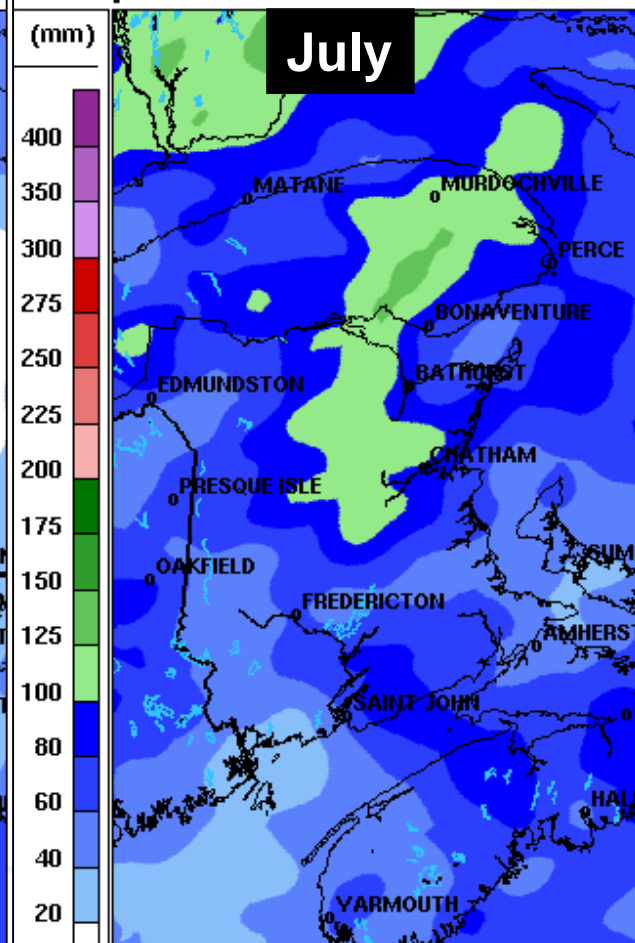


Jun.-Jul.-Aug. 2020; Total precipitation

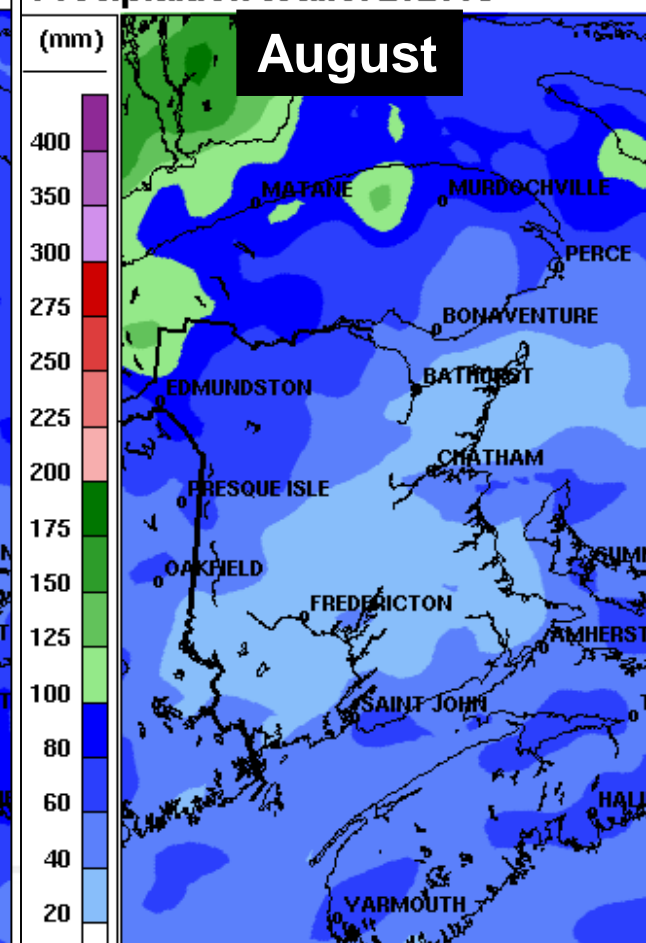
Total precipitation: 202006
Précipitation totale: 202006



Total precipitation: 202007
Précipitation totale: 202007



Total precipitation: 202008
Précipitation totale: 202008



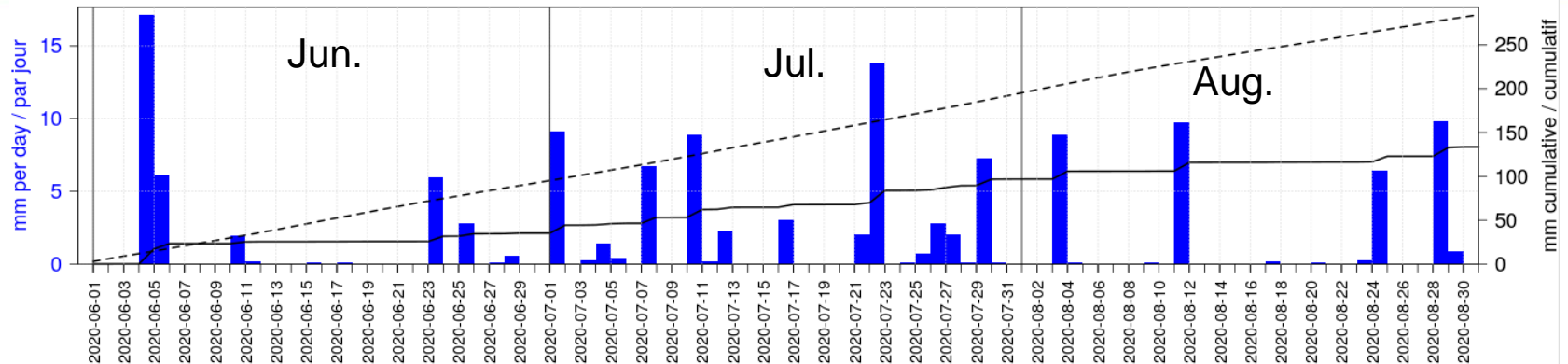
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2020 Temperature and precipitation – (J,J,A) for Fredericton

Daily Total Precipitation (bars), Cumulative (line) and Cumulative Long-Term Mean (dashed line)
Précipitation totale quotidienne (barres), Cumulative (trait) et Cumulative moyenne à long terme (tirreté)
Fredericton, NB (45.94N 66.63W)

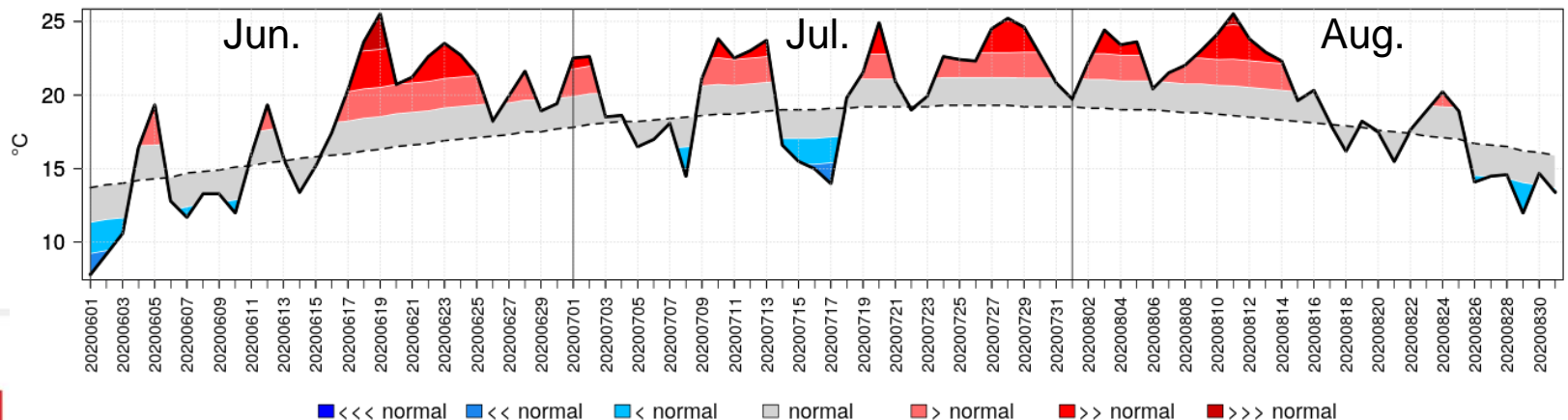


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ECCC Gridded Precipitation Analysis / Analyse de précipitation sur grille de ECCC
Climatology / Climatologie: 2002-2019

Daily Mean Temperature (line), Long-Term Mean (dashed line) and Categories based on Standard Deviations (blue and red)
Température quotidienne moyenne (trait), Moyenne à long terme (tirreté) et Catégories basées sur des écart-types (bleu et rouge)
Fredericton, NB (45.94N 66.63W)



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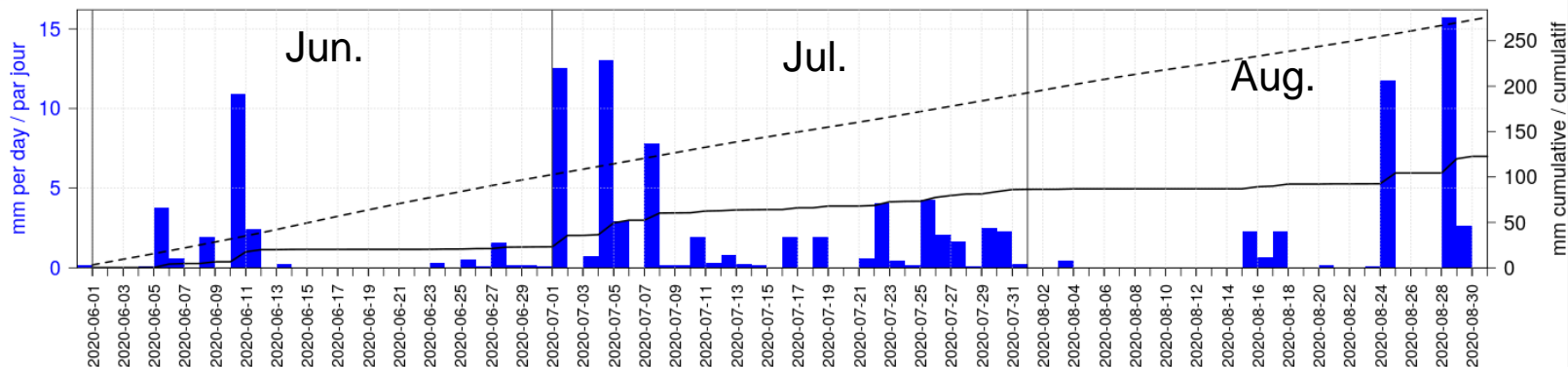
Gridded weather station data / Données de stations météo sur grille
Climatology / Climatologie: 1981-2010

Stand. dev. thresholds / Seuils d'écart-types: +/- 0.7, 1.3, 2.1



2020 Temperature and precipitation – (J,J,A) for Moncton

Daily Total Precipitation (bars), Cumulative (line) and Cumulative Long-Term Mean (dashed line)
Précipitation totale quotidienne (barres), Cumulative (trait) et Cumulative moyenne à long terme (tirré)é
Moncton, NB (46.08N 64.76W)

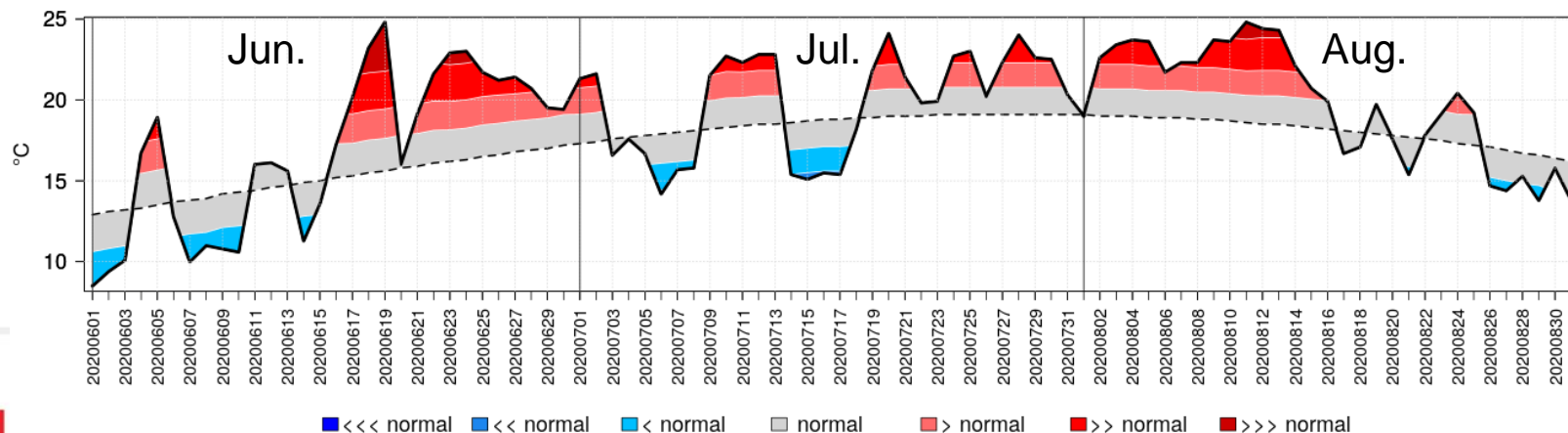


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ECCC Gridded Precipitation Analysis / Analyse de précipitation sur grille de ECCC
Climatology / Climatologie: 2002-2019

Daily Mean Temperature (line), Long-Term Mean (dashed line) and Categories based on Standard Deviations (blue and red)
Température quotidienne moyenne (trait), Moyenne à long terme (tirré)é et Catégories basées sur des écart-types (bleu et rouge)
Moncton, NB (46.08N 64.76W)



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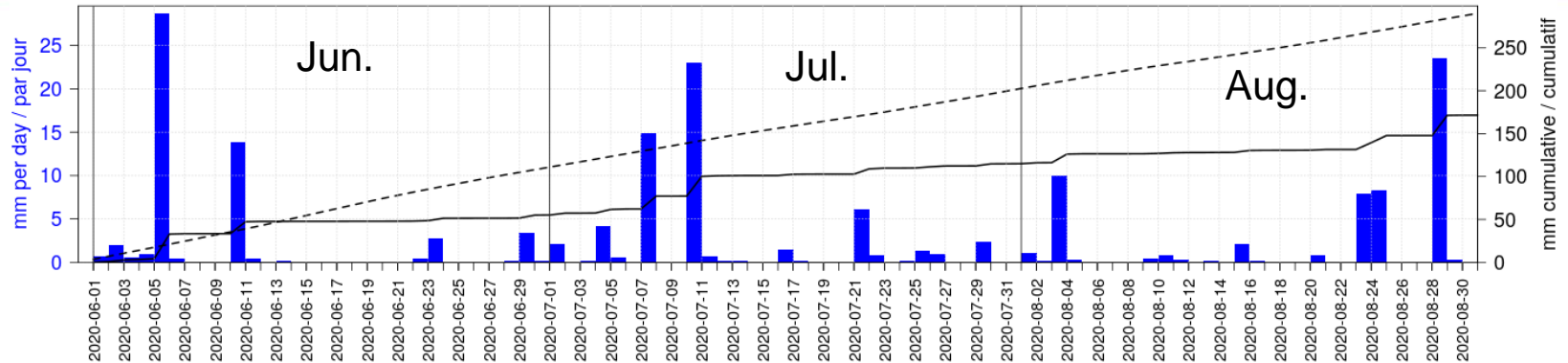
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Gridded weather station data / Données de stations météo sur grille
Climatology / Climatologie: 1981-2010
Stand. dev. thresholds / Seuils d'écart-types: +/- 0.7, 1.3, 2.1



2020 Temperature and precipitation – (J,J,A) for Saint John

Daily Total Precipitation (bars), Cumulative (line) and Cumulative Long-Term Mean (dashed line)
Précipitation totale quotidienne (barres), Cumulative (trait) et Cumulative moyenne à long terme (tirreté)
Saint John, NB (45.26N 66.07W)

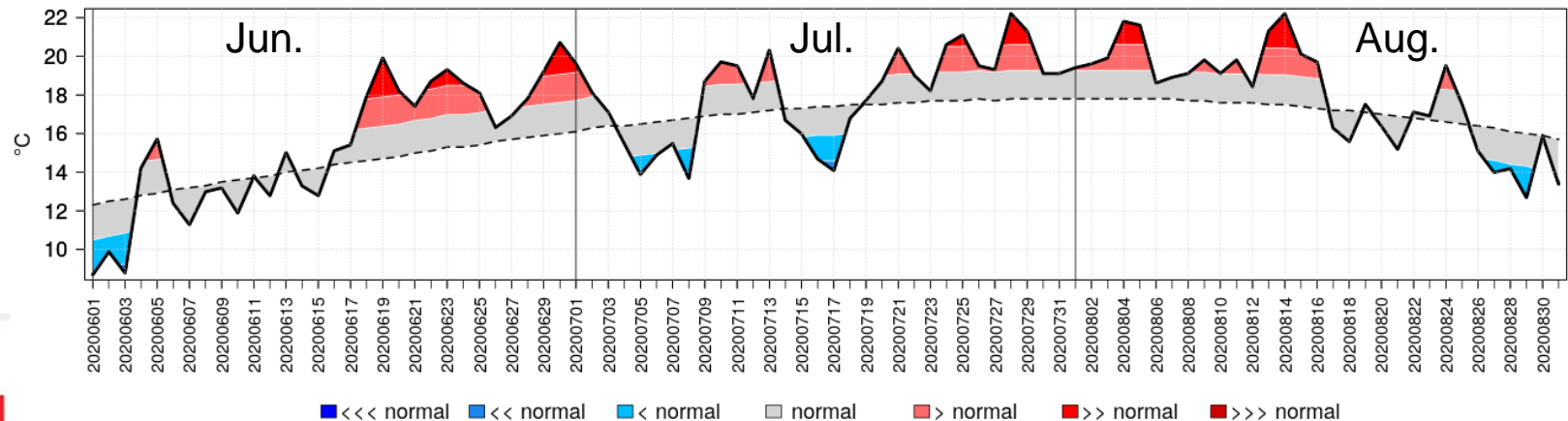


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ECCC Gridded Precipitation Analysis / Analyse de précipitation sur grille de ECCC
Climatology / Climatologie: 2002-2019

Daily Mean Temperature (line), Long-Term Mean (dashed line) and Categories based on Standard Deviations (blue and red)
Température quotidienne moyenne (trait), Moyenne à long terme (tirreté) et Catégories basées sur des écart-types (bleu et rouge)
Saint John, NB (45.26N 66.07W)



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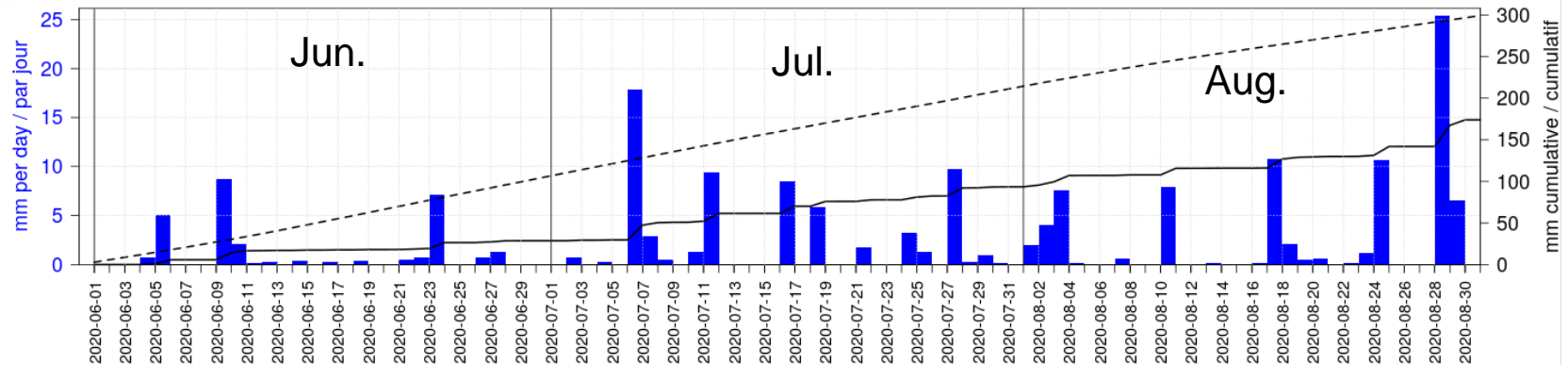
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Gridded weather station data / Données de stations météo sur grille
Climatology / Climatologie: 1981-2010
Stand. dev. thresholds / Seuils d'écarts-types: +/- 0.7, 1.3, 2.1



2020 Temperature and precipitation – (J,J,A) for Edmundston

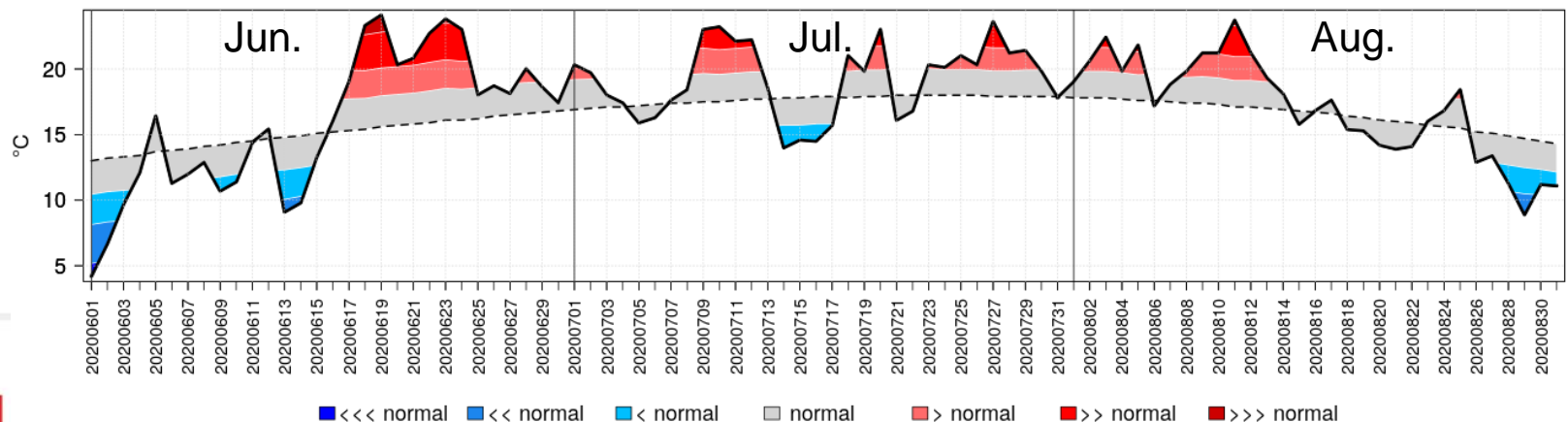
Daily Total Precipitation (bars), Cumulative (line) and Cumulative Long-Term Mean (dashed line)
Précipitation totale quotidienne (barres), Cumulative (trait) et Cumulative moyenne à long terme (tirrété)
Edmundston, NB (47.37N 68.33W)



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ECCC Gridded Precipitation Analysis / Analyse de précipitation sur grille de ECCC
Climatology / Climatologie: 2002-2019

Daily Mean Temperature (line), Long-Term Mean (dashed line) and Categories based on Standard Deviations (blue and red)
Température quotidienne moyenne (trait), Moyenne à long terme (tirrété) et Catégories basées sur des écart-types (bleu et rouge)
Edmundston, NB (47.37N 68.33W)



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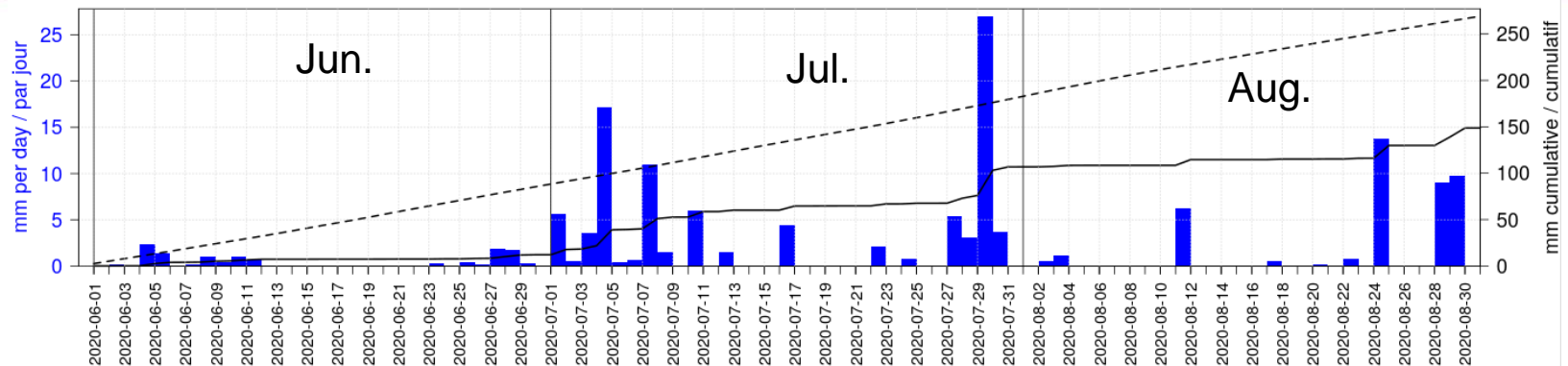
Gridded weather station data / Données de stations météo sur grille
Climatology / Climatologie: 1981-2010

Stand. dev. thresholds / Seuils d'écart-types: +/- 0.7, 1.3, 2.1

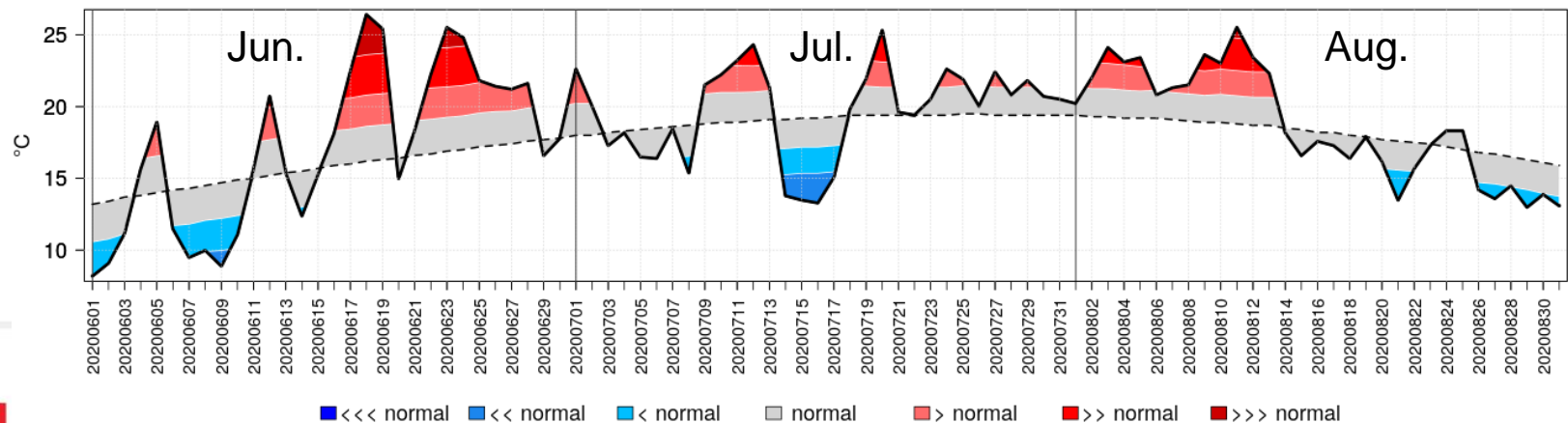


2020 Temperature and precipitation – (J,J,A) for Miramichi

Daily Total Precipitation (bars), Cumulative (line) and Cumulative Long-Term Mean (dashed line)
Précipitation totale quotidienne (barres), Cumulative (trait) et Cumulative moyenne à long terme (tirreté)
Miramichi, NB (47.02N 65.50W)

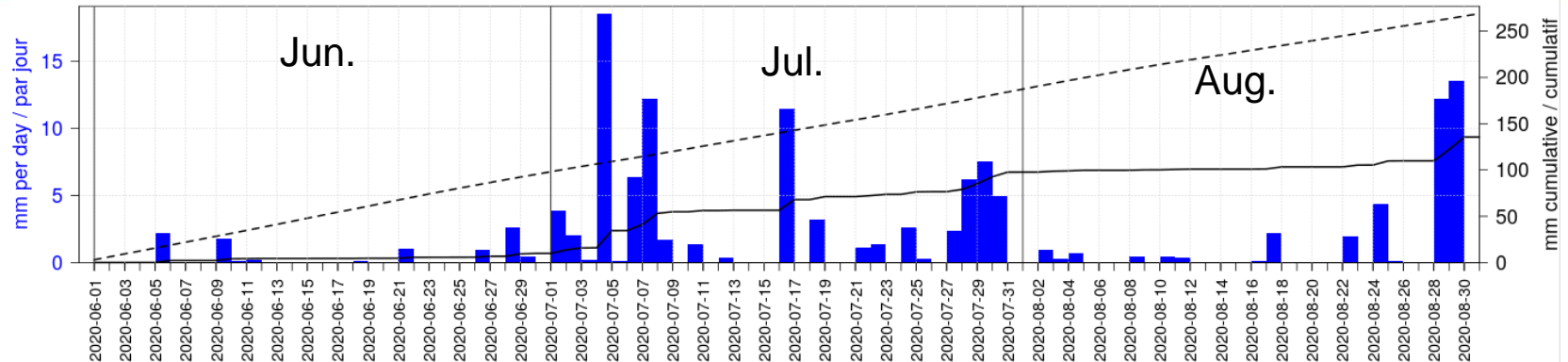


Daily Mean Temperature (line), Long-Term Mean (dashed line) and Categories based on Standard Deviations (blue and red)
Température quotidienne moyenne (trait), Moyenne à long terme (tirreté) et Catégories basées sur des écart-types (bleu et rouge)
Miramichi, NB (47.02N 65.50W)



2020 Temperature and precipitation – (J,J,A) for Bathurst

Daily Total Precipitation (bars), Cumulative (line) and Cumulative Long-Term Mean (dashed line)
Précipitation totale quotidienne (barres), Cumulative (trait) et Cumulative moyenne à long terme (tirreté)
Bathurst, NB (47.59N 65.64W)

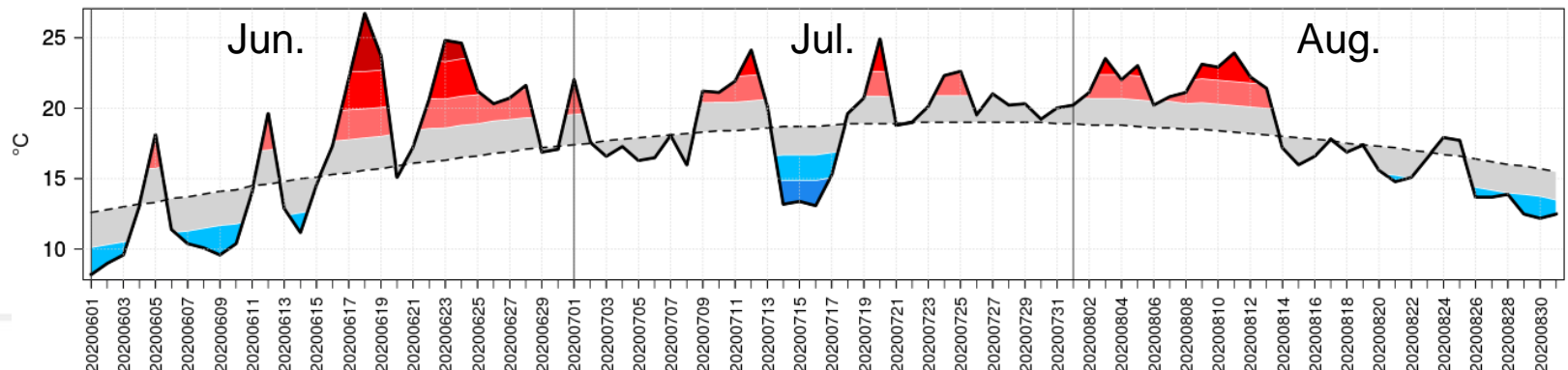


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Climatology / Climatologie: 2002-2019

Daily Mean Temperature (line), Long-Term Mean (dashed line) and Categories based on Standard Deviations (blue and red)
Température quotidienne moyenne (trait), Moyenne à long terme (tirreté) et Catégories basées sur des écart-types (bleu et rouge)
Bathurst, NB (47.59N 65.64W)



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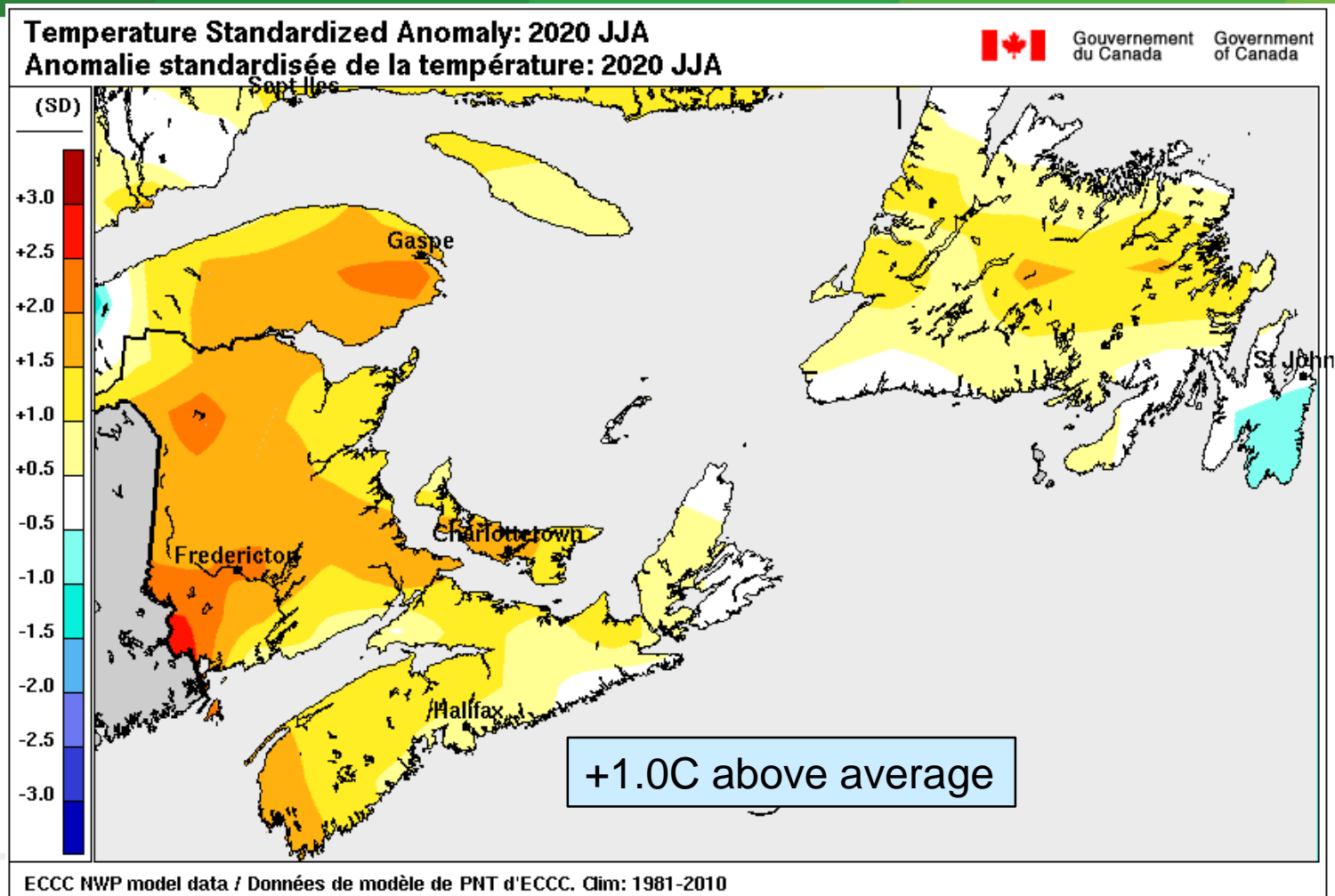
Gridded weather station data / Données de stations météo sur grille

Climatology / Climatologie: 1981-2010

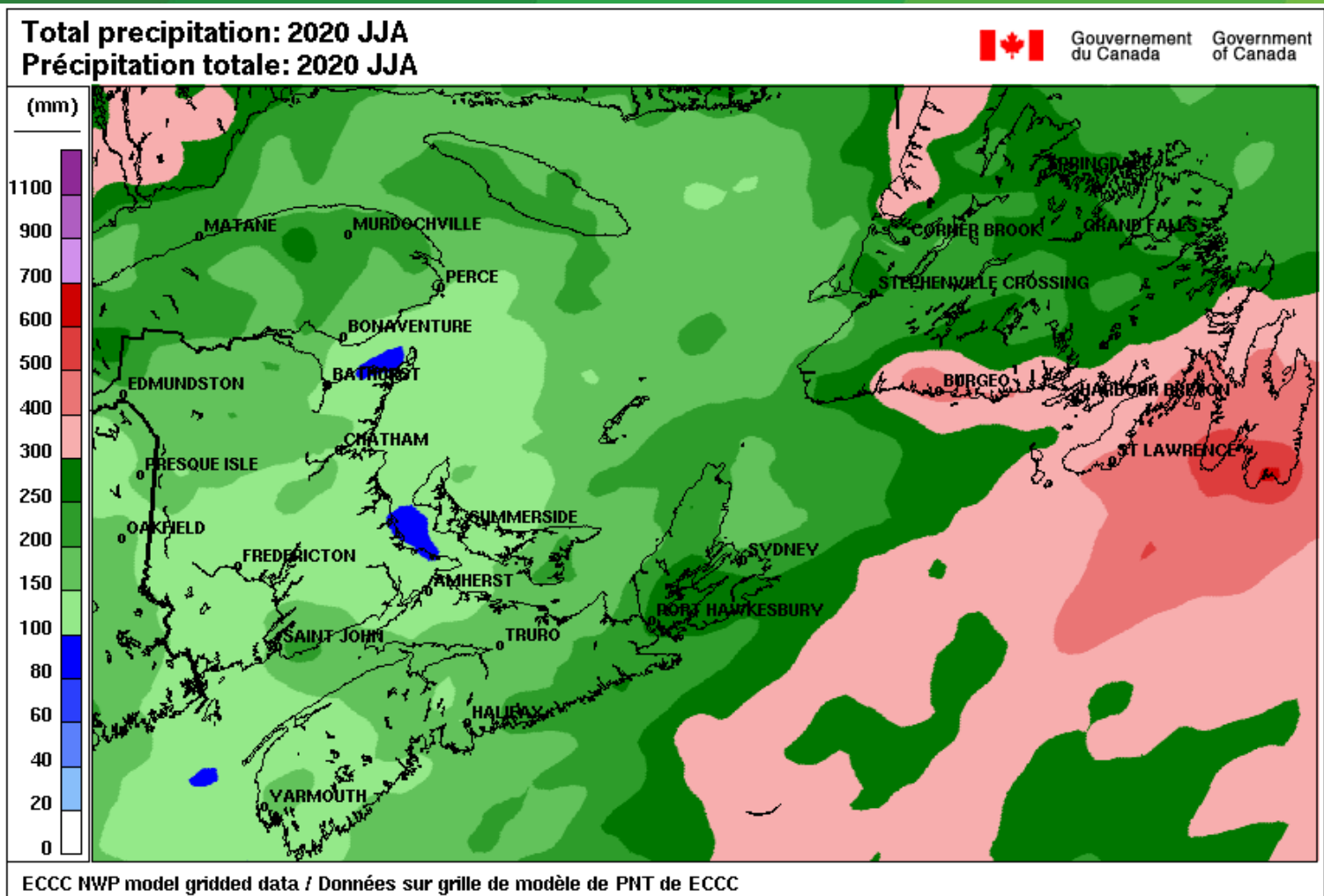
Stand. dev. thresholds / Seuils d'écart-types: +/- 0.7, 1.3, 2.1



Summer 2020 (J,J,A) Temperature Departure from 1981-2010 mean



Summer 2020 (J,J,A) Total precipitation



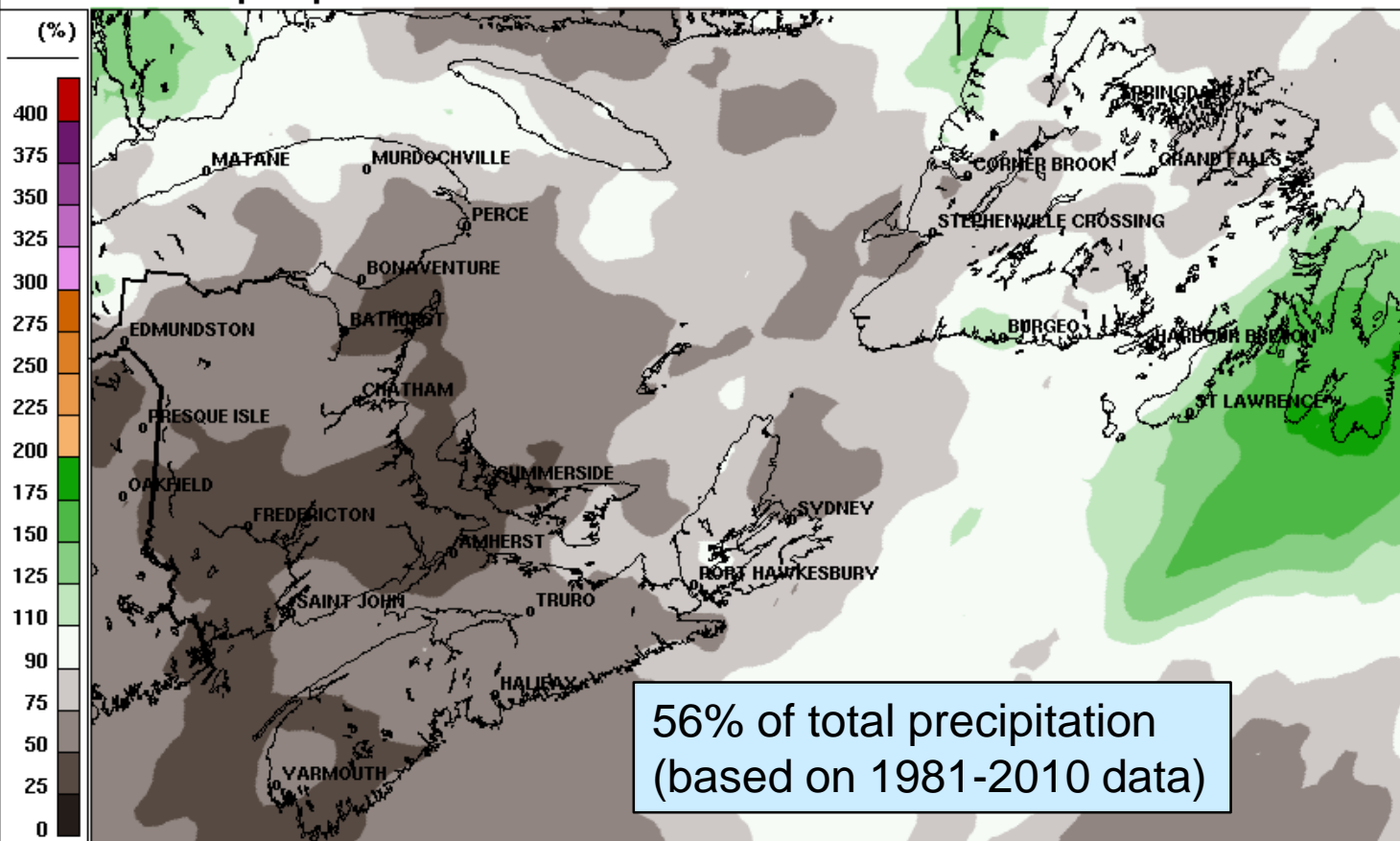
Summer 2020 (J,J,A) Precipitation departure from 2002-2019 mean

Precipitation Relative Total: 2020 JJA
Total relatif de précipitation: 2020 JJA



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ECCE NWP model gridded data / Données sur grille de modèle de PNT de ECCE. Clim: 2002-2019

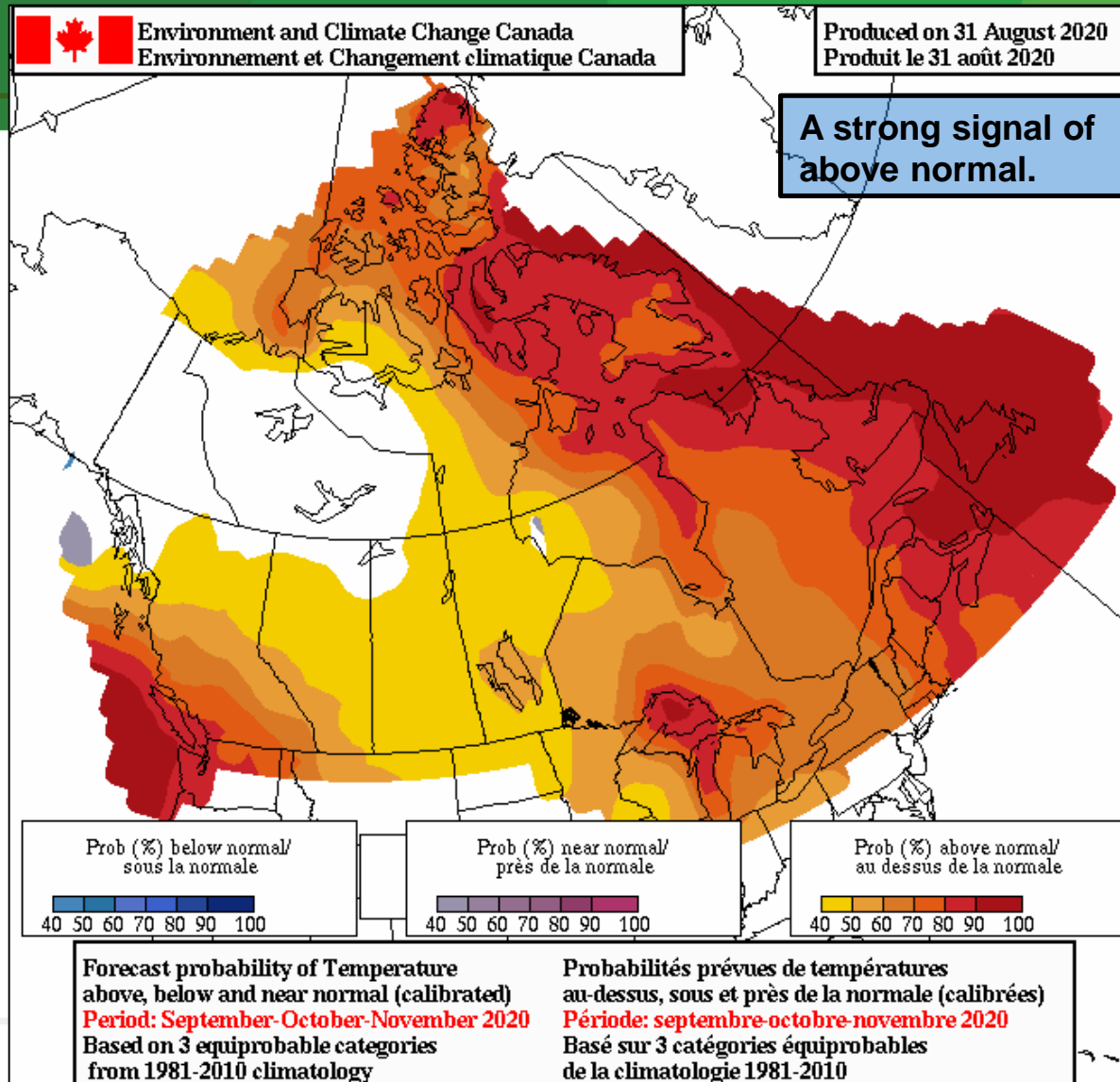


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Outlook – Fall 2020 (S,O,N)

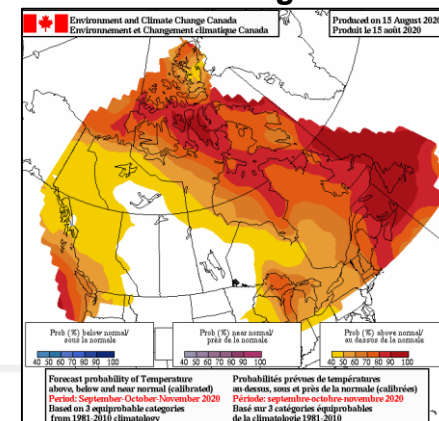


Temperature

September
October
November

NB (S,O,N)
Normal; 11.9/1.8°C

Produced August 15

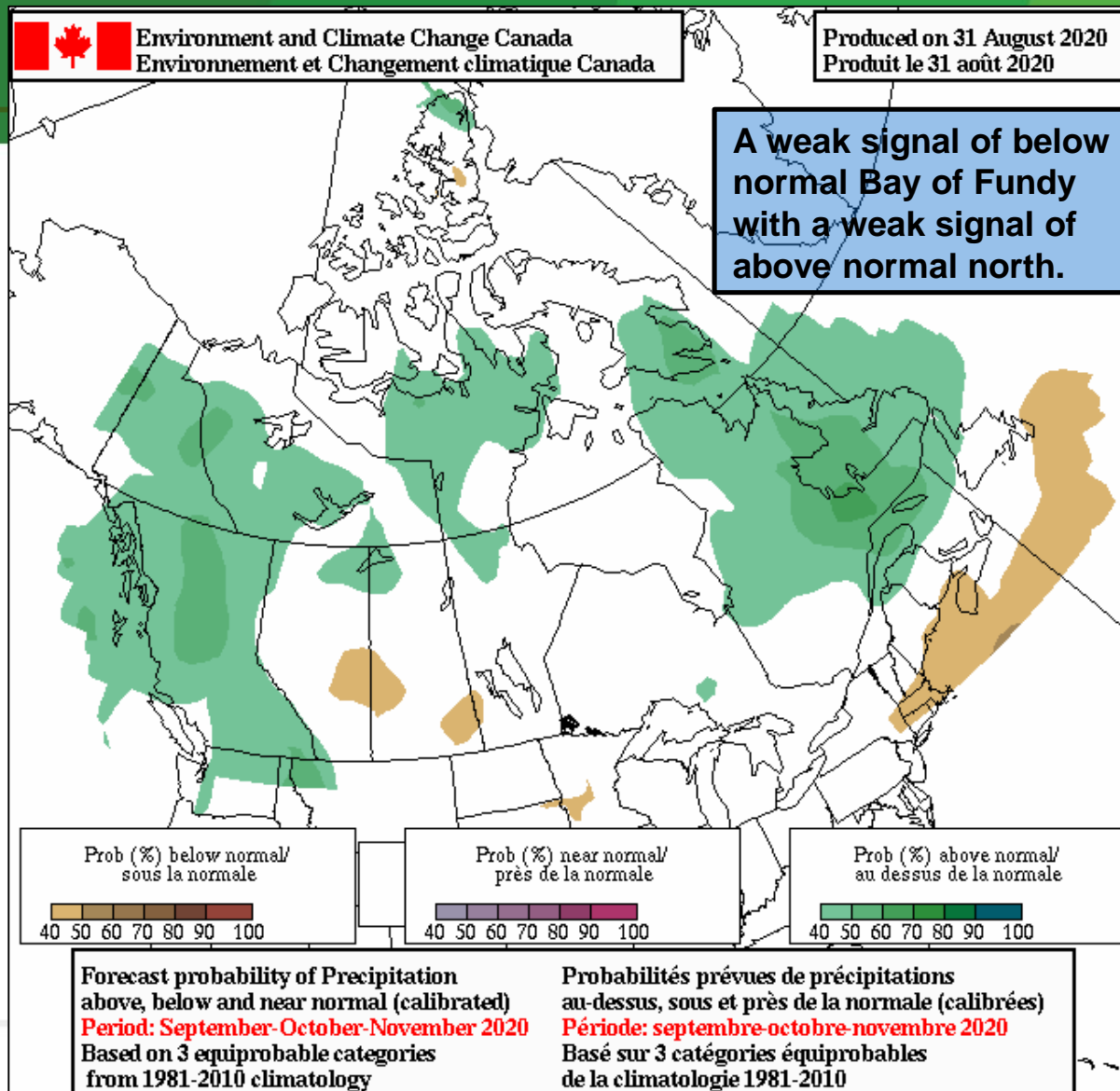


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Outlook – Fall 2020 (S,O,N)

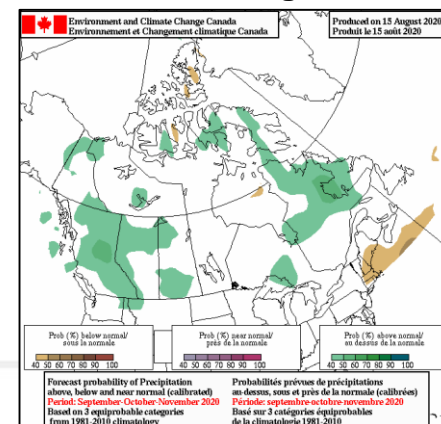


Precipitation

September
October
November

NB (S,O,N)
Normal; ~298 mm

Produced August 15



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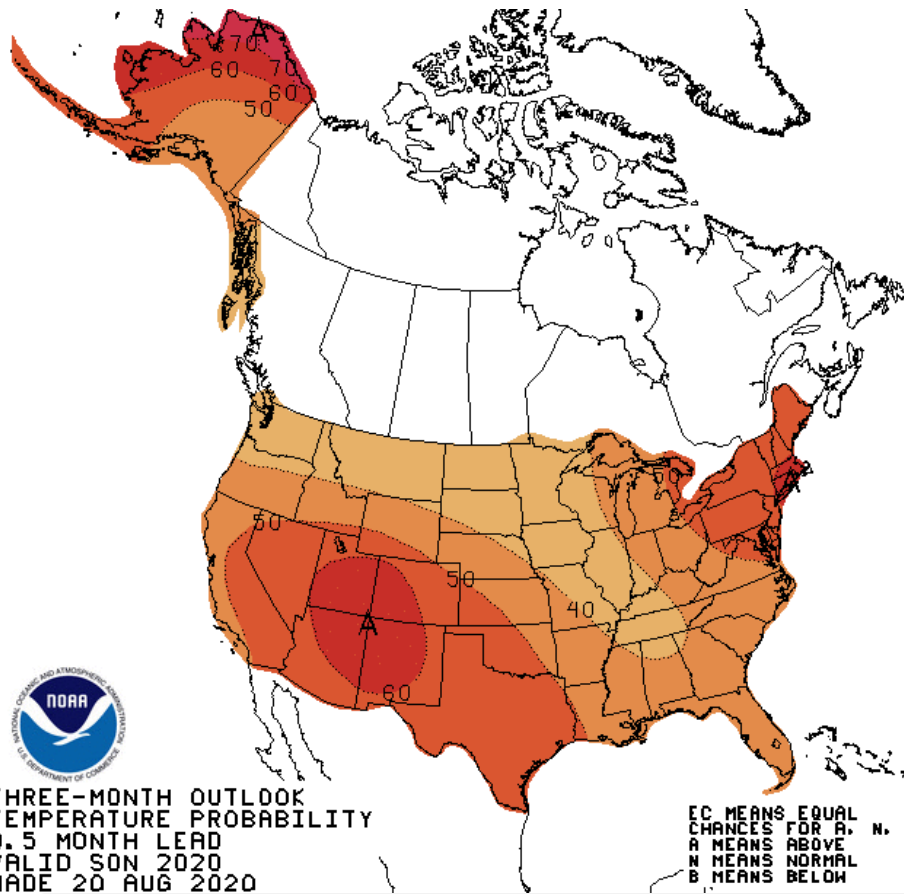
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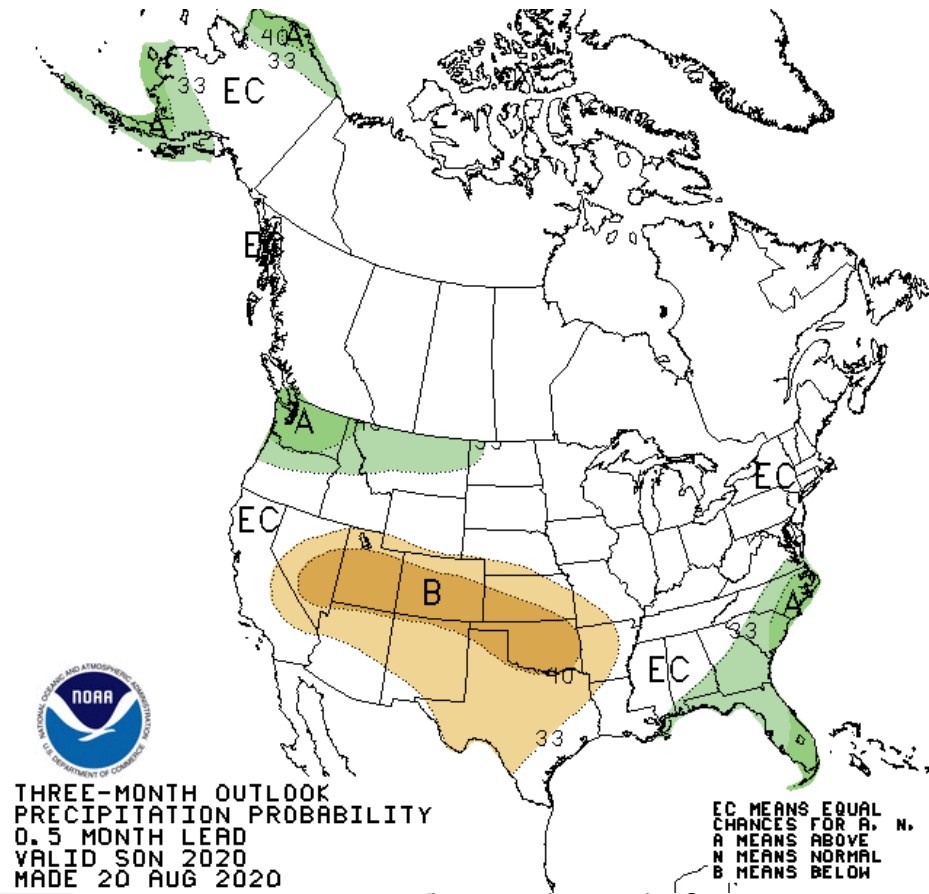


September - October - November

Temperature



Precipitation



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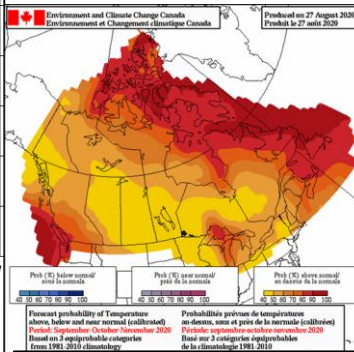
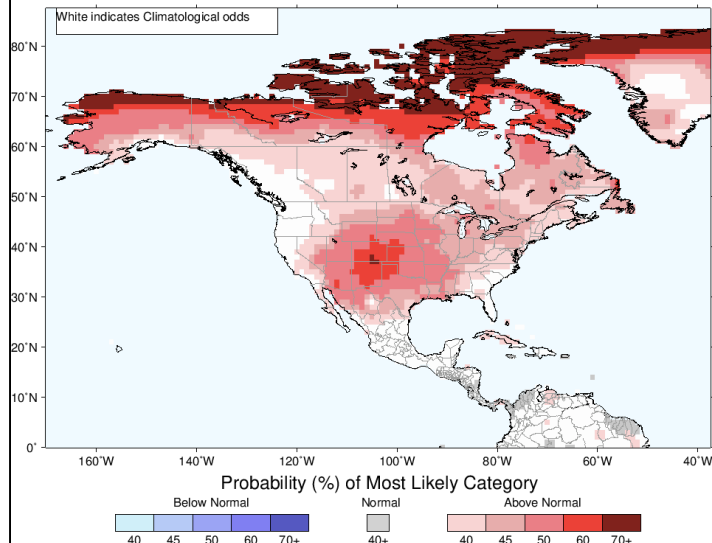
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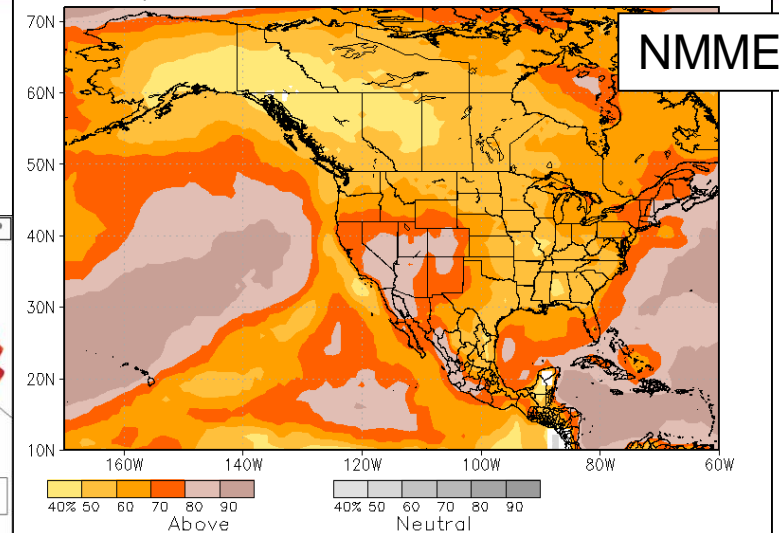
Fall 2020 Probabilistic Forecast from foreign models (temperature)

IRI

IRI Multi-Model Probability Forecast for Temperature for September-October-November 2020, Issued August 2020

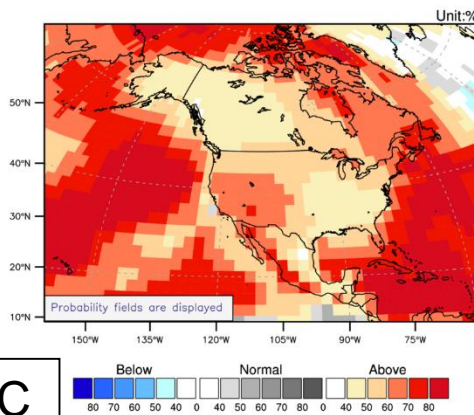


NMME prob fcst TMP2m IC=202008 for lead 1 2020 SON



The most recent

Temperature at 2m for September-November 2020



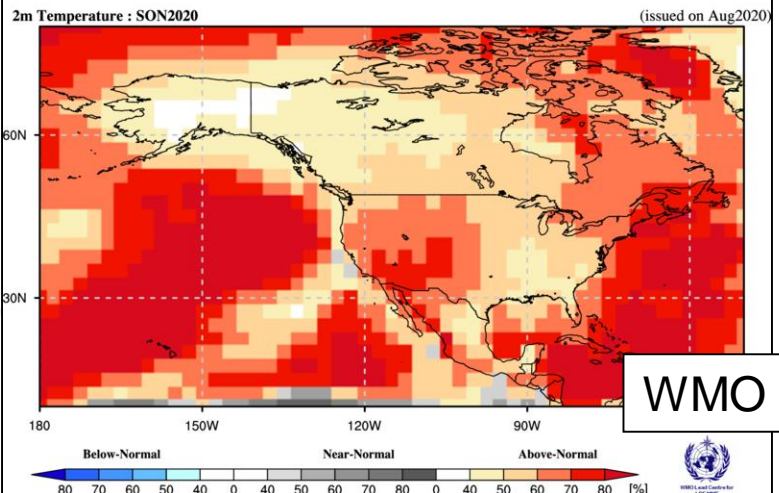
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Issued: 20 Aug. 2020

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Probabilistic Multi-Model Ensemble Forecast

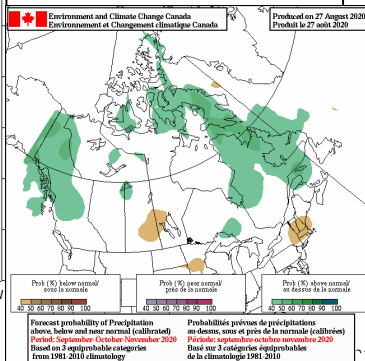
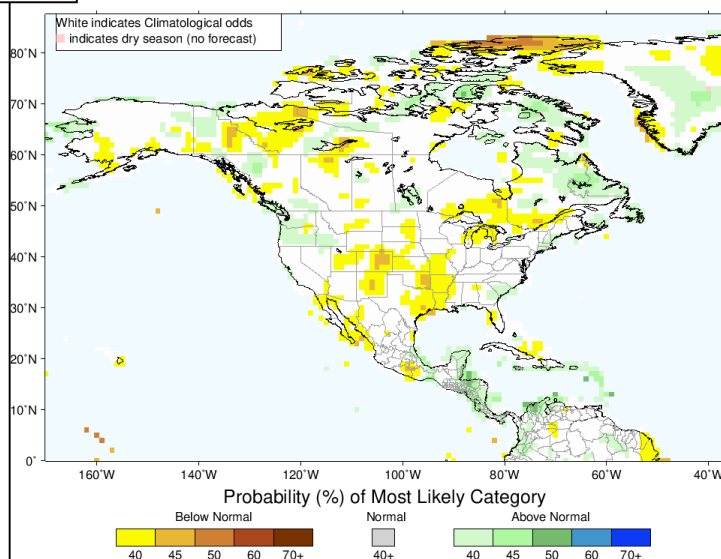
PTC,ECMWF,Exeter,Melbourne,Montreal,Moscow,Offenbach,Seoul,Tokyo,Toulouse,Washington



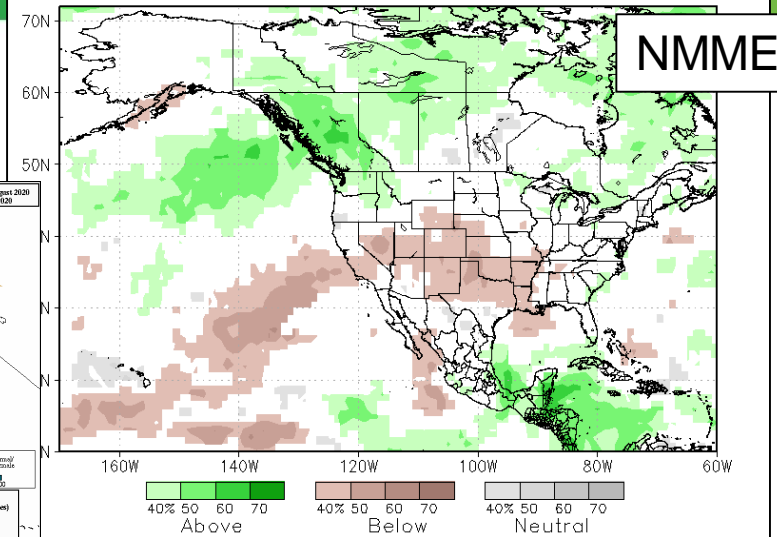
Fall 2020 Probabilistic Forecast from foreign models (precipitation)

IRI

IRI Multi-Model Probability Forecast for Precipitation for September–October–November 2020, Issued August 2020



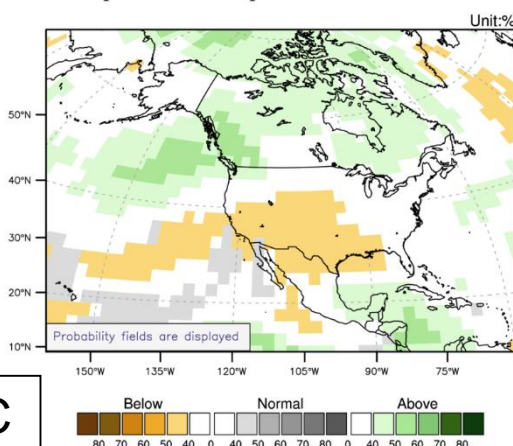
NMME prob fcast Prate IC=202008 for lead 1 2020 SON



NMME

The most recent

Precipitation for September–November 2020



APEC

Issued: 20 Aug, 2020

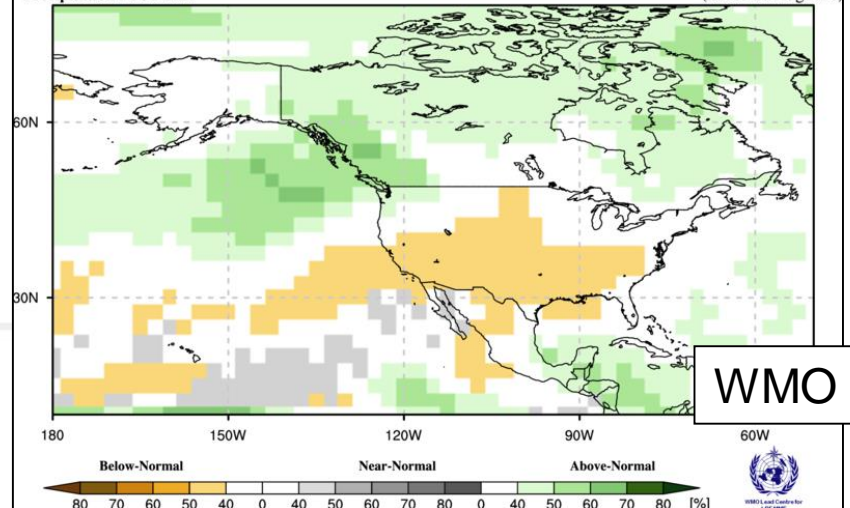
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Multi-Model Ensemble Forecast

CMR, ECMWF, Exeter, Melbourne, Montreal, Moscow, Offenbach, Seoul, Tokyo, Toulouse, Washington

Precipitation : SON2020

(issued on Aug2020)



WMO



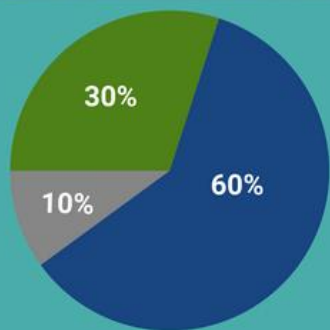
2020 Atlantic Tropical Season Forecast

Forecast issued May 21st



NATIONAL HURRICANE CENTER
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

2020 Atlantic Hurricane Season Outlook



Named storms
13-19

Hurricanes
6-10

Major hurricanes
3-6

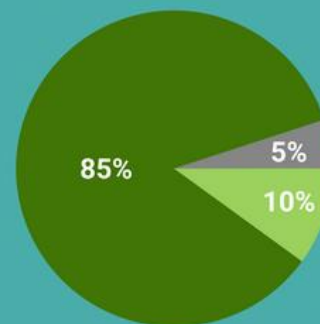
■ Above-normal ■ Near-normal ■ Below-normal season

Season probability



Updated August 6th

2020 Atlantic Hurricane Season Outlook AUGUST 6 UPDATE



Named storms
19-25

Hurricanes
7-11

Major hurricanes
3-6

■ Above-normal ■ Near-normal ■ Below-normal season

Season probability



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Preliminary Summary 2020 Season

(as of September 1 2020)



NATIONAL HURRICANE CENTER

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Tropical cyclone activity in the Atlantic basin during the month of August was slightly above average in terms of the number of named storms that developed. Four named storms formed during the month, with two of them becoming hurricanes, including Hurricane Laura that intensified into a major hurricane. One tropical depression also formed at the end of the month offshore of the southeastern U.S. coast. Based on a 30-year climatology (1981-2010), three named storms typically form in the basin in August, with one or two of them becoming hurricanes, and one of them becoming a major hurricane.

Summary Table

Name	Dates	Max Wind (mph)
TS Arthur	16-19 May	60
TS Bertha	27-28 May	50
TS Cristobal	1-9 Jun	60
TS Dolly	22-24 Jun	45
TS Edouard	4-6 Jul	45
TS Fay	9-11 Jul	60
TS Gonzalo	1-25 Jul	65
H Hanna	23-27 Jul	90
H Isaias	30 Jul- 5 Aug	85
TD Ten	31 Jul- 1 Aug	35
TS Josephine	11-16 Aug	45
TS Kyle	14-16 Aug	50
MH Laura	20-28 Aug	150
H Marco	20-25 Aug	75
TD Fifteen	31 Aug-	35



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