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Climate Change Canada

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Canada



New Brunswick

August 2018 Review September and Fall Outlook

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Meteorological Service of Canada

Environment and Climate Change Canada

September 4, 2018

August 2018; Climate Summary

Highlights:

The average temperature was well above normal (+1.7C above normal). All sites reported a positive anomaly. Point Lepreau had the highest positive anomaly with an average temperature of +2.5C above normal. At several stations throughout the province, this August was among the top 6 warmest August's on record. Saint John had the second warmest monthly mean temperature at 18.8C since records began in 1871.

Total precipitation amounts were above normal, on average 13% above normal. The Sussex/Apoahqui area received up to 129mm on August 18th which surpassed the August daily extreme of 95mm. However, northern parts of the province were below normal for the third month in a row as Charlo only received 63% of their precipitation for the month.

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Station Name	TC ID	Station Type	Monthly Avg of Daily Max Temp	Monthly Avg of Daily Min Temp	Mean Temperature (°C)			Total Precip (mm)			
					Monthly Mean	Normal Mean	Departure from Normal	Monthly Total	Normal Total	Total as % of Normal	Departure from Normal as % of Normal
AROOSTOOK		DAILY	26.9	13.6	20.3	17.9	2.4	111.6	102.4	109	9
BAS CARAQUET	WXS	AU8	24.7	14.3	19.5	17.9	1.6	104.7	120.9	87	-13
BAS CARAQUET		DAILY						85.0	120.9	70	-30
BATHURST A	ZBF	NCH	25.7	13.3	19.6	18.2	1.4	88.4	82.0	108	8
BOUCTOUCHE CDA CS	ABT	AU8	26.0	14.6	20.3	18.5	1.9	88.4	85.2	104	4
CHARLO AUTO	ZCR	AU8	24.9	13.6	19.3	17.2	2.1	56.9	90.1	63	-37
MIRAMICHI RCS	ACQ	AU8	26.4	14.7	20.5	18.5	2.1	84.9	93.1	91	-9
DOAKTOWN AUTO RCS	ADN	AU8	26.2	13.2	19.7	18.4	1.3	128.4	94.4	136	36
EDMUNDSTON	ERM	AU8	26.0	10.4	18.2	17.1	1.1	133.3	93.4	143	43
FREDERICTON	YFC	NCA	26.7	13.8	20.2	18.4	1.8	59.5	85.6	70	-30
FREDERICTON CDA CS	AFC	AU8	26.3	14.6	20.4	18.6	1.9	112.8	85.9	131	31
FUNDY PARK (ALMA) CS	AFY	AU8	24.0	14.1	19.0	17.2	1.8	98.2	93.9	105	5
GAGETOWN AWOS A	YCX	AU5	26.4	14.5	20.5	19.2	1.3				
GRAND MANAN SAR CS	XGM	AU8	24.7	13.1	18.9			52.5			
KOUCHIBOUGUAC	AKC	AU8	26.2	13.7	19.9	18.5	1.5	122.2	86.7	141	41
MECHANIC SETTLEMENT	AMS	AU8	23.7	14.9	19.3			151.6			
MISCOU ISLAND (AUT)	WMI	AU8	23.8	14.8	19.3			79.7			
MONCTON INTL A	YQM	NCH	26.2	14.6	20.4	18.2	2.3	100.6	80.8	124	24
OAK POINT		DAILY	25.9	14.9	20.4	19.2	1.2	132.6	86.5	153	53
POINT LEPREAU CS	WPE	AU8	22.7	13.7	18.2	15.6	2.5	100.3	98.0	102	2
RED PINES	ARP	AU8	25.6	12.7	19.2	17.9	1.3	100.1	93.6	107	7
SAINT JOHN A	YSJ	NCH	24.9	12.5	18.8	16.8	1.9	110.7	81.7	135	35
ST. STEPHEN	WSS	AU8	27.3	13.5	20.4			83.2			
SUSSEX FOUR CORNERS	ASF	AU8	26.9	14.3	20.6	18.8	1.8	141.0	74.3	190	90
WOODSTOCK		DAILY	25.5	14.0	19.8	18.4	1.4	109.6	100.6	109	9
WOODSTOCK NEWBRIDGE	EWD	AU8	25.6	12.7	19.1	18.4	0.8	97.4	100.6	97	-3
Average			25.6	13.8	19.7	18.0	1.7	101.3	92.9	113	13
Max			27.3	14.9	20.6	19.2	2.5	151.6	120.9	190	90
Min			22.7	10.4	18.2	15.6	0.8	52.5	74.3	63	-37



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August 2018; Climate Summary

Events:

August 1-3; Heat event; A very warm and humid air mass began the month with humidex values reaching as high as 41 in the St. Stephen area on the 2nd.

August 4-5; Rain event; A slow-moving trough brought rain to most areas of the province with embedded thunderstorms. Highest rainfall amounts were through central portions of the province with Keswick Ridge reporting 67mm. Some minor wind damage was reported in the Grand Lake area from one of the thunderstorms where winds gusted over 90 km/h based on radar data and video footage.

August 6-7; Heat and thunderstorm event; Heat and humidity combined with instability to provide the perfect concoction for severe thunderstorms. Humidex values reached as high as 42 in several areas of the province. A strong thunderstorm on Aug. 6 in the Fredericton area gave a wind gust of 87 km/h. The first tornado warning of the year was issued on Aug. 7 for Grand Falls and Victoria county which also prompted the first AlertReady issue for all of Atlantic Canada, however, no damage or confirmation of tornado was received.

August 9; Rain event; A low pressure system brought widespread showers and thunderstorms that provided some areas to experience flash flooding due to the high rainfall rates. The most rain fell in a line from Florenceville to the Acadian peninsula with (40-55mm) and another line along the Fundy coast (50-75mm). Harvey Bank reported the most rain at 89mm.

August 17-18; Rain event; A low pressure system from the Great Lakes provided significant rain to the southern half of the province with some embedded convection. Generally, northern areas saw 3-10mm, central areas saw 12-35mm, while southern areas saw 30-90mm. Apohaqui recorded an impressive 129mm.

August 28-29; Heat event; A warm and humid air mass ended the month with humidex values reaching as high as 40 in the St. Stephen area on the 28th.

Days with thunderstorm activity (lightning) in New Brunswick; 3, 4, 6, 7, 9, 10, 14, 15, 18, 28, 29

Of the 11 days with lightning, the total number of lightning strikes was almost 3 times the average for the month.

Days with temperature records broken or tied in New Brunswick; 1 6 7 12 13 25 28 29

(red=maximum, blue=minimum)



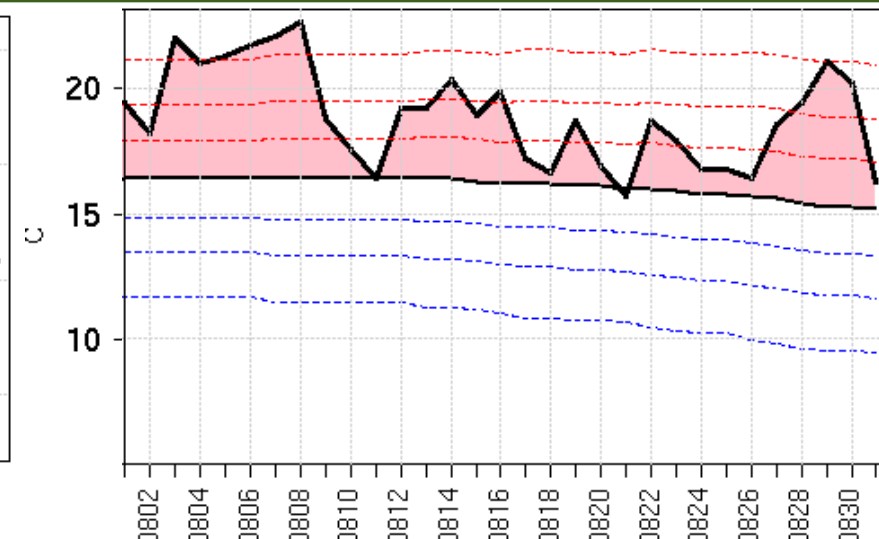
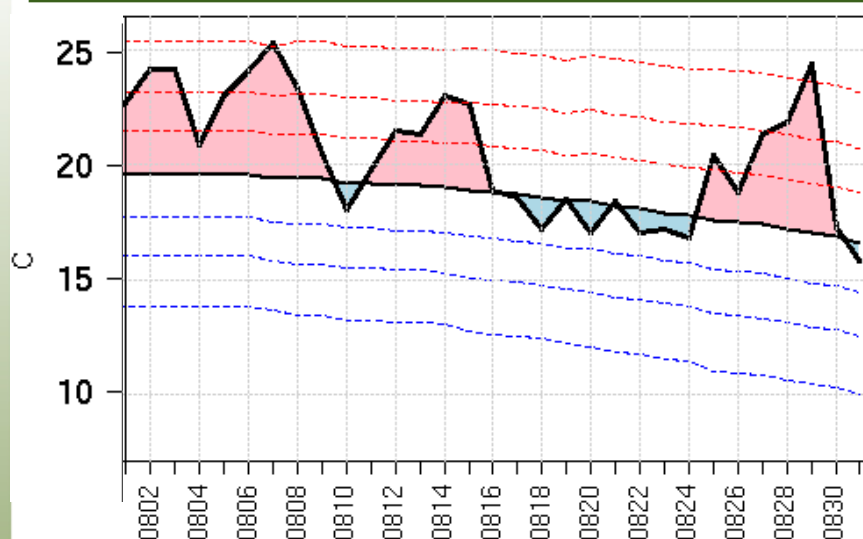
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August 2018 - Temperature

Daily Mean Temperature (bold line) versus Normal (thin line) and $\pm 0.7, 1.3, 2.1$ SD (red/blue dashes)



Fredericton

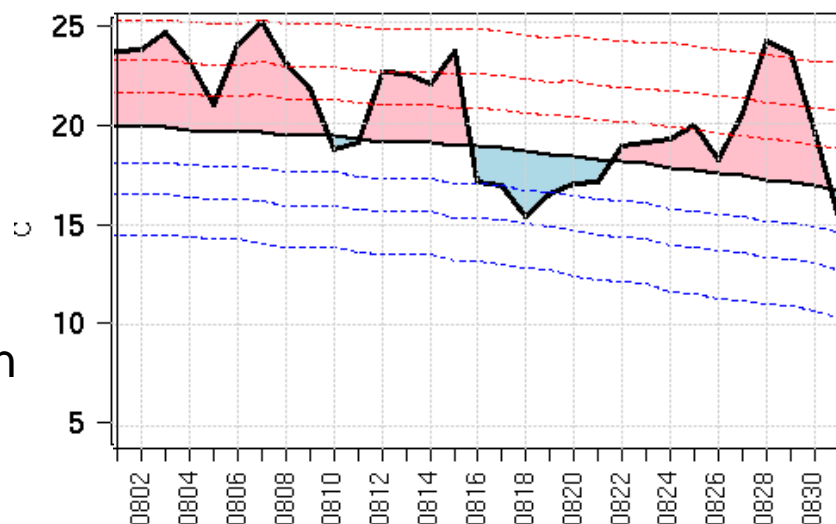
Departure: +1.8C

Saint John

Departure: +1.9C

Moncton

Departure: +2.3C



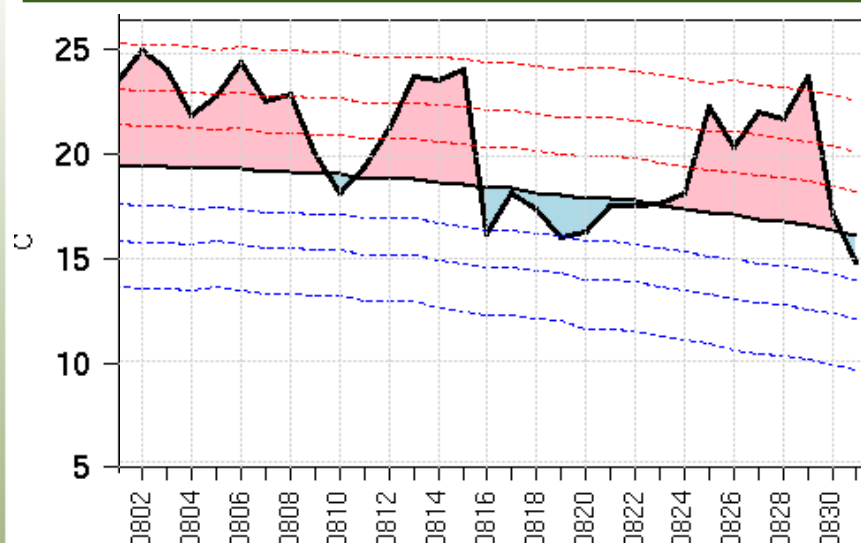
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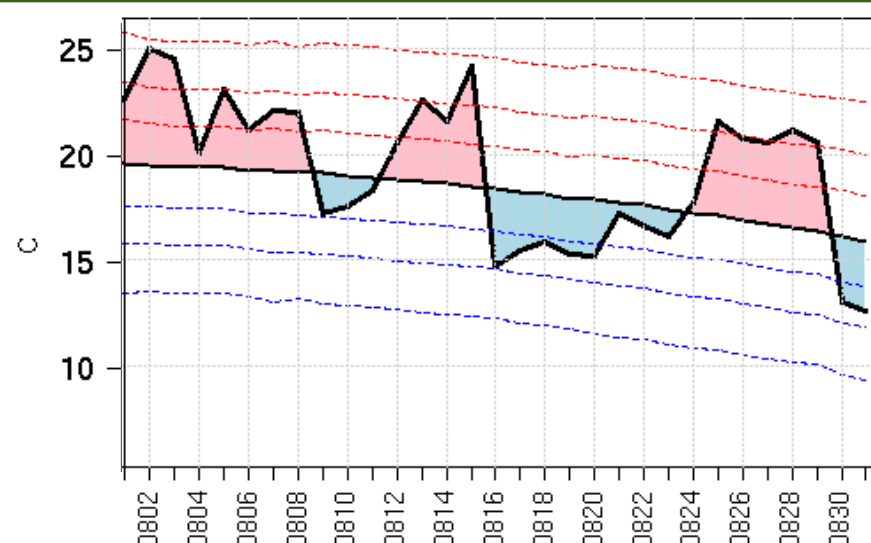
August 2018 - Temperature

Daily Mean Temperature (bold line) versus Normal (thin line) and $\pm 0.7, 1.3, 2.1$ SD (red/blue dashes)



Miramichi

Departure: +2.1°C

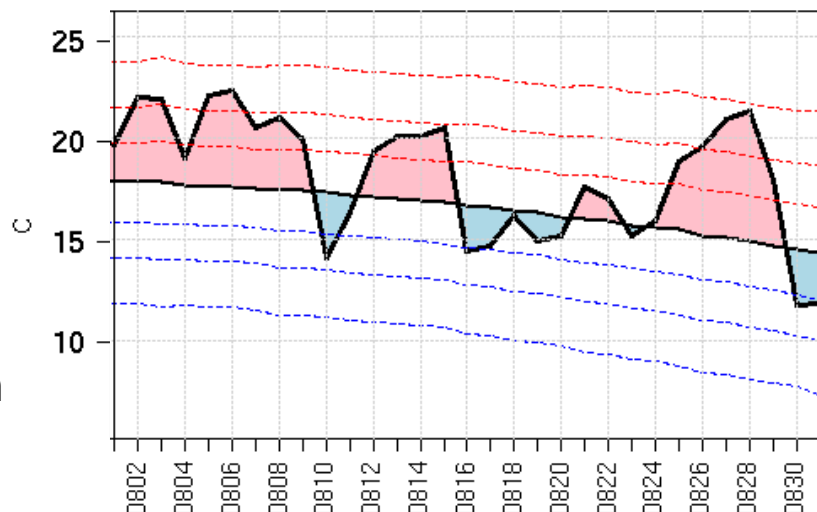


Bathurst

Departure: +1.4°C

Edmundston

Departure: +1.1°C



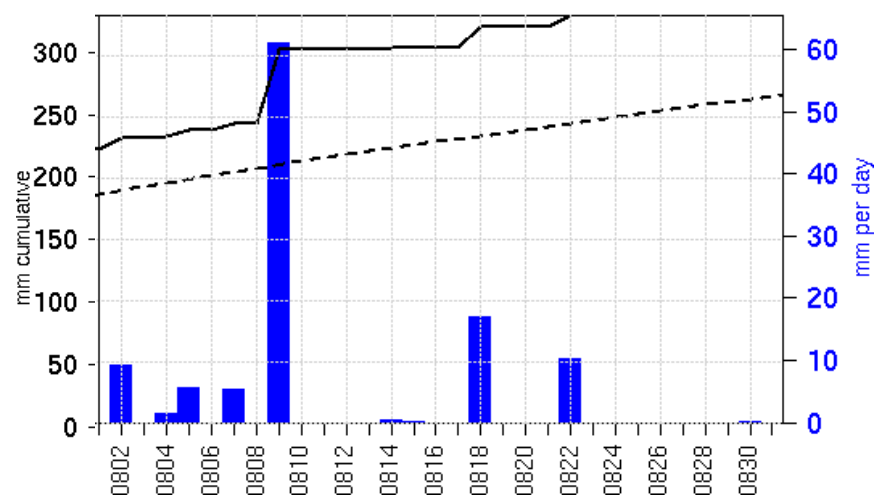
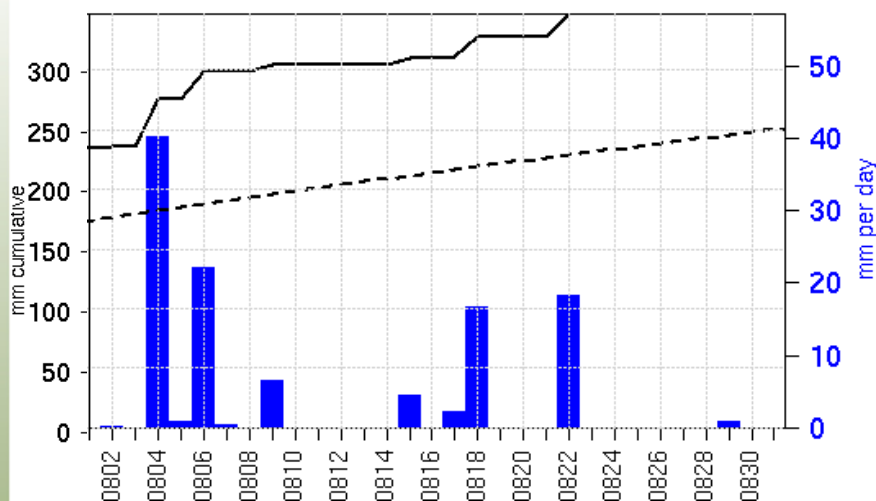
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August 2018 - Precipitation

Observed Cumulative Precipitation (line) versus Normal (dashed line) and Daily Amounts (bars)



Fredericton

Departure: 131%

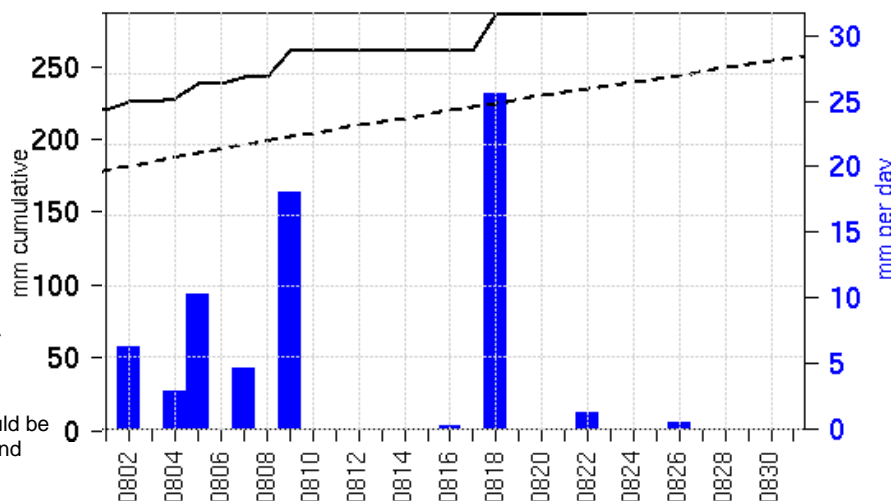
Saint John

Departure: 135%

Moncton*

Departure: 124%

*Precipitation on August 18th should be 55mm, this value was corrected and included in the monthly records



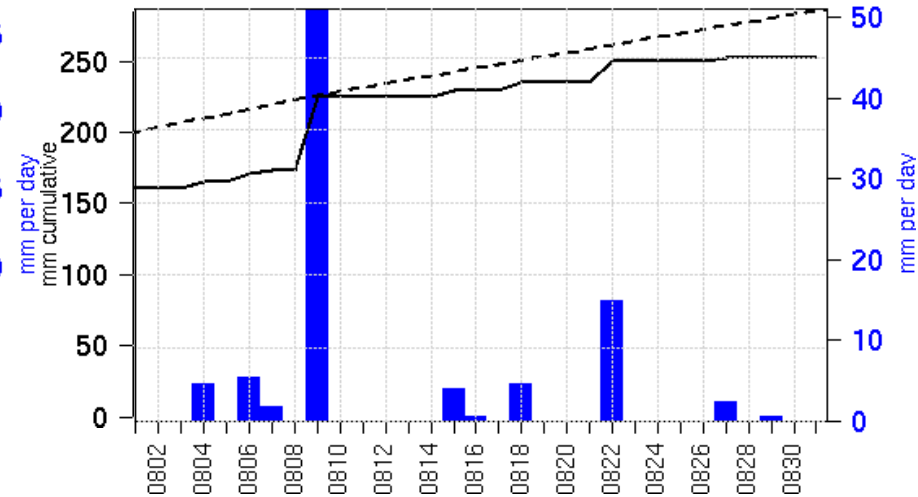
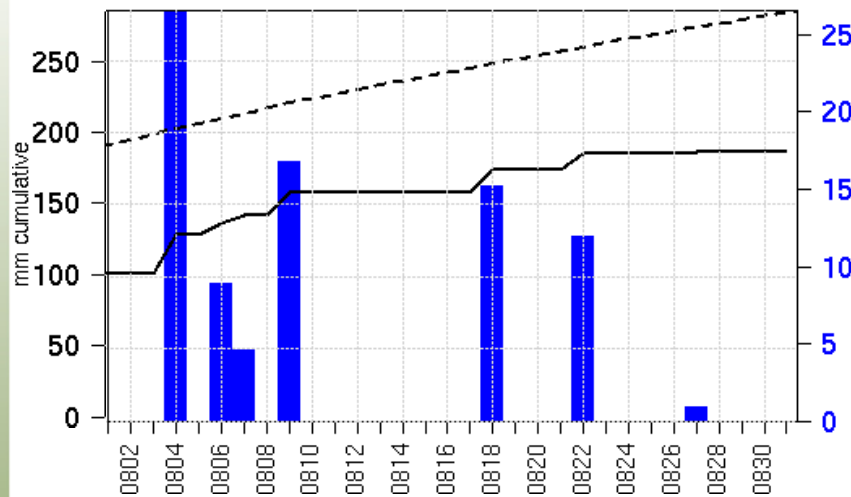
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August 2018 - Precipitation

Observed Cumulative Precipitation (line) versus Normal (dashed line) and Daily Amounts (bars)



Miramichi

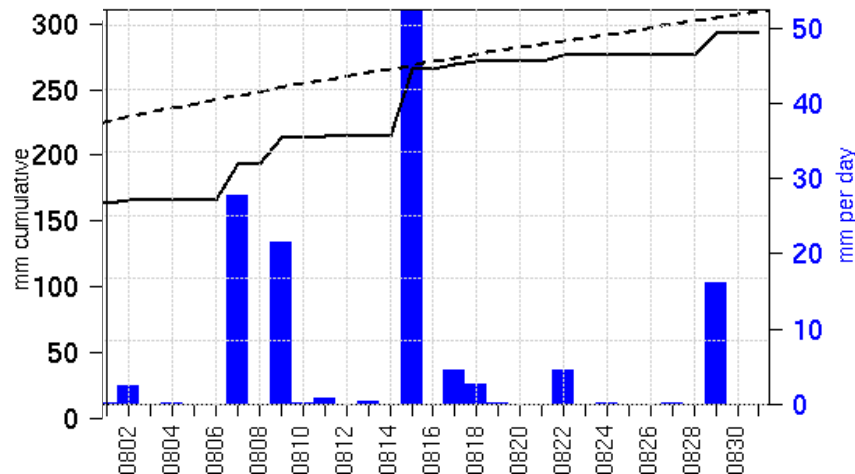
Departure: 91%

Bathurst

Departure: 108%

Edmundston

Departure: 143%

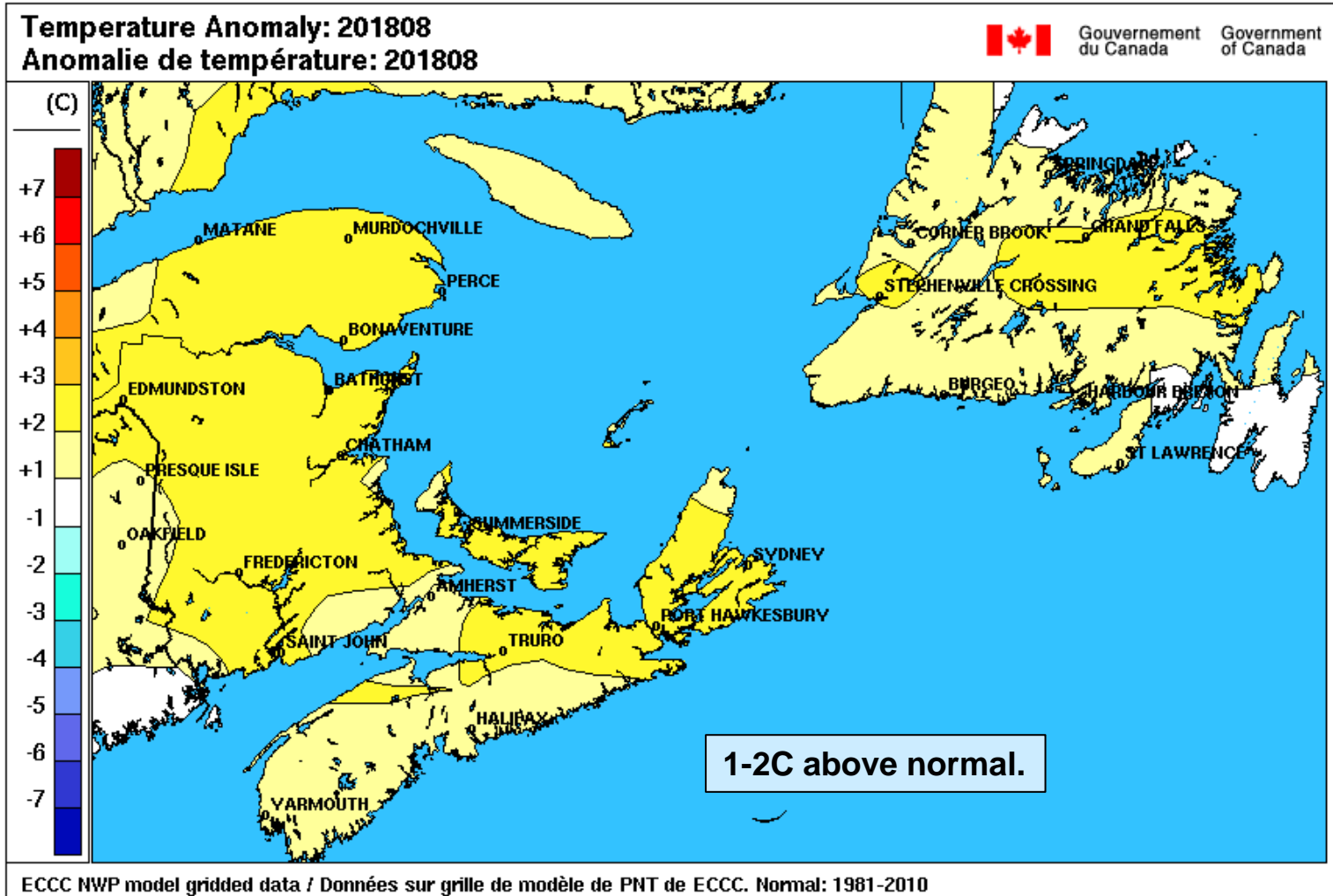


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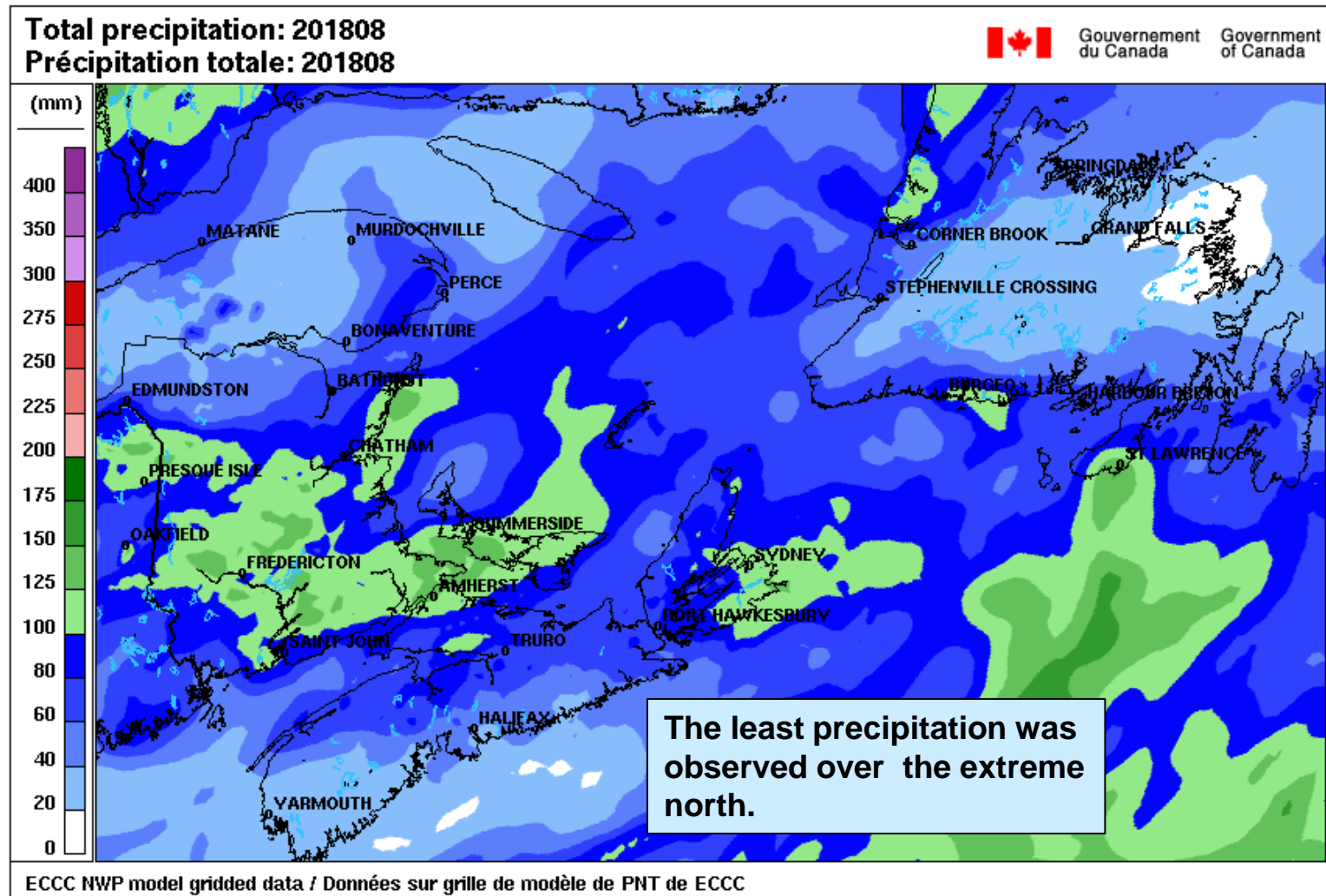
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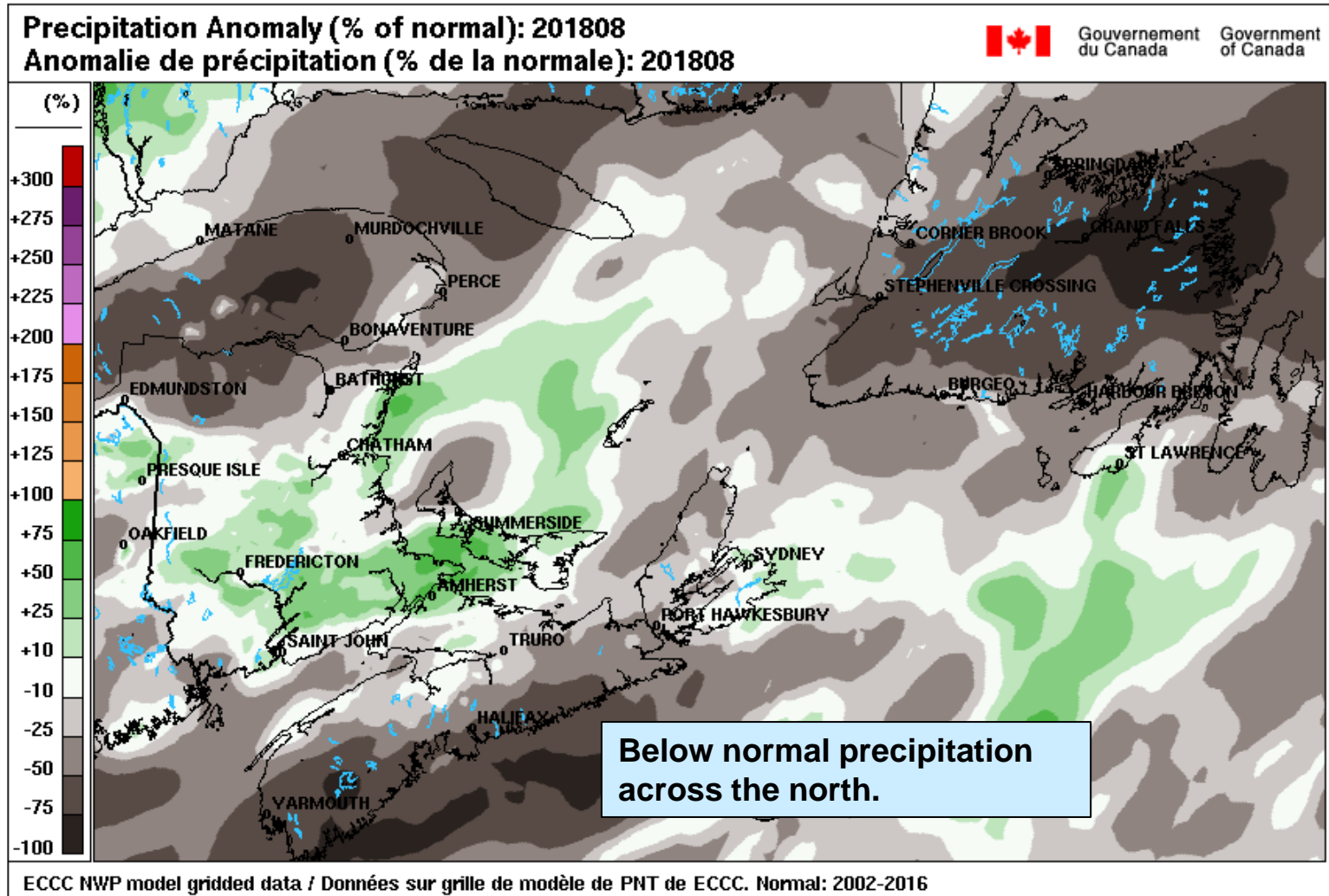
August 2018 Temperature departure from 1981-2010 mean.



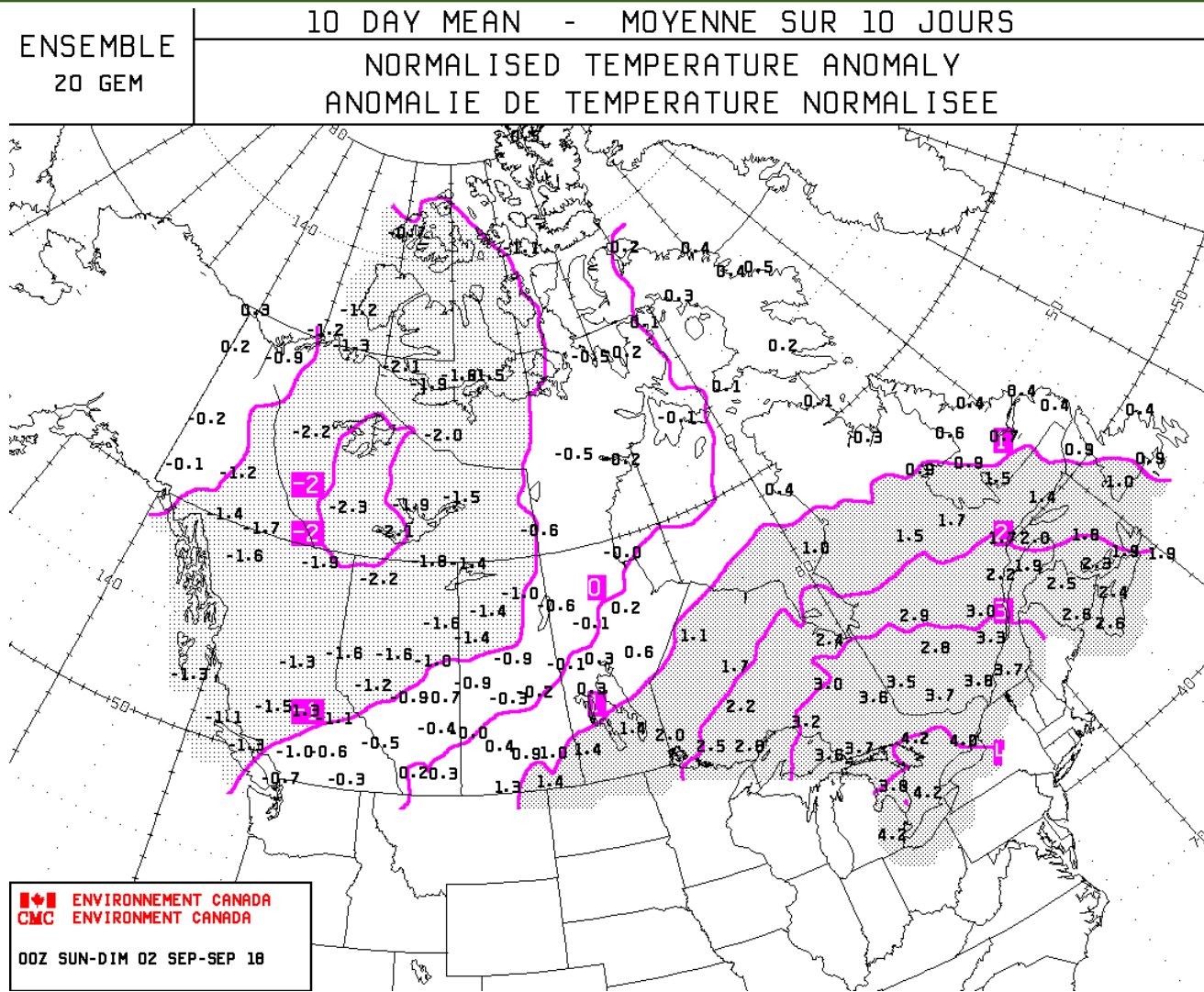
August 2018 Total Precipitation



August 2018 Precipitation departure from 1981-2010 mean.



(Suggesting above normal (+2-3C) conditions)



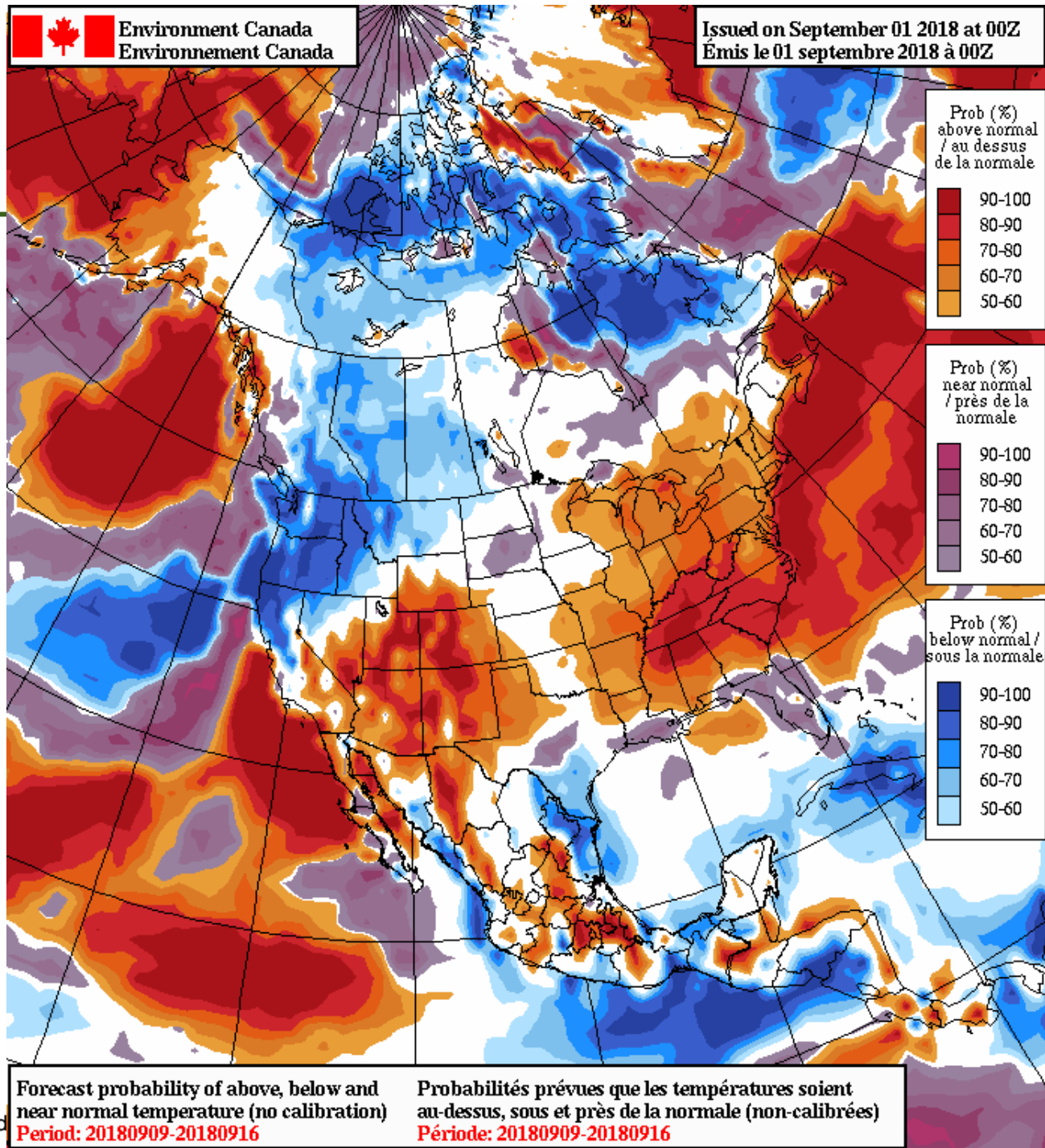
**10 day
forecast
ending
September
12, 2018**



Day 8 to 14 Forecast

Period ending
September 16,
2018

This is suggesting
near normal
conditions.



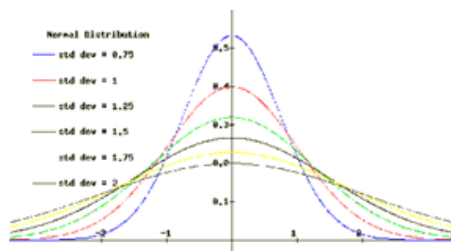


Fredericton

September

**Next 15 days; ending
September 16, 2018**

In general, remaining above normal for the first few days then returning to near normal. The minimum temperatures remain above normal for the period.



Normal high: 20.0C

Normal low: 7.1C

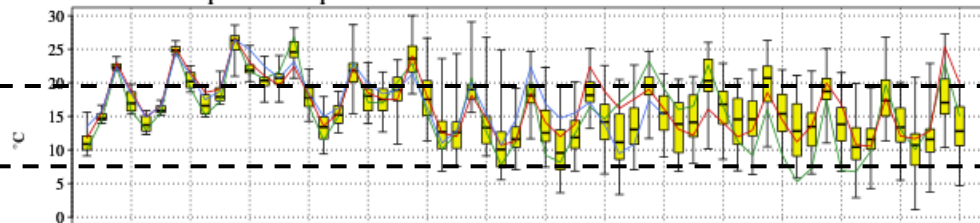
Ensemble and Deterministic Forecasts issued 1 September 2018 00 UTC
Prévision d'ensemble et déterministe émise le 1 Septembre 2018 00 UTC

for/pour

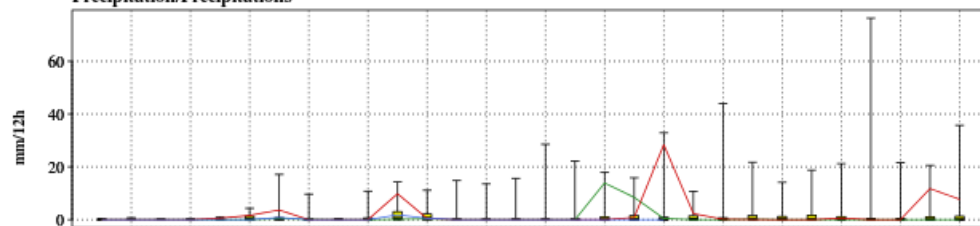
NAEFS / SPENA

FREDERICTON (YFC) 45.87 N 66.53 W/O

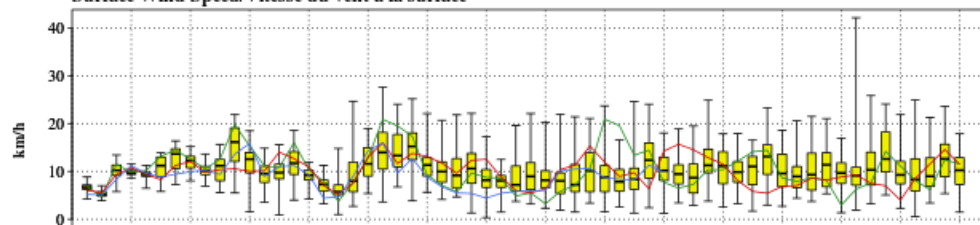
Surface Air Temperature/Température de l'air à la surface



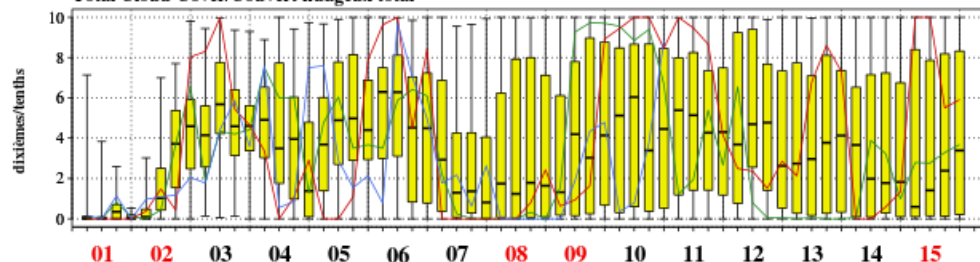
Precipitation/Précipitations



Surface Wind Speed/Vitesse du vent à la surface



Total Cloud Cover/Couvert nuageux total



September/Septembre 2018

max
75%
median/médiane
25%
min

Global Model / Modèle global

Control Member / Membre contrôle CMC

Control Member / Membre contrôle NCEP

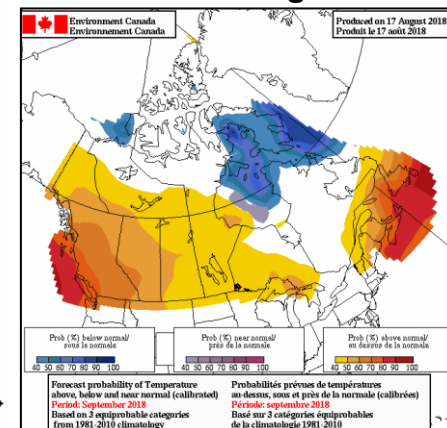


Temperature September 2018

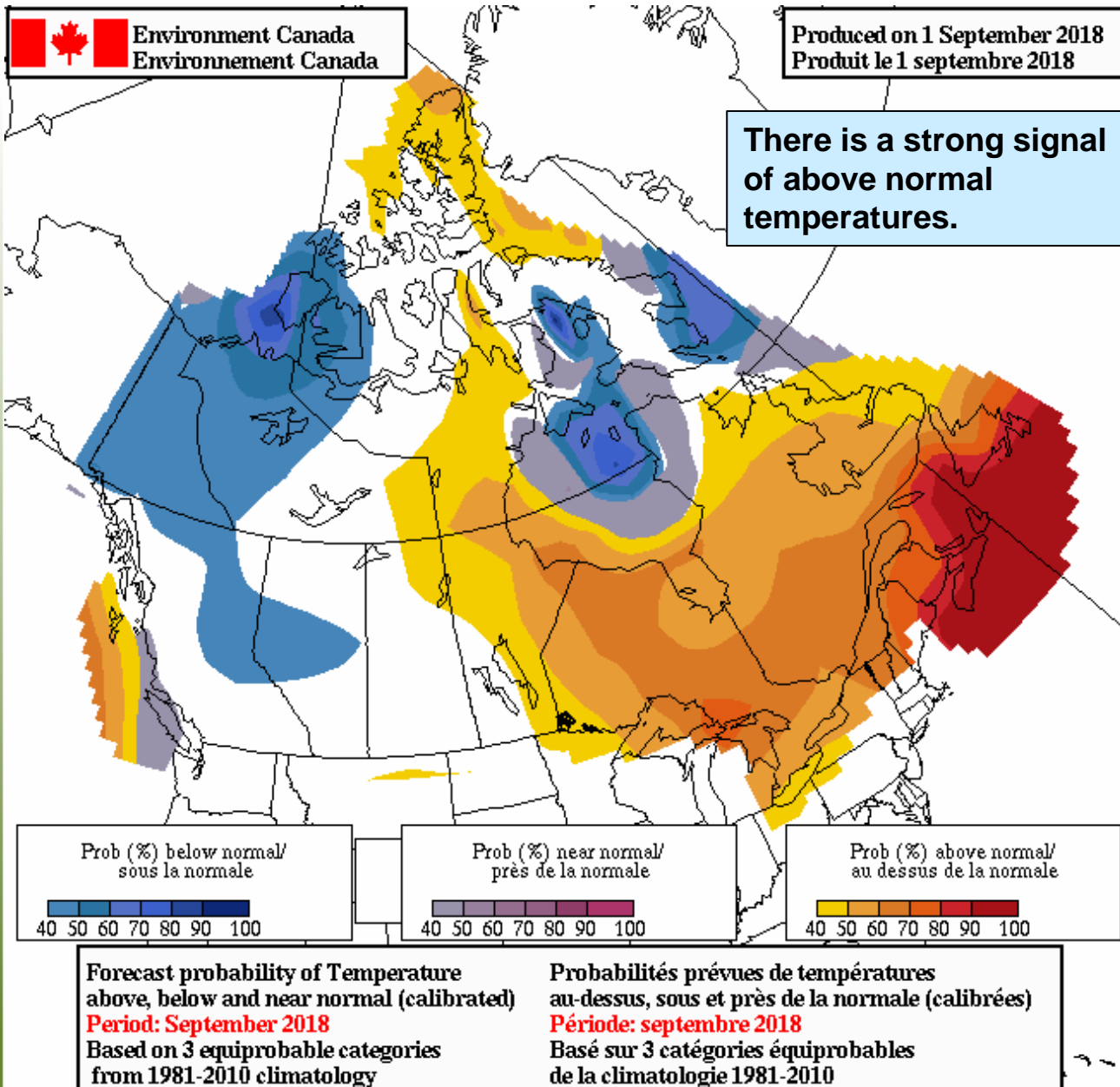
CanSIPS
(Canadian Seasonal and
Interannual Prediction
System)

CanAM3
CanAM4
+
CanOM4

Produced August 17



Canada

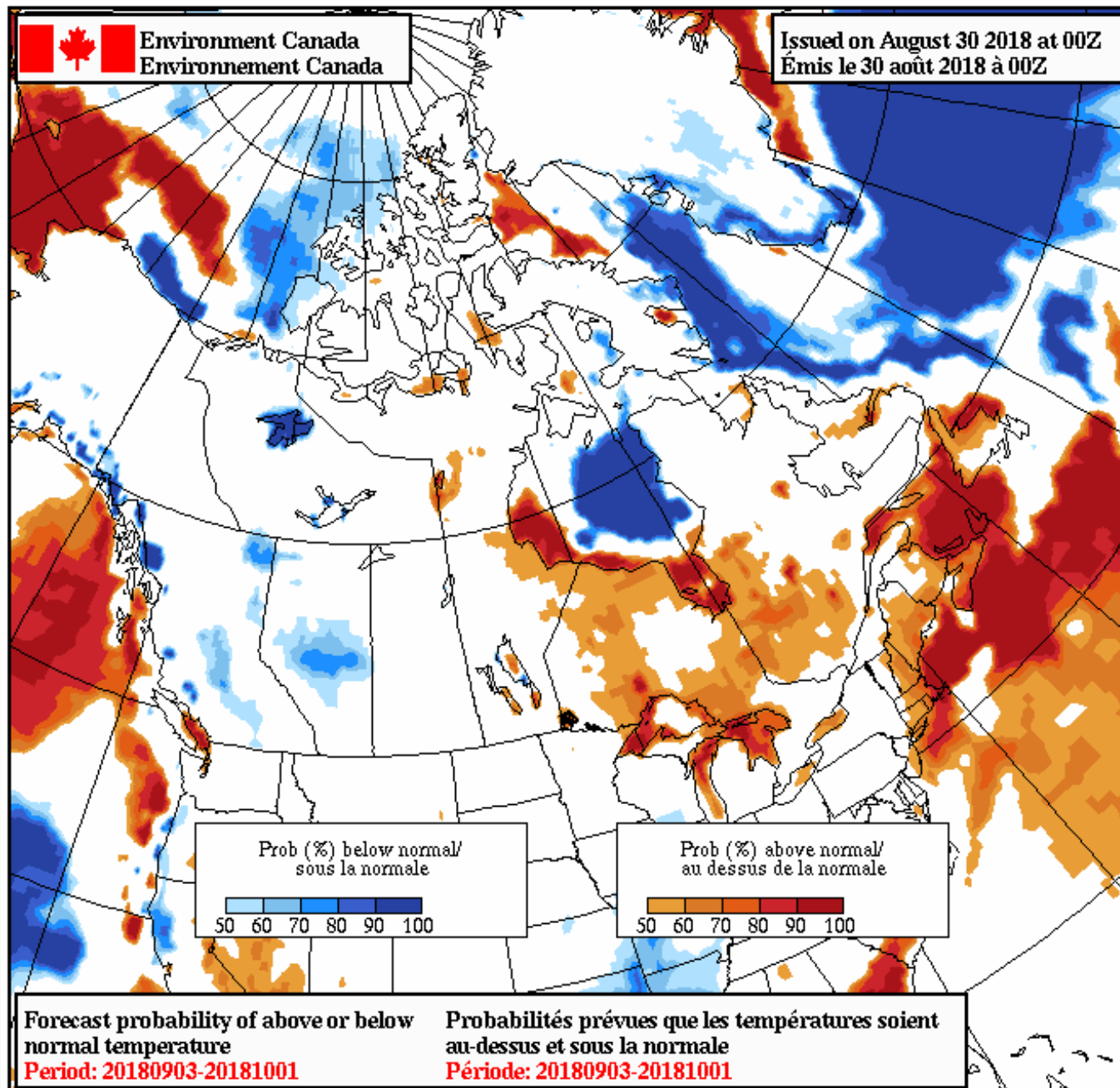


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Temperature September 3 to October 1

CMC
Monthly
Forecast
Product
using GEPS
50km res.

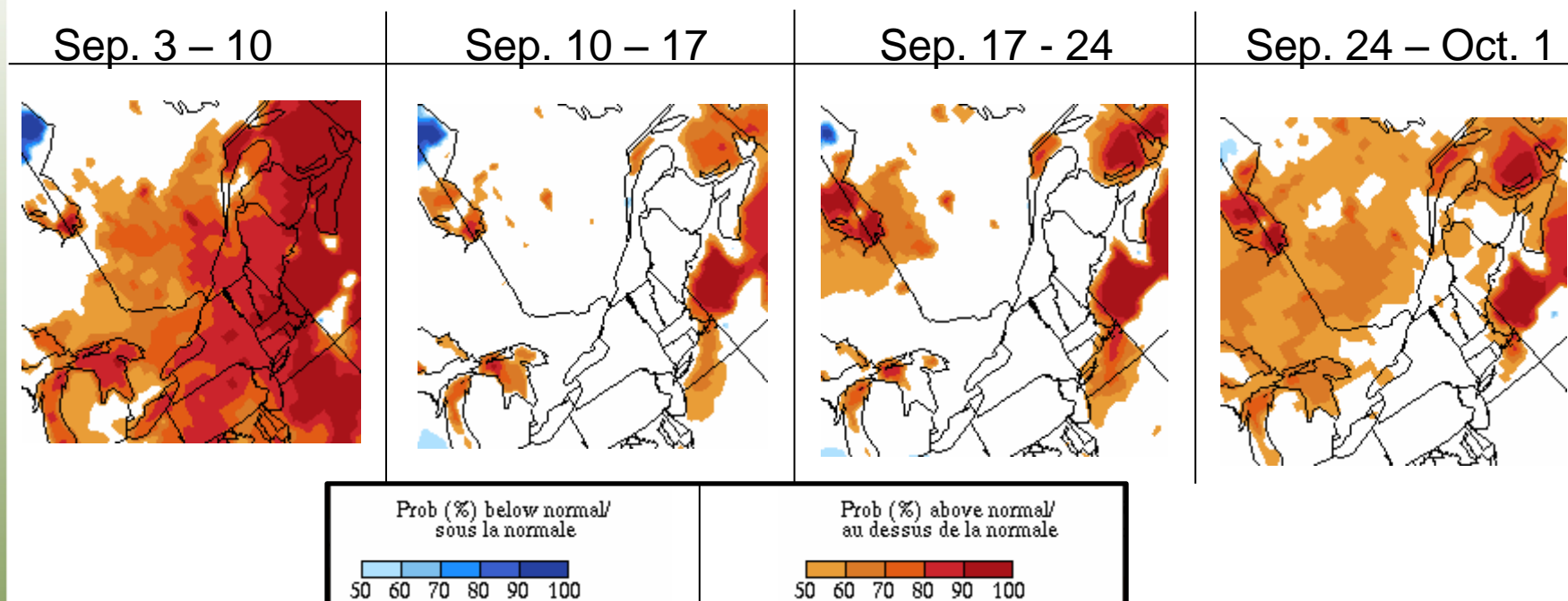


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Weekly signature from GEPS 50km resolution



A strong signal of above normal conditions for the first week then near to slightly above normal for the rest of the month.

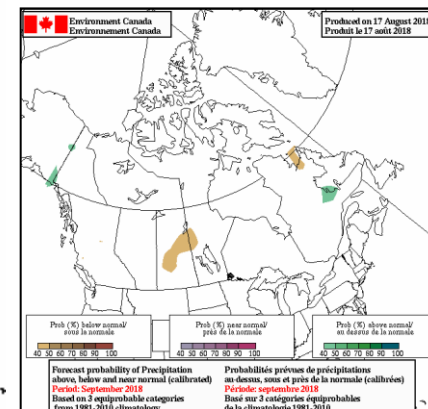


Precipitation September 2018

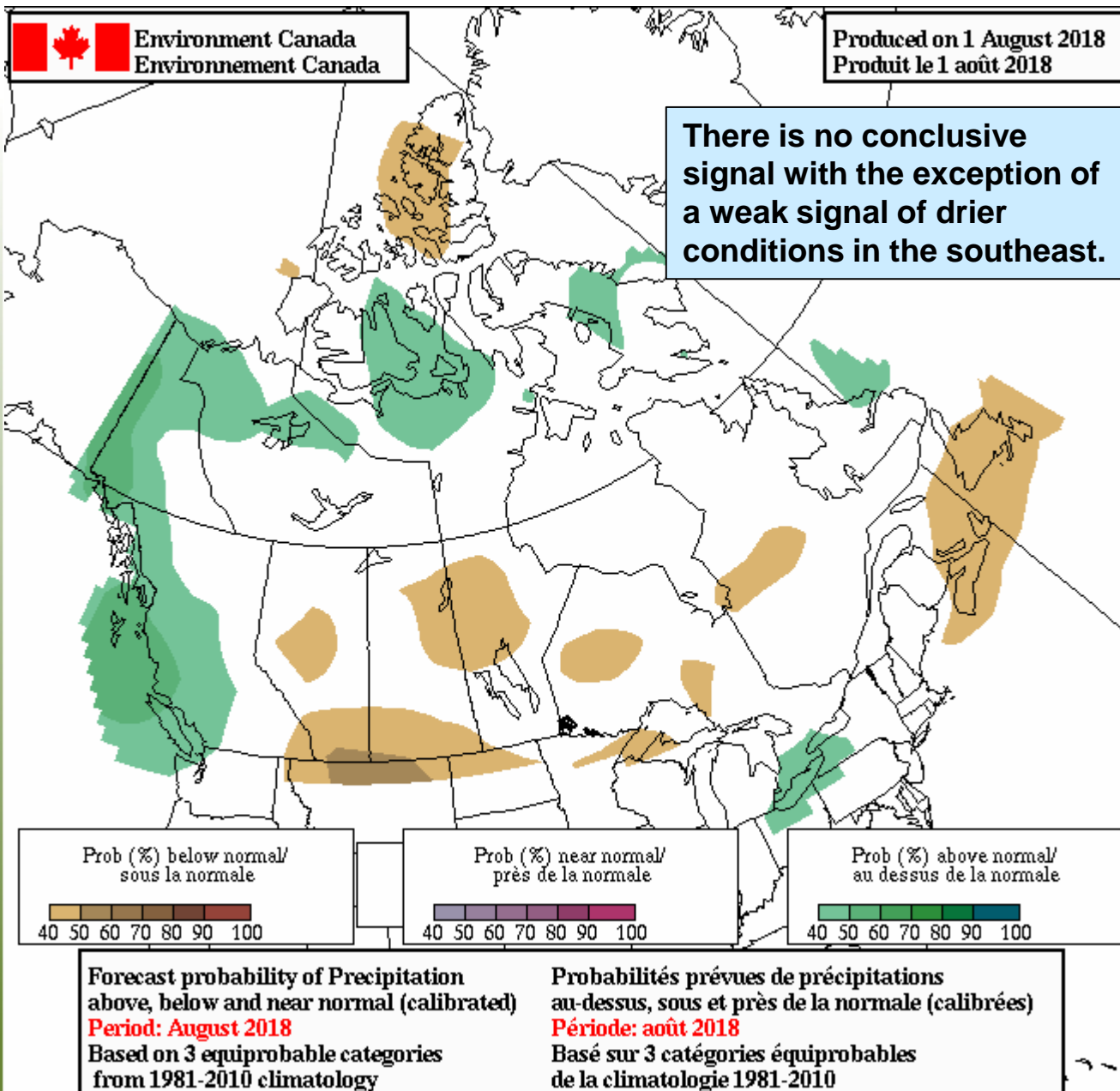
CanSIPS
(Canadian Seasonal and
Interannual Prediction
System)

CanAM3
CanAM4
+
CanOM4

Produced August 17



Canada

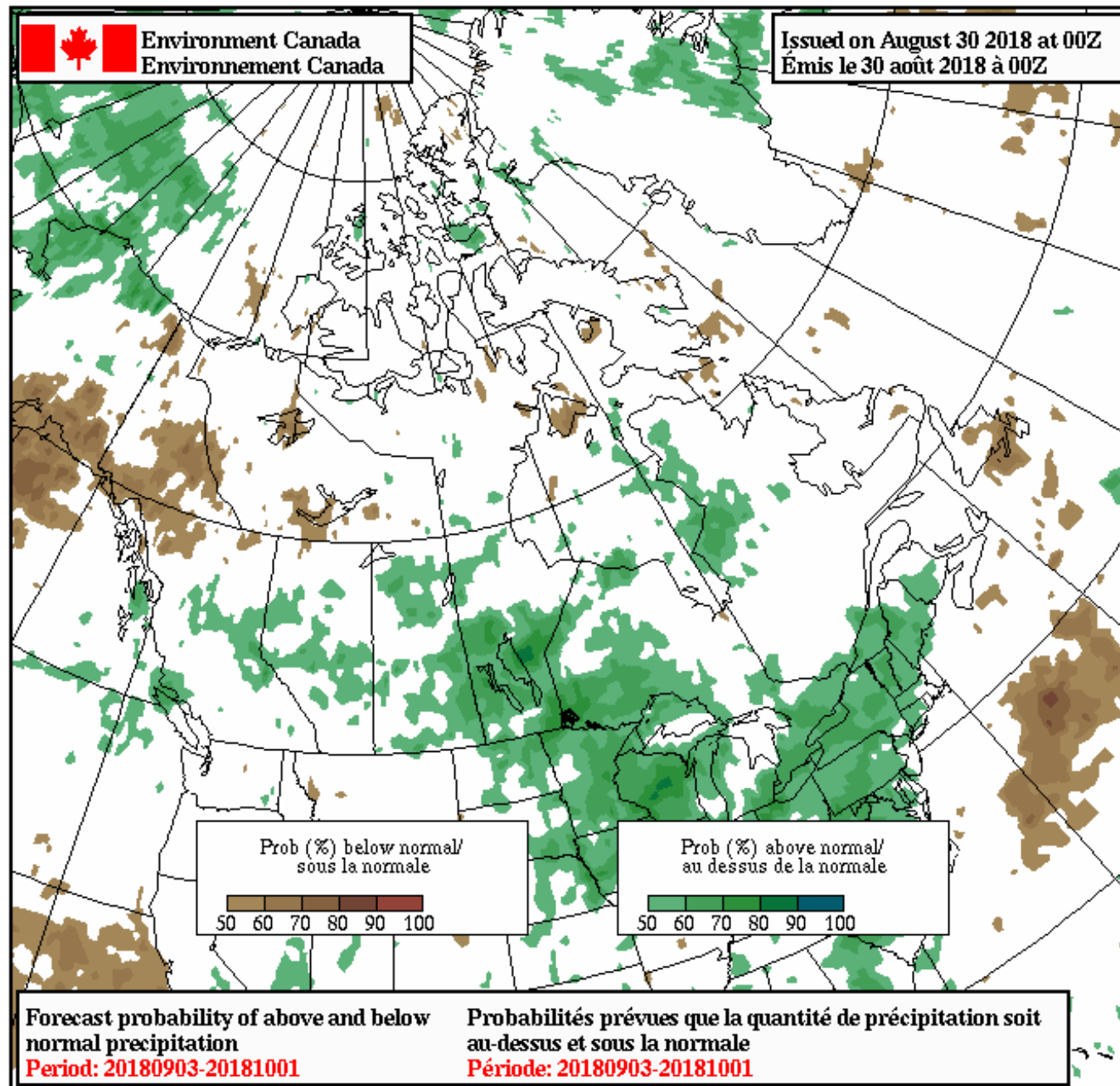


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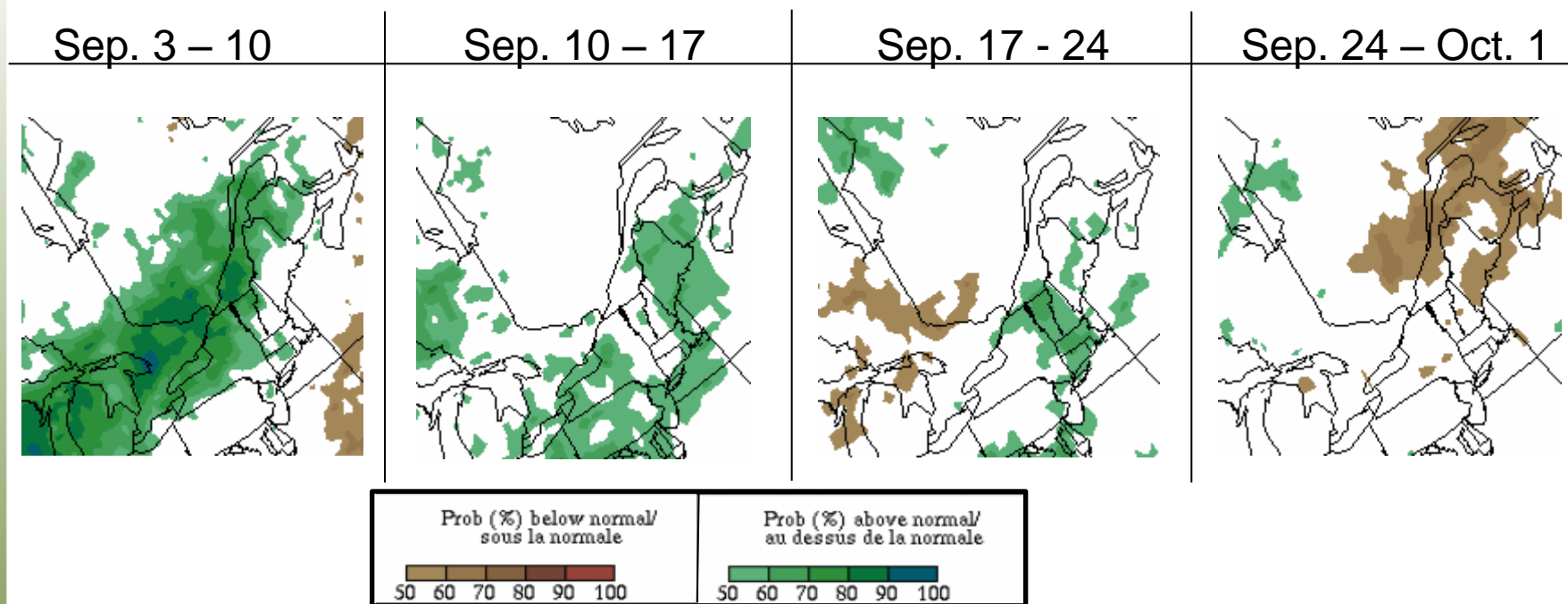
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Changement climatique Canada

Precipitation September 3 To October 1

CMC
Monthly
Forecast
Product
using GEPS
50km res.



Weekly signature from GEPS 50km resolution



There is a weak signal of above normal for the first three weeks then a shift to below normal for the last week.

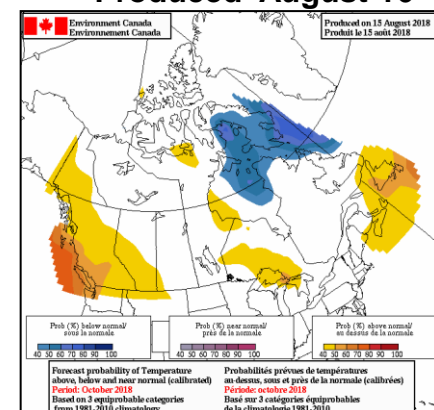
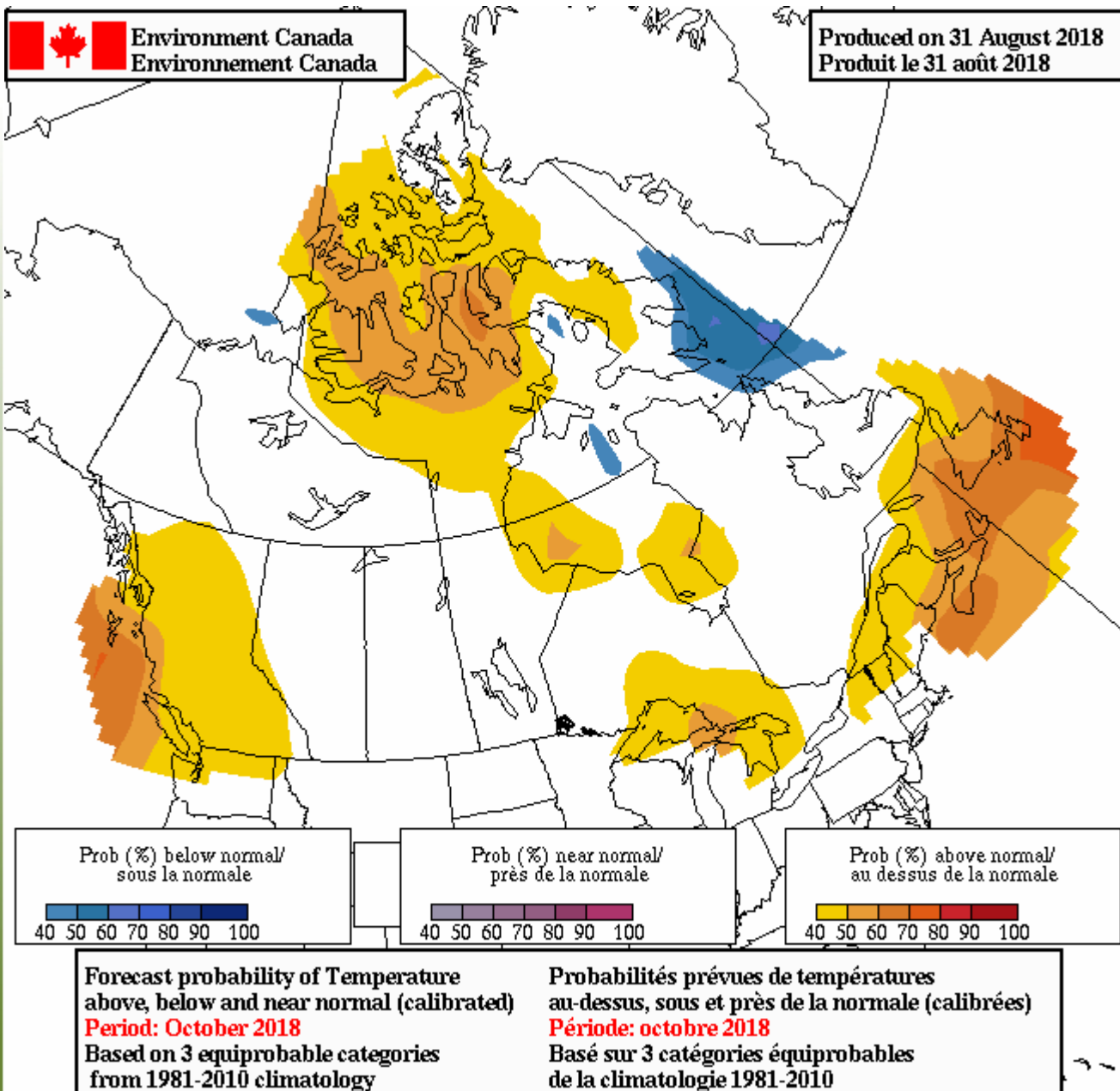


Temperature October 2018

CanSIPS
 (Canadian Seasonal and
 Interannual Prediction
 System)

CanAM3
 CanAM4
 +
 CanOM4

Produced August 16

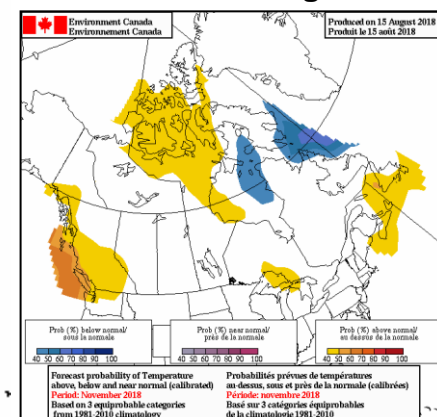


Temperature November 2018

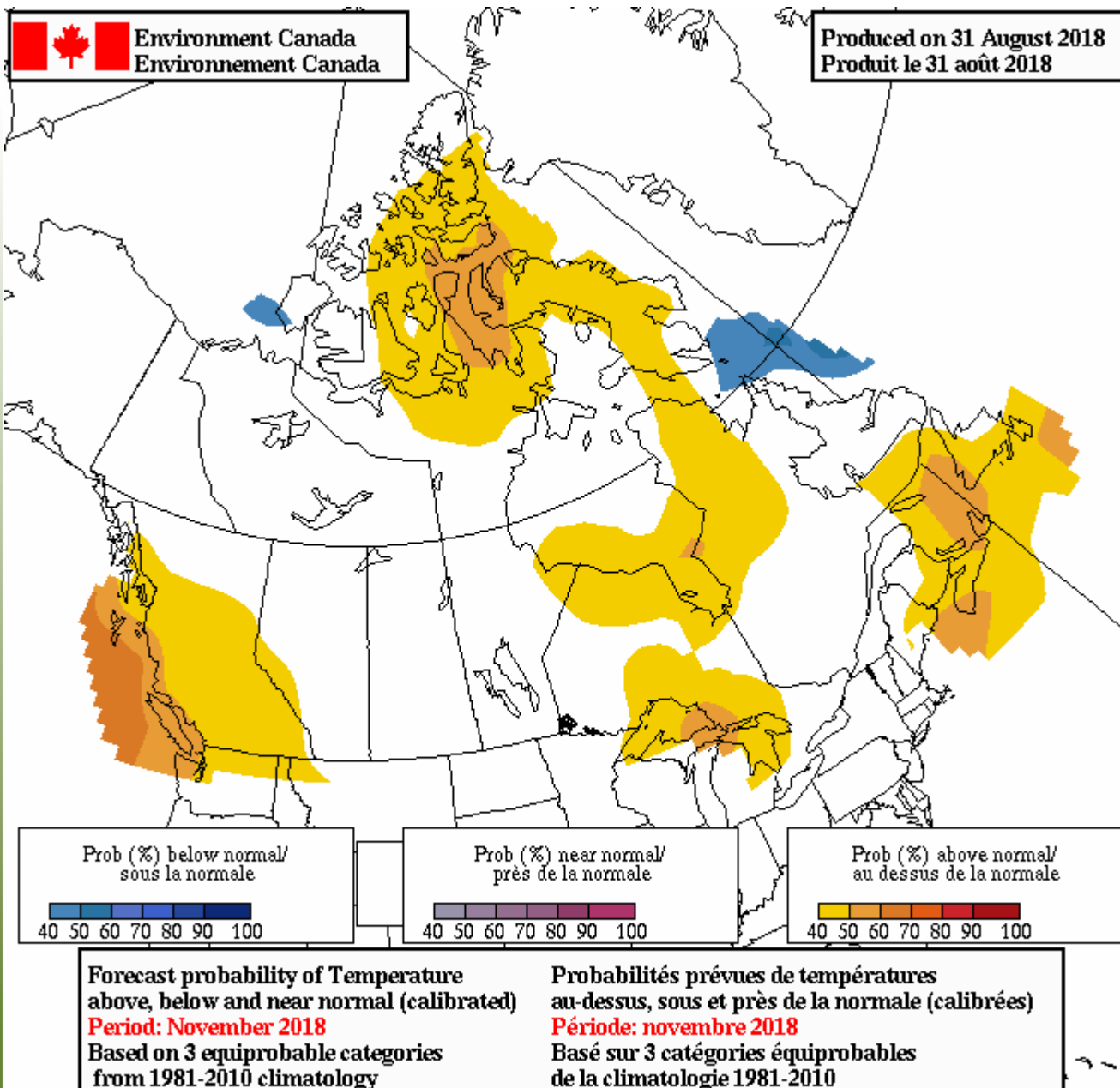
CanSIPS
(Canadian Seasonal and
Interannual Prediction
System)

CanAM3
CanAM4
+
CanOM4

Produced August 15



Canada



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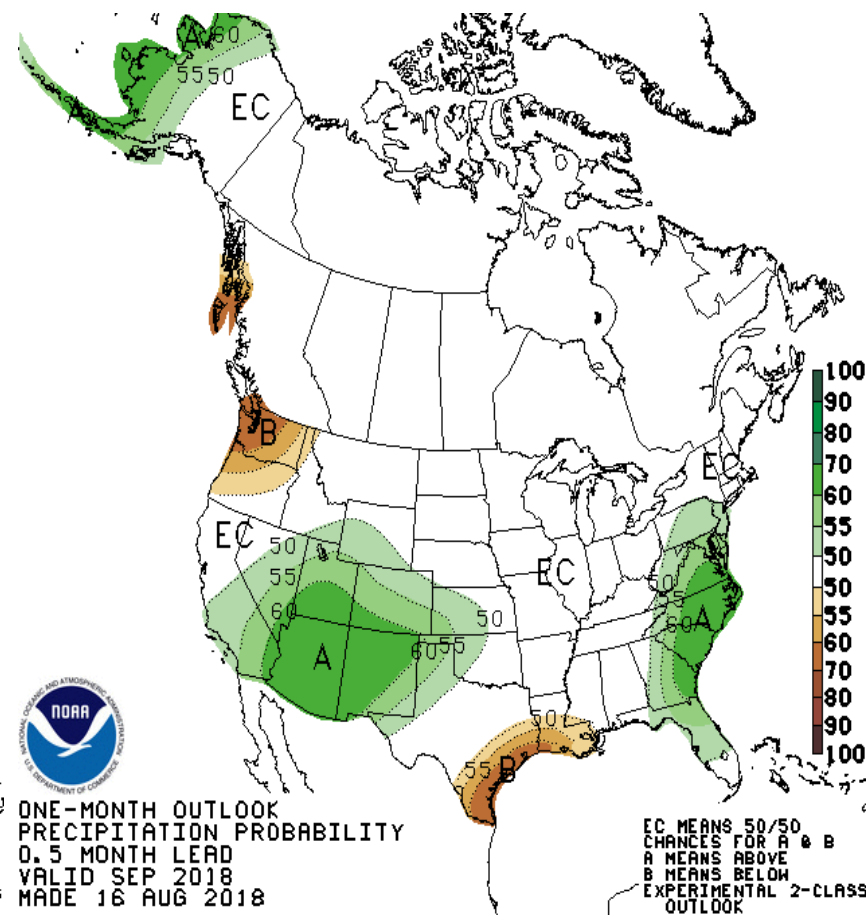
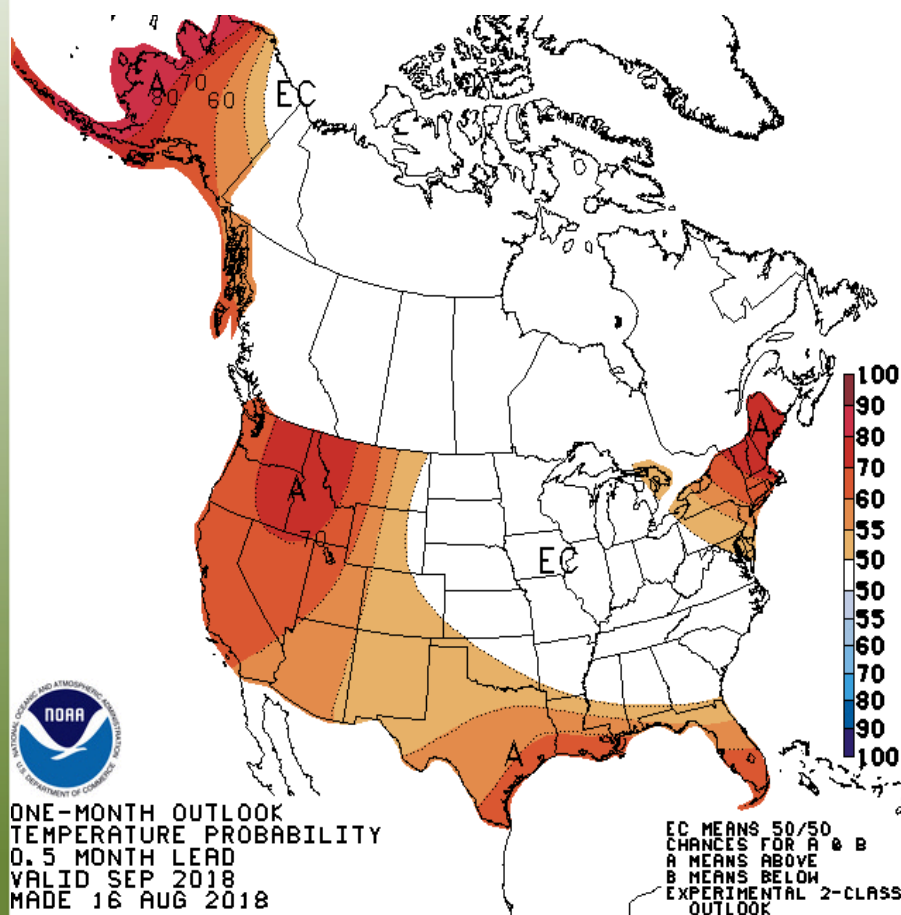
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September 2018

Temperature

Precipitation



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