

MARITIME CANADA CLIMATE SUMMARY

September 2022

Fiona Wreaks Havoc in the Eastern Maritimes

Despite being designated post-tropical at landfall on the eastern mainland of NS, Fiona brought hurricane force winds, major storm surge, and damage of historic proportions to eastern NS, PEI, eastern NB, southwestern NL and eastern Que. Power outages were prolonged and extensive. The month began quietly and overall mean temperatures for the month were once again above normal - generally in the 1-2 C range. Charlottetown recorded its 7th warmest September on record. Precipitation totals varied across the region -- generally below normal in the west, but rainfall enhanced by Fiona's passage resulted in above normal amounts in the east. The town of Antigonish, which had earlier in the month brought in water conservation measures, saw some relief with 202 mm recorded for the month at the nearby Tracadie station post-Fiona. Coastal sea surface temperatures were cooled significantly by the passage of Fiona but still remained slightly above normal at the end of the month.

The Warmest (°C)

New Brunswick	
Doaktown	28.7
Nova Scotia	
Shelburne	29.3
Prince Edward Island	
Maple Plains	26.4

The Coldest (°C)

New Brunswick	
Edmundston	-2.8
Nova Scotia	
Collegeville	-1.6
Prince Edward Island	
Maple Plains	-0.9

The Wettest (Total mm)

New Brunswick	
Edmundston	176.0
Nova Scotia	
North Mountain	297.1
Prince Edward Island	
Charlottetown	155.1

The Capital Stats

Station Name	Mean Temperature (°C)			Extremes	
	Monthly Mean	Normal Mean	Diff from Normal	Max (Date)	Min (Date)
Charlottetown	15.0	14.0	1.0	25.1 (1)	2.3(20)
Halifax	15.8	14.6	1.2	26.7 (12)	6.0 (19)
Fredericton	14.8	14.1	0.7	28.6 (11)	-0.2 (30)

Station Name	Total Precipitation			Snowfall	
	Monthly Total (mm)	Normal Total (mm)	Percent Normal	Total (cm)	SOG End of Month
Charlottetown	155.1	95.9	162	NA	NA
Halifax	150.5	102.0	147	NA	NA
Fredericton	105.1	94.7	111	NA	NA

Daily Temperature Records

Fifteen new daily high records were set – 9 in NS (highest 27.9 in Tatamagouche), 4 in NB (highest 27.6 in St Stephen) and 2 in PEI (highest 26.4 in Maple Plains). All of the new records occurred during the period 11th – 14th when a broad ridge of high pressure settled over the area. The warm period ended with the passage of a cold front from the NW. There was only one new daily record low set during the month, 4.4 C recorded at Maple Plains PEI on the 7th.

Significant Weather Events (information provided by Climate Services, ECCC)

September 15-16 Windy conditions were felt across northeastern NB, PEI, and Cape Breton as an intense low-pressure system slowly crossed the northern Gulf of St. Lawrence. Northerly winds gusted to 85 km/h in NB, 87 km/h in PEI and 80 km/h in NS and caused a few power outages due to trees remaining in full foliage, along with travel disruptions. The persistent onshore and upslope winds also caused localized heavy rainfall near 100 mm in the Cape Breton Highlands.

September 22-24 Fiona was a historic extreme event for Atlantic Canada, likely the strongest and most destructive tropical storm to have ever affected Canada with what is likely (pending review), the lowest mean sea level pressures reported over land associated with any storm in Canada. This includes 932.7 mb on Sept 24th, 07 UTC (04 ADT) at Hart Island NS and 931.7 mb at St. Peters NS (a Cape Breton Mesonet station). Extreme winds, heavy rainfall and destructive storm surge accompanied Fiona causing millions of dollars in damage in all 4 Atlantic Provinces and eastern Quebec.

In the Maritimes the heaviest rainfall affected parts of eastern PEI, and eastern NS/Cape Breton where the greatest totals reached the 100 to 175 mm range. A couple of locations in southeast NB reported amounts just over 100 mm. The strongest winds affected eastern NB, PEI and central/eastern NS where maximum gusts reached the 100 to 170 km/h range. An unofficial extreme gust of 179 km/h was reported at a station in Arisaig NS (North Shore). Water level monitors along the coast of eastern NB, PEI and NS reported peak storm surge values in the 1.5 to 2 m range associated with Fiona.

Damage across the Maritimes was widespread and extensive in the hardest hit areas with thousands of uprooted/snapped trees, toppled power and telecommunication lines affecting close to 600 thousand customers, damage to homes, businesses, ports, fishing grounds, crops and other infrastructure. Transportation was severely impacted with road/bridge closures, flight and ferry cancellations. Clean-up and repairs from the damage are expected to take weeks and just over a week after the storm close to 50,000 power customers in the Maritimes were still waiting to be reconnected. Significant erosion of shorelines due to high waves/storm surge were reported mostly in PEI. The Canadian Military was deployed to assist with the restoration and the Federal Government has indicated they will provide financial assistance for uninsured losses.

For more details of the effects of Fiona across the region, several articles can be found by searching the CBC News and other major media webpages.

Compiled by Peter J. Lewis with data and information provided by Client Service Operations Atlantic, Meteorological Service of Canada Environment and Climate Change Canada / Government of Canada

Other CMOS News

In case you missed it: Jim Abraham ([@YHZweatherguy](#)) and Chris Fogarty gave an excellent and very relevant presentation on **The History of Hurricane Forecasting in Canada**. You can [watch it here](#) on the CMOS YouTube Channel.

Upcoming Lecture: **Who:** Dr. Ward Smith, hosted by CMOS-Ottawa Centre
What: How may a changing climate impact cropping systems in Canada?
When: Thursday October 20, 12:45 ADT
Where: Click [here to register](#).

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