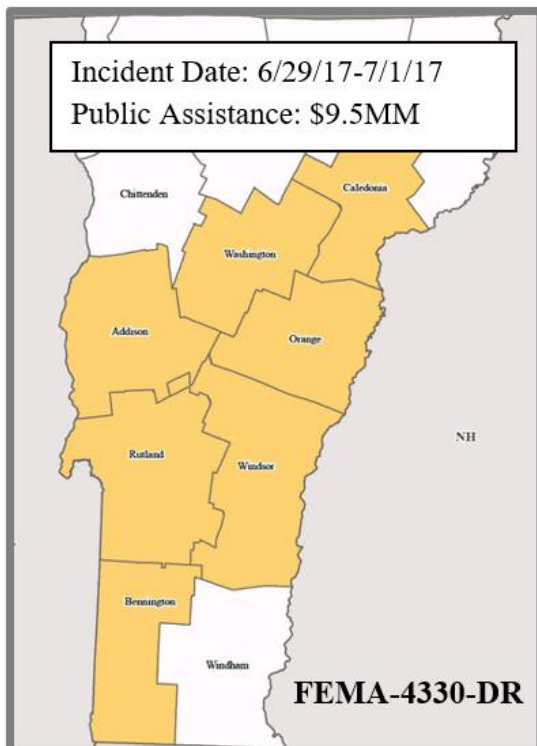
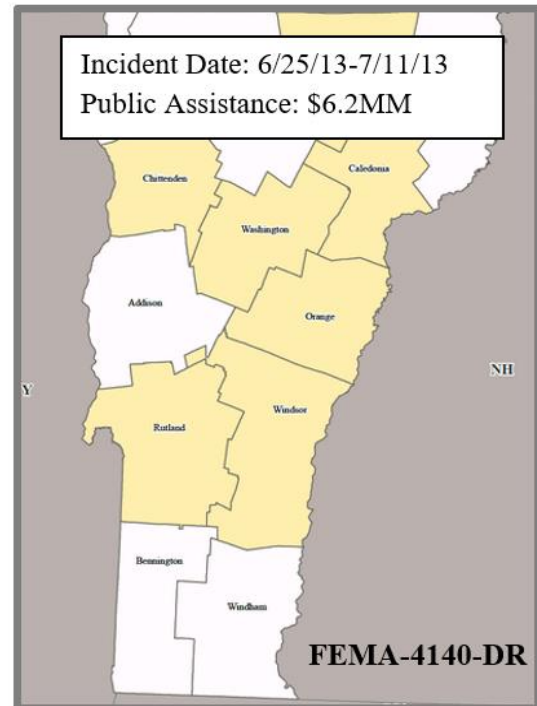
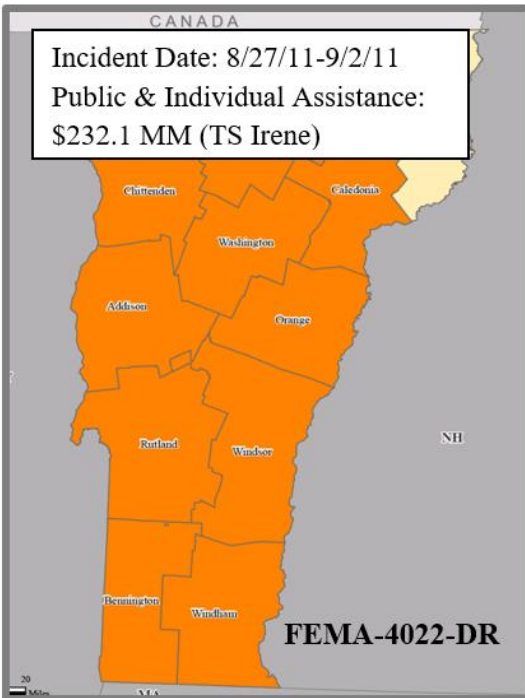
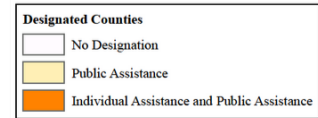


Federal Disaster Declarations for Windsor County VT¹

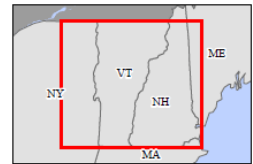
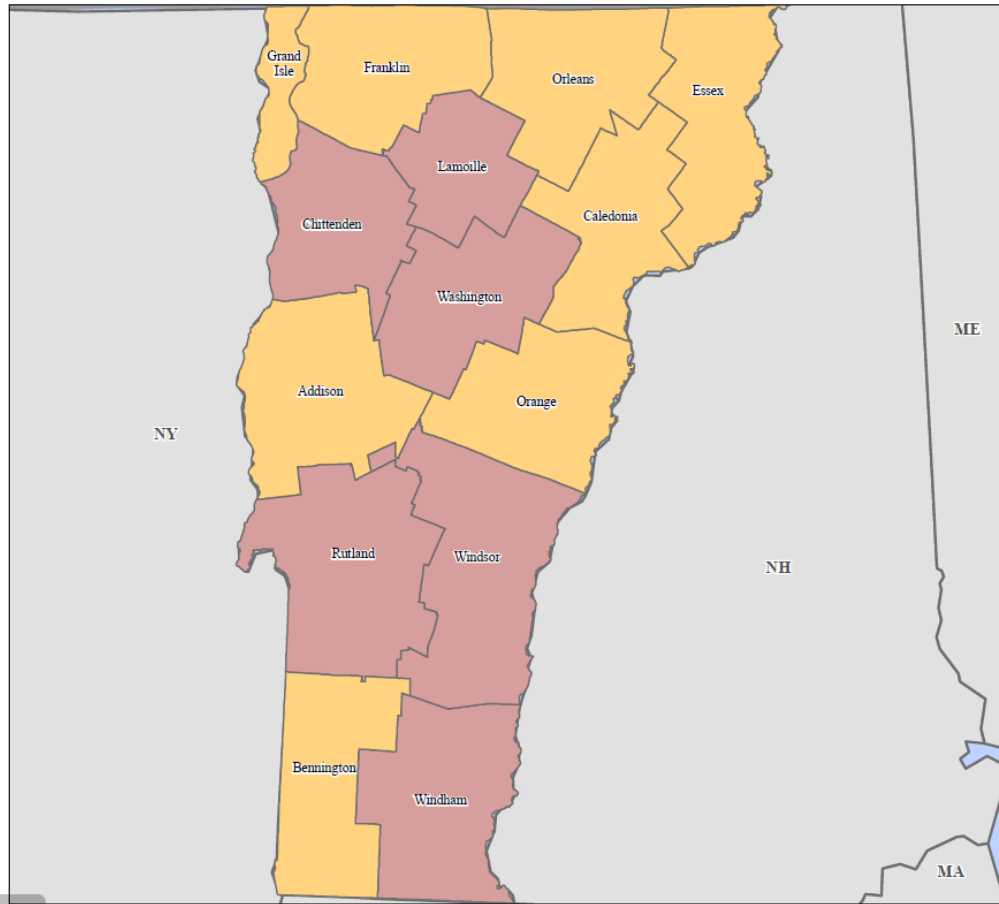
Federal Disaster Declarations: Windsor County 1990 – 2023(current)			
FEMA Disaster Number	Date of Declaration	Description	Date Occurred
DR-4720-VT	July 14, 2023	Severe Storm and Flooding	July 7, 2023
EM-3595-VT	July 10, 2023	Vermont Flooding	July 9, 2023 (statewide)
EM-3567-VT	August 22, 2021	Tropical Storm Henri	August 22, 2021 (statewide)
DR-4532-VT	April 8, 2020	Vermont COVID-19	January 20, 2020
EM-3437	March 13, 2020	Vermont COVID-19	January 20, 2020
DR-4445-VT	June 14, 2019	Severe Storms and Flooding	April 15, 2019
4330	August 16, 2017	Severe Storms and Flooding	June 29, 2012
4207	February 3, 2015	Severe Winter Storm	December 9-12, 2014
4140	August 2, 2013	Severe Storms and Flooding	June 25-July 11, 2013
4022	September 1, 2011	Tropical Storm Irene	August 27-September 2, 2011
1790	September 12, 2008	Severe Storms and Flooding	July 21-August 12, 2008
1715	August 3, 2007	Severe Storms and Flooding	July 9-11, 2007
1698	May 4, 2007	Severe Storms and Flooding	April 15-21, 2007
1488	September 12, 2003	Severe Storms and Flooding	July 21-August18, 2003
1336	July 27, 2000	Severe Storms and Flooding	July 14-18, 2000
1307	November 10, 1999	Tropical Storm Floyd	September 16-21, 1999
1228	June 30, 1998	Severe Storms and Flooding	June 17-August 17, 1998
1101	February 13, 1996	Storms and Flooding	January 19-February 2, 1996
938	March 18, 1992	Flooding, Heavy Rain, Ice Jams	March 11, 1992

¹ [FEMA Disasters Declaration Website, Accessed 7-20-2023](#)

FIGURE 5.2-2
Regional Impact of
FEMA Declared Disasters
Severe Storms and Flooding



FEMA-4720-DR, Vermont Disaster Declaration as of 07/14/2023



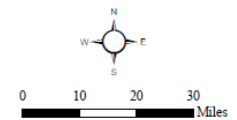
Data Layer/Map Description:
The types of assistance that have been designated for selected areas in the State of Vermont.

All counties in the State of Vermont are eligible to apply for assistance under the Hazard Mitigation Grant Program.

Additional designations may be made at a later date if requested by the state and warranted by the results of further damage assessments.

Designated Counties

- Public Assistance (Category B)
- Individual Assistance and Public Assistance (Category B)



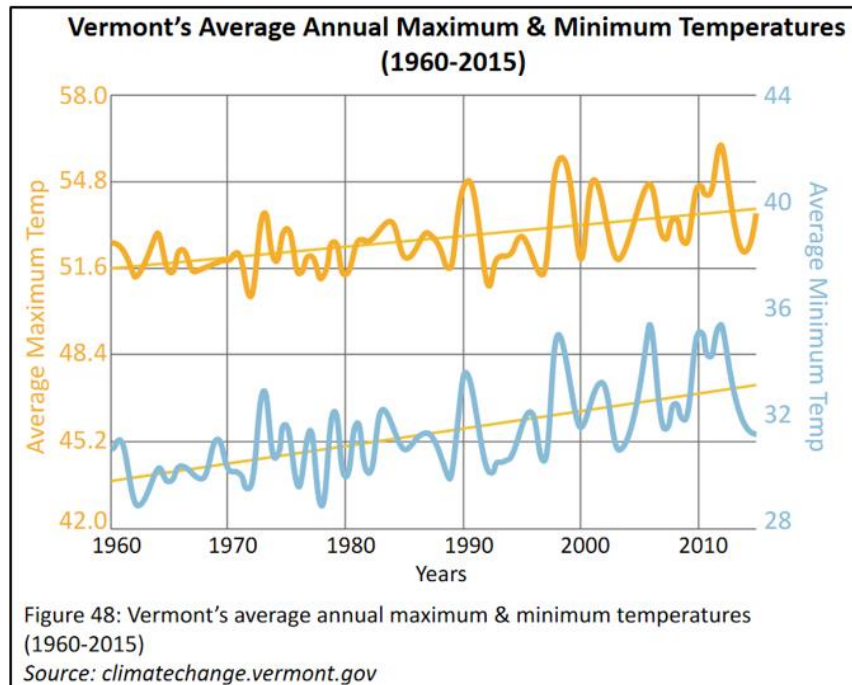
Data Sources:
FEMA, ESRI;
Initial Declaration: 07/14/2023
Disaster Federal Registry Notice: 07/14/2023
Datum: North American 1983
Projection: Transverse Mercator

MapID df5d4ae069d0714231028twhqprod

Vermont Historical Flood Events

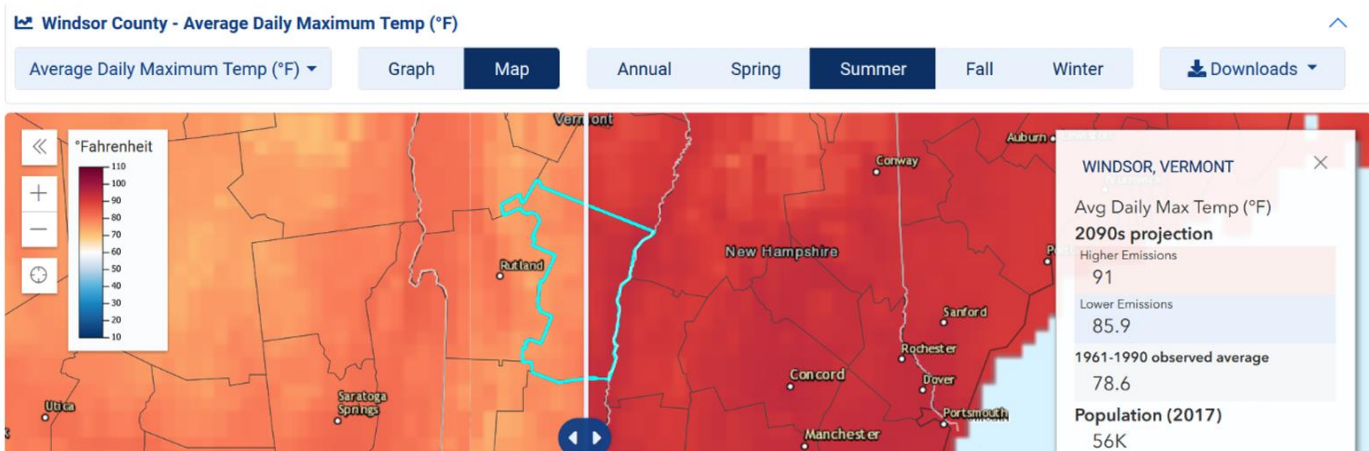
Event	Date	Description	Impact or Extent of Damage
Great Flood of 1927	November 3, 1927	After a wet October, rivers were swollen and the ground was saturated. Nine inches of rain fell in a 36-hour period triggering disastrous flooding. The month of October saw 150% greater rainfall than normal and lack of vegetation due to de-forestation may have reduced the ground's ability to absorb water. Though all of New England was affected, Vermont was devastated. The state flooded from Newport to Bennington, with the Winooski River Valley the hardest hit. Deadliest disaster in Vermont history.	<ul style="list-style-type: none"> ➤ 84 people perished ➤ 9,000 left homeless ➤ Many roads, countless homes and over 1,200 bridges washed away ➤ Over \$28 MM in damages (\$404 million in current \$s)
The Great New England Hurricane of 1938	September 21, 1938	One of the most powerful and destructive hurricanes to hit southern New England and the region of Southeast Vermont with winds over 100 mph. Authorities were unaware of the magnitude so no evacuation procedures were instituted and very few precautions were taken. The only tropical cyclone to make a direct hit on Vermont in recorded history. Hurricane-force winds caused extensive damage to trees, buildings, and power lines.	<ul style="list-style-type: none"> ➤ 600 people perished in southern New England, only 5 in Vermont ➤ Over 2,000 miles of roads were blocked taking months to reopen ➤ Vermont maple and sugar groves were damaged ➤ Over \$300 MM in damages (\$5 Billion in current \$'s)
Tropical Storm Irene	September 1, 2011	Tropical Storm Irene tracked north northeast across eastern New York and western New England producing widespread flooding, and damaging winds across the region. The greatest impact across central and southern Vermont was due to catastrophic flash flooding as a result of 4 to 7+ inches of rainfall which occurred across all of Windham and Windsor County, especially in the foothills of the Green Mountains. Several dozen roads (state and local), including Routes 4, 12, 12A, 100, 103, 107 and 131, as well as several bridges were washed out or suffered severe damage. Several communities within Windsor County were isolated due to loss infrastructure. Dozens of homes and businesses experienced severe flooding as well as major losses to farms and livestock.	<ul style="list-style-type: none"> ➤ Frequent wind gusts of 55-60 mph, peak gusts at 85 mph. ➤ 18,000 customers in Windham County lost power. ➤ Greatest single-day rainfall in Vermont's recorded history. ➤ Rainfall averaged 4 to 8 inches, and up to 11 inches in some areas over a 12-hour period. ➤ There were nearly 2400 roads, 800 homes/businesses, 300 bridges and a half dozen railroad tracks destroyed or damaged from the flooding caused by Irene. ➤ \$18.7M estimated in Public and Individual FEMA Assistance.

Vermont Average Annual Temperature Trend



Projected Average Daily Maximum Summer Temperatures for Windsor County

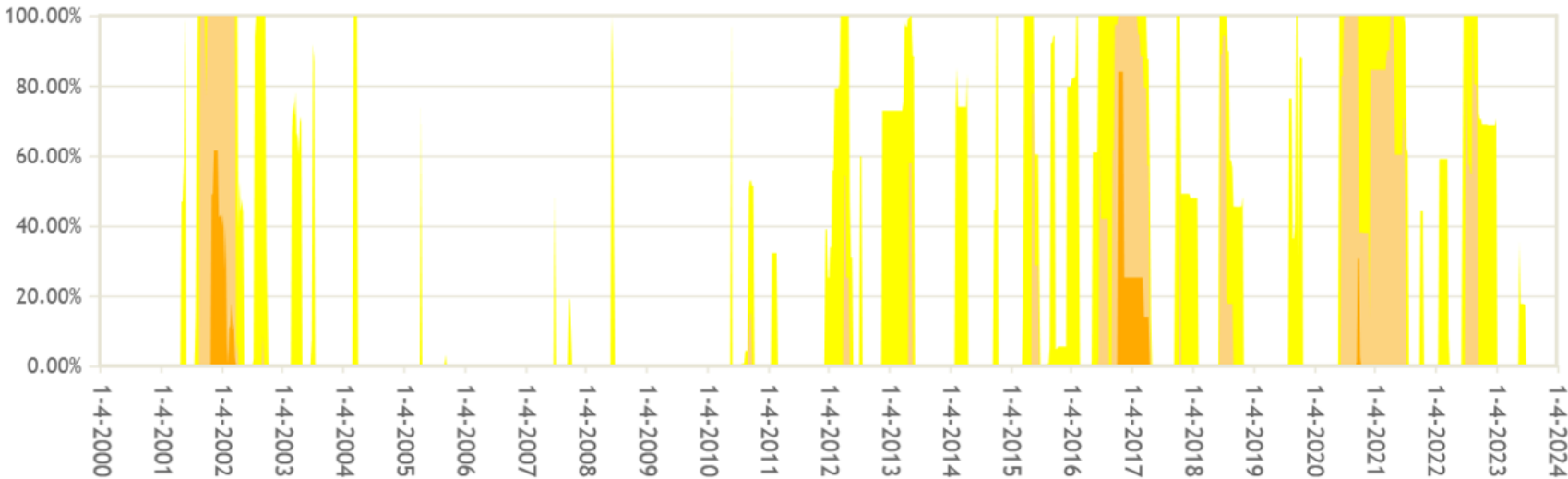
Chart compares historical to projected temperatures in the divided image above. According to this source, average daily maximum summer temperatures are projected to rise above 90°F by the 2090's for Windsor County with higher emissions compared to observed historical maximum averages of 78.6°F. If emissions are lower, the maximum will reach 85.9°F.¹



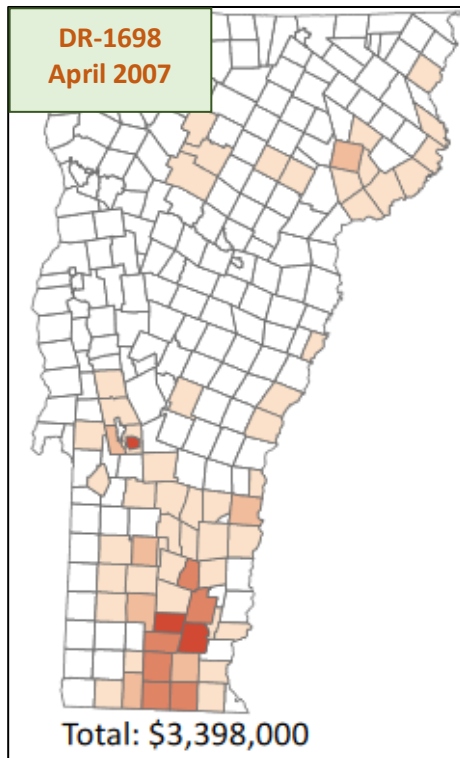
¹ [Climate Explorer](https://climateexplorer.com/), accessed July 24, 2023

Drought Monitor for Windsor County, VT

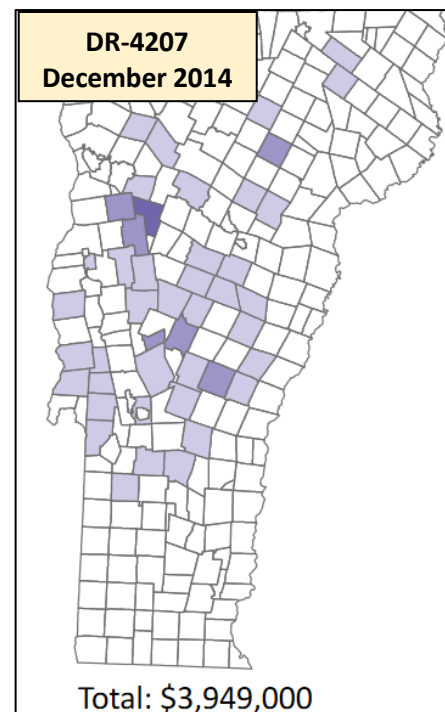
Percent Area in U.S. Drought Monitor Categories



Category	None	D0	D1	D2	D3	D4
Description	Normal or wet conditions	Abnormally Dry	Moderate Drought	Severe Drought	Extreme Drought	Exceptional Drought



High Winds during this April storm resulted in many trees down and damage to some private homes and public infrastructure, primarily in Southern Vermont. The Town of Windsor received assistance for this declaration.



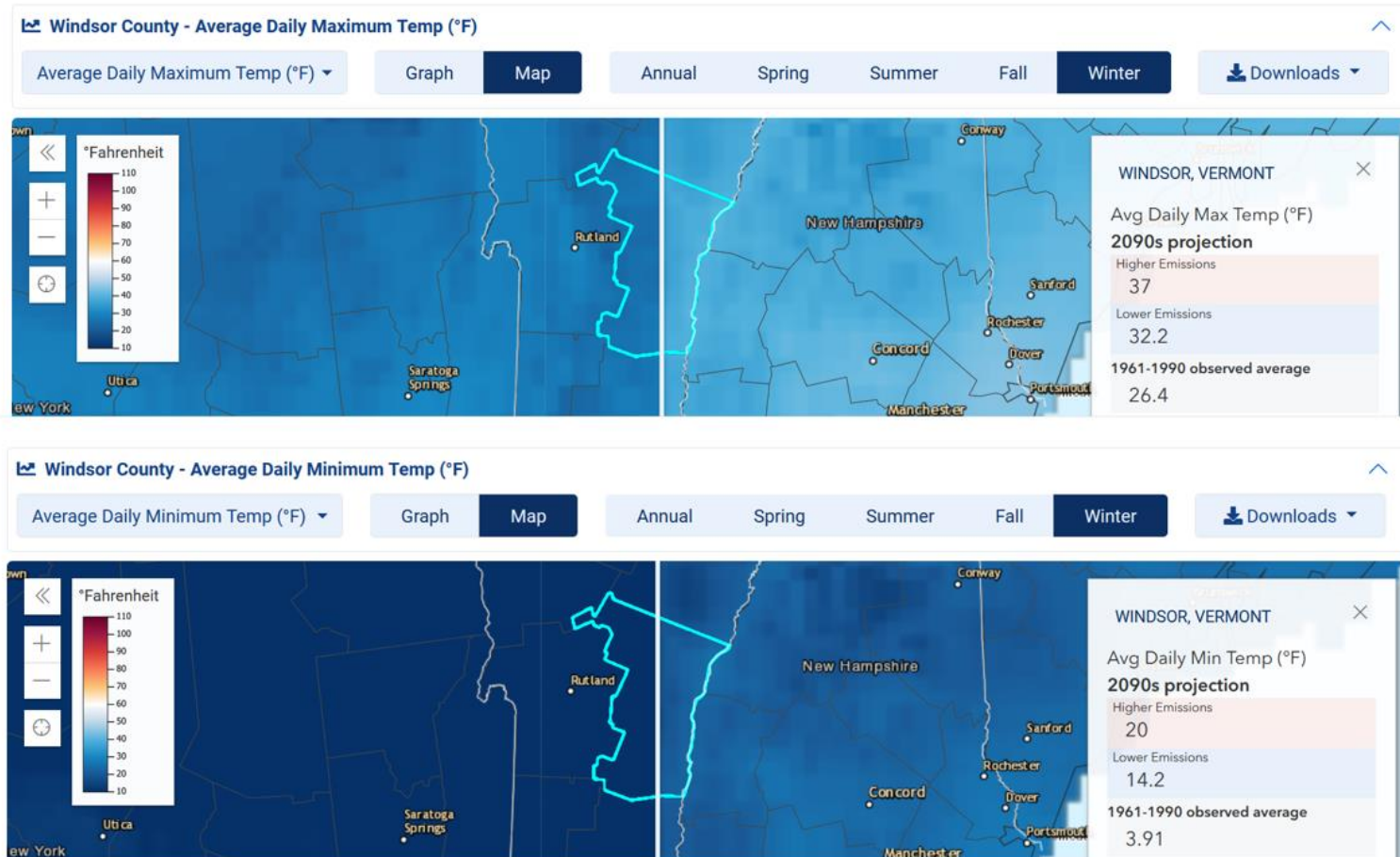
While the history of **Winter Ice Storm** events in Vermont and the historical damaged caused is extensive, Windsor County has been a designated area in only one federally declared disaster event for Winter Storm over the past 20 years. DR-4207 occurred over a four-day period in mid-December 2014 when heavy, wet snow and ice resulted in more than 175,000 power outages in the region, the 2nd most power outages due to weather in Vermont.¹ The damage assessment for Windsor County was estimated to be over \$200,000 and impacted the northwest corner of the

county.

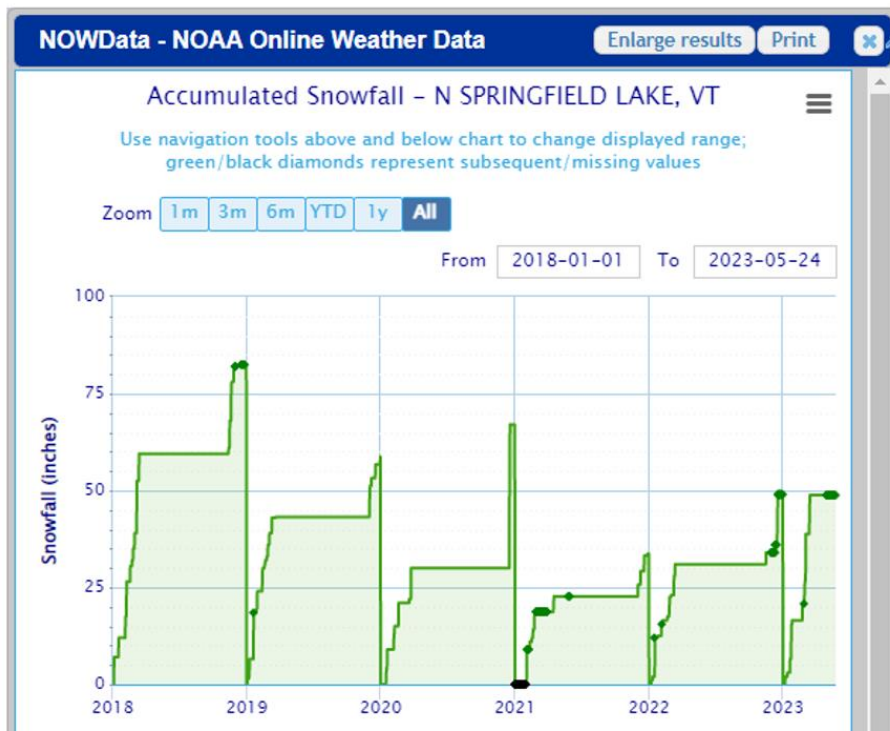
¹ 2018 Vermont State Hazard Mitigation Plan

Winter Temperature Projections for Windsor County

According to this source, average daily maximum winter temperatures are projected to rise above freezing to 37°F by the 2090's for Windsor County with higher emissions compared to observed historical averages of 26°F. If emissions are lower, the maximum will reach 32°F. The average daily minimums winter temperatures will also rise to 20°F over the same period compared to 4°F, observed historical averages.¹



¹ [Climate Explorer, Climate.gov](#), accessed July 24, 2023



Annual **Snow** totals are projected to continue to diminish. Variability in extreme temperature changes will result in more wet snow and ice events throughout the winter season with a greater potential for winter flooding and ice jams.

