



# NWS Role in Emergency Planning/Response



Mount Ascutney Regional Commission  
6 December 2022

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Warning Coordination Meteorologist  
National Weather Service Burlington, VT

[www.weather.gov/btv](http://www.weather.gov/btv)



- **NWS Overall Mission/Responsibilities**
- **NWS Role in Emergency Planning, Response**
  - Resources Available
- **Climate and Climate Change in VT**

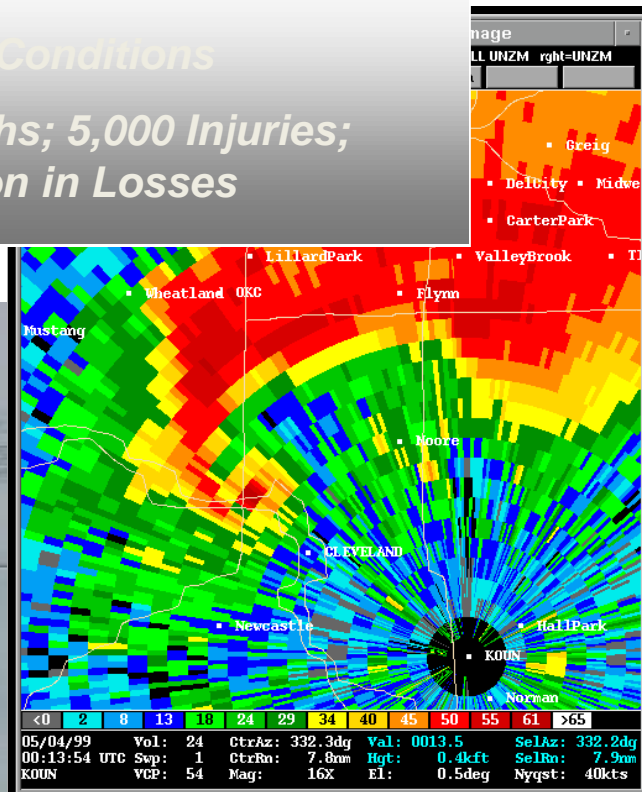


# National Weather Service Mission

- Provide climate, water, weather forecasts and warnings to **protect life and property** and enhance the economy
- Data and products are used by other government agencies, the private sector, the public, and the global community.

## A Typical Year Brings:

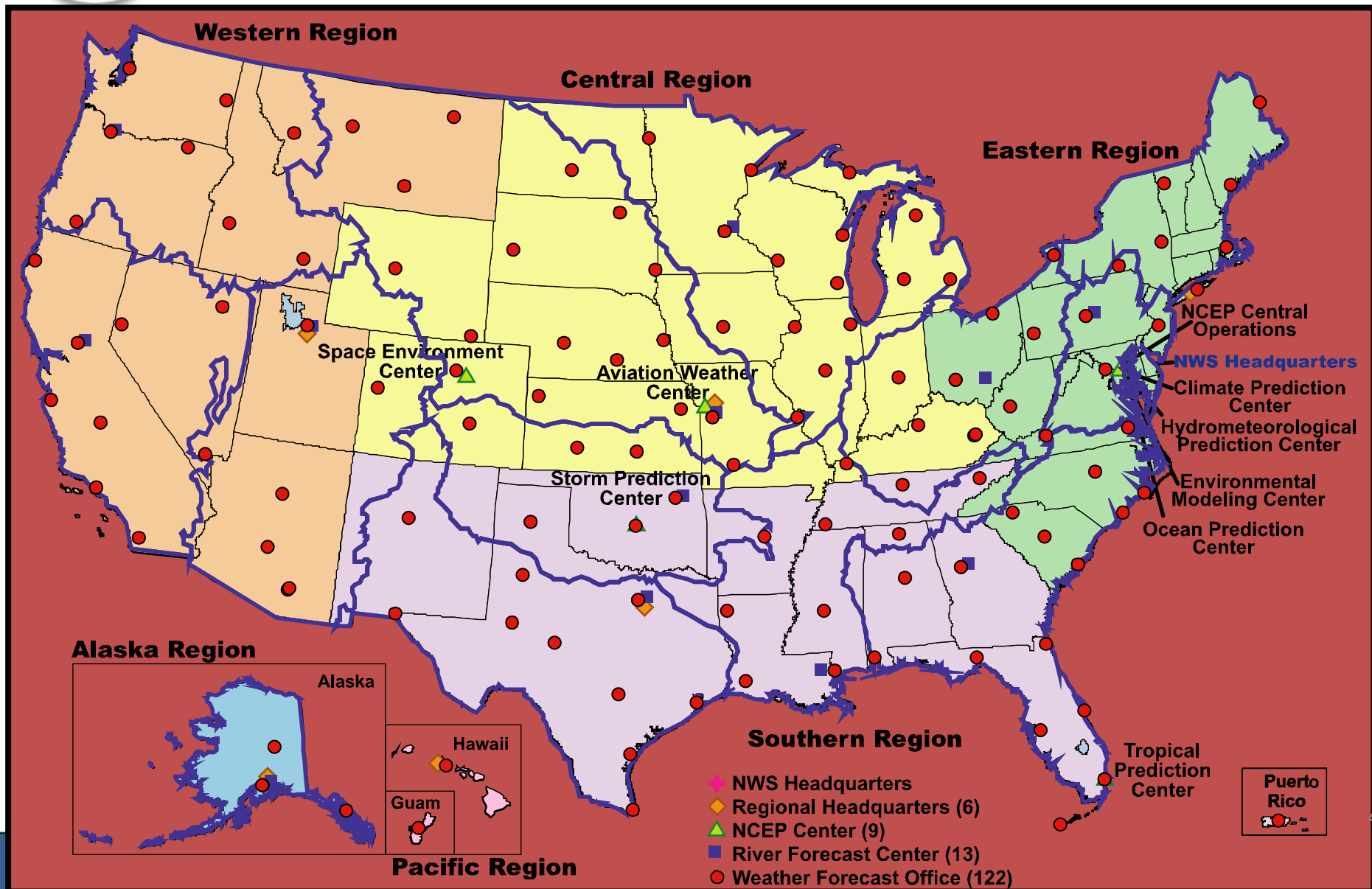
- 7-12 Atlantic Tropical Systems
- 1,000 Tornadoes
- 5,000 Floods
- 10,000 Violent Thunderstorms
- Drought Conditions
- 500 Deaths; 5,000 Injuries; \$14 Billion in Losses





# NWS Service Delivery

*Provide climate, water, weather forecasts and warnings to  
protect life and property and enhance the economy*

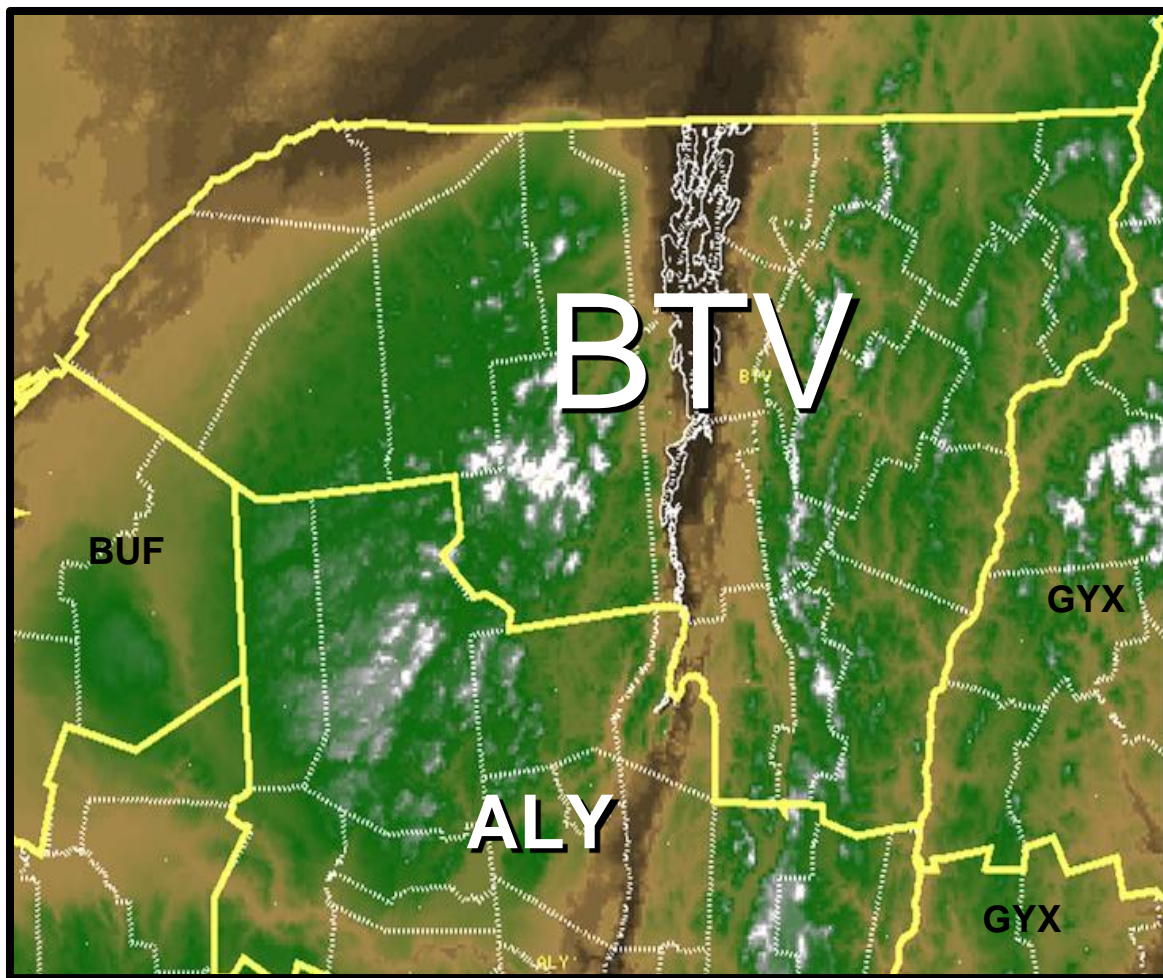






# NWS Burlington's Area of Responsibility

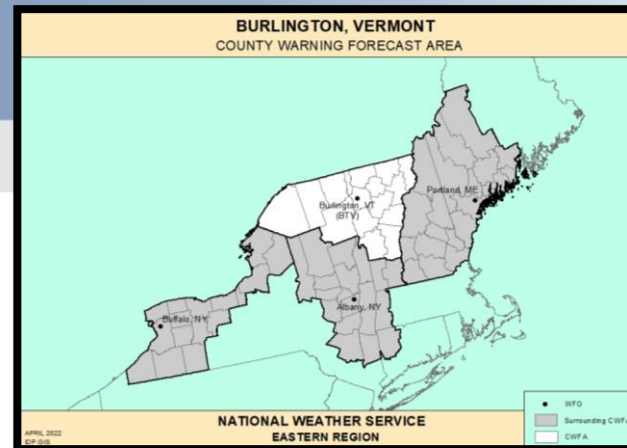
State Liaison Office with Vermont





# NWS Burlington VT

## 24/7/365 Operations



### – Staff (23 total):

- **Operational**
  - Meteorologists (13)
  - Senior Service Hydrologist
- **Administrative/Management**
  - Meteorologist in Charge
  - Science and Operations Officer
  - Warning Coordination Meteorologist
  - Electronic Systems Analyst
- **Support**
  - Information Technology Officer
  - Electronic Technicians (2)
  - Observing Program Leader
  - Administrative Support Assistant



**“Fair Wx Staffing”**

**3 - Dayshift**

**2 - Evening/Overnights**







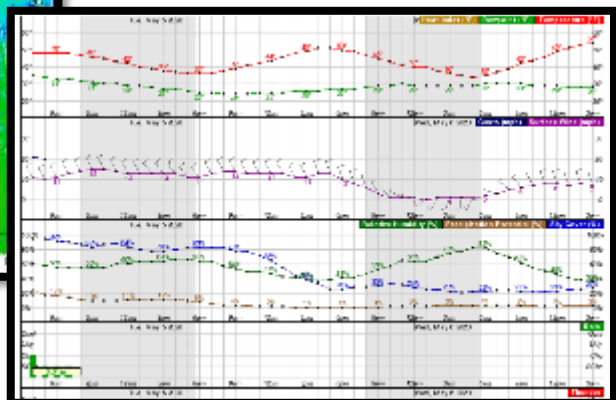
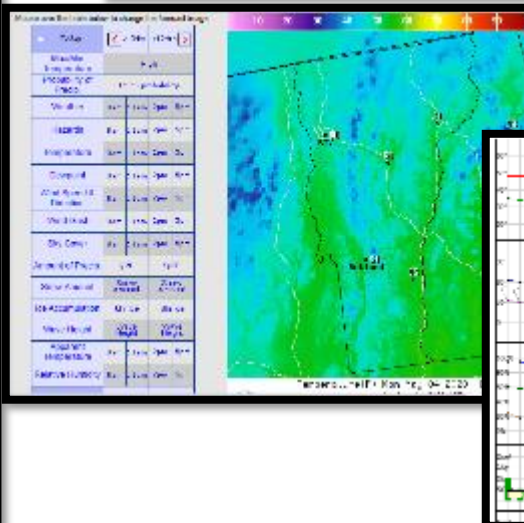




# FINAL RESULTS

[www.weather.gov/btv](http://www.weather.gov/btv)

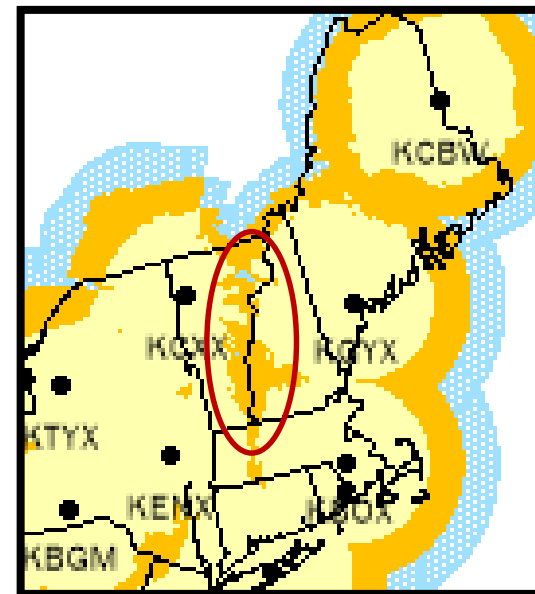
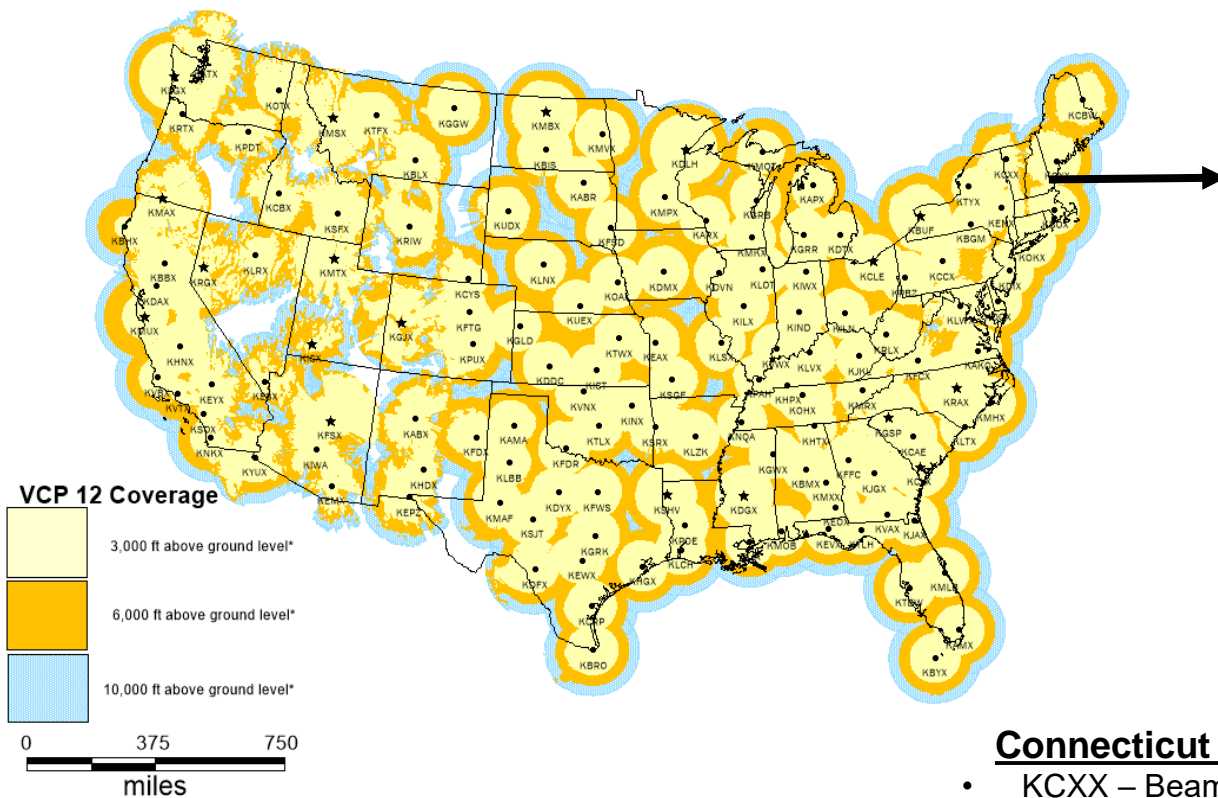
<b>Tonight</b>	A slight chance of rain showers before 5am, then a slight chance of rain and snow showers. Cloudy, with a low around 34. Northwest wind 11 to 14 mph. Chance of precipitation is 20%.
<b>Tuesday</b>	Mostly cloudy, with a high near 51. Northwest wind 11 to 13 mph.
<b>Tuesday Night</b>	Patchy frost after 4am. Otherwise, partly cloudy, with a low around 34. Northwest wind 5 to 8 mph becoming calm in the evening.
<b>Wednesday</b>	Patchy frost before 8am. Otherwise, sunny, with a high near 58. Calm wind becoming north 5 to 7 mph in the morning.
<b>Wednesday Night</b>	Mostly cloudy, with a low around 39. North wind around 5 mph becoming calm in the evening.
<b>Thursday</b>	A 30 percent chance of showers after 3pm. Partly sunny, with a high near 57. Calm wind becoming north around 6 mph in the afternoon.
<b>Thursday Night</b>	A 40 percent chance of showers. Mostly cloudy, with a low around 38. Calm wind becoming west around 5 mph after midnight.
<b>Friday</b>	A chance of showers before 9am, then a chance of showers after 3pm. Partly sunny, with a high near 51. West wind 6 to 9 mph. Chance of precipitation is 30%.
<b>Friday Night</b>	A 40 percent chance of showers. Mostly cloudy, with a low around 32. Northwest wind around 6 mph.
<b>Saturday</b>	A chance of rain and snow showers. Mostly cloudy, with a high near 47. Northwest wind 5 to 10 mph, with gusts as high as 22 mph. Chance of precipitation is 50%.
<b>Saturday Night</b>	A 50 percent chance of showers. Mostly cloudy, with a low around 34. West wind around 9 mph, with gusts as high as 22 mph.
<b>Sunday</b>	Partly sunny, with a high near 50. West wind 9 to 11 mph.
<b>Sunday Night</b>	Mostly cloudy, with a low around 34. West wind 3 to 7 mph.
<b>Monday</b>	A 30 percent chance of showers. Partly sunny, with a high near 53. Calm wind becoming west around 6 mph in the morning.





# Doppler Radar Coverage

Used for the issuance of Short-fused Warnings (**Tornado, Severe T-storm, Flash Flood**)



## Connecticut River Valley Coverage Issues

- KCXX – Beam blockage from VT’s Green Mountains
  - KENX – Beam blockage from VT’s Green Mountains
  - KGYX – Beam blockage from NH’s White Mountains
- Redundancy, overlapping coverage but sometimes missing lowest 5000 feet circulations.

★Sites with Low Level Elevation Angle

\*Bottom of beam height (assuming Standard Atmospheric Refraction)  
Terrain Blockage Indicated where 50% or more of beam blocked





# Severe Thunderstorm Warning

"Protection of Life and Property by means of timely, accurate warnings and forecasts..."

BULLETIN - IMMEDIATE BROADCAST REQUESTED

Severe Thunderstorm Warning

National Weather Service Burlington VT

224 PM EDT Wed Jun 30 2021

The National Weather Service in Burlington has issued a

\* Severe Thunderstorm Warning for...

Southeastern Addison County in central Vermont...

Northeastern Rutland County in southern Vermont...

Central Windsor County in southern Vermont...

\* Until 330 PM EDT.

\* At 223 PM EDT, a severe thunderstorm was located near Chittenden, moving east at 30 mph.

HAZARD...60 mph wind gusts and half dollar size hail.

SOURCE...Radar indicated.

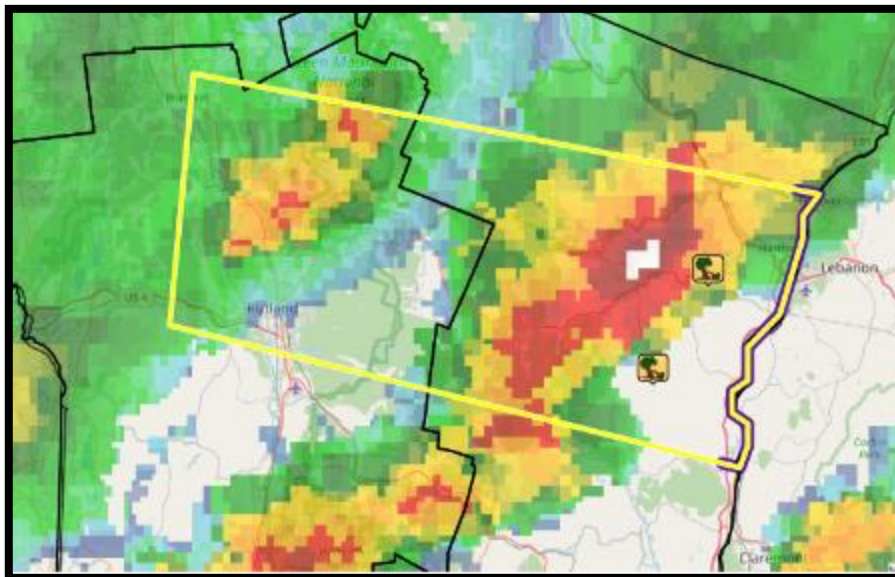
IMPACT...Minor hail damage to vehicles is possible. Expect wind damage to trees and powerlines.

\* Locations impacted include...

Woodstock, Rutland, White River Junction, Hartland Four Corners, Killington, Rutland City, Pomfret, Plymouth, Hartland, Chittenden, West Rutland, Barnard, Windsor, Woodstock Village, Quechee, Stockbridge, Proctor, Brandon, Bridgewater and Mendon.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Prepare immediately for large hail and damaging winds. People outside should move immediately to shelter inside a strong building. Stay away from windows.








# Need Your Assistance – Timely reports

- Storm reports assist in the following ways:
  - On-going warning operations for your community or downstream community
  - Quality control check of what radar shows and what’s actually occurring
  - Local verification



## NOAA/NWS Dispatch Reference

### Severe Weather Reports & Communication with NWS

**How to contact NOAA/National Weather Service – Burlington, VT**  
 (Servicing Clinton, Essex, Franklin and St. Lawrence counties in NY as well as ALL of VT, except Bennington/Windham counties)


- Direct Line: 802-658-0150 or 802-658-0207 (**DO NOT share**)
- Spotter Line: 802-863-4279 Public Line: 802-862-2475 (OK to share)
- Email: [nwsbvt.info@noaa.gov](mailto:nwsbvt.info@noaa.gov) (Monitored 24x7)

**All Reports Should Include...**

<u>TIME</u>	<u>LOCATION</u>	<u>CONDITION</u>	<u>SOURCE</u>
When did it occur? Is it still happening right now?	As detailed as possible	What happened?	Spotter? Officer? Public?

**Specific Follow-up Questions**

<b>ALL</b>	→ Any storm-related injuries or fatalities?
<b>Wind</b>	→ What is the extent of damage? → Trees damaged? Uprooted? How many? Size? → Utility lines damaged? Structures damaged? → Is the reported wind speed MEASURED or ESTIMATED?
<b>Hail</b>	→ What is the size of the LARGEST hail stone? (Tip: Compare to a coin; dime, penny, nickel, quarter, half dollar, dollar, golf ball, tennis ball, baseball, softball - <b>no "marble-size" reports!</b> ) → Any damage to vehicles, structures, crops?
<b>Flooding</b>	→ Is this flooding unusual? Is water stationary or moving? → Is there water across a road? How deep? Roads closed? → What is the name of the river or stream? → Potential cause? – Heavy rain, ice jam? → Washouts/mudslides? Any water rescues and evacuations?
<b>Tornado</b> (Rare)	→ Do you see visible, persistent rotation and rising motion? How long? ( <u>Persistent rotation</u> is important) → Is the funnel in contact with the ground, or just aloft? → Do you see debris? Is there any damage?



NATIONAL WEATHER SERVICE  
 OCEANIC AND METEOROLOGICAL ADMINISTRATION

[www.weather.gov/bvt](http://www.weather.gov/bvt)

Burlington, VT





# NWS Role in Emergency Planning and Response





# Vermont Weather and Seasonal Hazards

Four Seasons: Winter, Spring, Summer and Fall

## Winter:

Dangerous Cold (Sub-zero temperatures)  
Snow, Ice, Strong damaging wind storms  
**Heavy Rain, Flooding, Ice Jams**

## Spring:

Early Season Cold and Snow  
Late Season Heat and Thunderstorms  
**Heavy Rain, Snow melt, Flooding**



## Summer:

Dangerous Heat  
Thunderstorms (Lightning, Damaging Wind,  
Tornado)  
**Heavy Rain and Flooding**

## Autumn:

Early Season Heat and Thunderstorms  
Late Season Cold and Snow  
Strong damaging wind storms  
Tropical Storms  
**Heavy Rain and Flooding**



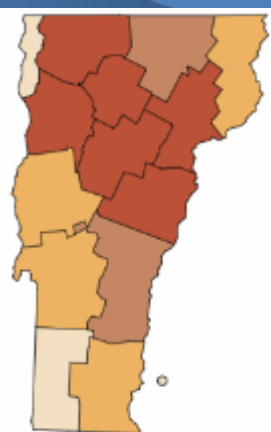
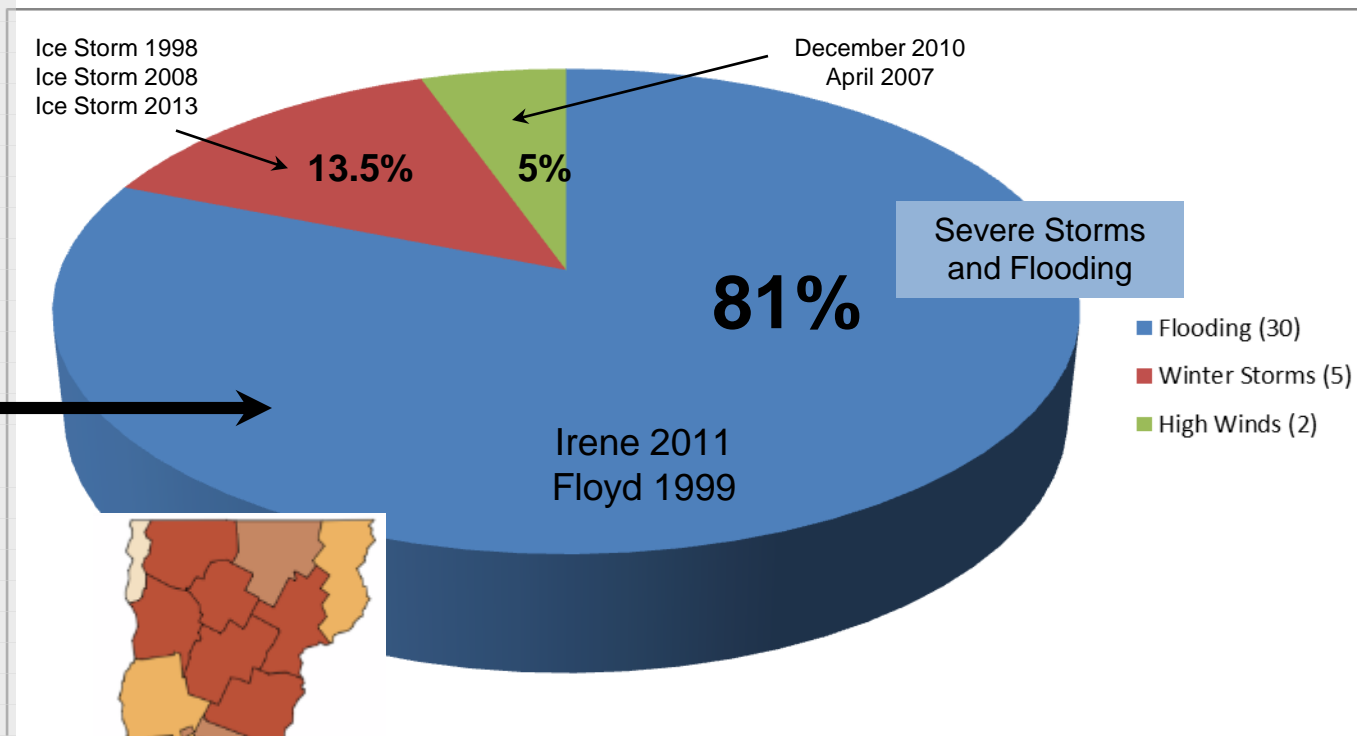


# Flooding is VT's #1 Natural Disaster

## VT's Greatest Natural Disaster - November 1927 Flood

### Flooding

Number	Date	Incident Description
4232	7/29/2015	Severe Storm and Flooding
4178	6/11/2014	Severe Storms and Flooding
4140	8/2/2013	Severe Storms and Flooding
4120	6/13/2013	Severe Storms and Flooding
4066	6/22/2012	Severe Storm, Tornado, and Flooding
4043	11/8/2011	Severe Storms And Flooding
4022	9/1/2011	Tropical Storm Irene
4001	7/8/2011	Severe Storms And Flooding
1995	6/15/2011	Severe Storms and Flooding
1790	9/12/2008	Severe Storms and Flooding
1784	8/15/2008	Severe Storms, a Tornado, and Flooding
1778	7/15/2008	Severe Storms and Flooding
1715	8/3/2007	Severe Storms and Flooding
1698	5/4/2007	Severe Storms and Flooding
1559	9/23/2004	Severe Storms and Flooding
1488	9/12/2003	Severe Storms and Flooding
1428	7/12/2002	Severe Storms and Flooding
1336	7/27/2000	Severe Storms And Flooding
1307	11/10/1999	Tropical Storm Floyd
1228	6/30/1998	Severe Storms and Flooding
1184	7/25/1997	Excessive Rainfall, High Winds, Flooding
1124	6/27/1996	Flooding
1101	2/13/1996	Storms and Flooding
1063	8/16/1995	Heavy Rain, Flooding
990	5/12/1993	Flooding, Heavy Rain, Snowmelt
938	3/18/1992	Flooding, Heavy Rain, Ice Jams
875	7/25/1990	Flooding, Severe Storm
840	9/11/1989	SEVERE STORMS, FLOODING
712	6/18/1984	SEVERE STORMS, FLOODING
518	8/5/1976	Severe Storms, High Winds, Flooding
397	7/6/1973	SEVERE STORMS, FLOODING, LANDSLIDES



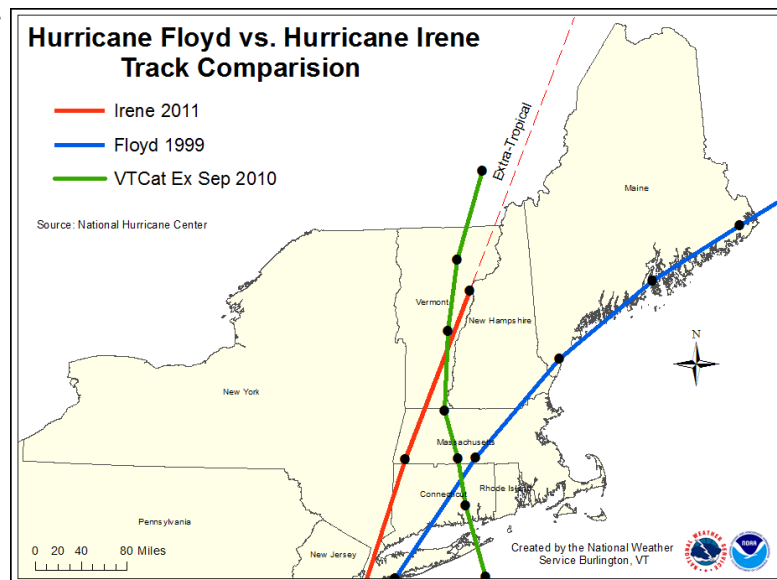
Number of Declarations



# NWS Role in Emergency Planning/Response

## • Planning

- Working with State of VT on VT's State Preparedness Report and State Hazard Mitigation Plan as a subject matter expert.
- **Working with Vermont Emergency Management and FEMA I on various Tabletop Exercises, Full Scale Exercises and others (VT Cat Ex - 2010).**
- Working with Regional Planning Commissions as they develop a Hazard Mitigation Plan (Chittenden).
- **Winter/Spring Flood Preparedness Workshops**





# NWS Role in Emergency Planning/Response

## • Response

- “Heads-up” Situational Briefings several days prior through a potentially impactful event.
- Deployed to VT’s State Emergency Operations Center (EOC) when requested for HIGHLY impactful event.
- Provide “For The Record” report and other assistance to the state and federal partners during the Presidential Disaster Assistant process.
- Support for a large, public gathering where weather will impact public safety and will tax the ability of local first responders\*

\* Must work with local EM/public safety where potential evacuations would require “early warning” to ensure adequate timing and response.

**Heavy Snow and Rain Saturday** Burlington, VT

**OVERVIEW:**

- This will be a prolonged event extending into Sunday.
- Snowfall amounts will be highly dependent on elevation.

**NWS ALERTS**

- A Winter Storm Watch is in effect for western Essex County in New York from 1AM Saturday to 7AM Sunday where 4 to 10 inches of wet snow is possible.
- A Winter Storm Watch is in effect for western Windham and Bennington County in Vermont from 1AM Saturday to 7AM Sunday where 6 or more inches of wet snow is possible.

**TIMING**

- Precipitation will begin as snow late Friday (after 7 PM).
- In Vermont, a transition towards rain is likely Saturday morning into Saturday afternoon.
- In Western Essex, County New York, a period of heavy snow will be possible Saturday, mainly at or above 1500 feet elevation.
- Any rain will transition back to snow Saturday night and continue into Sunday.

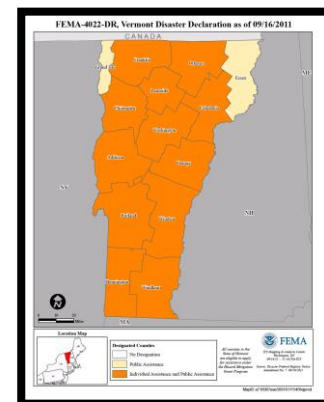
**HAZARDS & IMPACTS**

- Difficult travel is likely above 1500 feet in elevation in western Essex County, New York, as well as isolated power outages given the wet nature of the snow.
- While river rises are expected, flooding is currently not anticipated.
- Southeast wind gusts of 30 to 40 mph will be possible for the western slopes of the southern Green Mountains in Vermont on Saturday, which combined with wet snow may cause localized power outages.

**NEXT BRIEFING**

- By Sat Friday – 1/15/21

01/14/2021, 4:11 PM | meteor@nws.gov | 802-418-0150 | www.weather.gov







# Situational Awareness Emails

Standardized template from office to office, changing this year (FY23).

**Heavy Snow and Rain Saturday** Burlington, VT WEATHER FORECAST OFFICE

**OVERVIEW:**

- This will be a prolonged event extending into Sunday.
- Snowfall amounts will be highly dependent on elevation.

<b>NWS ALERTS</b>	<ul style="list-style-type: none"> <li>A Winter Storm Watch is in effect for western Essex County in New York from 1AM Saturday to 7AM Sunday where 4 to 10 inches of wet snow is possible.</li> <li>A Winter Storm Watch is in effect for western Windham and Bennington County in Vermont from 1AM Saturday to 7AM Sunday where 6 or more inches of wet snow is possible.</li> </ul>
<b>TIMING</b>	<ul style="list-style-type: none"> <li>Precipitation will begin as snow late Friday (after 7 PM)</li> <li>In Vermont, a transition towards rain is likely Saturday morning into Saturday afternoon.</li> <li>In Western Essex, County New York, a period of heavy snow will be possible Saturday, mainly at or above 1500 feet elevation.</li> <li>Any rain will transition back to snow Saturday night and continue into Sunday.</li> </ul>
<b>HAZARDS &amp; IMPACTS</b>	<ul style="list-style-type: none"> <li>Difficult travel is likely above 1500 feet in elevation in western Essex County, New York, as well as isolated power outages given the wet nature of the snow.</li> <li>While river rises are expected, flooding is currently not anticipated.</li> <li>Southeast wind gusts of 30 to 40 mph will be possible for the western slopes of the southern Green Mountains in Vermont on Saturday, which combined with wet snow may cause localized power outages.</li> </ul>
<b>NEXT BRIEFING</b>	By 5am Friday – 1/15/21

ISSUED: 1/14/2021 4:11 PM nwsbtv.info@noaa.gov 802-658-0150 www.weather.gov/bvt

One-Pager used for simple events or the first few e-mails prior to a big event

- Potential impact events – NWS Warning and Advisory level
- More detailed in timing with potential impacts
- Geared toward decision makers for planning
  - EMs, AOT, Public Works, Schools, etc.

**Winter Storm – March 14-15, 2017**  
Decision Support Briefing: Issued 11 am Monday 3/13/17

**Winter storm warning 7 AM Tues to 8 PM Wed**

*Disclaimer: The information contained within this briefing is time-sensitive, do not use after 4 PM March 13<sup>th</sup>*

The latest and most up to date information can always be found at [www.weather.gov/bvt](http://www.weather.gov/bvt)

**Next Briefing via e-mail: By 4pm Monday 3/13**

PRESENTATION CREATED: 3/13/2017 11 AM

National Weather Service Burlington Follow Us: [www.weather.gov/bvt](http://www.weather.gov/bvt)

Multiple page slide deck for larger and more complex storms





# NWS Burlington Webpage

[www.weather.gov/btv](http://www.weather.gov/btv)

- 7-day point forecast for your town or zip code
- Weather headlines
  - Advisories, Warnings
- Hourly forecasts
- Text forecasts/bulletins
- Winter, Heat, Fire, Aviation, Recreational forecasts, etc.

The screenshot shows the NWS Burlington website interface. At the top, there's a navigation bar with links for HOME, FORECAST, PAST WEATHER, SAFETY, INFORMATION, EDUCATION, NEWS, SEARCH, and ABOUT. Below this is a search bar for local forecasts by city, zip, or zip code. A prominent blue alert box at the top right states: "Freezing Rain Advisories remain in effect for much of the area today and tonight." Below the alert, there's a section for "NWS Forecast Office Burlington, VT" with a "Customize Your Weather.gov" sidebar on the left. The main content area features a map of Vermont with a legend for various weather advisories like Freezing Rain, Winter Weather, and Lake Effect Snow. Below the map is a grid of 18 icons representing different forecast and data services, such as Radar, Current Weather, Storm & Lake, and more. The footer includes social media links and additional resources like "CURRENT CONDITIONS" and "RESEARCH".





# NWS Winter Weather Pages

NWS Burlington – [www.weather.gov/btv/winter](http://www.weather.gov/btv/winter)

**BTV Winter Weather Forecasts** Burlington, VT  
Weather Forecast Office

Weather.gov > Burlington, VT > BTV Winter Weather Forecasts

Current Hazards    Current Conditions    Radar    Forecasts    Rivers and Lakes    Climate and Past Weather    Local Programs

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**Local Winter Key Messages**    Probabilistic Snowfall Forecasts    Ice Accumulation Forecasts    6-hr Snowfall Forecasts

6-hr Ice Accumulation Forecasts    Onset/End-Timing Graphics    Winter Storm Outlook and Winter Storm Severity Index

Snow and Ice Observations    Medium/Long Range Forecast    Other Snow/Ice Information

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WWUS41 KBTW 172016  
WSWBTV

URGENT - WINTER WEATHER MESSAGE  
National Weather Service Burlington VT  
316 PM EST Thu Nov 17 2022

NYZ029-181030-  
/O.CON.KBTW.LE.W.0001.221118T0900Z-221119T1200Z/  
Southeastern St. Lawrence-  
Including the cities of South Colton and Star Lake  
316 PM EST Thu Nov 17 2022

...LAKE EFFECT SNOW WARNING REMAINS IN EFFECT FROM 4 AM  
FRIDAY TO  
7 AM EST SATURDAY...

\* WHAT...Heavy lake effect snow expected. Total snow accumulations  
of 6 to 12 inches north of Route 68, and 12 to 24 inches south  
with isolated amounts over 2 feet possible south of Route 58.

\* WHERE...Southeastern St. Lawrence County.

\* WHEN...From 4 AM Friday to 7 AM EST Saturday.

\* IMPACTS...Travel will be very difficult to impossible. The  
hazardous conditions will impact the morning and evening  
commute, especially along the Route 11 corridor.

\* ADDITIONAL DETAILS...The heaviest snow is expected to fall  
between 7 AM Friday and 1 AM Saturday.

- Winter Headlines
- Storm Total Snowfall Maps
  - Deterministic (Official)
  - Probabilistic
- Six Hourly Snowfall Maps
- Ice Accumulation Maps
- Onset and Ending Times
- Winter Storm Severity Index and more

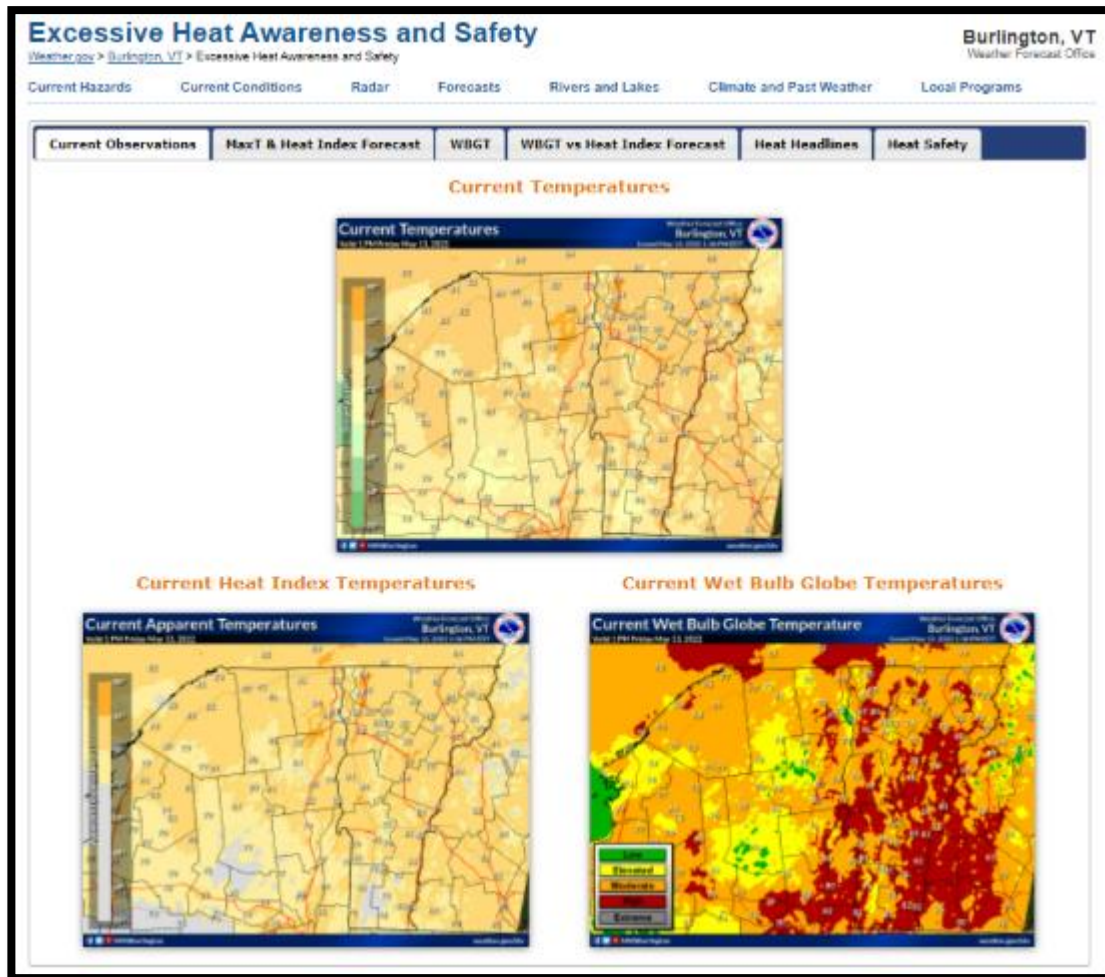






# NWS Burlington NEW Heat Page

[www.weather.gov/btv/heat](http://www.weather.gov/btv/heat)



- Current Observations
  - Ambient (Air) temperature
  - Heat Index (HI)
  - Wet Bulb Global Temperature (WBGT)
- Max Temperature vs. HI
- WBGT
  - Definitions, Charts, Forecasts, WBGT resources
- WBGT vs. HI
- Heat Safety Resources







# NWS Local Office Tropical Pages

<https://www.weather.gov/btv/tropical>

**NATIONAL WEATHER SERVICE**  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HOME FORECAST PAST WEATHER SAFETY INFORMATION EDUCATION NEWS SEARCH ABOUT

Local Forecast by ZIP, M, or ZIP code  
  
  
[Location Pick](#)

**News Headlines**

- [Widespread 8 to 12 inch Snowfall Across the North Country on 26 February 2022](#)
- [New Post-Winter Snowfall Analysis Archive](#)
- [Changes to Public Forecast Zones for NWS Burlington, VT, Effective March 22, 2022](#)
- [Changes to Fire Forecast Zones for WFO Burlington, VT, and WFO Albany, NY, Effective March 22, 2022](#)

**MY FORECAST**  
Burlington International Region, VT

**NWS Forecast Office Burlington, VT**  
Burlington, VT  
Weather Forecast Office

Current Hazards Current Conditions Radar Forecasts Rivers and Lakes Climate and Past Weather Local Programs

River Flooding  
 Drinking Water  
 Drought  
 Space  
 Thunderstorms  
 Tornadoes  
 Winter  
 Local Outlook  
 Critical Weather Outlook

Click a location below for detailed forecast.

Water, Waves & Swells  
 Wind  
 Waves  
 Tides  
 Ice  
 Storm Surge  
 Rip Currents  
 Hazardous Weather Outlook

Download  
**40°F**  
 4°C  
 Air Temperature

This Afternoon  
  
 30%  
 Night Chance Rain  
 High: 47°

Tonight  
  
 30%  
 Chance Rainfall thru  
 Night Likely  
 Low: 35°

Weather Story  
 Local Radar  
 Satellite

Last Map Update: Tue, Mar 15, 2022 at 4:55:55 pm EDT

**NATIONAL WEATHER SERVICE**  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HOME FORECAST PAST WEATHER SAFETY INFORMATION EDUCATION NEWS SEARCH ABOUT

Local Forecast by ZIP, M, or ZIP code  
  
  
[Location Pick](#)

**News Headlines**

- [WFO, Warm, generally Westerly Impulses from Flash Freeze, Jan Jan Event 16-18 February 2022](#)
- [Widespread 6 to 12 inch Snowfall Across the North Country on 22 February 2022](#)
- [Changes to Public Forecast Zones for NWS Burlington, VT, Effective March 22, 2022](#)
- [Changes to Fire Forecast Zones for WFO Burlington, VT, and WFO Albany, NY, Effective March 22, 2022](#)

**NWS Burlington Tropical Page**  
Burlington, VT  
Weather Forecast Office

Current Hazards Current Conditions Radar Forecasts Rivers and Lakes Climate and Past Weather Local Programs

[NWS Burlington homepage](#) [Provide Feedback on this webpage](#)

[Outlook](#) [Threats and Impacts](#) [Satellite](#) [Radar](#) [Social Media](#) [Preparedness](#) [Links](#)

There are currently no active storms in the North Atlantic, Caribbean Sea, or Gulf of Mexico.  
**Local Briefing from the National Weather Service office in Burlington**

**Two-Day Graphical Tropical Weather Outlook**  
National Hurricane Center Miami Florida

Product Description

**Five-Day Graphical Tropical Weather Outlook**  
National Hurricane Center Miami Florida

Product Description

Click each image above to view the full-size image.

Tropical Weather Outlook  
 NWS National Hurricane Center Miami FL  
 7:00 PM EST Tue Nov 30 2021

For the North Atlantic...Caribbean Sea and the Gulf of Mexico:  
 Tropical cyclone formation is not expected during the next 5 days.

This is the last regularly scheduled Tropical Weather Outlook of the 2021 Atlantic Hurricane Season. Routine issuance of the Tropical Weather Outlook will resume on May 15, 2022. During the off-season, Special Tropical Weather Outlooks will be issued as conditions warrant.

\$\$  
 Forecaster Beven

[Optima aquí para ver la Perspectiva sobre las Condiciones del Tiempo Tropical en Español](#)

Solar  
 Space Weather  
 Snow & Ice  
 Severe  
 Drought/Haz  
 Severe/Disaster  
 Forecast/Weather  
 Tropical Weather  
 Tropical Hazards  
 Meteorological Forecast  
 Forecast/Weather  
 Sea/Ice/Haz  
 Severe/Disaster  
 Severe/Disaster  
 Severe/Disaster  
 Aviation  
 Fire/Weather  
 Air Quality  
 Weather Hazard Outlook  
 Climate/Weather  
 Skywarn

Follow Us: [www.weather.gov/btv](http://www.weather.gov/btv)





# Online DSS Request Form

[www.weather.gov/btv/dssrequest](http://www.weather.gov/btv/dssrequest)

NATIONAL WEATHER SERVICE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HOME FORECAST PAST WEATHER SAFETY INFORMATION EDUCATION NEWS SEARCH ABOUT

Local forecast by "City, ST or ZIP code" [Go]  
[Enter location] [Location Help]

**News Headlines**

- Lake Champlain Forecast To Expand From 2 Days to 5 Days Effective June 1st, 2018
- Understanding the Spatial and Temporal Variability of Vermont and Northern New York Severe Weather Climatology 1950-2016
- Summary of the Severe, High Wind, and Hydro Event on May 4, 2018
- Click Here to Read About the Dangers of Rip Currents

**NWS Forecast Office Burlington, VT**  
[weather.gov] • Burlington, VT

Burlington, VT  
Weather Forecast Office

Current Hazards Current Conditions Radar Forecasts Rivers and Lakes Climate and Past Weather Local Programs

Click a location below for detailed forecast.

Watches, Warnings, & Advisories  
There are no watches, warnings, or advisories at this time.

Last Map Update: Wed, Jun. 6, 2018 at 9:57:10 am EDT

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Local Programs

- Past Weather Event Summaries
- Local Recorded Web Seminars
- SKYWARN
- Seasonal Newsletters
- Host a NWS Talk
- Office Staff
- Contact Us
- EM W Request**

Grid of icons: Radar, Current Weather, Rivers & Lakes, Satellite, Weather Information Overlay, Forecast Maps, Hour by Hour Forecast, Recreational Forecast, Forecast's Discussion, Text Bulletin, Severe Storm Report, Fire Weather Chart, Air Quality, Weather Hazard Briefing, Climate Data, Skywarn, NOAA Weather Radio

- Online DSS Request form created for **official government support** only

- This form can also be found via two links on our webpage or a direct link.

- Largely radar monitoring for lightning.

NATIONAL WEATHER SERVICE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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Local forecast by "City, ST or ZIP code" [Go]  
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**News Headlines**

- Lake Champlain Forecast To Expand From 2 Days to 5 Days Effective June 1st, 2018
- Understanding the Spatial and Temporal Variability of Vermont and Northern New York Severe Weather Climatology 1950-2016
- Summary of the Severe, High Wind, and Hydro Event on May 4, 2018
- Click Here to Read About the Dangers of Rip Currents

**Emergency Manager's Self Brief Home**  
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Burlington, VT  
Weather Forecast Office

Current Hazards Current Conditions Radar Forecasts Rivers and Lakes Climate and Past Weather Local Programs

This is the home page for emergency managers to do a self briefing. For information on a particular hazard, just click on the appropriate tab below.

**"NEW" - Experimental Graphical Hazardous Weather Outlook - "NEW"**  
Click here to request and/or monitor Spot forecasts issued by our Forecast Offices and National Centers.  
Click here to request weather support for a public event (For Emergency Manager or Public Safety Official only)

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# Currently Available via NWS sites

## IDSS Point Forecasts - <https://weather.gov/forecastpoints>

- Intuitive graphics to illustrate forecast elements
- Daily/Hourly
- Search by:
  - City/town
  - Zip code
  - Lat/Lon
  - Map

**NATIONAL WEATHER SERVICE**  
Provide Feedback for the IDSS Point Forecast Webpage  
Public Information Statement

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Search Map...

**Table updated: 1021 am EDT Thu. 3/24/2022 (Last Update: 52 minutes ago)**  
Click for Text Forecast  
BTV Forecast Discussion  
2 miles SE of Burlington, VT

**Weekly Summary**

	Thu Mar 24	Fri Mar 25	Sat Mar 26	Sun Mar 27	Mon Mar 28	Tue Mar 29	Wed Mar 30
Max Temp, °F	46	47	48	40	25	36	43
Min Temp, °F	37	37	38	25	17	17	22
Max Wind, mph	16	9	7	17	21	18	16
Min Wind, mph	6	3	5	5	17	14	13
Max Wind Gust, mph	28	9	14	29	33	30	22
Max Cloud Cover, %	96	96	93	93	90	75	84
Min Cloud Cover, %	80	77	80	90	78	52	59
Max Prob. of Precip., %	66	70	42	52	35	9	32
Max RH, %							
Min RH, %							
Max Dew Point, °F	36	36	34	33	11	13	25
Min Dew Point, °F	33	35	32	14	4	6	13

**Outlooks**

	Day 1	Day 2	Day 3
Severe Thunderstorm	Not Expected	Not Expected	Not Expected
Excessive Rainfall	Not Expected	Not Expected	Not Expected

**Hourly Table**

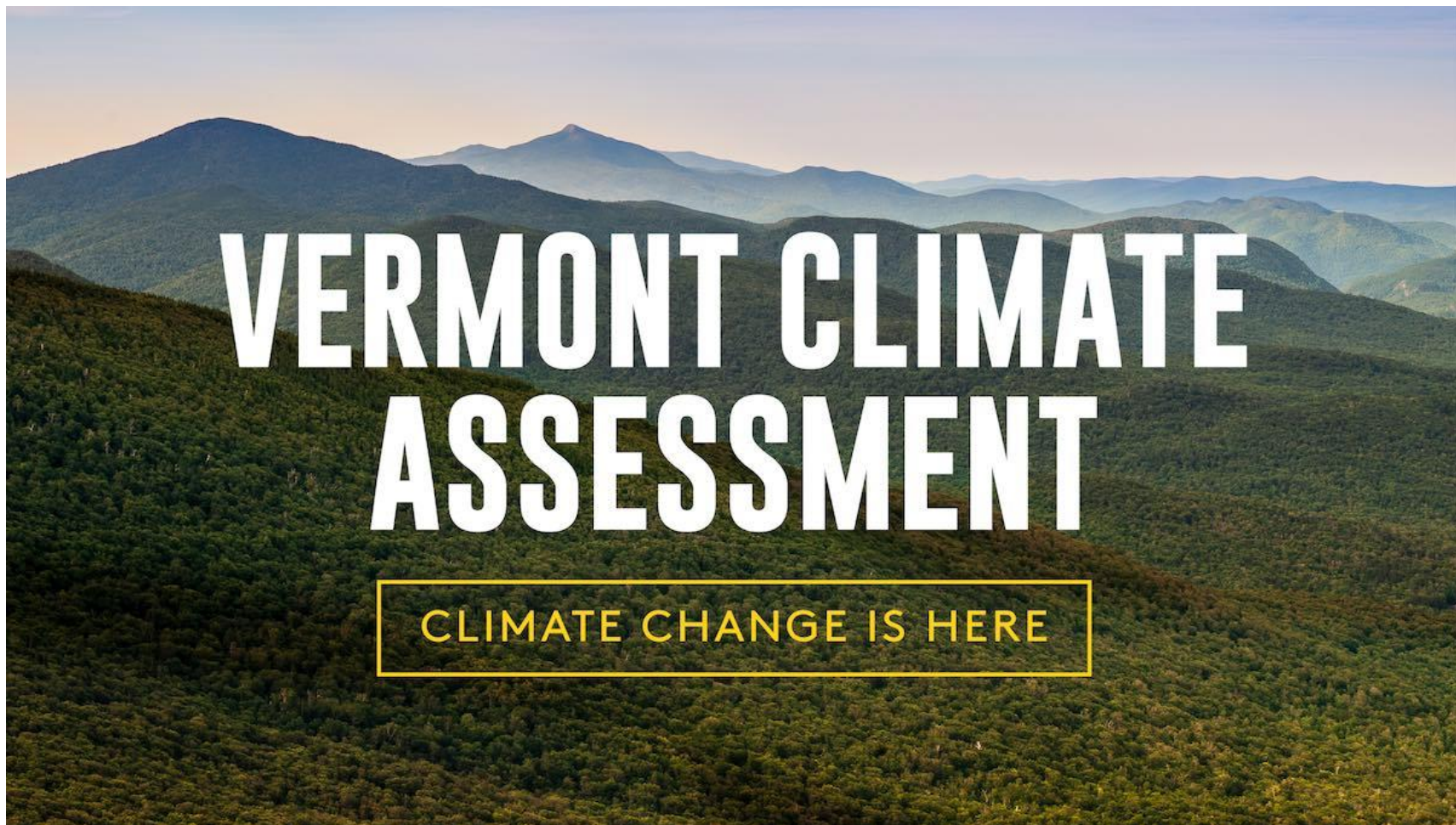
Day of week:	Thursday 3/24												Friday 3/25				
Time:	11AM	12PM	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	12AM	1AM	2AM	3
Weather:	☁																
Temperature (°F):	39	40	41	43	43	43	43	42	41	40	39	39	39	38	38	38	38
Wind Chill (°F):	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wind Speed (mph):	15	15	16	16	16	15	14	13	12	10	9	7	6	5	3	3	3
Wind Gust (mph):	28	28	28	28	25	24	23	22	17	15	13	9	7	6	5	3	3
Wind Direction (°):	160	160	160	160	160	160	160	150	150	150	150	180	170	180	180	180	180
Wind Direction (°):	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘
Prob. of Thunder (%):	22	1	0	0	4	7	11	14	18	36	41	47	58	60	62	70	70
Prob. of Thunder (%):	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Precip. Amount (in.):	-	0.04	-	-	-	-	0.00	-	-	-	-	-	0.09	-	-	-	-
Snow (in.):	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ice (in.):	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dew Point (°F):	33	33	34	34	35	35	35	34	35	35	36	36	36	36	37	37	37
RH (%):	96	91	86	81	80	86	88	91	93	89	88	90	93	94	92	90	90
Sky Cover (%):	4																





# VT Climate Assessment 2021

<https://site.uvm.edu/vtclimateassessment/>







# VT Climate Assessment 2021

<https://site.uvm.edu/vtclimateassessment/>

## Climate Change in Vermont

1. Vermont's annual average temperature has increased by almost 2°F (1.11°C) since 1900. Winter temperatures have increased 2.5 times faster than annual temperatures over the past sixty years, and the number of very cold nights has decreased by over seven days in the same time period.
2. Average annual precipitation in Vermont has increased by 21% since 1900 and has become more variable in the last decade. Annual snowfall has been decreasing since the 1960s, yet winter precipitation has increased, suggesting that more winter precipitation is falling as rain.
3. Vermont's freeze-free period has lengthened by three weeks since 1960; the trend has accelerated to an increase of nine days per decade since 1991.
4. On average, lakes and ponds across Vermont are icing-out one to three days earlier per decade since the 1970s and 1980s.
5. Extreme weather events such as droughts and floods are expected to continue to increase with climate change. Vermont experiences 2.4 more days of heavy precipitation than in the 1960s, most often in summer.





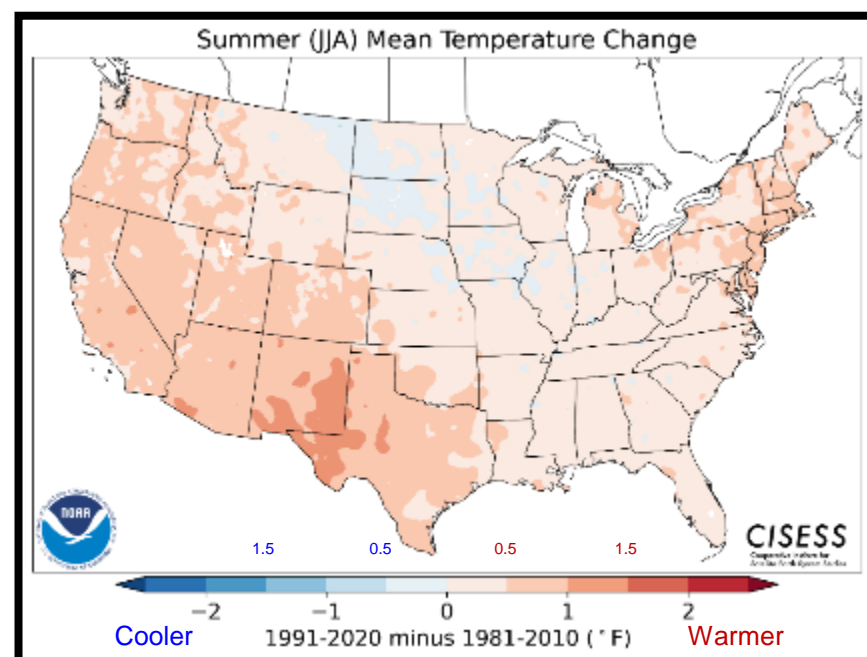
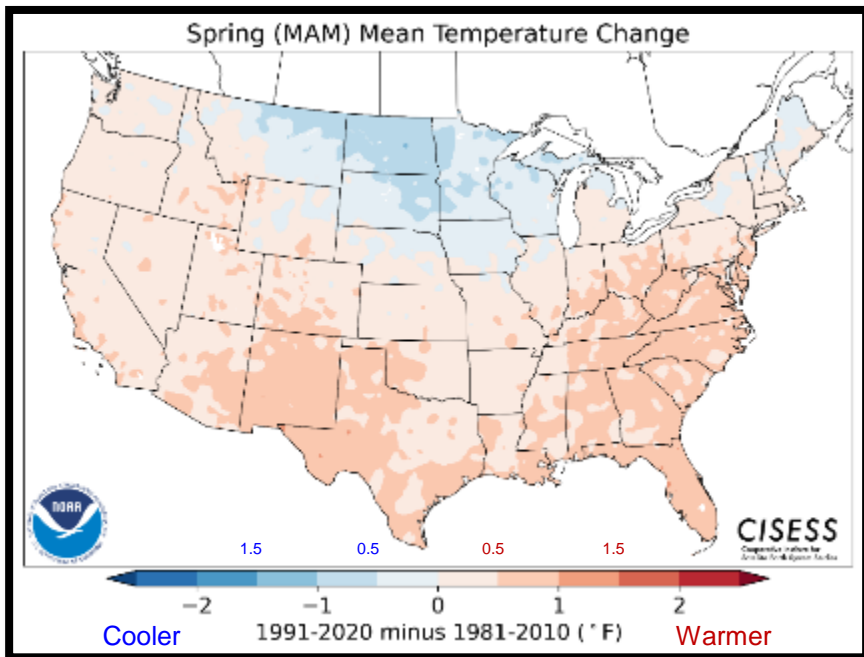
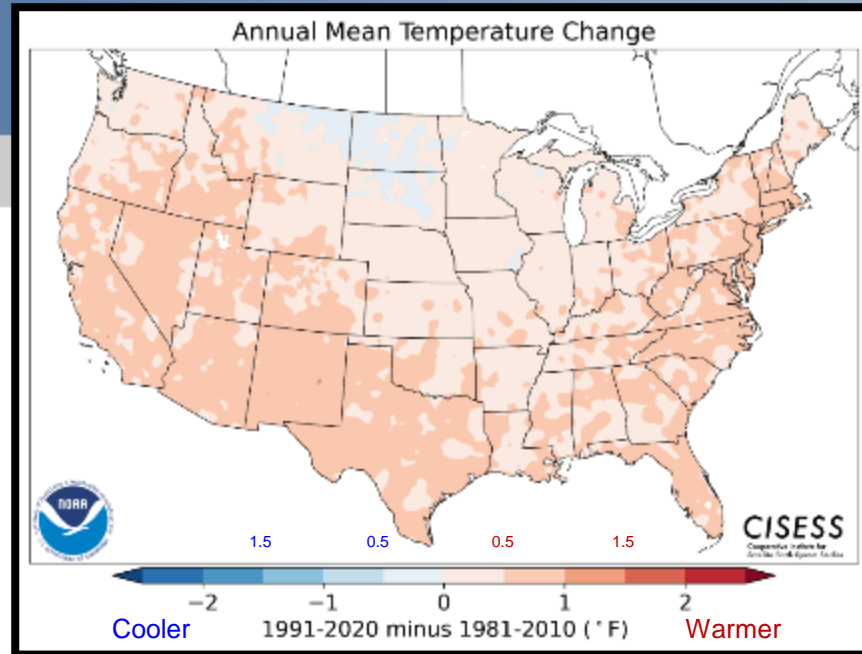
# VT Climate Assessment 2021

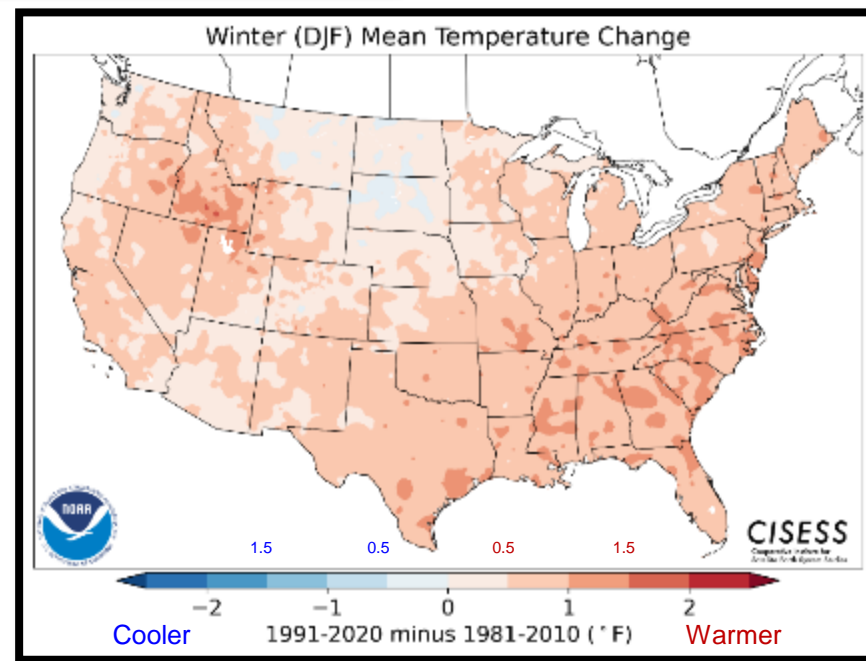
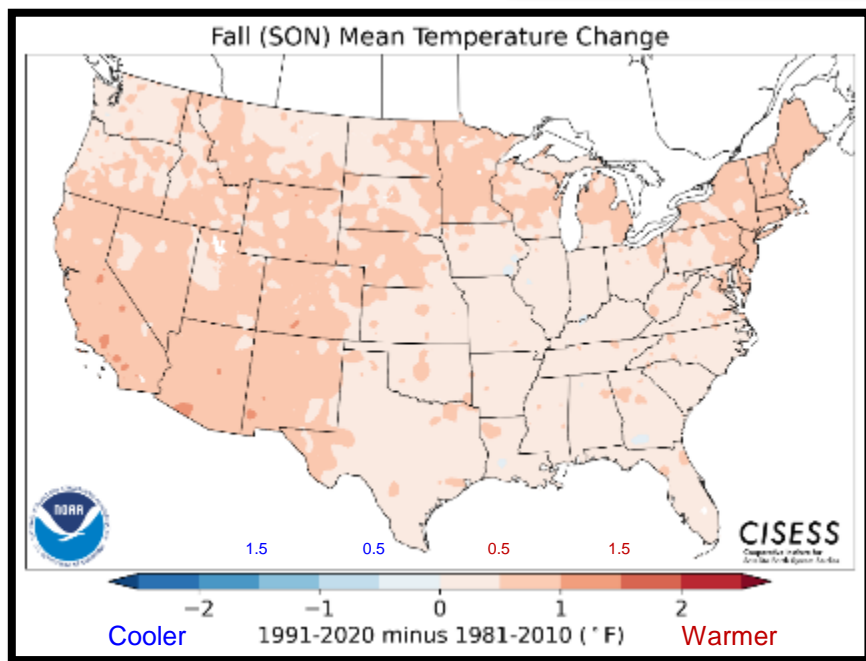
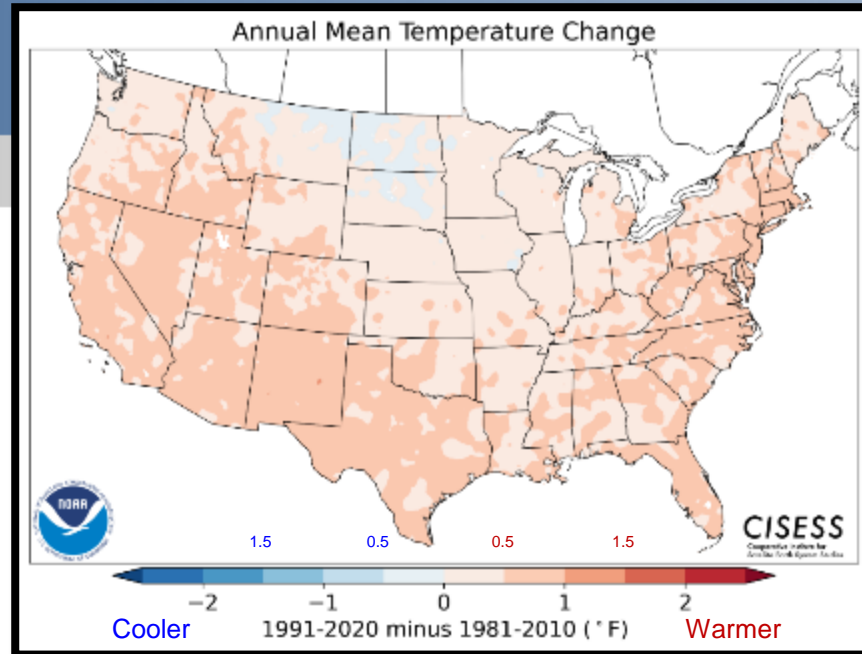
<https://site.uvm.edu/vtclimateassessment/>

## 1.2.4 Signs of Climate Change

Different parts of the world experience climate change differently. Warm air has the capacity to hold more moisture than cooler air. As the atmosphere's temperature rises, evaporation and humidity increase.

Eventually, this water vapor is released as precipitation, effectively increasing rainfall potential in some areas, even as this heat and evaporation cause other regions to suffer more droughts. The high energy in warmer and wetter air can lead to more intense storms, even hurricanes, and increases the potential for more destructive winds and heavier downpours ([Dupigny-Giroux et al. 2018](#); [Hayhoe et al. 2018](#)). Climate-related changes in the atmosphere's energy are increasing the variability in weather due to the stalling of weather patterns and a changing climate baseline. Increased variability means places like Vermont might experience both more frequent dry-spells or drought and more intense rainstorms ([Betts 2017](#)).









# Monthly Temperatures at Burlington, VT (1991-2020)

**Above Normal Months by Decade**

1991-2000: 63%  
2001-2010: 60%  
2011-2020: 74%

**# Months Above Normal May-Oct 2011-2020**

55/60 ~ 92%

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual
1961-1990	16.3	18.2	30.7	43.9	56.3	65.2	70.5	67.9	58.9	47.8	36.8	23.0	44.6
1991	18.8	26.5	34.0	49.1	59.3	65.9	70.3	70.5	57.8	50.4	37.6	24.0	47.0
1992	18.5	19.0	26.5	42.3	56.5	64.4	66.1	67.6	60.2	45.5	36.7	28.1	44.3
1993	21.6	10.6	27.4	45.3	56.5	64.7	72.2	70.7	59.1	46.1	36.8	24.6	44.6
1994	7.0	15.4	30.2	44.5	54.7	68.6	74.2	66.5	59.6	49.7	41.1	28.7	45.0
1995	27.9	18.9	35.0	40.4	56.4	69.6	74.6	70.0	57.4	54.1	35.2	22.0	46.8
1996	17.5	21.3	28.5	42.8	54.4	66.3	68.5	68.9	62.0	47.4	32.8	32.6	45.3
1997	19.1	25.0	26.9	41.4	51.4	67.3	68.7	66.8	58.6	46.5	35.1	25.8	44.4
1998	22.7	27.7	34.3	46.4	62.0	66.1	68.9	68.5	61.5	49.5	39.6	31.9	48.3
1999	19.0	24.8	30.8	44.6	59.8	70.5	74.2	68.0	64.5	46.1	42.6	28.7	47.8
2000	18.0	22.1	36.5	42.6	56.7	63.6	67.4	67.7	58.8	48.8	37.2	19.6	44.9
1971-2000	18.0	19.9	30.7	43.5	56.5	65.6	70.6	68.2	59.4	47.7	37.1	24.8	45.2
2001	20.1	22.1	27.1	43.2	58.7	67.2	68.0	72.6	61.3	51.1	42.4	32.6	47.2
2002	27.4	26.1	33.1	46.1	53.0	64.2	70.6	71.3	64.4	46.3	36.1	25.3	47.0
2003	11.8	15.6	30.1	41.4	55.5	65.5	71.4	71.5	63.1	47.3	39.7	24.9	44.8
2004	8.8	19.2	34.8	43.6	58.1	63.1	69.7	67.0	61.1	47.5	37.1	23.9	44.5
2005	15.2	21.9	28.3	46.6	52.4	70.7	72.6	71.1	63.6	50.1	40.4	24.1	46.4
2006	28.2	23.5	32.0	45.9	58.2	66.3	73.3	67.3	60.2	46.9	42.8	32.6	48.1
2007	21.3	14.2	28.5	42.9	56.7	68.0	69.0	69.0	62.8	54.1	35.6	24.6	45.6
2008	25.0	22.3	28.5	49.1	54.0	67.7	70.7	67.0	61.3	46.6	38.2	24.7	46.3
2009	14.0	23.2	32.4	46.1	56.5	64.3	68.2	69.8	59.3	45.9	41.8	25.5	45.6
2010	22.0	26.0	38.0	49.2	60.1	65.2	73.5	70.1	62.7	47.7	37.5	23.5	48.0
1981-2010	18.7	21.5	31.0	44.8	56.3	65.8	70.6	68.8	60.5	48.1	38.2	25.8	45.8
2011	18.2	21.1	29.8	45.4	59.2	66.1	72.8	70.4	64.1	50.1	43.3	30.6	47.6
2012	24.5	28.4	43.2	46.0	61.6	67.8	73.0	72.0	61.8	52.9	36.8	30.8	49.9
2013	21.8	23.9	32.8	44.8	60.7	66.4	73.8	69.4	60.2	51.7	35.6	23.5	47.1
2014	18.3	20.2	22.1	44.6	58.9	68.2	71.5	69.0	62.1	53.5	38.2	30.0	46.4
2015	15.9	7.6	26.4	44.8	63.6	64.8	71.7	72.3	67.4	47.8	43.5	39.2	47.1
2016	24.9	26.3	36.7	41.6	59.5	67.5	72.9	73.7	65.7	51.8	41.0	29.0	49.2
2017	29.6	29.8	27.4	49.5	56.9	67.2	70.6	69.4	65.7	58.6	37.5	22.3	48.7
2018	20.0	30.6	31.3	41.1	62.2	65.9	76.0	74.5	65.8	48.6	33.6	26.8	48.0
2019	17.3	22.2	30.4	45.5	54.9	66.0	74.9	70.2	62.0	52.1	33.0	27.4	46.3
2020	26.1	24.8	37.3	43.4	57.9	69.0	76.8	71.0	62.1	50.1	43.3	31.3	49.4
1991-2020	20.9	22.9	32.3	45.6	58.4	67.5	72.4	70.7	62.7	50.3	39.3	28.2	47.6
2021	23.0	21.8	35.1	48.0	58.9	71.8	69.6	74.4	64.6	55.6	37.9	31.8	49.4

## Top 10 Warmest Years

Rank	Year	Mean Avg Temperature
1	2012	49.9
2	2021	49.4
-	2020	49.4
4	2016	49.2
5	2017	48.7
6	1998	48.3
7	2006	48.1
8	2018	48.0
-	2010	48.0
10	1953	47.9

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual
2011-2020	21.7	23.5	31.7	44.7	59.5	66.9	73.4	71.2	63.7	51.7	38.6	29.1	48.0
Difference	3.0	2.0	0.7	-0.1	3.2	1.1	2.8	2.4	3.2	3.6	0.4	3.3	2.1
Seasonal Difference		2.7			1.3			2.1		2.4			
1991-2020	20.9	22.9	32.3	45.6	58.4	67.5	72.4	70.7	62.7	50.3	39.3	28.2	47.6
Difference	2.2	1.4	1.3	0.8	2.1	1.7	1.8	1.9	2.2	2.2	1.1	2.4	1.8
Seasonal Difference		2.0			1.4			1.8		1.8			





# WVNY 22-Fox 44 Story

<https://www.mychamplainvalley.com/>

## TWO DEGREE DIFFERENCE

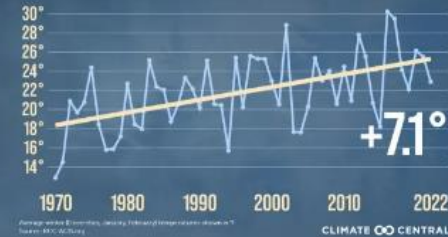
# Burlington winters are warming faster than almost anywhere else

by: [Alexander Wasilenko](#)

Posted: Dec 5, 2022 / 08:27 AM EST

Updated: Dec 5, 2022 / 12:23 PM EST

## BURLINGTON WINTER WARMING AVERAGE TEMPERATURE



SHARE

Last week we talked about the fastest warming seasons across the country and in the Queen City. In this week's Two Degree Difference, we're focusing more closely on winter's warmth over the years and just how much our temps have increased since the 1970s.



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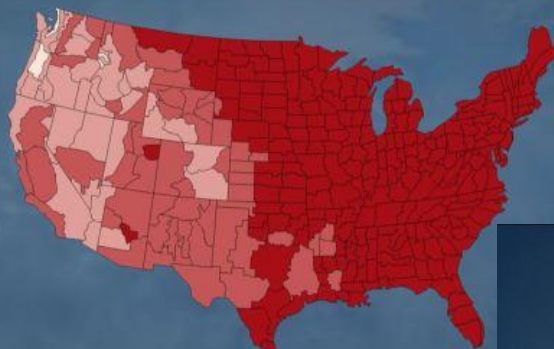


# Climate Central

<https://www.climatecentral.org/climate-matters/2022-winter-package>

## WINTER WARMING

SINCE 1970 (°F)

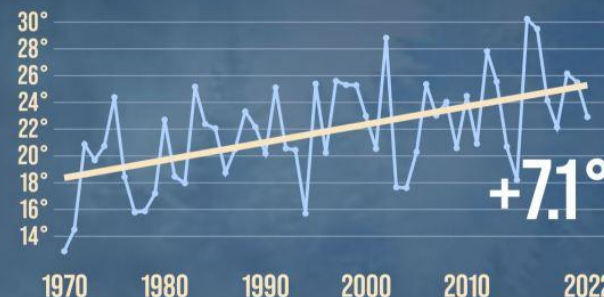


Winter (Dec., Jan., Feb.) warming  
Source: NOAA Climate at a Glance

CLIM

## BURLINGTON WINTER WARMING

AVERAGE TEMPERATURE



Average winter (December, January, February) temperatures shown in °F  
Source: RCC-ACIS.org

CLIMATE CENTRAL





# Heat

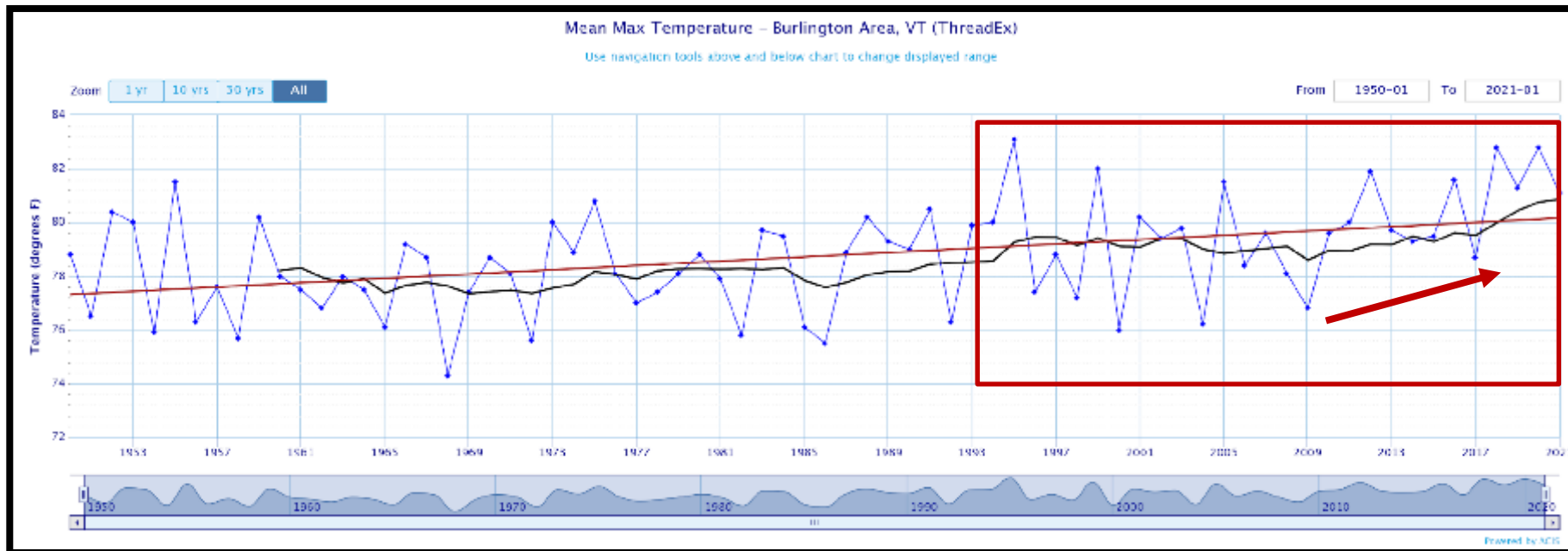
**Increasing Hidden Danger  
across VT and the Country**







# Trend of Summer Mean Maximum Temperatures



Rank	Year	Mean Max Temperature
1	1995	83.1
2	2020	82.8
-	2018	82.8
4	1999	82.0
5	2012	81.9
6	2016	81.6
7	2005	81.5
-	1955	81.5
9	2019	81.3
10	2021	81.1

**5 of the Top 10 Warmest Summer High Temperatures** have occurred in the last 10 years

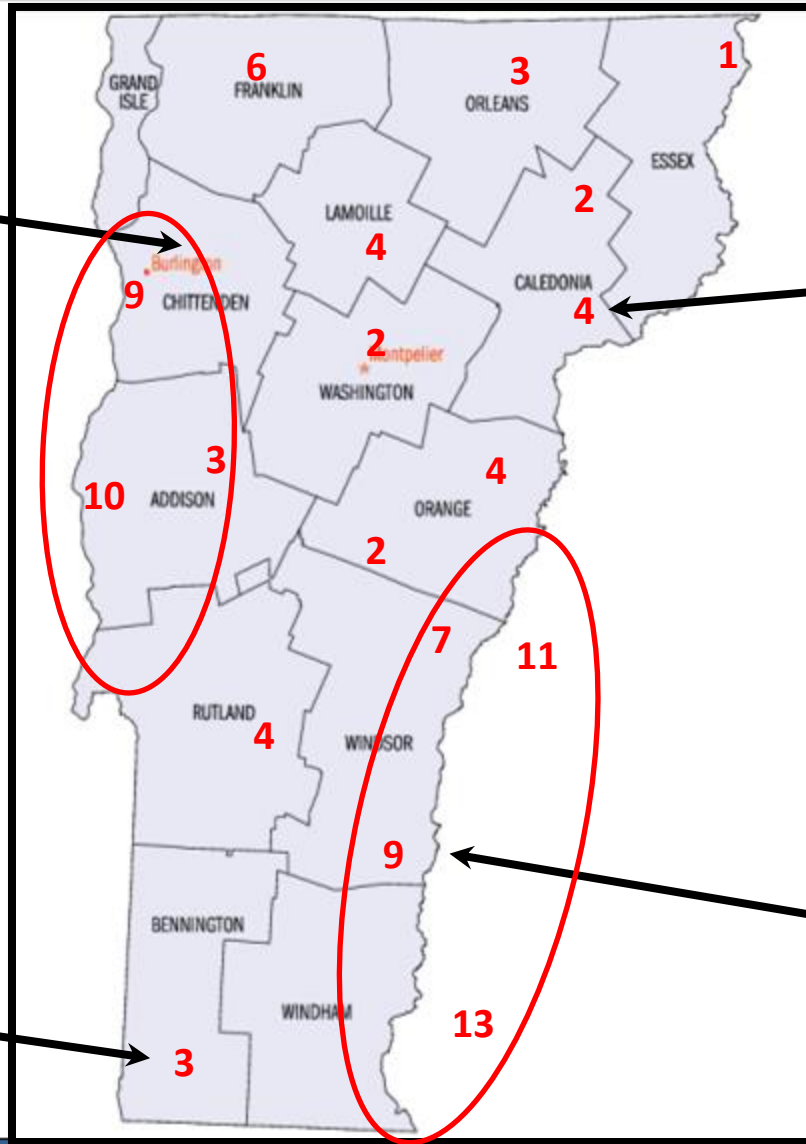
**9 of the Top 10** have occurred since 1995



# Climatology of Mean # Days $\geq 90^\circ$

2002-2021

Year	Number of Days Max Temperature $\geq 90$
2002	17
2003	6
2004	0
2005	5
2006	6
2007	10
2008	3
2009	2
2010	11
2011	7
2012	13
2013	9
2014	3
2015	9
2016	12
2017	8
2018	17
2019	8
2020	20
2021	14



Year	Number of Days Max Temperature $\geq 90$
2002	6
2003	4
2004	0
2005	3
2006	6
2007	5
2008	2
2009	1
2010	5
2011	3
2012	4
2013	4
2014	1
2015	1
2016	3
2017	5
2018	6
2019	2
2020	11
2021	7

Year	Number of Days Max Temperature $\geq 90$
2002	4
2003	0
2004	0
2005	5
2006	3
2007	3
2008	2
2009	0
2010	9
2011	2
2012	7
2013	4
2014	0
2015	3
2016	4
2017	3
2018	12
2019	1
2020	6
2021	2

Year	Number of Days Max Temperature $\geq 90$
2002	19
2003	7
2004	1
2005	5
2006	7
2007	8
2008	5
2009	2
2010	15
2011	9
2012	20
2013	11
2014	1
2015	5
2016	7
2017	6
2018	14
2019	6
2020	10
2021	13

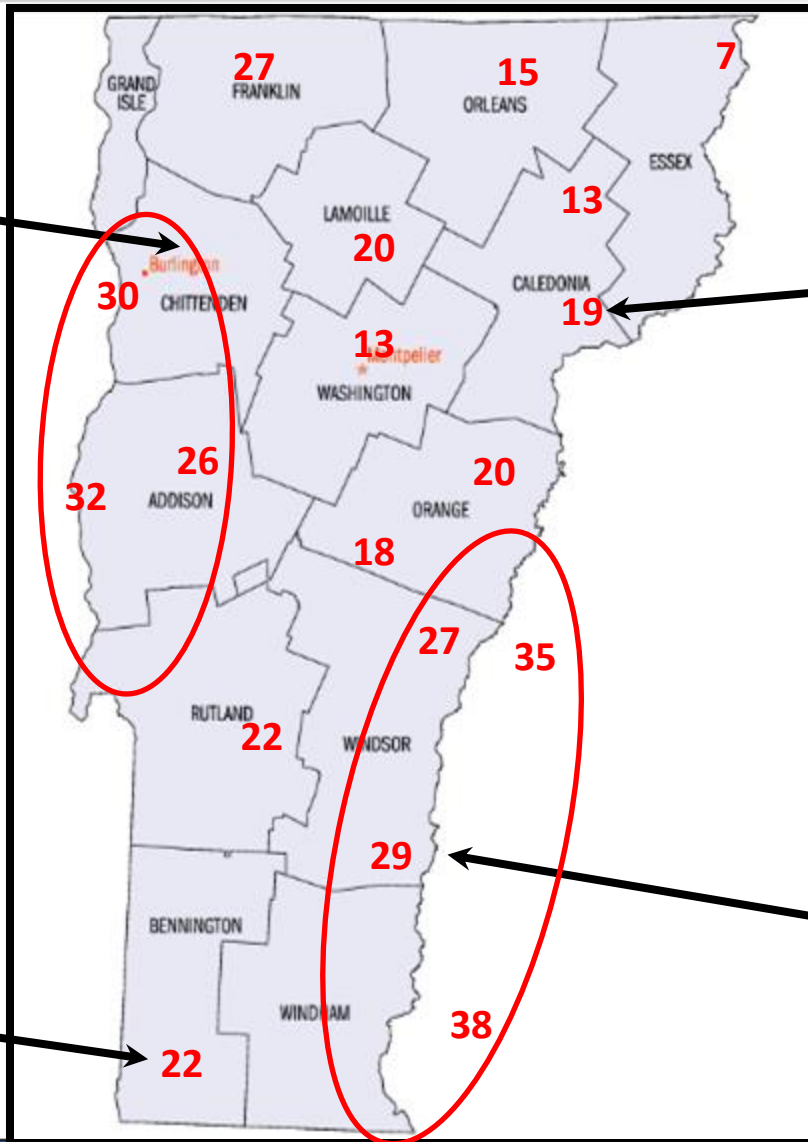


# Climatology of Mean # Days $\geq 85^\circ$

2002-2021

Year	Number of Days Max Temperature $\geq 85$
2002	36
2003	28
2004	8
2005	37
2006	23
2007	30
2008	12
2009	14
2010	30
2011	24
2012	37
2013	29
2014	25
2015	41
2016	45
2017	23
2018	49
2019	30
2020	49
2021	37

Year	Number of Days Max Temperature $\geq 85$
2002	29
2003	11
2004	7
2005	36
2006	17
2007	20
2008	15
2009	10
2010	27
2011	15
2012	32
2013	22
2014	12
2015	26
2016	31
2017	19
2018	35
2019	16
2020	33
2021	24



Year	Number of Days Max Temperature $\geq 85$
2002	27
2003	13
2004	8
2005	26
2006	23
2007	25
2008	7
2009	10
2010	24
2011	16
2012	20
2013	17
2014	12
2015	18
2016	20
2017	14
2018	24
2019	15
2020	33
2021	23

Year	Number of Days Max Temperature $\geq 85$
2002	40
2003	22
2004	13
2005	41
2006	20
2007	26
2008	14
2009	16
2010	40
2011	29
2012	44
2013	26
2014	17
2015	33
2016	36
2017	23
2018	33
2019	29
2020	40
2021	29

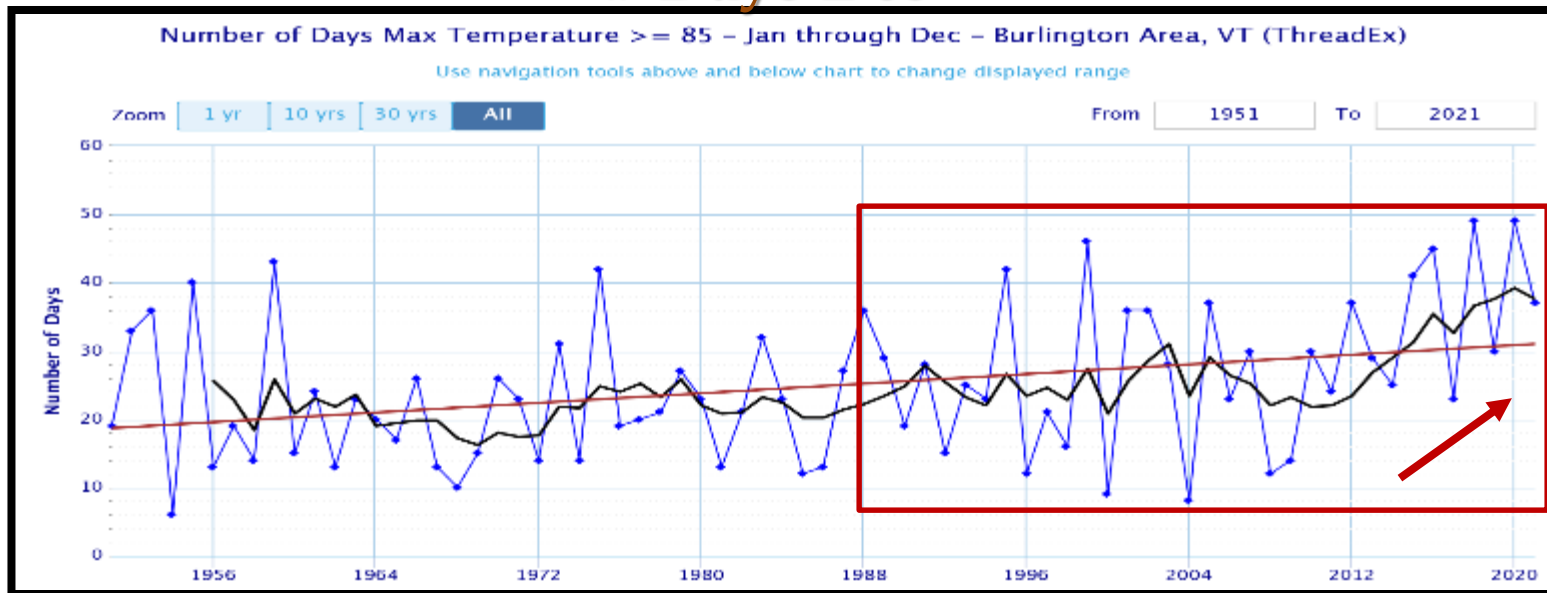
# Days  $\geq 85^\circ\text{F}$  is 3-5X MORE compared to # Days  $\geq 90^\circ\text{F}$





# Trend of Summer Mean Maximum Temperatures

## # Days $\geq 85^\circ$



Rank	Year	Number of Days Max Temperature $\geq 85$
1	2020	49
-	2018	49
3	1999	46
4	2016	45
5	1959	43
6	1995	42
-	1975	42
8	2015	41
9	1955	40
10	2021	37
-	2012	37
-	2005	37

**6 of the Top 10** have occurred in the last 10 years and **8 out of 10** since 1995



# Future

- According to VT Department of Health's Heat Vulnerability in Vermont report (May 2016)\*, working with the Vermont State Climate office.
- **Hot Day** ~ statewide average temperature  $\geq 87^{\circ}\text{F}$ 
  - Since 2000: **Observed** average was 7-9+ days/per year (2015). **NOW** it's more like 8-12 days/per year.
  - Mid-century: **Forecast** is 15 to 20 days/per year
  - End of century: **Forecast** is 20 to 34 days/per year

\*[https://www.healthvermont.gov/sites/default/files/documents/2016/12/ENV\\_EPHT\\_heat\\_vulnerability\\_in\\_VT\\_0.pdf](https://www.healthvermont.gov/sites/default/files/documents/2016/12/ENV_EPHT_heat_vulnerability_in_VT_0.pdf)



# Any Questions?

## Office Contact Information – Most timely, greatest dissemination



**Web:**

<http://www.weather.gov/btv/>



**Phone (UNLISTED):**

(802) 863-4279 or (802) 658-0150



**E-mail:**

[nwsbtv.info@noaa.gov](mailto:nwsbtv.info@noaa.gov)



**Facebook:**

<https://www.facebook.com/NWSBurlington>



**Twitter:**

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**YouTube:**

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Scott Whittier – WCM  
[scott.whittier@noaa.gov](mailto:scott.whittier@noaa.gov)

