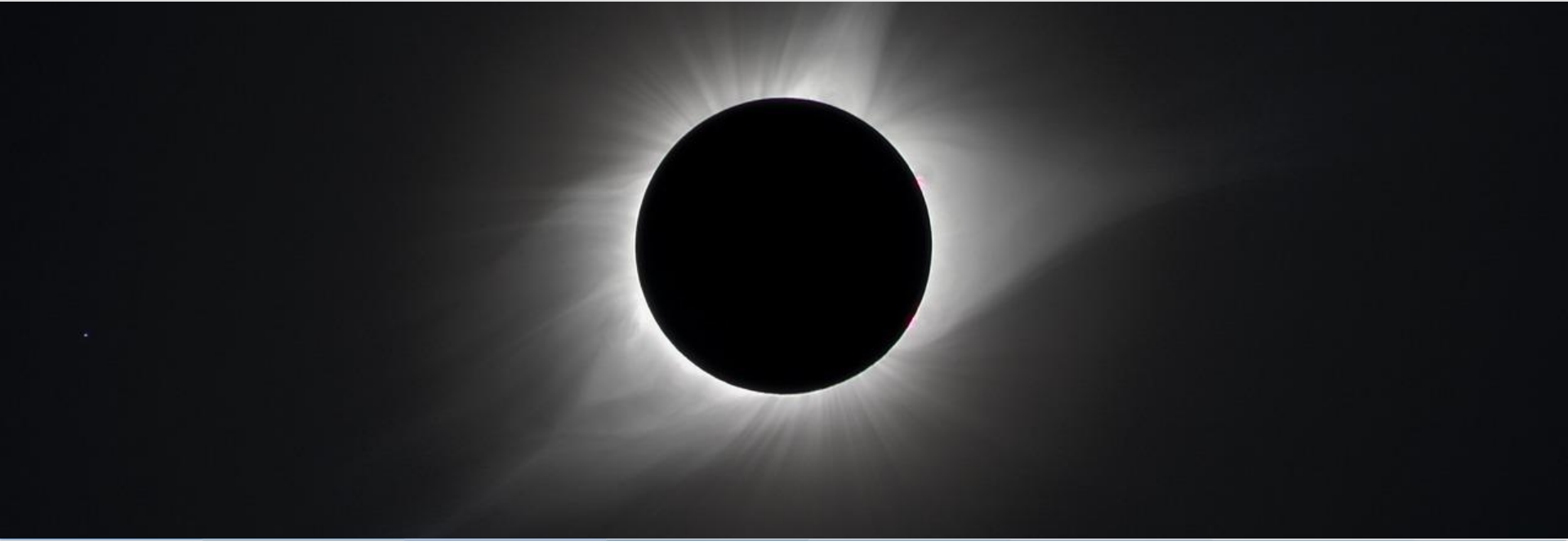


# NWS Burlington - Total Solar Eclipse of 2024



National Weather Service  
*Burlington*

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



Provide weather, water, and climate data, forecasts and warnings for the protection of life and property and enhancement of the national economy.

A Weather-Ready Nation: Society is prepared for and responds to weather, water, and climate-dependent events.





# Our Eclipse Website

## Eclipse

[Weather.gov](#) > [Burlington, VT](#) > Eclipse

[Current Hazards](#)

[Current Conditions](#)

[Radar](#)

[Forecasts](#)

[Rivers and Lakes](#)

[Climate](#)

<https://www.weather.gov/btv/eclipse2024>

## April 8th 2024 Solar Eclipse

Totality occurs between 3:15 and 3:35 PM in northern NY and Vermont, lasting for upwards of 3.57 minutes.

### Countdown to Partial Eclipse Start

52 days, 10 hours, and 23 minutes

### Eclipse Track and Timing

#### April 8th, 2024 Total Eclipse

Path, timing, and peak eclipse coverage

Weather Forecast Office  
Burlington, VT

Issued Jan 02, 2024 1:43 PM EST

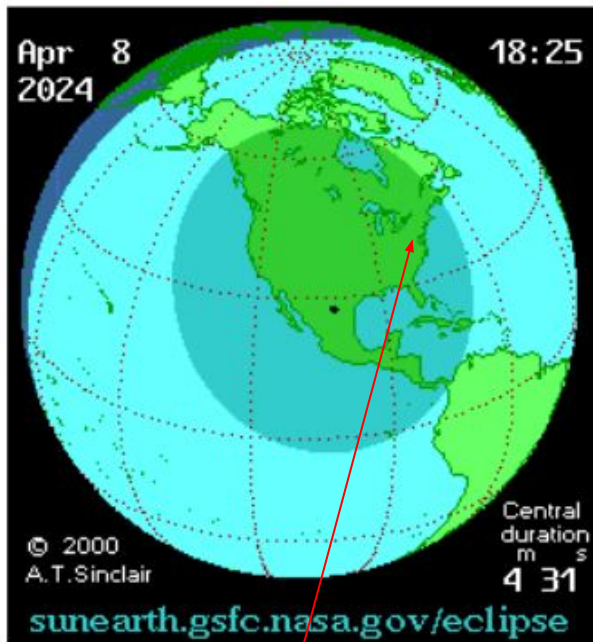


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Atmospheric Administration  
U.S. Department of Commerce

Burlington Weather Forecast Office



# Eclipse Track and Timing



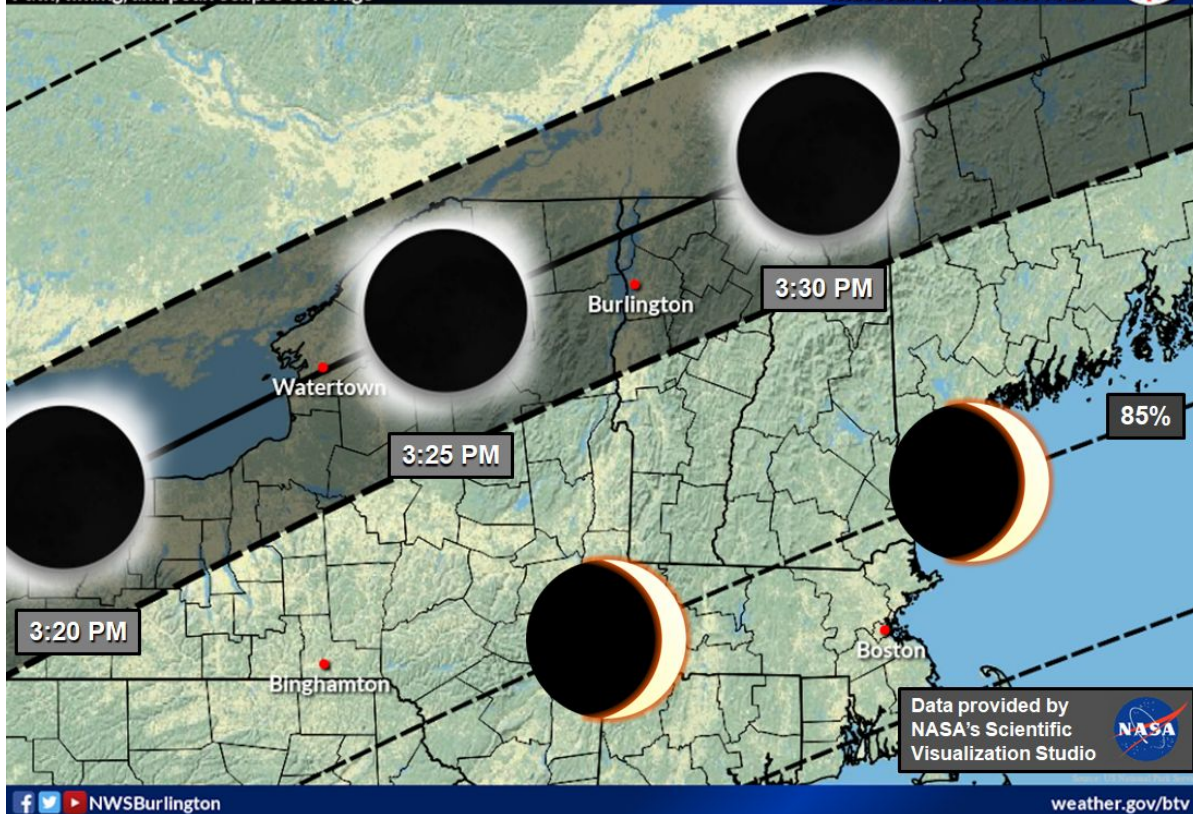
Partial viewing will begin as early as 2:00-2:15 PM

## April 8th, 2024 Total Eclipse

Path, timing, and peak eclipse coverage

Weather Forecast Office  
Burlington, VT

Issued Jan 02, 2024 1:43 PM EST



National Oceanic and  
Atmospheric Administration  
U.S. Department of Commerce

Burlington Weather Forecast Office



# What if I miss this one?

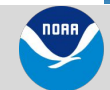
10/02/2024	Annular	7 min 25 sec	0.933	Southeast Pacific, far southern South America
02/17/2026	Annular	2 min 20 sec	0.963	Antarctica
08/12/2026	Total	2 min 18 sec	1.039	Arctic, eastern Greenland, Iceland, northern Spain
02/06/2027	Annular	7 min 51 sec	0.928	South Pacific, southern Chile, southern Argentina, south Atlantic
08/02/2027	Total	6 min 23 sec	1.079	Central Atlantic, Mediterranean region, Egypt, Red Sea area

In Vermont, the next total one won't be until 2079!





# Where Do Solar Eclipses Happen Most Often





# What is a solar eclipse?





# Eclipse Types

**Total**



**Annular (Moon too far to produce complete shadow)**



**Partial (Not perfectly lined up)**

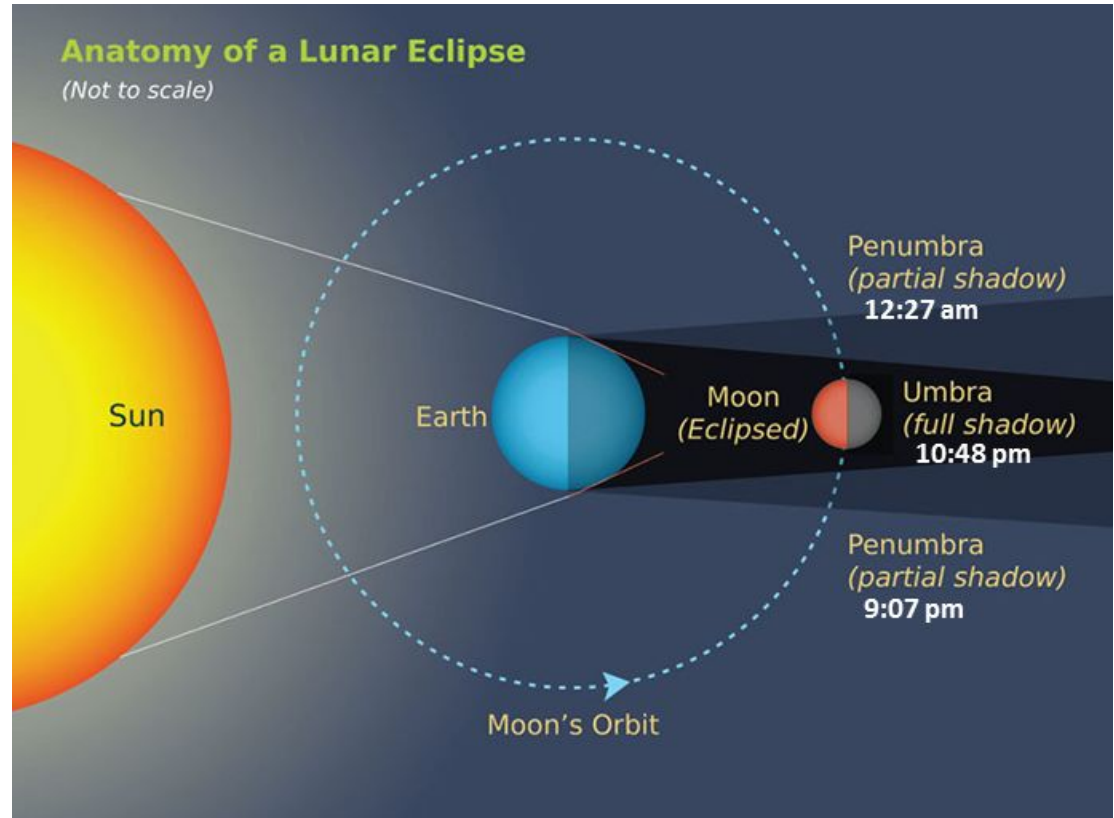


Credit: Total eclipse (left): NASA/MSFC/Joseph Matus; annular eclipse (center): NASA/Bill Dunford; partial eclipse (right): NASA/Bill Ingalls



# Solar Eclipse Facts

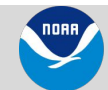
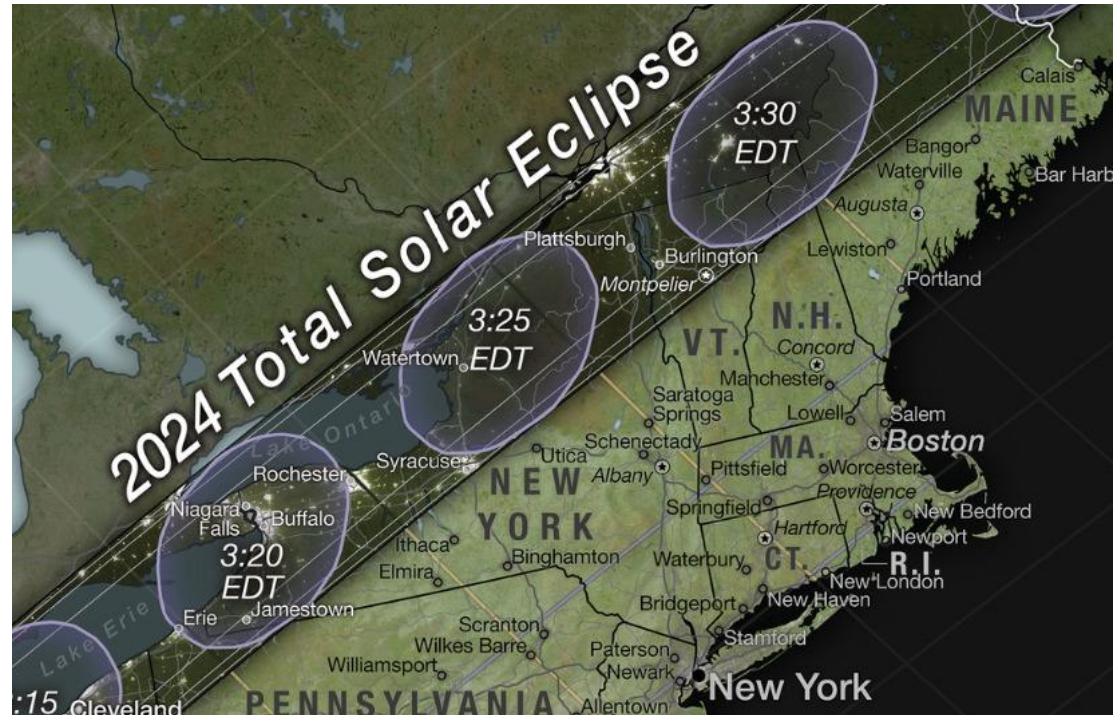
- A solar eclipse happens when the sun's light is blocked by the moon
- A solar eclipse always happens during the daytime
- If you are in the “path of totality” like Burlington will be in April, it will turn dark, like night





# Solar Eclipse Facts

- A solar eclipse happens when the sun's light is blocked by the moon
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# What Can I Expect During This Eclipse?

- As the moon covers the sun, the sky will get dark as if it were dawn or dusk. During totality, it will be like nighttime during a full moon.
- Wildlife may react differently, confused by the sudden nighttime. Example: Any birds singing may go quiet, thinking it's time for bed.
- Temperatures can drop between 4-10 degrees Fahrenheit during the eclipse.
- Before and after totality, light filtering through leaves on trees or other holes (try holding up a colander) cast crescent shadows.

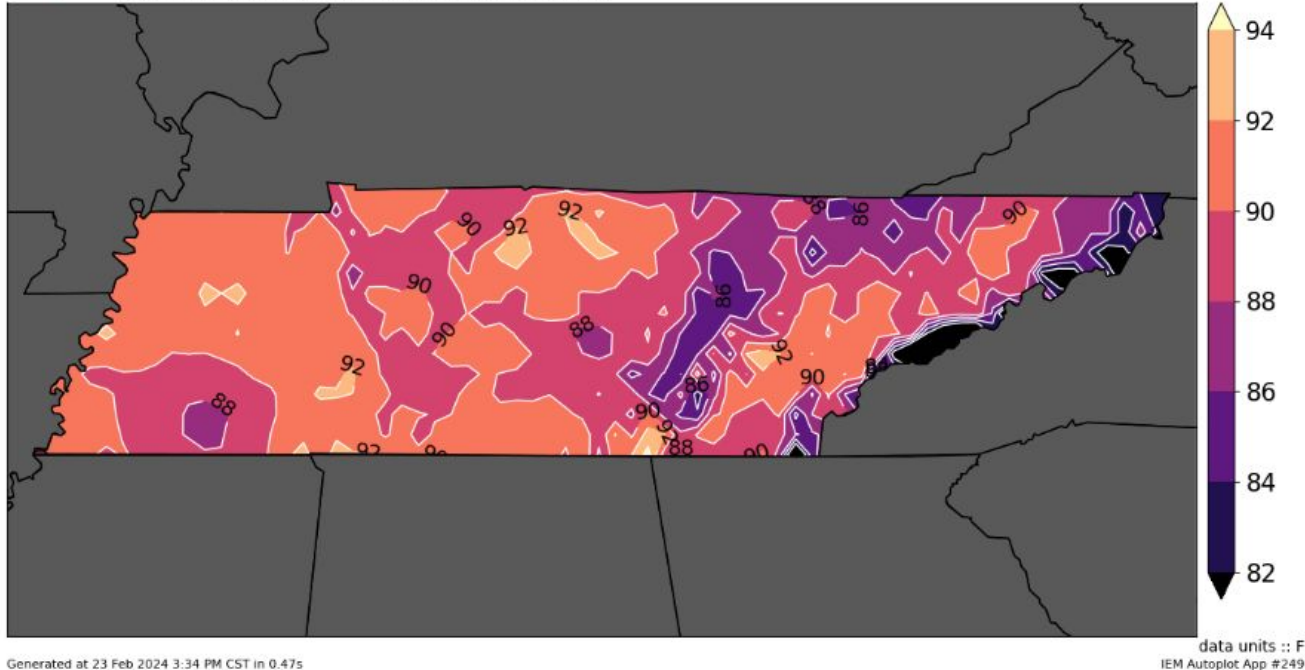




# What Can I Expect During This Eclipse?



IEM Reanalysis of 2m Air Temperature for 21 August 2017 18:00 UTC  
Data derived from various NOAA/ERA5-Land datasets



Watch Tennessee cool 4-8 degrees as the eclipse occurred near 1:30-2:00 PM CDT and immediately rebound when it's done.



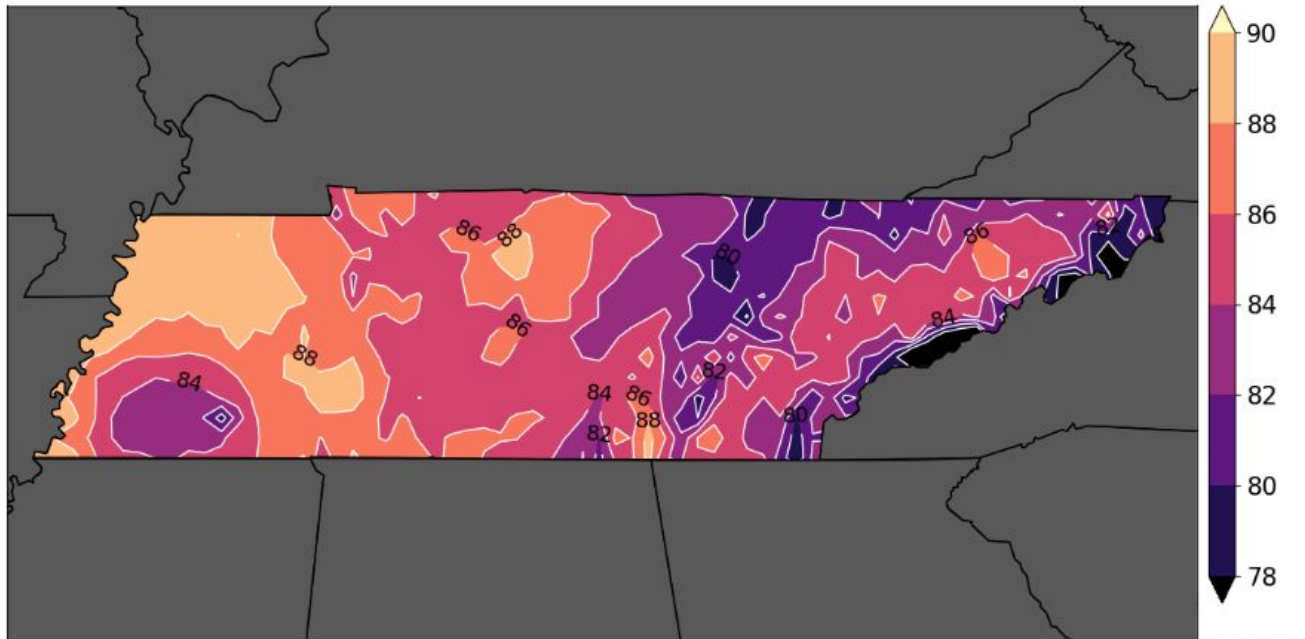


# What Can I Expect During This Eclipse?



IEM Reanalysis of 2m Air Temperature for 21 August 2017 19:00 UTC

Data derived from various NOAA/ERA5-Land datasets



Generated at 23 Feb 2024 3:35 PM CST in 1.68s

data units :: F  
IEM Autoplot App. #249

Watch Tennessee cool 4-8 degrees as the eclipse occurred near 1:30-2:00 PM CDT and immediately rebound when it's done.



National Oceanic and  
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# How to Safely Watch a Solar Eclipse





# Safety in 3 Stages

## Stage 1: Before Totality

Before the moon completely covers the sun, you will need specialized eye protection (not sunglasses) to view the eclipse.

## Stage 2: Totality

When the sun is no longer visible through your eye protection, the sky will go dark like night, and it is safe to remove the special glasses.



## Stage 3: After Totality

As soon as you see even a little bit of sun reappear, it's time to put back on your eye protection to view the sun.





# Look out for these eclipse phenomena



Baily's Beads





# Look out for these eclipse phenomena



Diamond Ring  
Effect

NASA/Carla Thomas



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U.S. Department of Commerce

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# Look out for these eclipse phenomena



Corona

NASA.gov



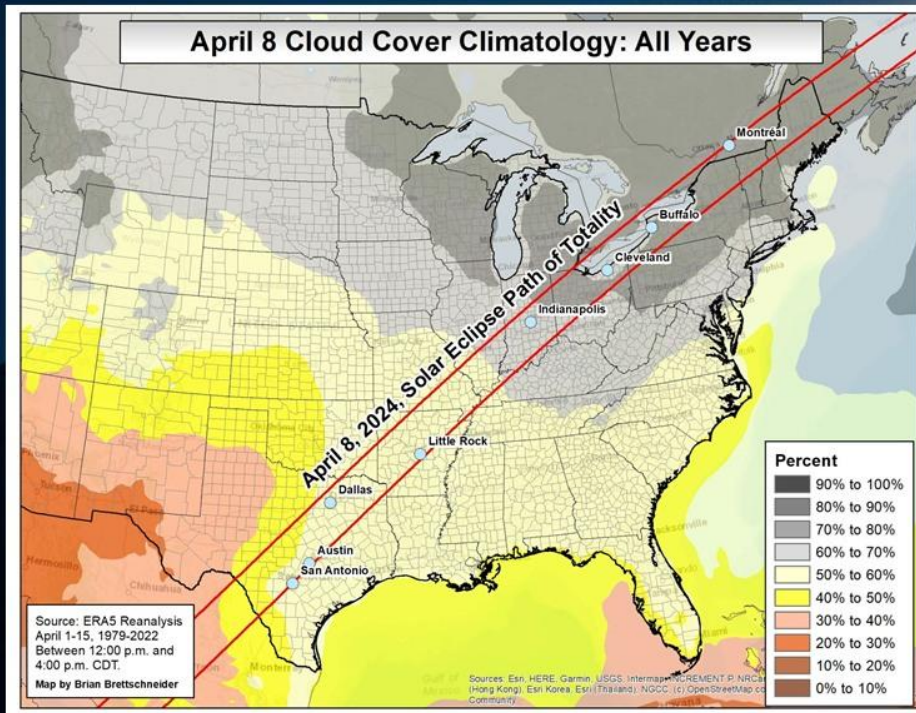
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# Historical Climatology

## April 8<sup>th</sup> Cloud Climatology



Historically, April is one of the cloudiest months of the year across the northeastern United States. Here is a look at cloud cover over the past several years on April 8<sup>th</sup>.

Year	Cloud Cover (averaged over entire day)
2017	100%
2018	50%
2019	100%
2020	40%
2021	50%
2022	100%
2023	30%

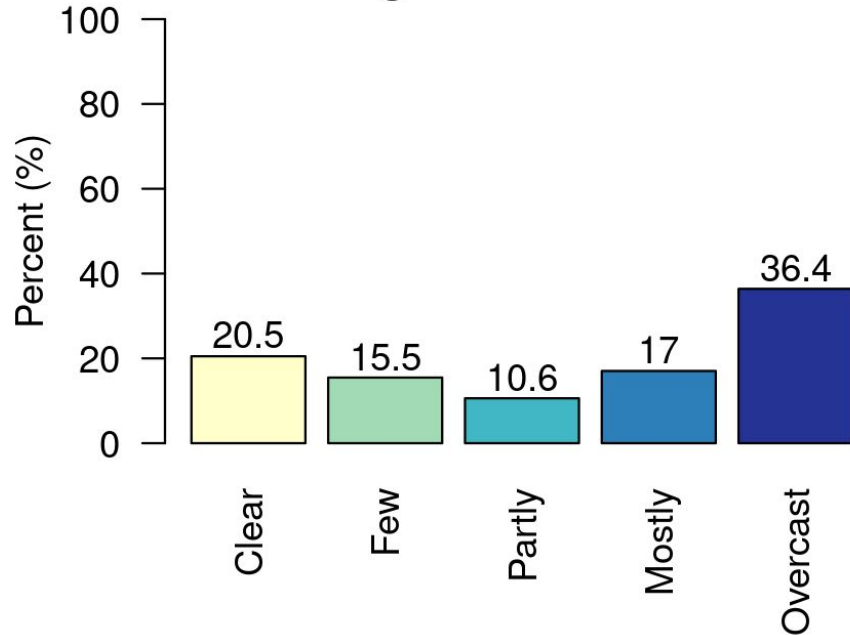




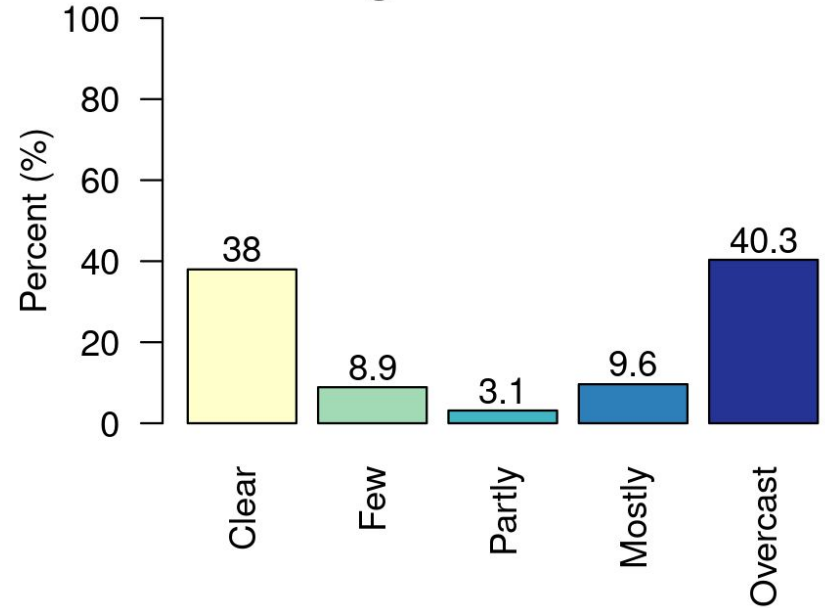
# Historical Climatology

[https://cimss.ssec.wisc.edu/goes/loops/geo\\_April\\_8ths.html](https://cimss.ssec.wisc.edu/goes/loops/geo_April_8ths.html)

Burlington Cloud Cover  
**Climatological Cloud Conditions**



Montpelier Cloud Cover  
**Climatological Cloud Conditions**



<https://ncsu.maps.arcgis.com/apps/webappviewer/index.html?id=a65a18758b264f1790665a68b858b3d6>





# Historical Climatology

## Seasonal Averages for April 8

- High Temperature: 51 F
- Low Temperature: 33 F
- Precipitation: 0.09"
- Snowfall: 0.1"
- Percent of Days with Precipitation - 43%
- Percent Days with Snow - 19%

## Record Highest for April 8

- High Temperature: 73 F
- Low Temperature: 54 F
- Precipitation: 0.73"
- Snowfall: 4.9"

## Record Lowest for April 8

- High Temperature: 28 F
- Low Temperature: 11 F





# Reminder About Cold Water

## Cold Water Safety

### Water Below 50° F

- **Immediate** incapacitation
- Deep, involuntary gasping for air and loss of breathing control leads to swallowing of water which can lead to drowning
- Sudden increase in heart rate and blood pressure can cause heart attack
- Mental confusion, fear, and panic

### Water Below 60° F

- Physical incapacitation in **10 minutes**
- Loss of feeling and muscle control, especially in arms, legs, and fingers
- It can begin in just seconds depending on water temperatures, making self-rescue nearly impossible

### Plan for Immersion

- Dress for the water temperature, NOT the air temperature
- Always wear a life jacket!



[weather.gov/safety/coldwater](https://weather.gov/safety/coldwater)



**Cold Water Can Kill!**



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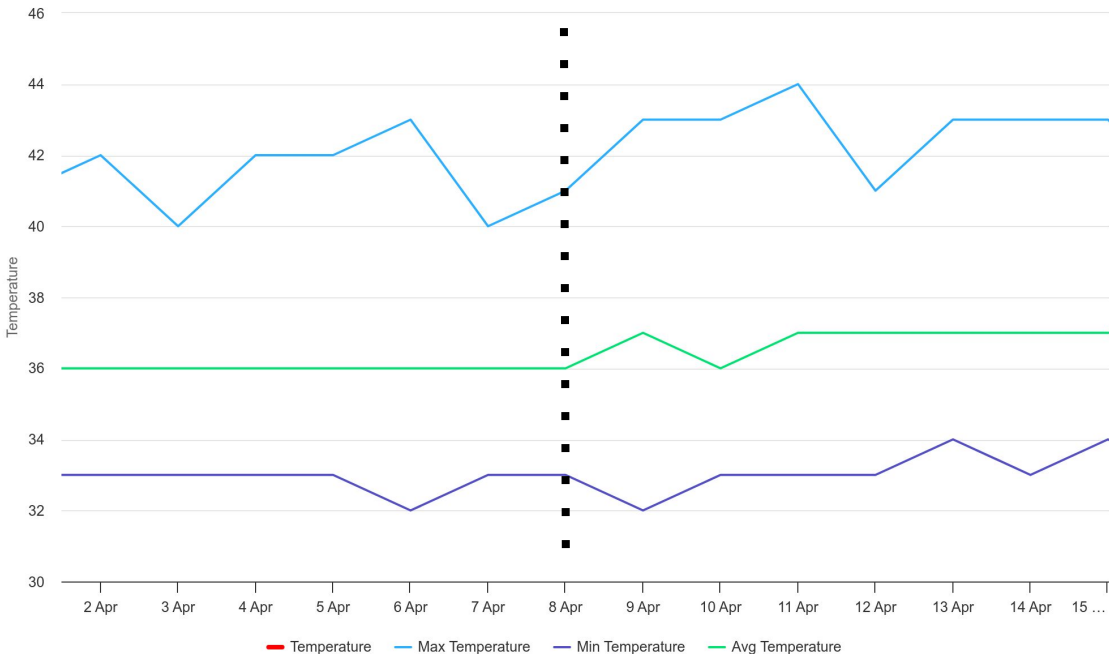
Burlington Weather Forecast Office



# Cold Weather Safety

Lake Champlain Temperature for 2024

Click and drag in plot area to zoom in



Highcharts.com

Temperatures on Lake Champlain in early April can be as cold as 32-34, and as warm as 40-43.

So even if the weather is gorgeous on eclipse day, use caution near waters that will still be very cold!





# How to Check Your Weather

Current conditions at  
Barre / Montpelier, Knapp State Airport (KMPV)  
Lat: 44.2°N Lon: 72.57°W Elev: 1165ft

Any headlines will appear above "Current Conditions"



Fair  
**69°F**  
21°C

Humidity 57%  
Wind Speed Calm  
Barometer 29.94 in (1013.8 mb)  
Dewpoint 53°F (12°C)  
Visibility 10.00 mi  
Last update 11 Jun 10:51 am EDT

More Information:  
[Local Forecast Office](#)  
[More Local Wx](#)  
[3 Day History](#)  
[Mobile Weather](#)  
[Hourly Weather Forecast](#)

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

Extended Forecast for  
Barre / Montpelier, Knapp State Airport VT

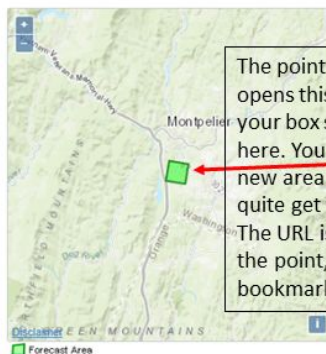
Watch, warnings, advisories will be boxed below.

Today	Tonight	Monday	Monday Night	Tuesday	Tuesday Night	Wednesday	Wednesday Night	Thursday
Mostly Sunny	Mostly Cloudy then Slight Chance Showers	Slight Chance Showers then Slight Chance T-storms	Chance Showers then Rain	Rain then Chance Showers	Chance Showers	Chance Showers then Showers	Showers	Chance Showers
High: 75 °F	Low: 56 °F	High: 78 °F	Low: 58 °F	High: 68 °F	Low: 52 °F	High: 71 °F	Low: 52 °F	High: 68 °F

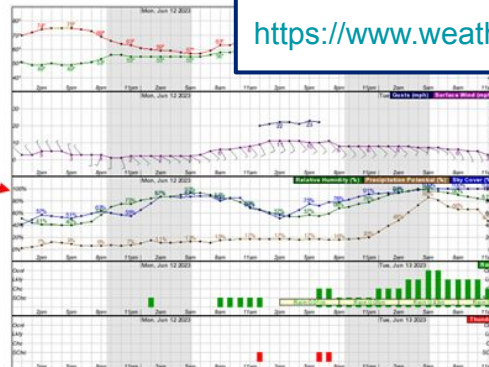
## Detailed Forecast

Today	Mostly sunny, with a high near 75. Calm wind becoming northwest around 5 mph in the afternoon.
Tonight	A slight chance of showers between 1am and 2am. Mostly cloudy, with a low around 58. Light and variable wind. Chance of precipitation is 20%.
Monday	A slight chance of showers before noon, then a slight chance of showers and thunderstorms between noon and 1pm. Mostly cloudy, with a high near 78. Southeast wind 6 to 11 mph, with gusts as high as 22 mph. Chance of precipitation is 20%.
Monday Night	A chance of showers between midnight and 3am, then rain after 3am. Low around 58. Southeast wind around 8 mph. Chance of precipitation is 80%. New precipitation amounts between a quarter and half of an inch possible.
Tuesday	Rain, mainly before 11am, then a chance of showers after 11am. High near 68. Southeast wind around 6 mph becoming light and variable in the morning. Chance of precipitation is 80%. New precipitation amounts between a quarter and half of an inch possible.
Tuesday Night	A 30 percent chance of showers before 2am. Partly cloudy, with a low around 52. Light south wind. New precipitation amounts of less than a tenth of an inch possible.
Wednesday	Showers, mainly after 2pm. High near 71. Light southeast wind becoming south 5 to 10 mph in the morning. Chance of precipitation is 90%.
Wednesday Night	Showers, mainly before 2am. Low around 52. Light southeast wind. Chance of precipitation is 80%.
Thursday	A 50 percent chance of showers. Partly sunny, with a high near 68. Calm wind becoming west around 6 mph in the afternoon.

Topographic  
Click Map For Forecast



The point you click opens this page, and your box shows up here. You can click a new area if you didn't quite get your spot. The URL is specific to the point, and you can bookmark it!



"Hourly Weather Forecast" has a line chart of conditions by the hour (becomes longer farther out).

Click a location below for detailed forecast.



Last Map Update: Sun, Jun. 11, 2023 at 8:39:16 am EDT



National Oceanic and  
Atmospheric Administration

U.S. Department of Commerce

Burlington Weather Forecast Office



# Thanks for reading!

[Historical Cloud Cover Loop](#)  
[NWS BTV Eclipse Site](#)