

CoCoRaHS



GUIDE



Climate Resources for Master Gardeners



UPDATED 2026

Version 3.0

Welcome

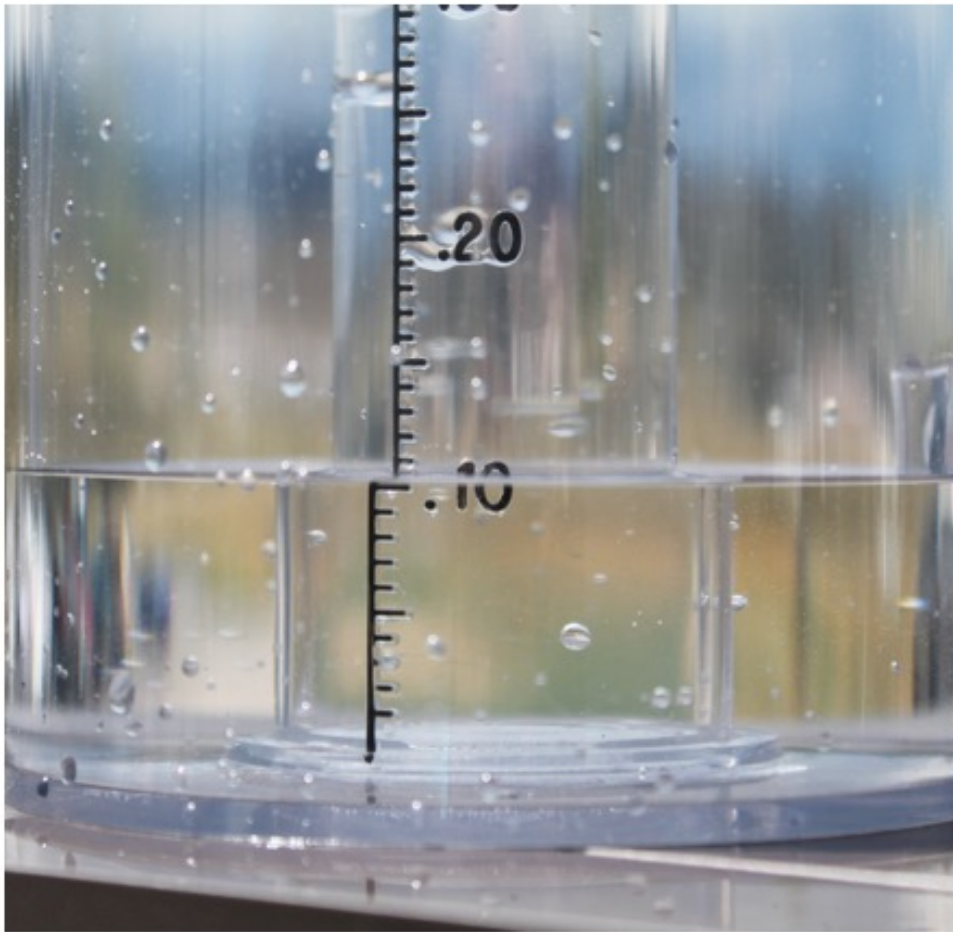


This guide is Sponsored by
CoCoRaHS and NOAA's
Office of Education.



*“Thousands of volunteers across the nation,
measuring precipitation at their location!”*

CoCoRaHS



rain
Hail
snow



"Precipitation measurements in your own backyard!"

CoCoRaHS: Who are we?

CoCoRaHS: Rainfall data for all

CoCoRaHS is the Community Collaborative Rain, Hail and Snow Network. It is a grassroots, non-profit network of volunteers of all ages who measure precipitation right in their own backyards! CoCoRaHS has observers in all fifty states.

Many gardeners are involved in CoCoRaHS all across the country. Knowing how much precipitation falls on your lawn and garden is always helpful.

CoCoRaHS started at Colorado State University in 1998. Master Gardeners make use of CoCoRaHS rainfall data and help introduce new gardeners to the network.

More on CoCoRaHS at the end of this presentation

Current and past CoCoRaHS volunteer precipitation observations are posted daily on the Web and freely available to the public at www.cocorahs.org

Obs Date	Obs Time	Station Number	Station Name	Gauge Catch in. ▲
7/8/2026	7:00 AM	SD-BR-55	Claremont 0.3 W	5.18
7/8/2026	9:00 AM	KY-JS-18	Nicholasville 6.1 NE	4.69
7/8/2026	6:55 AM	MA-BA-13	Falmouth 0.6 NNW	4.39
7/8/2026	7:00 AM	SC-HR-132	Murrells Inlet 3.3 N	4.28
7/8/2026	8:00 AM	SC-HR-122	Murrells Inlet 1.9 NNE	4.27
7/8/2026	7:00 AM	TX-SM-29	Lindale 2.2 NNE	4.14

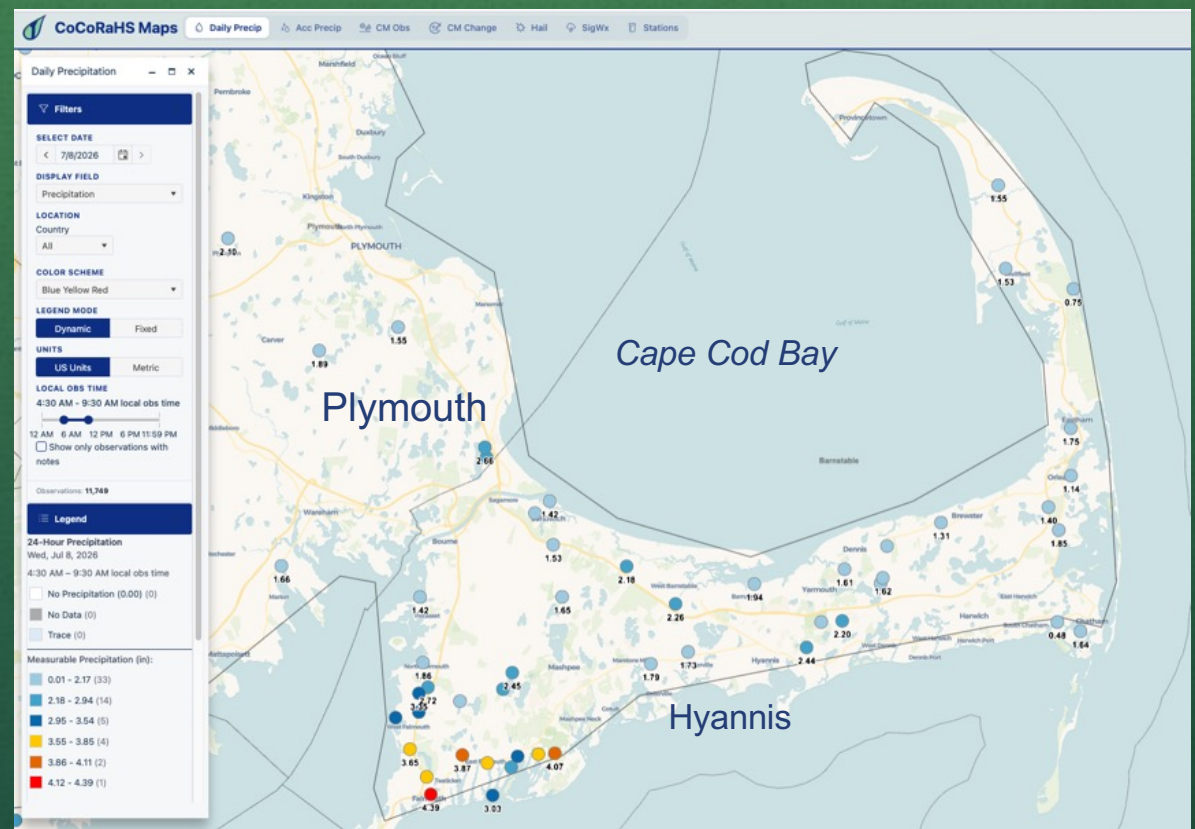


Table of Contents

This climate guide introduces elements of climate important to gardeners. An overview of natural climate patterns and differences are shown. Links to local climate information are provided.

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6. Wind
7. Evapotranspiration (ET)
8. Climate Resources
9. Climate Change
10. CoCoRaHS: An opportunity for gardeners



Section One: Introduction - Climate and Gardening

CLIMATE



arid
Marine
tropical



"I like the climate . . . it suits my garden well"

An Amazing and Diverse Climate

- The U.S. Climate consists of deserts, rainforests, semi-arid grassland, tropics, and everything in between.
- Climate differences result in diverse vegetation across the country . . . Pineapples grow well in Hawaii, but what about on Cape Cod? Copious amounts of rain produce giant spruce trees in Washington's Olympic Peninsula, while Yucca plants send down deep roots in New Mexico's deserts in search of water.
- Tomatoes begin to ripen on the vine in South Carolina at the same time it is finally safe to plant them without the threat of frost in the Rockies.

"What we grow in our gardens across the country and what insects, weeds and diseases our gardens encounter all depend on your specific climate"

What Controls our Climate?

There are four primary factors that control and define climate at any location:

1. Latitude
2. Elevation
3. Proximity to Oceans or Large Lakes
4. Topography



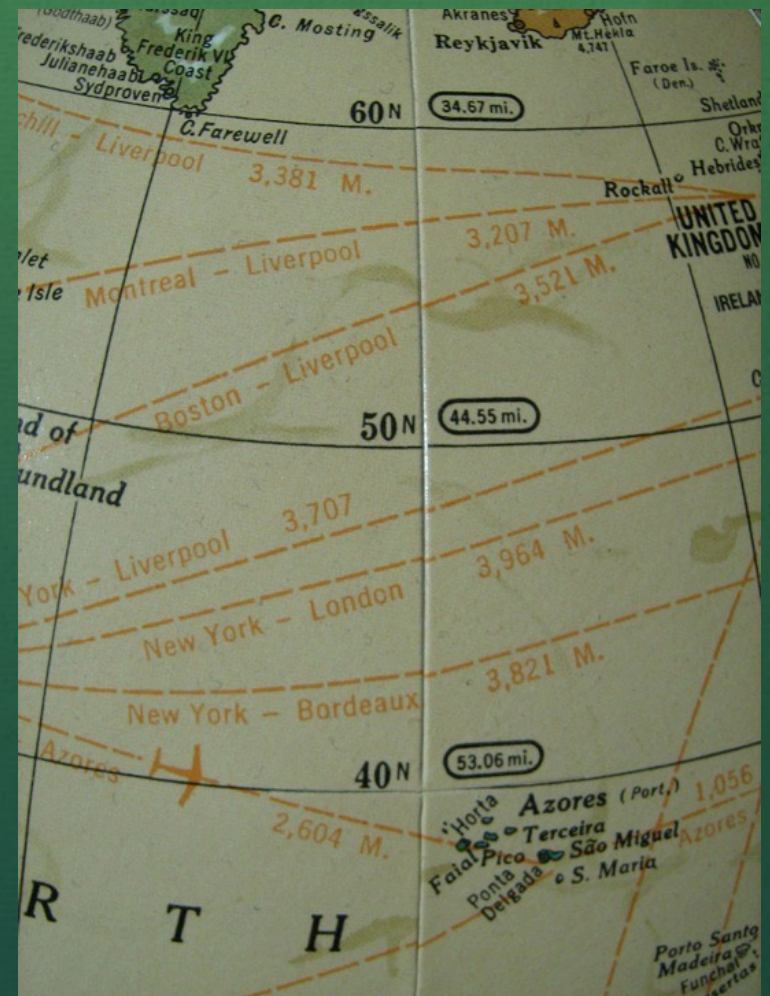
Latitude

Twenty Seven degrees north

45N

Polar Regions
Mid-Latitudes
Tropics

The equator is 0° and the poles are 90°N and 90°S respectively. Most of the land surface of the earth is in the Northern Hemisphere while most of the Southern Hemisphere is covered by Oceans.



Latitude controls sun angle and day length -- both very important factors for gardeners. In the absence of other variables, temperatures are hottest and most consistent near the equator and cool as you go towards the poles. Seasonal cycles become larger and larger as you move towards the poles.

Most of the United States lies in what we call the "Mid Latitudes" approximately halfway between the North Pole and the Equator. This is a zone where seasonal cycles are very obvious every year. Winters are cold and most plants go dormant, but summers are hot. The mid latitudes are also known for frequent clashes of air masses from the warm tropics and the cold polar regions. This is especially true over the middle of the continent far from the moderating effect of oceans.

Elevation

5,280 ft above sea level

SEA
Level

Pikes Peak
Key West
Death Valley

Temperatures generally cool and precipitation often increases as you go up in elevation. Very large climate differences occur over very short distances thanks to changes in elevation.



Proximity to Oceans and Large Lakes

The Gulf of Mexico

Lakes
Oceans

Puget Sound
Sebago Lake
Hilo Bay

Oceans and large lakes increase the humidity of the air and provide a moderating influence on temperature.



Topography

Rocky Mountains

HILL

Valley
Cliff
Slope



Subtle features in the local landscape such as valleys, ridges, depressions, slopes and the distance and direction from mountain ranges all work together to help shape the climate. Valleys and depressions may be hot during the day, but there may be frost pockets at night. Nearby hillsides may be cooler in the day, but milder at night.

Climate and Gardeners



Gardeners appreciate the benefits and challenges that climate presents. Many aspects of climate are important to plants and gardeners.



Micro-climates

Occurring naturally in many places

Nature provides remarkable local climate variations know as “Micro-Climates”



Example: Colorado's orchards and vineyards can only grow well in a few specialized areas where wind and temperature are favorable.

Micro-climates

Gardeners creating their own micro-climates



- Gardeners can actually influence their own climate rather easily.
- Local factors like shading, slopes, proximity to buildings, sprinkler systems, etc. can have huge effects on influencing your backyard climate.

Section Two: Sunshine

Sunshine



sunny
Overcast
Pt. Cloudy



"Providing the power to grow our gardens"

Sunshine and Clouds

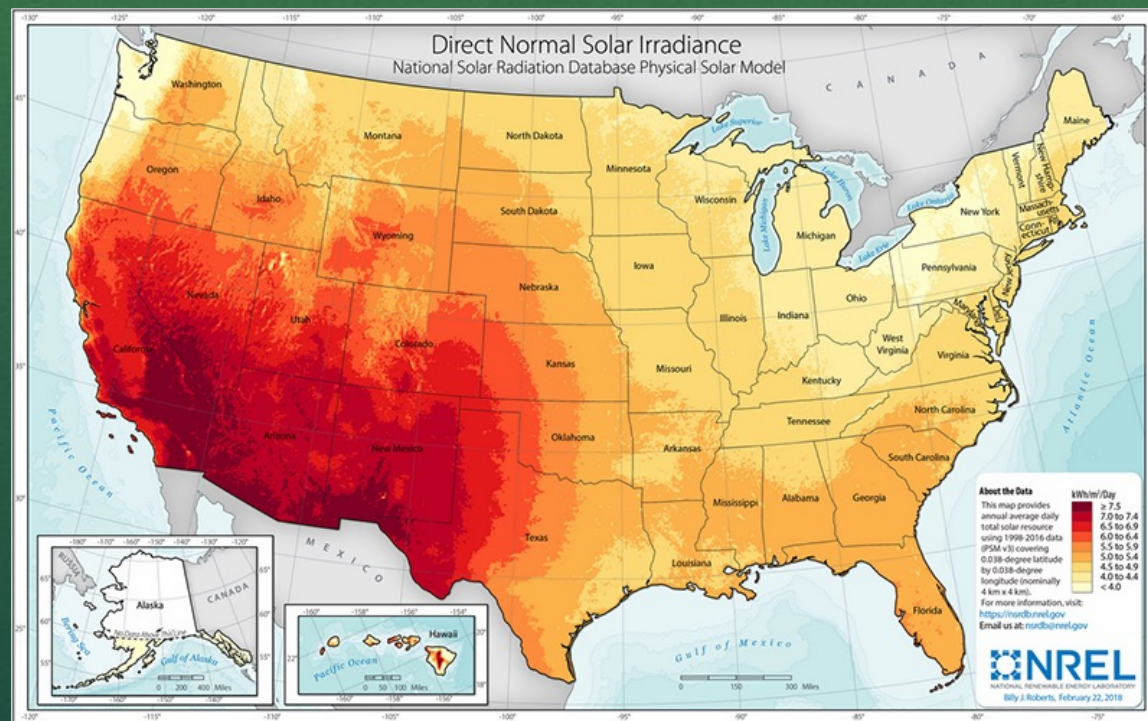
Sunshine provides the energy essential for photosynthesis and plant growth.

The cloudier the days are and the shorter the day length, the less energy plants receive to grow!

Paying attention to the amount of sunshine also gives an idea of watering needs of plants. The more sun, the more water loss to evapotranspiration.

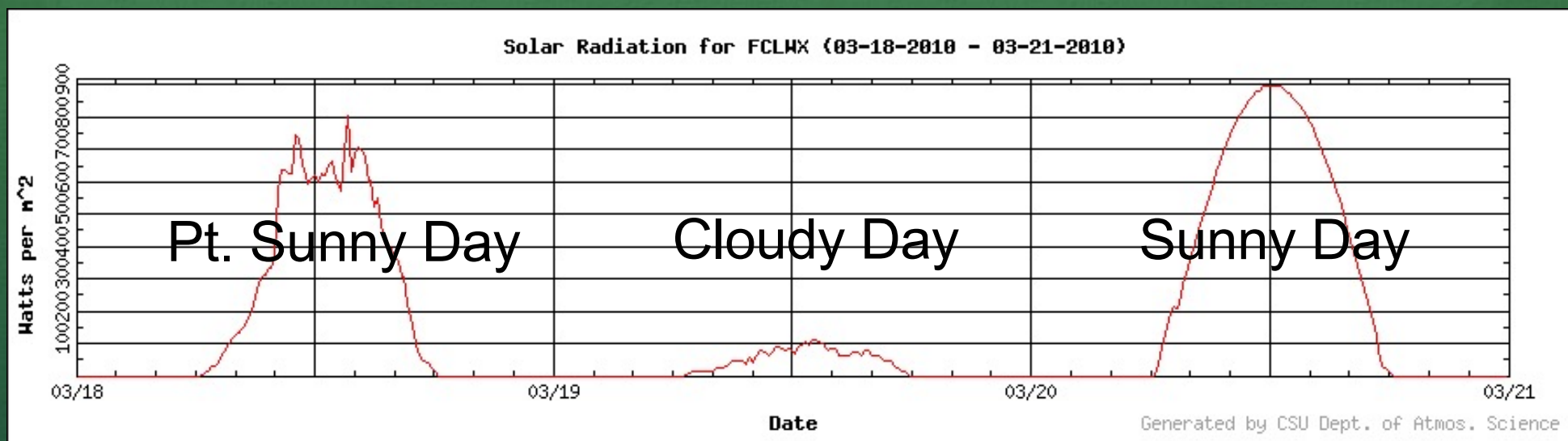
Annual Average Solar Radiation

Solar radiation is greatest in the Desert Southwest. It is least near the Great Lakes, over the Appalachian Mountains, as well as parts of New England and the Pacific Northwest



National Renewal Energy Laboratory: www.nrel.gov

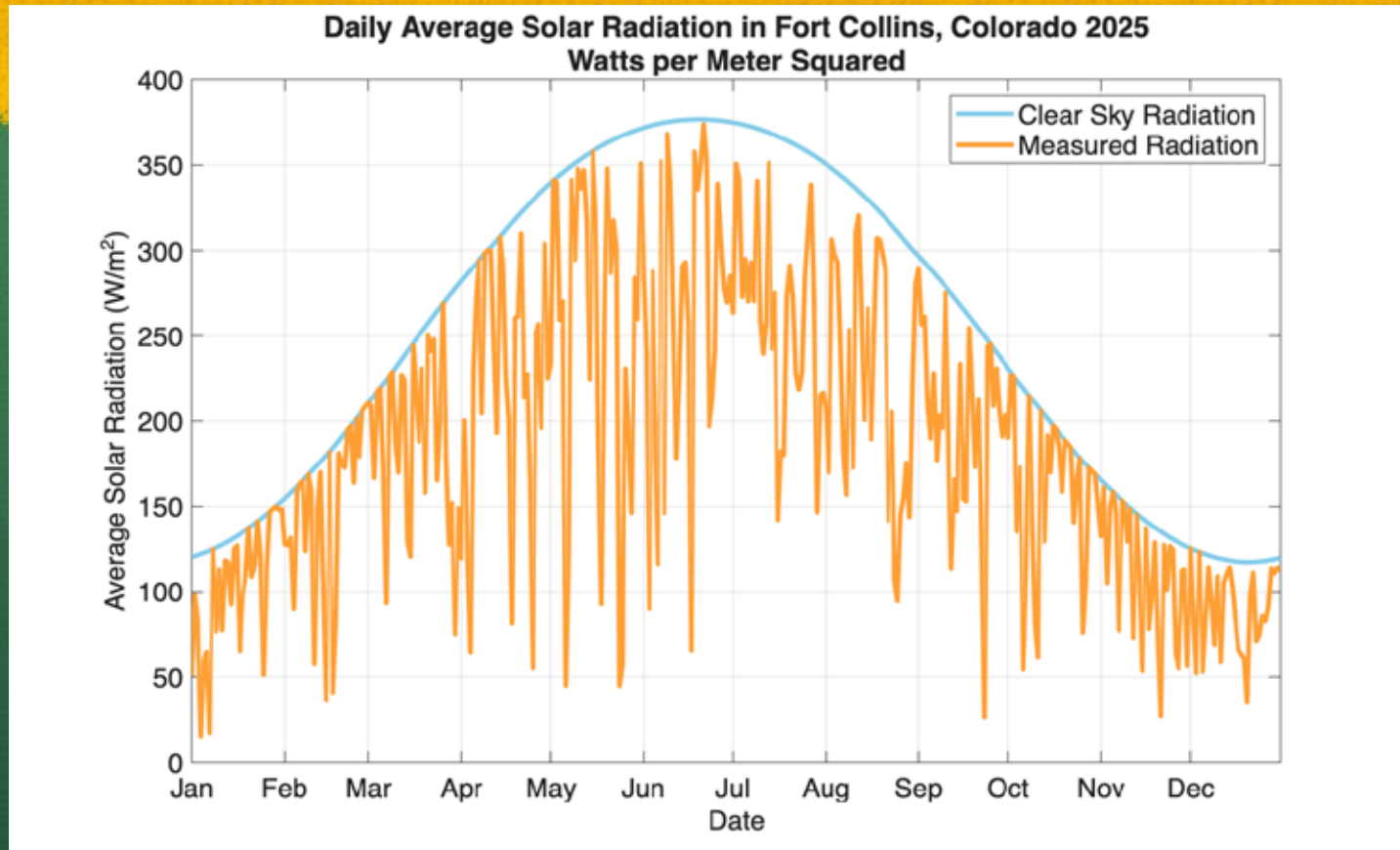
Daily Solar Radiation



The amount of daily solar radiation varies with the seasons and from day to day.

The above example shows a graph of three consecutive days with varying amounts of sunlight for Fort Collins, Colorado.

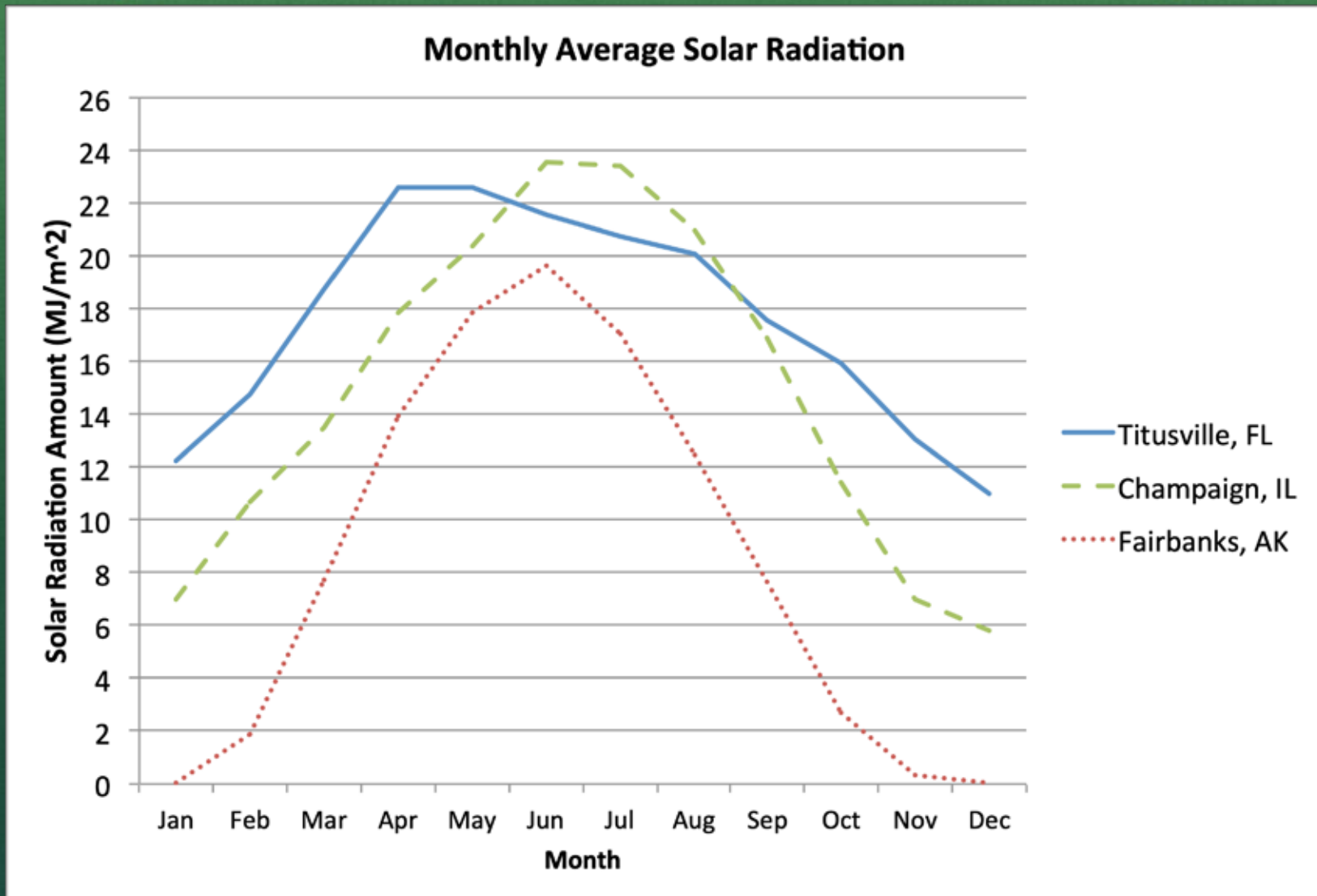
Annual Solar Radiation



Colorado Climate Center

Above is a look at the amount of solar radiation received at one particular location over a year (climate.colostate.edu)
Solar energy is highest in June when day length is longest and the midday sun is nearly overhead.

Solar Radiation varies across the nation

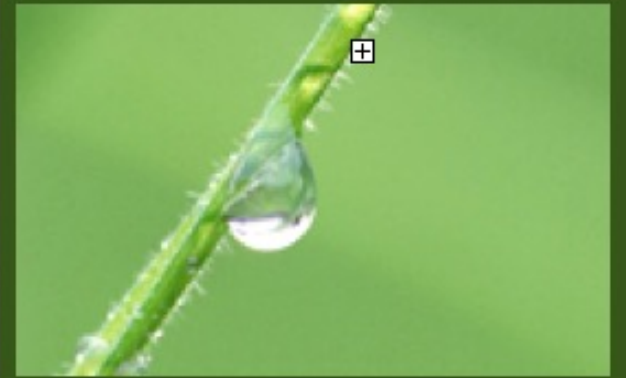


Section Three: Temperature

Temperature



below zero
Freezing
100°F



“Highs, lows and a lot of in-between”

Temperature

- Webster's Dictionary defines temperature as: *"the degree of hotness or coldness measured on a definite scale"*.
- Here in the United States, we use the Fahrenheit Scale invented by Daniel Fahrenheit back in 1753.
- 32° Fahrenheit (F) is the freezing point of water. Most of the rest of the world uses the Celsius (C) scale, where water freezes at 0° C. Water boils at 212° F and 100° C.
- Some sample conversions: 10° C = 50° F, 20° C = 68° F, 30° C = 86° F, 40° C = 104° F, 50° C = 122° F.

Temperature's Impacts

- Temperature has a variety of impacts on your garden. Some plants grow best in hot weather while other prefer it cool.



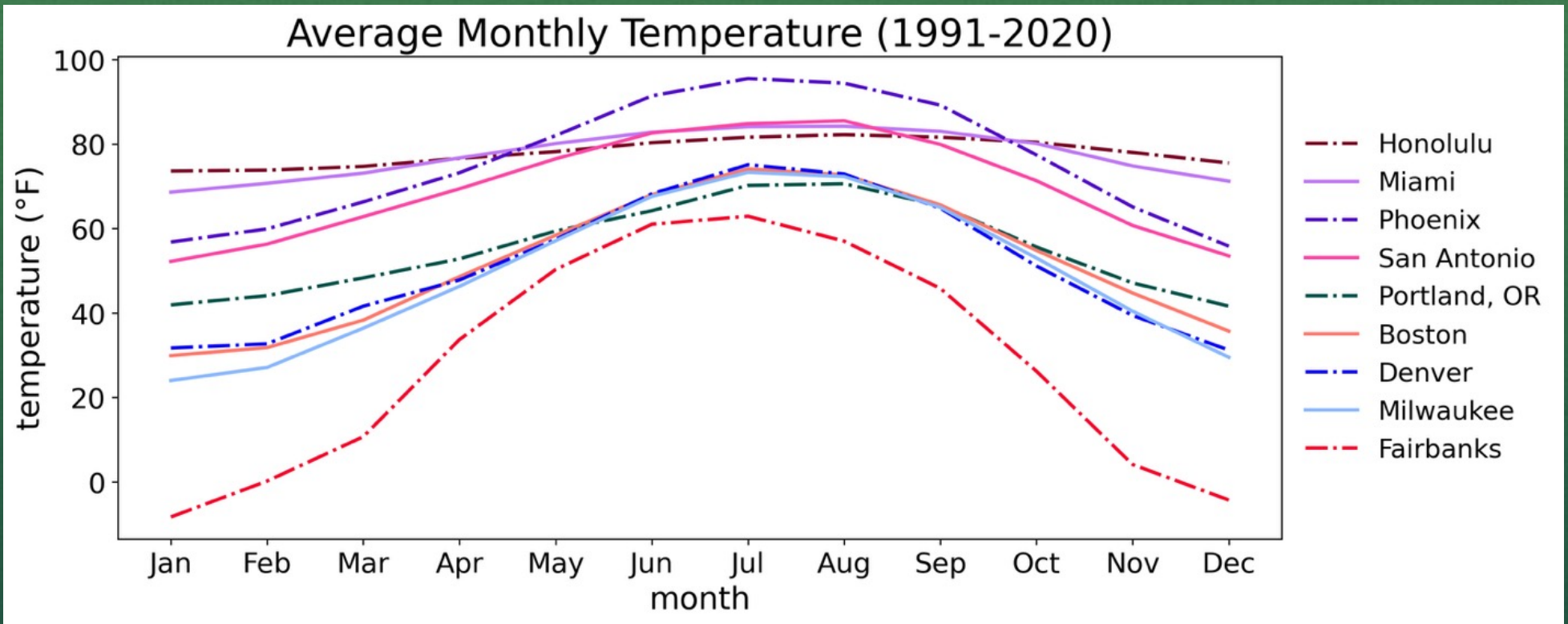
- Temperature also controls the development of certain diseases and insects.

Average Temperature

- The average daily temperature and its pattern through the year is essential information for the gardener. Gardeners can use temperature data to select plant varieties and schedule planting times through the year.
- The following slide shows a sample of average monthly temperatures for selected cities across the country.



Average Monthly Temperature for selected cities, 1991-2020



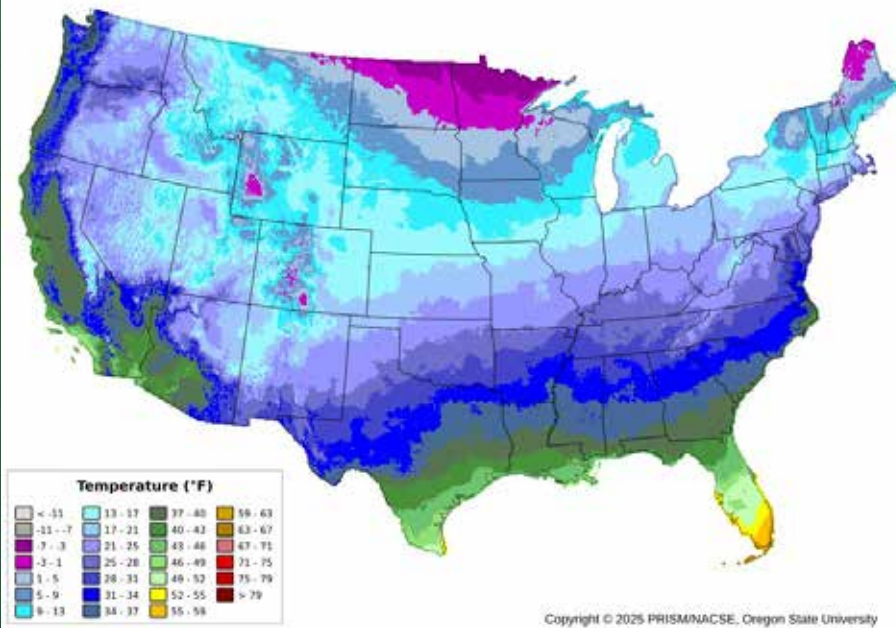
The previous graph shows that the largest seasonal cycles of temperature occur in the middle of the country and in Alaska.



Variations in temperature between winter and summer are only a few degrees in places like Miami and Honolulu.

Average Winter Temperatures

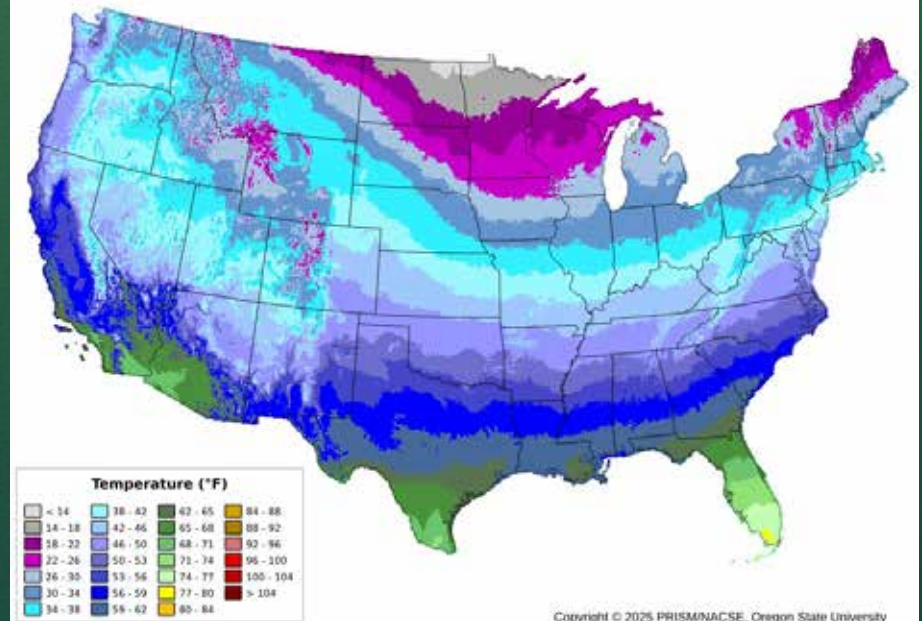
30-yr Normal Minimum Temperature: January
Period: 1991 - 2020



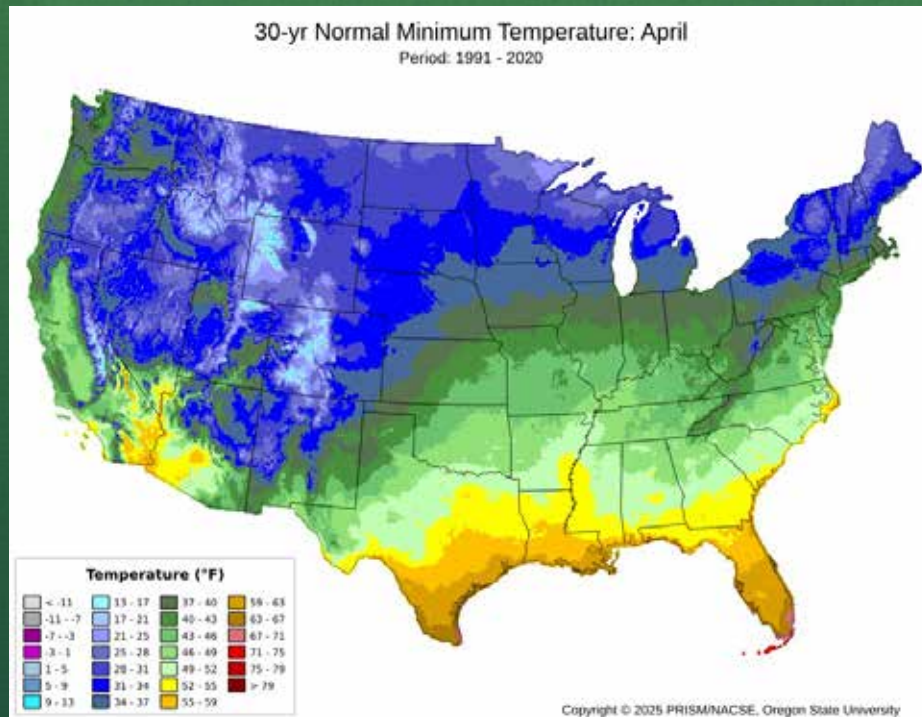
January Average Min.

January Average Max.

30-yr Normal Maximum Temperature: January
Period: 1991 - 2020

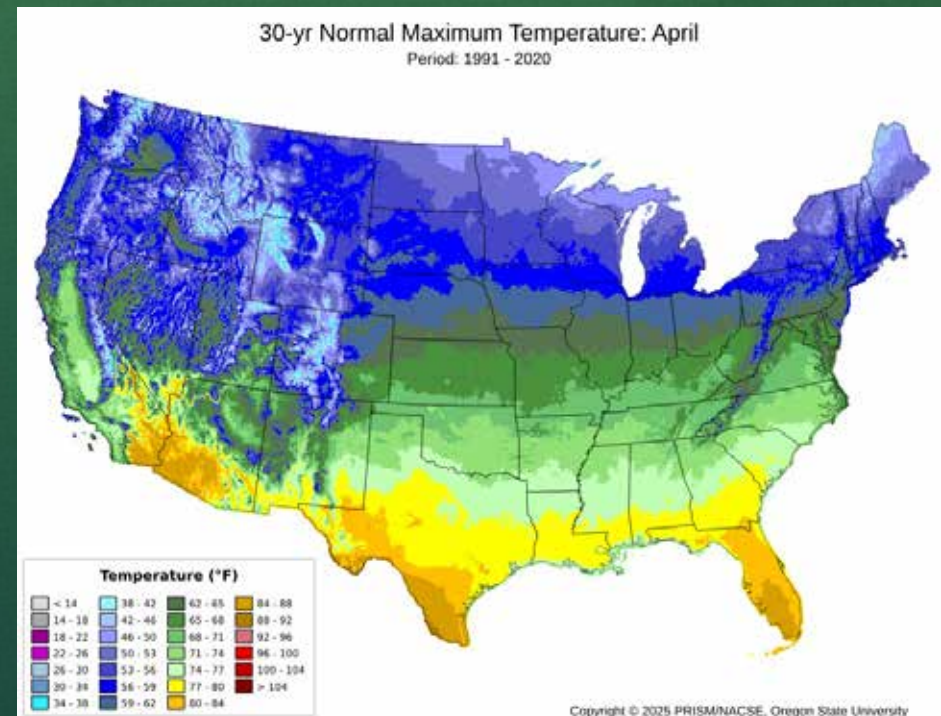


Average Spring Temperatures



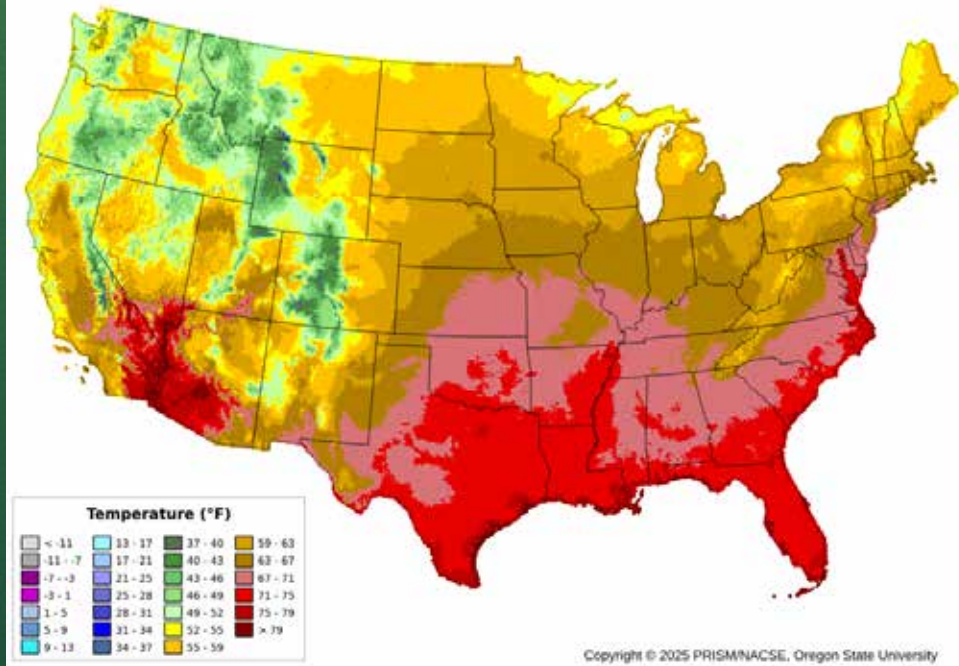
April Average Min.

April Average Max.



Average Summer Temperatures

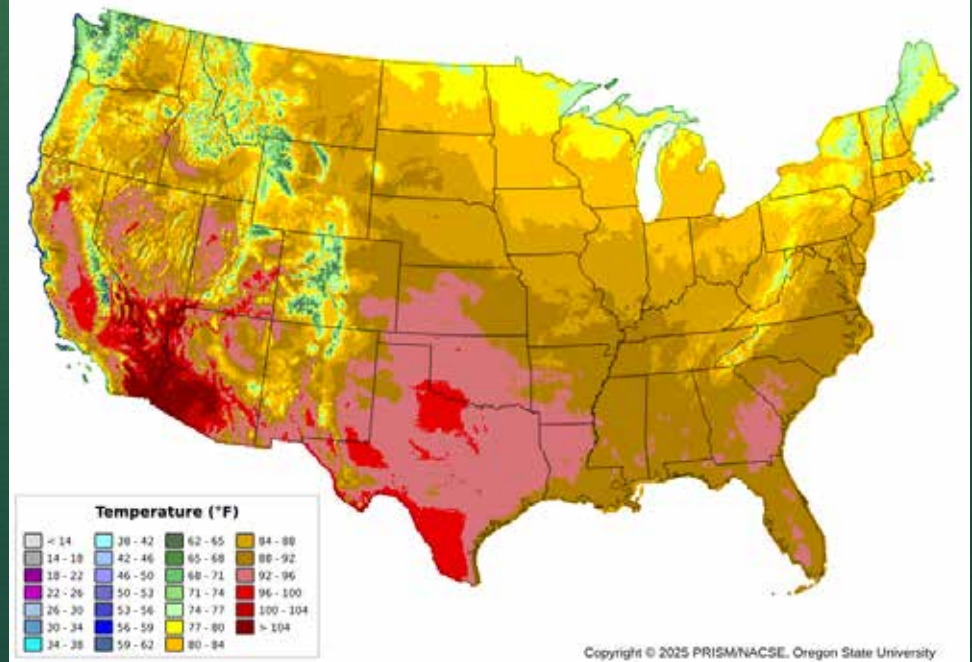
30-yr Normal Minimum Temperature: July
Period: 1991 - 2020



July Average Min.

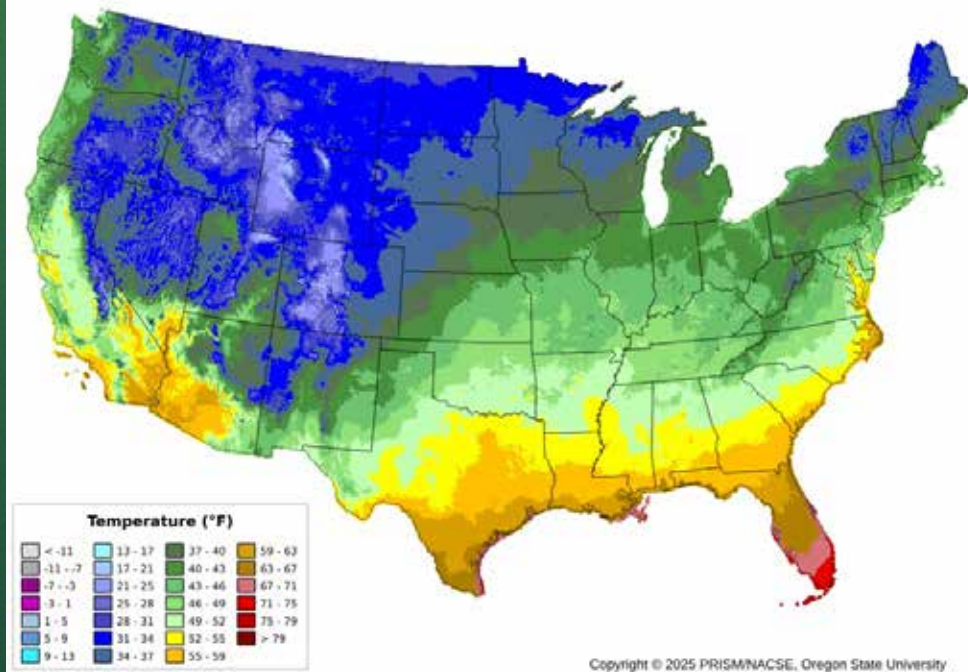
July Average Max.

30-yr Normal Maximum Temperature: July
Period: 1991 - 2020



Average Autumn Temperatures

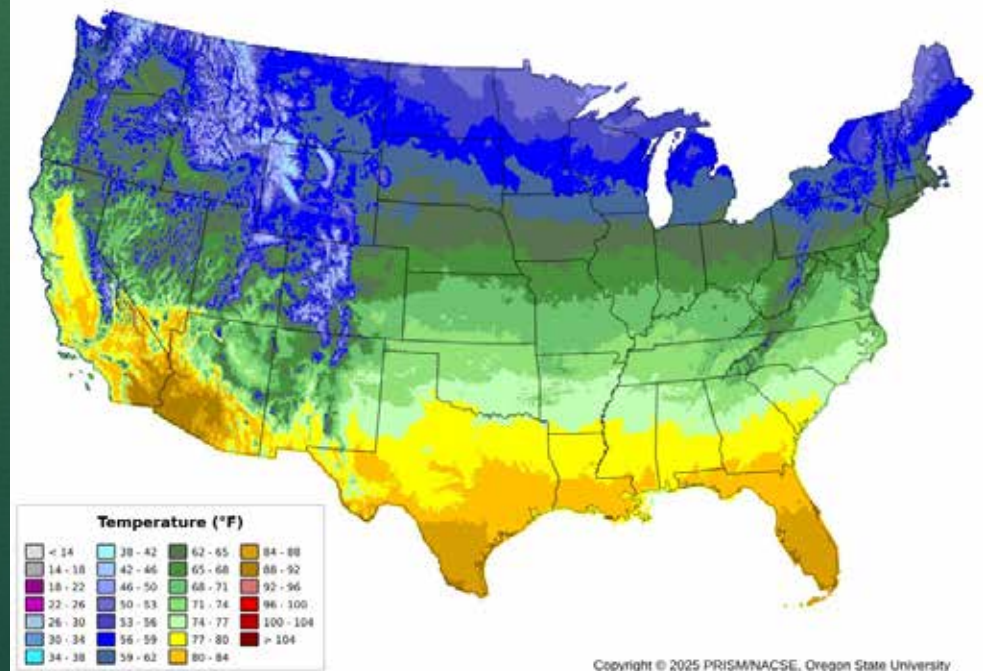
30-yr Normal Minimum Temperature: October
Period: 1991 - 2020



October Average Min.

October Average Max.

30-yr Normal Maximum Temperature: October
Period: 1991 - 2020

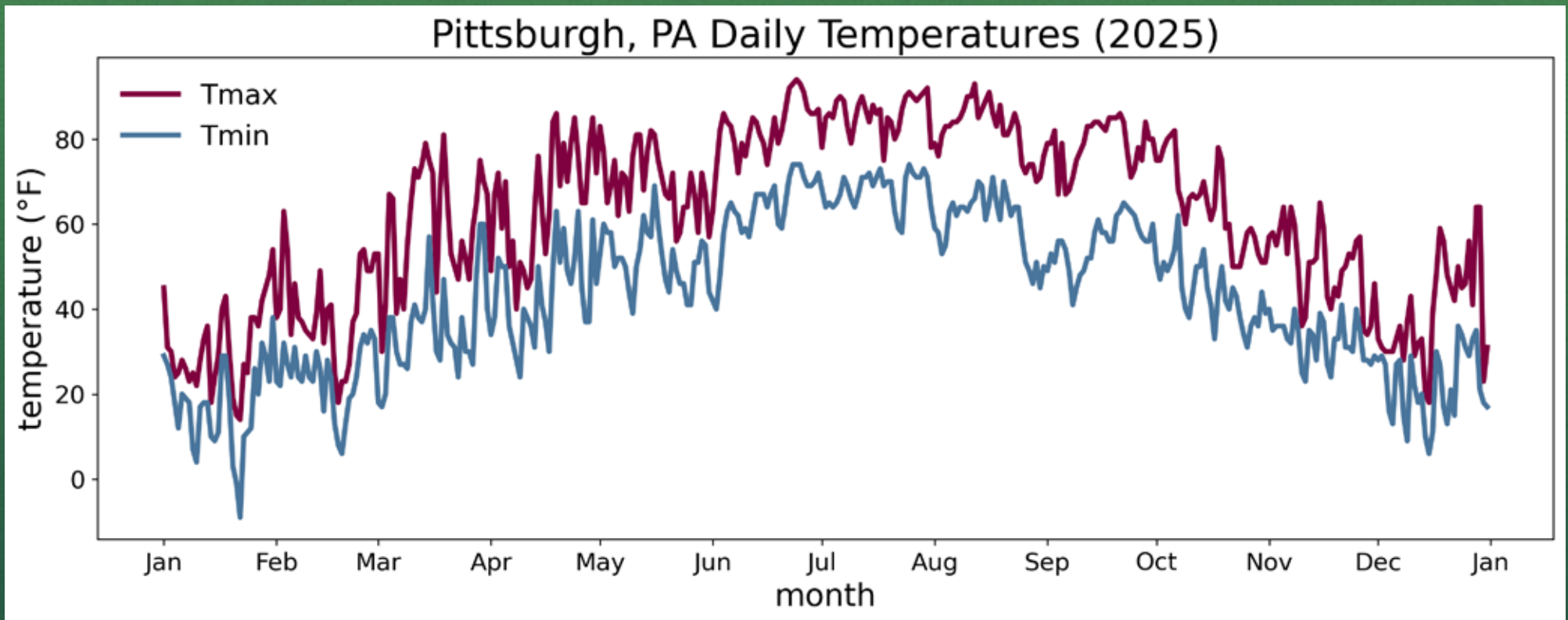


Actual Temperatures

- Average temperatures (based on historical data) tell you what you can probably grow. Actual temperatures show the variation in your climate due to changeable daily weather and will affect how well your plants actually grow in a given year.



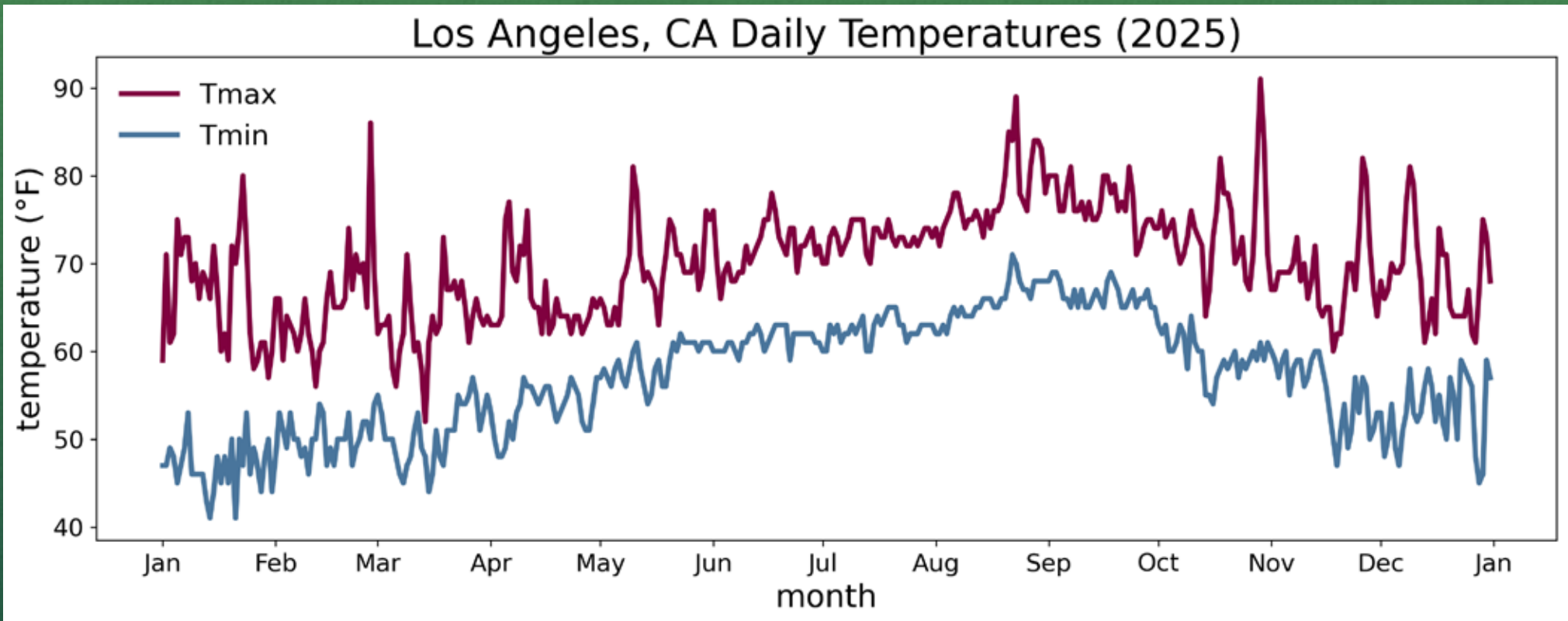
A year's worth of temperatures for Pittsburgh, PA



Colorado Climate Center

In most parts of the country, day to day changes in temperature are common year round as air masses move and fronts pass by.

A year's worth of temperatures for Los Angeles, CA



Colorado Climate Center

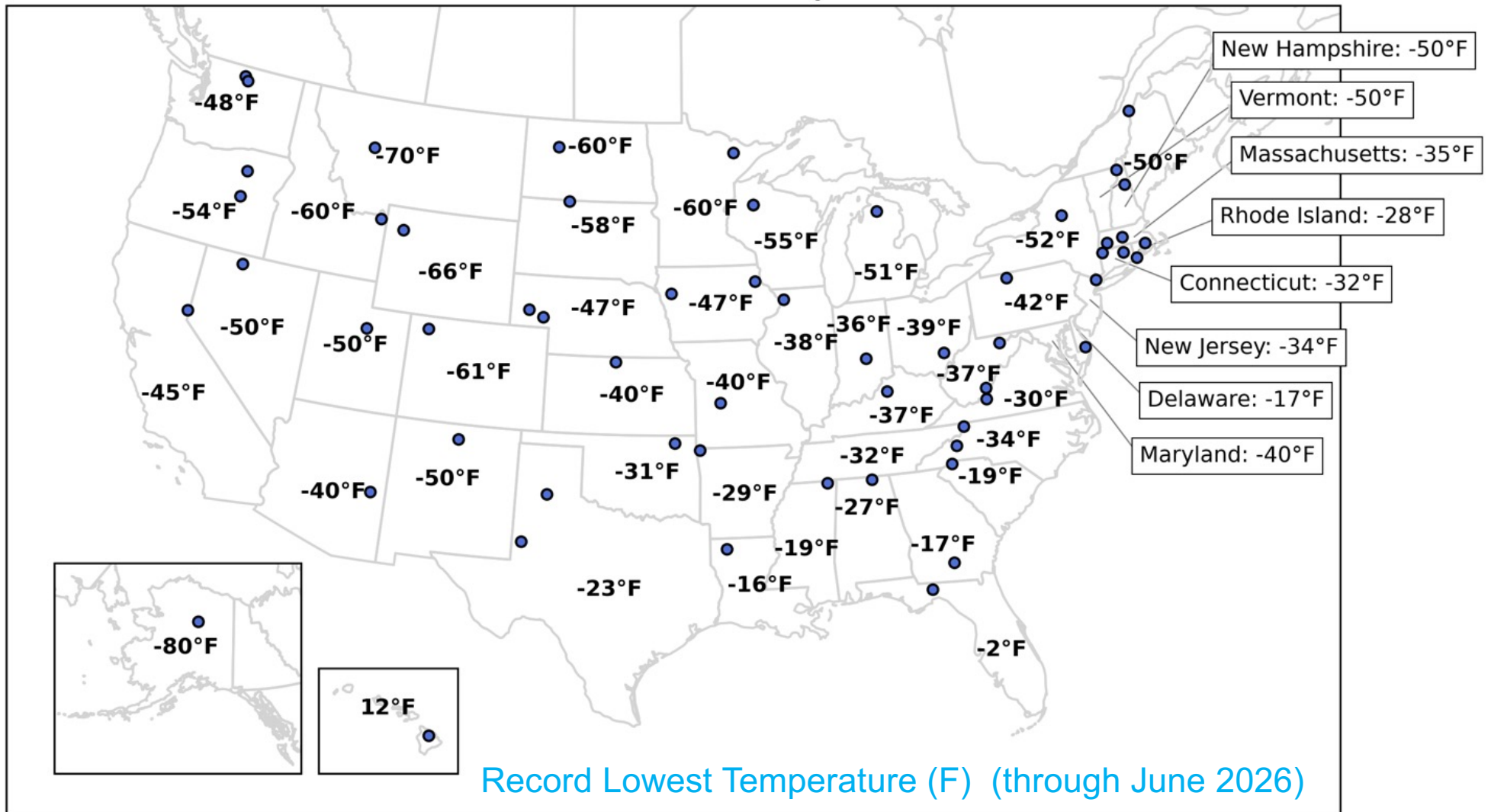
Notice that there is little variation in daily temperature swings during the summer.

Temperature Records

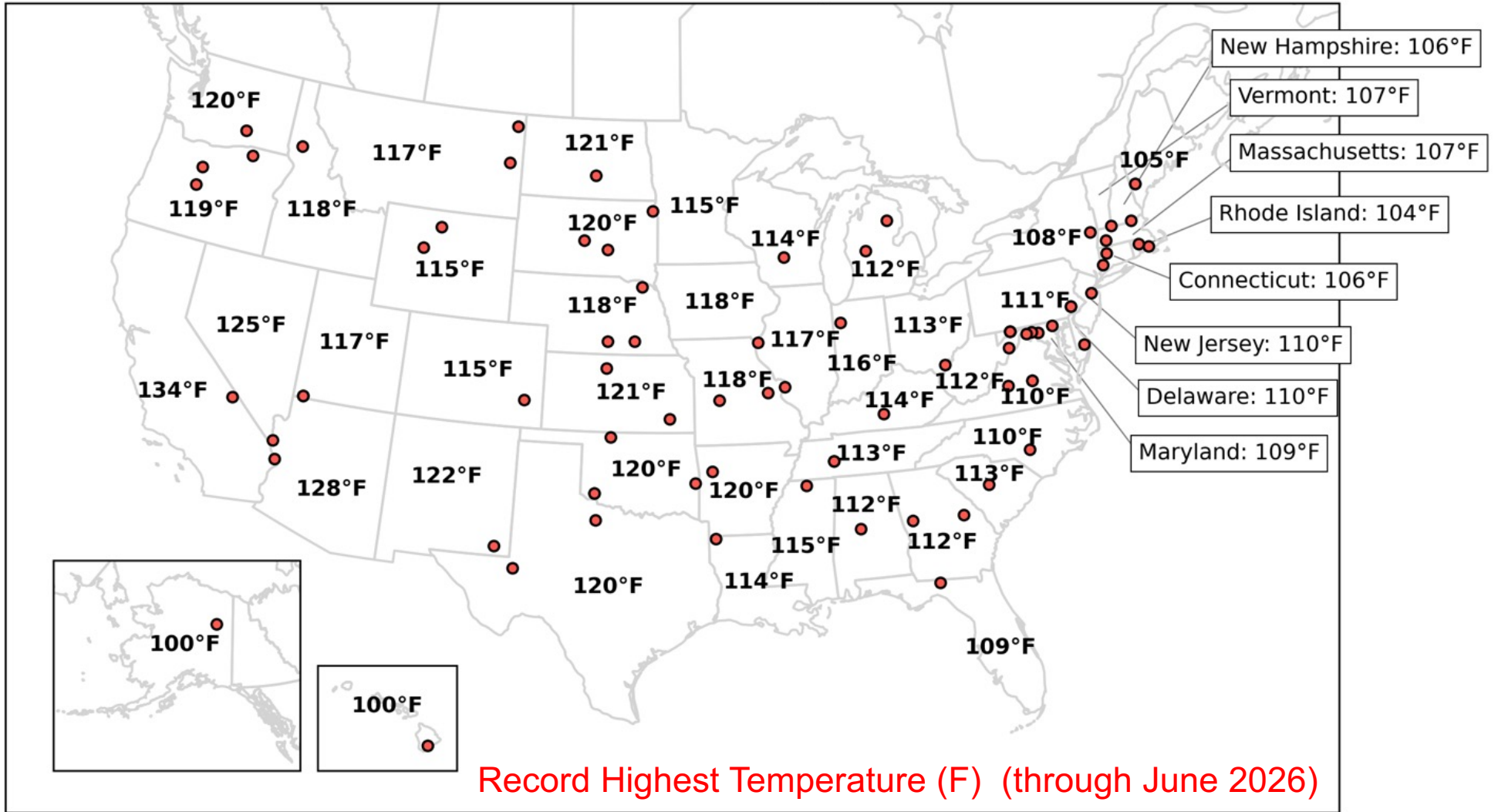
What is the coldest or warmest temperature ever recorded in your state?
Our next slides show the records for each state.



All-time Minimum Temperatures



All-time Maximum Temperatures

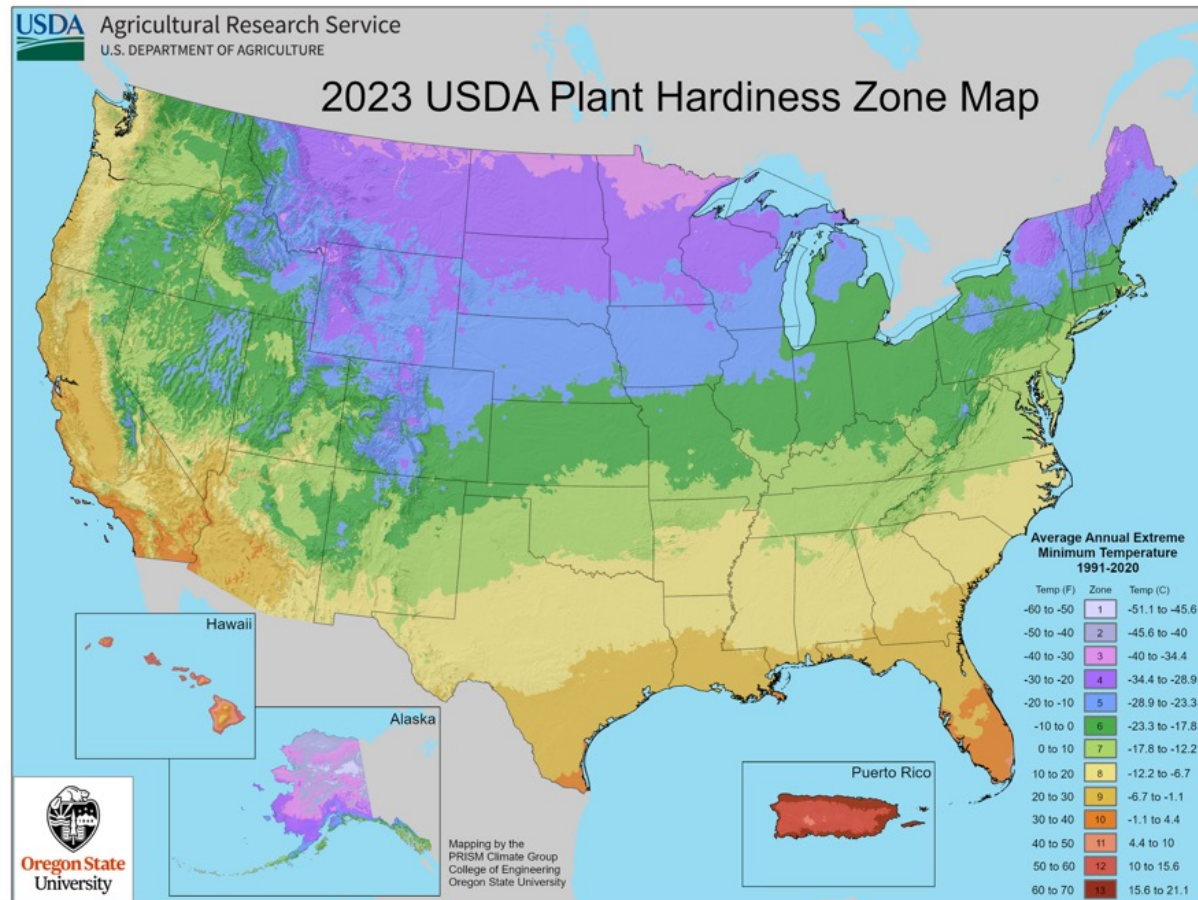


What is best to plant?



Hardiness zones give a guideline of what to plant in your area

U.S. Hardiness Zones



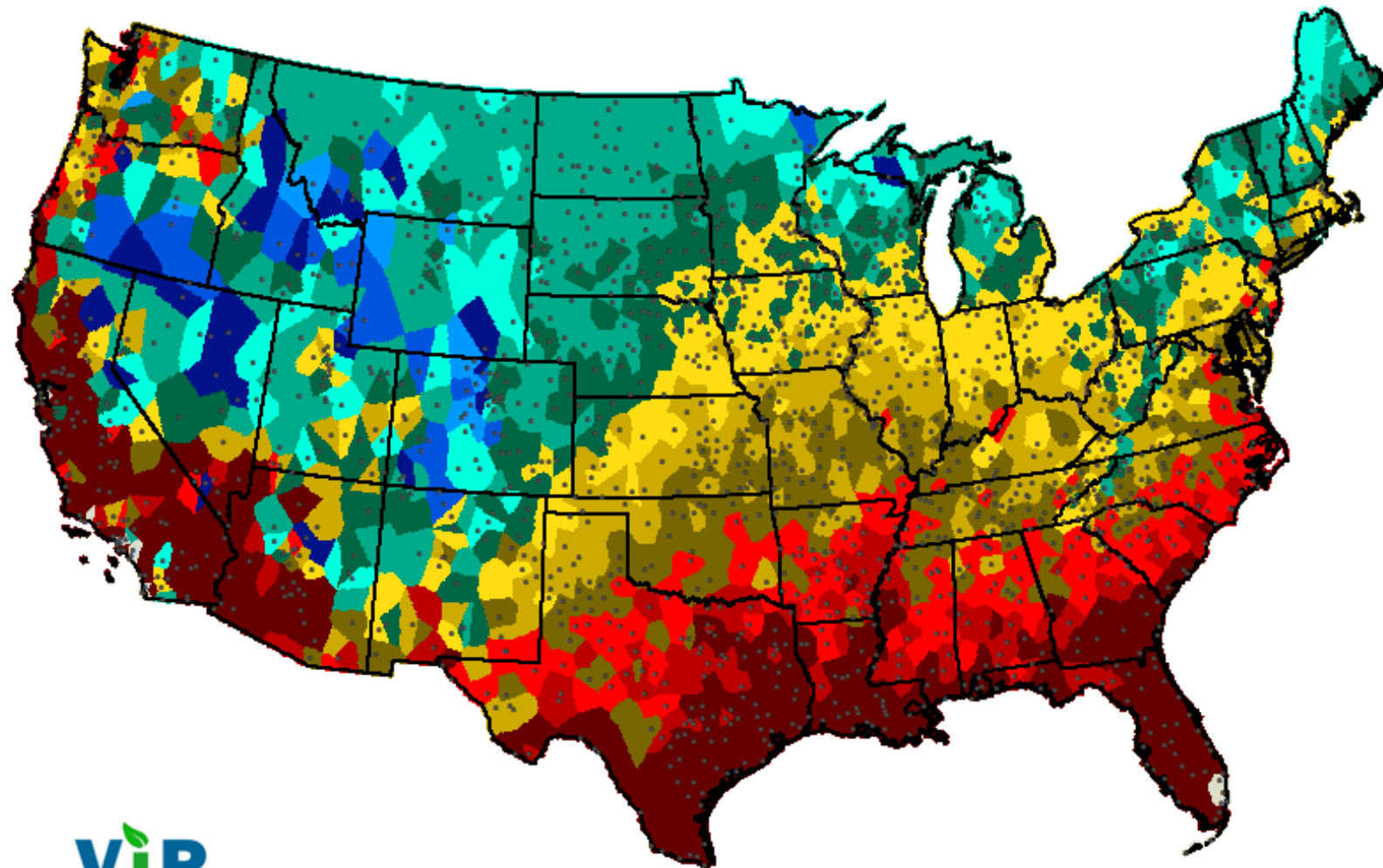
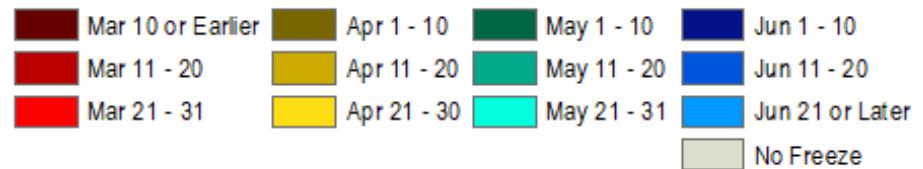
Hardiness zones are based on the average of the coldest temperatures observed each year.

Frost/Freeze

Frosts and Freezes occur at different times in different areas of the country. Here are the average dates.

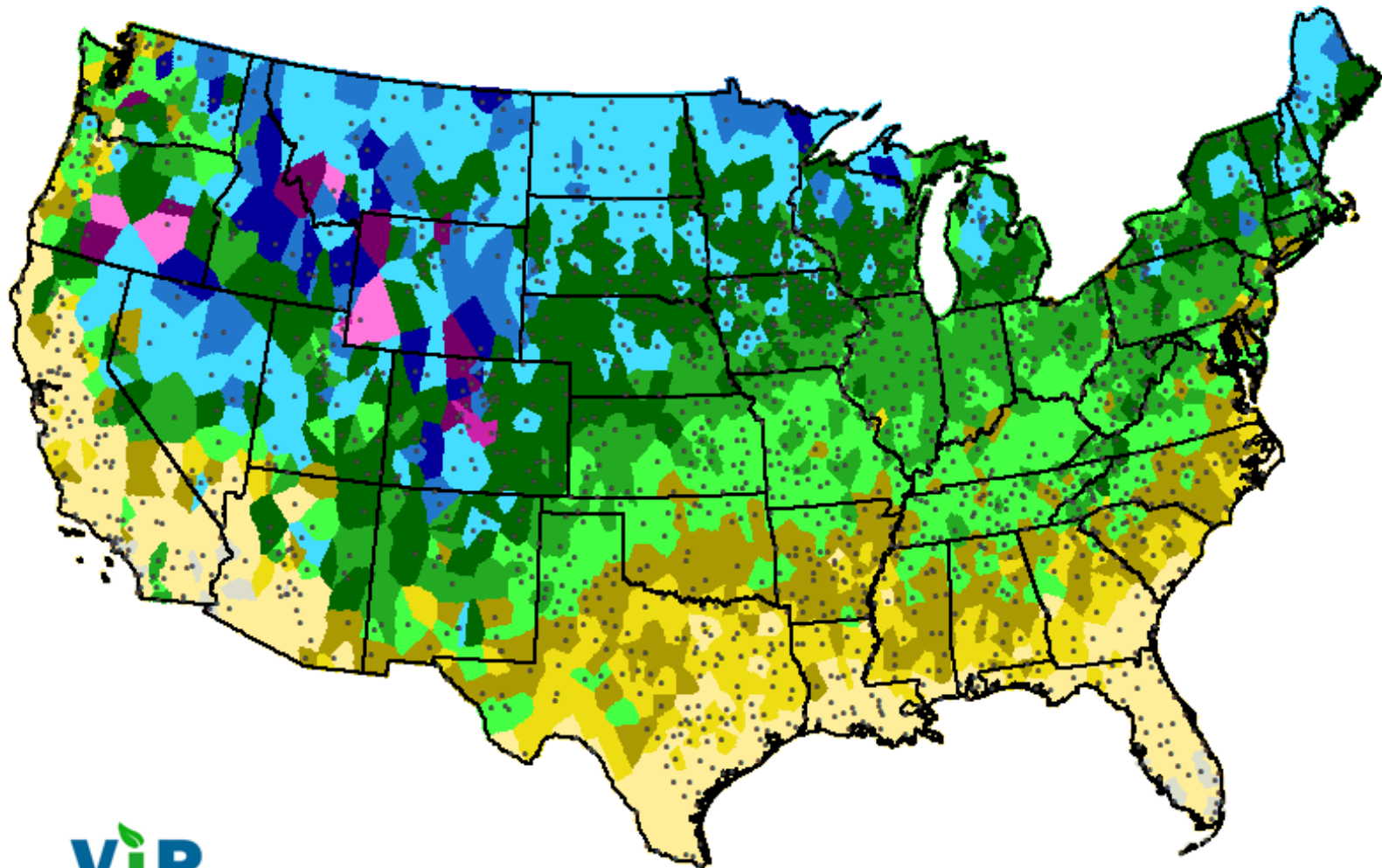
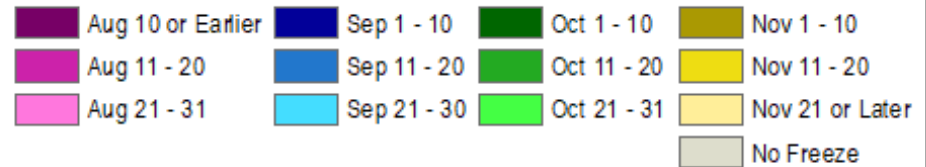


Climatological Date of Median Last 32°F Freeze
 For years 1990-91 to 2019-20
 Freeze year beginning July 1st
 Median defined as the 50th Percentile



Spring Freeze Occurrence

Climatological Date of Median First 32°F Freeze
For years 1990-91 to 2019-20
Freeze year beginning July 1st
Median defined as the 50th Percentile



Section Four: Humidity and Dew Point

Humidity Dew Point



RH
WET BULB
Psychrometer



“It’s not the heat, it’s the humidity”

Relative Humidity (RH)

“RH is a percentage of the amount of water vapor in the air compared to what it could potentially hold at a certain temperature.”

- At higher temperatures the atmosphere is capable of holding much more water vapor than at colder temperatures.
- Normally the highest relative humidity occurs in the early morning, during the coolest part of the day. Plants transpire most during the warmest part of the day (usually afternoon) when the relative humidity is lowest.

Relative Humidity (RH)



- RH has a direct effect on a plant's ability to transpire which affects its growth.
- Most plants grow best with higher RH. At persisting low RH many plants struggle to grow without irrigation.

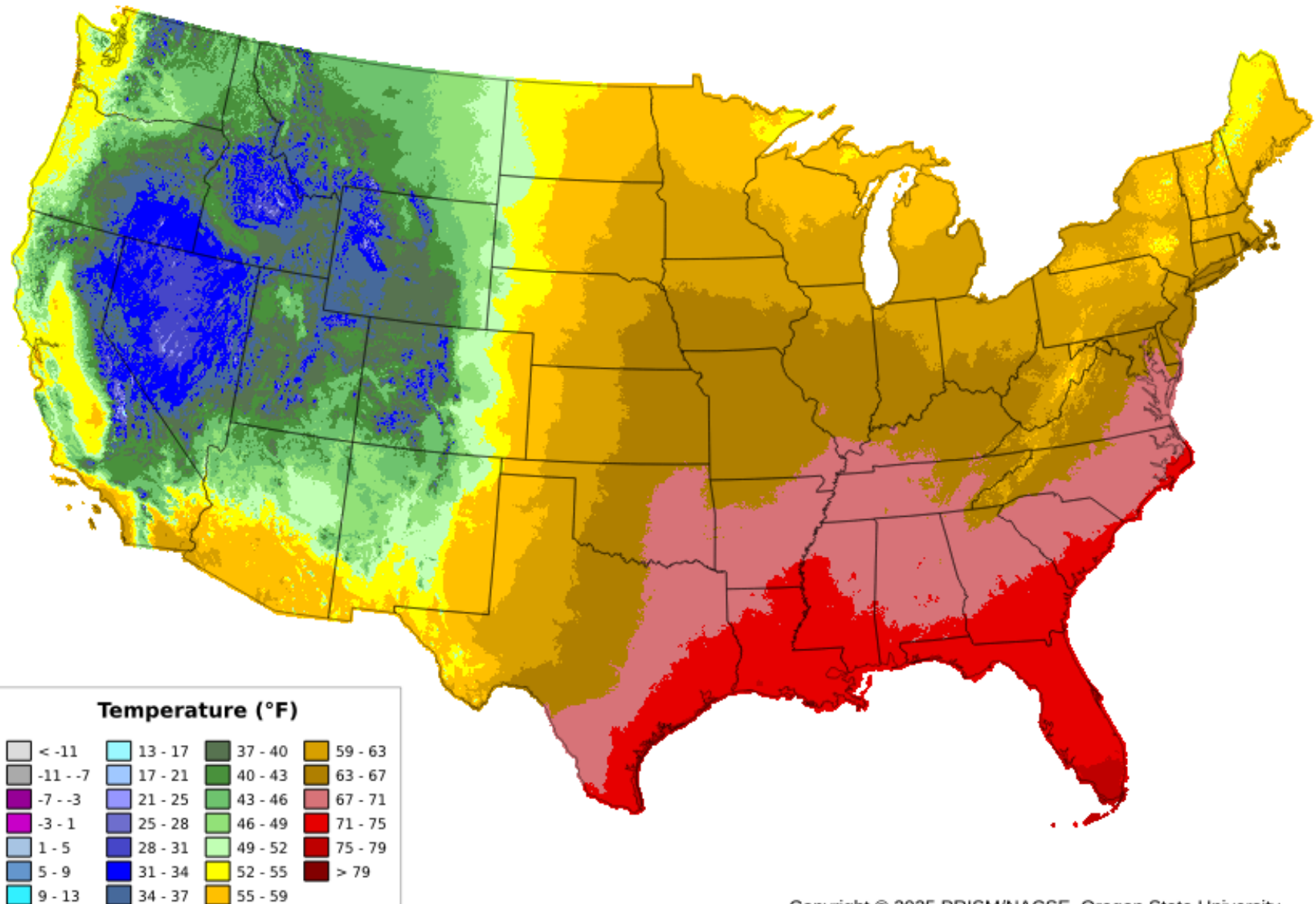
Dew Point

“The temperature to which a given air parcel must be cooled at constant pressure and constant water vapor content in order for saturation to occur.” - AMS Glossary of Meteorology

- High dew points may affect plant growth and may favor certain pests and diseases.
- The gardener may start to feel rather uncomfortable when the dew point reaches 65° F and above. Dew points in the 70's really feel uncomfortable, especially when you are working hard in your garden.

30-Year Normal Mean Dew Point Temperature: August

Period: 1991 - 2020



Copyright © 2025 PRISM/NACSE, Oregon State University

Here is a sample of typical summer dew point temperatures

Section Five: Precipitation

Precipitation



rain
hail
snow



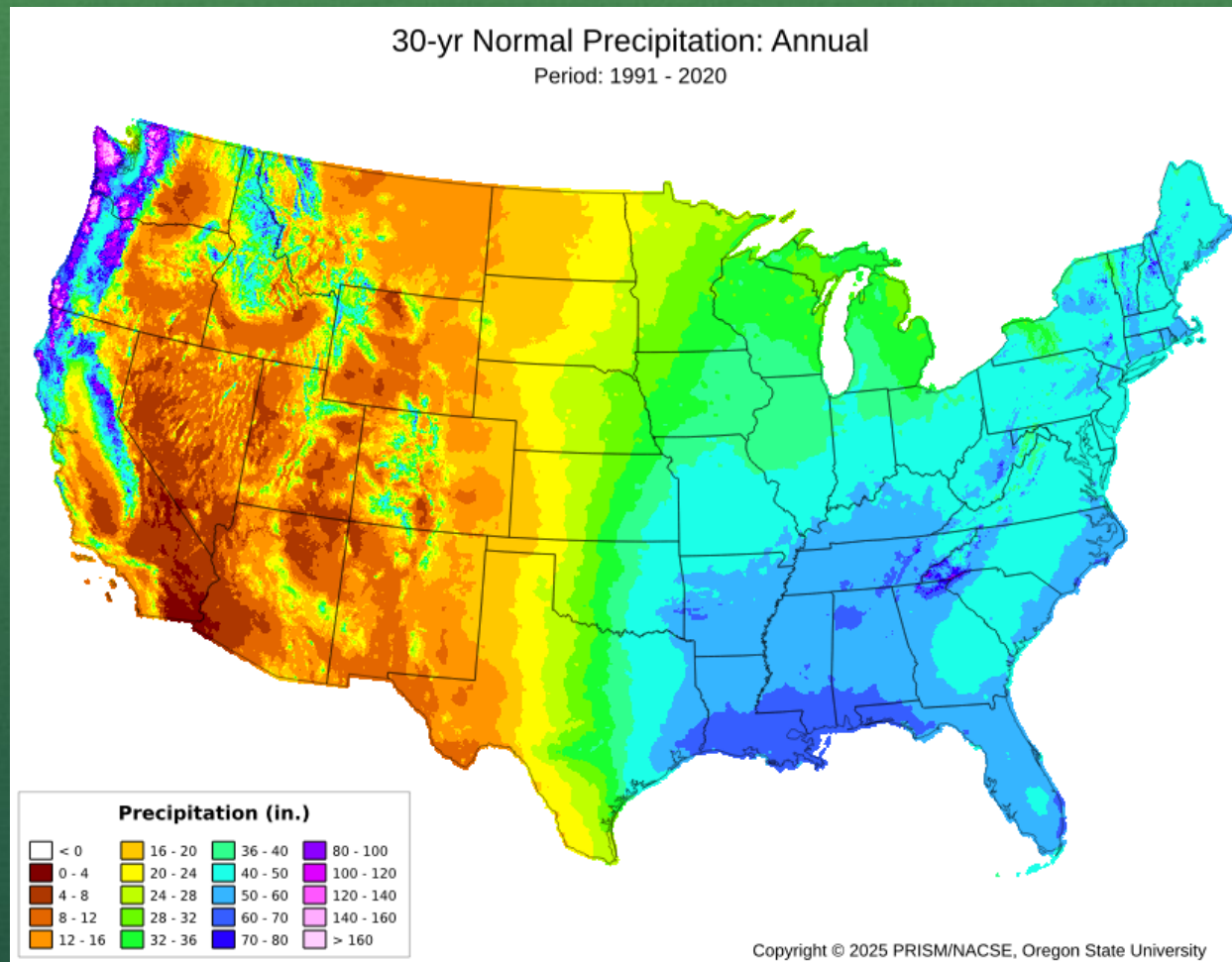
“Without it our gardens would be just dust in the wind”

Precipitation Potpourri



Precipitation can be a tricky thing for your garden to depend on. That cloud which looks dark and threatening may give you two or three drops or it could give you three inches of rain in thirty minutes. It could surprise your garden with golf ball size hail! You may experience rain for two weeks straight and then not again for two months. Some gardens get a tropical shower every afternoon, others just get the hose.

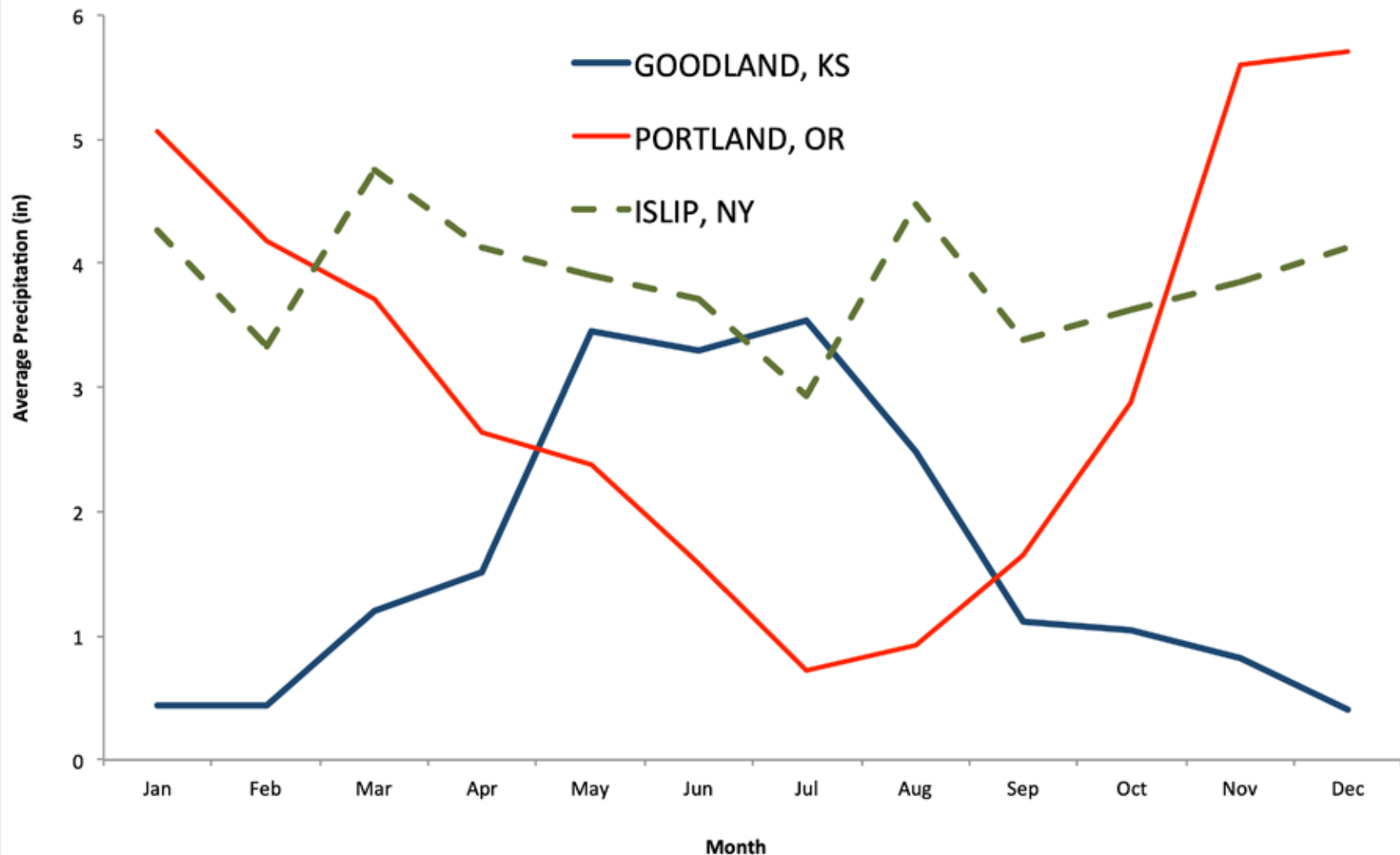
Average Precipitation



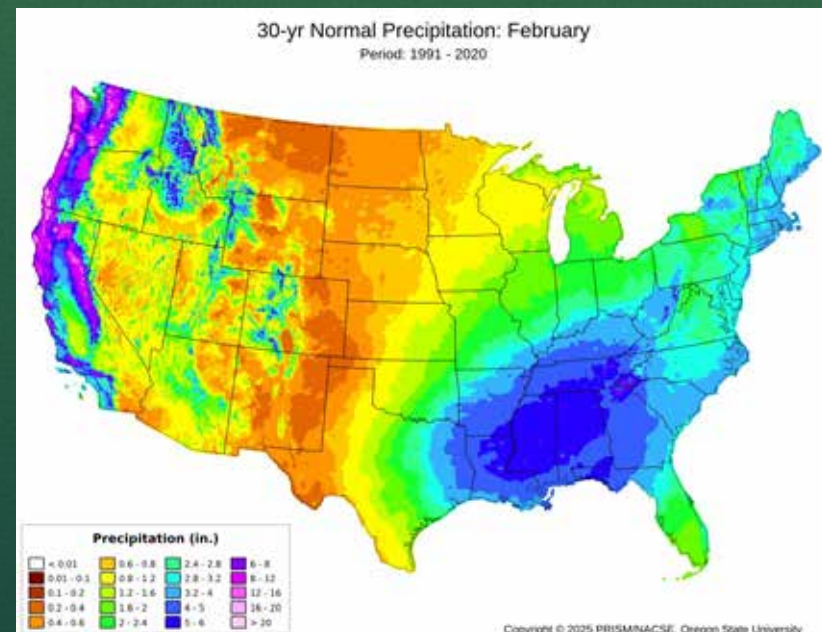
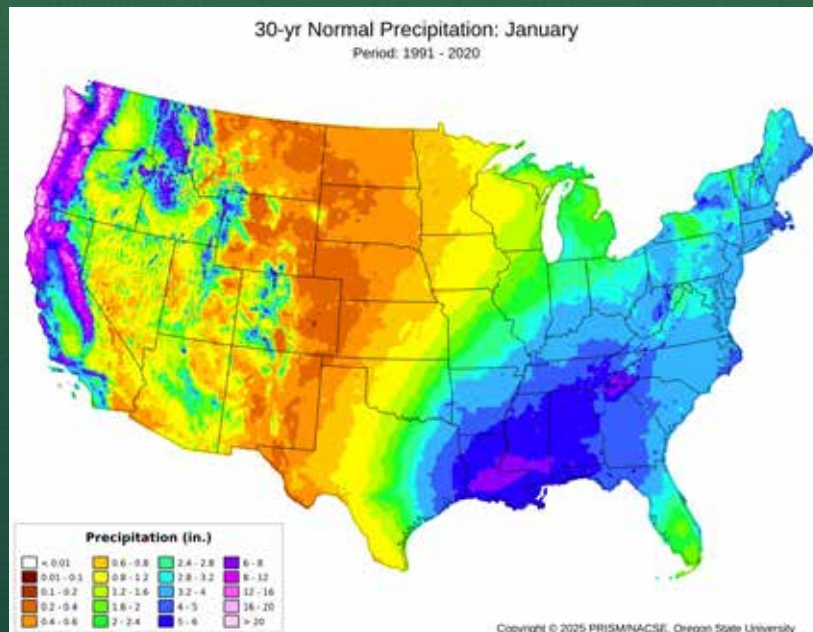
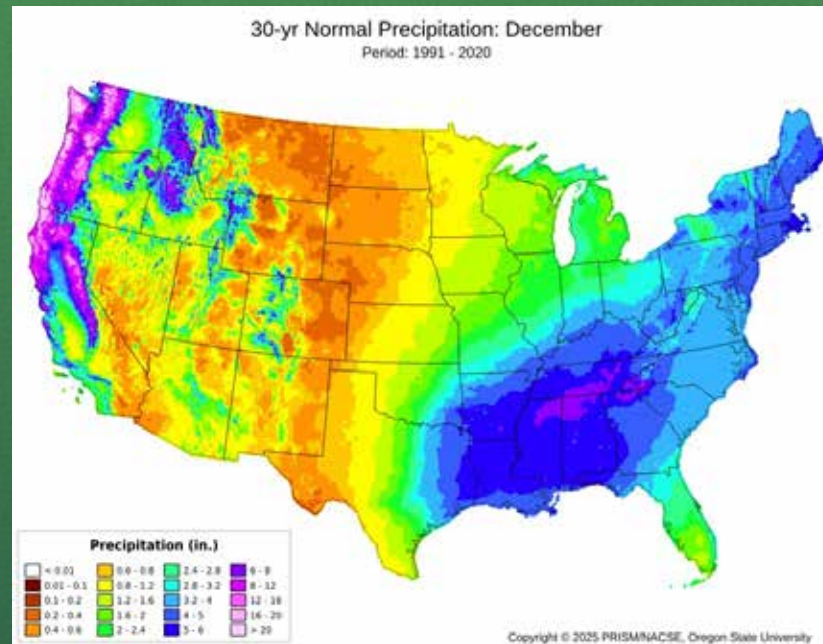
Average precipitation across the United States varies from less than four inches per year in the deserts of the Southwest to over 160 inches in the Olympic Mountains of Washington. Once you go west of the Mississippi River, precipitation becomes less and less until you reach the West Coast.

West Coast (Portland, Oregon) – Wet Winters, Dry Summers
Great Plains (Goodland, Kansas) – Dry Winters, Wet Summers
East Coast (Islip, New York) – Fairly Even Year-Round Precipitation

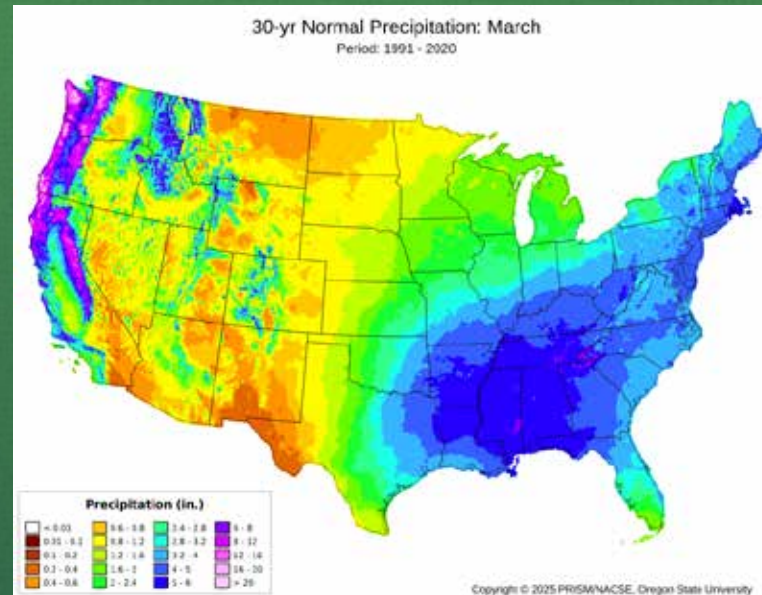
Average Monthly Precipitation Comparison



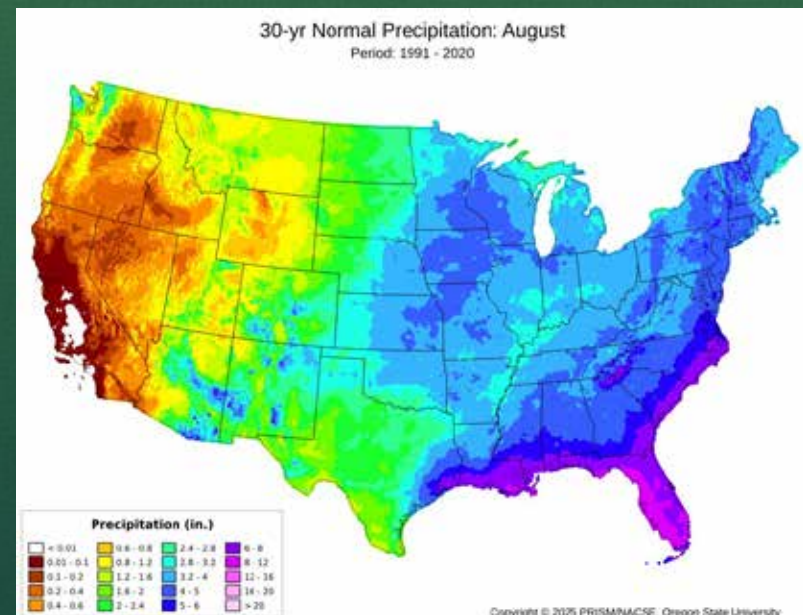
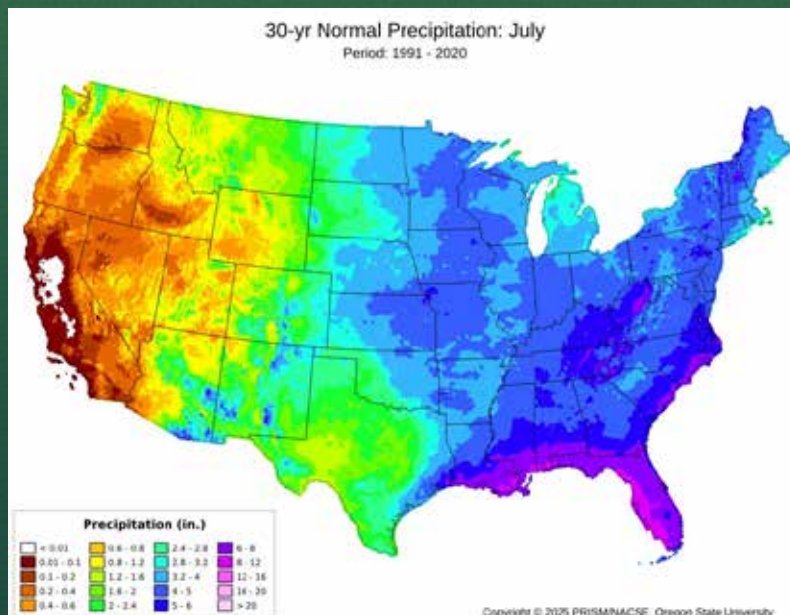
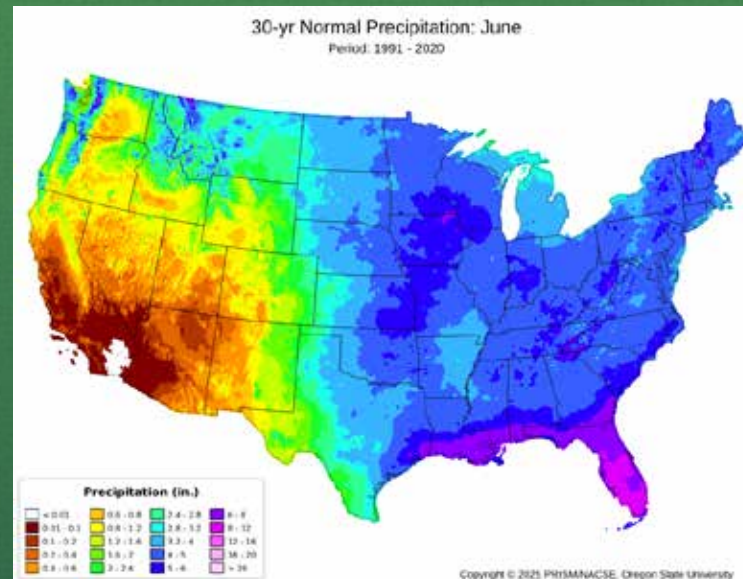
Average Winter Precipitation



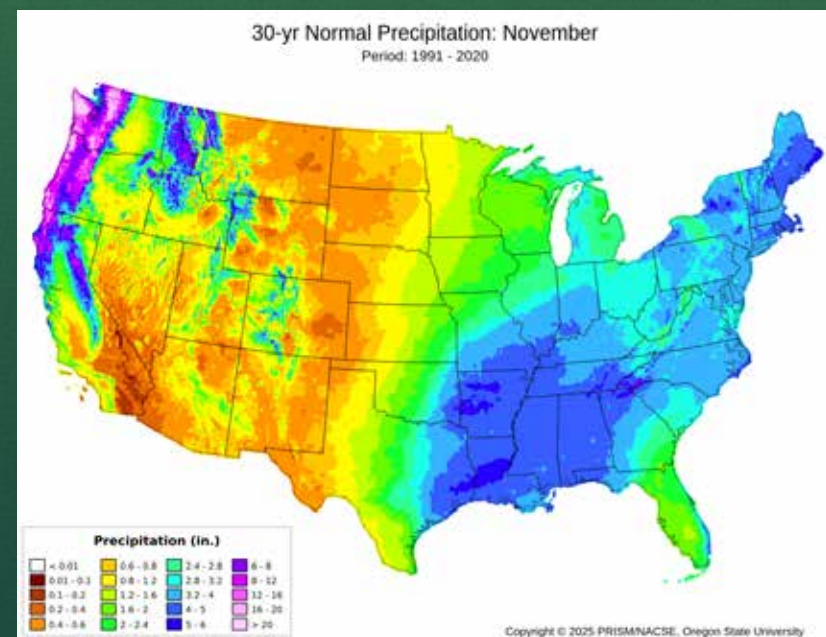
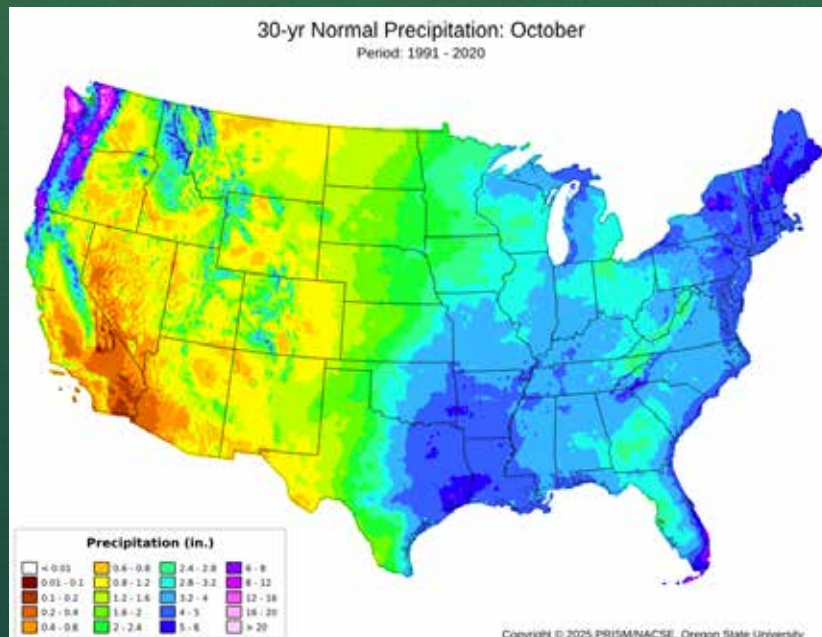
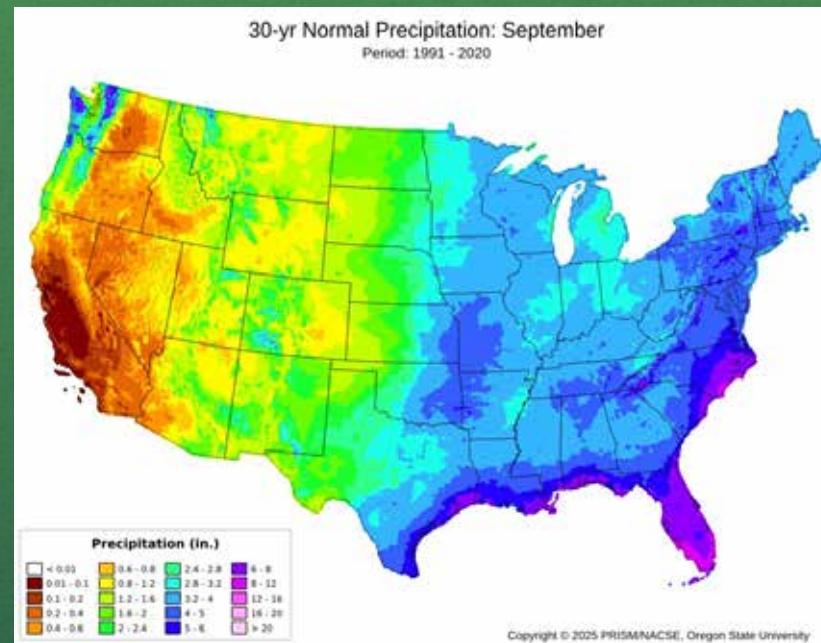
Average Spring Precipitation



Average Summer Precipitation



Average Autumn Precipitation



Local precipitation can vary significantly by year and location

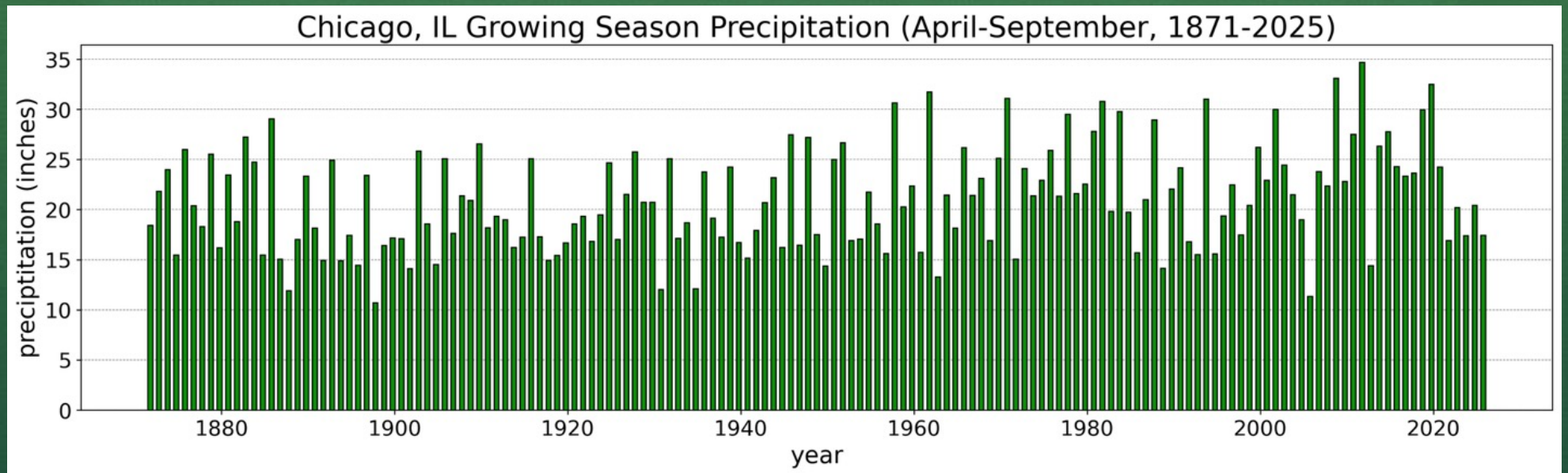


What about in your community ?

Yearly Variability: Each year is different



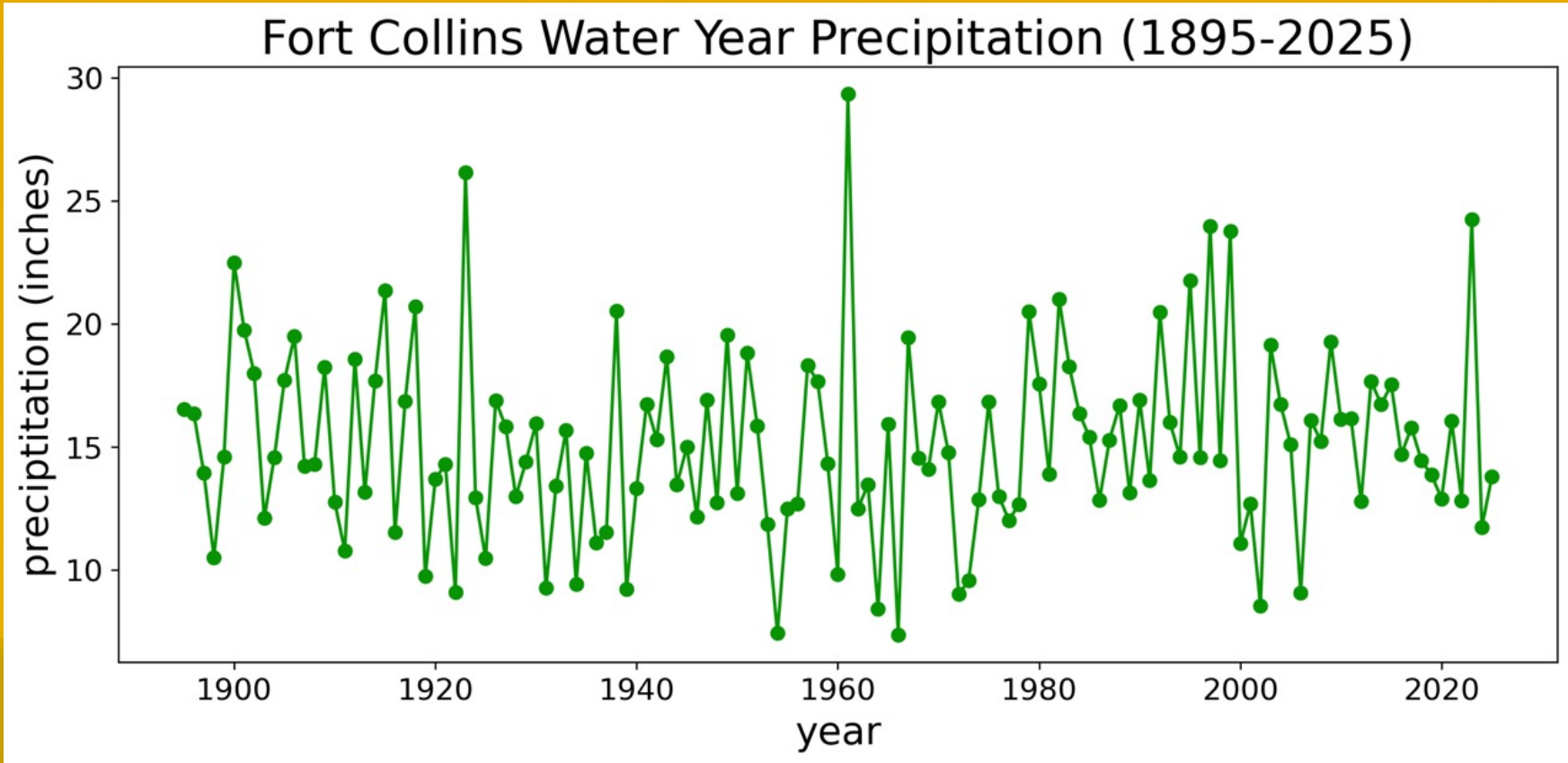
- When it comes to precipitation every year is different and those differences may greatly affect your farm/garden. What grows successfully one year may struggle the next.



Colorado Climate Center

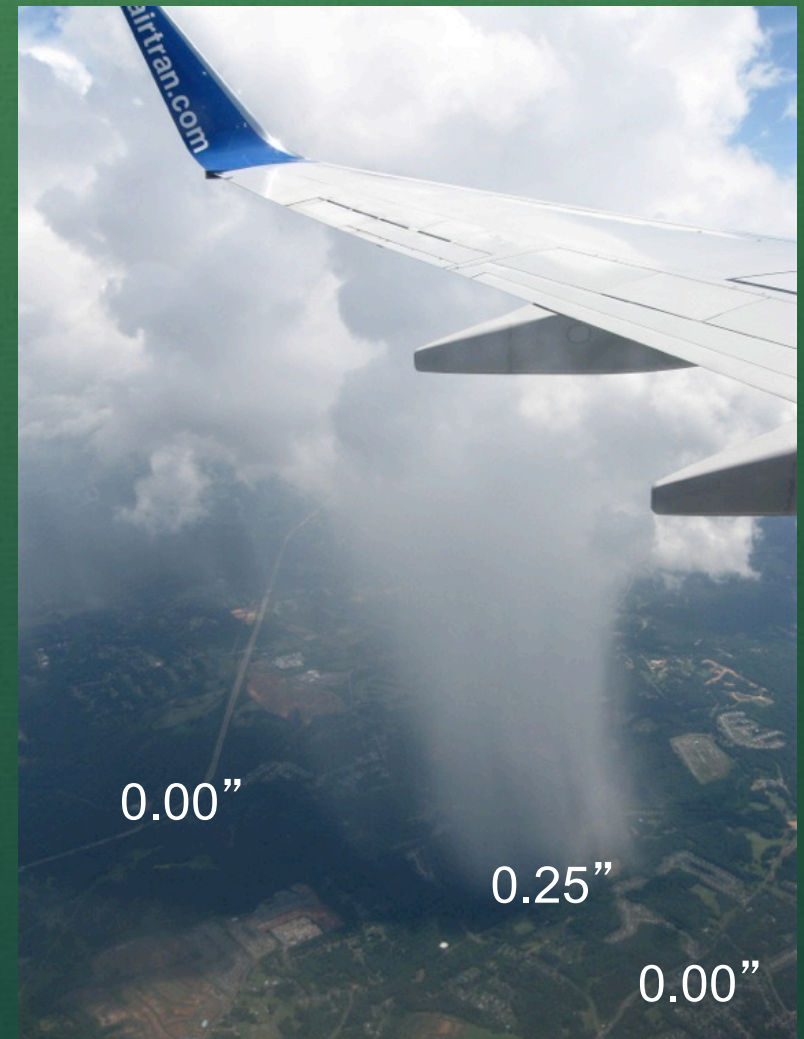
All parts of the country experience yearly variations in precipitation

In semi-arid parts of the U.S. precipitation may vary by more than 100% from one year to the next.



Local Precipitation Variability

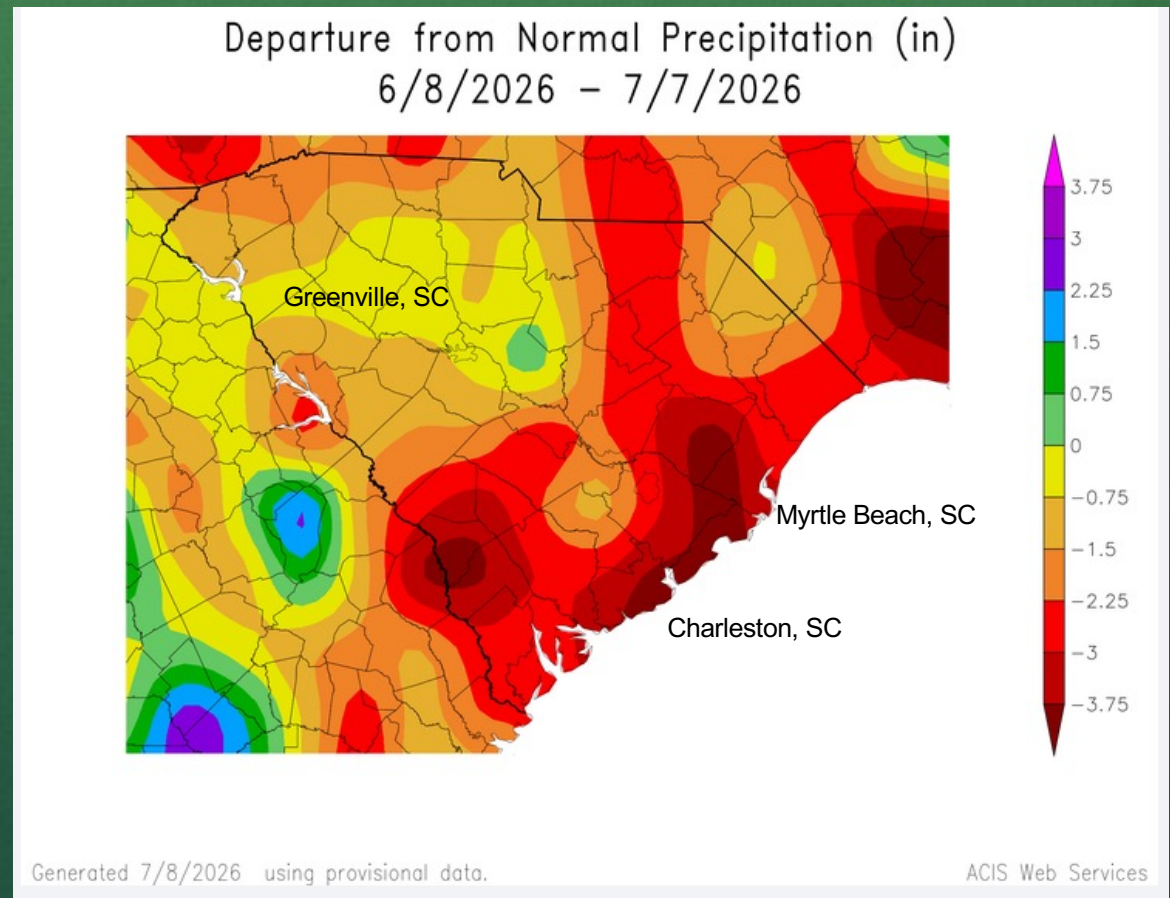
Precipitation from one storm can vary from neighborhood to neighborhood. What falls in your yard may not fall in the next. The next time it rains see how the precipitation amounts differ in parts of your community.



Large local variations in summer precipitation are common

Summertime convective storms can dump heavy rains over one area and leave other nearby spots completely dry.

This ASICS climate map shows the departure from normal regarding precipitation that has fallen over South Carolina last 30 days. Note where it has rained and where it has not.



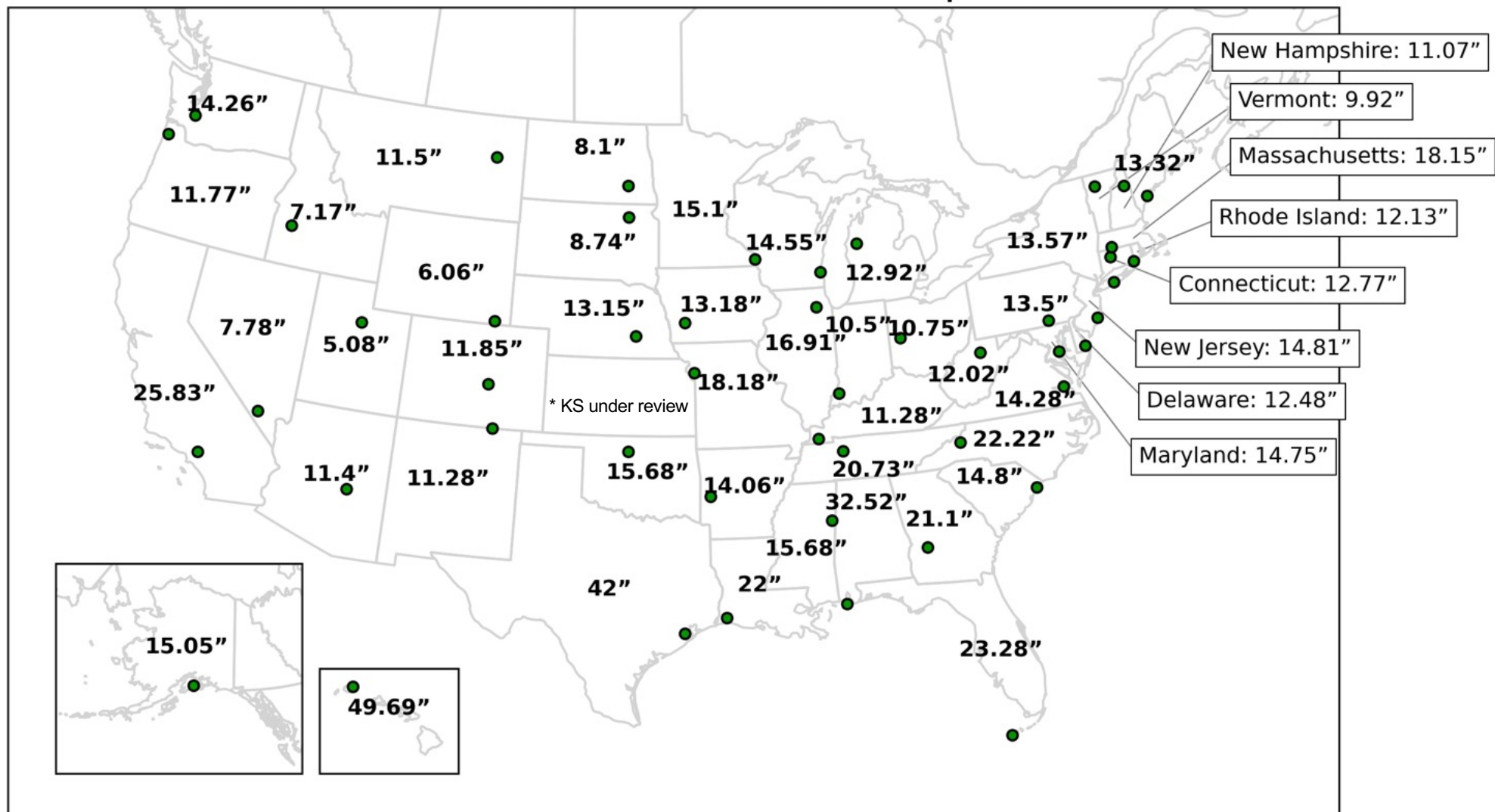
South Carolina June 8 – July 7, 2026

Precipitation Records

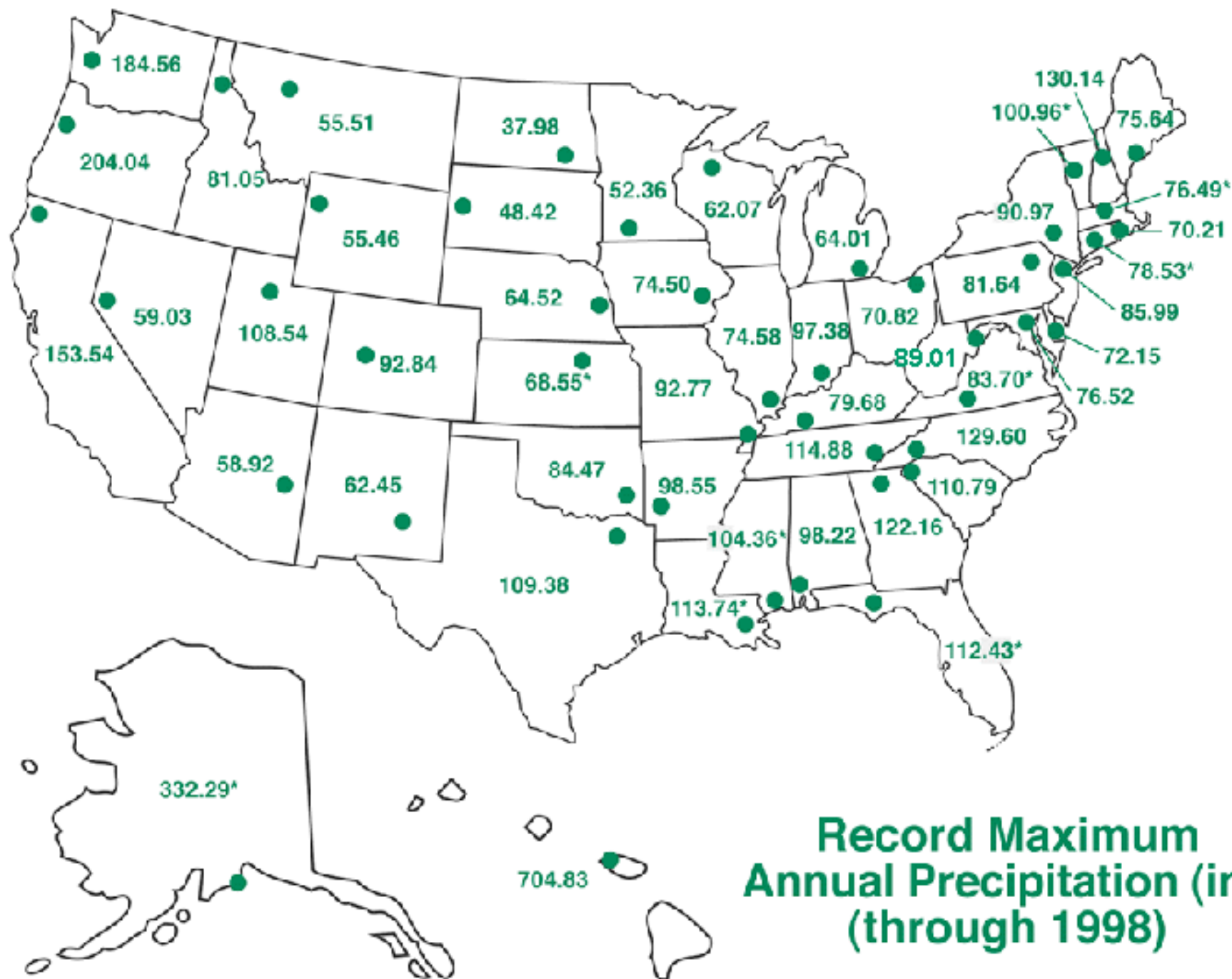
Sometimes it may seem like the rain in your area may never let up.
Here are the record precipitation amounts for each state.



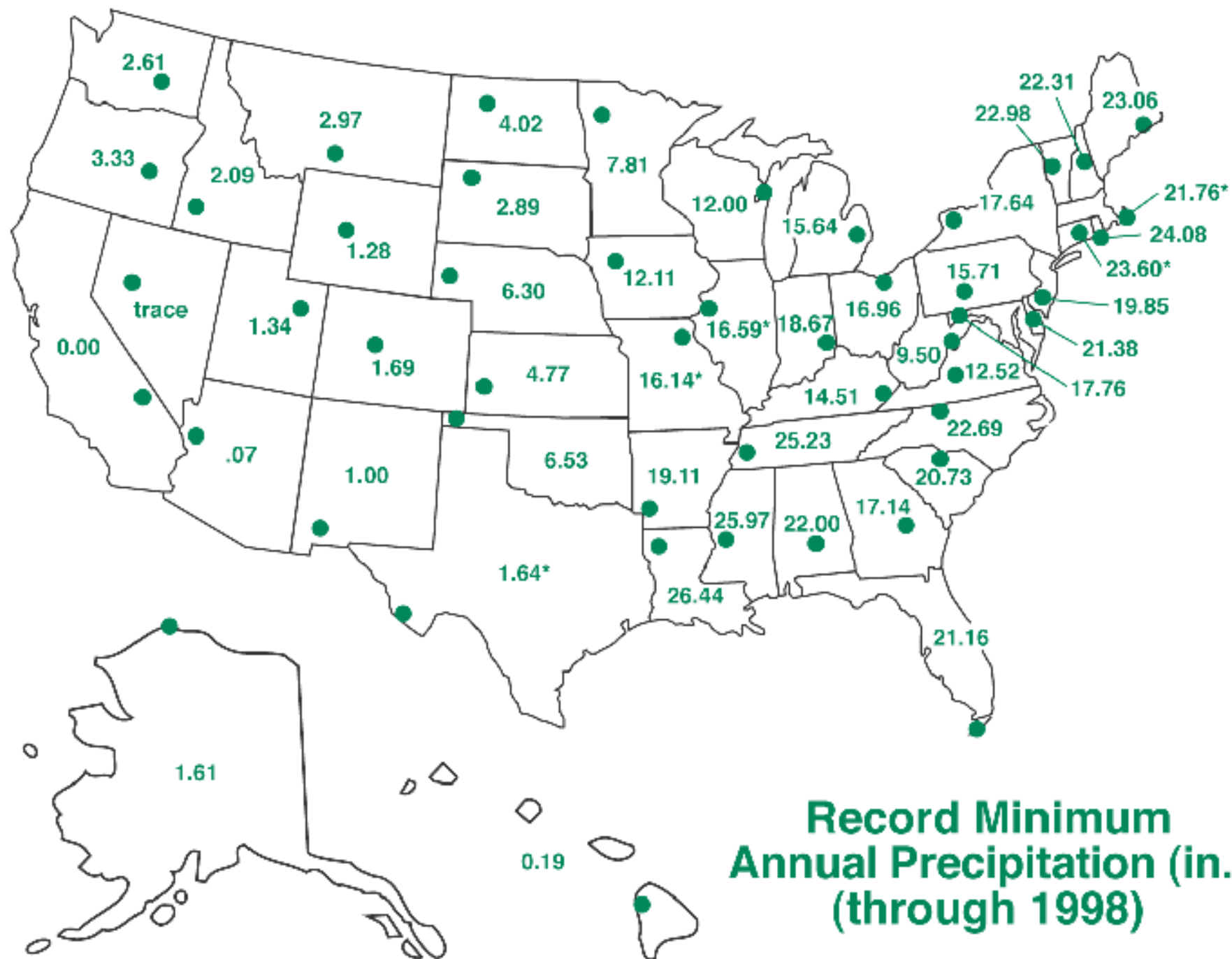
All-time Maximum 24-Hour Precipitation



Record Maximum 24-Hour Precipitation (in.) (through June 2026)



Courtesy of NCDC (Map to be updated)



Courtesy of NCDC (Map to be updated)

What about Hail?



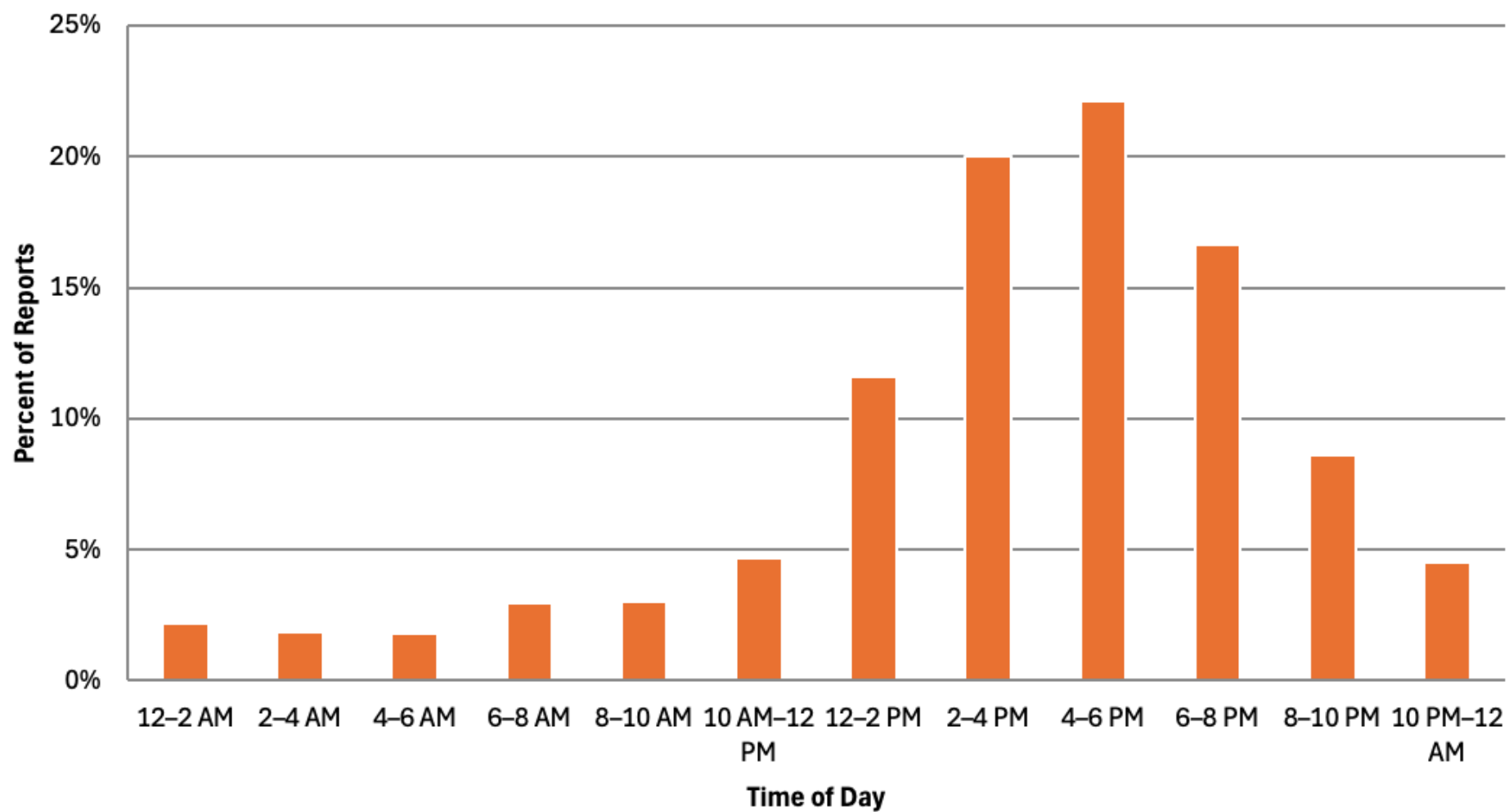
Just a few minutes of hail can bring a painful interruption or even a quick end to your garden.

Hail and Garden Plants

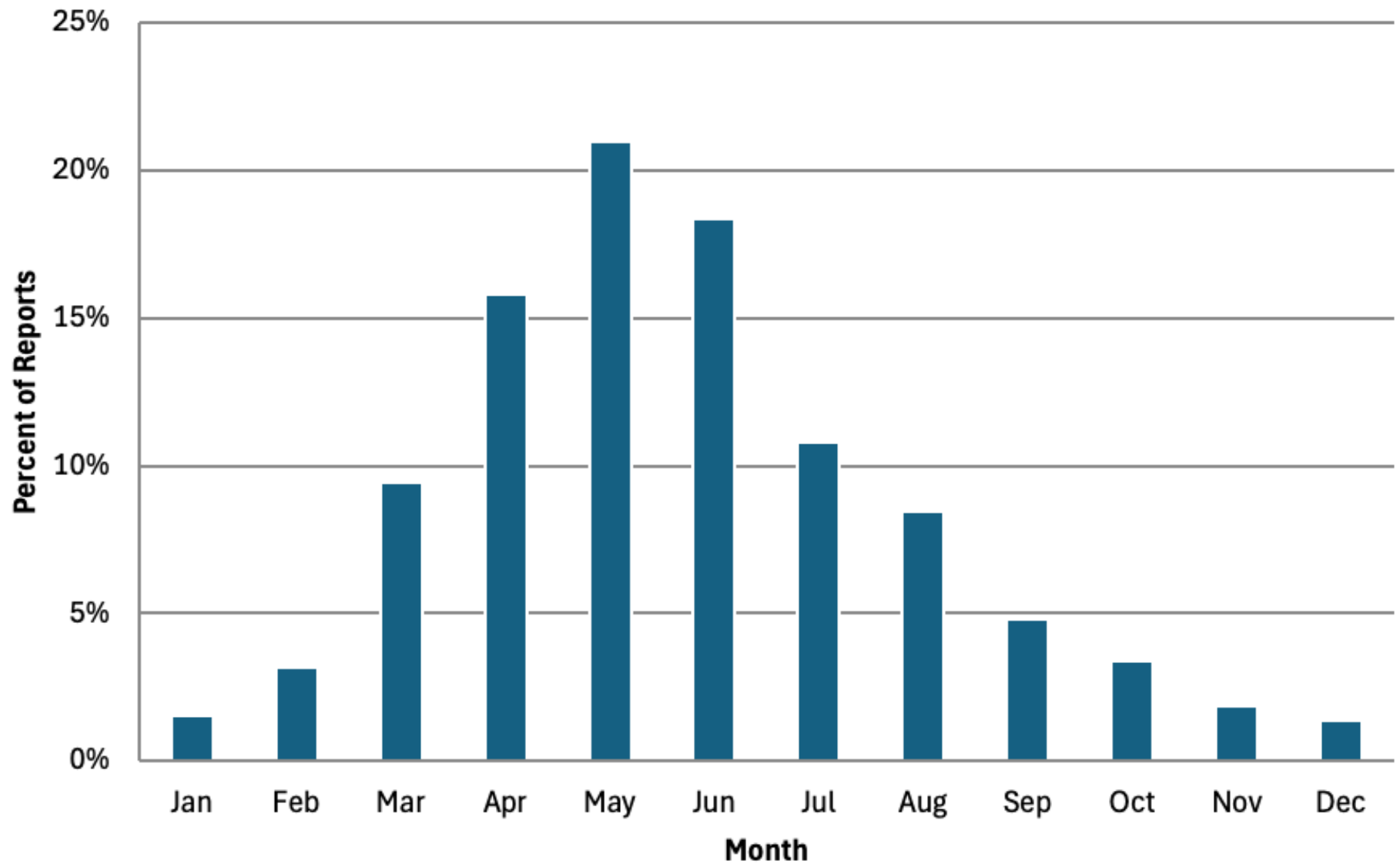


Hail can occur anywhere in the country. While most stones are quite small, even small hail can damage sensitive garden plants. Pay attention to weather forecasts and be prepared to protect your most valuable plants if necessary. Do not put yourself in danger by going outdoors during hail or lightning.

Time of Day When Hail Occurs — CoCoRaHS Reports 1998–2026



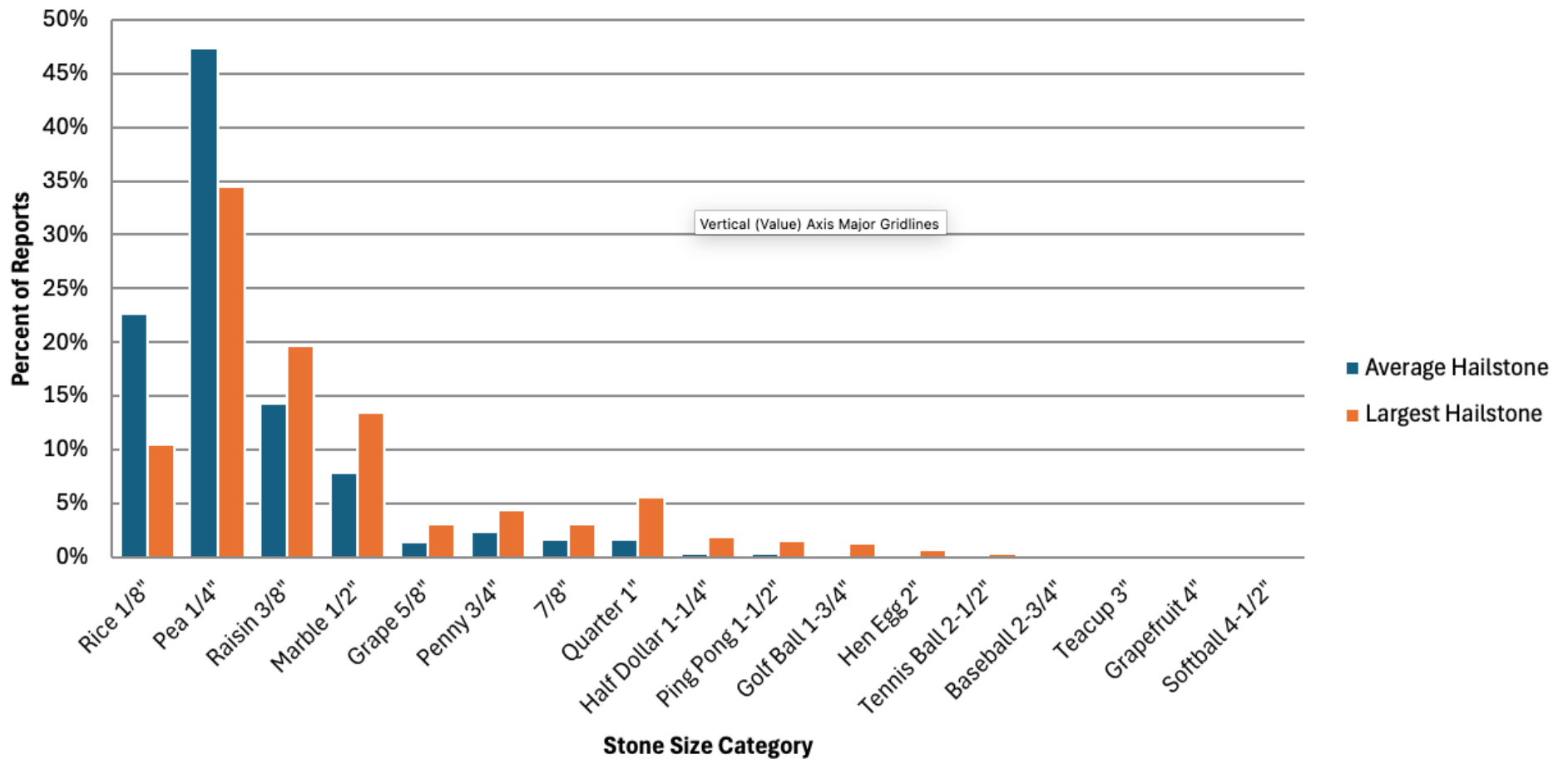
Seasonality: Hail Reports by Month (1998–2026)



Example of Hailstone Sizes on Pads



Hailstone Size Distribution — CoCoRaHS Reports 1998–2026



Drought

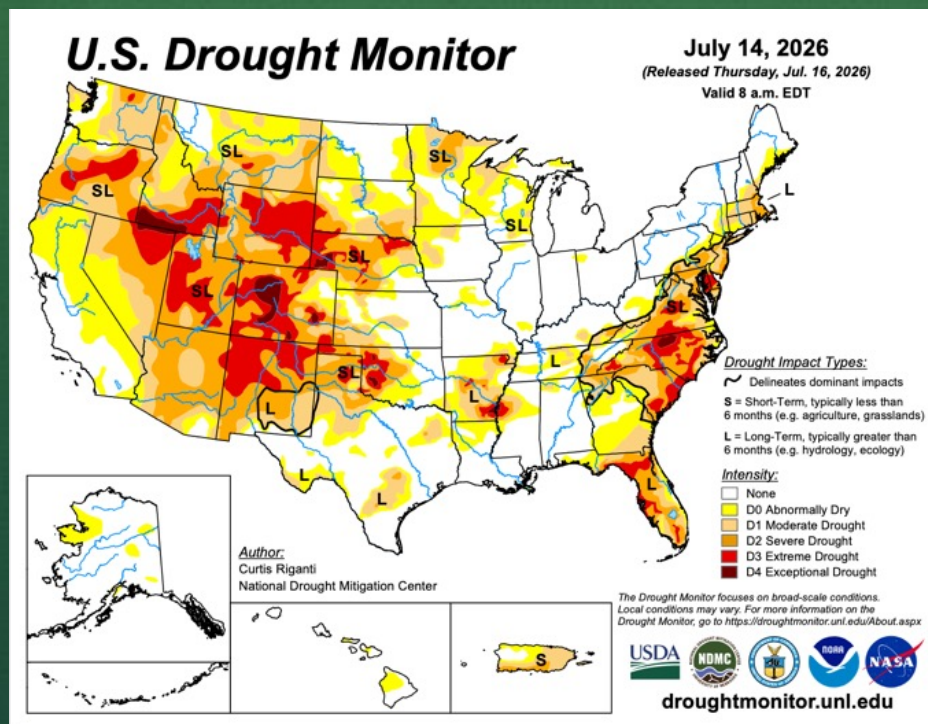
“No friend to the Gardener”



The American Meteorological Society's Glossary of Meteorology states that *“drought is a period of abnormally dry weather sufficiently long enough to cause a serious hydrological imbalance.”*

What about Drought?

At almost anytime of year some portions of the U.S. are experiencing shortages in precipitation.



The U.S. Drought Monitor continuously monitors precipitation and receives local advice to put the status of precipitation received into context and notify the public about the risk and severity of drought. Some cities or states put watering restrictions into place during drought conditions.

droughtmonitor.unl.edu

It's the "Lack-a-water"

There are many ways to enjoy gardening even in the face of drought!

- Native species may be better suited to withstand drought
- Watering in the early morning or evening
- Watering enough, but not too much
- Drip irrigation
- Xeriscape gardening



Condition Reports

You can help play a part in making the nation aware of drought lurking about in your neighborhood by submitting a “condition report”. This can be done on the CoCoRaHS Network web site at: www.cocorahs.org



The lack of precipitation can result in many effects which are associated with agriculture, as well as backyard horticulture. Some of these include insect infestation, plant disease, increased irrigation costs, supplemental water resource development (wells, dams, pipelines), damage to crop quality, reduced productivity of gardens and many other examples.

Section Six: Wind

The Wind



breeze
Calm
strong gale



"Who has seen the wind, neither I nor you . . ."

Wind



*“Air in motion relative
to the surface of the earth.”*

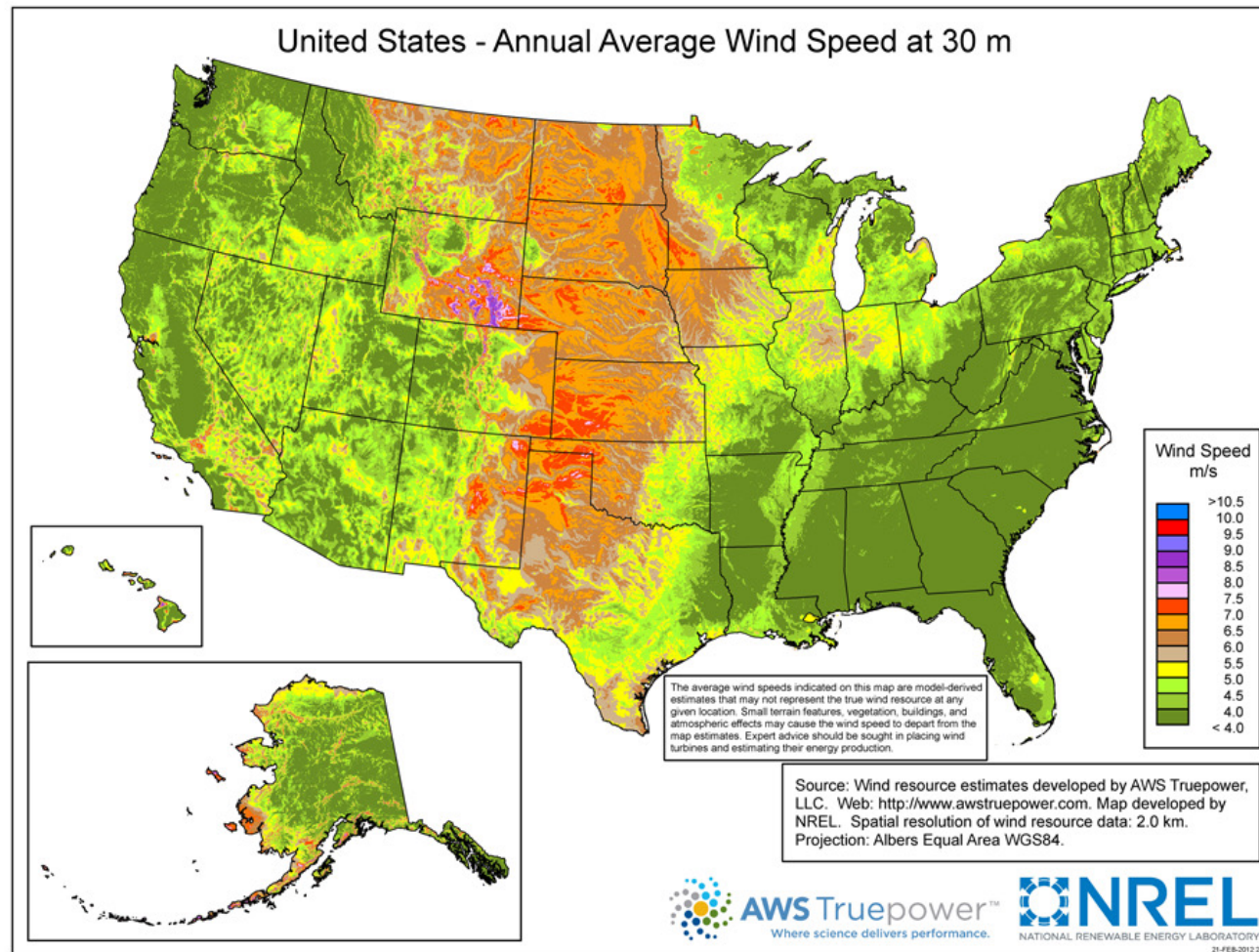
- AMS Glossary of Meteorology

“Thar she blows!”



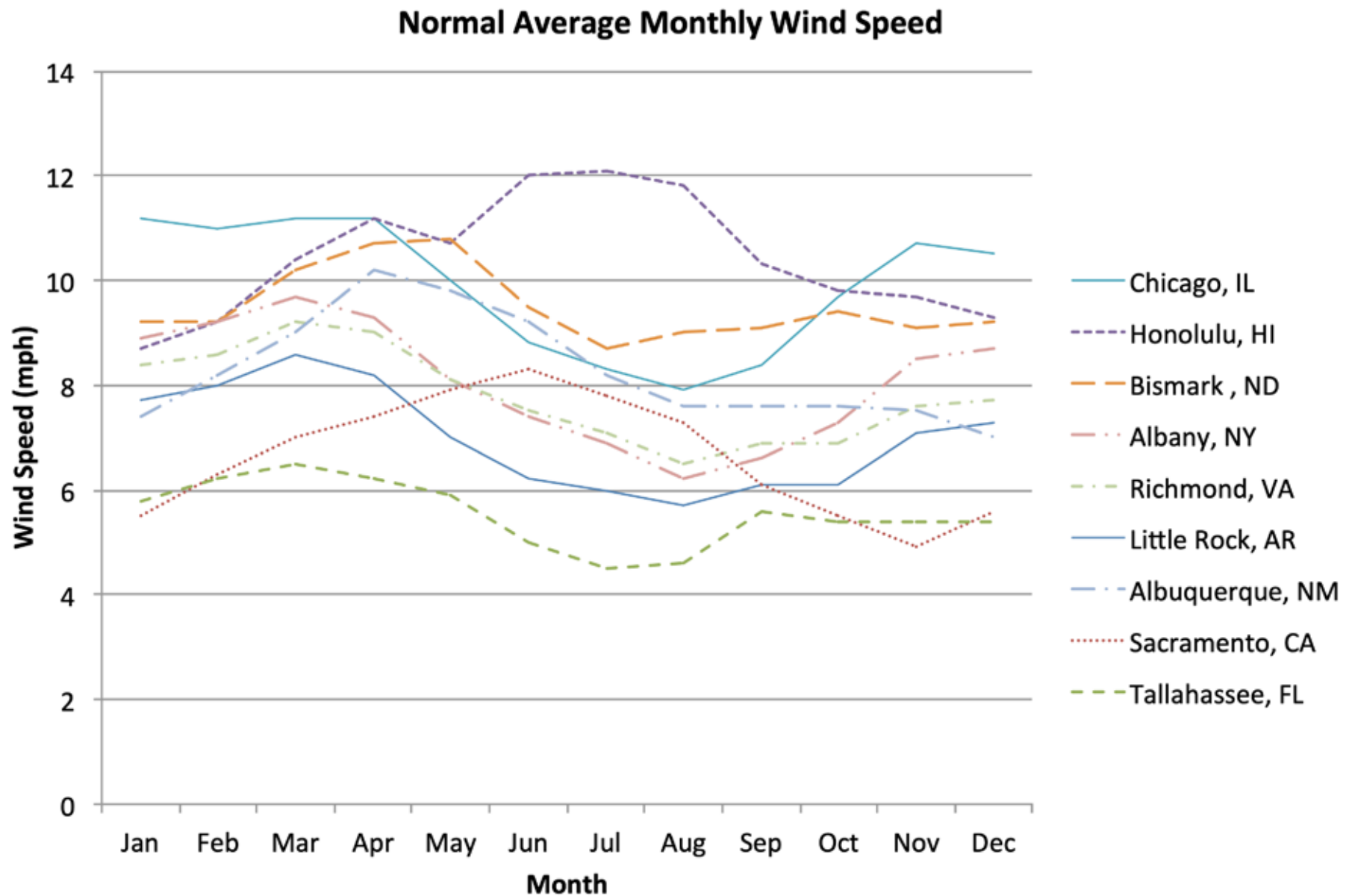
- Wind can have an effect on growing certain kinds of crops
- Wind can mix the atmosphere preventing frost on clear nights
- Wind can erode topsoil and dry out surface moisture
- Wind can damage young plants and seedlings
- Wind scatters seeds (both good and bad)
- Wind increases plant water use
- Wind may cool the gardener on a hot day

Wind Energy Atlas



The U.S. Great Plains are the windiest region of the country

Patterns of Wind



Section Seven: Evapotranspiration (ET)

Evapotranspiration



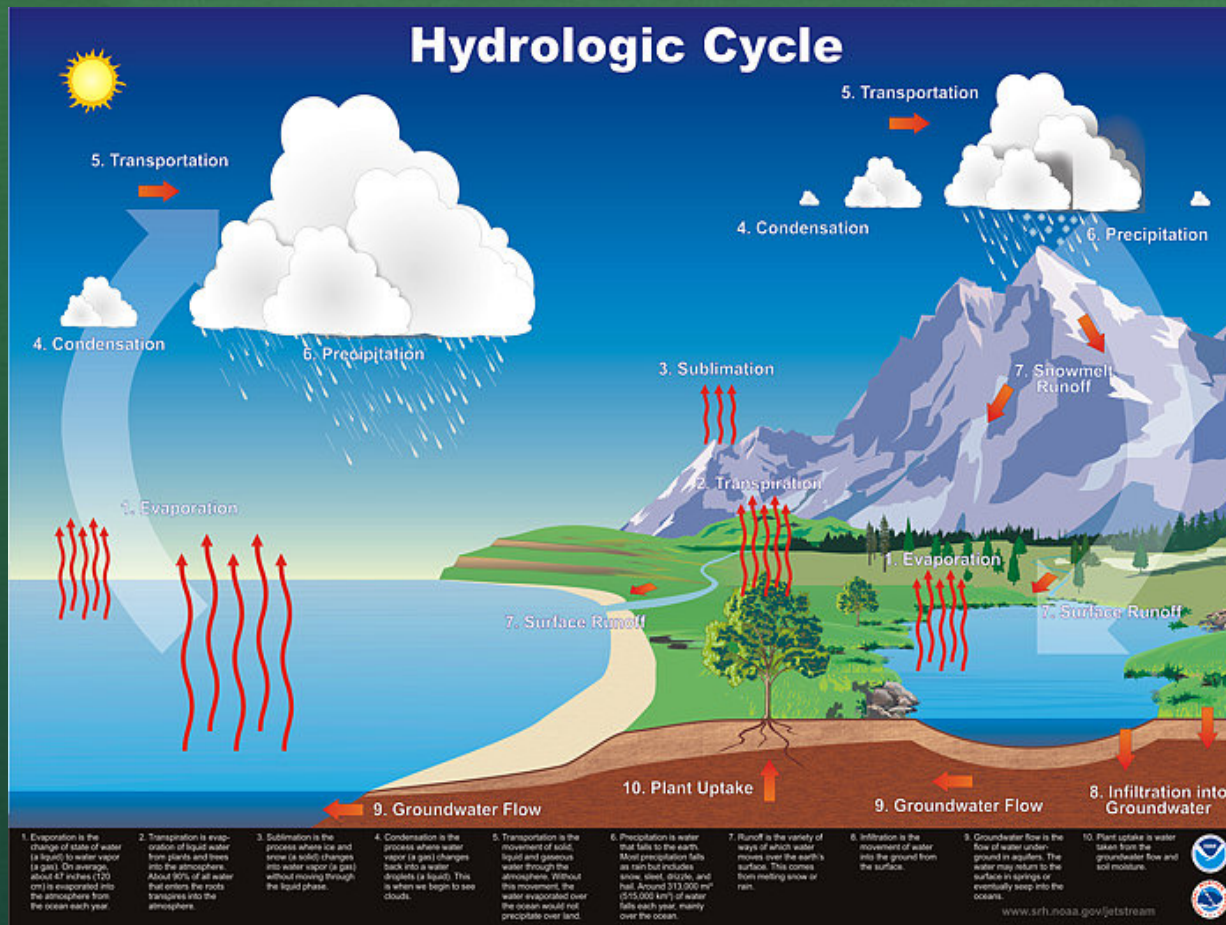
ET
WATER
Atmometer



“The invisible side of the Hydrologic Cycle”

Evapotranspiration

“The invisible side of the water cycle”



“The combined processes through which water is transferred to the atmosphere from open water and ice surfaces, bare soil, and vegetation that make up the earth’s surface.”

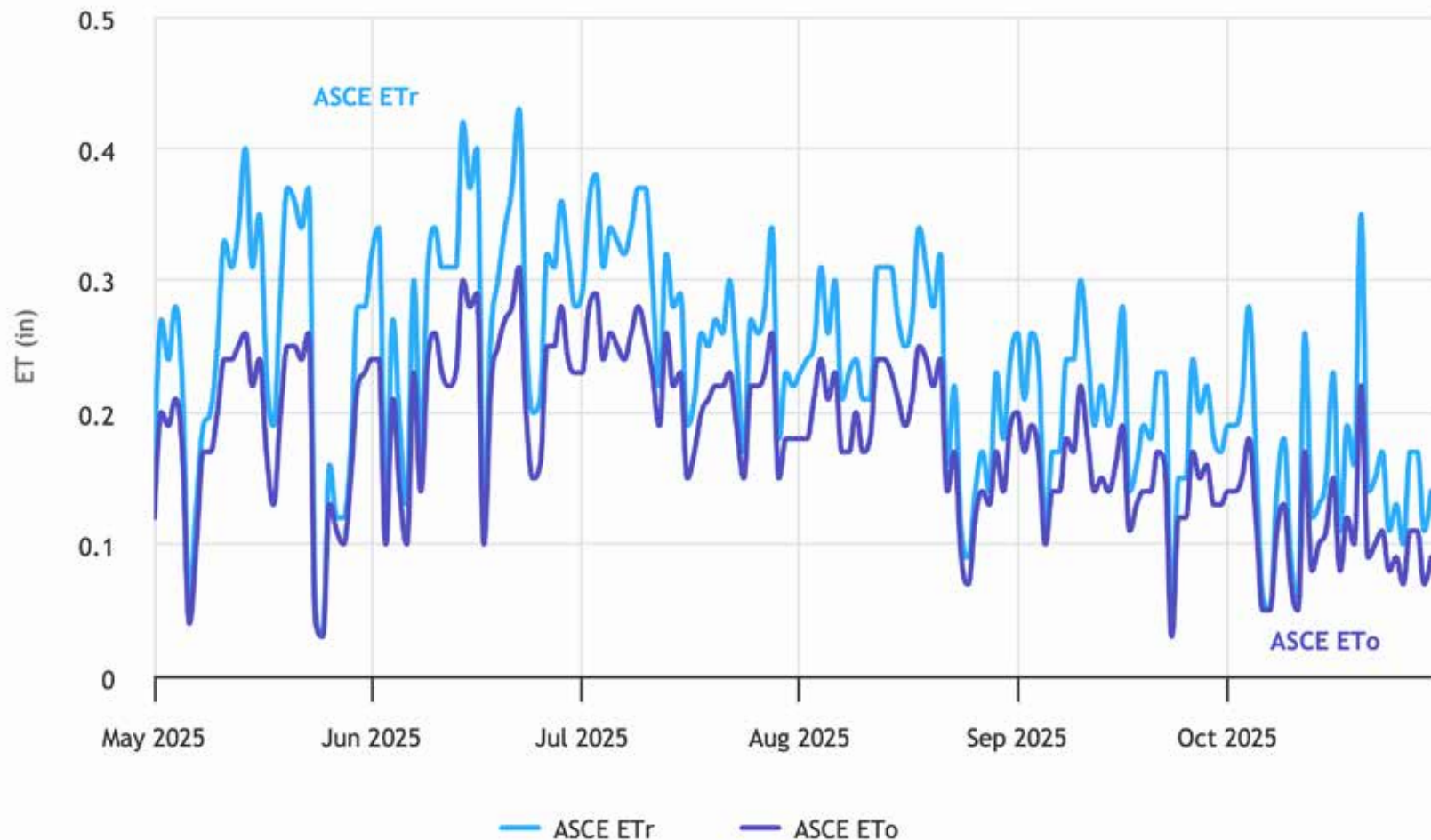
- AMS Glossary of Meteorology

Example of Growing Season Cycle of Evapotranspiration

Evapotranspiration for Ault (ALT01)

Colorado

May 1 - Oct 30, 2025



What Affects Evapotranspiration?

There are several factors that affect evapotranspiration:



Wind
Temperature
Relative Humidity
Sunshine

ET and Stress on Plants

Evapotranspiration can affect plant health and cause stress on plants



Low ET = more “less stressed/healthy” plants



High ET = possible stressed plants
“Can I afford to pay the water bill this month?”

Section Eight: Climate Resources

Climate
Resources



noaa
CoCoRaHS
state climate offices



“Where to go for local, regional and national info”

NOAA



NOAA provides important weather and climate information for gardeners

- National Weather Service
- Climate Prediction Center
- National Centers for Environmental Prediction
- National Climate Services

National Weather Service

Daily Forecasts
Current Radar
Frost/Freeze Information
Climate Information



Extended Forecast for Plant City FL

This Afternoon



High: 95 °F

Scattered
T-storms

Tonight



Low: 77 °F

Scattered
T-storms then
Mostly Clear

Thursday



High: 96 °F

Hot

Thursday
Night



Low: 77 °F

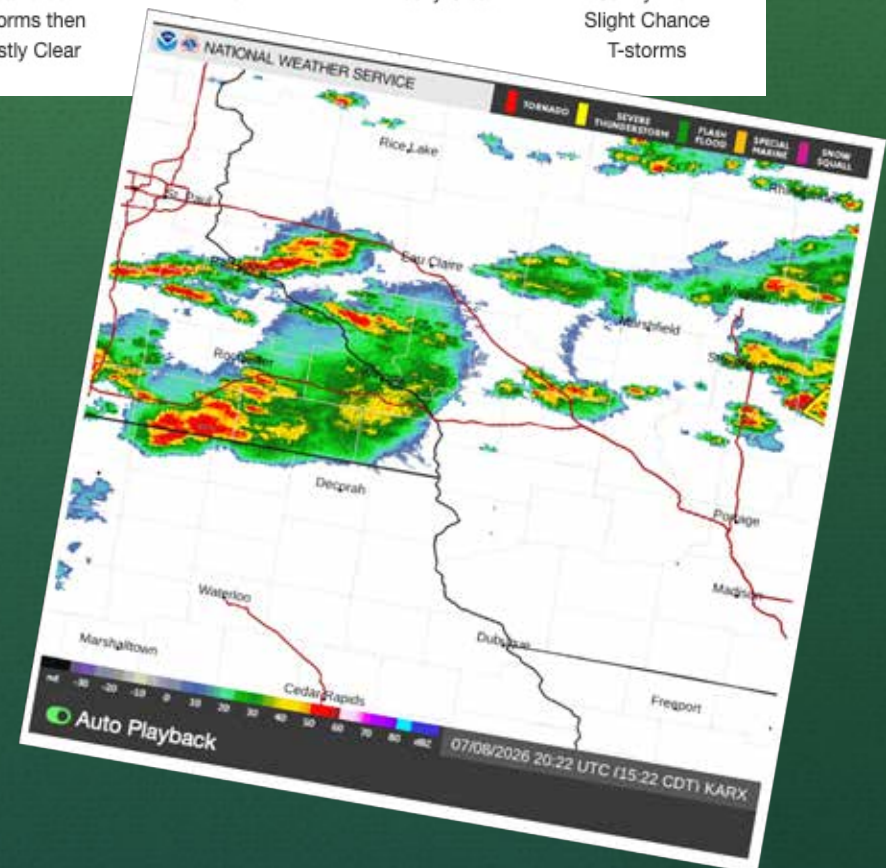
Mostly Clear

Friday



High: 97 °F

Sunny then
Slight Chance
T-storms



www.weather.gov

Important Data for Gardeners

CLIMATE REPORT
NATIONAL WEATHER SERVICE MILWAUKEE/SULLIVAN WI
124 AM CDT WED JUL 08 2026

...THE MILWAUKEE WI CLIMATE SUMMARY FOR JULY 7 2026...

CLIMATE NORMAL PERIOD 1991 TO 2020
CLIMATE RECORD PERIOD 1871 TO 2026

WEATHER ITEM	OBSERVED VALUE	TIME (LST)	RECORD VALUE	YEAR	NORMAL VALUE	DEPARTURE FROM NORMAL	LAST YEAR
TEMPERATURE (F)							
YESTERDAY							
MAXIMUM	83	333 PM	98	1936	82	1	71
				1988			
MINIMUM	61	430 AM	48	1960	64	-3	59
AVERAGE	72				73	-1	65
PRECIPITATION (IN)							
YESTERDAY	0.00		1.78	1991	0.12	-0.12	0.00
MONTH TO DATE	0.14				0.83	-0.69	0.88
SINCE JUN 1	4.91				5.21	-0.30	4.07
SINCE JAN 1	19.92				18.29	1.63	16.53
SNOWFALL (IN)							
YESTERDAY	0.0		0.0	2023	0.0	0.0	0.0
MONTH TO DATE	0.0				0.0	0.0	0.0
SINCE JUN 1	0.0				0.0	0.0	0.0
SINCE JUL 1	0.0				0.0	0.0	0.0
SNOW DEPTH	0						
DEGREE DAYS							
HEATING							
YESTERDAY	0				0	0	0
MONTH TO DATE	0				0	0	0
SINCE JUN 1	36				64	-28	51
SINCE JUL 1	0				0	0	0
COOLING							
YESTERDAY	7				8	-1	0
MONTH TO DATE	75				55	20	75
SINCE JUN 1	182				197	-15	246
SINCE JAN 1	209				236	-27	251
WIND (MPH)							
HIGHEST WIND SPEED	10						SE (130)
HIGHEST GUST SPEED	16						W (260)
AVERAGE WIND SPEED	4.6						



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
Enter location ... Go

Location Help

MY FORECAST
Portland ME



A Few Clouds

76°F
24°C [Get Detailed Info](#)

This Afternoon



Sunny
High: 76°F

Tonight



Mostly Clear
Low: 62°F

[change location](#)

News Headlines

- [Maine and New Hampshire Hurricane Preparedness Week!](#)
- [Click here for event Rain, Snow, Wind or Temperature Observation Summary Report](#)

Climate Data

[Weather.gov](#) > [Gray - Portland, ME](#) > [Climate Data](#)

Gray - Portland, ME
Weather Forecast Office

[Current Hazards](#) [Current Conditions](#) [Radar](#) [Forecasts](#) [Rivers and Lakes](#) [Climate and Past Weather](#) [Local Programs](#)

Monthly and Other Records

PORTLAND, ME Climate Data...

Temperature records began: November 1, 1940

Precipitation records began: January 1, 1871

Snowfall records began: January 1, 1882

Monthly Records (updated monthly):

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Temps	Temps	Temps	Temps	Temps	Temps	Temps	Temps	Temps	Temps	Temps	Temps	Temps
Precip	Precip	Precip	Precip	Precip	Precip	Precip	Precip	Precip	Precip	Precip	Precip	Precip
Snow	Snow	Snow	Snow	Snow	Snow	Snow	Snow	Snow	Snow	Snow	Snow	Snow

Record Months: [Warmest](#), [Coldest](#), [Wettest/Driest](#), [Snowiest](#), [Most Extreme Months](#)

Temperatures: [Extreme Temperatures](#), [Years Without 90 Degree Temperatures](#)

Precipitation: [Wettest Days](#), [Biggest Snowstorms](#), [Spring Snowstorms](#), [Fall Snowstorms](#)

Other: [Strongest Wind Gusts](#)

Seasonal Records:

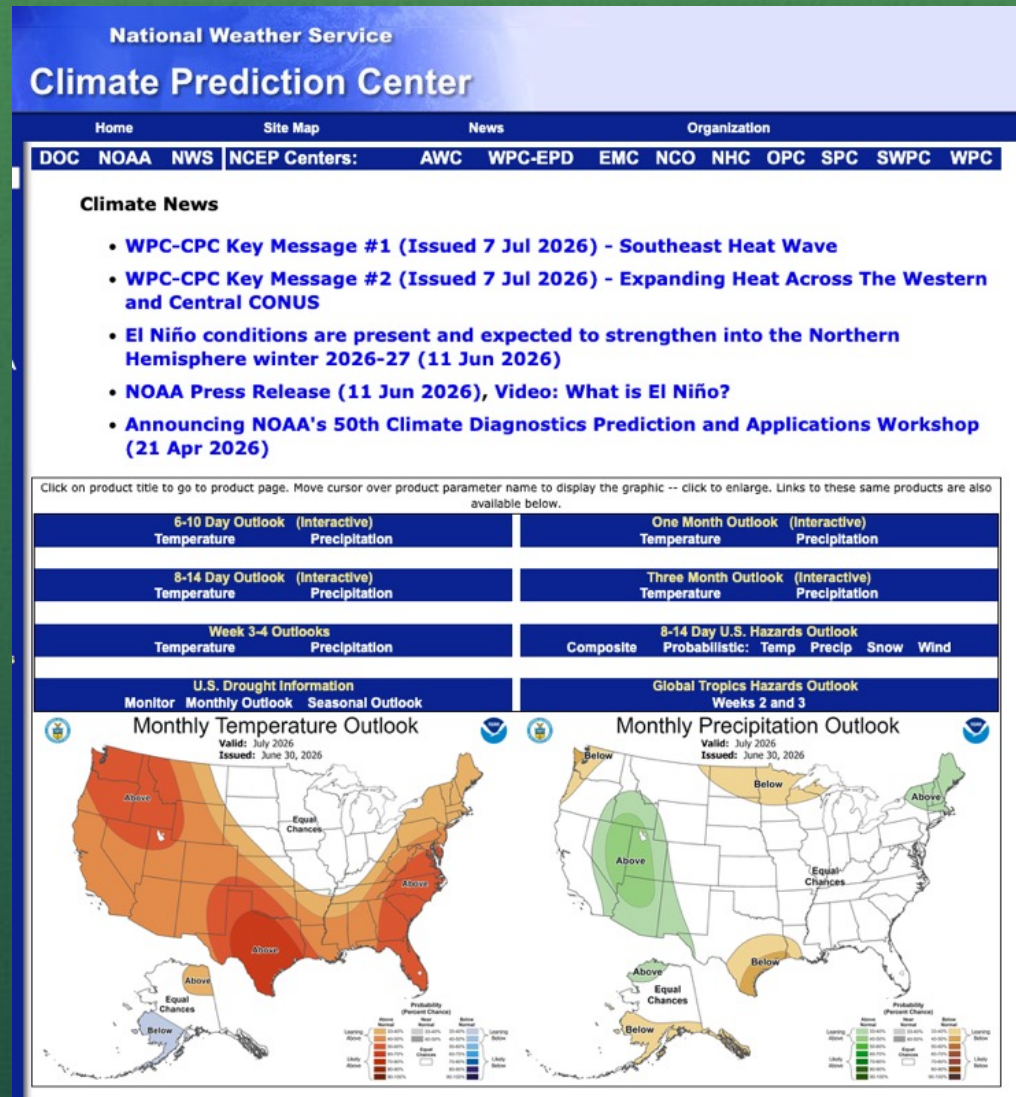
WINTER	SPRING	SUMMER	FALL
Temps	Temps	Temps	Temps
Precip	Precip	Precip	Precip
Snow	Snow	Snow	Snow

Growing Season Records:

Last Spring Freeze	First Fall Freeze	Growing Season
Top 10	Top 10	Top 10
Graph	Graph	Graph

Holiday Data: [Christmas](#) | [Thanksgiving](#)

Temperature and Precipitation Outlooks



www.cpc.ncep.noaa.gov

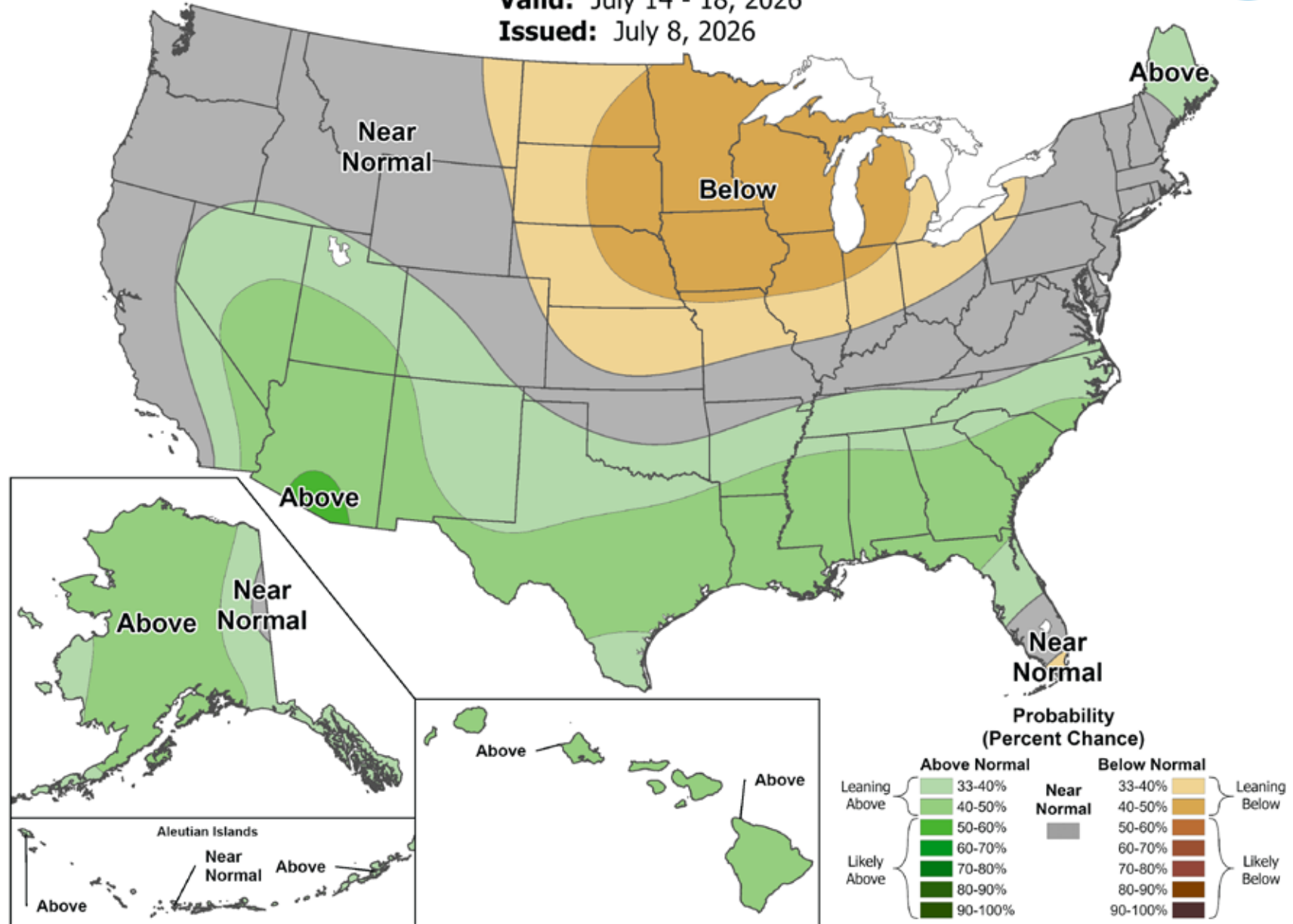


6-10 Day Precipitation Outlook



Valid: July 14 - 18, 2026

Issued: July 8, 2026



6 -10 Day Precipitation Outlook

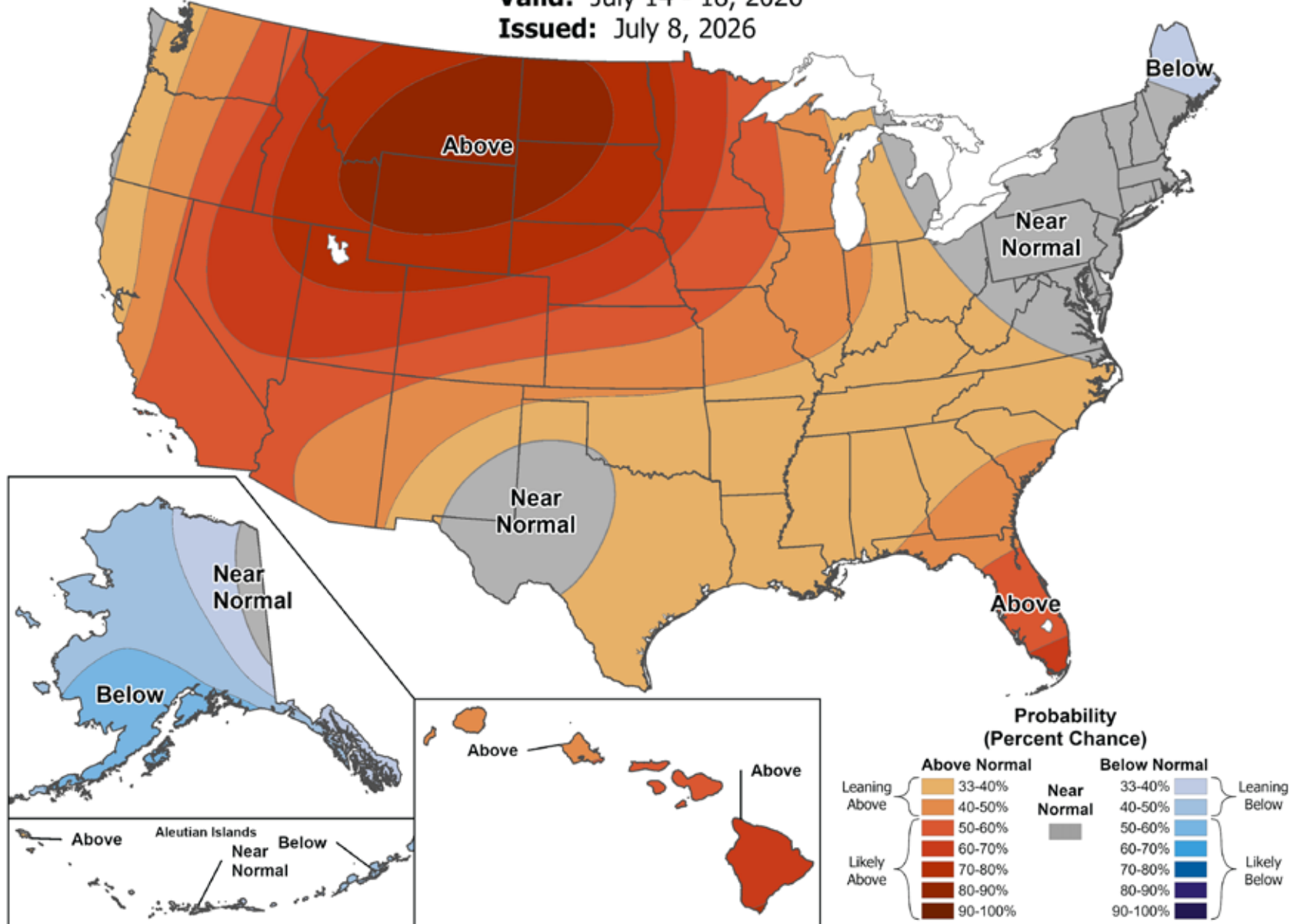


6-10 Day Temperature Outlook



Valid: July 14 - 18, 2026

Issued: July 8, 2026



6 -10 Day Temperature Outlook

NCEI



National Centers for
Environmental Information
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

[Home](#) [Products](#) [Services](#) [Resources](#) [News](#) [Contact](#) [About](#)

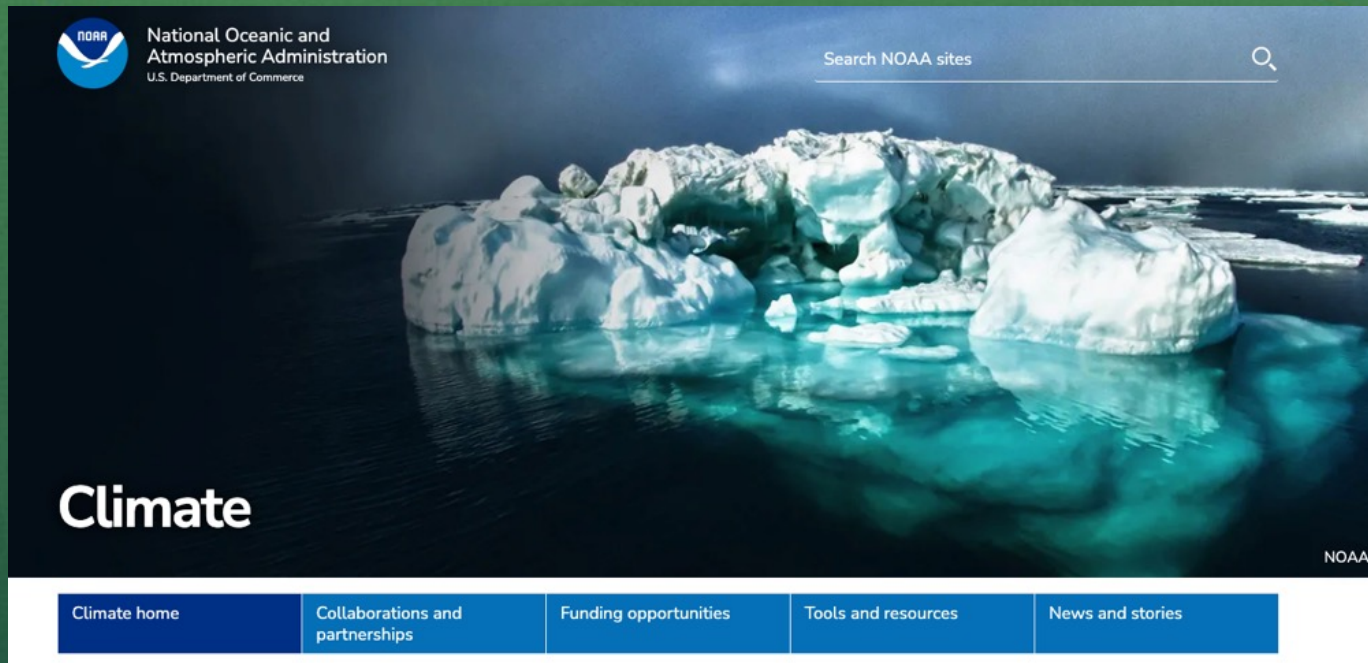


National Centers for Environmental Information

NCEI is the world's largest active archive of weather data. NCEI produces numerous climate publications and responds to data requests from all over the world.

www.ncei.noaa.gov

NOAA's Climate Portal



NOAA's Climate Services Portal showcases a wide breath of climate information. With the click of a mouse the user has easy access to climate data and services, timely articles and information, education resources, and tools for engagement and decision-making.

www.climate.gov

Regional Climate Centers

NOAA's Regional Climate Centers provide general and user-defined regional and local climate products and services, as well as regional and local expertise and assistance to a wide range of customers.

[Home](#) / [Regional Climate Services](#) / Regional Climate Centers

Regional Climate Centers

NCEI manages the Regional Climate Center (RCC) Program, which provides climate services to six regions encompassing the United States. RCCs provide efficient, user-driven services that cover three important categories:

- Provision and development of sector-specific and value-added data products and services
- Establishment of robust, efficient digital infrastructure for providing climate information
- Seamless integration and storage of non-NOAA climate data with traditional NOAA data sources

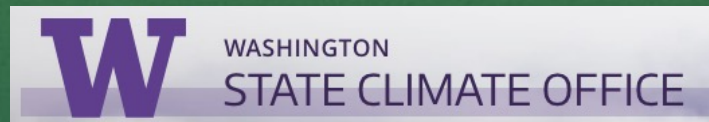


Map of Regional Climate Centers
May 2011

<https://www.ncei.noaa.gov/regional/regional-climate-centers>

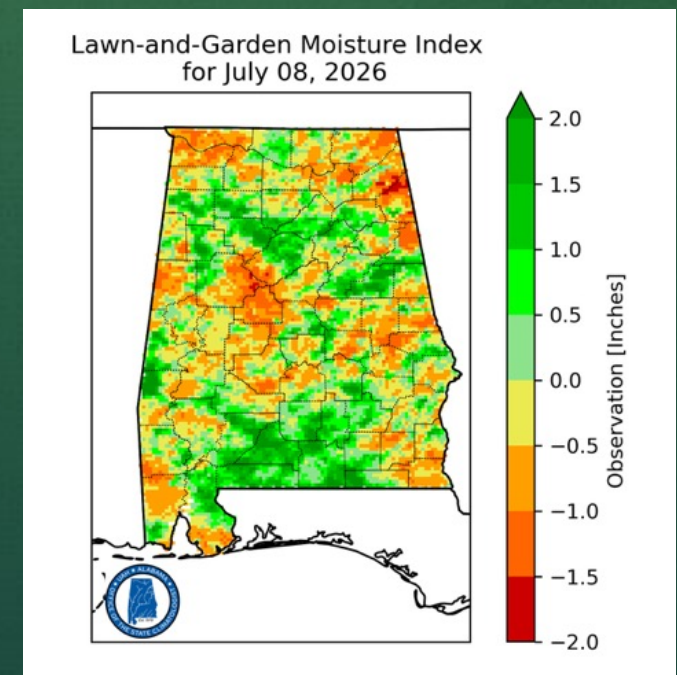
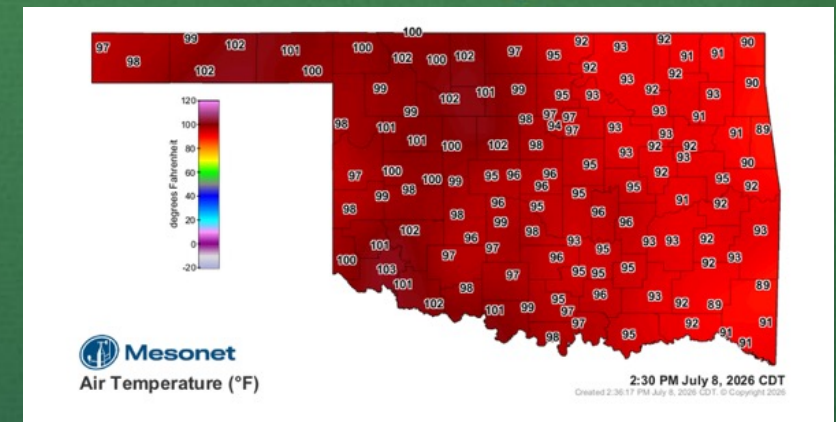
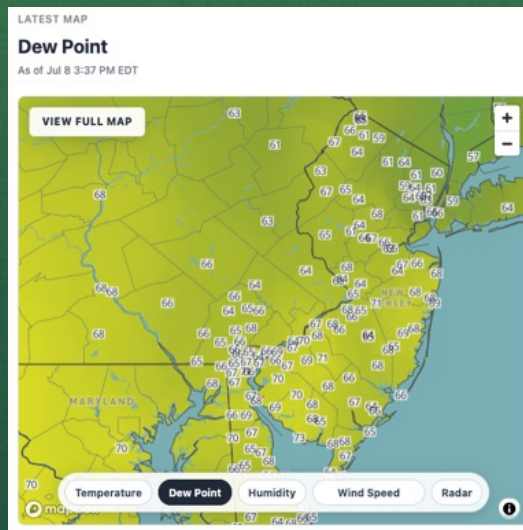
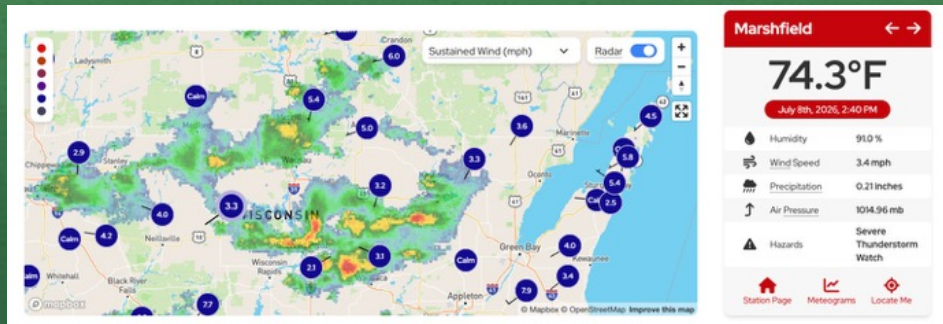
State Climate Offices

Your best resource for looking at “local climate details” in your state. Most states have a state climate office which can provide custom climate data and information.



For more info visit:
stateclimate.org

Examples of State Climate Products



Many state climate offices provide products that are helpful to the local gardener in many ways.

Section Nine: Climate Change

Climate
Change



warming
CO₂
challenges



“What will grow where in 2075?”



The future is always uncertain, but from most scientific assessments it looks like our future climate will most likely be different from the past.

Changes in precipitation are not very certain although computer models suggest that the northern U.S. could be wetter while southwestern states may be drier.

Temperature projections are more confident with an expectation that future decades will see warmer temperatures than the 20th century.

How will this affect my garden ?

**ARE FRIED GREEN TOMATOES . .
LIKELY ON THE VINE ??**

Climate Change and Master Gardeners



View the IPCC reports
on Climate Change
at: www.ipcc.ch

Synthesis Report _____

A Report of the Intergovernmental Panel on Climate Change

ipcc

REPORTS SYNTHESIS REPORT WORKING GROUPS ACTIVITIES NEWS
CALENDAR

**Special Report on Climate
Change and Cities** _____



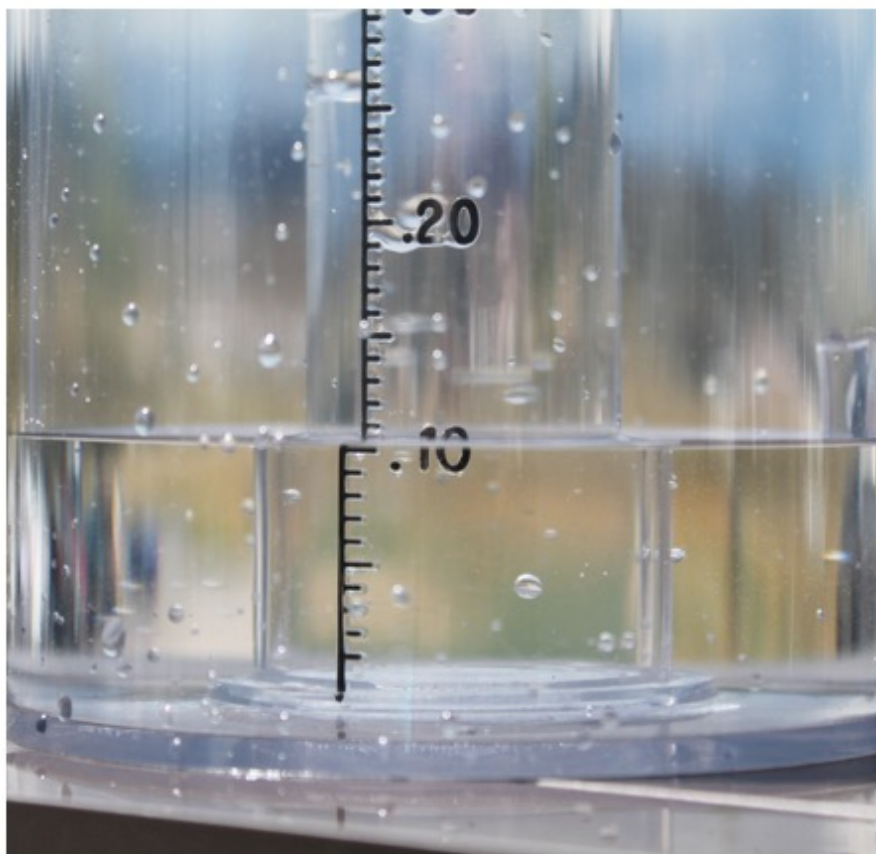
Climate Change – Anticipating, Adapting, Avoiding

- Climate change may affect the type of plants we plant in the future.
- CO² is good for plants, so it might have a positive effect on the vigor of our gardens provided we have sufficient water. Unfortunately, it is also good for weeds.
- More insects - not cold enough to kill them.
- More precipitation, less precipitation?
- New varieties in old climates.
- A challenge, an opportunity.



Section Ten: CoCoRaHS, an opportunity for gardeners!

CoCoRaHS



rain
Hail
snow



“Precipitation measurements in your own backyard!”

CoCoRaHS – an opportunity to participate



Here at the very end of our guide, we want to present you with an opportunity to track the most variable element of our climate . . . The precipitation that falls on your garden. **What better way to find out how precipitation affects your garden than to track it yourself!** After all, every gardener should know how much rain falls at their location.

It's much easier than you might think, only five minutes each day. It's more affordable than you might imagine . . . just the cost of a rain gauge. We provide the website, a specific station number, great detailed maps, educational materials (such as on-line training) and user support. Plus, your observations help fill in gaps across the country and are used by scientists, educators, municipalities, the National Weather Service and many more . You can make a difference while learning from the experience as well.

In some states Master Gardeners can receive community service credits by participating in CoCoRaHS as an observer.



HOW CAN YOU BECOME PART OF THE NETWORK?

Five easy steps

Sign-up on the
CoCoRaHS Web page
www.cocorahs.org

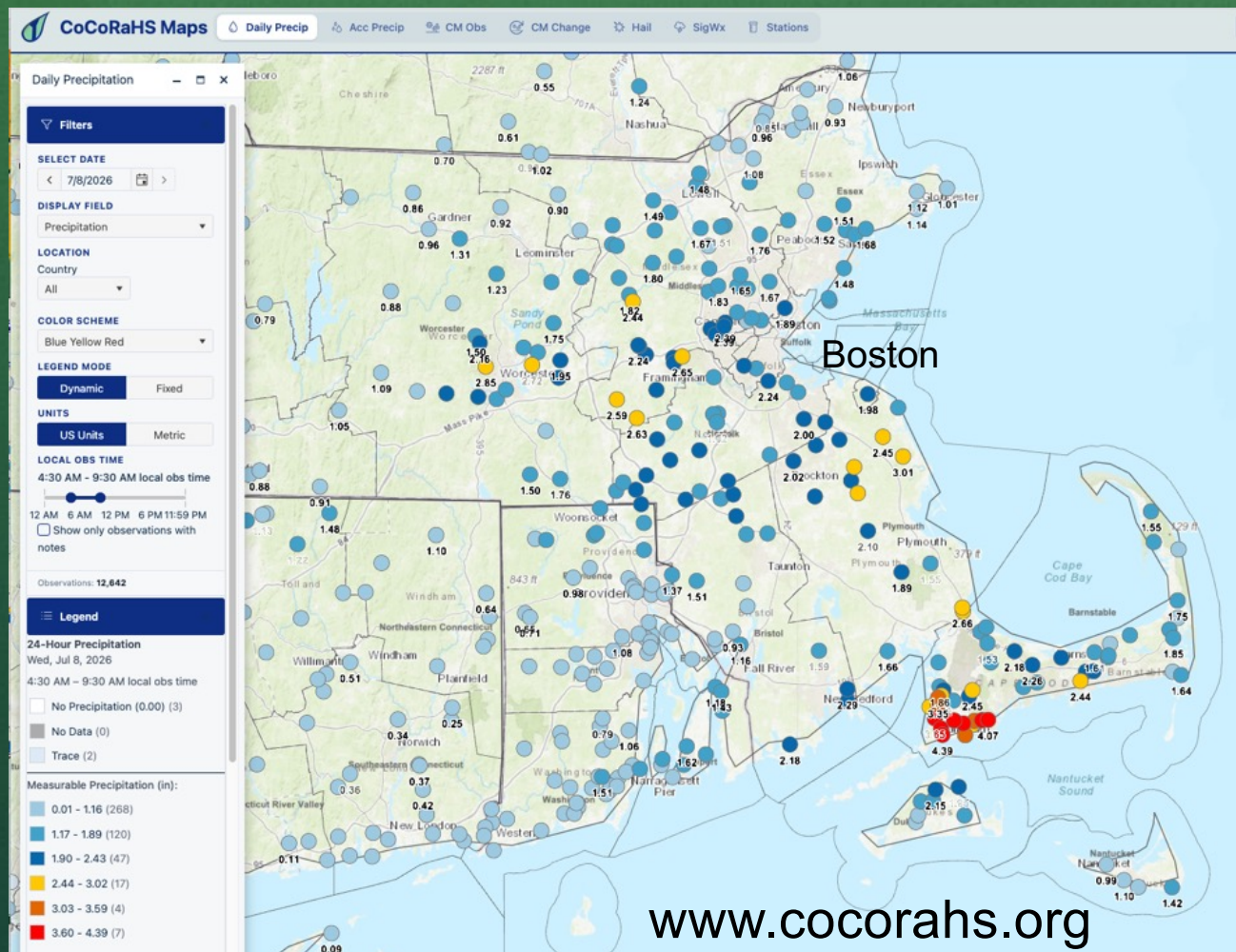
Obtain a 4" diameter plastic rain gauge
(info available on web site)

View the "training slide show"
or instructional animations

Set-up the gauge in a "good"
location in your yard

Start observing precipitation
and report on-line daily

Even if you don't participate



CoCoRaHS is a great way to find out about local precipitation even if you don't participate. All maps and education materials are free to the public.

The maps are updated everyday and are viewable on a national, statewide and county level.

Thanks for joining us!



The next time you talk about your garden with others, please mention this resource of climate information for gardeners. For more information please contact: info@cocorahs.org

Credits

We would like to thank the following organizations for providing materials and support to make this guide possible:

NOAA/Office of Education
Colorado State University
Colorado Climate Center
PRISM – Oregon State University
United States Dept. of Agriculture
NOAA/National Centers for Environmental Information
NOAA/National Weather Service
NOAA/Climate Prediction Center
National Renewal Energy Lab
National Drought Mitigation Center
American Association of State Climatologists
Midwest Regional Climate Center
High Plains Regional Climate Center

