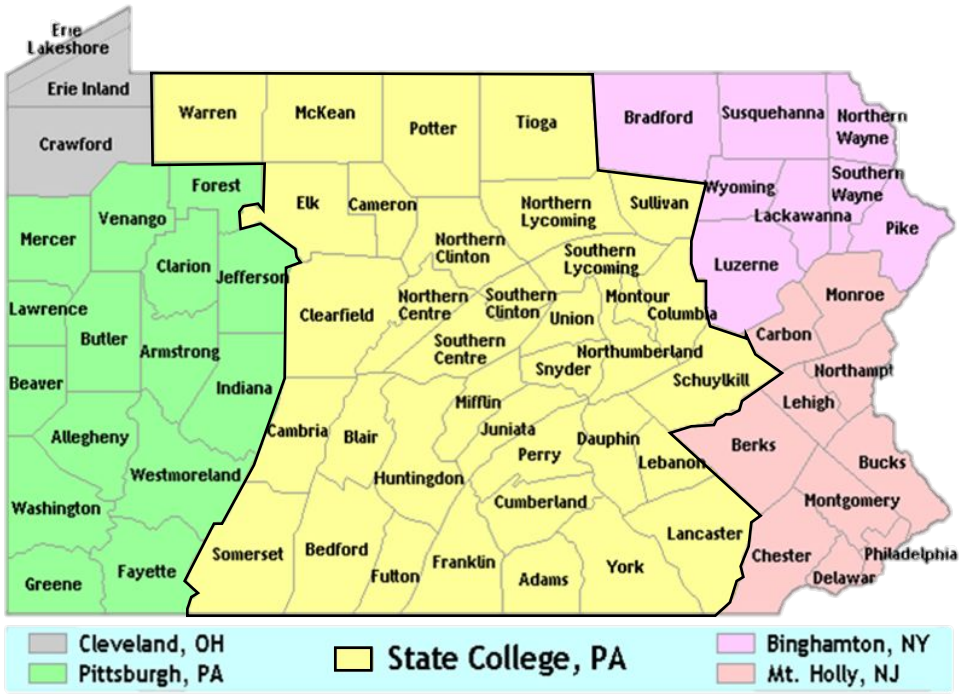
Basic Spotter Training 2022

NWS State College

NOAA Photo Library

How to Find Us Online



@NWSStateCollege

NEW!

@NWSStateCollege

/NWSStateCollege

/NWSStateCollege

www.weather.gov/ctp

National Weather Service

- National Weather Service
  - Our parent agency is NOAA
    - National Oceanic and Atmospheric Administration
  - NWS (and NOAA) fall under the Department of Commerce
    - Federal agency

- **Primary Mission:**

  Provide weather, water and climate data, forecasts, warnings, and impact-based decision support services for the protection of life and property and enhancement of the national economy

Organization of the National Weather Service

9 National Centers (NCEP)

1. AWC – Aviation Weather Center
2. CPC – Climate Prediction Center
3. EMC – Environmental Modeling Center
4. NCO – NCEP Central Operations
5. NHC – National Hurricane Center
6. OPC – Ocean Prediction Center
7. SPC – Storm Prediction Center
8. SWPC – Space Weather Prediction Center
9. WPC – Weather Prediction Center

Local Offices

122 Local Weather Forecast Offices

- Five offices serve Pennsylvania

13 River Forecast Centers

- Two serve Pennsylvania

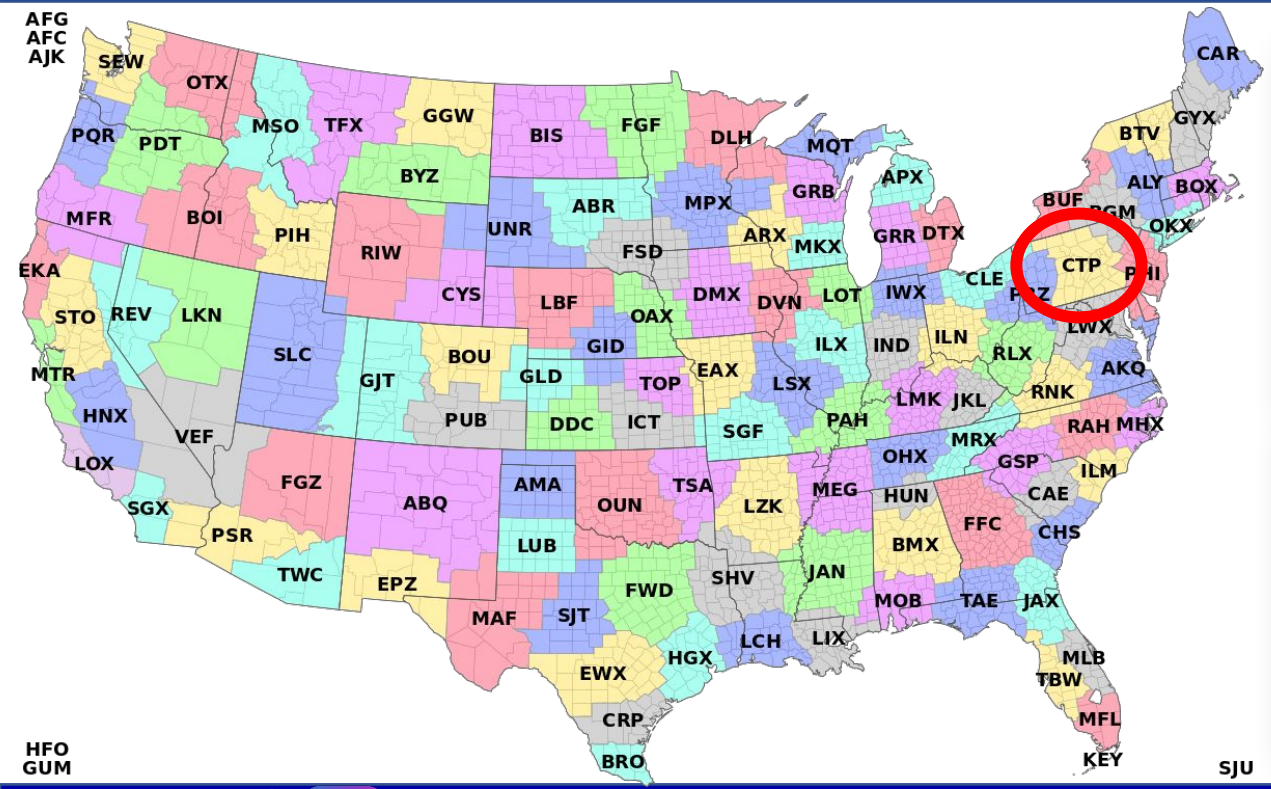
6 Regional Offices

- Eastern, Central, Southern, Western, Alaska and Pacific

NWS Headquarters

- Silver Spring, MD

Where are all those Local Offices?



SKYWARN Program

A group of **trained volunteers** who report hazardous weather in order to:

- Supplement remote sensing equipment
- Provide real-time ground truth reports
- Add credibility to NWS products and services

SKYWARN Spotters act as thousands of "eyes and ears" out in the field, supporting our forecast and warning program!

SKYWARN Program

NWS State College has over 3,000 trained spotters

- State-Wide, there are about 10,000 spotters
- Nationally, there are nearly 300,000 trained spotters!

Note: Although you are receiving your training today from the State College office, your training is portable

- If you move, contact your new "local" office and we can start the process to transfer your credentials

Poll Question

When was the last time you took a SKYWARN training course?

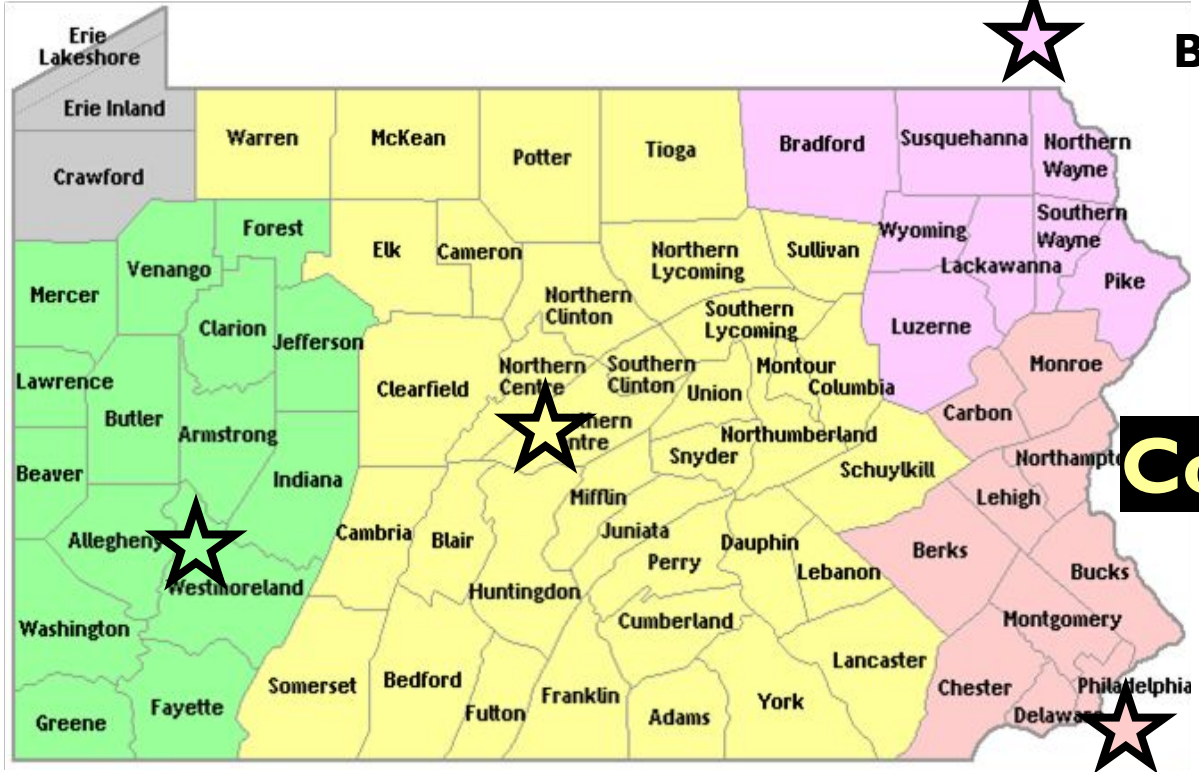
- This is my first time
- Within the last 2 years
- 2-4 years ago
- 4-8 years ago
- >8 years ago

SKYWARN

NWS Offices Serving Pennsylvania

Cleveland, OH

Binghamton, NY



State College, PA

Pittsburgh, PA

Philadelphia/ Mt. Holly, NJ

A look at the Local Office

NWS State College Central PA Weather Forecast Office

- 14 Forecasters
- 6 Electronic Technicians/IT Support
- 1 Hydrologist
- 1 Science & Operations officer
- 1 Observations Program Leader
- 1 Warning Coordination Meteorologist
- 1 Administrative Assistant
- 1 Meteorologist In Charge

Open 24x7x365 to provide forecasts and warnings, as well as maintain the Doppler radar and other observation systems

How We "typically" Work

Short Term

0-24 hours (maybe 36 hour forecast)

- Often staffed by the Lead Forecaster
  - Warning decisions, aviation support, staffing, etc.

Long Term

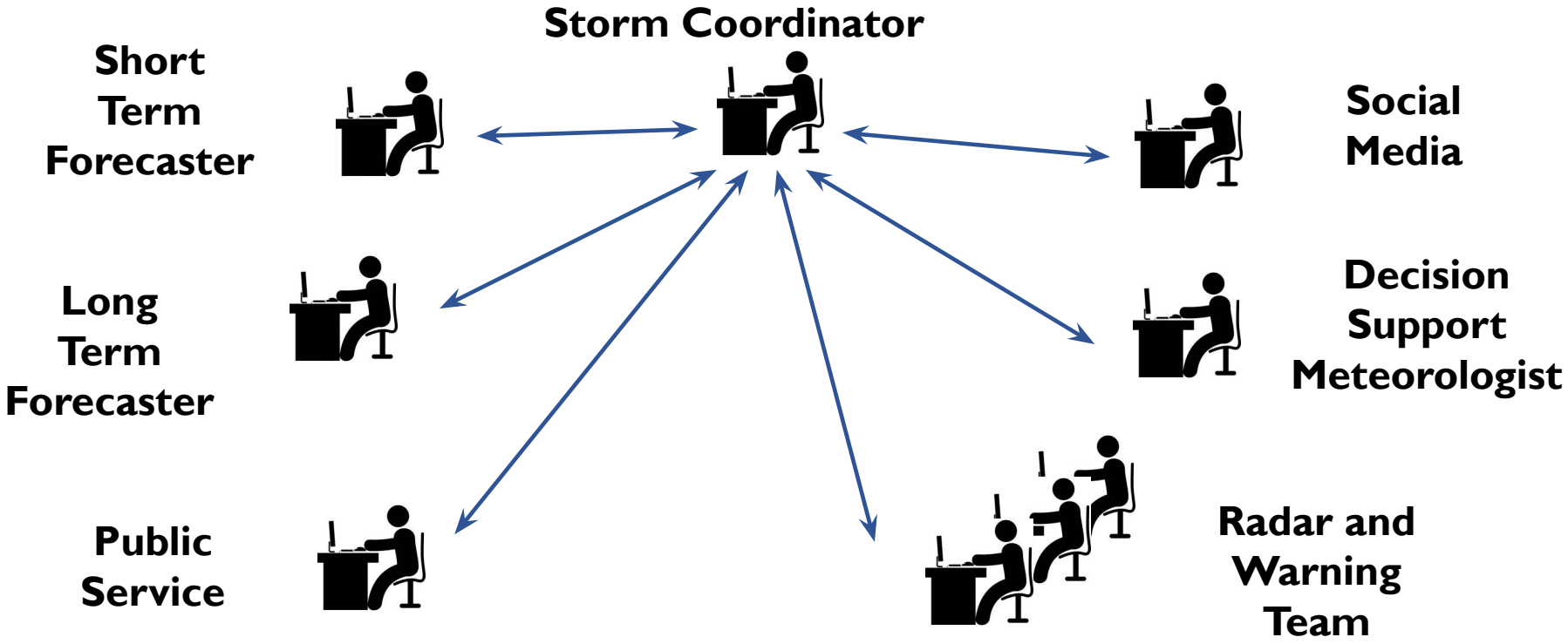
Day 2 – Day 7

- Looking at longer term models
- Often doing Decision Support duties

Public Service

- Phones, Product QC, NOAA Weather Radio, Social Media

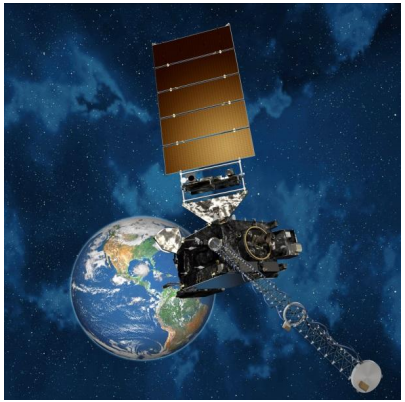
When the weather "ramps up"



Radar Basics

Key Pieces of Equipment

Doppler Radar



Satellites

Computers

Remote Sensing Equipment

SKYWARN Program Background

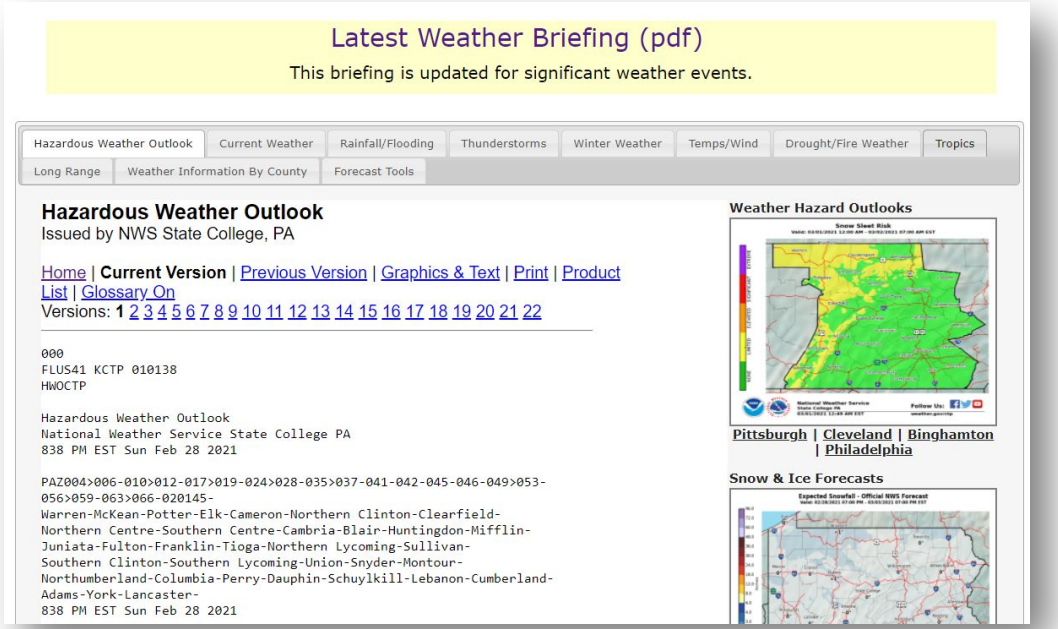
SKYWARN Program

Today's class will cover basic aspects of observing weather, and emphasize the accurate reporting of those observations

- Review of some key definitions
- A look at different weather elements

When the course is complete, you will be a certified member of the national SKYWARN Team!

NWS State College Online Resources



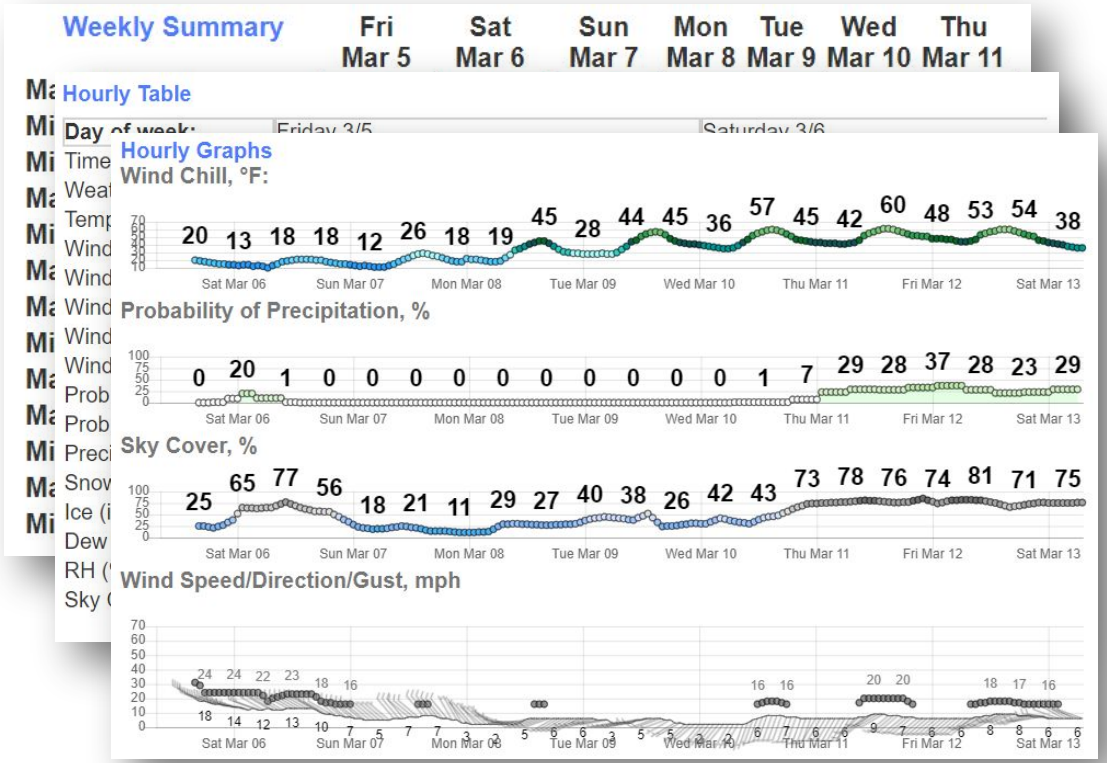
BRIEFING PAGE

www.weather.gov/ctp/briefing

or click this icon at the bottom of the NWS CTP home page:

One-stop shop for all NWS forecast information.

NWS State College Online Resources



FORECAST PAGE

www.weather.gov/forecastpoints

Type in zip code and then click "Bookmark"

Best graphical display of NWS forecast information available.

Winter Weather

Winter weather reporting is an important part of the SKYWARN program

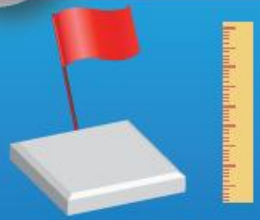
We'll briefly review how to measure snowfall "The National Weather Service Way"

Six Basic Steps for Properly

MEASURING SNOW

Accurate and timely snowfall measurements are extremely important to your National Weather Service office, your community, local media, and many others. Here are the six steps you need to know for measuring snow:

1 Supplies



Ruler or yard stick
24" X 24" white board, flag

2 Planning

Find an open area away from tall objects, but sheltered from wind

3 Set-up

Set up before snow begins

Put your board out and mark it with the flag

4 Measuring Snow

Measure once daily at the same time, after measuring place the board on top of snow

Or, measure up to 4x a day, wiping the snowboard clean no more than once every 6 hours

5 When Snow Stops

Measure as soon as the snow stops to avoid lower totals due to melting, settling and drifting

6 Reporting

MEASURING ICE

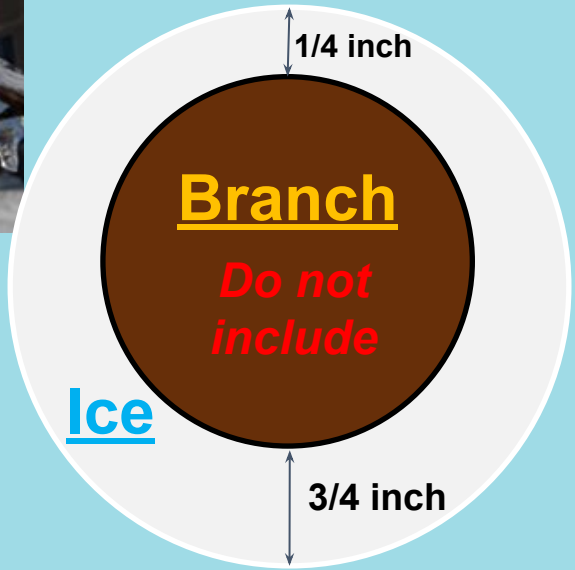
Accurate ice reports are needed from spotters so forecasters can assess the forecast in real time, adjust as necessary, and message increasing/decreasing threat.

Freezing rain can lead to widespread significant impacts including dangerous travel and widespread power outages.

When rain falls with air and surface temperatures at or below 32°F, a fraction of the rain will freeze onto surfaces.

Accretion efficiency depends on a variety of factors including rainfall intensity and wind. Light rain, cold air, and strong winds lead to the highest ice-to-liquid ratios.

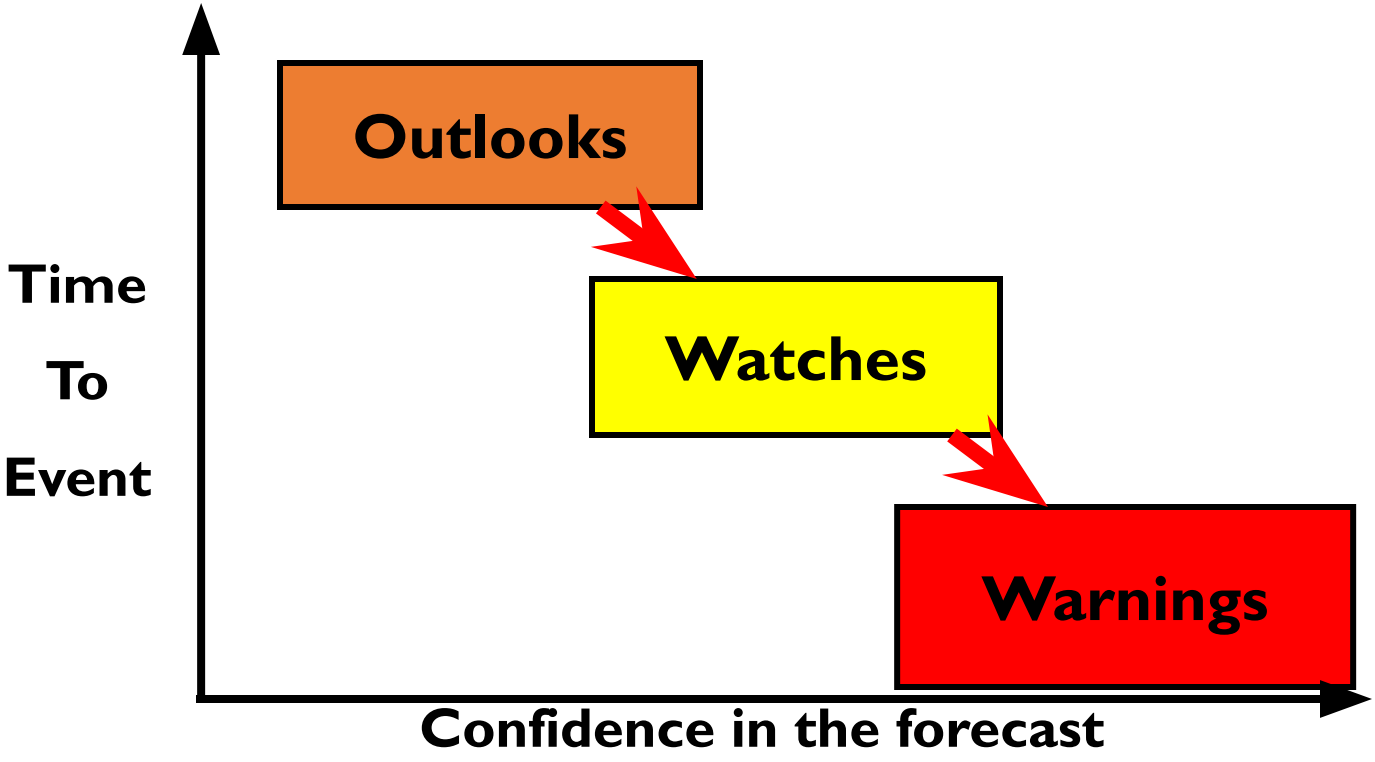
Example:
¾" ice on bottom +
¼" ice on top = 1"
then divide by 2
Total Ice = ½"



NWS Products

Watches, Warnings, and Advisories

NWS Products: A 3–Tiered Approach



Outlook vs. Watch vs. Warning

OUTLOOK: *possible* weather event in the future

- Lower confidence... a 30 - 49% chance of occurrence
- Lead time can range from about 3 to 7 days
- No details, either in timing or severity...just a "heads-up"

WATCH: Conditions are *favorable* for a given weather event

- Still not a Certainty...in fact the chances of occurrence are 50 - 79%
- Lead Time can range in time from a few hours to several days
- Some Watches will result in bad weather...some will not.

WARNING: Conditions *imminent* (or extremely likely) for a given weather event

- Not necessarily 100% certainty, but getting there > 80%
- Lead Time can range from a few minutes (Severe) to about a day (Flood, Winter)

Outlook vs. Watch vs. Warning

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Product Guide - Outlook

- HWO (Hazardous Weather Outlook)

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Hazardous Weather Outlook
National Weather Service State College PA
1243 PM EDT Wed Jun 3 2020

PAZ012-018-019-041-042-045-046-049>053-058-041645-
Northern Clinton-Northern Centre-Southern Centre-Northern Lycoming-
Sullivan-Southern Clinton-Southern Lycoming-Union-Snyder-Montour-
Northumberland-Columbia-Schuylkill-
1243 PM EDT Wed Jun 3 2020

This Hazardous Weather Outlook is for central Pennsylvania.

.DAY ONE...This afternoon and tonight.

Isolated strong to severe thunderstorms with localized damaging wind
gusts 60 mph or greater and large hail exceeding 1 inch in diameter
are possible late this afternoon and evening. An isolated weak,
short- lived tornado is also possible.

.DAYS TWO THROUGH SEVEN...Thursday through Tuesday.

The probability for widespread hazardous weather is low.

.SPOTTER INFORMATION STATEMENT...

Spotter activation is not expected at this time.
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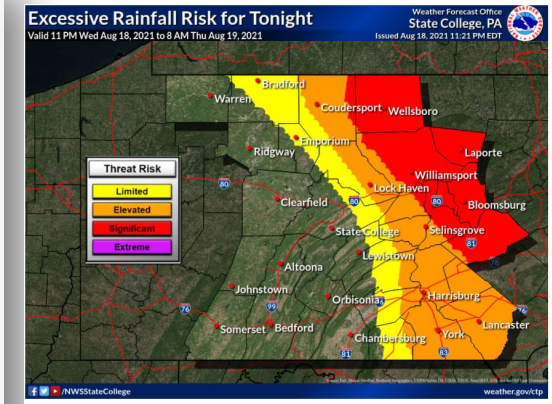
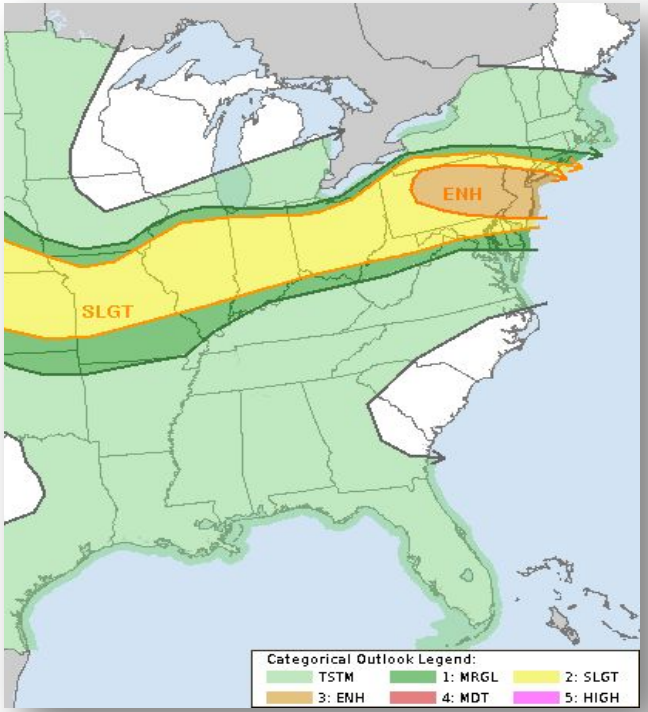


24 Hr Hazard Risks	Day 1	Thu	Fri	Sat	Sun	Mon	Tue
Severe Thunderstorm							
Tornado							
Thunderstorm Wind							
Hail							
Lightning							
Excessive Rainfall							
Excessive Heat							
Non-Thunderstorm Wind							
Frost/Freeze							
Fog							
Fire Weather							

https://www.weather.gov/erh/ghwo?wfo=ctp

Severe Weather Outlooks



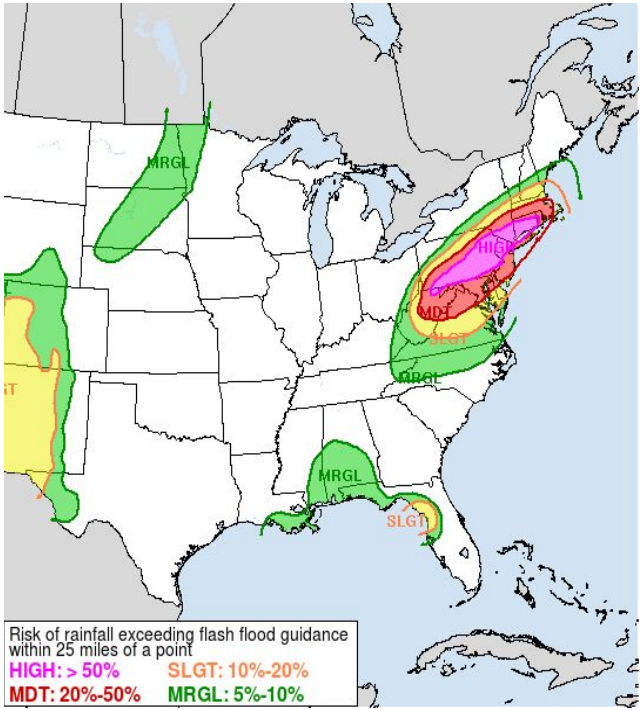
Understanding Severe Thunderstorm Risk Categories

THUNDERSTORMS (no label)	1 - MARGINAL (MRGL)	2 - SLIGHT (SLGT)	3 - ENHANCED (ENH)	4 - MODERATE (MDT)	5 - HIGH (HIGH)
No severe* thunderstorms expected	**Isolated severe thunderstorms possible**	**Scattered severe storms possible**	**Numerous severe storms possible**	**Widespread severe storms likely**	**Widespread severe storms expected**
Lightning/flooding threats exist with all thunderstorms	Limited in duration and/or coverage and/or intensity	Short-lived and/or not widespread, isolated intense storms possible	More persistent and/or widespread, a few intense	Long-lived, widespread and intense	Long-lived, very widespread and particularly intense

* NWS defines a severe thunderstorm as measured wind gusts to at least 58 mph, and/or hail to at least one inch in diameter, and/or a tornado. All thunderstorm categories imply lightning and the potential for flooding. Categories are also tied to the probability of a severe weather event within 25 miles of your location.

National Weather Service
www.spc.noaa.gov

Excessive Rainfall Outlooks



Understanding WPC Excessive Rainfall Risk Categories

No Area/Label	MARGINAL (MRGL)	SLIGHT (SLGT)	MODERATE (MDT)	HIGH (HIGH)
Flash floods are generally not expected.	Isolated flash floods possible	Scattered flash floods possible	Numerous flash floods likely	Widespread flash floods expected
	Localized and primarily affecting places that can experience rapid runoff with heavy rainfall.	Mainly localized. Most vulnerable are urban areas, roads, small streams and washes. Isolated significant flash floods possible.	Numerous flash flooding events with significant events possible. Many streams may flood, potentially affecting larger rivers.	Severe, widespread flash flooding. Areas that don't normally experience flash flooding, could. Lives and property in greater danger.

www.wpc.ncep.noaa.gov
@NWSWPC

Flash flooding near me? Flash Flooding / NO Flash Flooding

WEATHER PREDICTION CENTER

Product Guide - Watch

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378
WWUS61 KCTP 031408
WCNCTP

WATCH COUNTY NOTIFICATION FOR WATCH 242
NATIONAL WEATHER SERVICE STATE COLLEGE PA
1008 AM EDT WED JUN 3 2020

PAC001-013-021-027-033-035-037-041-043-055-061-067-071-075-081-
087-093-097-099-107-109-113-119-133-031900-
/O.NEW.KCTP.SV.A.0242.200603T1408Z-200603T1900Z/

THE NATIONAL WEATHER SERVICE HAS ISSUED SEVERE THUNDERSTORM WATCH
242 IN EFFECT UNTIL 3 PM EDT THIS AFTERNOON FOR THE FOLLOWING
AREAS

IN PENNSYLVANIA THIS WATCH INCLUDES 24 COUNTIES

IN CENTRAL PENNSYLVANIA

ADAMS                  BLAIR                  CAMBRIA
CENTRE                 CLEARFIELD             CLINTON
COLUMBIA               CUMBERLAND             DAUPHIN
FRANKLIN               HUNTINGDON             JUNIATA
LANCASTER              LEBANON                LYCOMING
MIFFLIN                MONTOUR                NORTHUMBERLAND
PERRY                  SCHUYLKILL             SNYDER
SULLIVAN               UNION                  YORK

THIS INCLUDES THE CITIES OF ALTOONA, BERWICK, BLOOMSBURG,
CARLISLE, CHAMBERSBURG, CLEARFIELD, DANVILLE, DUBOIS, GETTYSBURG,
HARRISBURG, HERSHEY, HUNTINGDON, JOHNSTOWN, LANCASTER, LAPORTE,
LEBANON, LEWISBURG, LEWISTOWN, LOCK HAVEN, MIFFLINTOWN,
MOUNT UNION, NEWPORT, POTTSVILLE, RENOVO, SELINSGROVE, SHAMOKIN,
STATE COLLEGE, SUNBURY, WAYNESBORO, WILLIAMSPORT, AND YORK.

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LAMBERT
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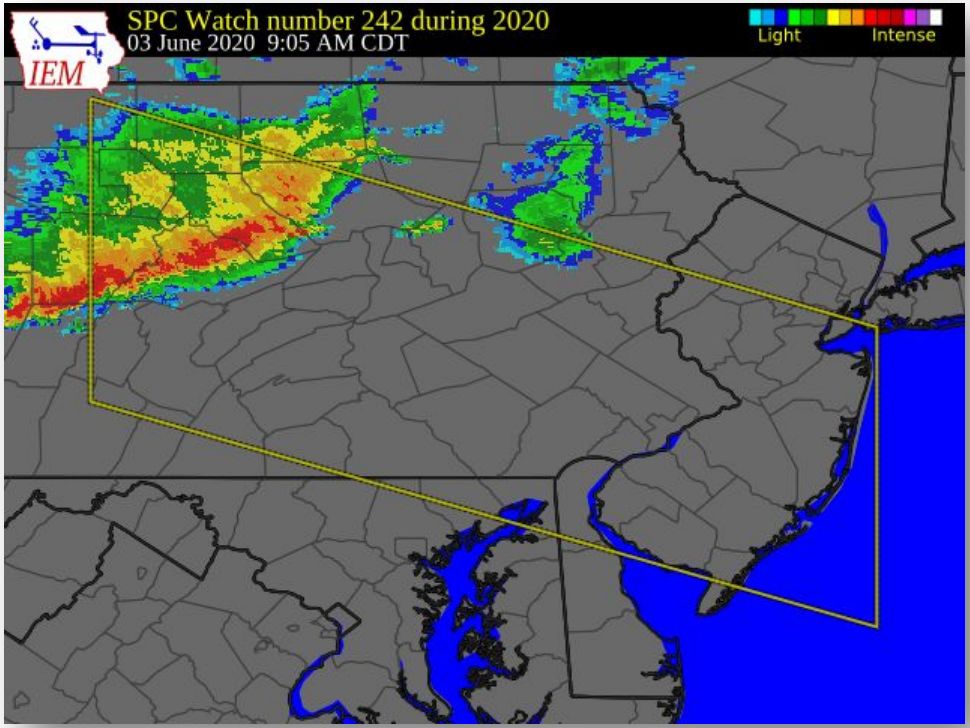

Product Guide - Warning

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737
WUUS51 KCTP 032011
SVRCTP
PAC027-035-119-032115-
/O.NEW.KCTP.SV.W.0044.200603T2011Z-200603T2115Z/

BULLETIN - IMMEDIATE BROADCAST REQUESTED
Severe Thunderstorm Warning
National Weather Service State College PA
411 PM EDT Wed Jun 3 2020

The National Weather Service in State College PA has issued a

* Severe Thunderstorm Warning for...
  East central Centre County in central Pennsylvania...
  Union County in central Pennsylvania...
  Southeastern Clinton County in north central Pennsylvania...

* Until 515 PM EDT.

* At 410 PM EDT, a severe thunderstorm was located over Monument,
  moving southeast at 35 mph.

  HAZARD...60 mph wind gusts and quarter size hail.

  SOURCE...Radar indicated.

  IMPACT...Hail damage to vehicles is expected. Expect wind damage
           to trees, roofs, and siding.

* Locations impacted include...
  Lock Haven, Mifflinburg, Carroll, Woodward, Winfield, Lamar, Mill
  Hall, Flemington, Castanea, Millheim, Blanchard, Penns Creek,
  Aaronsburg, Rebersburg, Vicksburg, Coburn, Madisonburg, Monument,
  Weikert and Bald Eagle State Park.
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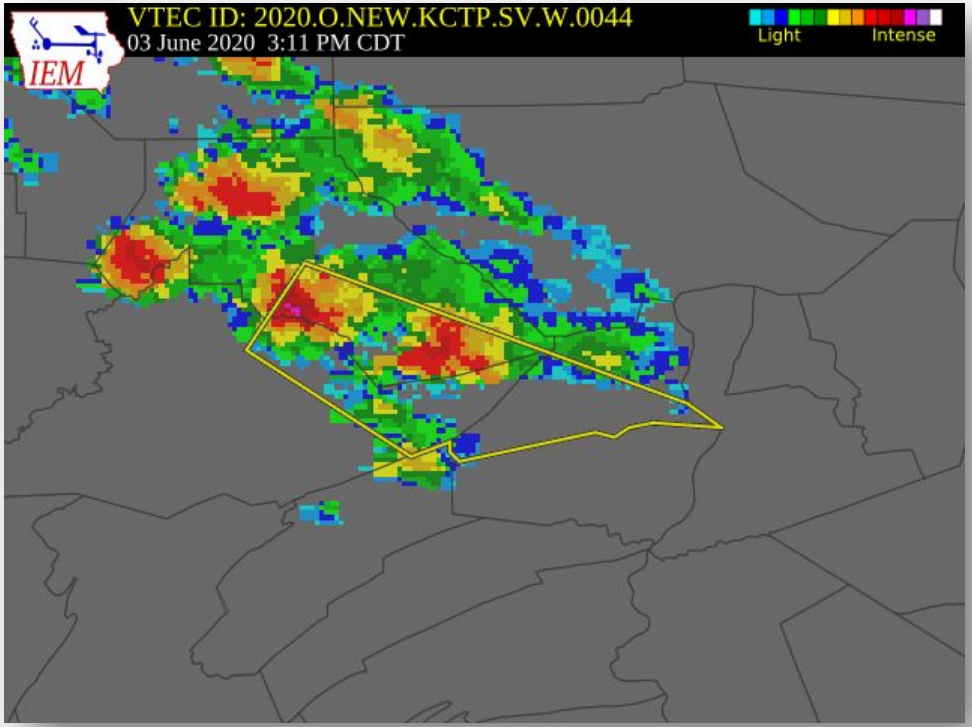



Severe Thunderstorms

Severe Thunderstorms

- What makes a thunderstorm severe?
  - Winds ≥ 58 mph (50 knots)
  - Hail ≥ 1 inch in maximum dimension
  - Tornado
- Other threats:
  - Lightning
  - Flooding

What about those sub-severe storms?

- SPECIAL WEATHER STATEMENTS can be issued for storms that may have some impacts, but do not meet severe criteria
  - Can be issued for thunderstorms producing:
    - Winds of 30-55 mph
    - Pea to Nickel sized hail
  - These will not set off tone alerts or EAS, and rarely trigger phone apps.


Thunderstorm Ingredients

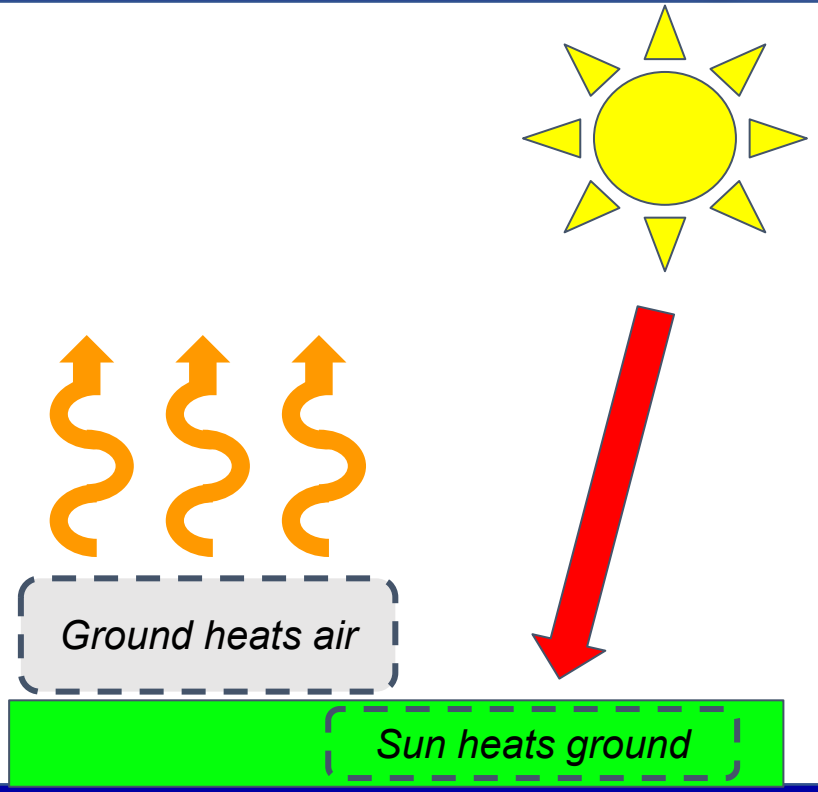
Thunderstorm Ingredients

1. Instability
2. Moisture
3. Lift

Most severe storms also require **wind shear**

Thunderstorm Ingredients: **Instability**

- Hot air rises. *How do we get hot air?*
  - Sun heats the ground → ground heats the air
- The larger the temperature difference between the surface and the air above, the greater the instability
  - Instability is maximized on warm, sunny days with abnormally cold air aloft



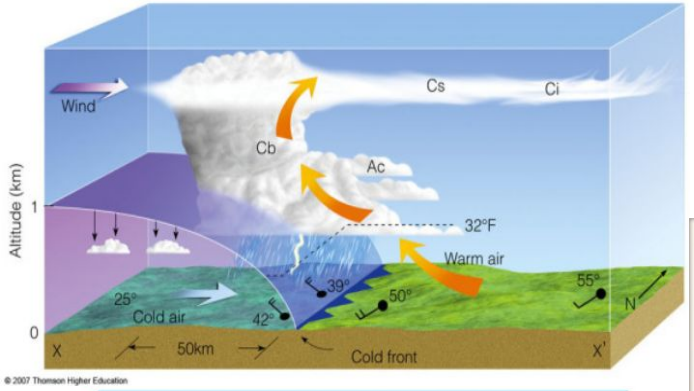
Thunderstorm Ingredients: **Moisture**

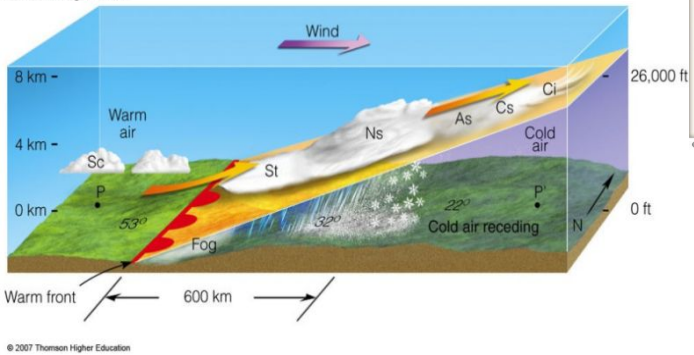
- Moisture is needed to form clouds and precipitation
- Moisture increases instability (CAPE). *Why?*
  - When water vapor in a rising parcel of air **condenses** to form cloud droplets, the parcel of air is **warmed** relative to its surroundings
  - This warming enhances instability

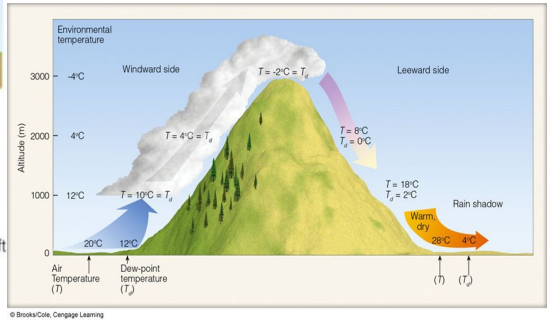
Thunderstorm Ingredients: **Lift**

- Forced ascent (lift) is needed to create thunderstorms

- What can force air to rise?
  - Cold Fronts
  - Warm Fronts
  - Mountains

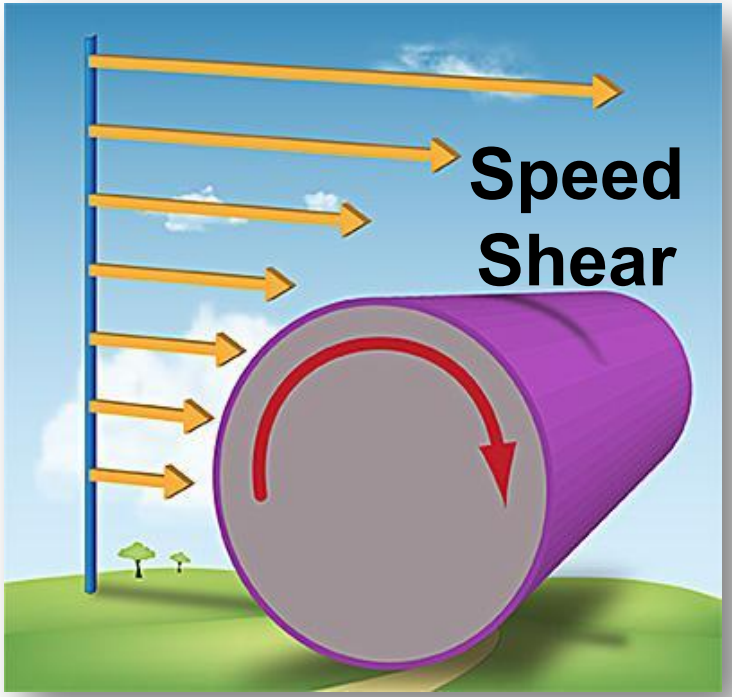






Thunderstorm Ingredients: **Wind Shear**

Wind **direction** changes with height

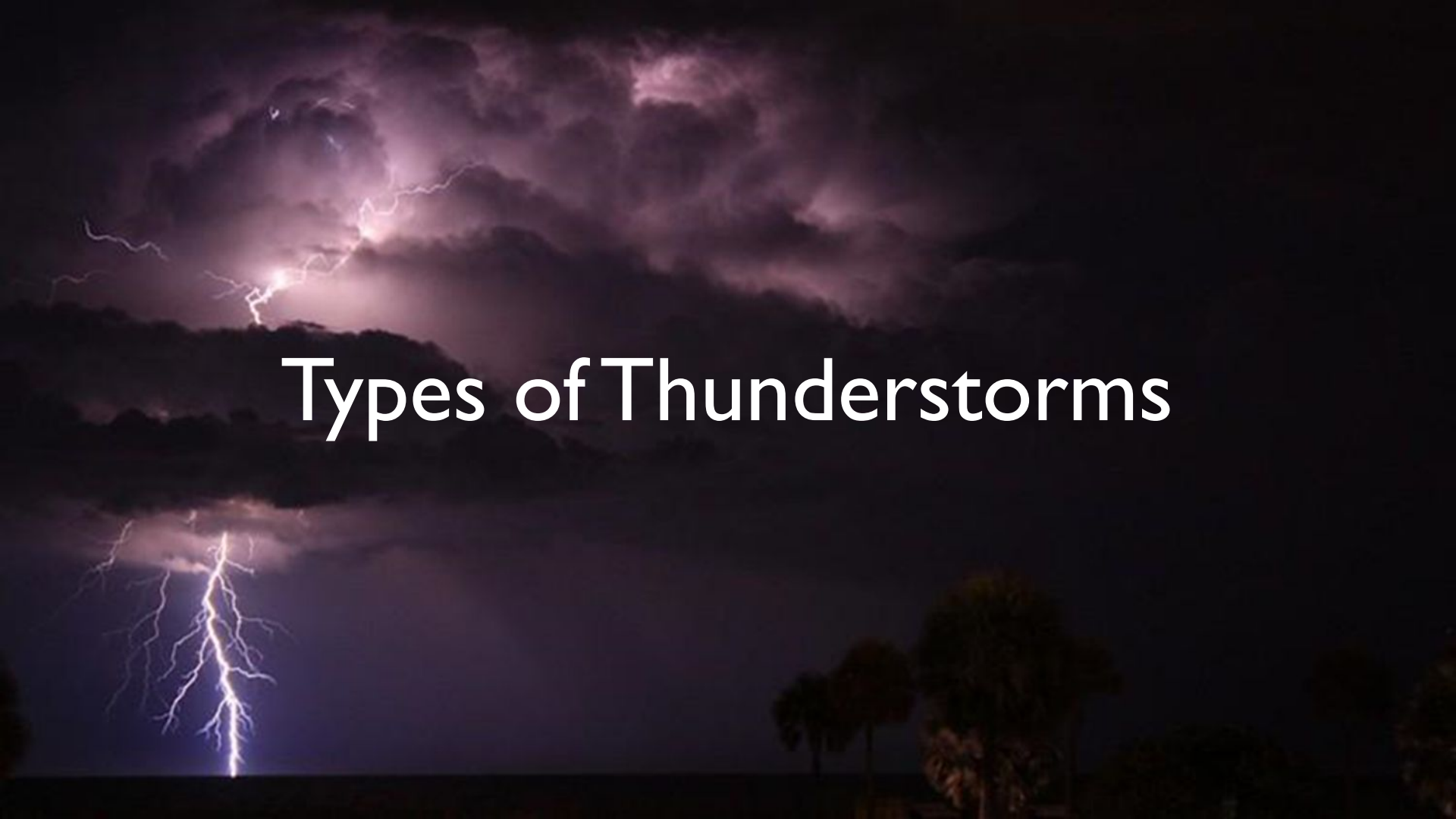


Wind **speed** changes with height

Thunderstorm Ingredients: **Wind Shear**

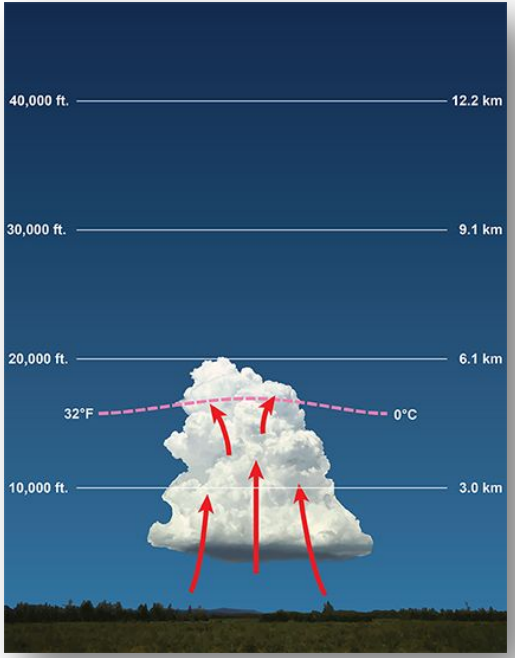
Low Wind Shear →
Rain falls through updraft, killing the short-lived storm. Lower chance for severe weather.

High Wind Shear →
Rain falls downwind of updraft and updraft remains intact. Higher chance for severe weather.

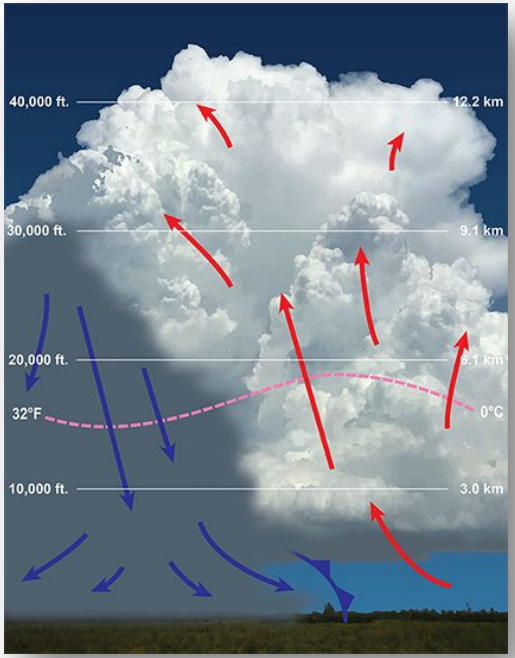


Types of Thunderstorms

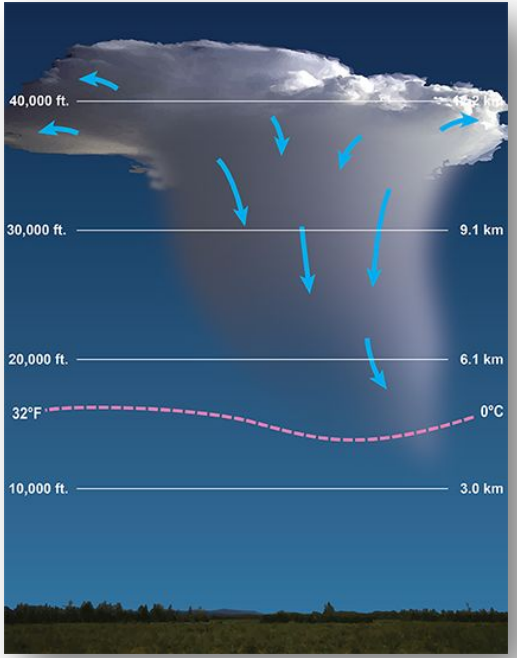
Ordinary Thunderstorms



Towering Cumulus

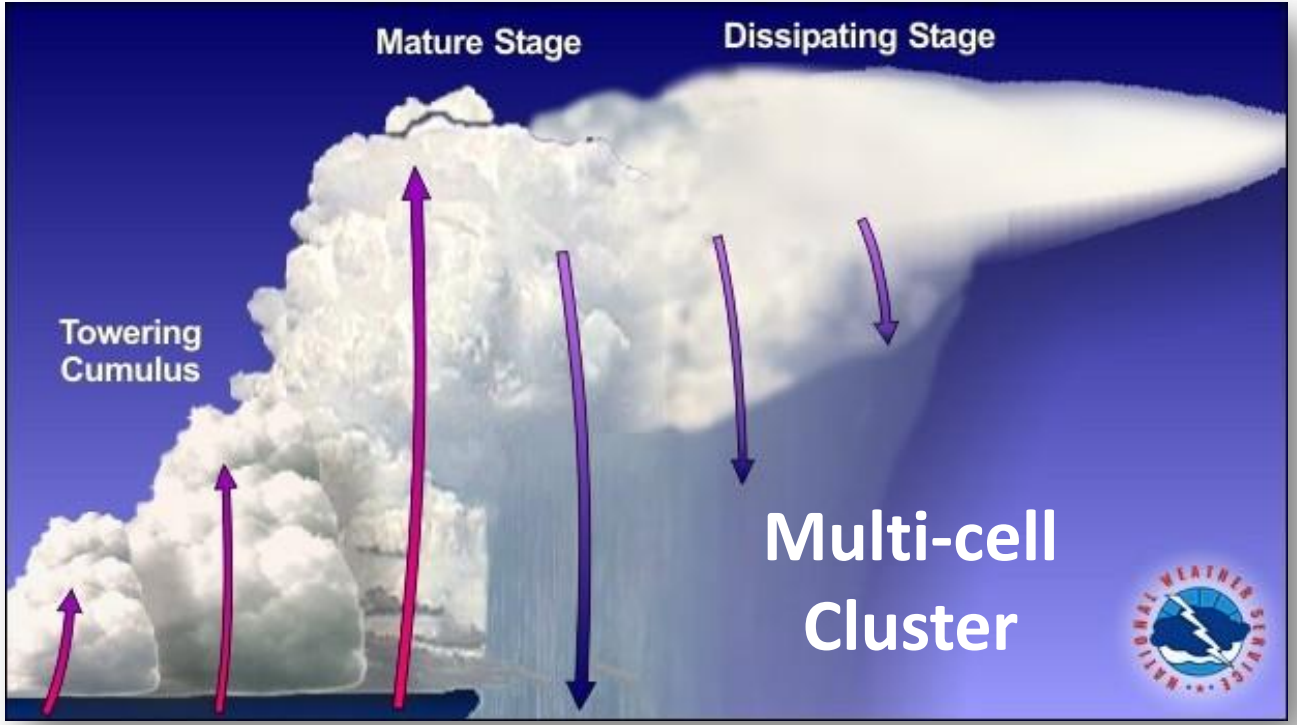


Mature Storm



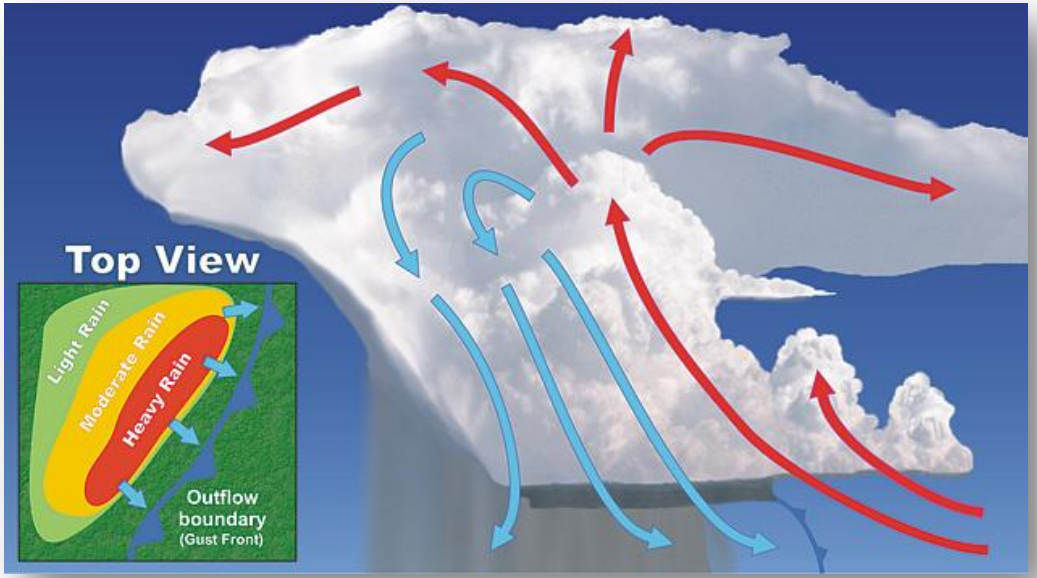
Dissipation

Multi-cell Thunderstorms



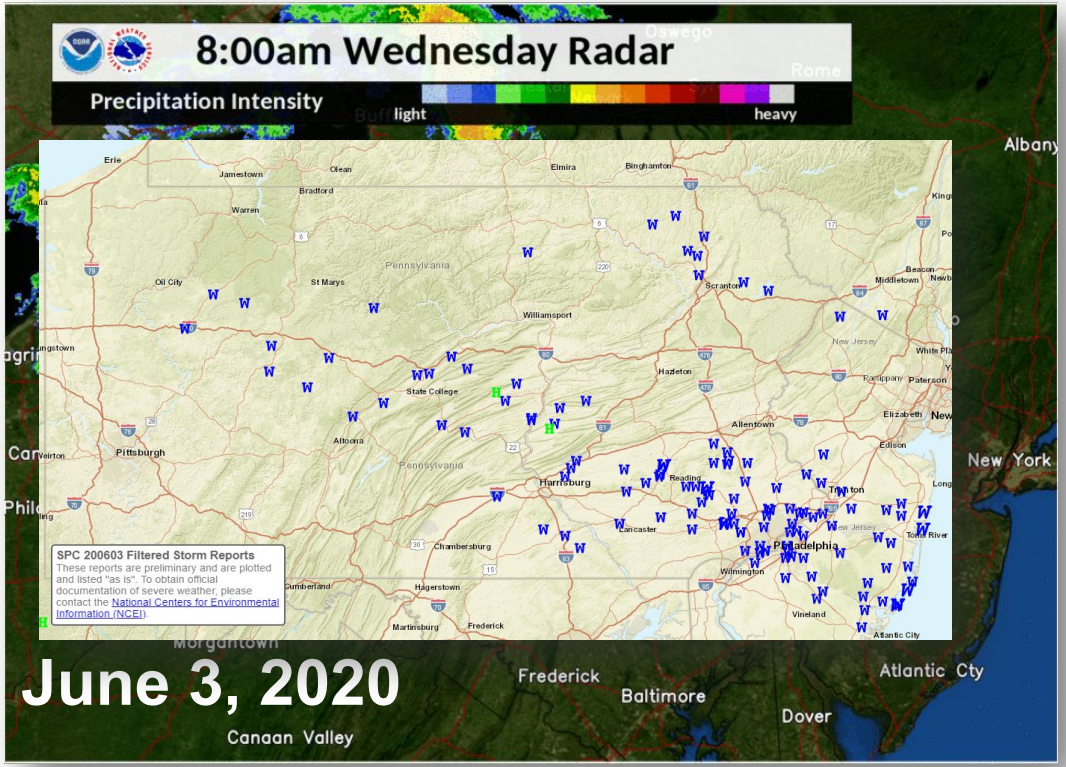
- Upper-level winds carry the first cell downstream with a new cell forming upwind of the previous cell.
- If the upper-level wind is opposite of the low-level winds, **backbuilding** can develop – leading to flash flooding.
- A line of multi-cell thunderstorms is called a squall line.

Squall Lines



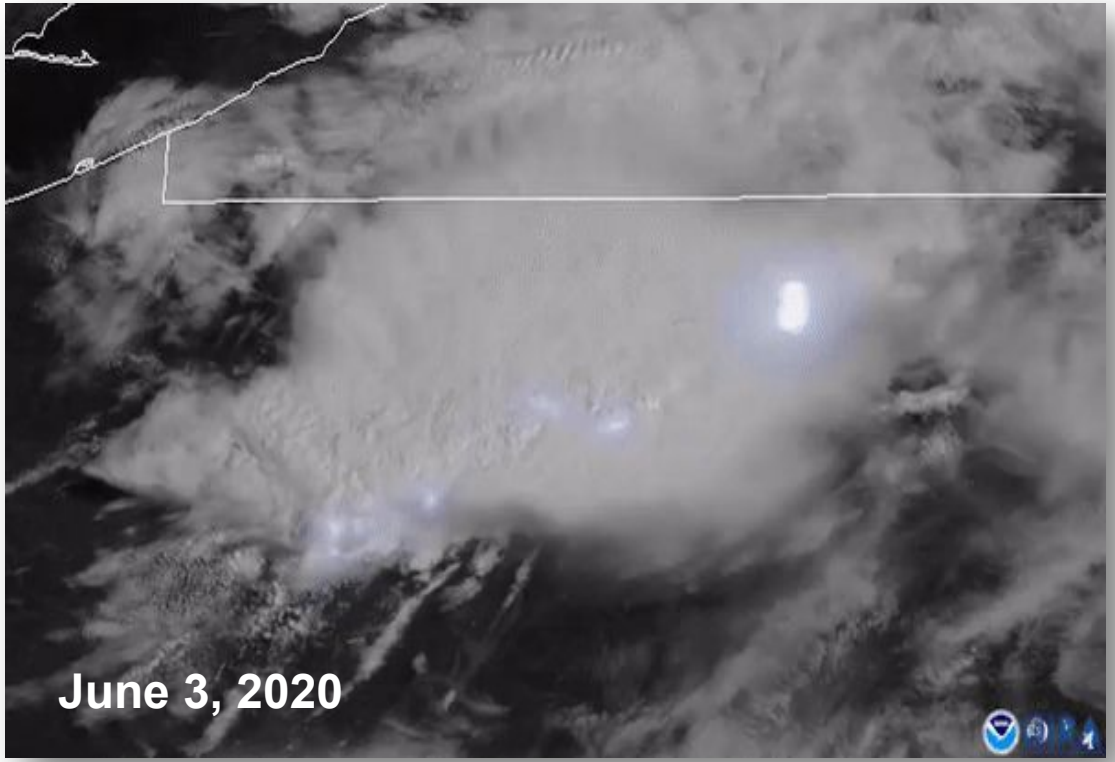
- New cells continually reform at the leading edge of a cold pool.
- Updrafts and downdrafts along the line can become strong, resulting in large hail and damaging winds.

Derechos



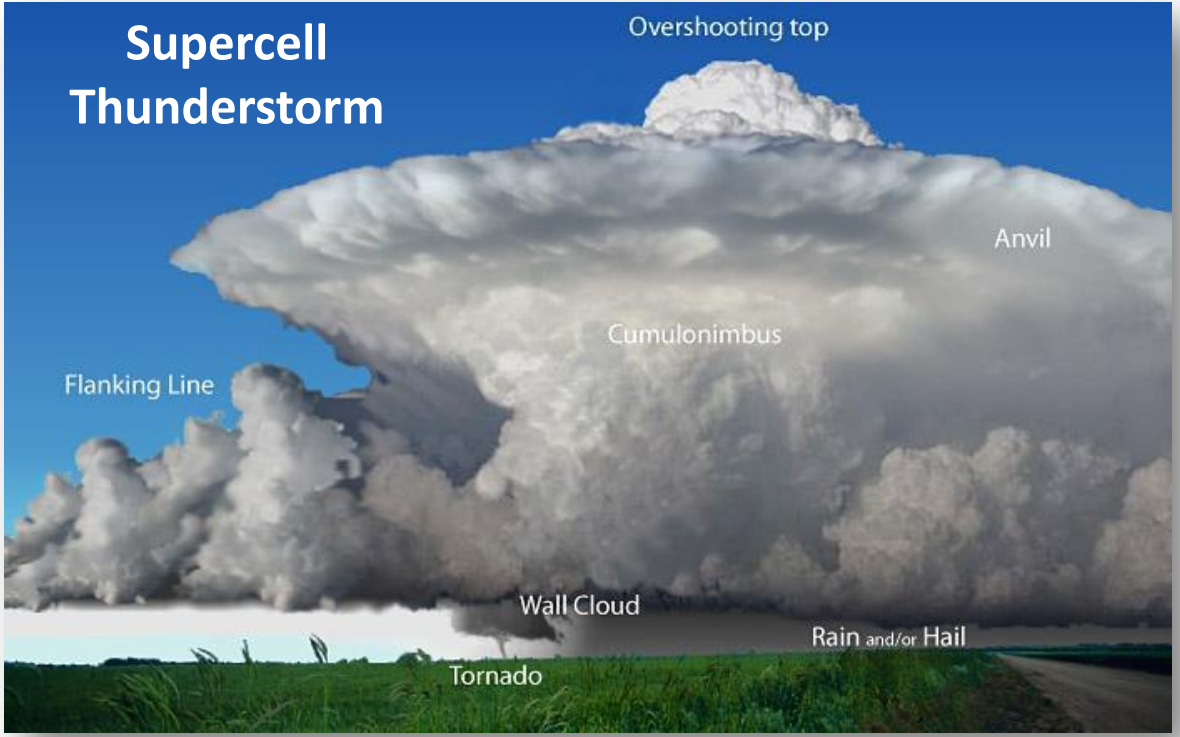
- Widespread, long-lived wind storm associated with a rapidly moving squall line or quasi-linear convective system
- Must include wind gusts of 58+ mph along most of its length.
- Must have several well-separated 75 mph wind gusts
- Wind damage swath must extend more than 250 miles

Derechos



- Widespread, long-lived wind storm associated with a rapidly moving squall line or quasi-linear convective system
- Must include wind gusts of 58+ mph along most of its length.
- Must have several well-separated 75 mph wind gusts
- Wind damage swath must extend more than 250 miles

Supercell Thunderstorms



- Characterized by **rotating updrafts** that can attain vertical velocities over 100 mph
- Supercells are responsible for producing the most extreme severe weather, including giant hail and violent tornadoes
- Downdrafts can produce downbursts/outflow winds in excess of 100 mph.
- Increased risk for tornadic supercells when winds turn clockwise with height (veering).

Types of Supercell Thunderstorms

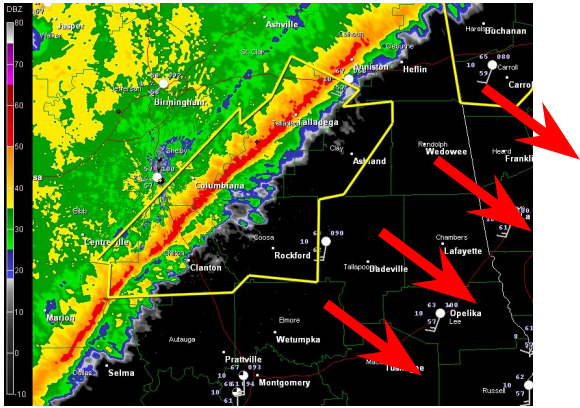
Low-Precipitation (LP) Supercell

High-Precipitation (HP) Supercell

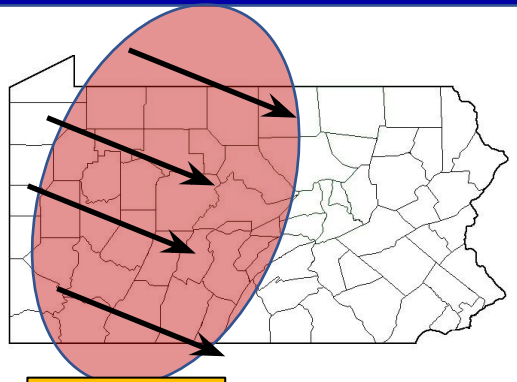
Thunderstorm Hazards

Straight Line Winds

- The most common type of wind damage we see here in Pennsylvania
- Result from a combination of the storm's forward motion, the transport of momentum from strong wind aloft, and the generation of storm-relative outflow as a downdraft descends to the ground
- Winds produce damage generally in a single direction, oriented parallel to the direction the storms were coming from
- Straight line winds may occur ahead of the actual "storm" at the leading edge (or gust front)



Straight Line Winds

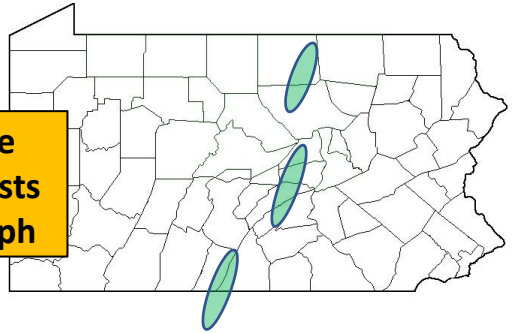


35 mph winds at 5000 feet

+

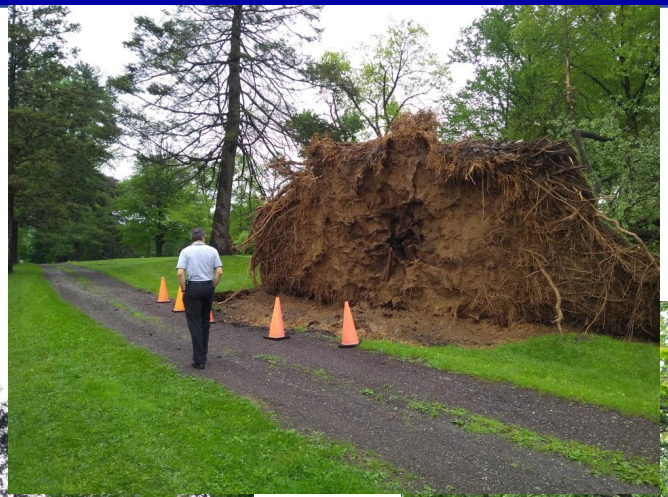
Downdraft-Enhanced Winds

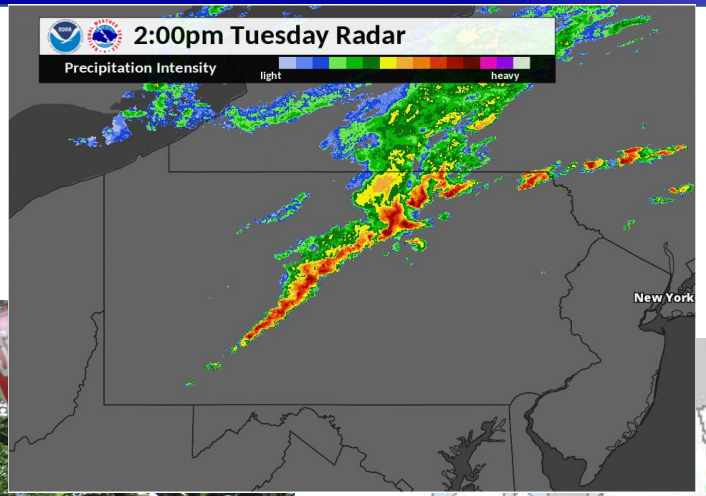
=

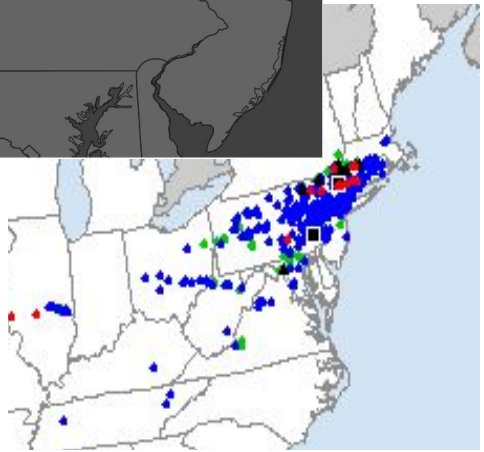


Surface wind gusts of 65 mph

Straight-line wind event May 15, 2018







Straight Line Winds

Damage shows a clear UNI-DIRECTIONAL pattern

STRAIGHT LINE WIND "footprint"

Shelf Cloud

- A low, horizontal wedge-shaped cloud associated with a thunderstorm gust front (or occasionally with a cold front, even in the absence of thunderstorms).
- Rising cloud motion often can be seen in the leading (outer) part of the shelf cloud, while the underside often appears turbulent, boiling, and wind-torn.
- If a shelf cloud becomes detached from the parent thunderstorm (e.g., in an outflow dominant storm) it becomes a roll cloud.

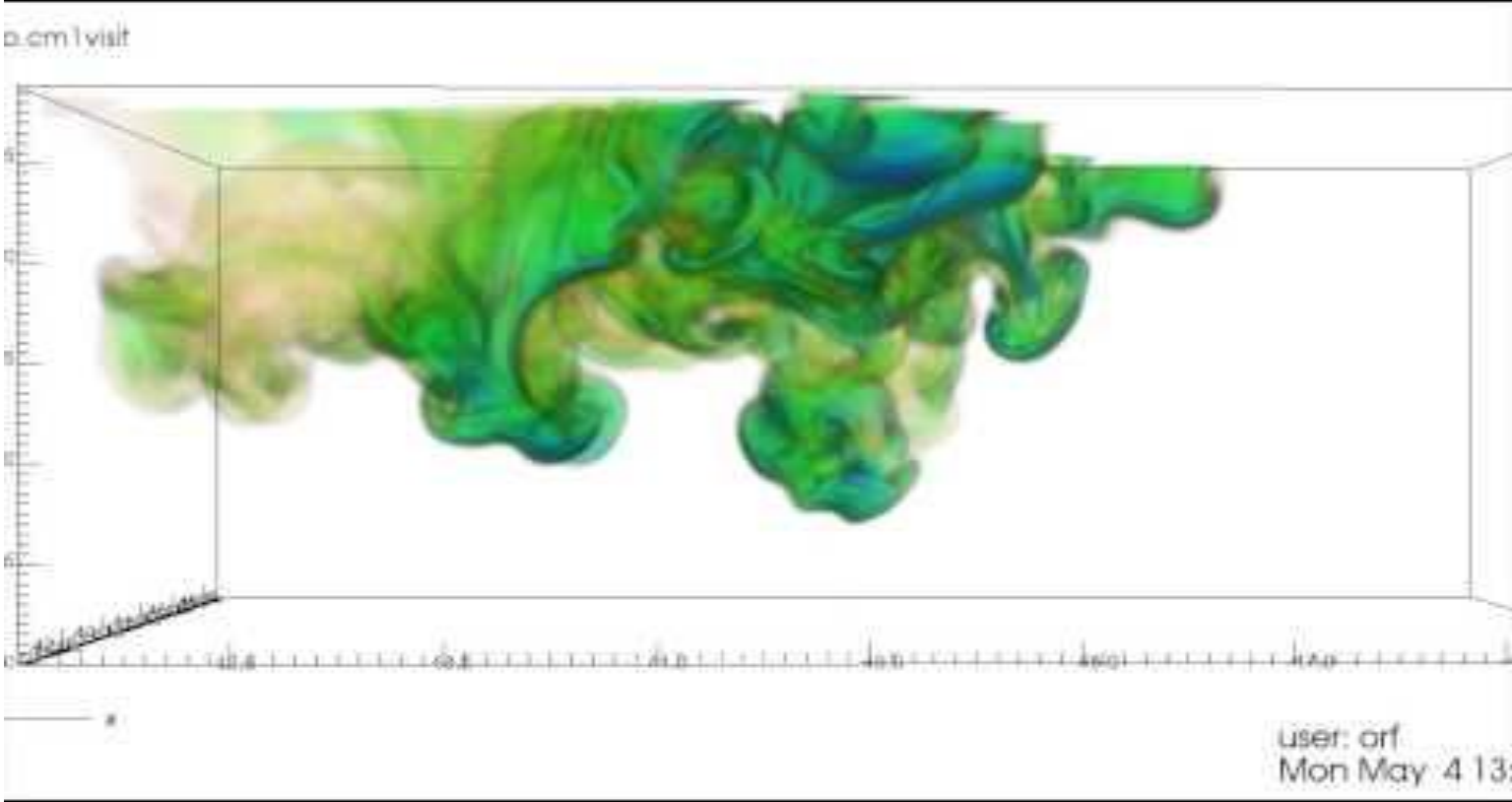
Downbursts

Downburst

- Strong straight-line winds caused by an exceptionally strong downdraft, where cold, dense air descends from above, hits the ground, and spreads out at the surface
- Downburst winds can exceed 100 mph!

- **Microburst** – Downburst wind damage covering an area 2.5 miles or less
- **Macroburst** – Downburst wind damage covering an area more than 2.5 miles

From Dr. Leigh Orf, University of Wisconsin - Madison



Downburst

Damage shows a clear DIVERGING pattern

DOWNBURST "fingerprint"


CAM1
2020-06-04 17:03:33

Tornado

- A rapidly rotating column of air in contact with the ground, attached to the base of a thunderstorm or convective shower
- About 1 in 10,000 thunderstorms produce a tornado
  - Tornadoes usually produce a very small and defined area of damage (swath/path)
- **Remember:** the amount of damage does not indicate whether or not there was a tornado!

Poll Question

On average, how many tornadoes occur in Pennsylvania each year?

- 0-10
- 10-20
- 20-30
- 30-40

Poll Question

On average, how many tornadoes occur in Pennsylvania each year?

- 0-10
- 10-20
- 20-30
- 30-40

Answer: 15

April 2019 – A record breaking month

County	Date	Hour	Rating
Crawford	4/14	6 PM	EF-0
Venango	4/14	7 PM	EF-0
Venango	4/14	7 PM	EF-0
Warren	4/14	8 PM	EF-2
Union	4/15	12 AM	EF-1
Columbia	4/15	1 AM	EF-2
Sullivan	4/15	1 AM	EF-1
Lackawanna	4/15	1 AM	EF-0
Susquehanna	4/15	1 AM	EF-1
Fulton	4/19	7 PM	EF-1
Franklin	4/19	7 PM	EF-2
Huntingdon	4/19	7 PM	EF-1
Juniata	4/19	7 PM	EF-1
Mifflin	4/19	7 PM	EF-2

Total 2019 Tornadoes: 14

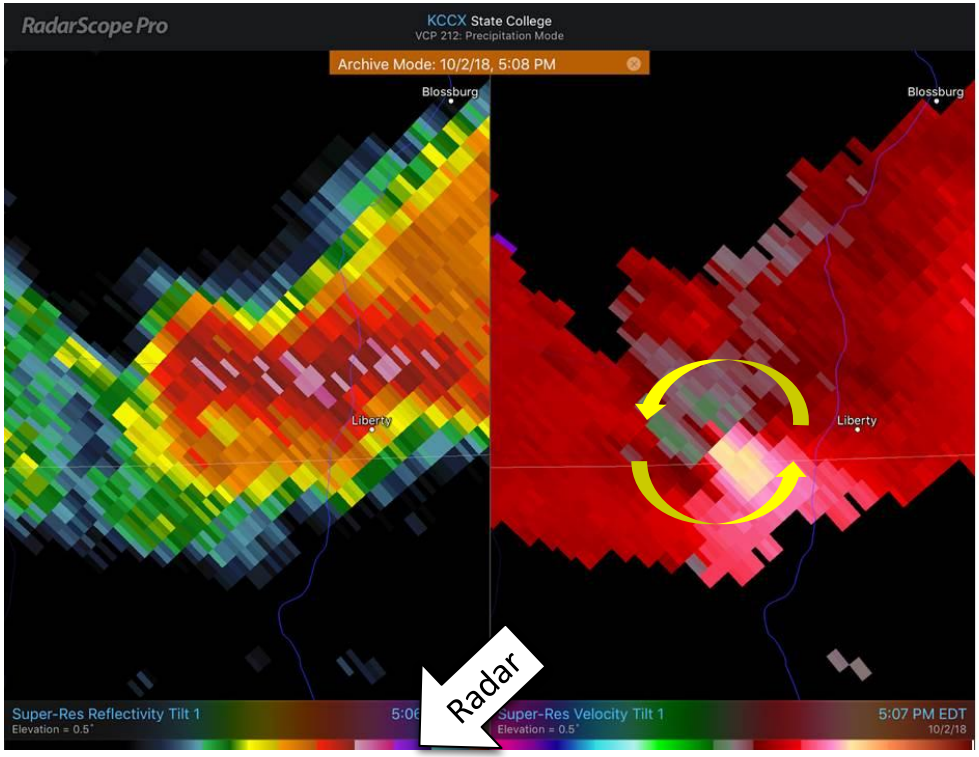
NEW Record for April

Previous: 11-1991

Strength	Count
EF-0 (65-85mph)	4
EF-1 (86-110mph)	6
EF-2 (111-135mph)	4

A look at a Tornado on Doppler Radar

- When radar samples a tornadic thunderstorm, it typically samples a rapidly rotating mesocyclone, *not* the tornado vortex itself
  - Rare exception: when a tornado passes very close to a radar



Tornadoes – Some Terms

Wall Cloud – A lowering (and often rain-free) section of a thunderstorm, indicative of a strong updraft

- A rotating wall cloud can be a sign that conditions within the storm are right for producing a tornado
  - But what are the low-level conditions below the storm?
- Typically smaller than a shelf cloud
- A Wall Cloud, while looking impressive, **is not causing damage!**

Funnel Cloud

Funnel Cloud – Fast spinning funnel descending from the thunderstorm cloud...but not yet reaching the ground

- Rotation is the key!
- Sign that conditions **within** the storm are right for producing a tornado
  - Again, what about conditions below the storm?
- A Funnel Cloud, while looking very impressive, is NOT causing damage.
  - But it may become a tornado soon!

A Couple Tornado Videos

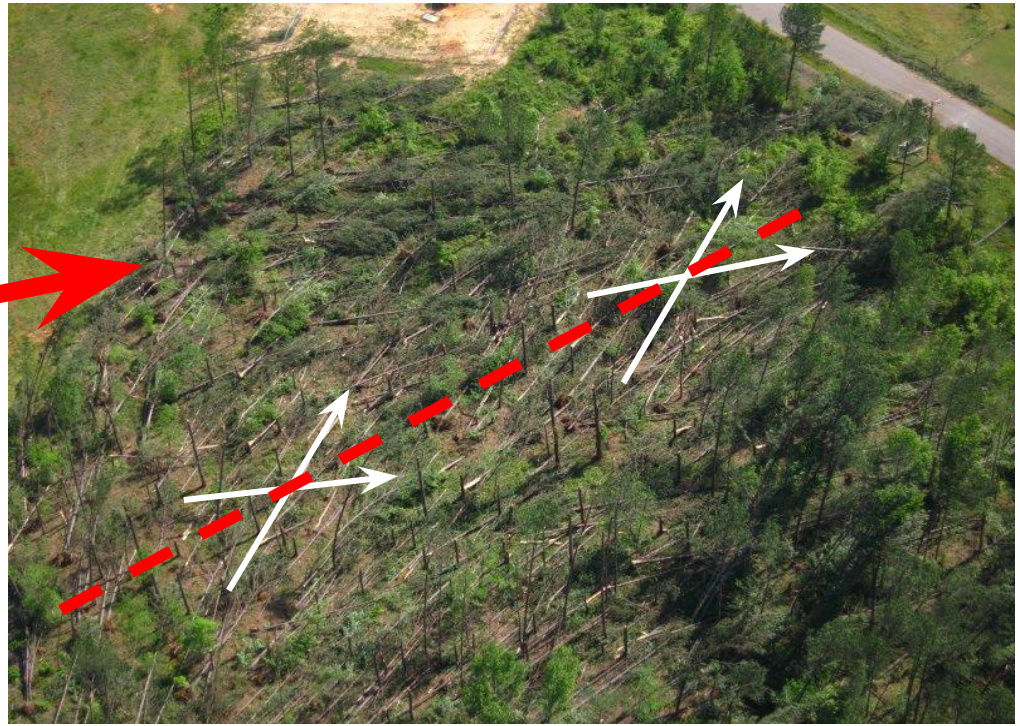
NWSStateCollege

weather.gov/statecollege


Tornado
Nanty-Glo, Pennsylvania

Tornado Damage

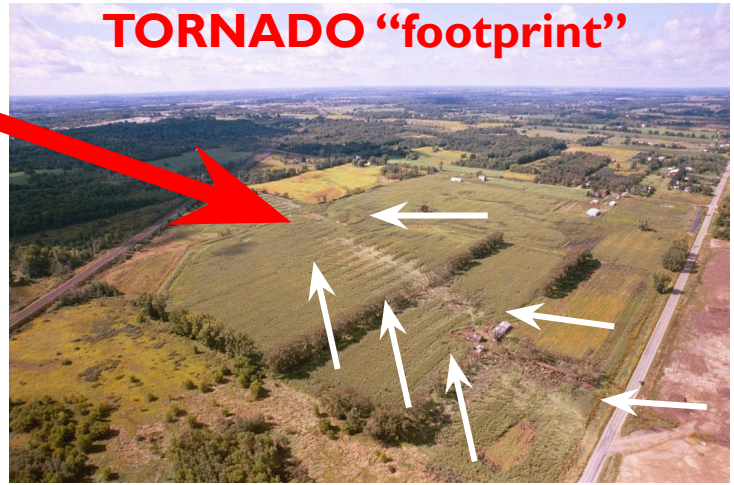
Damage shows a clear CRISS-CROSS pattern of convergence



TORNADO "footprint"

Tornado Damage

Damage shows a clear CONVERGENT pattern



Damage shows a clear CYCLONIC turning

TORNADO "footprint"

Tornado Damage– Oct 2, 2018

Poll Question

What would you report to the NWS if you saw this?

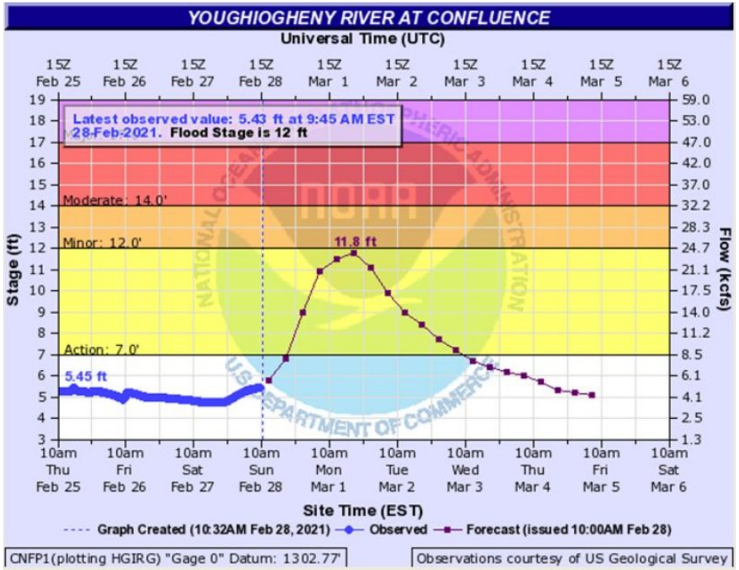
- Nothing
- Tornado
- Damaging Winds
- Funnel Cloud

Flooding/Heavy Rain

Photo: Mike Brulo

River Flooding

- Forecasts handled by the River Forecast Center
  - These are for specific, gauged locations along Main Stem Rivers and large tributaries
  - Locations where it takes more than 6 hours for the waterway to respond to heavy rainfall
    - Many streams and creeks are ungauged, and are covered by Flood and Flash Flood products
  - River Forecasts are driven by....
    - Time of Year (foliage)
    - Routing of upstream water
    - Reservoir and Dam releases



water.weather.gov

Click on your location on the map

FLOOD ALERTS

FLOOD WATCH

Flooding is possible.

Be prepared.

Stay tuned for further info and be ready to move to higher ground.

FLOOD ADVISORY

Flooding is imminent.

Exercise Caution.

Rivers and streams rise. Water may pond on roads and in urban areas.

FLOOD WARNING

Significant flooding is imminent.

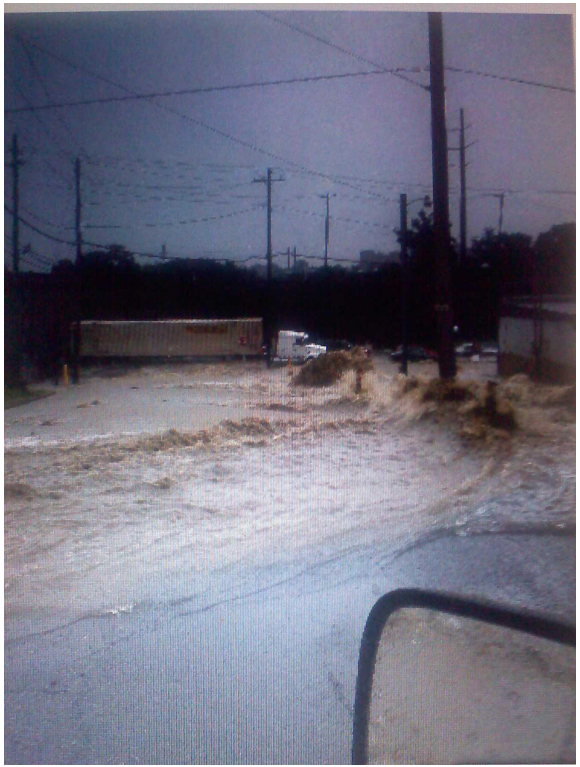
Take Action.

Move to higher ground. **Never drive through flooded roadways**.

@NWSStateCollege

Flash Flooding

- Rapid Rises on small (ungauged) streams and creeks
  - Mainly driven by...
    - Slow moving, heavy rain producing thunderstorms
    - Repeated rainfall over the same area
    - Dam Breaks
  - These streams and creeks respond in minutes to a few hours after a heavy rain event
  - Major threat to LIFE and PROPERTY
  - Long duration moderate rain may also cause flooding, but at a slower rate.



Areal Flooding

- Slower Rises on small (ungauged) streams and creeks
  - Mainly driven by...
    - Slow moving, prolonged rain events
    - Repeated rainfall over the same area
  - Situations where streams and creeks respond after several hours of rain
  - More of a threat to PROPERTY than LIFE

Spotter Reporting Guidelines

Poll Question

True or False: It is safe to chase storms, especially at night

a. True

b. False

Poll Question

True or False: It is safe to chase storms, especially at night

a. True

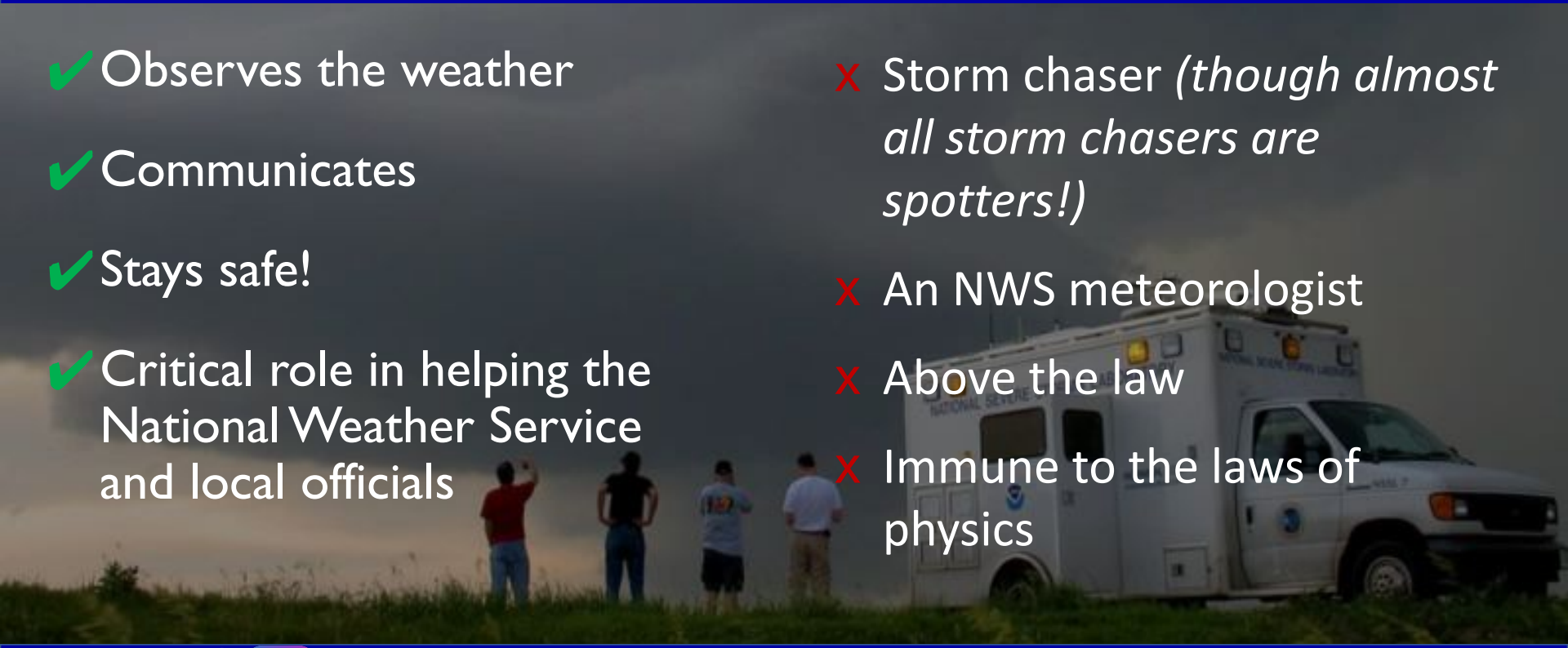
b. False

What a spotter IS

- ✔ Observes the weather
- ✔ Communicates
- ✔ Stays safe!
- ✔ Critical role in helping the National Weather Service and local officials

What a spotter ISN'T

- x Storm chaser *(though almost all storm chasers are spotters!)*
- x An NWS meteorologist
- x Above the law
- x Immune to the laws of physics



What to Report

Time	Location	Condition	Source
When did it occur?	**Where?** *(Unsure? Give us a nearby intersection or landmark and we'll figure it out!)*	**What are you reporting?**	**Who are you?**

"Hi, this is John. I'm one of your spotters and I'm calling to report hail. I'm located in Lancaster City and we've got at least quarter size hail falling right now, maybe larger."

Reporting Tips

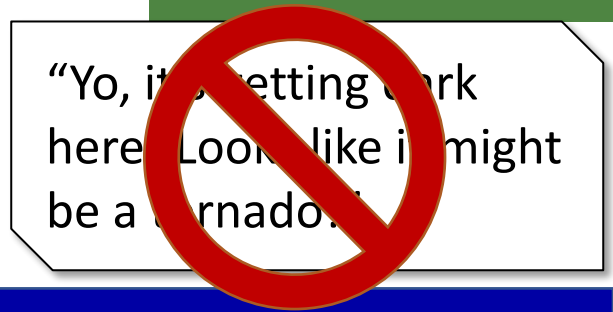
1. Late reports are okay (but please call us on the phone as soon as you can safely do so if you see a tornado)
2. We really appreciate your pictures and videos
3. Please remember to tell us where you are, even if it's just a highway and a city reference

Time

Location

Condition

Source



Storm Reports for the National Weather Service

Time

When did it occur?

Location

Where?

(Unsure? Give us a nearby intersection or landmark and we'll figure it out!)

Condition

What are you reporting?

Source

Who are you?

Wind Damage

- *Uprooted or downed trees*
- *Large branches down*
- *Wires down*
- *Damaged infrastructure*
- *Include photos if possible*

Hail

- *Hail of any size*
- *Please measure hail with a ruler or a common object for accurate sizing*
- *If possible, measure the weight and include photos*

Tornadoes and Funnel Clouds

- *Visible rotation in a wall cloud*
- *Funnel cloud*
- *Tornado*
- *Include photos if possible*

Flooding

- *Any significant (uncommon) flooding*
- *Water over roads*
- *Streams rising to near bank full*
- *Include photos if possible*

Storm Reports for the National Weather Service

Time

When did it occur?

Location

Where?

(Unsure? Give us a nearby intersection or landmark and we'll figure it out!)

Condition

What are you reporting?

Source

Who are you?

Snow

- *Snowfall – During the Storm (nearest 1/10 of an inch)*
  - *Report when accumulations reach thresholds*
- *Snowfall – Storm Total (nearest 1/10 of an inch)*
  - *Report as soon as you can after the storm ends*
- *Snow Depth – TOTAL snow on the ground (nearest inch)*
  - *Might be the result of multiple storms*
  - *Remember, snowfall ≠ snow depth*
- *Snowfall RATES*
  - *1 inch or more per hour (that's pretty heavy snow!)*
  - *Visibility restrictions below ¼ mile*

Sleet

- *Any occurrence and any accumulation*

Freezing Rain

- *Any occurrence*
- *Measuring on branches is easiest*
- *Tougher on sidewalks, driveways*
- *Remember to divide by 2 if measuring total ice accumulation on a branch!*

How to Report

UNLISTED:
800-697-0010
LISTED:
814-954-6440

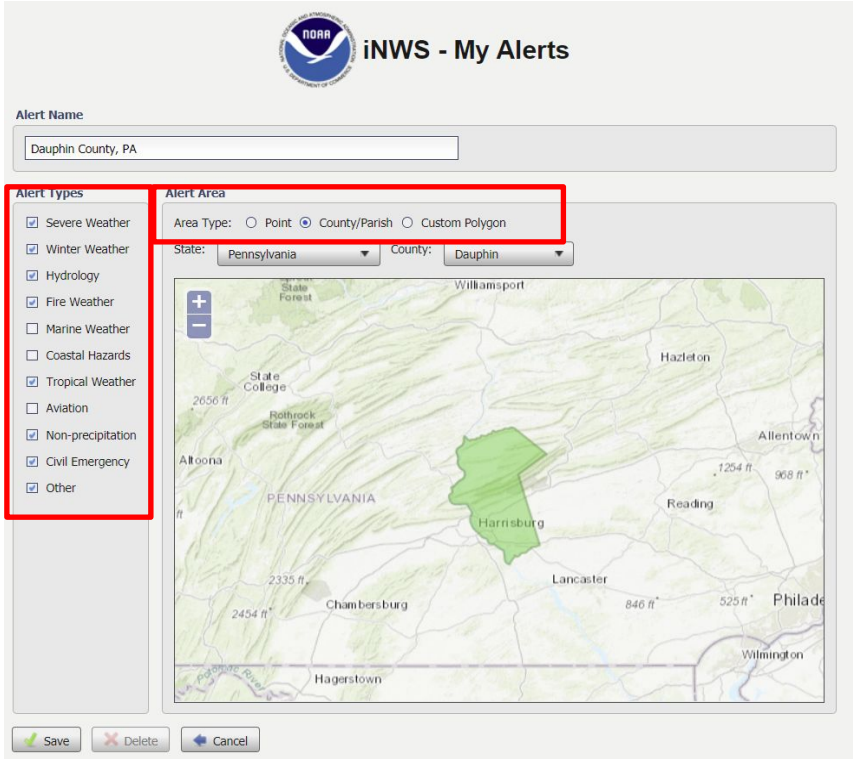
@NWSStateCollege
#PAwx

US National
Weather Service
State College, PA

ctp.stormreports@noaa.gov

How to Receive Weather Alerts

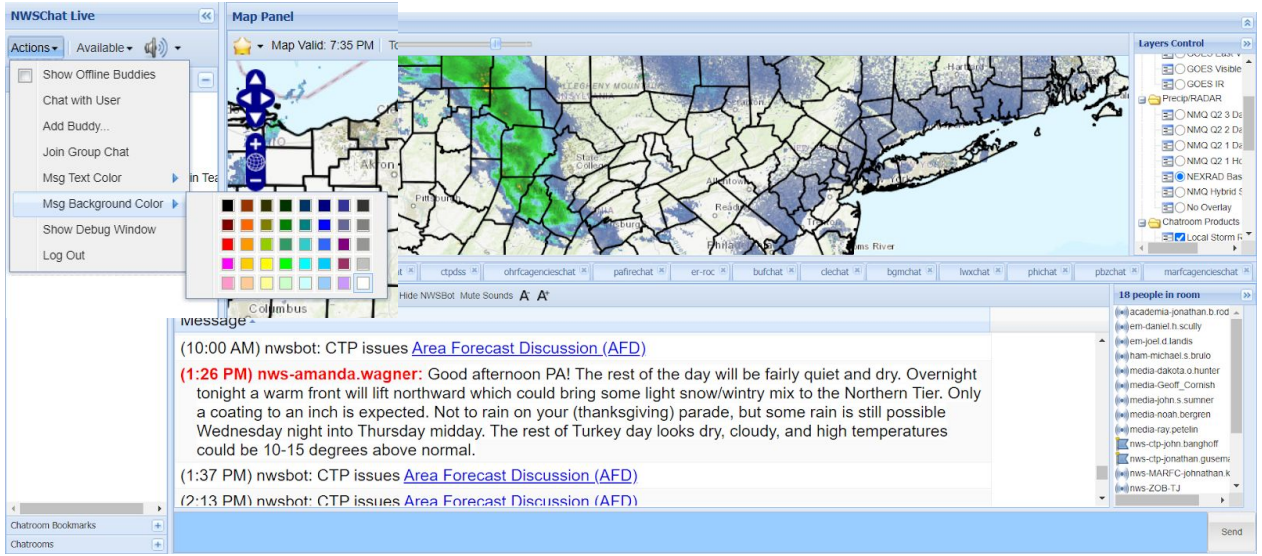
Select which alerts you want to receive (recommendations shown here)



Choose whether you want to be alerted for a point (town), county, or custom-drawn polygon

https://inws.ncep.noaa.gov

NWSChat

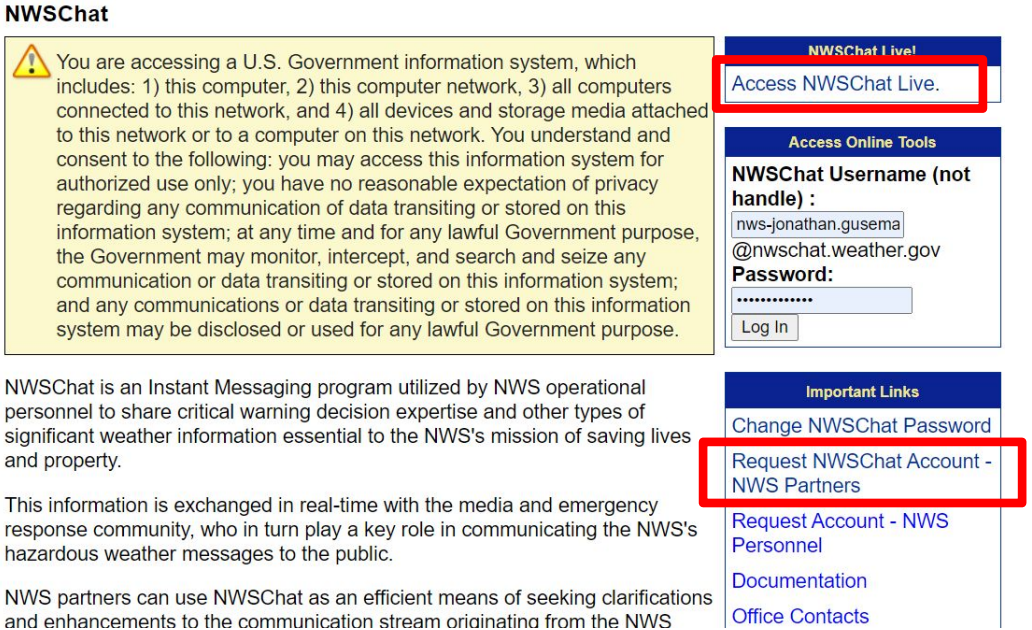


ctpchat

- **NWS**
  - **Blue**
- **EMs**
  - **Red text on white background**
- **Media**
  - **Green**
- **Transportation**
  - **Yellow**
- **Others**
  - **Purple**

NWSChat

https://nwschat.weather.gov



NWSChat

https://nwschat.weather.gov

1. Agree to Terms

☐ I have read and agree to the terms of use .

2. Requested NWSChat Username (must be lowercase!)

This is your username which you will use to log into the chat server. This username is much like an email address, so the same formatting rules apply (no spaces, no apostrophes, no specia characters, etc.)

Option 1: Fill out this form to generate my NWSChat username. Note: First and Last name must be your actual name. Generic or group accounts are not allowed.

Prefix / Affiliation:	First Name:	Middle Initial (optional):	Last Name:
Academia -	.	.	

Option 2: If you believe the above format does not apply, or you are unsure as to which prefix/affiliation to choose, please email the nwschatadmin@noaa.gov team and explicitly state your NWSChat Username preference.

3. Common Name on Account

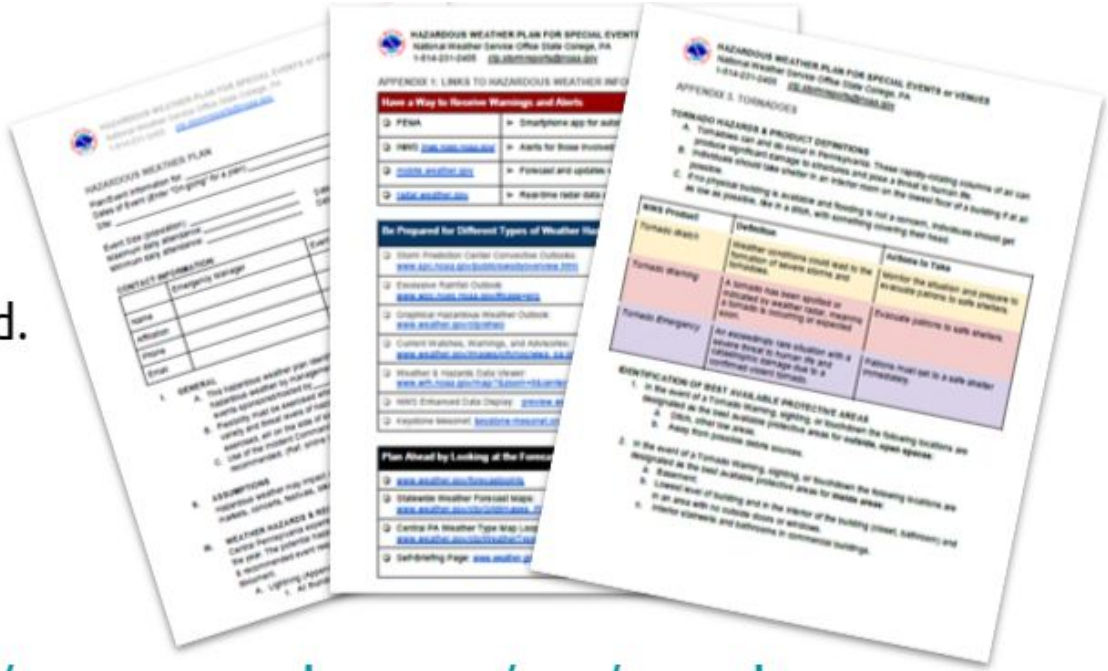
This is the name that your account will appear to others as in their Buddy List. You should enter something descriptive of you and your organization. (Nothing greater than 36 characters)

- Include your call letters, if you are media (Ex: kxyz-chief.meteorologist or KPXTV-Jane.Doe)
- Include your geography, if you are an ema (Ex: fulton-ga-ema-lastname)
- Include your agency and office, if you are government (Ex: faa-memphis-lastname)
- If fire or law/dispatch, include your jurisdiction and at least your last name
- If amateur radio, include your callsign (Ex: ARES-Smith-County-WD0TWU-Johnson

Please give your affiliation & jurisdiction

Hazardous Weather Action Plan

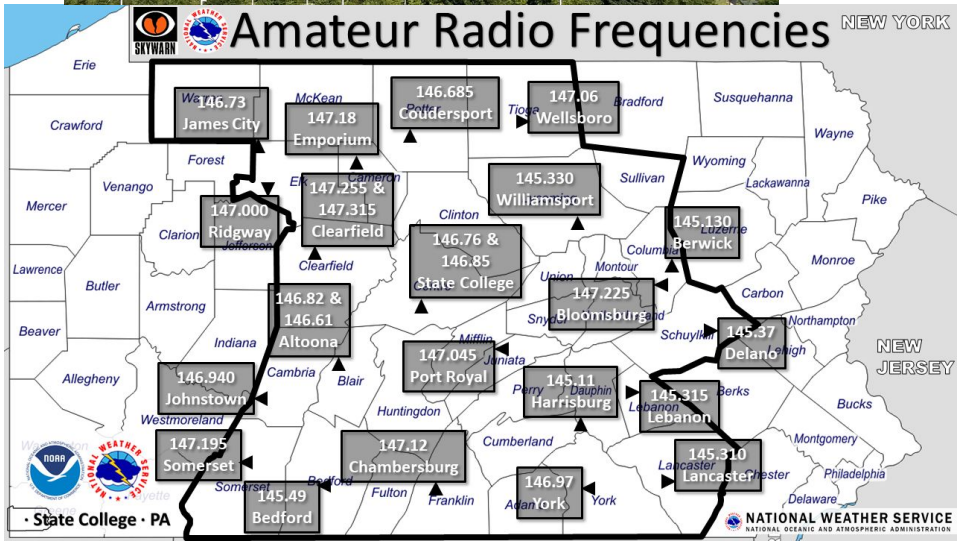
- Contact information, relevant links, hazard-specific response.
- Appendix for each hazard.
- **Completion will be required to receive support from NWS State College.**



https://www.weather.gov/ctp/weathersupport

Amateur Radio

- NWS State College Call Sign: **WX3CTP**
- We can monitor most of the frequencies listed from the office.
- **ACTION ITEM**: build out contact database for amateur radio throughout the NWS State College weather forecast area.
- Want point of contact for each county
  - EM or Skywarn/Amateur Radio group
  - Best way to do this?



Upcoming Spotter Talks

Weather-Ready Nation Ambassadors

https://www.weather.gov/wrn/amb-tou

What's next?

EMAIL WILL BE SENT OUT TOMORROW

What to expect:

- Are you a spotter already?
- Contact Information
- Course Evaluation

NOT A SPOTTER YET?

- You'll receive a spotter confirmation letter.
  - Please be patient as we process 200+ registrants.

A note about spotter IDs

- We are discontinuing issuance of Spotter IDs
- If you already have one – you can keep!
- If you don't have one yet, we'll just ask for your name!

SKYWARN Registration and Course Evaluation

Please scan the QR code to complete your SKYWARN registration.

We also appreciate any and all feedback about the course. Negative or positive, don't be shy!

Thank You!

STATE COLLEGE, PA

ctp.stormreports@noaa.gov

@NWSStateCollege

NEW!

@NWSStateCollege

/NWSStateCollege

/NWSStateCollege

www.weather.gov/ctp

Any Questions?