

# 2021/2022 Winter Outlook & Services Update

Tony Edwards, NWS Charleston, WV  
[tony.edwards@noaa.gov](mailto:tony.edwards@noaa.gov)



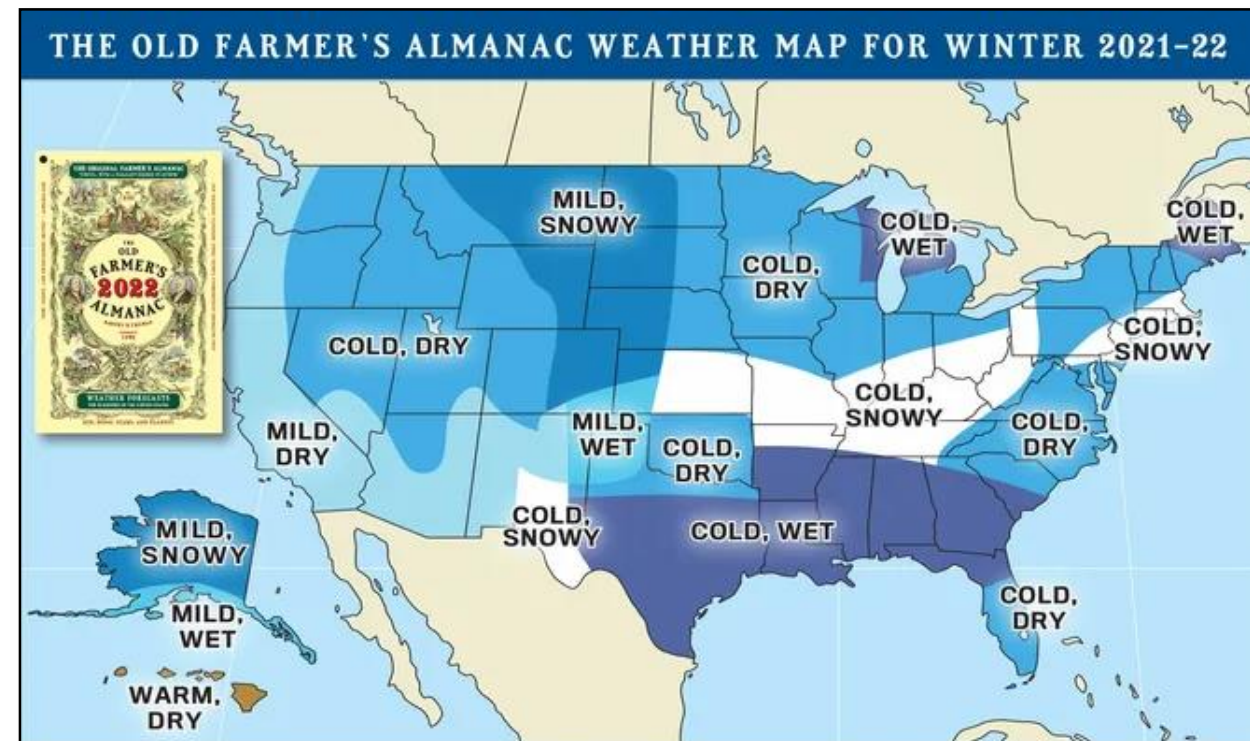
# 2021/2022 Winter Outlook & Services Update

## Agenda

- **NOAA Winter Outlook**– What it means for our region.
- **NWS Product/Services Updates**
  - Changes to the Winter Weather Forecast pages
  - Using the Winter Storm Severity Index and Graphical Hazardous Weather Outlook to gauge winter weather impacts
  - Flood product simplification
  - Rainfall Monitoring webpage
  - Snow Squall Warning and Wireless Emergency Alerts (WEA)
  - Non-Weather Emergency Message alerting
- **Question/Answer**



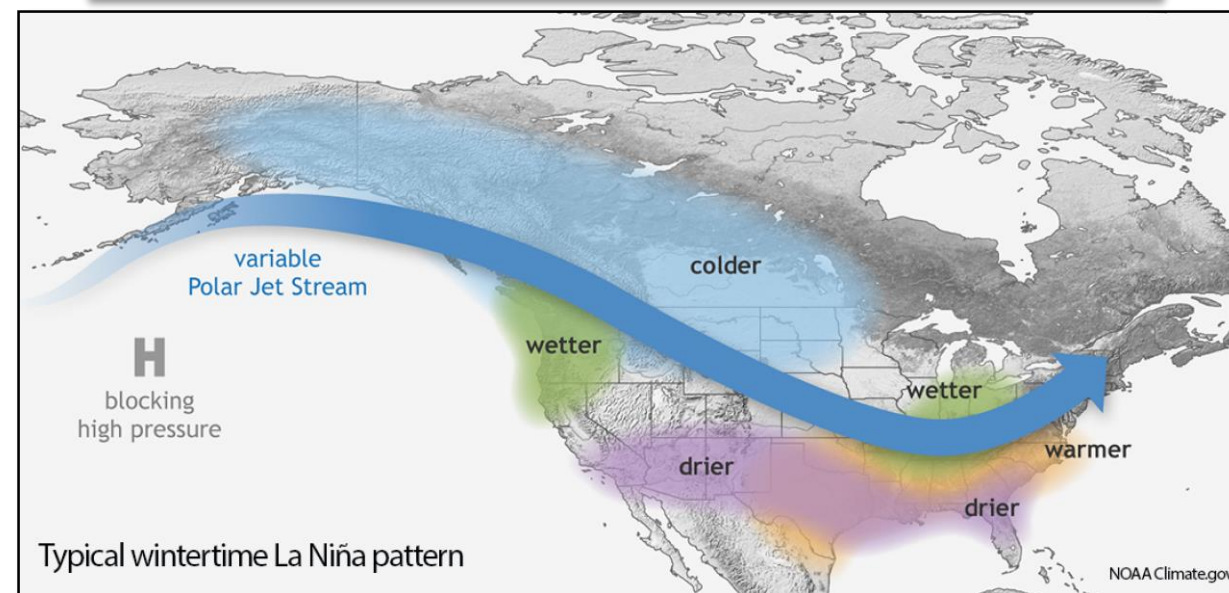
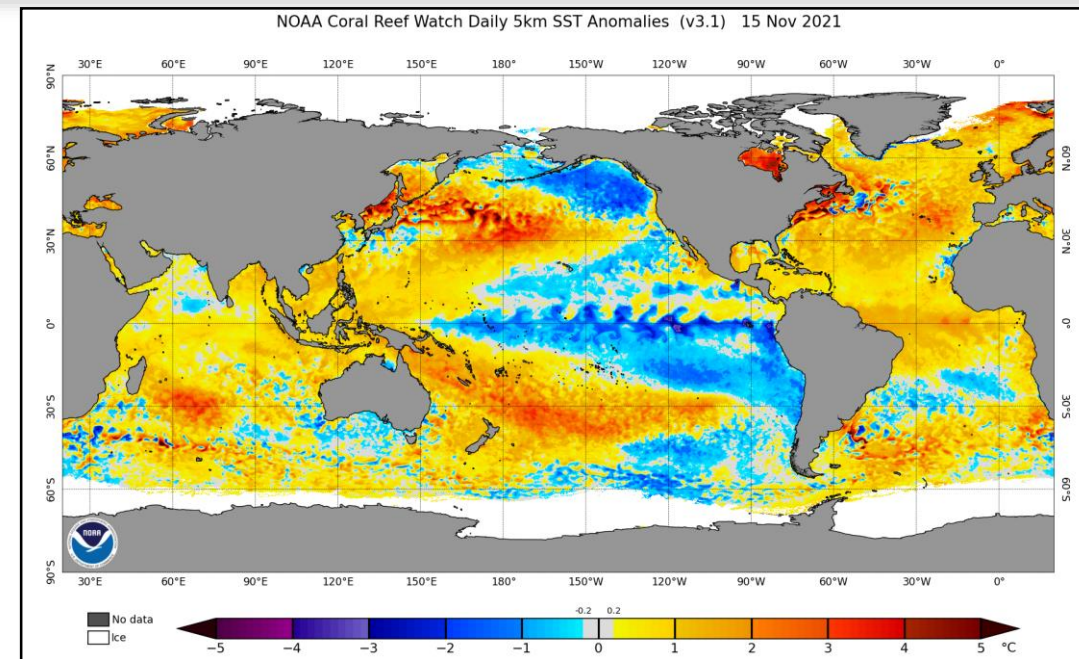
# NOAA Winter 2021/22 Outlook





# NOAA Winter 2021/22 Outlook

- La Nina is a pattern of abnormally cool water temperatures in the central Pacific Ocean which has long reaching impacts on the weather across the Northern Hemisphere.
- A moderate La Nina is forecast this winter.
- A typical La Nina winter features a storm track that favors a wetter than normal winter across the Ohio Valley with warmer than normal temperatures over the Mid-Atlantic and Southeast United States.
- La Nina was the main influence on our weather pattern last winter as well.



## Winter 2021



### Precipitation Outlook

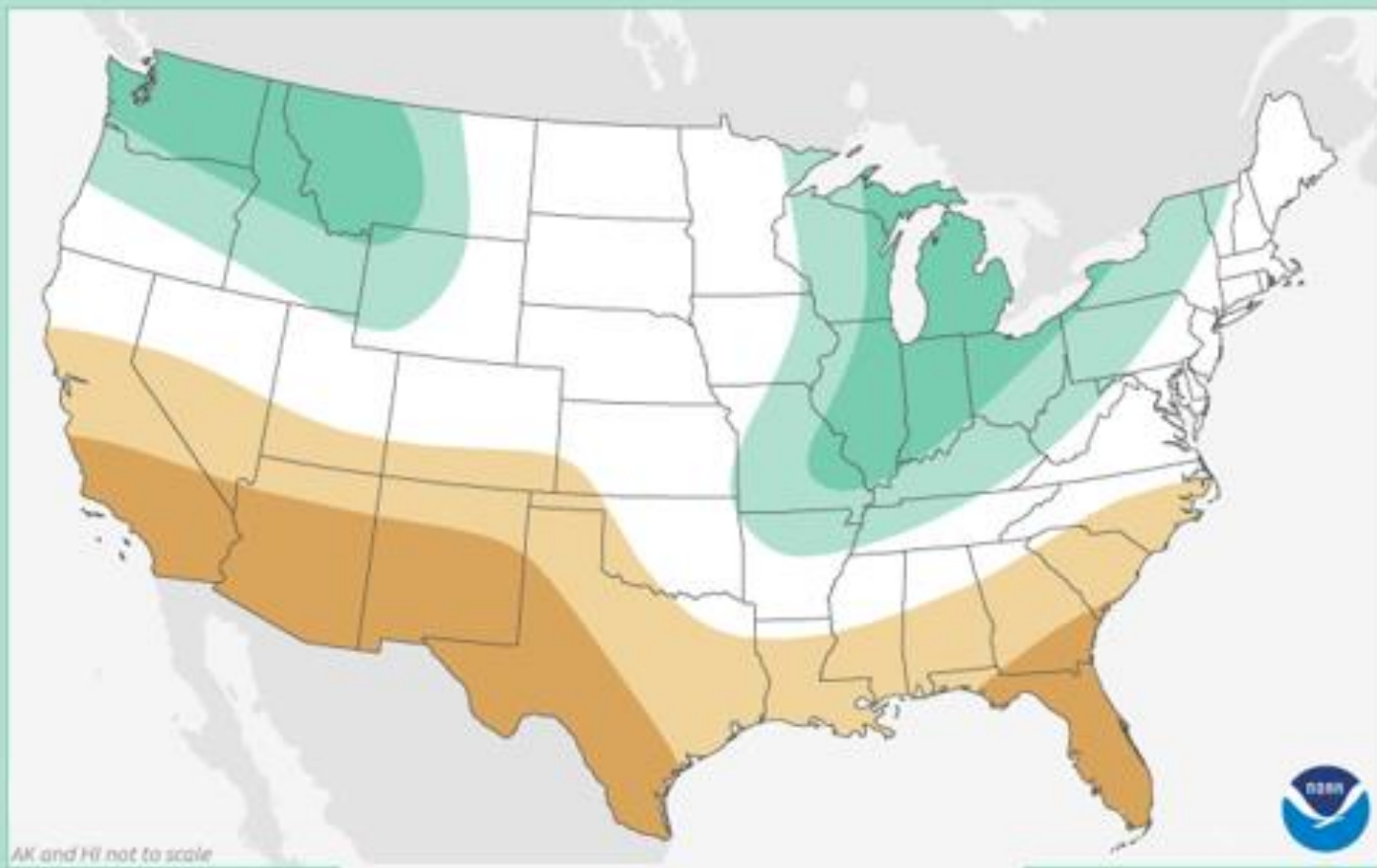
### OHIO VALLEY:

PORTIONS OF THE OHIO VALLEY WILL HAVE THE GREATEST CHANCES FOR WETTER THAN AVERAGE CONDITIONS

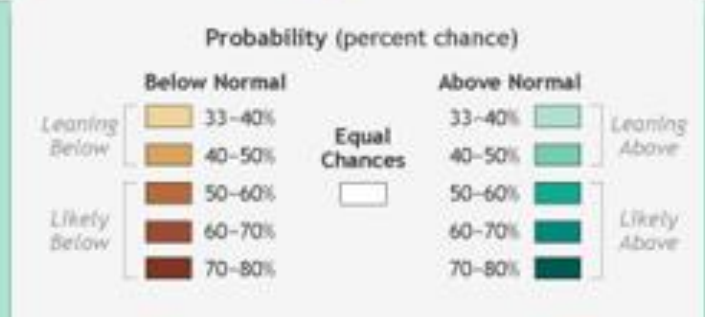
### ELSEWHERE:

DRIER THAN AVERAGE CONDITIONS ARE FAVORED IN SOUTHERN CALIFORNIA, THE SOUTHWEST, AND THE SOUTHEAST

THE FORECAST FOR THE REMAINDER OF THE U.S. SHOWS EQUAL CHANCES FOR BELOW- NEAR- OR ABOVE-AVERAGE PRECIPITATION DURING THE WINTER MONTHS



AK and HI not to scale



## Winter 2021

Temperature Outlook



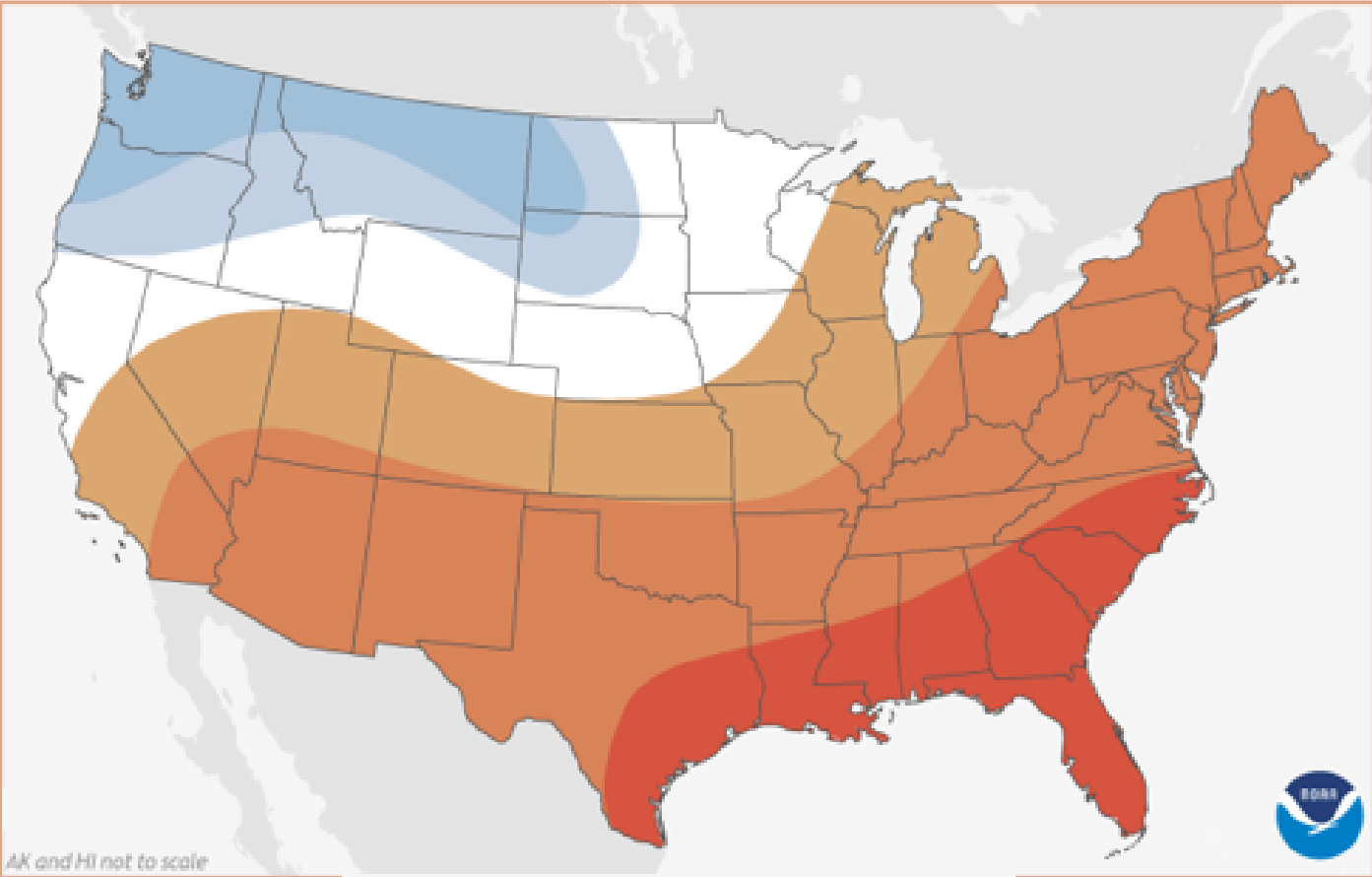
### OHIO VALLEY:

THE OHIO VALLEY WILL MOST LIKELY SEE ABOVE NORMAL TEMPERATURES THIS WINTER

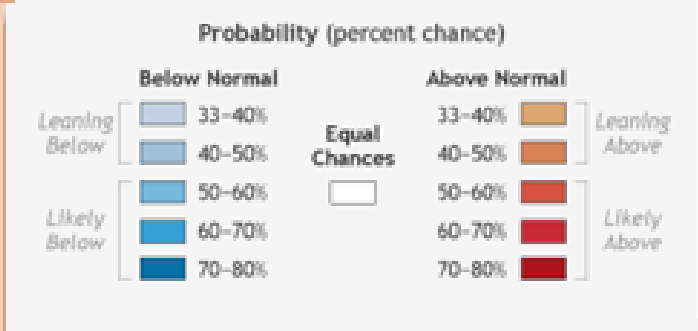
### ELSEWHERE:

BELOW AVERAGE TEMPERATURES ARE FAVORED FOR SOUTHEAST ALASKA AND THE PACIFIC NORTHWEST INTO THE NORTHERN PLAINS

WARMER THAN AVERAGE CONDITIONS ARE MOST LIKELY ACROSS THE SOUTHERN TIER OF THE U.S. AND MUCH OF THE EASTERN U.S.



AK and HI not to scale



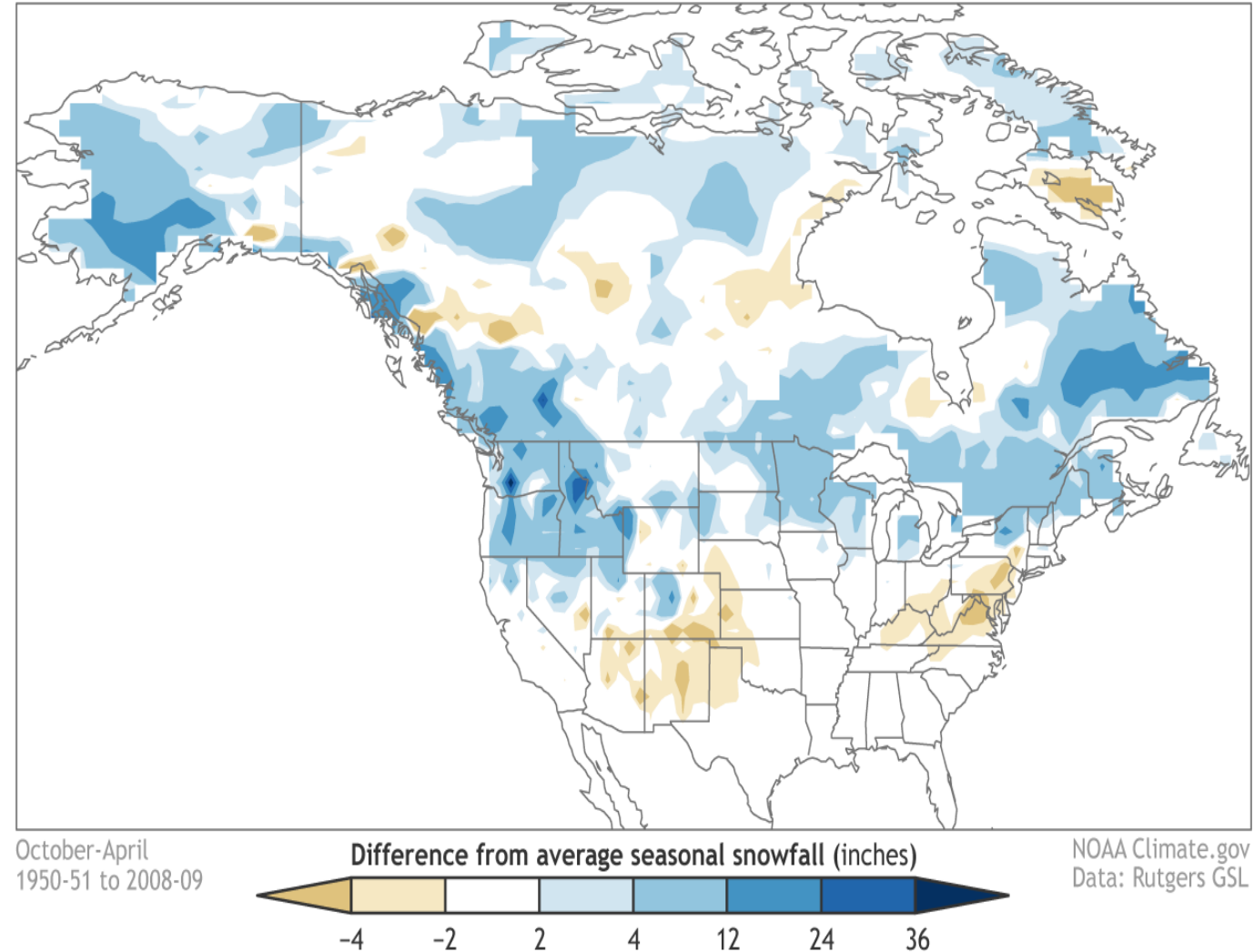


# NOAA Winter 2021/22 Outlook

## What About Snowfall?

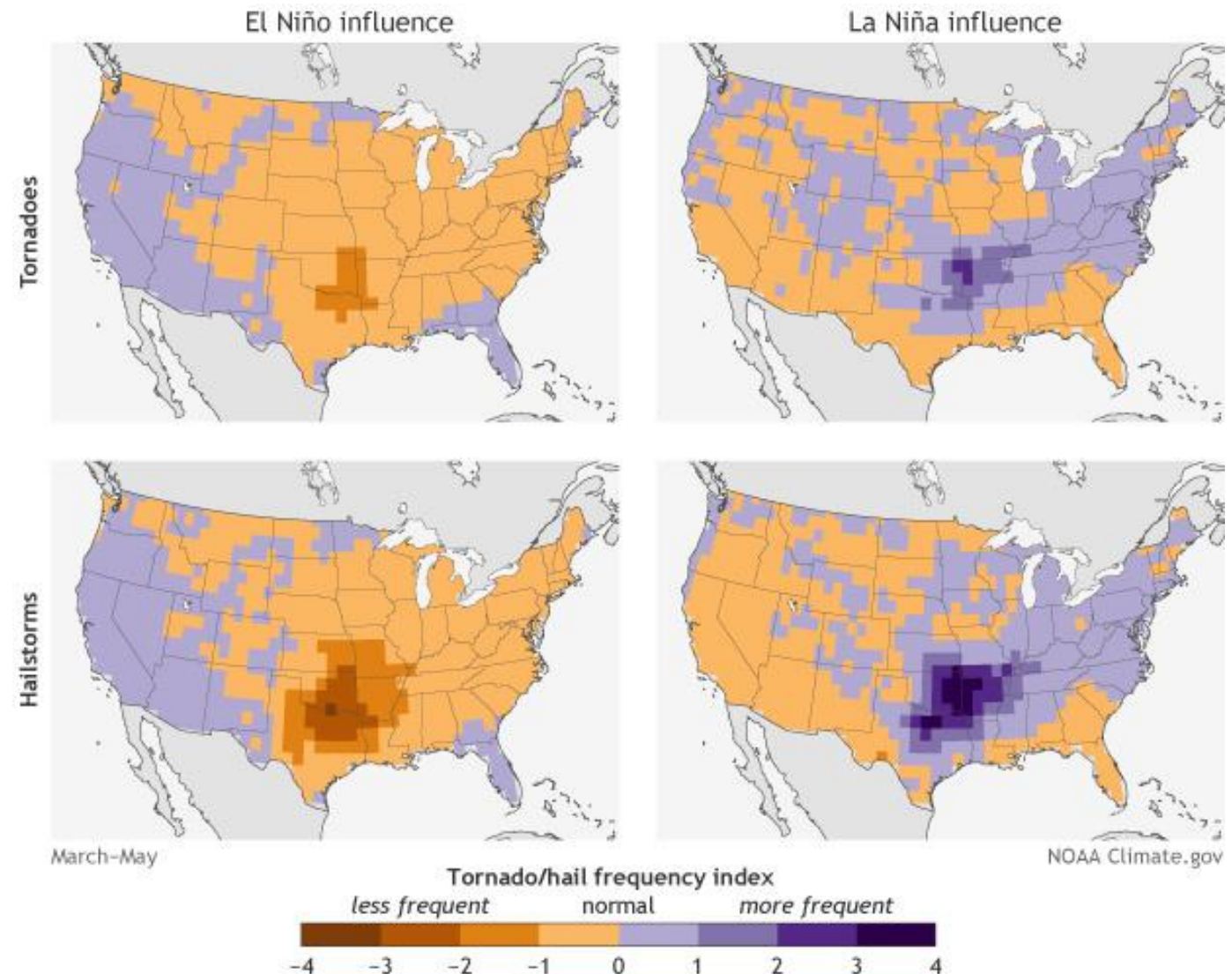
- Arctic outbreaks, ice storms and snow storms are difficult to predict more than 1 to 2 weeks in advance. The frequency, number and intensity of these events cannot be predicted on a seasonal timescale.
- Snowfall tends to be highly variable during La Nina winters in our region, with a trend toward BELOW average snowfall.
- Major winter weather events have occurred during past La Nina winters
  - New Years Storm 1970/1971
  - Arctic outbreak of Jan 1985
  - Cold, snowy December 2010
  - Ice Storms of 2021

Average snowfall patterns for all La Niña years



# NOAA Winter 2021/22 Outlook & Beyond

- Looking further out, there can be an increased probability of severe weather (hail and tornadoes) during the spring months following a La Nina winter.
- While increased probabilities are greatest in the southern Plains and lower Mississippi Valley, in general, springtime hailstorms and tornadoes are more frequent across the Ohio Valley and central Appalachians.





# NWS Product/Services Updates



- Winter Weather Forecast page updates
- Using the Winter Storm Severity Index and Graphical Hazardous Weather Outlook to gauge winter weather impacts




- Flood Product Simplification
- Rainfall Monitor



- Snow Squall Warnings & Wireless Emergency Alerts (WEA)
- Non-Weather Emergency Message Alerting

# Winter Forecast Page Updates

- Comprehensive winter weather forecast information can be found by looking for the icon on you local NWS office's webpage.

**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](#)

**News Headlines**

- [Simplification of NWS Flood Products starting on Nov 4th](#)
- [Latest Hazardous Weather Outlook and Weather Briefing](#)
- [Past News Headlines and Web Articles](#)

**NWS Forecast Office Charleston, WV**  
[Weather.gov](#) > Charleston, WV

Charleston, WV  
Weather Forecast Office

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

Click a location below for detailed forecast.

[Watches, Warnings & Advisories](#)  
[Hazardous Weather Outlook](#)

[A Few Clouds](#)  
**67°F**  
19°C [Get Detailed Info](#)

[This Afternoon](#)  
**Sunny**  
High: 68°F

[Tonight](#)  
**Partly Cloudy**  
Low: 45°F

[change location](#)

**Weather Story** **Local Radar** **Satellite**

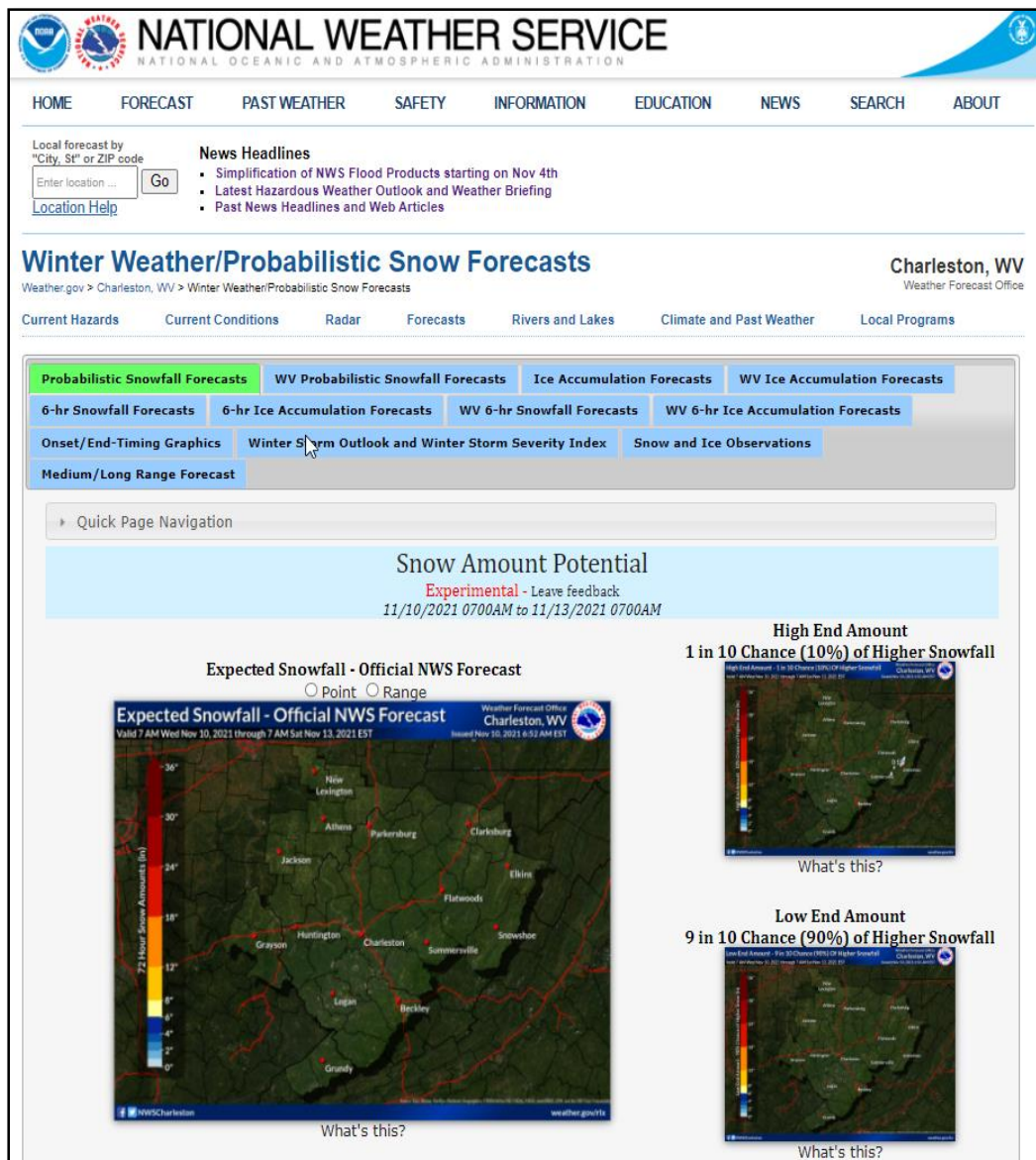
**Text Product Selector (Selected product opens in new window)**  
Latest Text Products Issued by RLX

[Radar](#) [Current Weather](#) [Rivers & Lakes](#) [Satellite](#) [Forecast Maps](#) [Hour by Hour Forecast](#)

[Winter Weather](#) [Graphical Hazards](#) [Weather Hazard Briefing](#) [Forecaster's Discussion](#) [Text Bulletins](#) [Climate Plots](#)



# Winter Forecast Page Updates



**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](#)

**News Headlines**

- Simplification of NWS Flood Products starting on Nov 4th
- Latest Hazardous Weather Outlook and Weather Briefing
- Past News Headlines and Web Articles

**Winter Weather/Probabilistic Snow Forecasts** Charleston, WV  
Weather.gov > Charleston, WV > Winter Weather/Probabilistic Snow Forecasts

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

**Probabilistic Snowfall Forecasts** WV Probabilistic Snowfall Forecasts Ice Accumulation Forecasts WV Ice Accumulation Forecasts

6-hr Snowfall Forecasts 6-hr Ice Accumulation Forecasts WV 6-hr Snowfall Forecasts WV 6-hr Ice Accumulation Forecasts

Onset/End-Timing Graphics Winter Storm Outlook and Winter Storm Severity Index Snow and Ice Observations

Medium/Long Range Forecast

Quick Page Navigation

**Snow Amount Potential**  
Experimental - Leave feedback  
11/10/2021 0700AM to 11/13/2021 0700AM

**Expected Snowfall - Official NWS Forecast**  
Valid 7 AM Wed Nov 10, 2021 through 7 AM Sat Nov 13, 2021 EST  
Issued Nov 10, 2021 6:52 AM EST

Expected Snowfall - Official NWS Forecast  
Point Range

What's this?

**High End Amount**  
1 in 10 Chance (10%) of Higher Snowfall

What's this?

**Low End Amount**  
9 in 10 Chance (90%) of Higher Snowfall

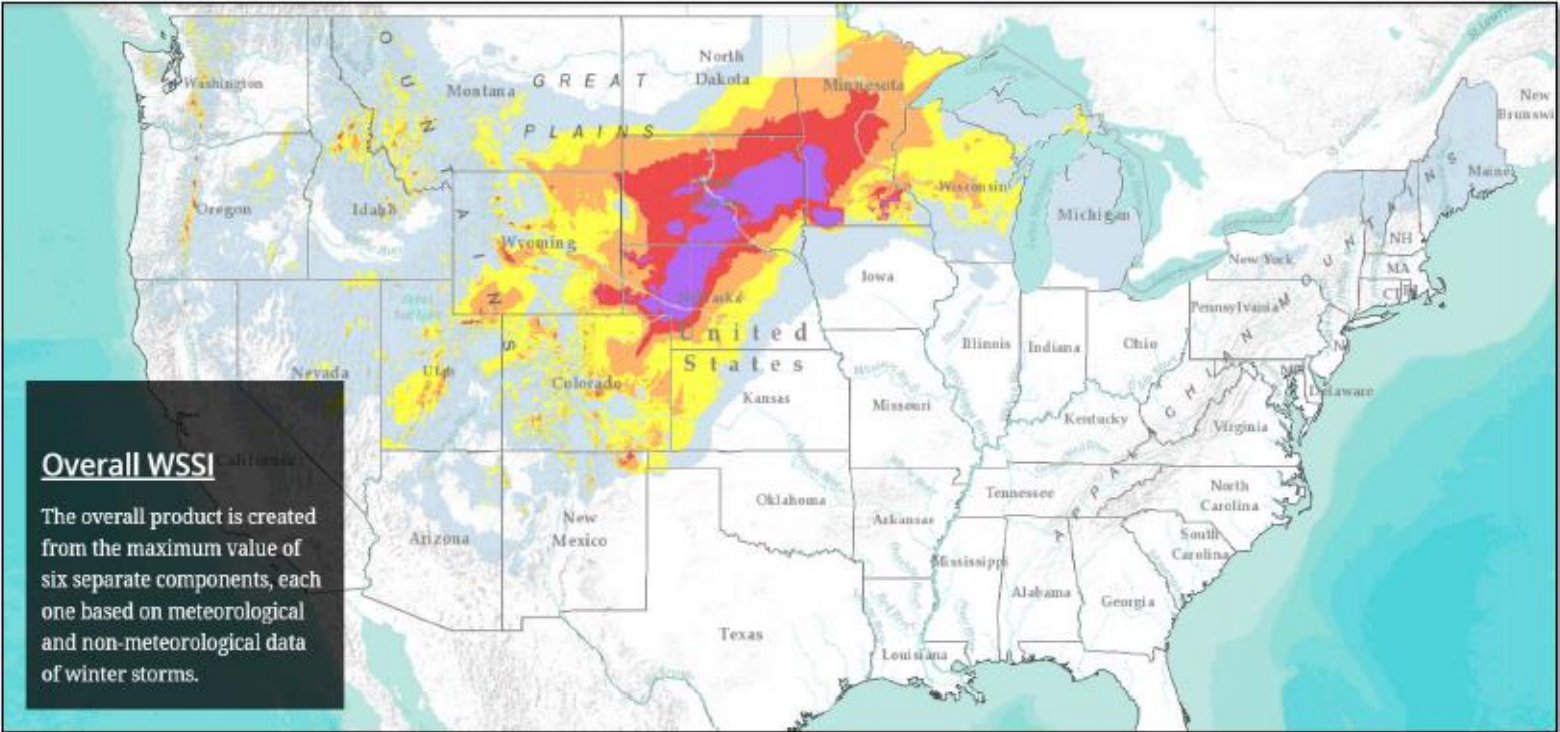
What's this?

- Menu/tabs have been streamlined so they are the same no matter which NWS office you are looking at.
- New graphics packages
- Statewide graphics for snow and ice accumulation
  - WV- [www.weather.gov/rhx/winter](http://www.weather.gov/rhx/winter)
  - OH- [www.weather.gov/iln/winter](http://www.weather.gov/iln/winter)
  - KY- [www.weather.gov/lmk/winter](http://www.weather.gov/lmk/winter)
  - VA- [www.weather.gov/akq/winter](http://www.weather.gov/akq/winter)

# Winter Storm Severity Index

[www.wpc.ncep.noaa.gov/wwd/wssi/wssi.php?id=RLX](http://www.wpc.ncep.noaa.gov/wwd/wssi/wssi.php?id=RLX)

- Provides winter storm impact information out to 72 hours, with a new Experimental Day 4 and new 6-hour visualization option.
- Includes meteorological and non-meteorological factors
  - Snow Load (weight of snow)
  - Snow Amount
  - Ice Accumulation
  - Ground Blizzard
  - Flash Freeze (during and after precipitation)
  - Blowing Snow



Potential Winter Storm Impacts	
	<b>No Impacts</b> Impacts not expected.
	<b>Limited Impacts</b> Rarely a direct threat to life and property. Typically results in little inconveniences.
	<b>Minor Impacts</b> Rarely a direct threat to life and property. Typically results in an inconvenience to daily life.
	<b>Moderate Impacts</b> Often threatening to life and property, some damage unavoidable. Typically results in disruptions to daily life.
	<b>Major Impacts</b> Extensive property damage likely, life saving actions needed. Will likely result in major disruptions to daily life.
	<b>Extreme Impacts</b> Extensive and widespread severe property damage, life saving actions will be needed. Results in extreme disruptions to daily life.



# Graphical Hazardous Weather Outlook



**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](#)

**News Headlines**

- [Simplification of NWS Flood Products starting on Nov 4th](#)
- [Latest Hazardous Weather Outlook and Weather Briefing](#)
- [Past News Headlines and Web Articles](#)

**NWS Forecast Office Charleston, WV**  
[Weather.gov](#) > Charleston, WV

Charleston, WV  
Weather Forecast Office

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

Click a location below for detailed forecast.

Map showing locations: Zanesville, Mountville, New Lexington, Marietta, Jackson, Parkersburg, Clarksburg, Elkins, Sissonville, Huntington, Charleston, Sissonville, Beckley, Lenoir, Raleigh, Marlinton, West Liberty, Philippi, Putnam, Clarksburg, Sissonville, Raleigh.

Watches, Warnings & Advisories  
[Hazardous Weather Outlook](#)

Local Radar

Satellite

Text Product Selector (Selected product opens in new window)  
Latest Text Products Issued by RLX

Grid of icons for weather services:

- Radar
- Current Weather
- Rivers & Lakes
- Satellite
- Forecast Maps
- Hour by Hour Forecast
- Winter Weather
- Graphical Hazards**
- Weather Hazard Briefing
- Forecaster's Discussion
- Text Bulletins
- Climate Plots

- Revamped Graphical Hazardous Weather Outlook can be found by looking for the icon on you local NWS office's webpage.



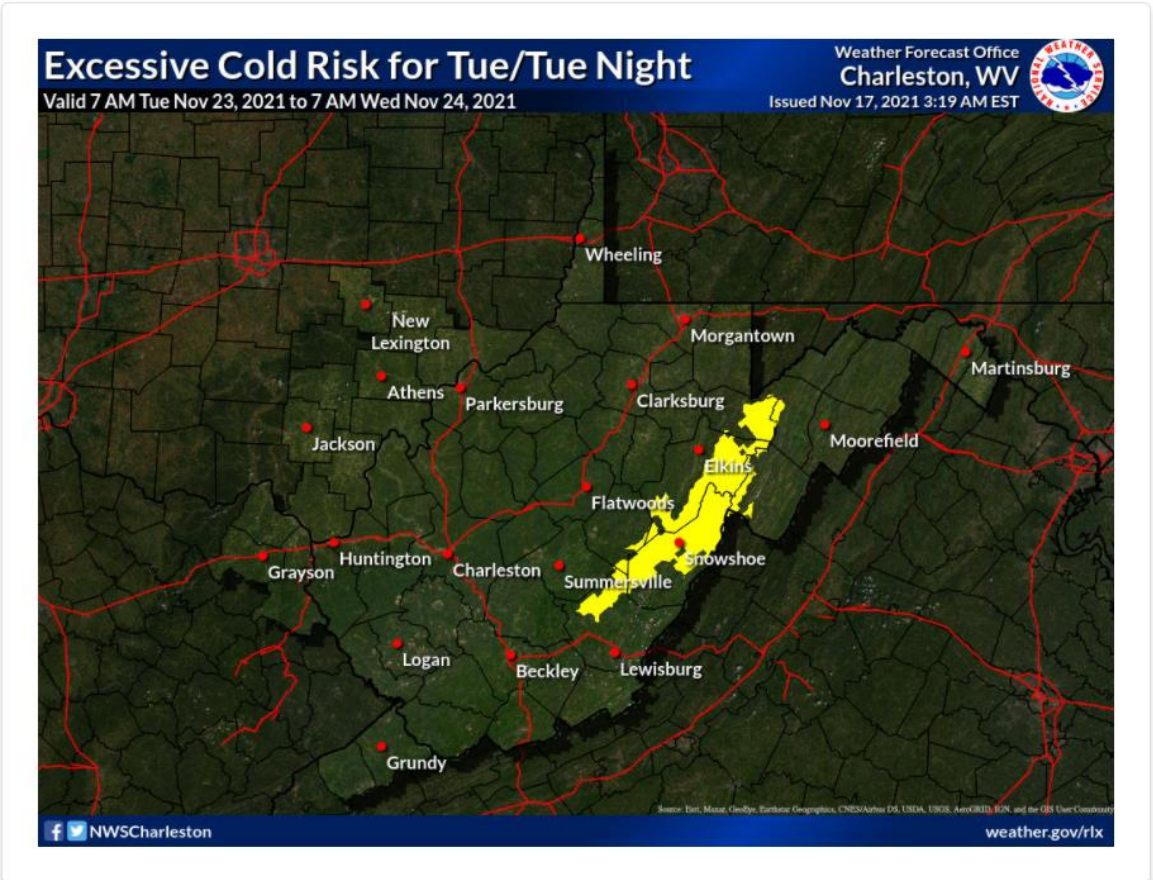
- Or go to [www.weather.gov/erh/ghwo?wfo=rlx](http://www.weather.gov/erh/ghwo?wfo=rlx)

[www.weather.gov/erh/ghwo?wfo=rlx](http://www.weather.gov/erh/ghwo?wfo=rlx)

Experimental Graphical Hazardous Weather Outlook

Weather Forecast Office Charleston, WV  
Updated: November 17th 2021, 11:48:08 am

Select Zoom Area: WV ▾



24 Hr Hazard Risks	Today	Thu	Fri	Sat	Sun	Mon	Tue
Severe Thunderstorm							
Tornado							
Thunderstorm Wind							
Hail							
Lightning							
Excessive Rainfall							
Wind							
Fog							
Fire Weather							
Excessive Cold							
Ice Accumulation							
Snow/Sleet							



# NWS Product/Services Updates



- Winter Weather Forecast page updates
- Using the Winter Storm Severity Index and Graphical Hazardous Weather Outlook to gauge winter weather impacts

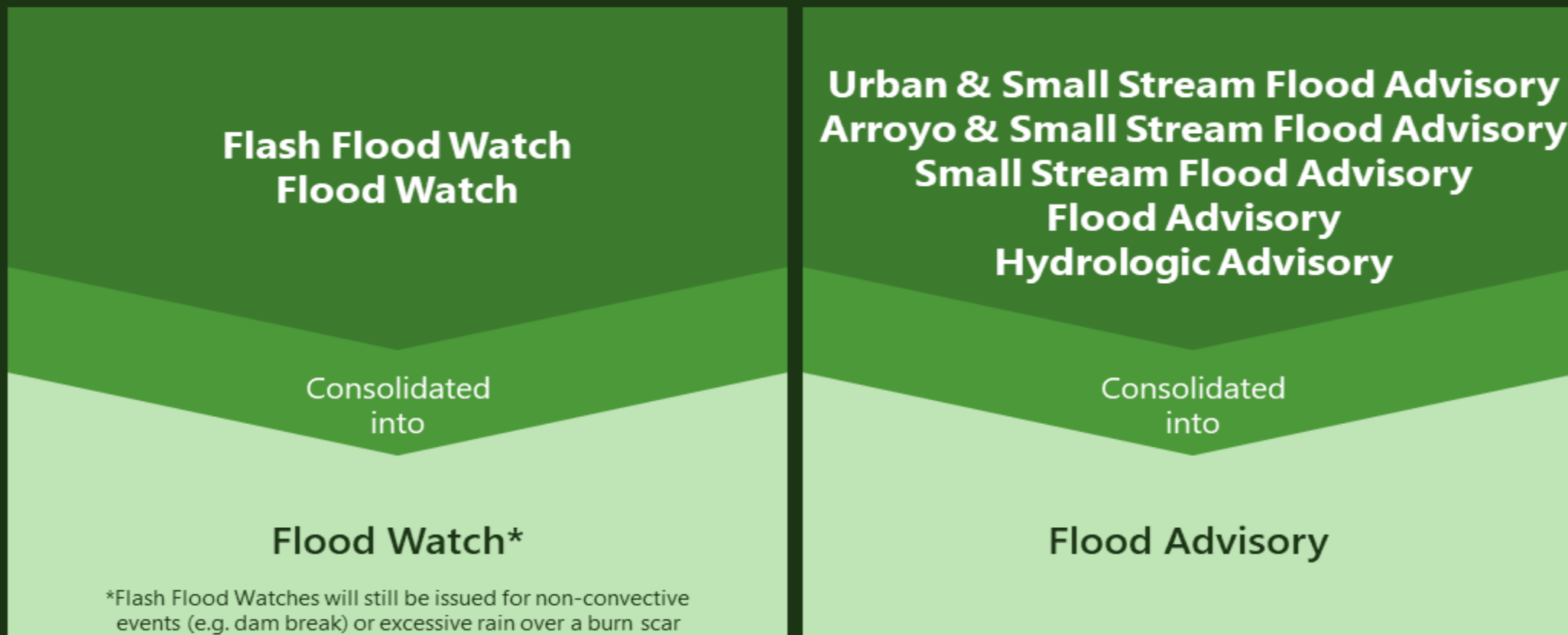


- Flood Product Simplification
- Rainfall Monitor



- Snow Squall Warnings & Wireless Emergency Alerts (WEA)
- Non-Weather Emergency Message Alerting

## Consolidation of NWS Flood Products







# Flood Product Simplification

Flood products will be reformatted to simplify wording, which will now include

- **WHAT**
- **WHERE**
- **WHEN**
- **IMPACTS**
- **ADDITIONAL DETAILS**

Current	Consolidated and Reformatted
<p>WGUS61 KLWX 240013 FFALWX</p> <p>URGENT - IMMEDIATE BROADCAST REQUESTED Flood Watch National Weather Service Baltimore MD/Washington DC 813 PM EDT Thu Jul 23 2020</p> <p>DCZ001-240600- /O.NEW.KLWX.FF.A.0012.200724T0013Z-200724T0600Z/ /00000.0.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/ District of Columbia- 813 PM EDT Thu Jul 23 2020</p>	<p>WGUS61 KLWX 240013 FFALWX</p> <p>URGENT - IMMEDIATE BROADCAST REQUESTED Flood Watch National Weather Service Baltimore MD/Washington DC 813 PM EDT Thu Jul 23 2020</p> <p>DCZ001-240600- /O.NEW.KLWX.FA.A.0012.200724T0013Z-200724T0600Z/ /00000.0.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/ District of Columbia- 813 PM EDT Thu Jul 23 2020</p>
<p>...FLASH FLOOD WATCH IN EFFECT UNTIL 2 AM EDT FRIDAY...</p> <p>The National Weather Service in Sterling Virginia has issued a</p> <ul style="list-style-type: none"><li>* Flash Flood Watch for The District of Columbia.</li><li>* Until 2 AM EDT Friday</li><li>* Slow moving thunderstorms are developing across the Washington DC Metropolitan Area this evening. Localized rainfall amounts up to two inches in an hour are possible. These amounts could lead to flash flooding, especially along small streams and in poor drainage urban areas.</li></ul>	<p>...FLOOD WATCH IN EFFECT UNTIL 2 AM EDT FRIDAY...</p> <ul style="list-style-type: none"><li>* WHAT...Flash flooding is possible due to heavy rain.</li><li>* WHERE...The District of Columbia.</li><li>* WHEN...Until 2 AM EDT Friday.</li><li>* IMPACTS...Heavy rain could lead to flash flooding, especially along small streams and in poor drainage areas.</li><li>* ADDITIONAL DETAILS...Slow moving thunderstorms are developing across the Washington DC Metropolitan Area this evening. Localized rainfall amounts up to two inches in an hour are possible.</li></ul>
<p>PRECAUTIONARY/PREPAREDNESS ACTIONS...</p> <p>A Flash Flood Watch means that conditions may develop that lead to flash flooding. Flash flooding is a very dangerous situation.</p> <p>You should monitor later forecasts and be prepared to take action should Flash Flood Warnings be issued.</p>	<p>PRECAUTIONARY/PREPAREDNESS ACTIONS...</p> <p>You should monitor later forecasts and be prepared to take action should Flash Flood Warnings be issued.</p>



NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HOMEFORECASTPAST WEATHERSAFETYINFORMATIONEDUCATIONNEWSSEARCHABOUT

Local forecast by "City, ST" or ZIP code

Go


[Location Help](#)

News Headlines

- [West Virginia Winter Weather Awareness Week - November 15-19](#)
- [Ohio Winter Safety Awareness Week - November 14-20](#)
- [Latest Hazardous Weather Outlook and Weather Briefing](#)
- [Past News Headlines and Web Articles](#)

MY FORECAST

Charleston, Yeager Airport WV




Mostly Cloudy

69°F

21°C

[Get Detailed Info](#)


This Afternoon



Sunny

High: 75°F

Tonight



Increasing Clouds

Low: 50°F

[change location](#)

NWS Forecast Office Charleston, WV

[Weather.gov](#) > Charleston, WV

Charleston, WV

Weather Forecast Office

Current HazardsCurrent ConditionsRadarForecastsRivers and LakesClimate and Past WeatherLocal Programs

Observations (List)

Rainfall

Air Quality

Satellite


Observations (Map)

**Rain Gauge Monitoring**


Snowfall Reports

Local Storm Reports

Click here for detailed forecast.



[Watches, Warnings & Advisories](#)



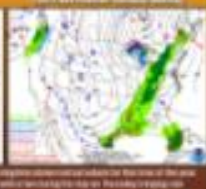
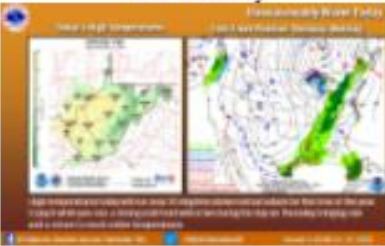
There are no watches, warnings, or advisories at this time.

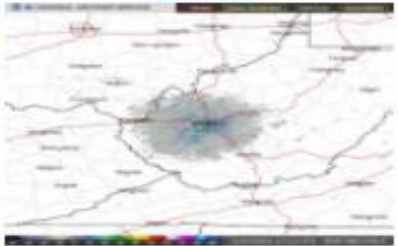
Last Map Update: Wed, Nov. 17, 2021 at 12:28:43 pm EST


Weather Story

Local Radar

Satellite

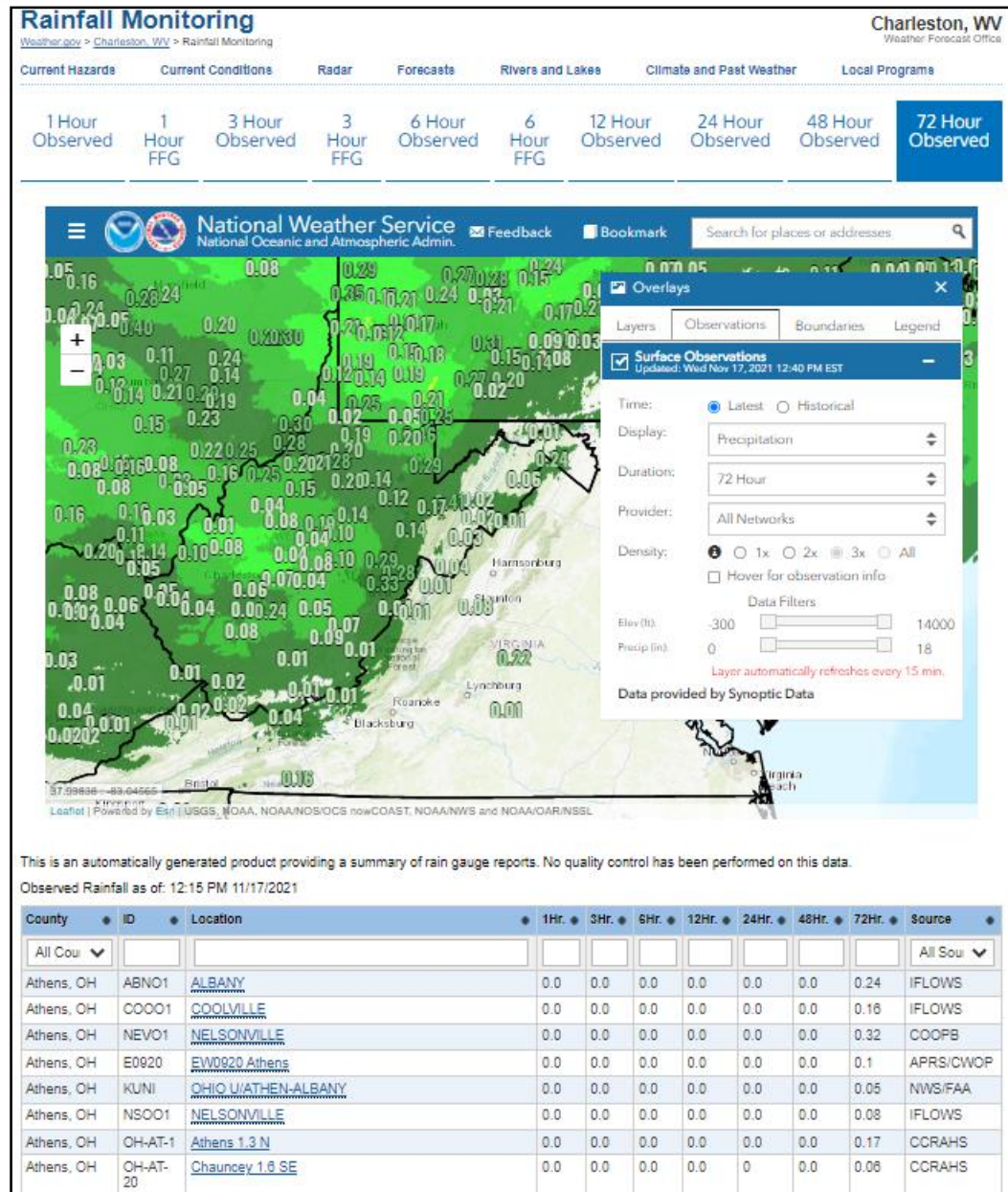








# Rainfall Monitor



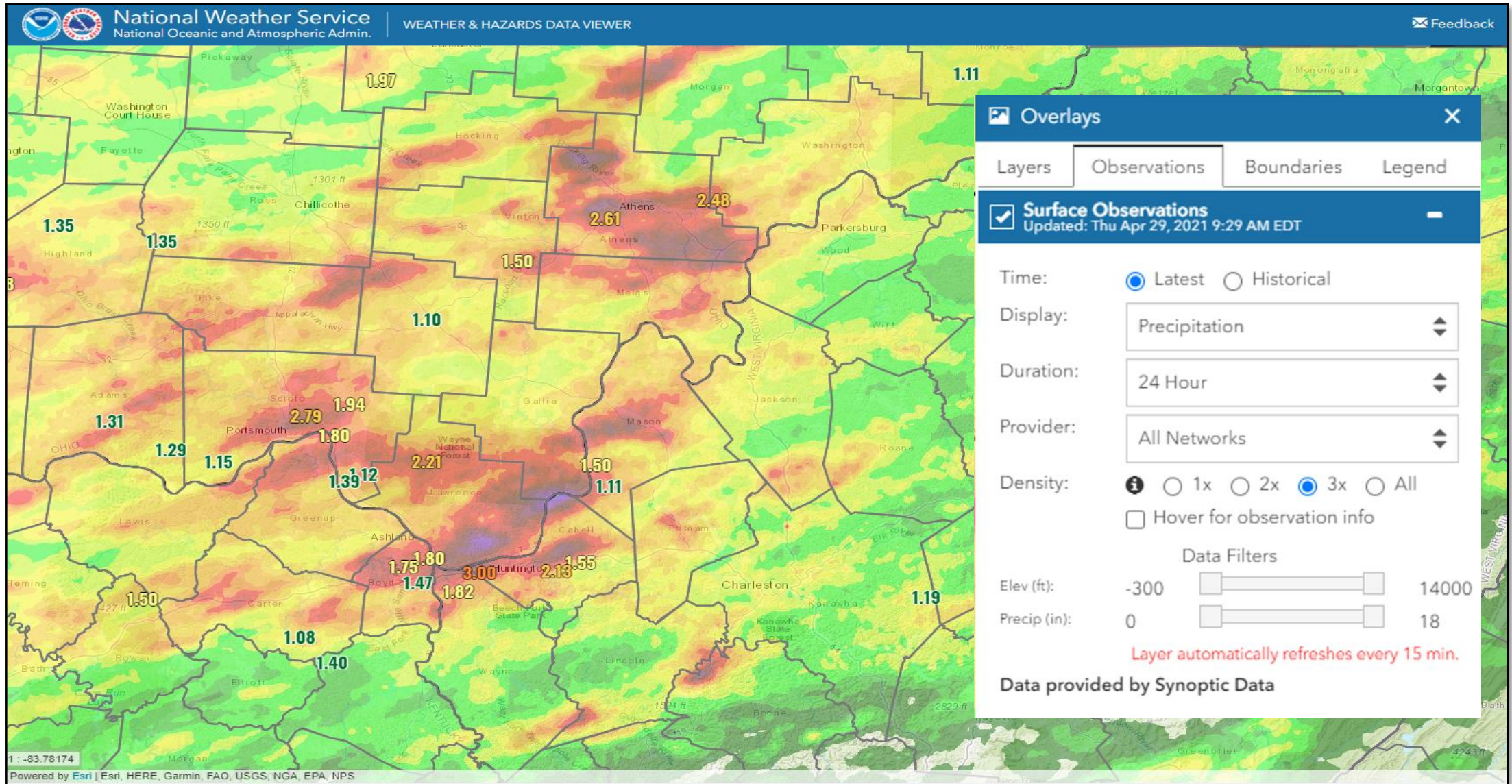
[www.weather.gov/rlx/rainfall-monitoring](http://www.weather.gov/rlx/rainfall-monitoring)

- Comprehensive rainfall monitoring for all of WV, southeast OH, northeast KY and southwest VA.
- Dynamic mapping of gauges for various time intervals combined with radar estimated rainfall.
- Sortable table displays all available gauges.
- Rain gauges include:
  - Airport stations
  - Cooperative weather observers
  - CoCoRaHS observers
  - IFLOWS gauges
  - Citizens Weather Observer Program stations
- If you have gauges in your county that need to be added, contact [Tony.Edwards@noaa.gov](mailto:Tony.Edwards@noaa.gov).



# Rainfall Monitor

[www.weather.gov/rlx/rainfall-monitoring](http://www.weather.gov/rlx/rainfall-monitoring)





# NWS Product/Services Updates



- Winter Weather Forecast page updates
- Using the Winter Storm Severity Index and Graphical Hazardous Weather Outlook to gauge winter weather impacts



- Flood Product Simplification
- Rainfall Monitor



- Snow Squall Warnings & Wireless Emergency Alerts (WEA)
- Non-Weather Emergency Message Alerting

# Snow Squall Warnings

## Snow Squall Warning Criteria

- Snow squalls reducing the visibility to 1/4 statute miles or less,
- AND sub-freezing ambient road temperatures or plunging temperatures sufficient to produce flash freezes,
- AND gusty winds and blowing snow.

## SNOW SQUALL WARNINGS WILL ALERT ON CELL PHONES (WEA) AGAIN THIS WINTER!

- We will limit their issuance between late evening and morning rush.
- Warnings will be focused when squalls target interstates and main highways and Special Weather Statements will be used for the rest.

No earlier than October 2022, categories will be added to allow for more targeted WEA activations for Snow Squall Warnings.



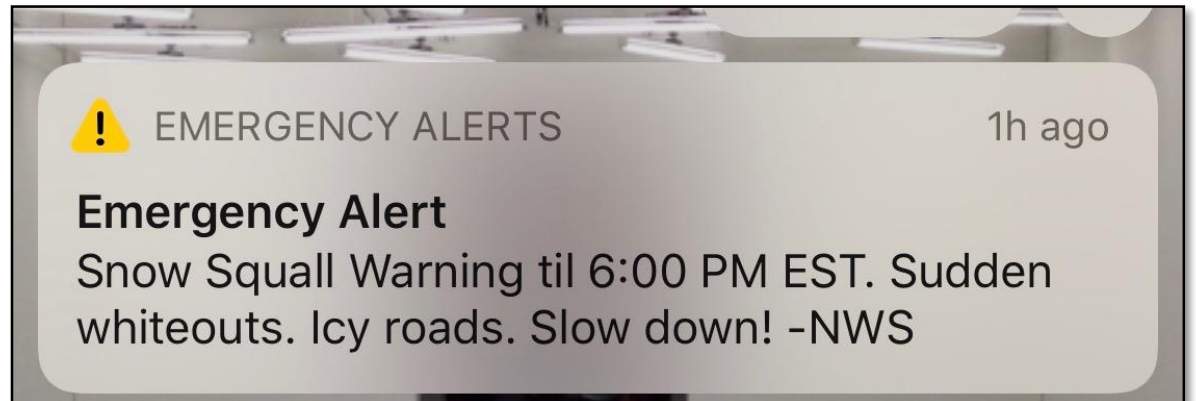
**SNOW SQUALLS**

- Intense bursts of snow and wind
- Short duration
- Whiteout visibility
- Rapidly deteriorating road conditions

National Weather Service **SNOW SQUALL WARNINGS**

- Issued when a snow squall is occurring or imminent
- Typically in effect for 30-60 minutes in a small, targeted area
- Can trigger a Wireless Emergency Alert to your phone
- When issued, slow down or delay travel

weather.gov

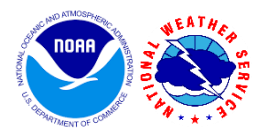


**! EMERGENCY ALERTS** 1h ago

**Emergency Alert**

Snow Squall Warning til 6:00 PM EST. Sudden whiteouts. Icy roads. Slow down! -NWS





# NWS Wireless Emergency Alerts Activation Schedule



NWS WEA Activation Schedule	
<b>Tornado Warning</b>	<ul style="list-style-type: none"><li>- New warning</li><li>- Threat is upgraded to catastrophic</li><li>- Any additional updates with catastrophic</li></ul>
<b>Flash Flood Warning</b>	<ul style="list-style-type: none"><li>- New warning <u>if</u> threat tag is considerable or catastrophic</li><li>- Threat is upgraded to considerable</li><li>- Threat is upgraded to catastrophic</li></ul>
<b>Severe Thunderstorm Warning</b>	Activate for first occurrence (i.e. new or updated warning) of a <u>destructive threat</u>
<b>Hurricane/Typhoon Warning</b>	Activate for new warning
<b>Storm Surge Warning</b>	Activate for new warning
<b>Extreme Wind Warning</b>	Activate for new warning
<b>Tsunami Warning</b>	Activate for new warning
<b>Dust Storm Warning</b>	Activate for new warning.
<b>Snow Squall Warning</b>	Activate for new warning

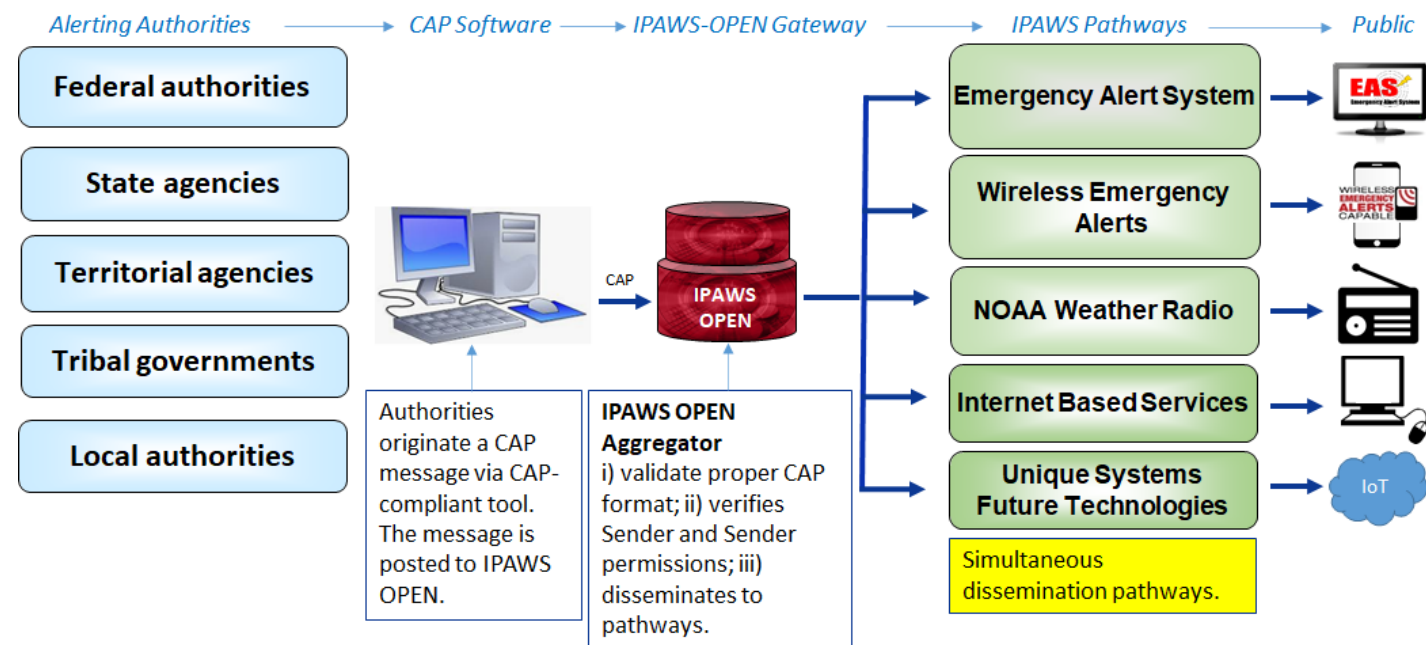
See wording used in NWS WEA messages at <https://www.weather.gov/wrn/wea360>

# Non-Weather Emergency Messages & EAS

- Once authorized by FEMA to send alerts to IPAWS, you are known as a Collaborative Operating Group (COG)
- As a COG, you have authority to send alerts through IPAWS to NWS, EAS, WEA and a Public Channel for all other IPAWS alert users.

## Alert origination software providers that have successfully demonstrated their IPAWS capabilities

- ✓ AlertSense
- ✓ Asher Group – Hyper Reach
- ✓ Blackberry – AtHoc IWS
- ✓ Blackboard – Blackboard Connect
- ✓ Buffalo Computer Graphics – DisasterLAN
- ✓ CivicReady
- ✓ Comlabs – EMNet
- ✓ Desktop Alert
- ✓ Everbridge
- ✓ Genasys
- ✓ GSS Alert Studio – ALERT FM
- ✓ HipLink
- ✓ Information Logistics - IRIS/HELP
- ✓ Inspiron Logistics – WENS
- ✓ Juvare – WebEOC
- ✓ KDEE Technology LLC – On-The-Go Alerting
- ✓ Monroe Electronics – DAS-EOC
- ✓ Motorola Solutions – VESTA
- ✓ Nixle
- ✓ OnSolve – CodeRED
- ✓ Rave Mobile Safety
- ✓ Regroup Mass Notifications
- ✓ Singlewire – InformaCast
- ✓ SwiftReach – Swift911
- ✓ Titan HST

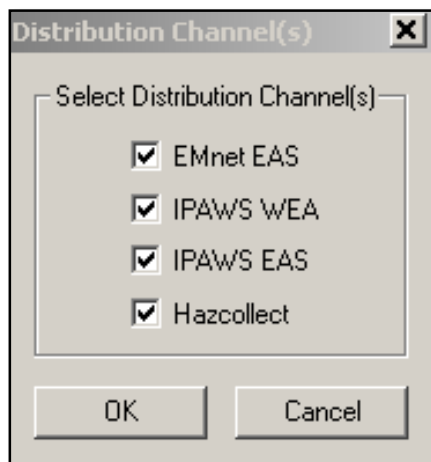


\*Disclaimer: The IPAWS PMO does not certify or endorse any vendor product. This list includes Alert Origination Software Providers (AOSP) who voluntarily demonstrated their IPAWS capabilities. Demonstrated capabilities may or may not include WEA 2.0/3.0 capabilities. Please contact your vendor to inquire about your product's WEA capabilities. The IPAWS Program Management Office (PMO) is in the process of developing a method to re-evaluate vendor products after the next release of IPAWS-OPEN. Stay tuned for more information.



# Non-Weather Emergency Messages & EAS

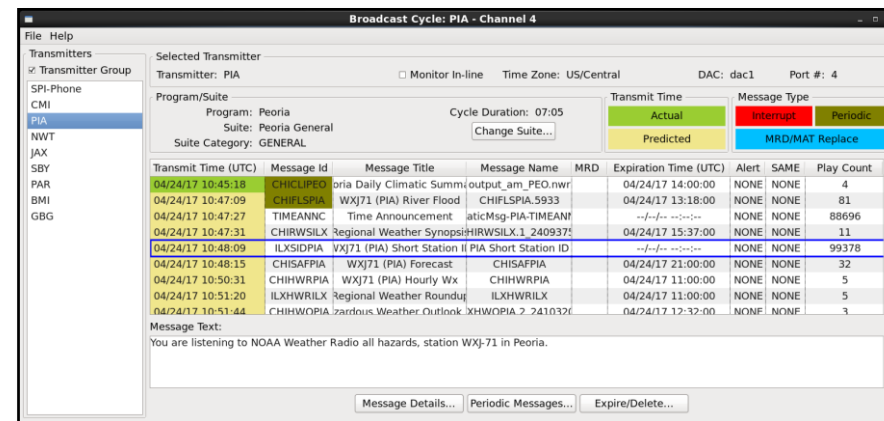
If you select “NWS or NWEM, Hazcollect”, your message is sent to us!  
We receive notification of incoming alert in NWS computer system.



Our staff reviews the alert and may make adjustments to the text to improve readability. We will likely call the alert originator to verify the message is legit.



We send the message over the NOAA Weather Radio for the alert duration.



# Non-Weather Emergency Messages & EAS

## Preparation:

- Ask your software vendor if they properly populate Requesting\_Agency in CAP <senderName> as recommended in the IPAWS Design Guidance
- Practice so you are proficient. Know the knobs. Don't wait for an emergency to happen.
- Know your State EAS Plan
- Leverage IPAWS resources

## Operations:

- Select NWEM (or "HazCollect", "NWS", or similar) to achieve NWS (e.g. NWR) dissemination
- Enter good Description & Instruction because they make up the NWS alert narrative
- Check punctuation & avoid use of special characters
- Check for unexpected characters, particularly if pasting content in the alert software interface

If you would like to run a full test, including NWS activation, reach out to [Tony.Edwards@noaa.gov](mailto:Tony.Edwards@noaa.gov).

# Non-Weather Emergency Messages & EAS

FEMA Integrated Public Alert and Warning System Fact Sheet

## Sign Up to Use IPAWS to Send Public Alerts and Warnings

A federal, state, local, tribal or territorial Alerting Authority that applies for authorization to use the Integrated Public Alert and Warning System (IPAWS) is designated as a **Collaborative Operating Group (COG)**. Follow these steps to obtain access to IPAWS for COG-to-COG messaging and permission to disseminate your alerts to the public.

Before beginning the below process, consult with your State IPAWS representative, typically found in the State Emergency Management Agency, for your ability to become an IPAWS alerting authority.

### Step 1: Complete IPAWS Web-Based Training

- FEMA's Emergency Management Institute (EMI) offers the independent study course IS-247, [Integrated Public Alert and Warning System for Alert Originators](#). Complete this course and submit the training certificate to the IPAWS Program Management Office at [ipaws@fema.dhs.gov](mailto:ipaws@fema.dhs.gov).
- EMI also offers course IS-251, [Integrated Public Alert and Warning System for Alerting Administrators](#). This course is required to obtain public alerting authority.

### Step 2: Select IPAWS-Compatible Software

- Confirm with your potential or current software provider that they can meet your public alerting needs. Find a list of Alert Origination Software Providers (AOSP) who have demonstrated their IPAWS compatibility [on this page](#).
- Our AOSP Webinar Series includes demonstrations by some software providers. Webinars are [at this link](#).
- Acquire your IPAWS-compatible alert origination software and AOSP training before proceeding to the next step.

### Step 3: Apply for a Memorandum of Agreement (MOA) with FEMA

- Request the MOA application from the IPAWS office. Complete the application and return via email.
- You will receive an email from the IPAWS office containing your MOA for signature, public alerting application, COG Identification, COG name and additional instructions. Sign and return the MOA to the IPAWS office.
- Your MOA will be reviewed and signed by FEMA authorizing officials and returned to you. You will receive your digital certificate, and a separate email with the password. Contact your AOSP to load your digital certificate and credentials into your alert origination software.



FEMA

February 2021 1

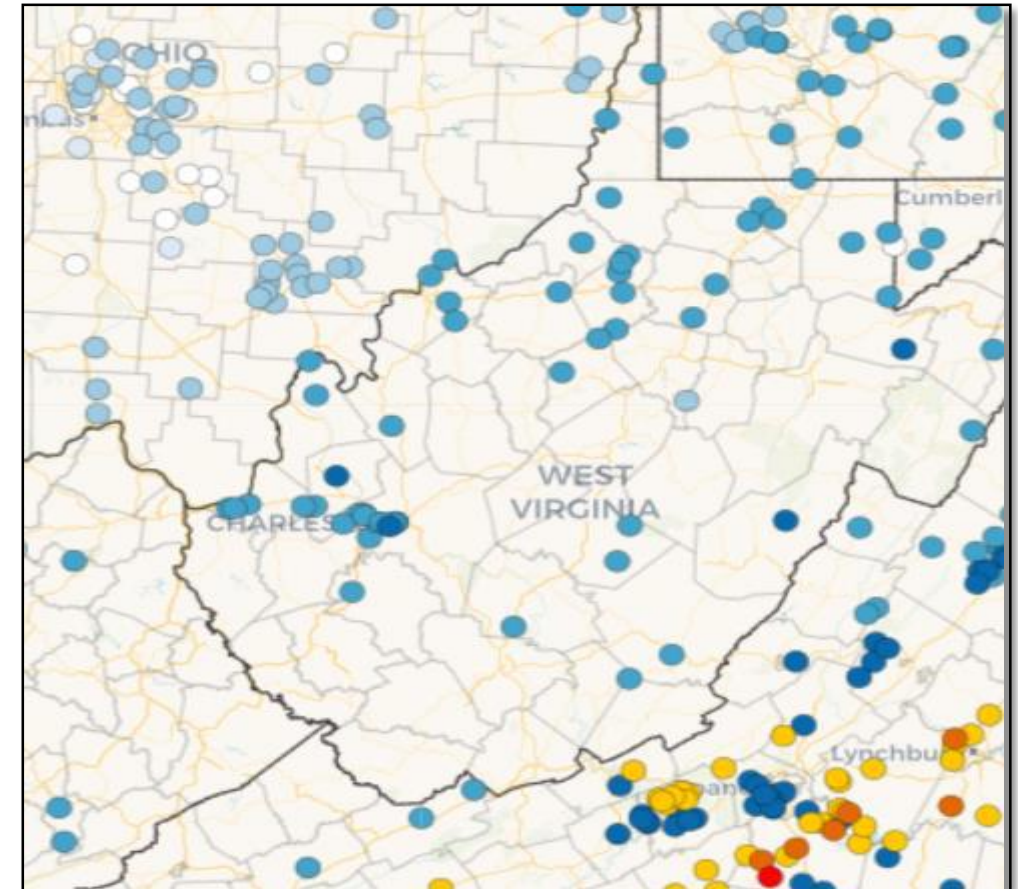
<https://www.fema.gov/emergency-managers/practitioners/integrated-public-alert-warning-system/public-safety-officials/sign-up>



# CoCoRaHS – Rainfall and Snowfall Reporting

[https://www.weather.gov/rlx/cocorahs\\_observers](https://www.weather.gov/rlx/cocorahs_observers)

- The Community Collaborative Rain, Hail and Snow Network (CoCoRaHS) is a volunteer network of weather observers working together to measure and map precipitation in their local communities.
- Can be individuals but also fire departments, water plants, DOH garages, etc. There's also a program tailored to schools with lesson plans and teaching aids.
- It is very important to have “trained” observers in your county for FEMA Disaster Declarations for winter storms!



# Webcam Monitoring

- We would LOVE to get access to any webcams you have in your county.
- These would be kept internal and used for situational awareness purposes.
- Please contact [John.Peck@noaa.gov](mailto:John.Peck@noaa.gov) for more information or to notify of a camera.



Soaring Eagle Condos Snowshoe / Pocahontas WV / 4809 ft



Snowshoe Village / Pocahontas WV / 4714 ft



Snowshoe Skidder Slope / Pocahontas WV / 4714 ft



Snowshoe / Pocahontas WV / 3844 ft



Snowshoe / Pocahontas WV / 3844 ft



US 33 - Pendleton/Randolph Line / Randolph WV / 3298 ft



Allegheny-Rt 33 Surface / Randolph WV / 3298 ft



US 33 - Pendleton/Randolph County Line / Randolph WV / 3298 ft



Winterplace Resort Center / Raleigh WV / 3032 ft



I-64 MM 42 / Raleigh WV / 2500 ft



MM 125 I-64 / Raleigh WV / 2468 ft



MM 44 I-77 / Raleigh WV / 2455 ft



# Reporting Snowfall/Winter Weather

## How to Report

There are a variety of ways to report weather to the NWS office in Charleston, WV. By using the methods below, your severe weather reports will reach forecasters in real time. Please be sure to include the location of the weather event, e.g. 5 miles northwest of Charleston. You may also indicate if you are a trained spotter, a ham radio operator, a member of law enforcement, or other affiliation if applicable.

- Submit Report**  
 Use this Web Based Form: [Submit Report](#)
- Spotter Hotline**  
 Trained weather spotters can report significant weather conditions by calling the toll-free spotter hotline given to them as part of their training.
- Facebook**  
 Post information on our Facebook page: <https://www.facebook.com/NWSCharlestonWV>
- Twitter**  
 Send us a tweet: [@NWSCharlestonWV](#)
- Email**  
 Send us an email: [rls\\_ops@noaa.gov](mailto:rls_ops@noaa.gov)
- Mobile App**  
 Send reports from your location via a smartphone app: [MPing](#)

## What to Report

Reporting the following phenomena when they occur help us warn others!

Tornado	Damaging Winds	Hail	Flooding	Heavy Rain	<b>Snow</b>	Freezing Rain/Icing	Strong Winds	Fog
---------	----------------	------	----------	------------	-------------	---------------------	--------------	-----


### Snow Info

- How much snow fell (to nearest tenth of an inch if possible), e.g. 3.5".
- What period of time did the snow fall? (e.g. 1 hour 15 minutes.)
- Was the snowfall measurement estimated or measured?
- For more information on how to properly measure snow, visit <https://media.cocorahs.org/docs/MeasuringSnow2.1.pdf>.

### 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:

- Supplies**  
 Include on your stick: 24"x24" white board, flag
- Planning**  
 Find an open area aside from tall objects, but sheltered from wind
- Set-up**  
 Set up before snow begins  
 Put your board out and mark it with the flag
- Measuring Snow**  
 Measure once daily at the same time, after measuring place the board on top of snow
- When Snow Stops**  
 Remove all snow as the snow stops to avoid false totals due to melting, settling and drifting
- Reporting**  
 Send us your report!

- Snowfall reports during and after winter storms are invaluable to us, and the more reports we get the better situational awareness we have!
- Please send us reports by looking for the icon on you local NWS office website. 
- After we receive your report, we transmit it as a Local Storm Report, informing the media and public of your report.
- Your reports help us adjust our forecasts, are used in storm summaries, and can be used to determine disaster declarations in major storms.



Thank You!

Questions? Raise Your Hand!

Tony.Edwards@noaa.gov

