

National Weather Service

2021-22 Winter Outlook &

Tools to Help You



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National Weather Service
Baltimore/Washington



Outline


- **What is “Normal”**
- **What we have seen in the past**
- **This winter’s outlook**
- **NWS tools to help you**

What is a “Normal” Winter

1991-2020

(changes from 1981-2010)

30 Years



1980s

1990s

2000s

2010s

2020s

What is a “Normal” Winter

1991-2020

(changes from 1981-2010)

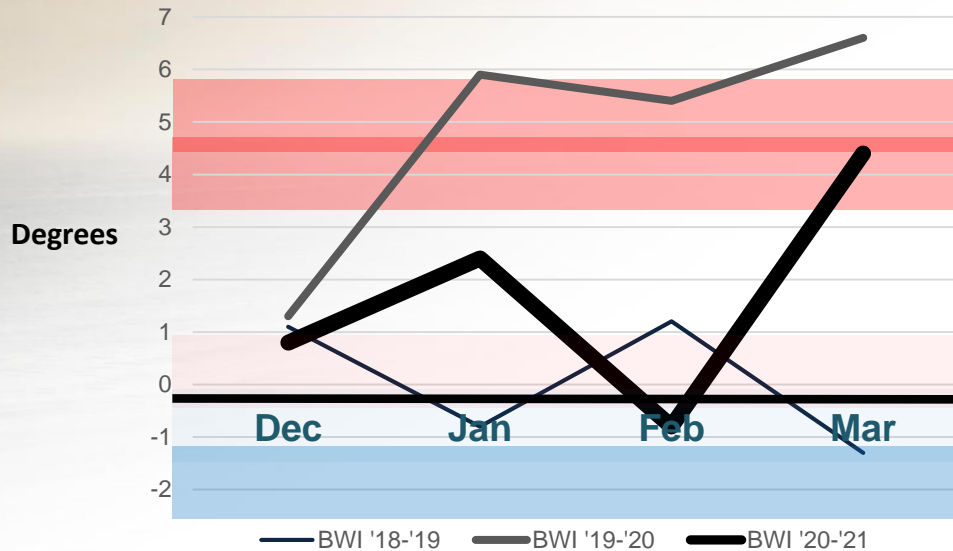
BWI	Nov	Dec	Jan	Feb	Mar
Temperature (High/Low)	57°/37° +1 / 0	48°/30° +3 / +2	43°/25° +2 / +1	46°/27° +1 / 0	55°/34° +1 / 0
Snowfall 19.3” total (-0.8)	0.1” -0.3	2.5” -0.5	6.4” -0.4	7.5” -0.5	2.8” +0.9

Past 3 Winters (BWI)

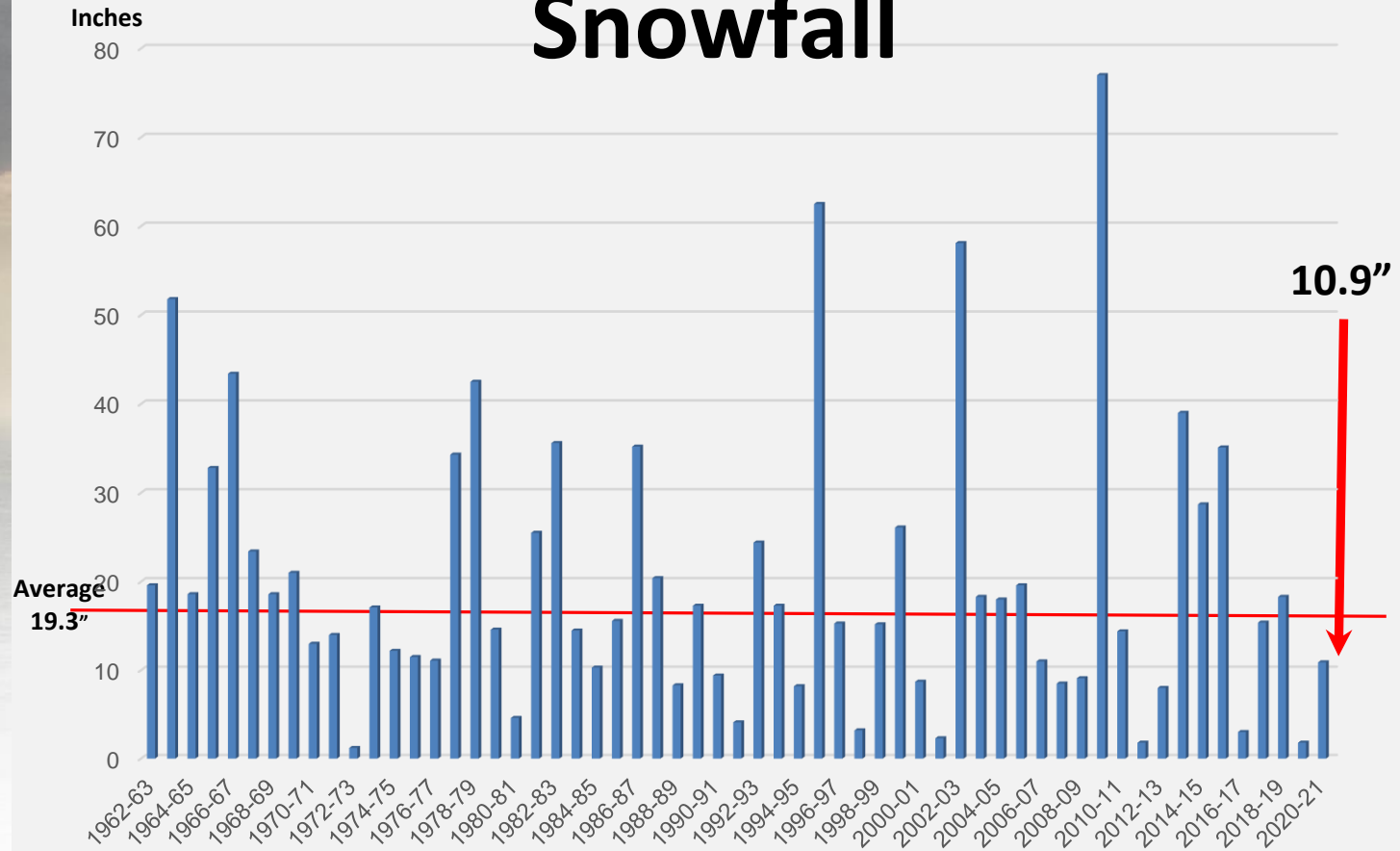
Temperature

Last winter, closer to normal (but ended early);
After one of our warmest on record ('19-'20)

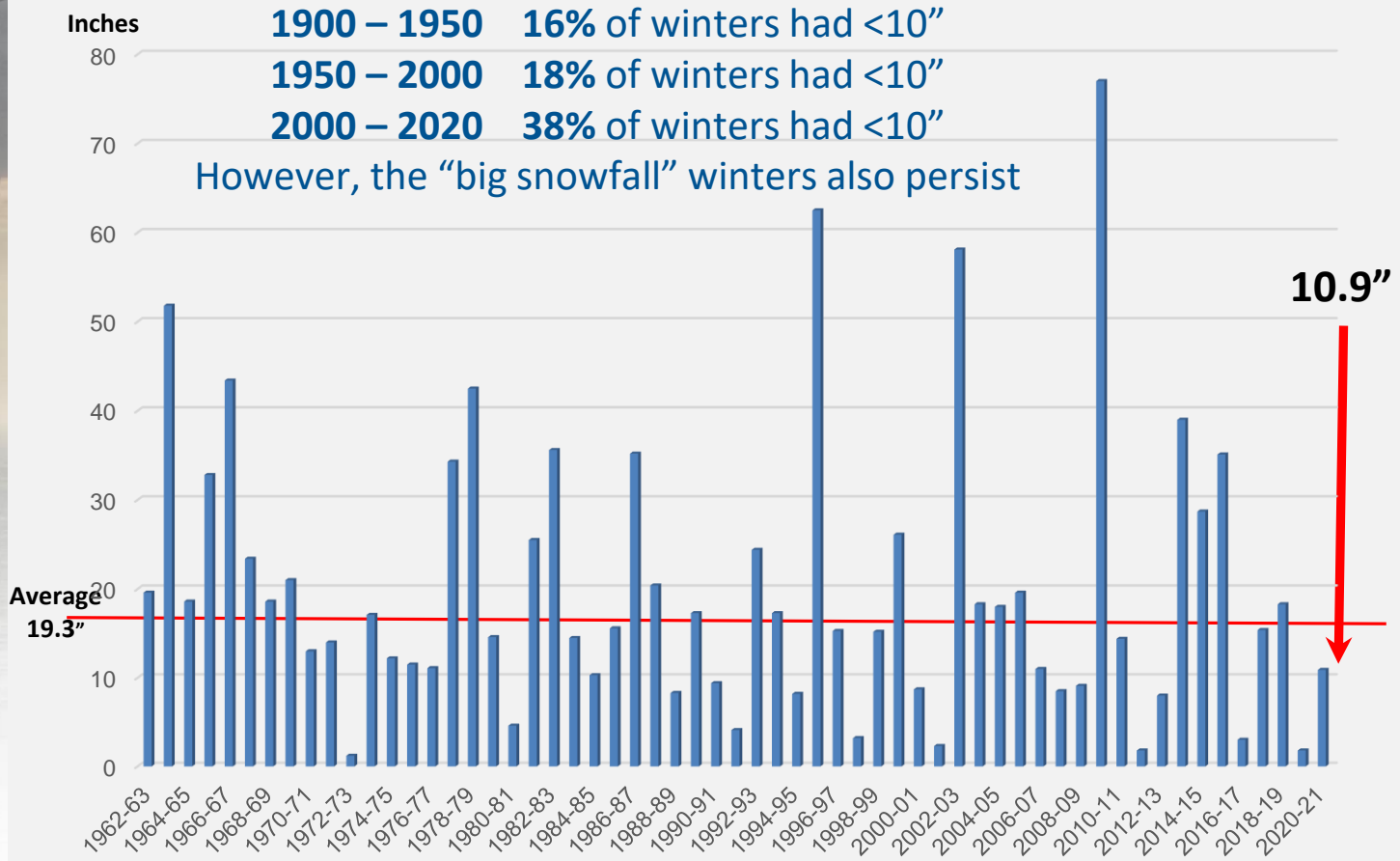
Departure from Normal



Baltimore Annual Winter Snowfall

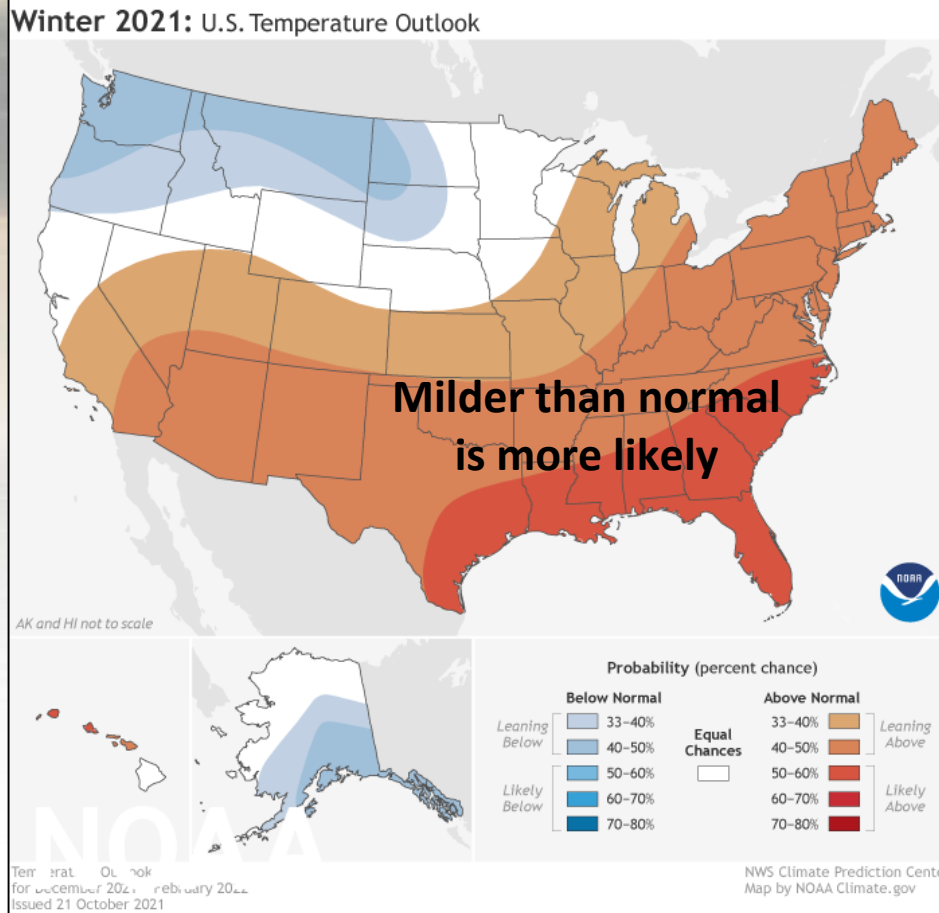


Erratic Seasonal Snow Becoming More Erratic



Seasonal Forecast - Temperature

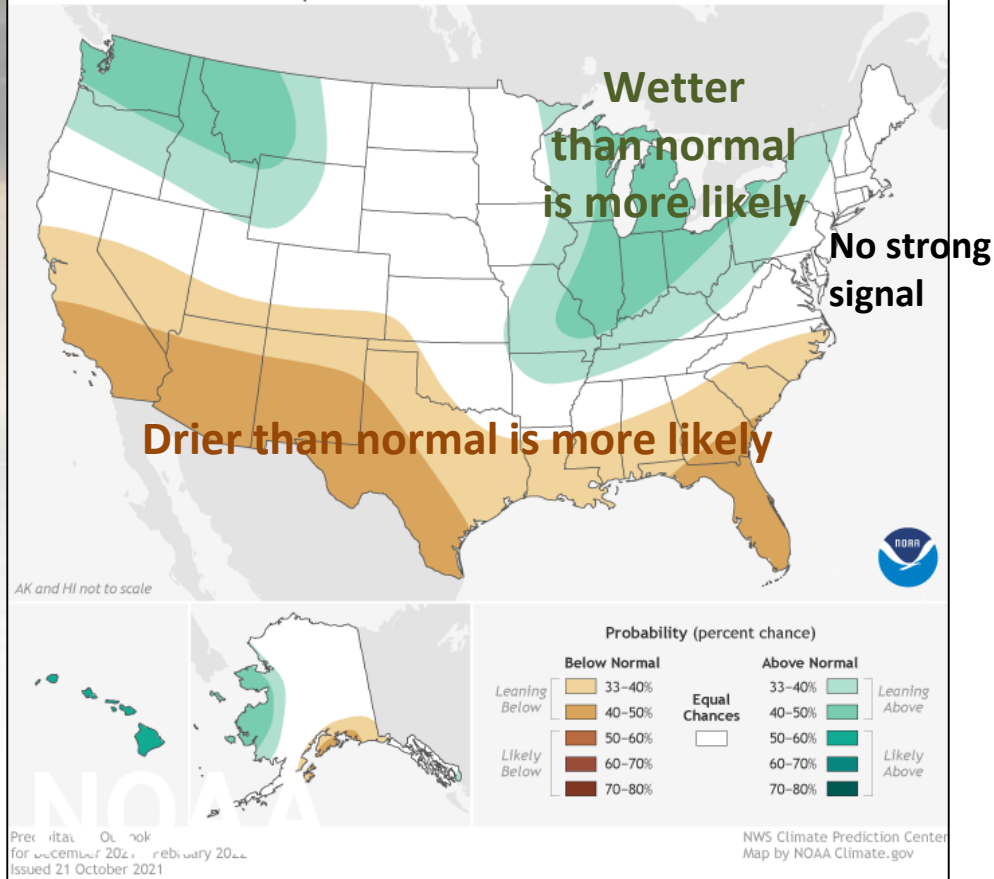
(Dec – Feb)



Seasonal Forecast - Precipitation

(Dec – Feb)

Winter 2021: U.S. Precipitation Outlook



Mid-Atlantic Winter Outlook 2021-22

- **El Niño/La Niña Cycle**
 - **La Niña**
 - More storm tracks to our west, can result in more freezing rain.
- **Mid-Atlantic Outlook:**
 - **Temperature**
 - Lesser chance of long-lasting cold
 - Fewer arctic outbreaks
 - **Precipitation**
 - No strong signal on more/less precipitation at this time



**Everything we will discuss is on
our
NWS Winter Page**

[www.weather.gov/washington/
winter](http://www.weather.gov/washington/winter)

NWS “Headlines”

- **Winter Storm Watch**
 - Possibility of 5+” snow
 - ~1-3 days in advance



- **Winter Storm Warning** 5”+
- **Winter Weather Advisory** 1-4”
 - Expectation
 - ~12-24 hours in advance

Why Uncertainty?

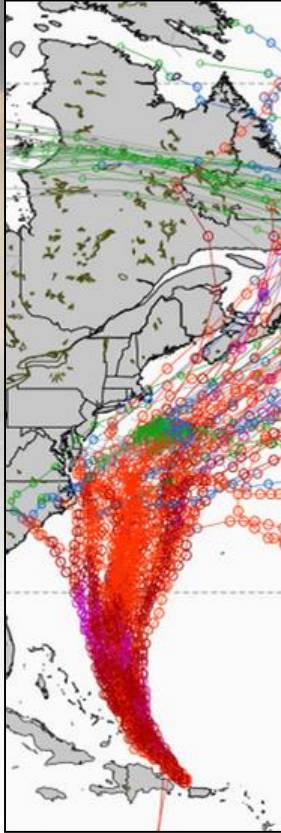
- **For winter precipitation threats...**
 - Dozens of international models
(not simply U.S. vs. European)
 - Looking further into the future, they become increasingly hazy on...
 - where -and-
 - how strong
 - ...next weather system will be

Let's look at one storm for example...

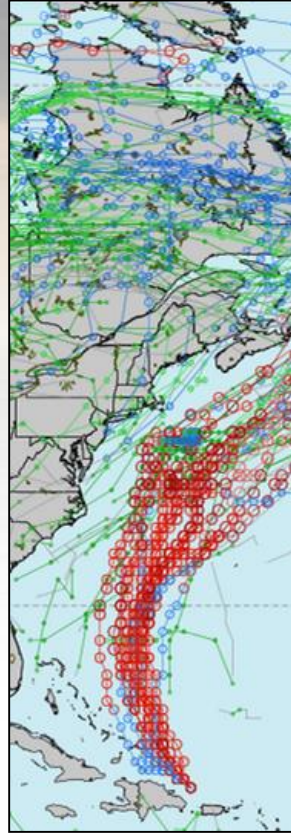
Why Uncertainty?

Dozens of Model Forecasts

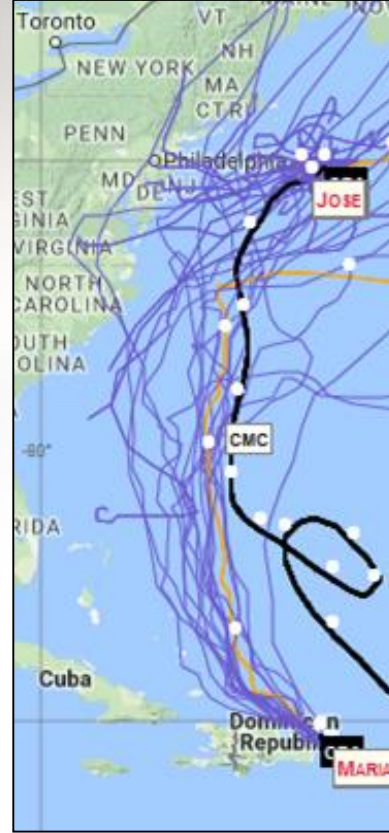
European



American



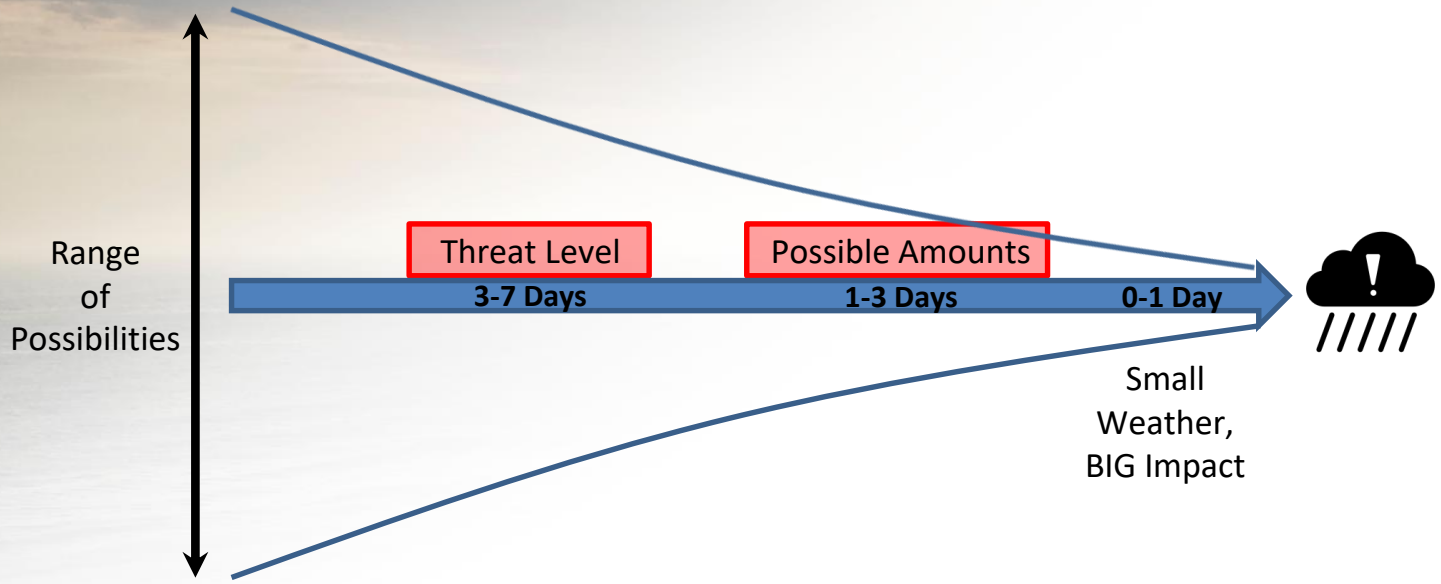
Canadian



United Kingdom

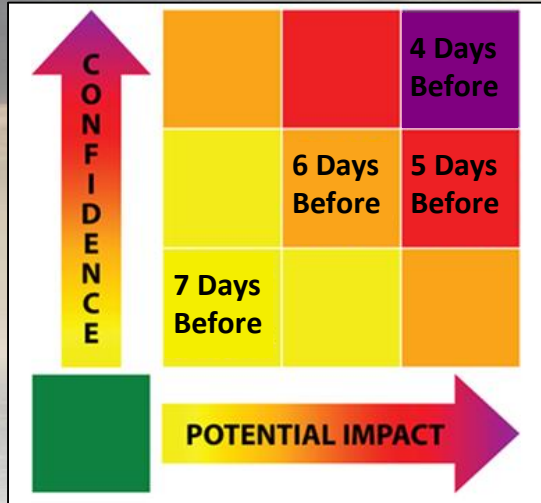


As Event Nears, “Range of Possibilities” Shrinks & Level of Forecast Detail Increases



3-7 Days in Advance

Winter Storm Threat



- **A real-world example:**
Mid-Atlantic Blizzard of Jan 2016
 - 7 days of threat
 - Threat increased
 - “**High**” threat 4 days before first flakes

High	High threat of high impact winter storm. Potential impacts include significant travel delays, closures, and threats to life and property. Plan ahead to minimize impact on you and your family.
Moderate	Moderate winter storm threat. Potential impacts include significant travel delays and closures. Plan ahead to minimize impact on you and your family.
Enhanced	Enhanced winter storm threat. Primary threat is disruption to travel.
Slight	Slight winter storm threat. If threat materializes, may cause travel disruptions.
None	No significant winter storm threat is currently expected. However, light wintry precipitation may still be possible.

0-3 Days in Advance

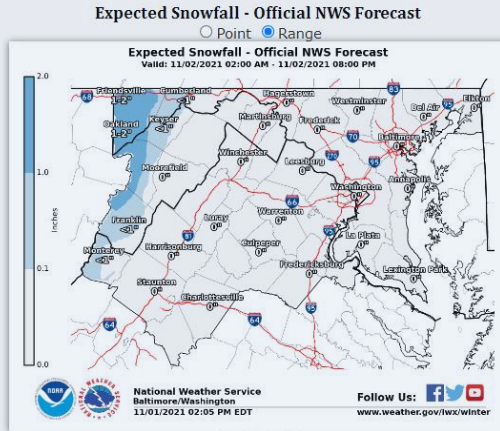
Range of Possibilities Snow Accumulation



Current Snowfall Expectation

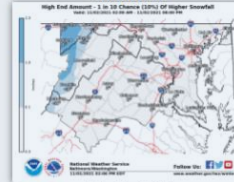
What our
forecasters
expect now.

Based on the
latest, constantly-
evolving models



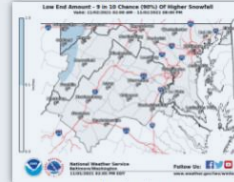
What's this?

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?

High-End Potential

How much/little
could it be,
given what
some models
still show

Low-End Potential

0-1 Days in Advance

Potential Winter Commuting Hazard

Recipe for Traffic Disaster

- 1" or less of snow
- During urban rush hour
- Sub-freezing road temperatures

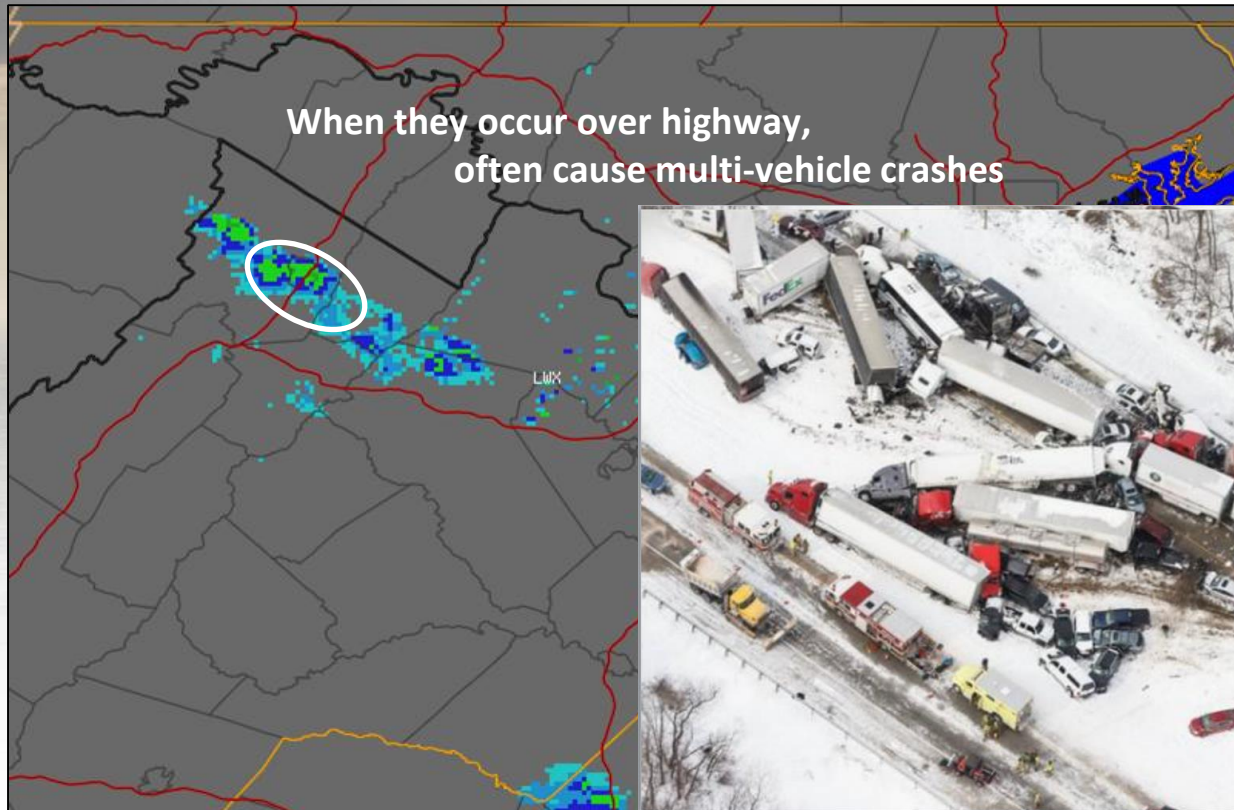


Together, these often create gridlock.

Potential Winter Commuting Hazard Statement (~24hrs in advance)
if we see a chance of these coming together

0-1 Days in Advance


Snow Squall Warning




twitter 
@NWS_BaltWash

Social Media

NWS Baltimore-Washington @NWS_BaltWash · 8h
Most of this week will be quiet, but it won't end that way.



NWS Baltimore-Washington @NWS_BaltWash · 17h
Here is a look at the sunset from Starling, VA this evening featuring our local WSR-88D KLWX. Not as cool overnight with lows in the 30s, except for the metros / along the bay where 40s are likely. Milder conditions continue on Monday with highs in the 60s under sunny skies.



NWS Baltimore-Washington @NWS_BaltWash · 20h
After the time change to Eastern Standard Time, sunsets will be around 5 PM today, before gradually moving toward 4:45 PM by the next month. Temperatures will continue to cool with normal lows nearing freezing by the Winter Solstice. #MIDVex #VAWex #DCVex #WVWex

MON. 11/26/13 5:01 PM	TUE. 11/27/13 4:45 PM	WED. 11/28/13 4:40 PM
TOTAL LENGTH OF DAYLIGHT 13 hrs, 18 mins, 42 secs	TOTAL LENGTH OF DAYLIGHT 13 hrs, 42 mins, 28 secs	TOTAL LENGTH OF DAYLIGHT 13 hrs, 26 mins, 28 secs
AVERAGES HIGH LOW 61 44	AVERAGES HIGH LOW 53 36	AVERAGES HIGH LOW 47 30

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Government Organization · Sterling, Virginia



Wall US National Weather Service... Everyone (Post Recent)

Share    

Write something...

US National Weather Service Baltimore/Washington
With the recent October snow across the area, many people have been interested in finding out information about previous October snows. With this link, you can find climate information such as past snowfalls. The data consists of not only official climate sites but also volunteer cooperative observers.

National Weather Service Starling
www.nws.noaa.gov
Government Internet Service Home page. The starting point for official government weather forecasts, warnings, meteorological products for forecasting the weather, and information about meteorology.

 Like ·  Comment ·  Share · about an hour ago · 18

US National Weather Service Baltimore/Washington added 3 new photos to the album October 29, 2011 Early Season Snow.



 Like ·  Comment ·  Share · November 01 at 11:00am · 18

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WEATHER FORECAST OFFICE

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2 were here

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 Carrie Larsen The NWS Baltimore/Washington Forecast Office is on Facebook
 Bryan Jackson My office has its own Facebook page!

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NWSBaltWash

Summary

- **The NWS – SHA/DOT partnerships have helped develop new ways to communicate snow forecasts:**
 - Days 3-7 Winter Storm Threat level
 - Days 0-3 “Range of Possible” Snow Accumulations
 - Days 0-1 Potential Winter Commuting Hazard Statement & Snow Squall Warning
- **Previously existing communication**
 - Watch / Warning / Advisory
- **NWS winter outlook 2021-22**
 - Fewer arctic outbreaks, but we will get them.
 - Higher likelihood of freezing rain & mixed precipitation

Winter Weather Preparedness



Jessica Nusbaum

State Individual Assistance Officer and
Community Preparedness Coordinator



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EMERGENCY MANAGEMENT

Larry Hogan | Governor

Boyd K. Rutherford | Lt. Governor

Russell J. Strickland | Secretary

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All Hazards Approach to Preparedness

- Family Plan
- Emergency Supply Kit
- Listen for Alerts
- Keep Vehicle Fueled
- Charge Phone



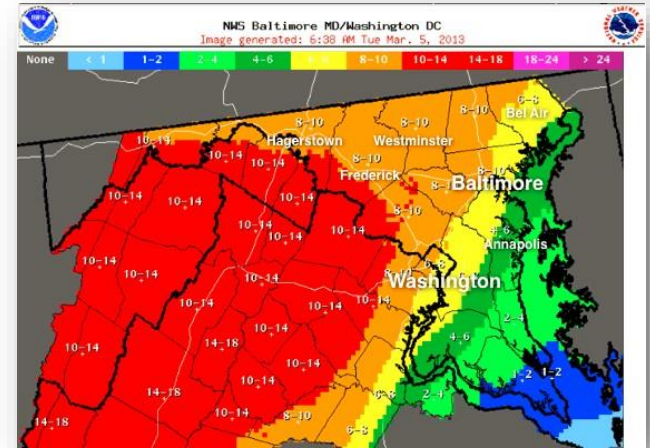
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Primary Concerns During Winter Storms

- Potential Loss of Power, Heat, and Telephone Service
- Shortage of Supplies
 - Food
 - Water
 - Medications
 - First Aid Supplies
 - Pet/Child Supplies
 - Heating Fuel



If the Power Goes Out

- Food- if power is off for less than 4 hours, food in your refrigerator and freezer will be safe to consume. ½ full freezer- 24 hours. Completely full freezer- 48 hours. Do not open doors.
- Water- purification systems may not be working. Use only bottled, boiled, or treated water.
- Monitor body temperatures in extreme cold
- Have access to flashlights with extra batteries



Winter Supply Kit: Food

- At least a three-day supply of non-perishable foods that do not require refrigeration, cooking, a lot of water, or lengthy preparation. This can include ready-to-eat canned meats, fruits and vegetables, canned juices, peanut butter, jelly, trail mix, protein bars
- Don't forget foods for family members with special needs such as infants or those on special diets/with allergies



Winter Supply Kit: Water

- Store water in plastic containers such as soft drink bottles or buy one-gallon containers of water
- Store one gallon of water per-person per-day for a three-day period



Winter Supply Kit: Tools and Supplies

- Paper cups, plates, and plastic utensils
- Battery operated radio and extra batteries (or solar/hand crank)
- Flashlight and extra batteries (or solar/hand crank)
- Non-electric can opener and utility knife
- Cash
- Blankets
- Hand/foot warmers
- Extra shovel/ice melt
- First Aid kit
- Phone charger/power bank



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Winter Driving Tips



- Make sure tires are properly inflated and have good tread
- Ensure wiper blades are functioning properly; fill wiper fluid
- Keep your fuel tank filled to at least half at all times; full is better
- Don't use cruise control on slick surfaces
- Don't heat your vehicle in an enclosed area
- Accelerate, decelerate, and drive slowly, and increase following distance
- Only go out if necessary in bad weather
- Remove all ice and snow from your vehicle- even the top!
- Respect snowplows and give them space on the road



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Winter Supply Kit: Vehicle

- Food/Water
- First Aid supplies
- Flares/bright colored cloth
- Jumper Cables
- Blanket
- Sand/cat litter
- Ice scraper
- Extra hats, gloves, scarves, socks, etc.
- Phone charger
- Disposable hand/foot warmers



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Winter Supply Kit: Work

- Food/Water
- Comfortable, safe shoes
- Change of clothing
- Extra winter weather gear



Winter Pet Safety

- Provide them with a warm place to sleep, away from drafty areas
- Clean their paws/stomachs after being outside to remove any salt or chemicals
- Towel dry them as soon as they come inside
- Pay attention to dry, flaky skin or cracked paw pads
- Don't leave them alone in a cold vehicle or outside without warm shelter
- Keep an extra supply of pet products on hand
- Consider using non-toxic antifreeze and clean up spills



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MD Ready

- MDEM's new installable web app
- Replaces our former app Maryland Prepares
- Option to save to computer or phone

<https://mdready.maryland.gov/>



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Questions?

www.mdem.maryland.gov

www.fema.gov

www.ready.gov/are-you-ready-guide



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The mission of the Maryland Department of Emergency Management is to proactively reduce disaster risks and reliably manage consequences through collaborative work with Maryland's communities and partners.

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