

## Heavy Rain/Storm Briefing

Prepared by National Weather Service Wakefield, VA

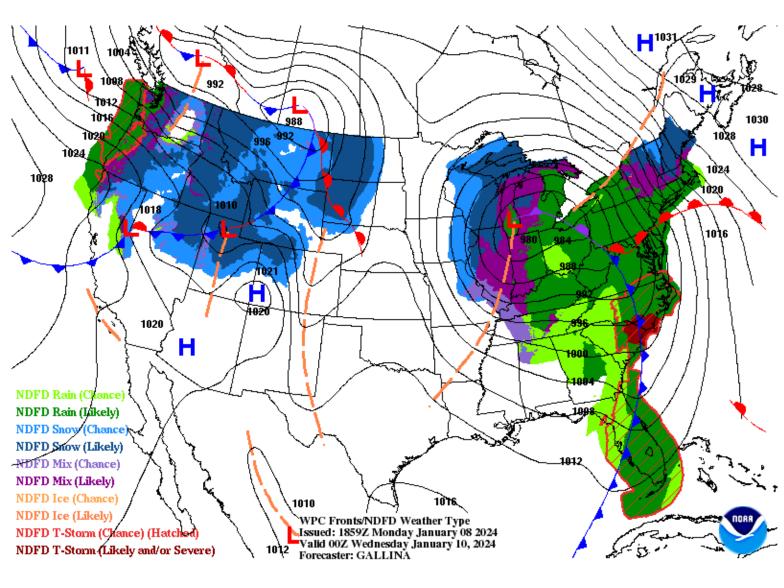
#### **Decision Support Briefing #2**

→ As of 5:00 PM EST Monday, January 8, 2023



#### **Important Updates**

- → Storm Warnings are in effect for the ocean, Chesapeake Bay, lower James River, and Currituck Sound. Gale Warnings in effect for the upper tidal rivers.
- → Coastal Flood Warnings are in effect for the bay-side of the MD Eastern Shore, the southern shore of the tidal Potomac, and for the northern shore and adjacent waterways of the Albemarle Sound
- → High Wind Warnings are in effect for most of the Eastern Shore, the western shore of the Chesapeake Bay, and the coasts of Southeast VA and Northeast NC. Wind Advisories in effect elsewhere except far western counties.
- → A Flood Watch has been issued for for all local VA and MD counties



Disclaimer: Information may become outdated after briefing time. Consult weather.gov/wakefield for the latest information.





## Key Messages

- Strong low pressure and a cold front will track from the Appalachian Mountains Tuesday and move off the Mid-Atlantic coast Tuesday night.
- Moderate to heavy rain and strong winds are expected across the area Tuesday morning through Wednesday morning.
- Rain will begin from southwest to northeast Tuesday morning, exiting the region late Tuesday night. The heaviest rain will occur between 5 pm and midnight.
- Winds increase through the day Tuesday and are expected to peak Tuesday evening into Tuesday night.
- There is a risk for strong to severe storms across northeast North Carolina and Southeast Virginia Tuesday evening. Strong, damaging wind gusts are the main threat, but there is also a potential for tornadoes.
- There will be the potential for localized power outages from wind and flooding from rainfall in addition to tidal flooding.



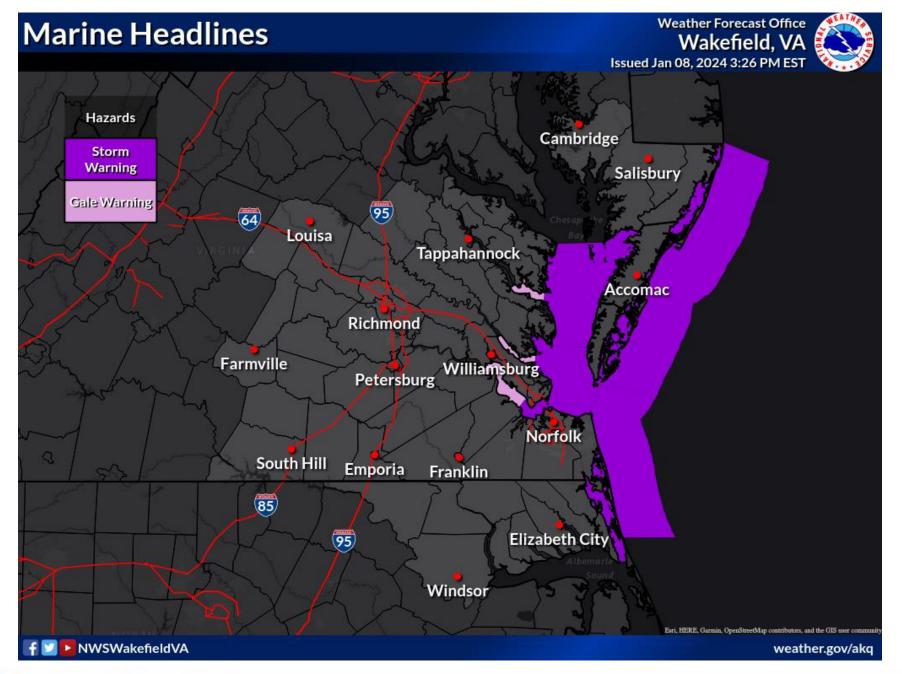


# Summary of Greatest Impacts

Hazard	Impacts	Location	Timing			
High Wind	Localized power outages/difficult travel for high profile vehicles/localized damaging wind gusts from storms	Primarily from the I-95 corridor to the coast, and strongest toward the coast	Tuesday afternoon into Tuesday night			
Tornadoes	A few brief tornadoes are possible	Southeast VA and Northeast NC	Tuesday evening into the early overnight hours			
Heavy Rain/ Flash Flooding	Localized flash flooding is possible due to wet soil conditions/Minor to moderate river flooding is likely	The entire area for flash flooding/All primary basins for river flooding	Tuesday evening into the early overnight hours for flash flooding/Wednesday through late week for river flooding			
Coastal Flooding	Water level rises of 2 to 3 feet above normal will bring the likelyhood for moderate to major tidal flooding. Large breaking waves may cause beach erosion.	Middle Chesapeake Bay/Southern Shore of the Tidal Potomac/Northern Shore of the Albemarle Sound and Adjacent Waterways	Tuesday night for the Albemarle Sound/Tuesday night and Wednesday morning elsewhere			
Marine	Very dangerous to extreme conditions are expected	All waters coastal and nearshore waters	Tuesday afternoon through Wednesday morning			



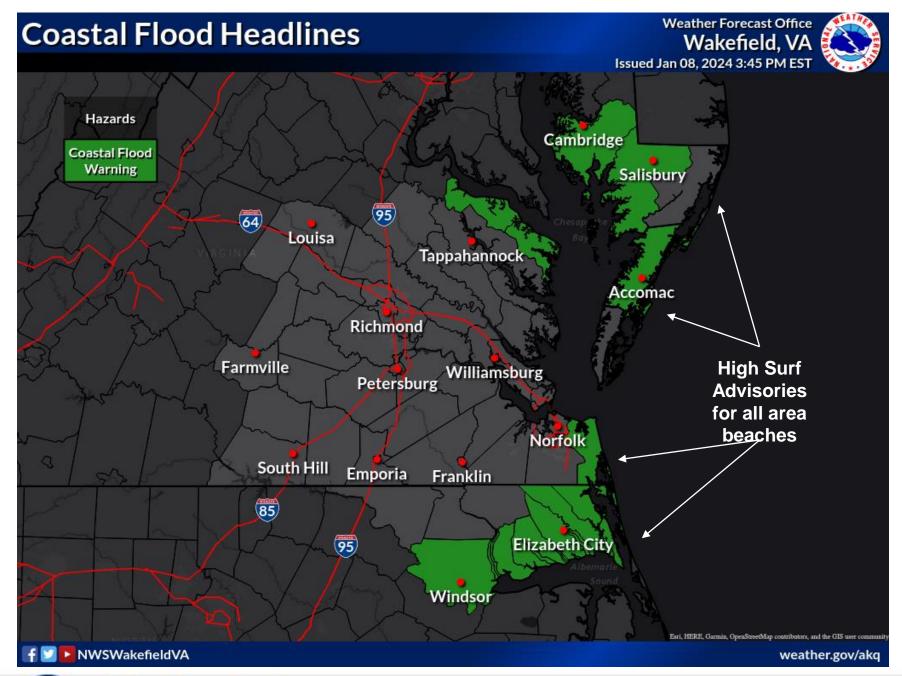




- A Storm Warning is in effect for the Chesapeake Bay, Atlantic Ocean, Currituck Sound, and lower James River Tuesday morning into Tuesday night
- A Gale Warning is in effect for the Rappahannock, York, and upper James River Tuesday afternoon into Tuesday night
- Hazardous marine conditions will continue into Wednesday
- See <u>www.weather.gov/akq</u> for the latest information



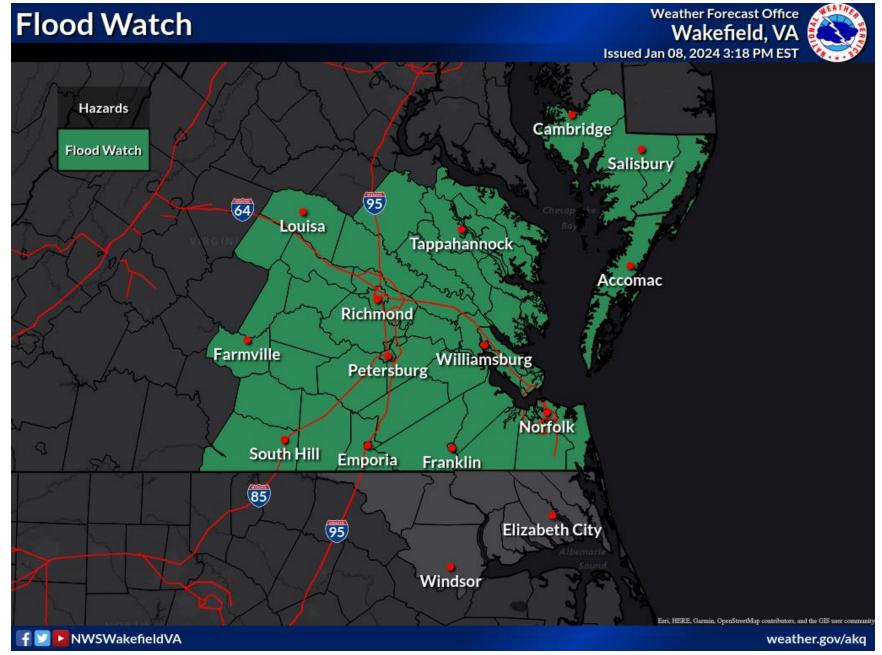




- Coastal Flood Warnings are in effect for the bay-side of the MD Eastern Shore, the southern shore of the tidal Potomac, and the northern shore of the Albemarle Sound and adjacent waterways
- High Surf Advisories are in effect for all area beaches
- Moderate to Major tidal flooding is possible Tuesday night into Wednesday morning
- Large breaking waves will result in dangerous surf conditions and possible beach erosion
- See <u>www.weather.gov/akq</u> for the latest information

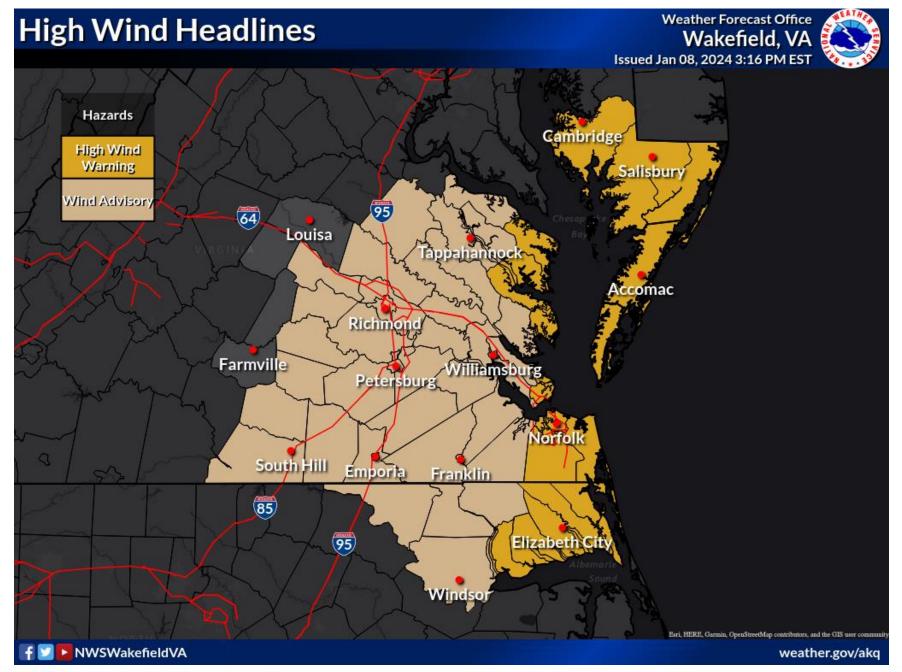






- A Flood Watch is in effect
   Tuesday afternoon through early
   Wednesday morning for all local
   VA and MD counties
- Localized flash flooding is possible due to wet soil conditions. In addition, minor to moderate river flooding is likely
- See <u>www.weather.gov/akq</u> for the latest information

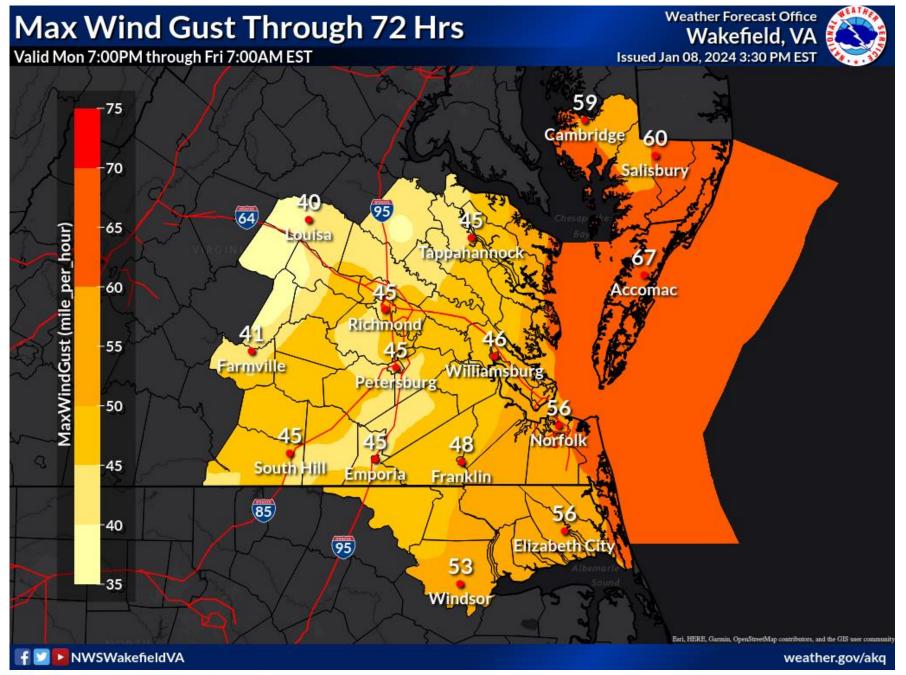




- High Wind Warnings are in effect for locations near the Chesapeake Bay, Atlantic Ocean, and Albemarle Sound Tuesday afternoon into Tuesday night
- Wind Advisories are in effect for inland counties to just west of the I-95/I-85 corridor.
- See <u>www.weather.gov/akq</u> for the latest information



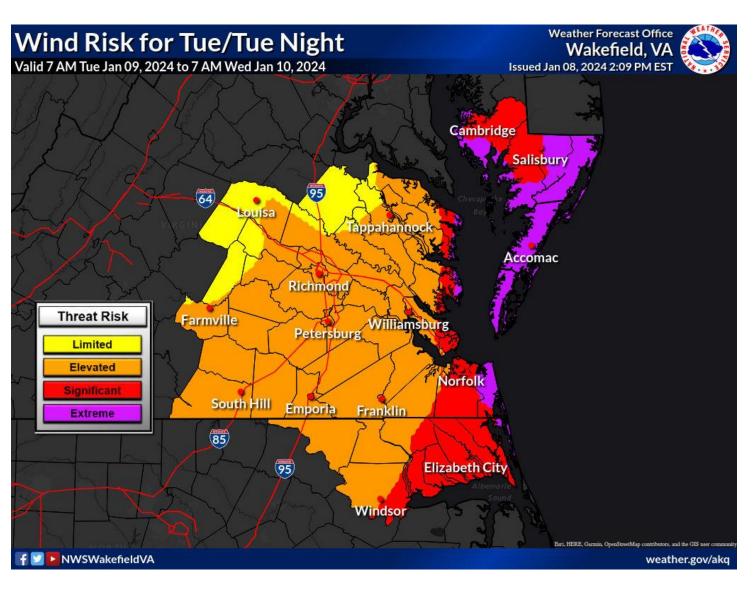
## High Wind Potential

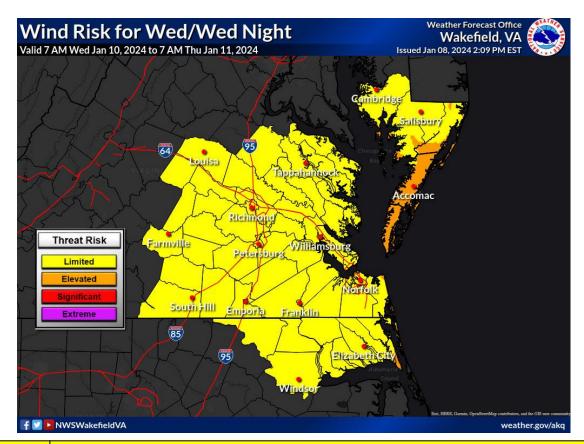


- A strong southeast, then south, wind is expected Tuesday afternoon into Tuesday night
- The wind will be highest from the I-95 corridor to the coast, and strongest (potentially damaging) near the coast
- Localized higher wind gusts are possible due to isolated thunderstorms across southeast VA and northeast NC



# High Wind Potential



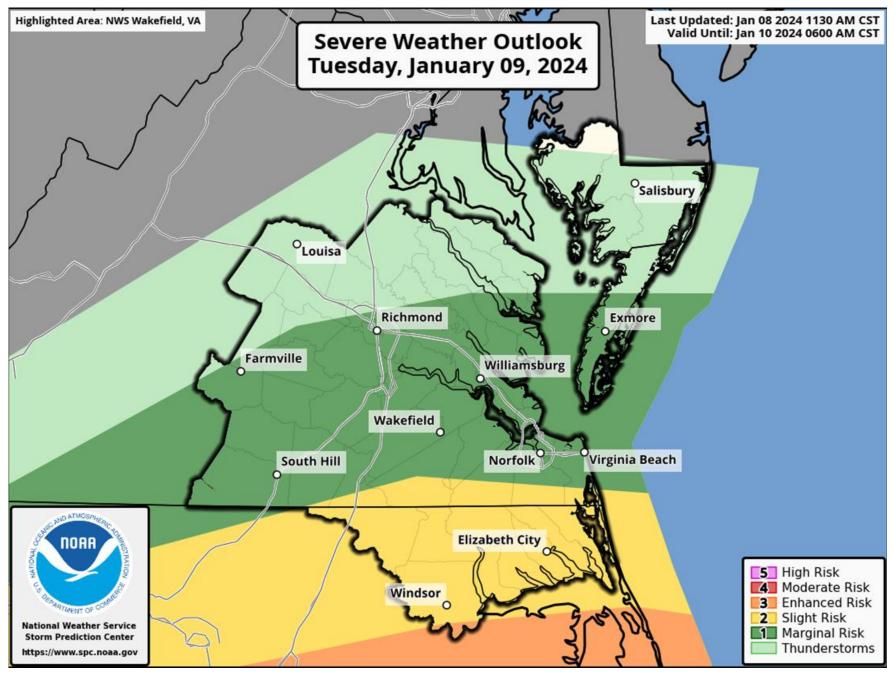


Limited	Breezy conditions with 30 to 40 mph wind gusts could blow around unsecured items and result in hazardous driving conditions for high-profile vehicles.
	Windy conditions with 40 to 50 mph wind gusts could damage light outdoor items, cause isolated power outages and result in hazardous driving conditions for high-profile vehicles.
Significant	Very windy conditions with 50 to 60 mph wind gusts could blow down trees, result in some property damage and cause power outages.
HYTCMA	Extremely windy conditions with wind gusts greater than 60 mph will damage numerous trees, cause property damage in addition to widespread power outages.

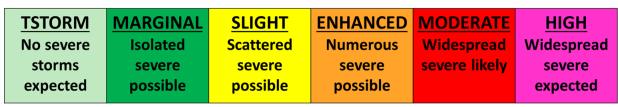




### Tomorrow - Severe Weather Outlook

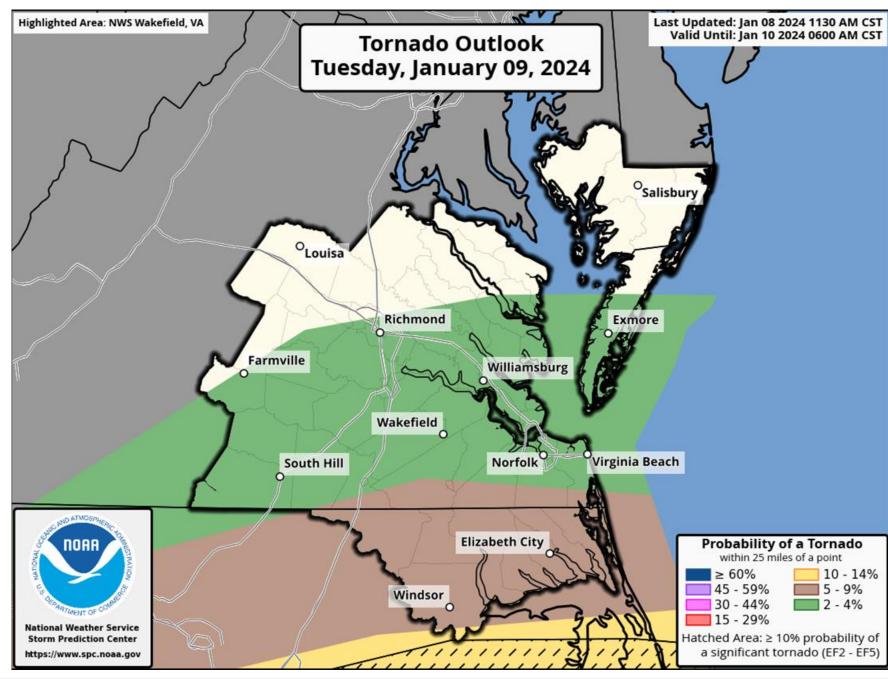


- Timing: Tuesday evening into the early overnight hours
- Potential Impacts: Damaging wind gusts and a few brief tornadoes
- Locations: Southeast VA and Northeast NC
- Storm Coverage: Storms will form into a line with localized impacts within the the line





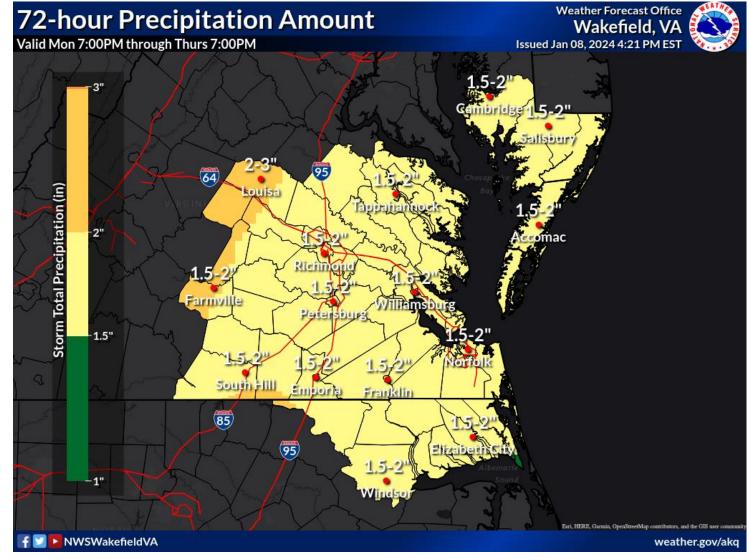
#### Tomorrow - Tornado Threat

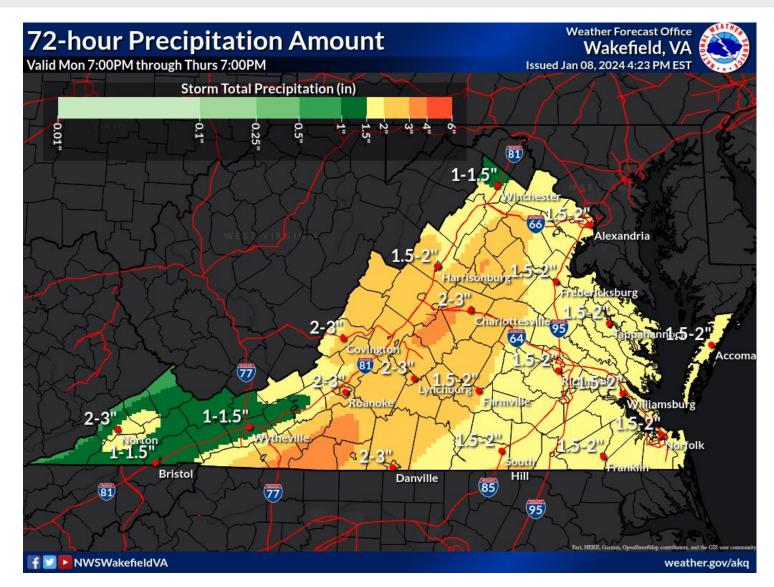


- Timing: Tuesday evening into the early overnight hours
- Potential Impacts: A few brief tornadoes are possible
- Locations: Southeast VA and Northeast NC (a potential for significant tornadoes is near the local area, immediately south of the Albemarle Sound)
- Storm Coverage: Storms will form into a line with localized impacts within the the line



### Expected Rainfall Forecast



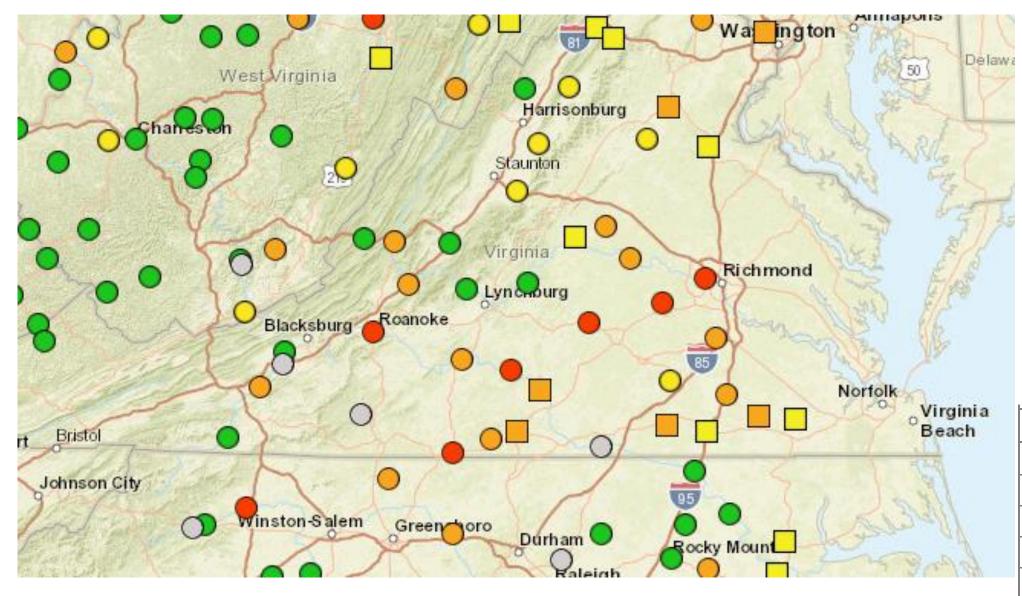


- Moderate to heavy rain is expected across the entire area
- The greatest amounts are expected across the Piedmont and upstream of the local area into the headwaters of the James River





# Potential River Flooding

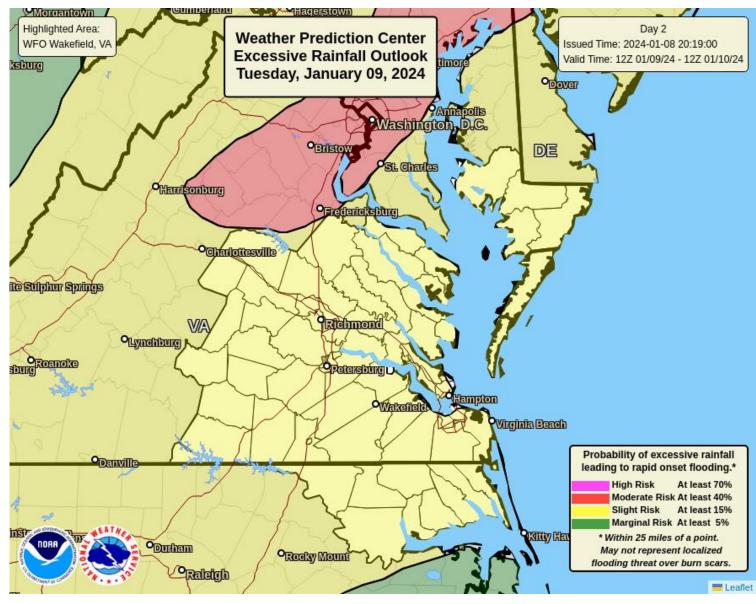


Minor to Moderate river flooding is possible along mainstem rivers and tributaries this week following heavy rain Tuesday and Tuesday night.

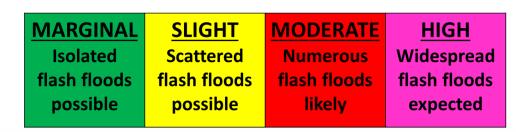
Chance of Exceedance										
30%	Level	70%								
0	Action									
0	Minor Flood									
	Moderate Flood									
	Major Flood									
= less than 30% chance of reaching Action level										



### Flood Threat - Tomorrow



- Rain is expected to develop early Tuesday and become moderate to heavy Tuesday evening into the early overnight hours
- Localized flash flooding is possible, especially given recent rain and wet soil conditions





# Regional Forecast Summary

Maximum Wind Gust Forecast (mph)

		9		1/		`	1/11					
	Tue 12am 6am 12pm 6pm 1					We		_	Thu			
								•				•
Accomac	14	32	52	62	53	41~	40	26	16	16~	17.	16
Ahoski	13←	31	45	47	37	33	35	16	72	12	13~	12~
Cambridge	12	28	48	55	44*	36	36	21	13	147	16.	16
Corolla	22	36	53	60	<b>49≯</b>	41	41	25	20~	<b>17→</b>	16	13
Elizabeth City	13←	32	49	54	447	37❖	38	20~	10~	14	16	14~
Emporia	12+	25	41	411	33.	31	33	15~	67	9.7	12	12
Farmville	12+	25	40	38	29.	31	33	15	7.7	12	15	15
Louisa	7.	24	39	37	28	30~	31	16	9₹	13	15~	16
Norfolk / Portsmouth	13	31	49	52	<b>45₹</b>	37❖	38	21	13	14	16	15
Ocean City	17.	31	49	63	<b>56★</b>	40~	39	26	18→	16	18.	17-
Richmond	94	25	43	41	33	33	35	18	97	13	15	15
Salisbury	9	28	48	56	<b>47★</b>	39	39	23	12	<b>15₹</b>	16.	18
South Hill	15	30	41	391	33.	31	33	13	7.7	12	13	12
Tappahannock	10	26	40	41	31₹	30~	31	17 <b>→</b>	9.7	13	147	14~
Virginia Beach	18	35	54	601	48	39	38	24	16	15~	16~	14~
Williamsburg	10	26	43	43	38	33	33→	18	9	13	16~	14

Created: 3 pm EST Mon 1/8/2024 | Values are maximums over the period beginning at the time shown.

Rain	Forecast (	(inches)
	,	`

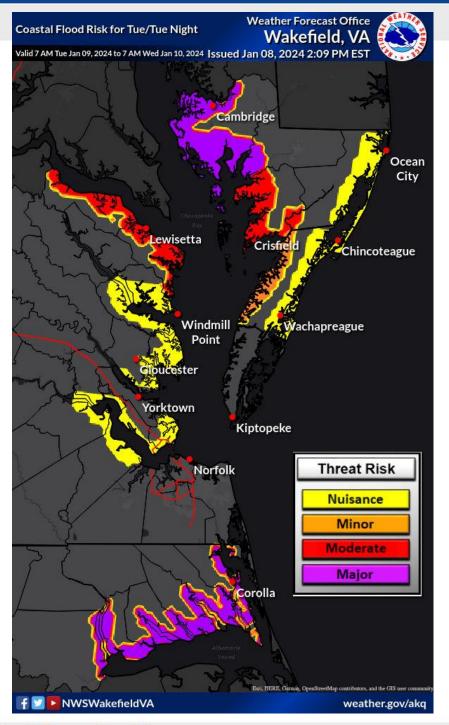
		-	/9 <b>`</b>		1/				
	Tue			1	W				
•	1am		1pm	7pm	1am	7am	•	7pm	
Accomac	0	0.13	0.39	1.21	0.03	0	0	0	
Ahoski	0	0.25	0.73	1.00	0	0	0	0	
Cambridge	0	0.16	0.54	0.86	0.02	0	0	0	
Corolla	0	0.12	0.22	1.26	0.04	0	0	0	
Elizabeth City	0	0.16	0.42	1.23	0.01	0	0	0	6 Hourly
Emporia	0.01	0.38	0.94	0.73	0	0	0	0	6 Hourly
Farmville	0.03	0.63	1.16	0.28	0	0	0	0	Rainfall
Louisa	0.02	0.52	1.24	0.36	0	0	0	0	Amounts
Norfolk / Portsmouth	0	0.18	0.47	1.26	0.01	0	0	0	
Ocean City	0	0.07	0.47	1.21	0.07	0	0	0	
Richmond	0	0.38	0.99	0.56	0	0	0	0	
Salisbury	0	0.13	0.50	1.06	0.02	0	0	0	
South Hill	0.03	0.42	1.21	0.48	0	0	0	0	
Tappahannock	0	0.27	0.79	0.76	0.02	0	0	0	
Virginia Beach	0	0.13	0.40	1.23	0.02	0	0	0	
Williamsburg	0	0.26	0.73	0.93	0.01	0	0	0	

Created: 4 pm EST Mon 1/8/2024 | Values are accumulations over the period beginning at the time shown.





## Tidal Flooding Overview



- Strong southeast winds will push water up the Chesapeake Bay and the northern shore of the Albemarle Sound. Peak winds from the southeast will occur from late Tuesday afternoon into early Tuesday morning. Winds decrease and shift from the west early Wednesday morning, but remain strong.
- Major tidal flooding is expected for the bay-side of the lower MD Eastern Shore. Widespread moderate tidal flooding farther south to Windmill Point and Bayford.
- 2 to 3 ft of inundation (or more) is possible. Water will likely close roads and threaten some homes and businesses in some areas in areas of Major to Moderate flooding.

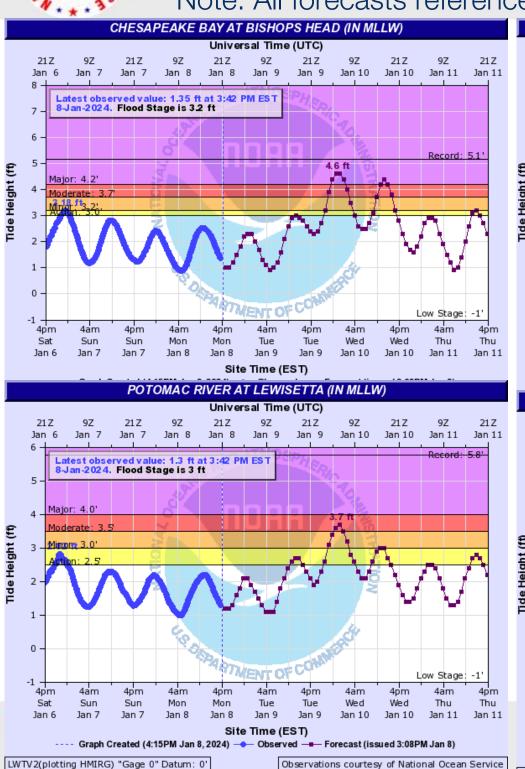
Coastal Flood Webpage
<a href="https://www.weather.gov/erh/coastalflood?wfo=akq">https://www.weather.gov/erh/coastalflood?wfo=akq</a>

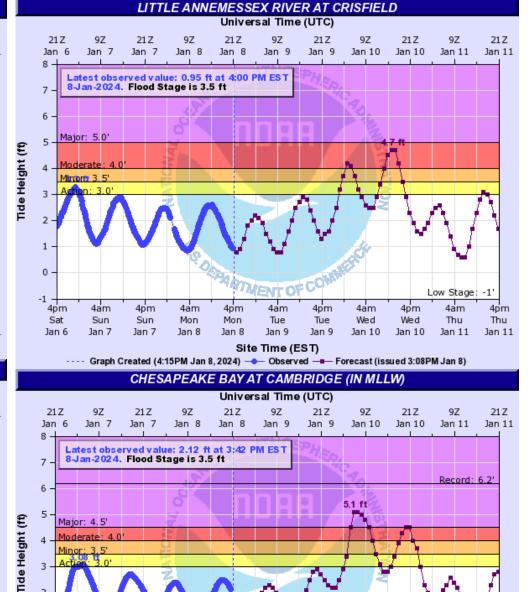




## Tidal Overview - Upper Bay

Note: All forecasts reference Mean Lower Low Water (MLLW).





Graph Created (4:15PM Jan 8, 2024) → Observed → Forecast (issued 3:08PM Jan 8)

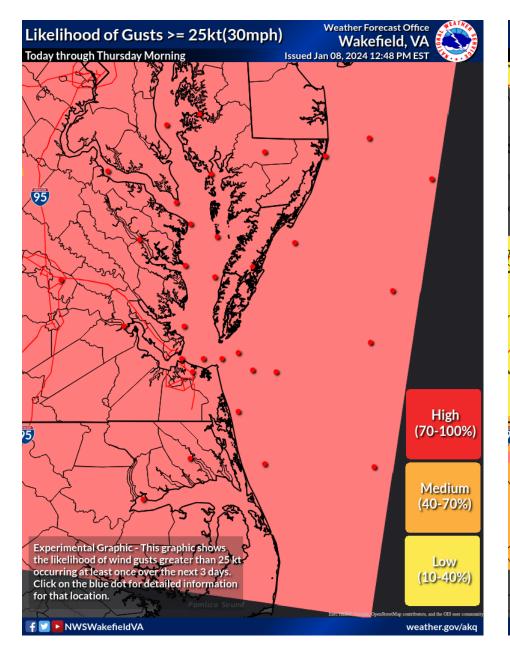
#### **Summary of Tidal Trends**

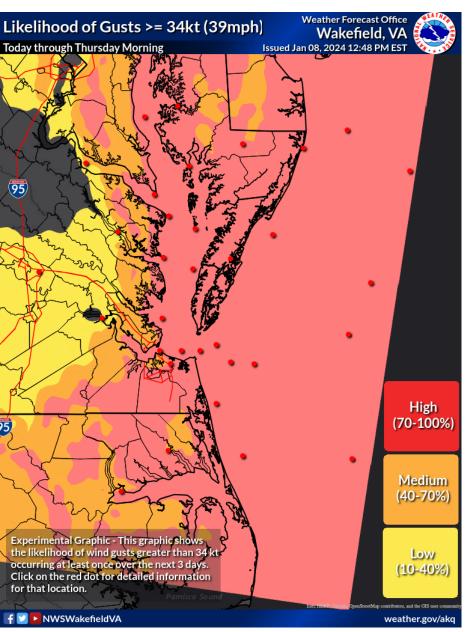
- Moderate to major tidal flooding is likely over portions of the middle and upper Chesapeake Bay and tributaries.
- Timing of peak tides will be Tuesday evening into early Wednesday.
- 2 to 3 ft of inundation (or more) is possible. Water will likely close roads and threaten some homes and businesses in some areas in areas of Major to Moderate flooding.

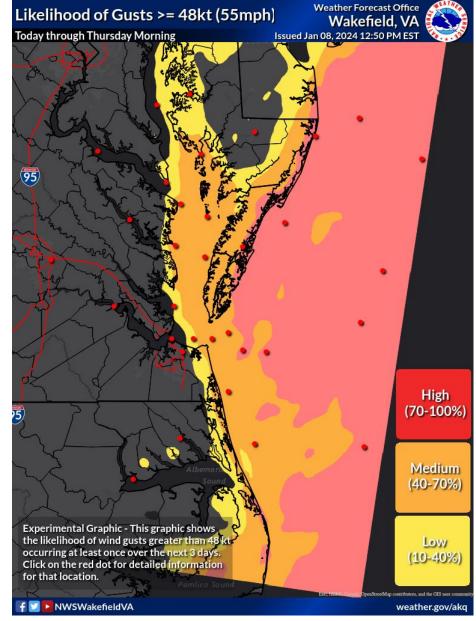
National Weather Service Wakefield, VA



### Marine Wind Probabilities



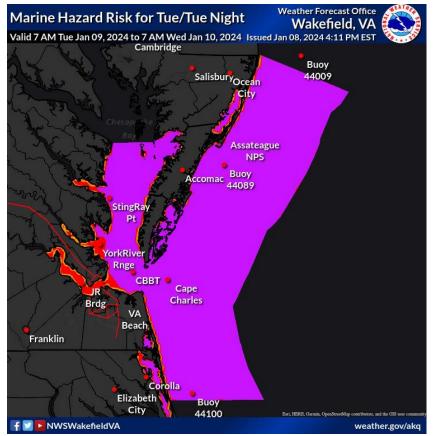


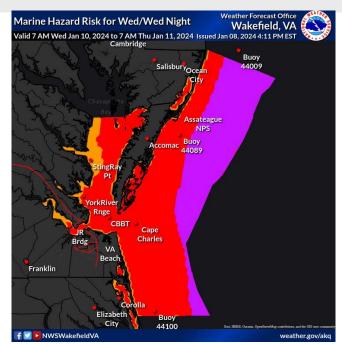






## Marine Threat Potential - Next 5 Days





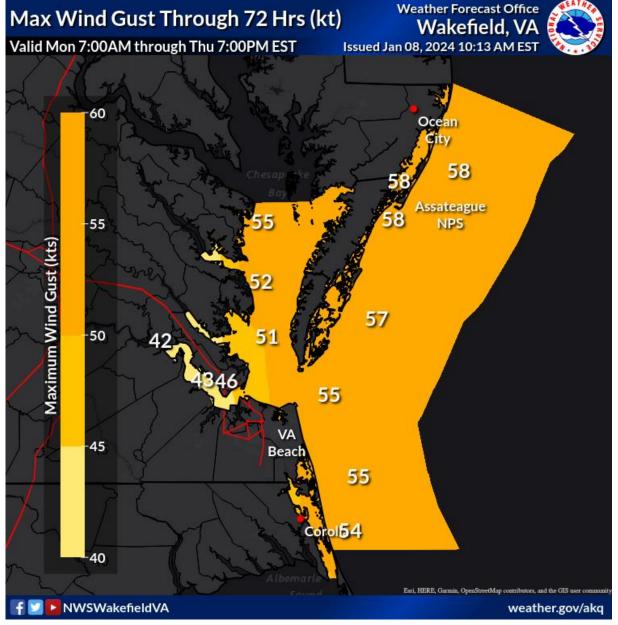


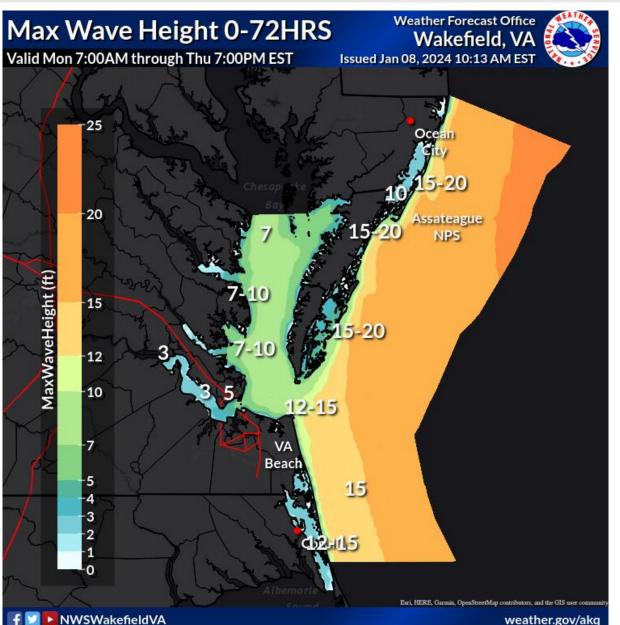
Limited	Wind Gusts >= 20 knots (15 kt Bay & rivers) and/or Waves >= 4 feet (2 ft Bay & rivers).
Elevated	Wind Gusts >= 25 knots (20 kt Bay & rivers) and/or Waves >= 5 feet (>=4 ft Bay & rivers).
Significant	Wind Gusts >= 34 knots and/or Waves >= 8 feet (>= 5 ft Bay & rivers).
Extreme	Wind Gusts >= 48 knots and/or Waves >= 12 feet (>= 8 ft Bay & rivers).





### Marine Threat Potential





#### **Key Points:**

- Storm Warnings are in effect for the Bay and all coastal waters.
- SE winds increase to 30 kt gust 40 kt by noon Tue, then SE 40 kt gust 50 kt Tue evening through midnight.
- Waves on the Bay rapidly build to 7 to 10 ft Tue evening, 12 to 20 ft on the ocean.
- Outlook: Gale conditions persist until noon Wed with a WSW wind

For Port specific forecast information visit: <a href="https://www.weather.gov/akq/dss\_port">https://www.weather.gov/akq/dss\_port</a>





### Marine Wind Forecast Summary

#### **Sustained Wind**

#### **Wind Gusts**

Maximum Wind Speed Forecast (kt)

waxiiilaiii wiila opeea i oleeast (kt)												
		1/	9			1/	10		1/11			
		Τι	ıe			W	ed		Thu			
	12am	6am	12pm	6pm	12am	6am	12pm	6pm	12am	6am	12pm	6pm
CBBT	16	26	38	41	33*	28	26	19~	14	12	12	11
Cape Henry	16	25	39	42	33	28	27*	19	15	12	127	10~
Chesapeake Light	15	25	37	41	35≉	30~	27*	22	17❖	14	13	10~
<b>Chincoteague Shoal</b>	14	22	34	43	38	30~	28	21	16→	13	147	12
Duck, NC	15	24	35	38	33	27	24	18	15	12	117	97
Fenwick Shoal	11%	19	32	41	391	26	27*	18	12	12	137	127
HRBT	13	20	33	34	29	26	24	16	10	10~	117	10~
JRB	12	20	29	31	28	25	22	14	87	10~	117	107
New Point Comfort	14	24	36	39	30≯	25	24	17*	12	117	117	10~
Parramore Banks	15	23	35	431	37≉	29~	28	21	16	13	147	11
Rappahannock Light	13	23	37	41	32	27*	26	19	14	13	127	10~
Tangier	13	23	37	43	32	27	25	19~	15	13	127	117
Thimble Shoal	17	26	38	41	32	27	26	18	13	12	117	117

Created: 4 pm EST Mon 1/8/2024 | Values are maximums over the period beginning at the time shown.

Maximum Wind Gust Forecast (kt)	<b>Maximum</b>	Wind	Gust	<b>Forecast</b>	(kt
---------------------------------	----------------	------	------	-----------------	-----

Maximum Wina Gust i Sicoust (Kt)												
		1/	'9		1/10				1/11			
		Tu	ıe		Wed				Thu			
	12am 6am 12pm 6pm 1				12am	6am	12pm	6pm	12am 6am 12pm 6pm			
CBBT	20	33	51	53	<b>45₹</b>	37*	34	24	18	15	15	14
Cape Henry	20	31	49	54	41	35	34	24	19→	15	15	13~
Chesapeake Light	19	31	48	<b>56</b>	44	38	35	28	21	18	16	13
Chincoteague Shoal	18	28	45	56	48	38	36	27 <b>→</b>	20	16~	18	15
Duck, NC	19	30┺	47	53	<b>42₹</b>	36	35	23	19*	16	14	12
Fenwick Shoal	13	24	40 <b>%</b>	55	53	35	35	25	18	18	19.	18
HRBT	16	26	44	<b>45</b>	407	35	34	21	13	13	15	13
JRB	16	27	41	42	39	35	32	19~	117	14	15	147
New Point Comfort	18	31	49	51	41	34	32	22	16	14	147	13
Parramore Banks	19	29	44	56	46	36	35	27→	20	<b>16</b> →	18	14
Rappahannock Light	16	29	48	<b>52</b>	<b>42★</b>	34	33	24	18	16~	15	13
Tangier	16	29	49	54	<b>42★</b>	34	32	24	19	16~	15	147
Thimble Shoal	21	33	50	53	43	35	33	23	16	15	14	147

Created: 4 pm EST Mon 1/8/2024 | Values are maximums over the period beginning at the time shown.





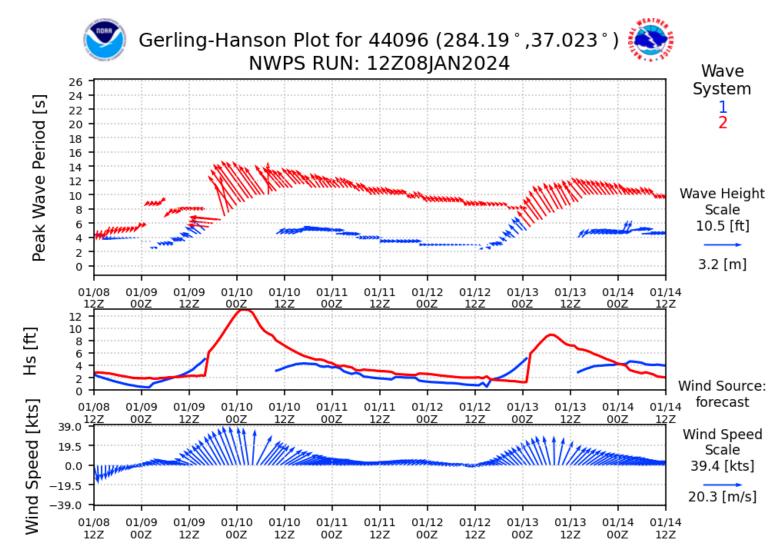
## Marine Wave Forecast Summary

#### Wave Height Forecast (feet)

wave rieight roledast (leet)												
		1,	/9			1/	10		1/11			
		Τι	ıe		Wed				Thu			
	12am	12am 6am 12pm 6pm 1				6am	12pm	6pm	12am 6am 12pm 6pm			
CBBT	3.0	4.0	8.0	9.0	7.0	6.0	6.0	4.0	3.0	3.0	2.0	2.0
Cape Henry	3.0	6.0	10.0	12.0	10.0	7.0	6.0	5.0	4.0	3.0	3.0	3.0
Chesapeake Light	4.0	6.0	12.0	16.0	14.0	10.0	9.0	7.0	5.0	5.0	4.0	3.0
<b>Chincoteague Shoal</b>	3.0	5.0	10.0	15.0	14.0	12.0	8.0	7.0	5.0	4.0	4.0	4.0
Duck, NC	3.0	6.0	10.0	12.0	11.0	7.0	6.0	5.0	4.0	3.0	3.0	3.0
Fenwick Shoal	3.0	4.0	9.0	16.0	16.0	12.0	9.0	8.0	6.0	5.0	4.0	4.0
HRBT	2.0	3.0	5.0	5.0	4.0	4.0	3.0	2.0	1.0	1.0	1.0	1.0
JRB	1.0	2.0	3.0	3.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
<b>New Point Comfort</b>	2.0	4.0	7.0	8.0	5.0	4.0	4.0	2.0	2.0	1.0	1.0	1.0
Parramore Banks	3.0	6.0	11.0	14.0	13.0	10.0	8.0	6.0	5.0	4.0	4.0	3.0
Rappahannock Light	2.0	3.0	7.0	8.0	7.0	5.0	5.0	3.0	2.0	1.0	2.0	1.0
Tangier	2.0	3.0	6.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0	2.0	1.0
Thimble Shoal	3.0	4.0	7.0	8.0	7.0	5.0	5.0	3.0	2.0	2.0	2.0	2.0

Created: 4 pm EST Mon 1/8/2024 | Values are maximums over the period beginning at the time shown.

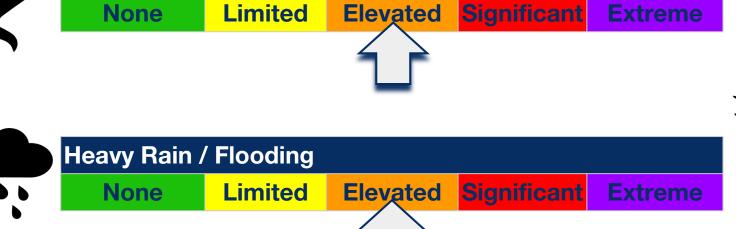
# Cape Henry Wave





# Summary of Greatest Impacts









## Key Messages

- Strong low pressure and a cold front will track from the Appalachian Mountains Tuesday and move off the Mid-Atlantic coast Tuesday night.
- Moderate to heavy rain and strong winds are expected across the area Tuesday morning through Wednesday morning.
- Rain will begin from southwest to northeast Tuesday morning, exiting the region late Tuesday night. The heaviest rain will occur between 5 pm and midnight.
- Winds increase through the day Tuesday and are expected to peak Tuesday evening into Tuesday night.
- There is a risk for strong to severe storms across northeast North Carolina and Southeast Virginia Tuesday evening. Strong, damaging wind gusts are the main threat, but there is also a potential for tornadoes.
- There will be the potential for localized power outages from wind and flooding from rainfall in addition to tidal flooding.





## Contact and Next Briefing Information

For NWS Wakefield, Virginia



→ NWS Wakefield Briefing



- → By 9 AM Tuesday, January 9, 2024
- → Method: Email and Online



#### **Disclaimer**

- → Information contained in this briefing is time-sensitive
- → See <u>www.weather.gov/akg</u> for the latest information



#### Web

→ weather.gov/wakefield

#### **Phone**

**→** (757) 899-4200

#### **Email**

→ akq-report@noaa.gov

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