

## Storm Data and Unusual Weather Phenomena - February 2019

| Location | Date/Time | Deaths & Injuries | Property & Crop Dmg | Event Type and Details |
|----------|-----------|-------------------|---------------------|------------------------|
|----------|-----------|-------------------|---------------------|------------------------|

### DISTRICT OF COLUMBIA

#### (DC-Z001) DISTRICT OF COLUMBIA

|                    |   |                |
|--------------------|---|----------------|
| 02/01/19 07:00 EST | 0 | Winter Weather |
| 02/01/19 18:00 EST | 0 |                |

High pressure overhead of the region late on January 31st shifted eastward and offshore in the early morning of February 1st. A frontal boundary was positioned south of the region across southern Virginia, and a wave of low pressure developed along the boundary in the Ohio Valley on the morning of the 1st. This then moved eastward to the Virginia Tidewater by the evening hours. Warm air advection associated with this frontal wave led to 1 to 1.5 inches of accumulating snow in the District of Columbia.

#### (DC-Z001) DISTRICT OF COLUMBIA

|                    |   |                |
|--------------------|---|----------------|
| 02/10/19 21:00 EST | 0 | Winter Weather |
| 02/12/19 10:00 EST | 0 |                |

Surface high pressure was located over the region on the morning of February 10th. This gave way to several waves of low pressure that moved near the region from the evening of the 10th and through the 12th. Several periods of rain and mixed precipitation affected the District of Columbia during this time, resulting in a light snow accumulation.

#### (DC-Z001) DISTRICT OF COLUMBIA

|                    |   |                |
|--------------------|---|----------------|
| 02/20/19 06:00 EST | 0 | Winter Weather |
| 02/20/19 23:59 EST | 0 |                |

Surface high pressure was in place over the northeastern United States during the overnight hours of February 19th. At the same time, low pressure was tracking northeastward from the south central US. Strong warm air advection and associated frontogenetical forcing led to a period of moderate to heavy snow that spread northeastward across the District of Columbia on the morning of February 20th. As warmer air continued to move in aloft, precipitation then transitioned over to sleet and then freezing rain during the afternoon hours. By later that evening, the primary low was moving through the Great Lakes region as a secondary low moved along the Mid-Atlantic coastline. Eventually enough warm air moved into the region, changing all precipitation over to rain during the overnight hours on the 20th.

#### (DC-Z001) DISTRICT OF COLUMBIA

|                    |   |                       |
|--------------------|---|-----------------------|
| 02/24/19 20:00 EST | 0 | High Wind (MAX 52 kt) |
| 02/25/19 11:06 EST | 0 |                       |

An area of low pressure rapidly intensified as it moved from the Mid-Mississippi Valley northward into the Great Lakes from late in the evening of February 24th and into the morning hours of February 25th. The low then tracked northeastward into Canada during the remainder of the 25th. A secondary area of low pressure also developed along the Mid-Atlantic coastline and moved into New England. Strong winds associated with the system led to high wind gusts across the District of Columbia.

### MARYLAND, Central

#### (MD-Z501) EXTREME WESTERN ALLEGANY

|                    |   |              |
|--------------------|---|--------------|
| 02/01/19 02:00 EST | 0 | Winter Storm |
| 02/01/19 18:00 EST | 0 |              |

(MD-Z003) WASHINGTON, (MD-Z004) FREDERICK, (MD-Z005) CARROLL, (MD-Z006) NORTHERN BALTIMORE, (MD-Z011) SOUTHERN BALTIMORE, (MD-Z013) PRINCE GEORGES, (MD-Z014) ANNE ARUNDEL, (MD-Z502) CENTRAL AND EASTERN ALLEGANY, (MD-Z503) NORTHWEST MONTGOMERY, (MD-Z504) CENTRAL AND SOUTHEAST MONTGOMERY, (MD-Z505) NORTHWEST HOWARD, (MD-Z506) CENTRAL AND SOUTHEAST HOWARD, (MD-Z507) NORTHWEST HARBOR

|                    |   |                |
|--------------------|---|----------------|
| 02/01/19 07:00 EST | 0 | Winter Weather |
| 02/01/19 18:00 EST | 0 |                |

High pressure overhead of the region late on January 31st shifted eastward and offshore in the early morning of February 1st. A frontal boundary was positioned south of the region across southern Virginia, and a wave of low pressure developed along the boundary in the Ohio Valley on the morning of the 1st. This then moved eastward to the Virginia Tidewater by the evening hours. Warm air advection associated with this frontal wave led to widespread light to moderate accumulating snow for much of the state, with a coating to 1 inch reported across southern Maryland to 1 to 3 inches across central Maryland, and up to 6 inches reported in western Maryland.

## Storm Data and Unusual Weather Phenomena - February 2019

| Location  | Date/Time          | Deaths &<br>Injuries | Property &<br>Crop Dmg | Event Type and Details |
|---|--------------------|----------------------|------------------------|------------------------|
| <b>(MD-Z501) EXTREME WESTERN ALLEGANY, (MD-Z502) CENTRAL AND EASTERN ALLEGANY</b>   |                    |                      |                        |                        |
|   | 02/06/19 18:00 EST |                      | 0                      | Dense Fog              |
|   | 02/07/19 10:20 EST |                      | 0                      |                        |
| <p>Warm, moist air aloft overrunning colder surface air combined with lingering low level moisture to produce low clouds and widespread dense fog across portions of the region.</p>  |                    |                      |                        |                        |
| <b>(MD-Z013) PRINCE GEORGES, (MD-Z014) ANNE ARUNDEL, (MD-Z016) CHARLES, (MD-Z017) ST. MARY'S, (MD-Z018) CALVERT, (MD-Z505) NORTHWEST HOWARD, (MD-Z506) CENTRAL AND SOUTHEAST HOWARD</b>   |                    |                      |                        |                        |
|   | 02/07/19 20:56 EST |                      | 0                      | Dense Fog              |
|   | 02/08/19 09:24 EST |                      | 0                      |                        |
| <p>Warm, moist air aloft overrunning colder surface air combined with abundant low level moisture to produce low clouds and widespread dense fog across portions of the region.</p>   |                    |                      |                        |                        |
| <b>(MD-Z003) WASHINGTON, (MD-Z004) FREDERICK, (MD-Z005) CARROLL, (MD-Z006) NORTHERN BALTIMORE, (MD-Z501) EXTREME WESTERN ALLEGANY, (MD-Z502) CENTRAL AND EASTERN ALLEGANY, (MD-Z503) NORTHWEST MONTGOMERY, (MD-Z505) NORTHWEST HOWARD, (MD-Z507) NORTHWEST HARFORD</b>  |                    |                      |                        |                        |
|   | 02/10/19 19:00 EST |                      | 0                      | Winter Storm           |
|   | 02/12/19 19:00 EST |                      | 0                      |                        |
| <b>(MD-Z011) SOUTHERN BALTIMORE, (MD-Z013) PRINCE GEORGES, (MD-Z014) ANNE ARUNDEL, (MD-Z504) CENTRAL AND SOUTHEAST MONTGOMERY, (MD-Z506) CENTRAL AND SOUTHEAST HOWARD, (MD-Z508) SOUTHEAST HARFORD</b>  |                    |                      |                        |                        |
|   | 02/10/19 21:00 EST |                      | 0                      | Winter Weather         |
|   | 02/12/19 10:00 EST |                      | 0                      |                        |
| <p>Surface high pressure was located over the region on the morning of February 10th. This gave way to several waves of low pressure that moved near the region from the evening of the 10th and through the 12th. Several periods of mixed wintry precipitation affected the state of Maryland during this time, with snow accumulations ranging from a coating to half inch across southern Maryland to up to 6 inches across northern Maryland. Portions of the state north and west of Interstate 95 also saw ice accumulations that ranged from a quarter to half inch in some locations.</p>  |                    |                      |                        |                        |
| <b>(MD-Z003) WASHINGTON, (MD-Z004) FREDERICK, (MD-Z005) CARROLL, (MD-Z006) NORTHERN BALTIMORE, (MD-Z011) SOUTHERN BALTIMORE, (MD-Z013) PRINCE GEORGES, (MD-Z014) ANNE ARUNDEL, (MD-Z501) EXTREME WESTERN ALLEGANY, (MD-Z502) CENTRAL AND EASTERN ALLEGANY, (MD-Z503) NORTHWEST MONTGOMERY, (MD-Z504) CENTRAL AND SOUTHEAST MONTGOMERY, (MD-Z505) NORTHWEST HOWARD, (MD-Z506) CENTRAL AND SOUTHEAST HOWARD, (MD-Z507) NORTHWEST HARFORD, (MD-Z508) SOUTHEAST HARFORD</b>   |                    |                      |                        |                        |
|   | 02/17/19 16:00 EST |                      | 0                      | Winter Weather         |
|   | 02/17/19 23:59 EST |                      | 0                      |                        |
| <p>A ridge of high pressure was in place over the northeastern United States in the early morning hours of February 17th. At the same time, low pressure was tracking northeastward from the lower Mississippi Valley. By the afternoon the area of low pressure had progressed into the Ohio Valley with warm air advection occurring aloft over the Mid-Atlantic states, while cold surface temperatures remained. This led to areas of freezing rain and sleet during the afternoon and evening hours of the 17th for locations in Maryland near and north and west of the Baltimore metropolitan area. Ice accumulations were light and around a tenth of an inch or less. Precipitation then changed to rain during the overnight hours.</p> |                    |                      |                        |                        |
| <b>(MD-Z003) WASHINGTON, (MD-Z004) FREDERICK, (MD-Z005) CARROLL, (MD-Z006) NORTHERN BALTIMORE, (MD-Z011) SOUTHERN BALTIMORE, (MD-Z501) EXTREME WESTERN ALLEGANY, (MD-Z502) CENTRAL AND EASTERN ALLEGANY, (MD-Z503) NORTHWEST MONTGOMERY, (MD-Z504) CENTRAL AND SOUTHEAST MONTGOMERY, (MD-Z505) NORTHWEST HOWARD, (MD-Z506) CENTRAL AND SOUTHEAST HOWARD</b>   |                    |                      |                        |                        |
|   | 02/20/19 05:00 EST |                      | 0                      | Winter Storm           |
|   | 02/20/19 23:59 EST |                      | 0                      |                        |
| <b>(MD-Z013) PRINCE GEORGES, (MD-Z014) ANNE ARUNDEL, (MD-Z016) CHARLES, (MD-Z017) ST. MARY'S, (MD-Z018) CALVERT, (MD-Z507) NORTHWEST HARFORD, (MD-Z508) SOUTHEAST HARFORD</b>   |                    |                      |                        |                        |
|   | 02/20/19 05:00 EST |                      | 0                      | Winter Weather         |
|   | 02/20/19 23:59 EST |                      | 0                      |                        |

Surface high pressure was in place over the northeastern United States during the overnight hours of February 19th. At the same time, low pressure was tracking northeastward from the south central US. Strong warm air advection and associated frontogenetical forcing led to a period of moderate to heavy snow that spread northeastward across the state of Maryland, especially along and northwest of Interstate 95, on the morning of February 20th. As warmer air continued to move in aloft, precipitation then transitioned over to sleet and then freezing rain during the afternoon hours. By later that evening, the primary low was moving through the Great Lakes region as a secondary low moved along the Mid-Atlantic coastline. Eventually enough warm air moved into the region, changing all precipitation over

## Storm Data and Unusual Weather Phenomena - February 2019

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|----------|-----------|-------------------|---------------------|------------------------|
|----------|-----------|-------------------|---------------------|------------------------|

to rain during the overnight hours on the 20th.

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**(MD-Z501) EXTREME WESTERN ALLEGANY**

|                    |   |                |
|--------------------|---|----------------|
| 02/23/19 09:00 EST | 0 | Winter Weather |
| 02/23/19 23:59 EST | 0 |                |

Surface high pressure was located over New England through the day on February 23rd. Overrunning warm and moist air advection associated with a developing system in the southern plains led to rain overspreading portions of the state of Maryland. In western Maryland temperatures at elevations between 1500 and 4000 feet were below freezing for much of the day and evening, which led to a glazing of ice up to about a tenth of an inch.

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**(MD-Z003) WASHINGTON, (MD-Z004) FREDERICK, (MD-Z005) CARROLL, (MD-Z006) NORTHERN BALTIMORE, (MD-Z011) SOUTHERN BALTIMORE, (MD-Z013) PRINCE GEORGES, (MD-Z014) ANNE ARUNDEL, (MD-Z501) EXTREME WESTERN ALLEGANY, (MD-Z502) CENTRAL AND EASTERN ALLEGANY, (MD-Z503) NORTHWEST MONTGOMERY, (MD-Z504) CENTRAL AND SOUTHEAST MONTGOMERY, (MD-Z505) NORTHWEST HOWARD, (MD-Z506) CENTRAL AND SOUTHEAST HOWARD, (MD-Z507) NORTHWEST HARFORD, (MD-Z508) SOUTHEAST HARFORD**

|                    |   |                       |
|--------------------|---|-----------------------|
| 02/24/19 10:00 EST | 0 | High Wind (MAX 56 kt) |
| 02/25/19 11:06 EST | 0 |                       |

An area of low pressure rapidly intensified as it moved from the Mid-Mississippi Valley northward into the Great Lakes from late in the evening of February 24th and into the morning hours of February 25th. The low then tracked northeastward into Canada during the remainder of the 25th. A secondary area of low pressure also developed along the Mid-Atlantic coastline and moved into New England. Strong winds associated with the system led to high wind gusts across the majority of Maryland north and west of Interstate 95.

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### VIRGINIA, North

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**(VA-Z028) FREDERICK, (VA-Z053) FAIRFAX, (VA-Z054) ARLINGTON, (VA-Z503) WESTERN HIGHLAND, (VA-Z505) WESTERN LOUDOUN, (VA-Z506) EASTERN LOUDOUN**

|                    |   |                |
|--------------------|---|----------------|
| 02/01/19 02:00 EST | 0 | Winter Weather |
| 02/01/19 18:00 EST | 0 |                |

High pressure overhead of the region late on January 31st shifted eastward and offshore in the early morning of February 1st. A frontal boundary was positioned south of the region across southern Virginia, and a wave of low pressure developed along the boundary in the Ohio Valley on the morning of the 1st. This then moved eastward to the Virginia Tidewater by the evening hours. Warm air advection associated with this frontal wave led to light to moderate accumulating snow for portions of northern and western Virginia.

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**(VA-Z036) NELSON, (VA-Z037) ALBEMARLE, (VA-Z038) GREENE, (VA-Z039) MADISON, (VA-Z040) RAPPAHANNOCK, (VA-Z050) ORANGE, (VA-Z051) CULPEPER, (VA-Z052) PRINCE WILLIAM, (VA-Z055) STAFFORD, (VA-Z056) SPOTSYLVANIA, (VA-Z057) KING GEORGE, (VA-Z501) NORTHERN FAUQUIER, (VA-Z502) SOUTHERN FAUQUIER, (VA-Z505) WESTERN LOUDOUN, (VA-Z506) EASTERN LOUDOUN**

|                    |   |           |
|--------------------|---|-----------|
| 02/07/19 18:30 EST | 0 | Dense Fog |
| 02/08/19 09:24 EST | 0 |           |

Warm, moist air aloft overrunning colder surface air combined with abundant low level moisture to produce low clouds and widespread dense fog across portions of the region.

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**(VA-Z508) CENTRAL VIRGINIA BLUE RIDGE**

|                    |   |                       |
|--------------------|---|-----------------------|
| 02/08/19 05:00 EST | 0 | High Wind (MAX 52 kt) |
| 02/08/19 06:00 EST | 0 |                       |

A strengthening low pressure system moved through the Great Lakes region during the night of February 7th and early morning hours of February 8th. Strong winds associated with the system led to high wind gusts across the higher elevations of the Blue Ridge.

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**(VA-Z025) AUGUSTA, (VA-Z026) ROCKINGHAM, (VA-Z027) SHENANDOAH, (VA-Z028) FREDERICK, (VA-Z029) PAGE, (VA-Z031) CLARKE, (VA-Z036) NELSON, (VA-Z037) ALBEMARLE, (VA-Z038) GREENE, (VA-Z039) MADISON, (VA-Z040) RAPPAHANNOCK, (VA-Z051) CULPEPER, (VA-Z052) PRINCE WILLIAM, (VA-Z053) FAIRFAX, (VA-Z054) ARLINGTON, (VA-Z501) NORTHERN FAUQUIER, (VA-Z502) SOUTHERN FAUQUIER, (VA-Z503) WESTERN HIGHLAND, (VA-Z504) EASTERN HIGHLAND, (VA-Z505) WESTERN LOUDOUN, (VA-Z506) EASTERN LOUDOUN, (VA-Z508) CENTRAL VIRGINIA BLUE RIDGE**

|                    |   |   |                |
|--------------------|---|---|----------------|
| 02/10/19 19:00 EST | 1 | 0 | Winter Weather |
| 02/12/19 10:00 EST | 0 | 0 |                |

## Storm Data and Unusual Weather Phenomena - February 2019

| Location | Date/Time | Deaths & Injuries | Property & Crop Dmg | Event Type and Details |
|----------|-----------|-------------------|---------------------|------------------------|
|----------|-----------|-------------------|---------------------|------------------------|

Direct Fatalities: F52UT

**(VA-Z030) WARREN, (VA-Z507) NORTHERN VIRGINIA BLUE RIDGE**

|                    |  |  |   |              |
|--------------------|--|--|---|--------------|
| 02/10/19 19:00 EST |  |  | 0 | Winter Storm |
| 02/12/19 19:00 EST |  |  | 0 |              |

Surface high pressure was located over the region on the morning of February 10th. This gave way to several waves of low pressure that moved near the region from the evening of the 10th and through the 12th. Several periods of rain and mixed wintry precipitation affected northern and western Virginia during this time, with snow accumulations up to around one inch and ice accumulations generally between 0.10 and 0.20 inches but as high as 0.50 to 1.0 inch across the higher elevations.

**(VA-Z025) AUGUSTA, (VA-Z026) ROCKINGHAM, (VA-Z027) SHENANDOAH, (VA-Z028) FREDERICK, (VA-Z029) PAGE, (VA-Z030) WARREN, (VA-Z031) CLARKE, (VA-Z503) WESTERN HIGHLAND, (VA-Z504) EASTERN HIGHLAND, (VA-Z505) WESTERN LOUDOUN, (VA-Z507) NORTHERN VIRGINIA BLUE RIDGE, (VA-Z508) CENTRAL VIRGINIA BLUE RIDGE**

|                    |  |  |   |                |
|--------------------|--|--|---|----------------|
| 02/17/19 14:00 EST |  |  | 0 | Winter Weather |
| 02/17/19 23:59 EST |  |  | 0 |                |

A ridge of high pressure was in place over the northeastern United States in the early morning hours of February 17th. At the same time, low pressure was tracking northeastward from the lower Mississippi Valley. By the afternoon the area of low pressure had progressed into the Ohio Valley with warm air advection occurring aloft over the Mid-Atlantic states, while cold surface temperatures remained. This led to areas of freezing rain and sleet during the afternoon and evening hours of the 17th for locations near and west of the Blue Ridge in northern and western Virginia. Trace amounts of ice were observed. Precipitation then changed to rain during the overnight hours.

**(VA-Z025) AUGUSTA, (VA-Z026) ROCKINGHAM, (VA-Z029) PAGE, (VA-Z036) NELSON, (VA-Z037) ALBEMARLE, (VA-Z038) GREENE, (VA-Z039) MADISON, (VA-Z050) ORANGE, (VA-Z051) CULPEPER, (VA-Z054) ARLINGTON, (VA-Z055) STAFFORD, (VA-Z056) SPOTSYLVANIA, (VA-Z057) KING GEORGE, (VA-Z502) SOUTHERN FAUQUIER, (VA-Z503) WESTERN HIGHLAND, (VA-Z504) EASTERN HIGHLAND, (VA-Z508) CENTRAL VIRGINIA BLUE RIDGE**

|                    |  |  |   |                |
|--------------------|--|--|---|----------------|
| 02/20/19 03:00 EST |  |  | 0 | Winter Weather |
| 02/20/19 23:59 EST |  |  | 0 |                |

**(VA-Z027) SHENANDOAH, (VA-Z028) FREDERICK, (VA-Z030) WARREN, (VA-Z031) CLARKE, (VA-Z040) RAPPAHANNOCK, (VA-Z052) PRINCE WILLIAM, (VA-Z053) FAIRFAX, (VA-Z501) NORTHERN FAUQUIER, (VA-Z505) WESTERN LOUDOUN, (VA-Z506) EASTERN LOUDOUN, (VA-Z507) NORTHERN VIRGINIA BLUE RIDGE**

|                    |  |  |   |              |
|--------------------|--|--|---|--------------|
| 02/20/19 03:00 EST |  |  | 0 | Winter Storm |
| 02/20/19 23:59 EST |  |  | 0 |              |

Surface high pressure was in place over the northeastern United States during the overnight hours of February 19th. At the same time, low pressure was tracking northeastward from the south central US. Strong warm air advection and associated frontogenetical forcing led to a period of moderate to heavy snow that spread northeastward across central and northern Virginia, especially along and north of Interstate 66. As warmer air continued to move in aloft, precipitation then transitioned over to sleet and then freezing rain during the afternoon hours. By later that evening, the primary low was moving through the Great Lakes region as a secondary low moved along the Mid-Atlantic coastline. Eventually enough warm air moved into the region, changing all precipitation over to rain during the overnight hours on the 20th.

**(VA-Z503) WESTERN HIGHLAND, (VA-Z504) EASTERN HIGHLAND, (VA-Z507) NORTHERN VIRGINIA BLUE RIDGE, (VA-Z508) CENTRAL VIRGINIA BLUE RIDGE**

|                    |  |  |   |                |
|--------------------|--|--|---|----------------|
| 02/23/19 05:00 EST |  |  | 0 | Winter Weather |
| 02/23/19 23:59 EST |  |  | 0 |                |

Surface high pressure was located over New England through the day on February 23rd. Overrunning warm and moist air advection associated with a developing system in the southern plains led to rain overspreading portions of central and western Virginia. Along and near the Allegheny Front and the Blue Ridge, temperatures at elevations between 1500 and 4000 feet were below freezing for much of the day and evening, which led to a glazing of ice up to about a tenth of an inch.

**(VA-Z028) FREDERICK, (VA-Z031) CLARKE, (VA-Z052) PRINCE WILLIAM, (VA-Z053) FAIRFAX, (VA-Z054) ARLINGTON, (VA-Z501) NORTHERN FAUQUIER, (VA-Z503) WESTERN HIGHLAND, (VA-Z504) EASTERN HIGHLAND, (VA-Z505) WESTERN LOUDOUN, (VA-Z506) EASTERN LOUDOUN, (VA-Z507) NORTHERN VIRGINIA BLUE RIDGE, (VA-Z508) CENTRAL VIRGINIA BLUE RIDGE**

|                    |  |  |   |                       |
|--------------------|--|--|---|-----------------------|
| 02/24/19 10:00 EST |  |  | 0 | High Wind (MAX 70 kt) |
| 02/25/19 11:06 EST |  |  | 0 |                       |

## Storm Data and Unusual Weather Phenomena - February 2019

| Location | Date/Time | Deaths & Injuries | Property & Crop Dmg | Event Type and Details |
|----------|-----------|-------------------|---------------------|------------------------|
|----------|-----------|-------------------|---------------------|------------------------|

An area of low pressure rapidly intensified as it moved from the Mid-Mississippi Valley northward into the Great Lakes from late in the evening of February 24th and into the morning hours of February 25th. The low then tracked northeastward into Canada during the remainder of the 25th. A secondary area of low pressure also developed along the Mid-Atlantic coastline and moved into New England. Strong winds associated with the system led to high wind gusts across northern and western Virginia.

### WEST VIRGINIA, East

(WV-Z050) HAMPSHIRE, (WV-Z051) MORGAN, (WV-Z052) BERKELEY, (WV-Z053) JEFFERSON, (WV-Z055) HARDY, (WV-Z505) WESTERN PENDLETON, (WV-Z506) EASTERN PENDLETON

|                    |   |                |
|--------------------|---|----------------|
| 02/01/19 02:00 EST | 0 | Winter Weather |
| 02/01/19 18:00 EST | 0 |                |

(WV-Z501) WESTERN GRANT, (WV-Z502) EASTERN GRANT, (WV-Z503) WESTERN MINERAL, (WV-Z504) EASTERN MINERAL

|                    |   |              |
|--------------------|---|--------------|
| 02/01/19 02:00 EST | 0 | Winter Storm |
| 02/01/19 18:00 EST | 0 |              |

High pressure overhead of the region late on January 31st shifted eastward and offshore in the early morning of February 1st. A frontal boundary was positioned south of the region across southern Virginia, and a wave of low pressure developed along the boundary in the Ohio Valley on the morning of the 1st. This then moved eastward to the Virginia Tidewater by the evening hours. Warm air advection associated with this frontal wave led to widespread accumulating snow for the eastern West Virginia, with generally 2 to 4 inches across the lower elevations of the far eastern West Virginia panhandle, and 6 to 12 inches across the higher elevations near and along the Allegheny Front.

(WV-Z050) HAMPSHIRE, (WV-Z055) HARDY, (WV-Z501) WESTERN GRANT, (WV-Z502) EASTERN GRANT, (WV-Z503) WESTERN MINERAL, (WV-Z504) EASTERN MINERAL

|                    |   |           |
|--------------------|---|-----------|
| 02/07/19 04:30 EST | 0 | Dense Fog |
| 02/07/19 06:55 EST | 0 |           |

Warm, moist air aloft overrunning colder surface air combined with lingering low level moisture to produce low clouds and widespread dense fog across portions of the region.

(WV-Z050) HAMPSHIRE, (WV-Z051) MORGAN, (WV-Z055) HARDY, (WV-Z501) WESTERN GRANT, (WV-Z502) EASTERN GRANT, (WV-Z503) WESTERN MINERAL, (WV-Z504) EASTERN MINERAL, (WV-Z505) WESTERN PENDLETON

|                    |   |              |
|--------------------|---|--------------|
| 02/10/19 19:00 EST | 0 | Winter Storm |
| 02/12/19 19:00 EST | 0 |              |

(WV-Z052) BERKELEY, (WV-Z053) JEFFERSON, (WV-Z506) EASTERN PENDLETON

|                    |   |                |
|--------------------|---|----------------|
| 02/10/19 19:00 EST | 0 | Winter Weather |
| 02/12/19 10:00 EST | 0 |                |

Surface high pressure was located over the region on the morning of February 10th. This gave way to several waves of low pressure that moved near the region from the evening of the 10th and through the 12th. Several periods of mixed wintry precipitation affected eastern West Virginia during this time, with a light snow accumulation and ice accumulations of up to a quarter of an inch.

BERKELEY COUNTY --- 2.3 WSW VANCELEVESVILLE [39.42, -77.94], 0.5 WSW BLAIRTON [39.45, -77.93], 0.4 SSW BLAIRTON [39.45, -77.92], 2.1 WSW VANCELEVESVILLE [39.42, -77.94]

|                    |   |                           |
|--------------------|---|---------------------------|
| 02/13/19 00:08 EST | 0 | Flood (due to Heavy Rain) |
| 02/13/19 10:45 EST | 0 | Source: River/Stream Gage |

The USGS stream gage on Opequon Creek near Martinsburg exceeded the 10 foot flood stage during the indicated period. The peak level of 10.74 feet occurred at 5:15am. Golf Course Road and Douglas Grove Road were flooded.

Moderate rain in the Opequon Creek basin caused minor flooding on February 13th.

(WV-Z050) HAMPSHIRE, (WV-Z051) MORGAN, (WV-Z052) BERKELEY, (WV-Z053) JEFFERSON, (WV-Z055) HARDY, (WV-Z501) WESTERN GRANT, (WV-Z502) EASTERN GRANT, (WV-Z503) WESTERN MINERAL, (WV-Z504) EASTERN MINERAL, (WV-Z505) WESTERN PENDLETON, (WV-Z506) EASTERN PENDLETON

|                    |   |                |
|--------------------|---|----------------|
| 02/17/19 14:00 EST | 0 | Winter Weather |
| 02/17/19 23:59 EST | 0 |                |

## Storm Data and Unusual Weather Phenomena - February 2019

| Location | Date/Time | Deaths & Injuries | Property & Crop Dmg | Event Type and Details |
|----------|-----------|-------------------|---------------------|------------------------|
|----------|-----------|-------------------|---------------------|------------------------|

A ridge of high pressure was in place over the northeastern United States in the early morning hours of February 17th. At the same time, low pressure was tracking northeastward from the lower Mississippi Valley. By the afternoon the area of low pressure had progressed into the Ohio Valley with warm air advection occurring aloft over the Mid-Atlantic states, while cold surface temperatures remained. This led to areas of freezing rain and sleet during the afternoon and evening hours of the 17th for locations in eastern West Virginia. Trace amounts of ice were observed. Precipitation then changed to rain during the overnight hours.

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(WV-Z050) HAMPSHIRE, (WV-Z051) MORGAN, (WV-Z052) BERKELEY, (WV-Z053) JEFFERSON, (WV-Z055) HARDY, (WV-Z501) WESTERN GRANT, (WV-Z502) EASTERN GRANT, (WV-Z503) WESTERN MINERAL, (WV-Z504) EASTERN MINERAL, (WV-Z505) WESTERN PENDLETON, (WV-Z506) EASTERN PENDLETON

|                    |   |              |
|--------------------|---|--------------|
| 02/20/19 03:00 EST | 0 | Winter Storm |
| 02/20/19 23:59 EST | 0 |              |

Surface high pressure was in place over the northeastern United States during the overnight hours of February 19th. At the same time, low pressure was tracking northeastward from the south central US. Strong warm air advection and associated frontogenetical forcing led to a period of moderate to heavy snow that spread northeastward across eastern West Virginia on the morning of February 20th. As warmer air continued to move in aloft, precipitation then transitioned over to sleet and then freezing rain during the afternoon hours. By later that evening, the primary low was moving through the Great Lakes region as a secondary low moved along the Mid-Atlantic coastline. Eventually enough warm air moved into the region, changing all precipitation over to rain during the overnight hours on the 20th.

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(WV-Z501) WESTERN GRANT, (WV-Z503) WESTERN MINERAL, (WV-Z505) WESTERN PENDLETON, (WV-Z506) EASTERN PENDLETON

|                    |   |                |
|--------------------|---|----------------|
| 02/23/19 05:00 EST | 0 | Winter Weather |
| 02/23/19 23:59 EST | 0 |                |

Surface high pressure was located over New England through the day on February 23rd. Overrunning warm and moist air advection associated with a developing system in the southern plains led to rain overspreading portions of eastern West Virginia. Along and near the Allegheny Front, temperatures at elevations between 1500 and 4000 feet were below freezing for much of the day and evening, which led to a glazing of ice up to about a tenth of an inch.

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(WV-Z050) HAMPSHIRE, (WV-Z051) MORGAN, (WV-Z052) BERKELEY, (WV-Z053) JEFFERSON, (WV-Z055) HARDY, (WV-Z501) WESTERN GRANT, (WV-Z502) EASTERN GRANT, (WV-Z503) WESTERN MINERAL, (WV-Z504) EASTERN MINERAL, (WV-Z505) WESTERN PENDLETON, (WV-Z506) EASTERN PENDLETON

|                    |   |                       |
|--------------------|---|-----------------------|
| 02/24/19 10:00 EST | 0 | High Wind (MAX 65 kt) |
| 02/25/19 11:06 EST | 0 |                       |

An area of low pressure rapidly intensified as it moved from the Mid-Mississippi Valley northward into the Great Lakes from late in the evening of February 24th and into the morning hours of February 25th. The low then tracked northeastward into Canada during the remainder of the 25th. A secondary area of low pressure also developed along the Mid-Atlantic coastline and moved into New England. Strong winds associated with the system led to high wind gusts across eastern West Virginia.

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MINERAL COUNTY --- 1.6 SW FT ASHBY [39.48, -78.79], 1.6 SW FT ASHBY [39.49, -78.79], 2.0 SW FT ASHBY [39.48, -78.80], 1.6 NNE CHAMPWOOD [39.47, -78.81], 1.2 NE CHAMPWOOD [39.46, -78.81], 1.3 NE CHAMPWOOD [39.46, -78.81]

|                    |   |                           |
|--------------------|---|---------------------------|
| 02/24/19 14:21 EST | 0 | Flood (due to Heavy Rain) |
| 02/25/19 01:19 EST | 0 | Source: River/Stream Gage |

The stream gage on Patterson Creek exceeded the 9 foot flood stage during the indicated period. The peak level of 9.28 feet occurred at 5:45pm EST on February 24th. Flooding occurred on Foreback Road and Georges Run Road.

Steady rain on February 24th caused rises on many streams. One stream, Patterson Creek, was already running high from prior rain and exceeded flood stage.