

**Product/Service Description Document**  
**Polygon-based Dust Storm Warning**  
**and Dust Advisory Products**

**Part I - Mission Connection**

- a. Product/Service Description - Dust Storms are unique, extremely localized extreme weather events that can result in high impact to the public and commerce. Currently, hazard messages for these events are issued via generic Special Weather Statements (SPS) that are not enabled by Valid Time Event Code (VTEC). The polygon-based Dust Storm Warning and Dust Advisory products are short-duration products, thereby enabling dissemination via the Emergency Alert System (EAS) and Wireless Emergency Alerts (WEA) for enhanced Decision Support Services.
- b. Product Type - Operational
- c. Purpose - There has been a long-standing need for the National Weather Service (NWS) to effectively disseminate this highly-localized information to our partners who depend upon VTEC to recognize and parse our warning products for their customers. In addition, the capability to define localized areas of threat (e.g., as is available for severe thunderstorms, tornadoes, and flash floods through the use of NWS WarnGen software) improves communication to the public via WEA and EAS. The polygon-based Dust Storm Warning and Dust Advisory products (VTEC codes DS.W and DS.Y, respectively) provides critical, life-saving information for these short-term, highly localized, extreme hazardous events to our partners in machine-readable formats, and enables our users to parse the products and make them available to their customers.
- d. Audience - The target audience for the products are partners such as emergency managers, state and local officials including school superintendents, Department of Transportation, media, and the general public.
- e. Presentation Format - The format for the Dust Storm Warning and Dust Advisory is polygon-based and is issued via WarnGen software, similar to tornado, severe thunderstorm, and flash flood warnings. See examples in Part II.
- f. Feedback Method - Feedback on the Dust Storm Warning and Advisory, as presented in the Part II examples, was gathered from representatives from federal, state, county, and local government agencies and broadcast media during scheduled customer review meetings and via a public web-based survey in the Public Notification Statement issued on August 22, 2017:

[http://www.nws.noaa.gov/os/notification/pns17-dsw\\_sqwaaa.htm](http://www.nws.noaa.gov/os/notification/pns17-dsw_sqwaaa.htm)

[www.nws.noaa.gov/survey/nws-survey.php?code=DSWDSY](http://www.nws.noaa.gov/survey/nws-survey.php?code=DSWDSY).

Customer questions or comments on the new products may be addressed to:

Andy Horvitz  
National Weather Service (NWS) Headquarters  
E-mail: andy.horvitz@noaa.gov  
Phone: 301-427-9357

The customer comment period was open from August 22, 2017 through September 20, 2017.

## **Part II - Technical Description**

- a. Format and Science Basis - The existing Dust Storm Warning will be replaced by two distinct warning products - a polygon-based Dust Storm Warning and a zone-based Blowing Dust Warning. The polygon-based Dust Storm Warning will be issued when widespread or localized blowing dust is forecast to suddenly reduce visibility to less than one quarter mile with sustained winds greater than 25 mph, resulting in dangerous and life-threatening travel conditions. The polygon-based Dust Storm Warning will provide three discrete information sections segments per the example below when the following conditions are expected:

HAZARD...Visibility less than one-quarter mile in blowing dust  
SOURCE...Radar indicated and webcams  
IMPACT...Dangerous and life-threatening travel

The zone-based Blowing Dust Warning will be issued if similar conditions are forecast over a long duration, generally longer than two hours.

- b. Availability - NWS will disseminate via the EAS using event code DSW. NWS will also activate WEA for broadcast of the polygon-based Dust Storm Warning to WEA capable cell phones in the warning area. NWS will broadcast polygon-based Dust Storm Warnings over NOAA Weather Radio All Hazards (NWR) and disseminate using Specific Area Message Encoding (SAME) and 1050 Hz warning alarm tones. NWS will also display the warning polygon on NWS radar depictions.

NWS will request WEA broadcast of the polygon-based Dust Storm Warning to WEA-capable cell phones in the warning area. The polygon-based Dust Storm Warning is intended to better approximate the actual warning areas than the previous zone based Dust Storm Warnings which were zone based and could only be geo-targeted by WEA at the county level.

## **Examples of text products below:**

### **Dust Storm Warning**

#### **The first issuance of a Dust Storm Warning (VTEC Action - NEW):**

WWUS75 KPSR 301756  
DSWPSR

BULLETIN - IMMEDIATE BROADCAST REQUESTED

Dust Storm Warning  
National Weather Service Phoenix AZ  
1049 AM MST Wed Nov 30 2016

AZC021-301815-  
/O.NEW.KPSR.DS.W.0001.161130T1749Z-161130T1815Z/  
Pinal AZ-  
1049 AM MST Wed Nov 30 2016

The National Weather Service in Phoenix has issued a

\* Dust Storm Warning for...  
Pinal County in southeastern Arizona...

\* Until 1115 AM MST

\* At 1049 AM MST, A dust storm was detected by trained spotters one mile southwest of Robson Ranch, moving northwest at 20 mph.

HAZARD...Blowing Dust reducing visibility to near zero.

SOURCE...Trained spotters.

IMPACT...Dangerous life-threatening travel.

\* Locations impacted include...  
Casa Grande, Arizona City, Toltec and Arizola.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Be ready for a sudden drop in visibility to near zero. If you encounter blowing dust or blowing sand on the roadway or see it approaching, pull off the road as far as possible and put your vehicle in park. Turn the lights all the way off and keep your foot off the brake pedal.

Remember, Pull Aside, Stay Alive.

&&

LAT...LON 3276 11174 3279 11180 3290 11191 3300 11171  
3280 11156 3273 11166 3274 11168 3273 11173  
TIME...MOT...LOC 1800Z 143DEG 17KT 3282 11169

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WATERS

**If an error occurs in the text of a product, a Correction can be issued (VTEC Action - COR):**

WWUS75 KPSR 301756  
DSWPSR

BULLETIN - IMMEDIATE BROADCAST REQUESTED  
Dust Storm Warning  
National Weather Service Phoenix AZ  
1049 AM MST Wed Nov 30 2016

AZC021-301815-  
/O.COR.KPSR.DS.W.0001.161130T1749Z-161130T1815Z/  
Pinal AZ-  
1049 AM MST Wed Nov 30 2016

The National Weather Service in Phoenix has issued a

\* Dust Storm Warning for...  
Pinal County in southeastern Arizona...

\* Until 1115 AM MST

\* At 1049 AM MST, A dust storm was detected one mile southwest of Robson Ranch, south of Casa Grande, moving northwest at 20 mph.

HAZARD...Blowing Dust reducing visibility to near zero.

SOURCE...Radar indicated.

IMPACT...Dangerous life-threatening travel.

\* Locations impacted include...  
Casa Grande, Arizona City, Toltec and Arizola.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Be ready for a sudden drop in visibility to near zero. If you encounter blowing dust or blowing sand on the roadway or see it

approaching, pull off the road as far as possible and put your vehicle in park. Turn the lights all the way off and keep your foot off the brake pedal.

Remember, Pull Aside, Stay Alive.

&&

LAT...LON 3276 11174 3279 11180 3290 11191 3300 11171  
3280 11156 3273 11166 3274 11168 3273 11173  
TIME...MOT...LOC 1800Z 143DEG 17KT 3282 11169

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WATERS

**If the warning is still in effect, but the threat has passed, the forecaster will issue a Cancellation message (VTEC Action - CAN):**

WWUS75 KPSR 301756  
DSWPSR

Dust Storm Warning  
National Weather Service Phoenix AZ  
1149 AM MST Wed Nov 30 2016

AZC021-301859-  
/O.CAN.KPSR.DS.W.0001.000000T0000Z-161130T1915Z/  
Pinal AZ-  
1149 AM MST Wed Nov 30 2016

...THE DUST STORM WARNING FOR PINAL COUNTY HAS BEEN  
CANCELLED...

Visibilities have improved in the dust storm and no longer pose an immediate threat to life or property. Therefore, the warning has been cancelled.

LAT...LON 3276 11174 3279 11180 3290 11191 3300 11171  
3280 11156 3273 11166 3274 11168 3273 11173  
TIME...MOT...LOC 1800Z 143DEG 17KT 3282 11169

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WATERS

## Examples of text products below:

### Dust Advisory

This product will be issued for convective short-fused blowing dust. The Dust Advisory will be issued when widespread or localized blowing dust suddenly reduces visibilities to one mile or less but greater than  $\frac{1}{4}$  mile resulting in hazardous travel. The polygon-based Dust Advisory will provide three discrete information sections per the example below when the following conditions are expected:

HAZARD...Visibility between one-quarter and one mile in blowing dust  
SOURCE...Radar indicated and webcams  
IMPACT...Hazardous travel

The existing Blowing Dust Advisory will remain a zone-based product and will be issued if similar conditions persist over a long duration, generally greater than three hours.

When this product is issued, the EAS and the WEA will not be activated. The VTEC product code is DS.Y. Neither the EAS nor the WEA, will be activated when the Dust Advisory is issued.

### NEW (NEW):

WWUS74 KLCH 161947  
DSWLCH

Dust Advisory  
National Weather Service Lake Charles LA  
145 PM CST Thu Feb 16 2017

LAC011-TXC241-351-162015-  
/O.NEW.KLCH.DS.Y.0029.170216T1945Z-170216T2015Z/  
Beauregard LA-Newton TX-Jasper TX-  
145 PM CST Thu Feb 16 2017

The National Weather Service in Lake Charles has issued a

\* Dust Advisory for...  
Southwestern Beauregard Parish in southwestern Louisiana...  
Southwestern Newton County in southeastern Texas...  
Western Jasper County in southeastern Texas...

\* Until 215 PM CST.

\* At 145 PM CST, a dust channel was over Old Salem, or near Call, moving east at 10 mph.

HAZARD...Less than one mile visibility with strong wind in excess of 30 mph.

SOURCE...Law enforcement.

IMPACT...Hazardous travel.

\* The dust channel will impact I-922 between mile markers 1000 and 2000.

Locations impacted include...  
Call, Bancroft, Old Salem and Trout Creek.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Motorists should not drive into an area of blowing dust. PULL ASIDE  
STAY ALIVE!

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LAT...LON 3045 9386 3063 9388 3070 9362 3043 9359  
TIME...MOT...LOC 1945Z 264DEG 7KT 3055 9379

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NHDA TES

**Corrected (COR):**

WWUS74 KLCH 161948 CCA  
DSWLCH

Dust Advisory  
National Weather Service Lake Charles LA  
148 PM CST Thu Feb 16 2017

LAC011-TXC241-351-162015-  
/O.COR.KLCH.DS.Y.0029.170216T1947Z-170216T2015Z/  
Beauregard LA-Newton TX-Jasper TX-  
148 PM CST Thu Feb 16 2017

The National Weather Service in Lake Charles has issued a

\* Dust Advisory for...  
Southwestern Beauregard Parish in southwestern Louisiana...  
Southwestern Newton County in southeastern Texas...  
Western Jasper County in southeastern Texas...

\* Until 215 PM CST.

\* At 148 PM CST, a dust channel was over Old Salem, or near Call,  
moving east at 10 mph.

HAZARD...Less than one mile visibility with strong wind in excess  
of 30 mph.

SOURCE...Law enforcement.

IMPACT...Hazardous travel.

\* The dust channel will affect I-922 between mile markers 1000 and 2000.

Locations impacted include...  
Call, Bancroft, Old Salem and Trout Creek.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Motorists should not drive into an area of blowing dust. PULL ASIDE  
STAY ALIVE!

&&

LAT...LON 3045 9386 3063 9388 3070 9362 3043 9359  
TIME...MOT...LOC 1948Z 264DEG 7KT 3055 9379

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NHDA TEST

**Continued (CON):**

WWUS74 KLCH 161950  
DSWLCH

Dust Advisory  
National Weather Service Lake Charles LA  
150 PM CST Thu Feb 16 2017

LAC011-TXC241-351-162015-  
/O.CON.KLCH.DS.Y.0029.000000T0000Z-170216T2015Z/  
Beauregard LA-Newton TX-Jasper TX-  
150 PM CST Thu Feb 16 2017

...A DUST ADVISORY REMAINS IN EFFECT UNTIL 215 PM CST FOR  
SOUTHWESTERN BEAUREGARD PARISH...SOUTHWESTERN NEWTON AND WESTERN  
JASPER COUNTIES...

At 150 PM CST, a dust channel was over Old Salem, or 7 miles  
southeast of Call, moving east at 10 mph.

HAZARD...Less than a mile visibility with strong wind in excess of  
30 mph.

SOURCE...Law enforcement.

IMPACT...Hazardous travel.

The dust channel will affect i-922 between mile markers 1000 and  
2000.

Locations impacted include...  
Call, Bancroft, Old Salem and Trout Creek.

PRECAUTIONARY/PREPAREDNESS ACTIONS...



Motorists should not drive into an area of blowing dust. PULL ASIDE  
STAY ALIVE!

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LAT...LON 3045 9386 3063 9388 3070 9362 3043 9359  
TIME...MOT...LOC 1950Z 264DEG 7KT 3055 9378

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NHDA TEST

**Cancelled/Continued (CAN/CON):**

WWUS74 KLCH 161952  
DSWLCH

Dust Advisory  
National Weather Service Lake Charles LA  
152 PM CST Thu Feb 16 2017

TXC241-162002-  
/O.CAN.KLCH.DS.Y.0029.000000T0000Z-170216T2015Z/  
Jasper TX-  
152 PM CST Thu Feb 16 2017

...THE DUST ADVISORY FOR WESTERN JASPER COUNTY IS CANCELLED...

The blowing dust that prompted the advisory has dissipated.  
Therefore, the dust advisory has been cancelled.

LAT...LON 3045 9367 3062 9365 3070 9362 3043 9359  
TIME...MOT...LOC 1952Z 264DEG 7KT 3055 9377

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LAC011-TXC351-162015-  
/O.CON.KLCH.DS.Y.0029.000000T0000Z-170216T2015Z/  
Beauregard LA-Newton TX-  
152 PM CST Thu Feb 16 2017

...A DUST ADVISORY REMAINS IN EFFECT UNTIL 215 PM CST FOR  
SOUTHWESTERN BEAUREGARD PARISH IN SOUTHWESTERN LOUISIANA AND  
SOUTHEASTERN NEWTON COUNTIES...

At 152 PM CST, a dust channel was over Old Salem, or 7 miles  
southeast of Call, moving east at 10 mph.

HAZARD...Less than a mile visibility with strong wind in excess of  
30 mph.

SOURCE...Law enforcement.

IMPACT...Hazardous travel.

The dust channel will affect 1-922 between mile markers 1500 and

2000,

This dust channel will remain over mainly rural areas of southwestern Beauregard Parish in southwestern Louisiana and southeastern Newton Counties.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Motorists should not drive into an area of blowing dust. PULL ASIDE STAY ALIVE!

&&

LAT...LON 3045 9367 3062 9365 3070 9362 3043 9359  
TIME...MOT...LOC 1952Z 264DEG 7KT 3055 9377

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NHDA TEST

**Cancelled (CAN):**

WWUS74 KLCH 161955  
DSWLCH

Dust Advisory  
National Weather Service Lake Charles LA  
155 PM CST Thu Feb 16 2017

LAC011-TXC241-351-162005-  
/O.CAN.KLCH.DS.Y.0029.000000T0000Z-170216T2015Z/  
Beauregard LA-Newton TX-Jasper TX-  
155 PM CST Thu Feb 16 2017

...THE DUST ADVISORY FOR SOUTHWESTERN BEAUREGARD PARISH...  
SOUTHWESTERN NEWTON AND WESTERN JASPER COUNTIES IS CANCELLED...

The blowing dust that prompted the advisory has dissipated.  
Therefore, the dust advisory has been cancelled. Areas of blowing dust will continue to make travel difficult.

LAT...LON 3045 9386 3063 9388 3070 9362 3043 9359  
TIME...MOT...LOC 1950Z 264DEG 7KT 3055 9377

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NHDA TEST

**Expired (EXP):**

WWUS74 KLCH 162007  
DSWLCH

Dust Advisory

National Weather Service Lake Charles LA  
207 PM CST Thu Feb 16 2017

LAC011-TXC241-351-162017-  
/O.EXP.KLCH.DS.Y.0029.000000T0000Z-170216T2015Z/  
Beauregard LA-Newton TX-Jasper TX-  
207 PM CST Thu Feb 16 2017

...THE DUST ADVISORY FOR SOUTHWESTERN BEAUREGARD PARISH...  
SOUTHWESTERN NEWTON AND WESTERN JASPER COUNTIES WILL EXPIRE AT 215 PM  
CST...

The blowing dust that prompted the advisory has dissipated.  
Therefore, the dust advisory will be allowed to expire.

LAT...LON 3045 9386 3063 9388 3070 9362 3043 9359  
TIME...MOT...LOC 2007Z 264DEG 7KT 3055 9376

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NHDA TEST