

Table 9: The criteria used to determine the category and level of confidence for each worst dust day

| Event/<br>Confidence<br>Level | Educated guess<br>(+)   | Somewhat confident<br>(+++)  | Very Confident<br>(++++)   |
|-------------------------------|---|--|--|
| 1. Asian Dust                 | <p><u>Case 1: Asian Dust Score Available for site</u><br/>                     {Asian Dust score &gt; 1500 at multiple sites}<br/>                     OR<br/>                     {(Asian dust score &gt;1500 at one site)<br/>                     AND<br/>                     (back trajectories suggest air mass originated over Pacific Ocean)}</p> <p><u>Case 2: Asian Dust Score not available for site</u><br/>                     {(Asian dust scores at multiple sites surrounding the site of interest &gt;1500)<br/>                     AND<br/>                     (back trajectories suggest air mass originated over Pacific Ocean)}</p> | <p><u>Case 1: Asian dust score available for site</u><br/>                     {(Asian Dust Score &gt; 1500 at multiple sites)<br/>                     AND<br/>                     (back trajectories suggest air mass originated over Pacific Ocean)}</p> <p><u>Case 2: Asian Dust Score not available for site</u><br/>                     {(Asian dust is primary event causing dust at multiple sites surrounding the site of interest with a confidence of +++++)}</p> | <p><u>Case 1: Asian dust score available for site</u><br/>                     {(Asian Dust Score &gt; 1500 at multiple sites<br/>                     AND<br/>                     (back trajectories suggest air mass originated over Pacific Ocean)<br/>                     AND<br/>                     (satellite or models indicate large scale transport of dust from Asia)}</p> |
| 2. Windblown Dust             | <p><u>Case 1: Meteorological data available and MLRA showed significant relationship between high wind conditions and dust measured</u><br/>                     {(LWD to total measured dust ratio</p>   | <p><u>Case 1: Meteorological data available and MLRA showed significant relationship between high wind conditions and dust measured</u><br/>                     {(LWD to Total measured dust ratio</p>  | <p><u>Case 1: Meteorological data available and MLRA showed significant relationship between high wind conditions and dust measured</u><br/>                     {(LWD to total measured dust ratio</p>  |

>0)  
AND  
(Back trajectories show high wind speed (>20 mph) at or near the site over terrain with moderate or greater wind erodibility)}

Case 2: Meteorological data not available for day of interest but MLRA showed significant relationship between high wind conditions and dust measured at site of interest

{(Back trajectories show high wind speed (>20 mph) at the site over terrain with moderate or greater wind erodibility)

AND

(Worst dust days at one or more sites near the site of interest are caused by windblown emission with confidence of “+++” or higher)}

>0.25)  
AND  
(back trajectories show high (>20 mph) wind speed at or near the site over terrain with moderate or greater wind erodibility)}

Case 2: Meteorological data not available for day of interest but MLRA showed significant relationship between high wind conditions and dust measured at site of interest

{(Back trajectories show high wind speed (>20 mph) at the site over terrain with moderate or greater wind erodibility)

AND

(Worst dust days at one or more sites near the site of interest are caused by windblown emission with confidence of “++++” or higher)}

> 0.5)  
AND  
(back trajectories show high (>20 mph) wind speed at or near the site over terrain with moderate or greater wind erodibility)}

Case 2: Meteorological data not available for day of interest but MLRA showed significant relationship between high wind conditions and dust measured at site of interest

{(Back trajectories show high wind speed (>20 mph) at the site over terrain with moderate or greater wind erodibility)

AND

(Worst dust days at one or more sites near the site of interest are caused by windblown emission with confidence of “++++” or higher)}

3. Transport from windblown dust sources upwind

Case 1: Meteorological data available  
AND  
No evidence of local windblown dust (LWD=0 or not calculated)  
(back trajectory for site shows up to three hours of high winds (>20 mph)

Case 1: Meteorological data available  
AND  
No evidence of local windblown dust (LWD=0 or not calculated)  
(back trajectory for site shows up to 8 hours of high winds (>20 mph)

Case 1: Meteorological data available  
AND  
No evidence of local windblown dust (LWD=0 or not calculated)  
(back trajectory for site shows up to 15 hours of high winds (>20 mph)

over terrain with moderate or greater wind erodibility within one day of transport of the site)}

OR

(back trajectories for multiple sites shows up to 3 hours of high winds (>20 mph) over terrain with moderate or greater wind erodibility within one day of transport of the site)}

Case 2: Meteorological data not available for day of interest but MLRA showed significant relationship between high wind conditions and dust measured at site of interest

{(back trajectory for site shows up to three hours of high winds (>20 mph) over terrain with moderate or greater wind erodibility within one day of transport of the site) but absence of high winds over the site itself}

over terrain with moderate or greater wind erodibility within one day of transport of the site)}

OR

(back trajectories for multiple sites shows up to 3 hours of high winds (>20 mph) over terrain with moderate or greater wind erodibility within one day of transport of the site)}

Case 2: Meteorological data not available for day of interest but MLRA showed significant relationship between high wind conditions and dust measured at site of interest

{(back trajectory for site shows up to eight hours of high winds (>20 mph) over terrain with moderate or greater wind erodibility within one day of transport of the site) but absence of high winds over the site itself}

over terrain with moderate or greater wind erodibility within one day of transport of the site)}

OR

(back trajectories for multiple sites shows up to 3 hours of high winds (>20 mph) over terrain with moderate or greater wind erodibility within one day of transport of the site)}

Case 2: Meteorological data not available for day of interest but MLRA showed significant relationship between high wind conditions and dust measured at site of interest

{(back trajectory for site shows up to 15 hours of high winds (>20 mph) over terrain with moderate or greater wind erodibility within one day of transport of the site) but absence of high winds over the site itself}

2-3a.  
Windblown  
Dust: Regional  
Event

{(Same as for 2 or 3.)  
AND  
{(back trajectories for multiple sites indicate a common regional flow pattern)}

{(Same as for 2 or 3.)  
AND  
{(back trajectories for multiple sites indicate a common regional flow pattern)}

{(Same as for 2 or 3.)  
AND  
{(back trajectories for multiple sites indicate a common regional flow pattern)}

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