



DRIFT RISK ADVISOR

Introduction

Pesticide applicators are faced with the challenge of getting adequate crop coverage without creating a drift situation. Pesticide drift is defined as the movement of pesticide dust or droplets through the air at the time of application or soon after, to any site other than the area intended. This unintended movement can be hazardous to sensitive plants and/or animals.

To aid applicators in managing drift the Oklahoma Mesonet had created the Drift Risk Advisor. This weather-based tool identifies and documents times of high and low pesticide application drift risk. It is accessible by utilizing an internet connected computer, tablet, or smartphone on the Mesonet website (mesonet.org). Once on the site, select the Agriculture tab and the tool will be available in all the "Crop", "Horticulture" or "Livestock" sections.

Step by Step Directions

Step 1. Select your closest Mesonet site.

This can be done by typing in the site name or selecting it from the pull-down menu. Once you select a site, it will remain in use until you select another site, or you clear the "cookies" on your device.

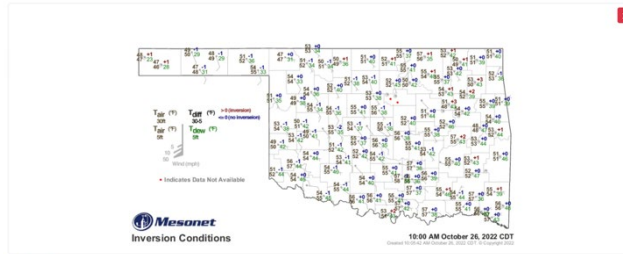
Step 2. Select your request type.

Options include: "Current Conditions", "Past Data", or "Forecast" information. For Current Conditions on the site selected, click the "Get Data" button. This displays the wind speed, wind direction, temperature, and whether the site is currently under inversion conditions. The inversion box is color coded: red with the word Yes for inversion and green with the word No. Data is updated every 5 minutes. To see conditions across the state, select the corresponding box to display the statewide map (you may need to scroll down the page to see the map).

Drift Risk Advisor Results
Current Conditions at Washington

Wind (10m) 5 mph SE	Temperature 55°F <small>Last Observed at 10:00 AM CDT</small>	Inversion No
------------------------	---	-----------------

[Back to form](#)



Mesonet Inversion Conditions
10:00 AM October 26, 2022 CDT

[Back to form](#)

Step 3. (Use with Past Data and Forecast) Select a time-period.

When selecting either Past Data or Forecast, the Step 3 box appears. For Past Data you first select the "Data Range" from the pull-down menu from 3 to 84 hours, with a default set to 48 hours. The "Interval" then is selected from 5 minutes to 3 hours with a default set to 1 hour. Lastly, select between "Use the Current Data and Time" or "Use a Custom Date and Time". The Past Data can be obtained from any time-period since the site was commissioned (1 Jan 1994, for most Mesonet sites). Selecting "Get Data" will generate the following table:

Save Print

Page 1 of 4

Drift Risk Advisor Results for Washington								
Date and Time	Wind Speed 2m	Wind Speed 10m	Wind Direction 10m	Temperature 1.5m	Relative Humidity	Rainfall	Solar Radiation	Inversion
Oct 3, 2022 5:00 PM	7 mph	9 mph	121° (ESE)	84 °F	19%	0 in.	404 W/m²	No
Oct 3, 2022 6:00 PM	5 mph	8 mph	116° (ESE)	82 °F	21%	0 in.	204 W/m²	No
Oct 3, 2022 7:00 PM	2 mph	5 mph	145° (SE)	76 °F	27%	0 in.	17 W/m²	Yes
Oct 3, 2022 8:00 PM	0 mph	2 mph	162° (SSE)	67 °F	43%	0 in.	0 W/m²	Yes

For Forecast, only the “Data Range” needs to be selected from the pull-down menu from 3 to 84 hours, with a default of 48 hours.

Step 4. (Forecast Only) Set the weather limits.

This allows the user to enter “Lower Limit” and “Upper Limit” values for wind speed (default values used 2 and 10 respectively) and air temperature (default values used 33 and 100 respectively). For 1-hour rainfall only an “Upper Limit” is entered (default value of 0.1). Pesticide labels should be consulted for application limitations based on weather variable.

Step 5. (Forecast Only) Select wind directions to be avoided.

An applicator can indicate which wind directions should be avoided by selecting any of the 8 sections on the pie chart. The direction(s) the applicator wants to avoid will be shown in red. Users may choose to modify specific criteria for any weather conditions or use the default values presented.

Step 4: Set the limits according to your product label.
* Indicates required fields

	Lower Limit	Upper Limit
Average Wind Speed* (mph)	2	10
Minimum average wind speed in miles per hour		Maximum average wind speed in miles per hour
Air Temperature (°F)	33	100
Minimum air temperature in degrees Fahrenheit		Maximum air temperature in degrees Fahrenheit
1-hr Rainfall (in.)	0.1	
	Maximum one-hour rainfall in inches	

Reset to Default Values

Step 5: Select wind directions to be avoided by clicking inside the circle.

Selecting “Get Data” generates a color-coded table of forecasted weather conditions of an hourly basis. The “Conditions Met” column will be red if one or more of the selected weather variables falls outside the specified upper and lower limits. The corresponding forecasted weather variable(s) that falls outside the acceptable levels will also appear in red text. The Save/Print buttons create a PDF file for recordkeeping.

All times are for the USA Central Time Zone for Standard (CST) or Daylight Saving (CDT) time. The tool utilizes the National Weather Service (NWS) North American Model (NAM) forecast to identify times when it is best to avoid applications due to forecasted weather variables. The NAM is updated 4 times a day (12am, 6am, 12pm, and 6 pm CST)

Drift Risk Advisor Results

[Back to form](#)

The Drift Risk Advisor is a weather-based forecast tool for planning spray applications. It does not replace the best judgement of the applicator or applicator responsibility to follow label restrictions due to actual field conditions.

« ← Page 1 of 4 → »

Save Print

Drift Risk Advisor Forecast for Washington					
Date and Time	Conditions Met?	Wind Speed 10m	Wind Direction 10m	Temperature 1.5m	Rainfall
Oct 26, 2022 10:00 AM	No	6 mph	106° (ESE)	54 °F	0
Oct 26, 2022 11:00 AM	Yes	8 mph	114° (ESE)	58 °F	0
Oct 26, 2022 12:00 PM	Yes	10 mph	120° (ESE)	61 °F	0
Oct 26, 2022 1:00 PM	No	12 mph	123° (ESE)	65 °F	0

Our Story: The Oklahoma Mesonet is a world-class network of environmental monitoring stations. The network was designed and implemented by scientists at the University of Oklahoma (OU) and at Oklahoma State University (OSU).

The Oklahoma Mesonet consists of 120 automated stations covering Oklahoma. There is at least one Mesonet station in each of Oklahoma’s 77 counties. At each site, the environment is measured by a set of instruments located on or near a 10-meter-tall tower. The measurements are packaged into “observations” every 5 minutes, then the observations are transmitted to a central facility every 5 minutes, 24 hours per day, year-round.

For help with this or other Mesonet products, please call **405-325-3231**, or email us at operator@mesonet.org.

Author: J. Wes Lee, Mesonet Ag Coordinator. Version date October 26, 2022.

Oklahoma State University, as an equal opportunity employer, complies with all applicable federal and state laws regarding non-discrimination and affirmative action. Oklahoma State University is committed to a policy of equal opportunity for all individuals and does not discriminate based on race, religion, age, sex, color, national origin, marital status, sexual orientation, gender identity/expression, disability, or veteran status with regard to employment, educational programs and activities, and/or admissions. For more information, visit our [Office of Equal Opportunity Services](#).