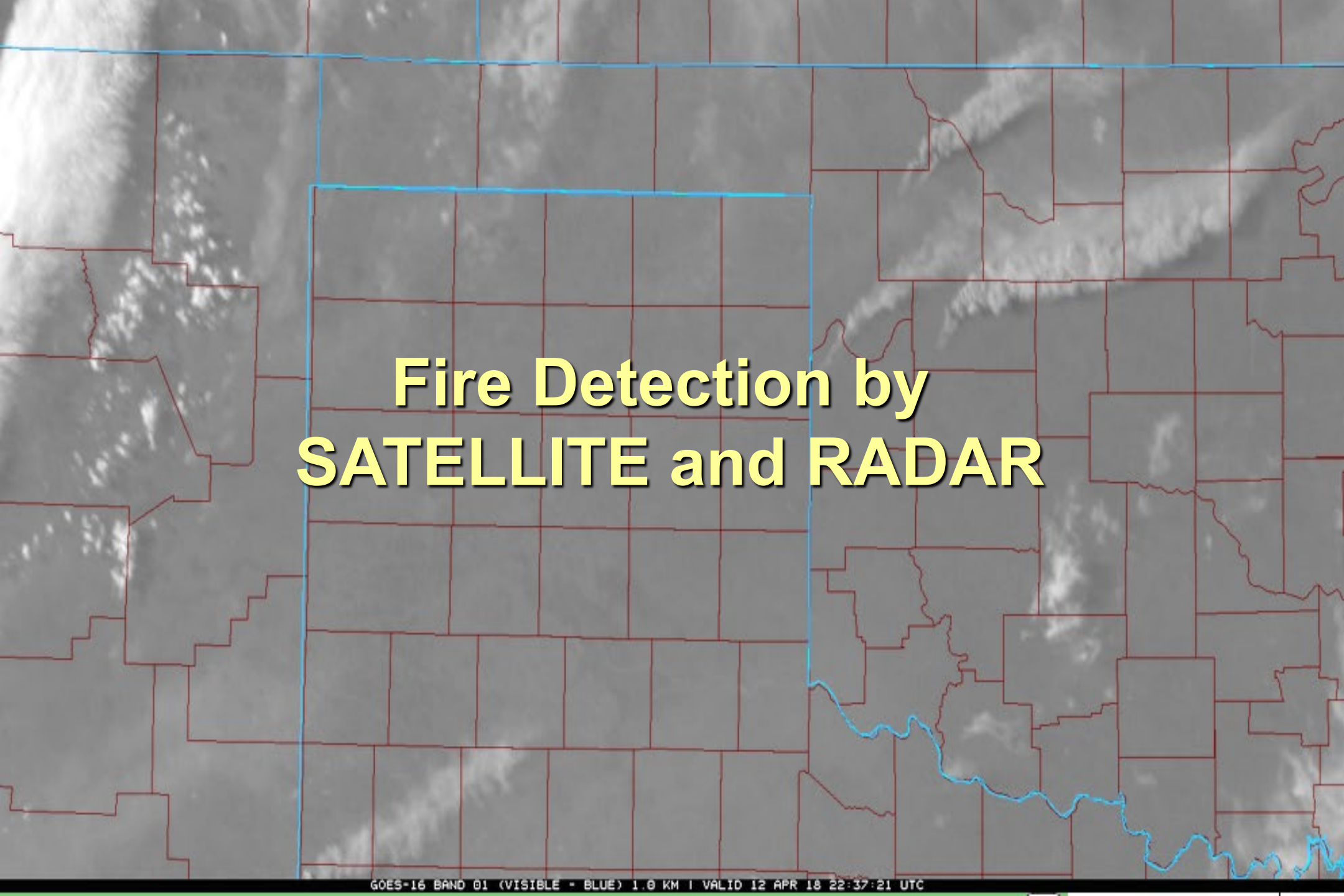
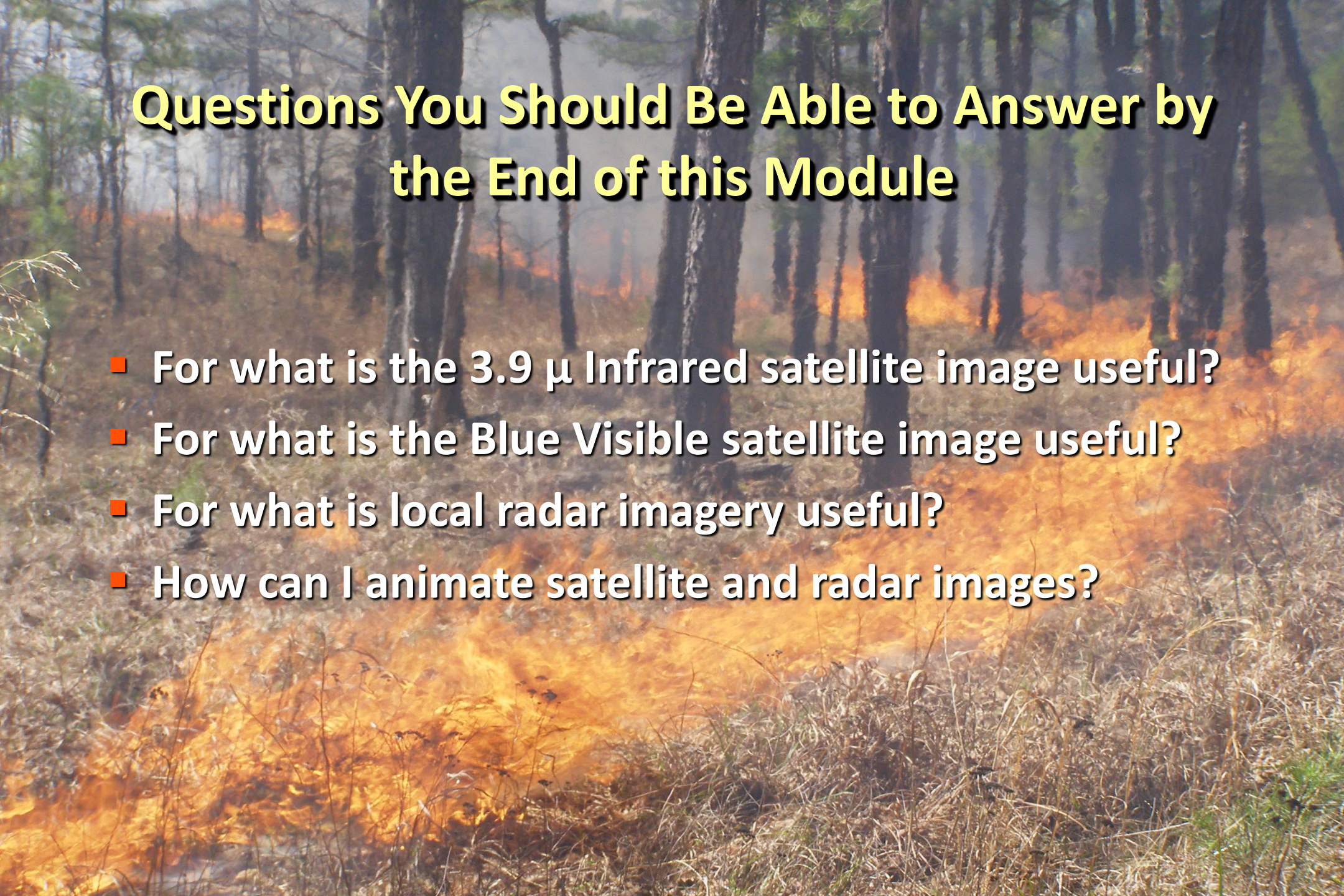

Fire Detection by
SATELLITE and RADAR
GOES-16 BAND 01 (VISIBLE - BLUE) 1.0 KM | VALID 12 APR 18 22:37:21 UTC



Questions You Should Be Able to Answer by the End of this Module

- For what is the 3.9 μ Infrared satellite image useful?
- For what is the Blue Visible satellite image useful?
- For what is local radar imagery useful?
- How can I animate satellite and radar images?


Fire Detection by SATELLITE

- Current Station Conditions
- Current Maps
- Past & Forecast Animated Maps
- Past & Forecast Charts/Tables
- Fire Prescription Planner
- NWS Forecast Chart (Stillwater)
- NWS Forecast Table (Stillwater)
- Relative Greenness Zoom Map
- Default Fuel Model Zoom Map
- Fire Advisories and Outlooks
- 3.9 µ Infrared Satellite Map
- Recent Lightning Activity
- Oklahoma Burn Bans
- Additional Resources
- Contacts and Learning Tools
- News

Current Fuel Model for Stillwater

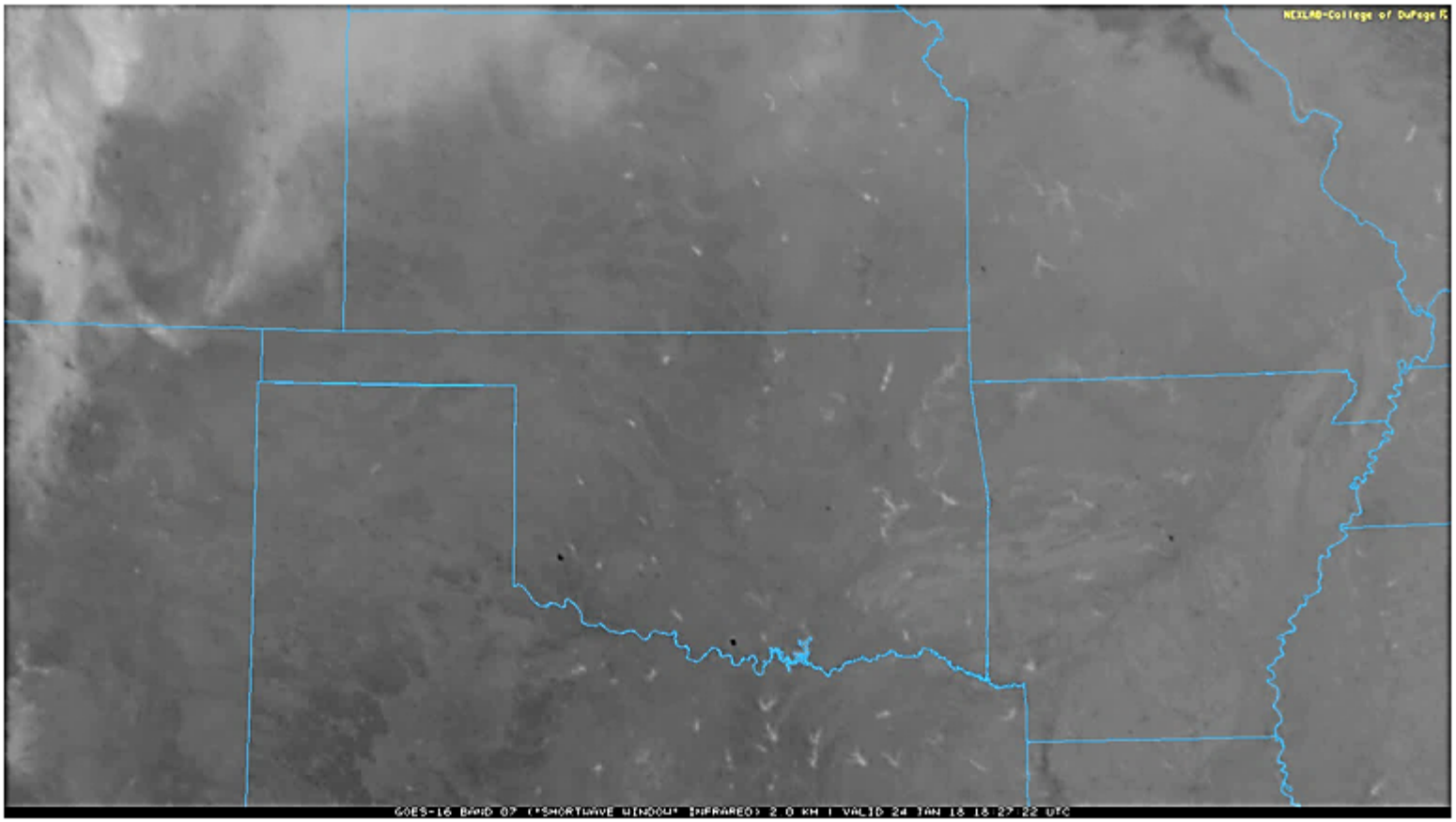
T - Tallgrass with open evergreen brus

Default is T

OK-FIRE

Oklahoma 3.9 micron Infrared Satellite

Share Tweet



- Current Station Conditions
- Current Maps
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Current Fuel Model for Stillwater

T - Tallgrass with open evergreen brus

Default is T

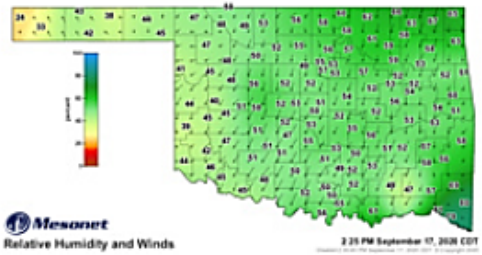
OK-FIRE Current Maps

Fire Weather | Fire Danger | Satellite | Local Radar

Fire Weather

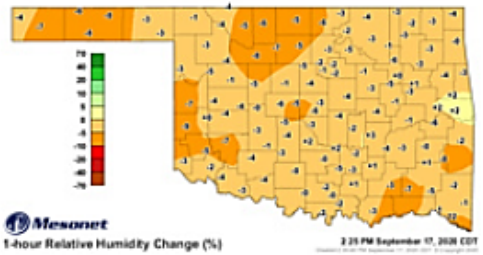
Current Fire Weather Conditions

learn more



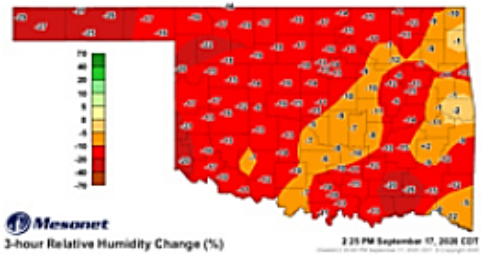
Relative Humidity and Winds

learn more



1-hr Relative Humidity Change

learn more



3-hr Relative Humidity Change

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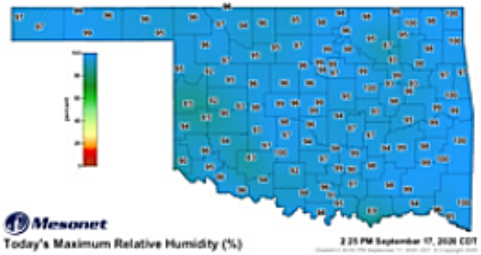
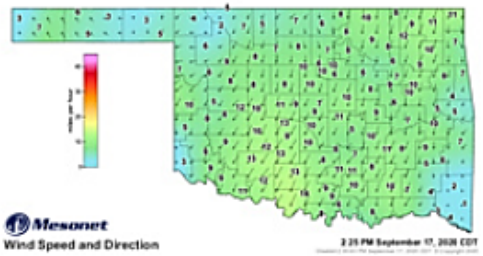


Today's Maximum Relative Humidity

learn more



Wind Speed and Direction

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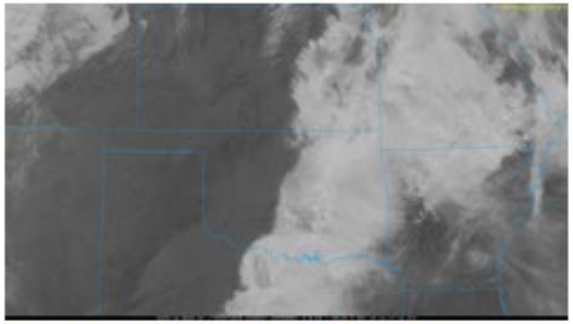
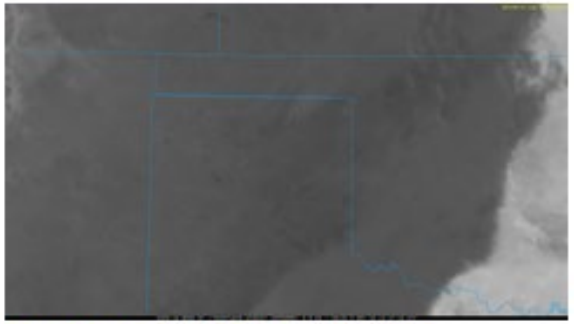
Satellite



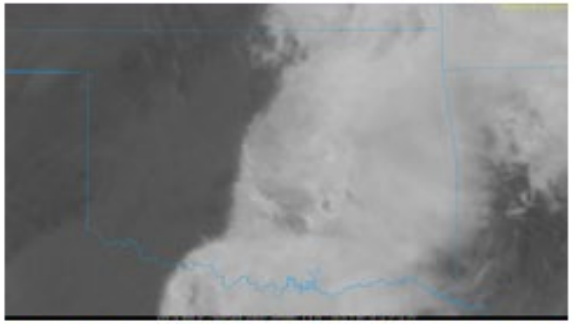
Oklahoma 3.9 micron Infrared

learn more



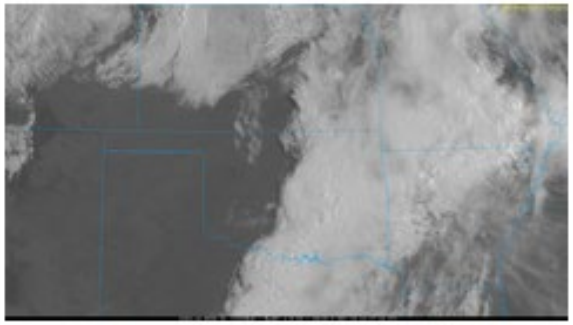
Oklahoma West 3.9 micron Infrared

learn more



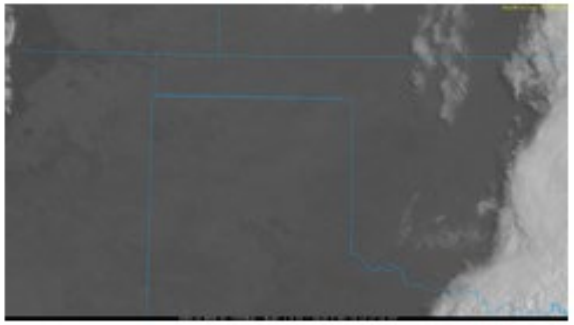
Oklahoma East 3.9 micron Infrared

learn more



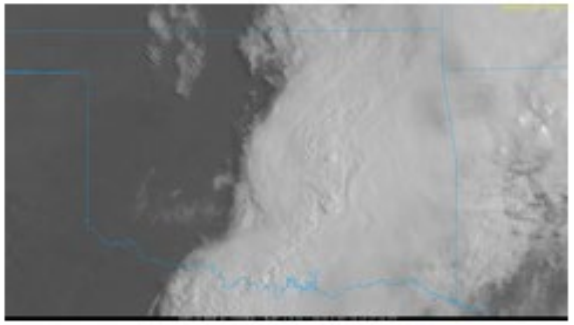
Oklahoma Visible (Blue)

learn more



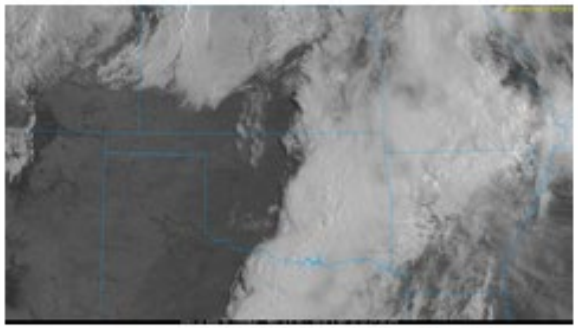
Oklahoma West Visible (Blue)

learn more



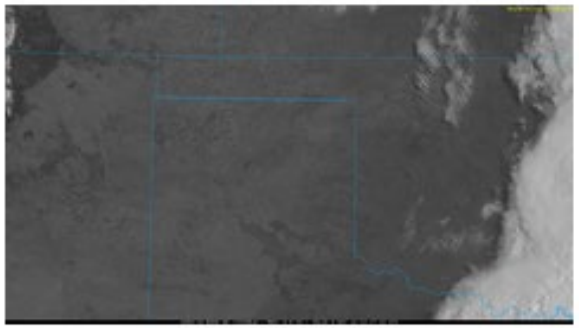
Oklahoma East Visible (Blue)

learn more



Oklahoma Visible (Red)

learn more



Oklahoma West Visible (Red)

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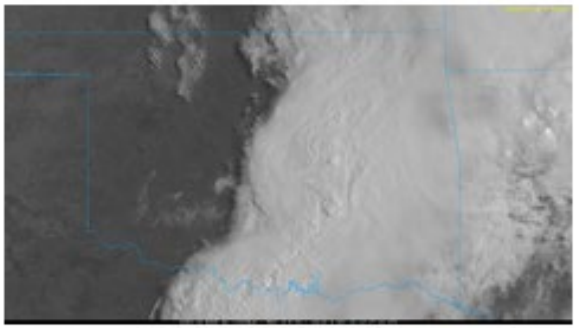
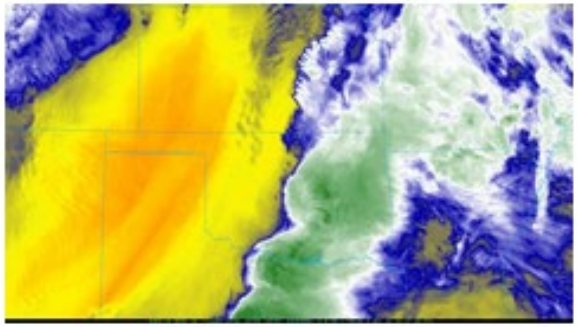


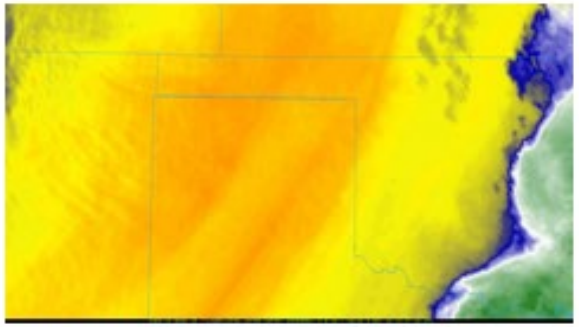
Oklahoma East Visible (Red)

learn more



Oklahoma Water Vapor

learn more



Oklahoma West Water Vapor

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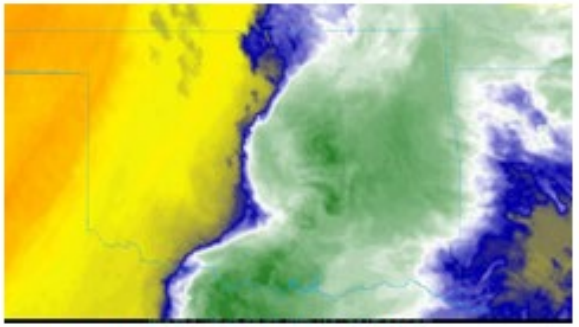

Oklahoma East Water Vapor

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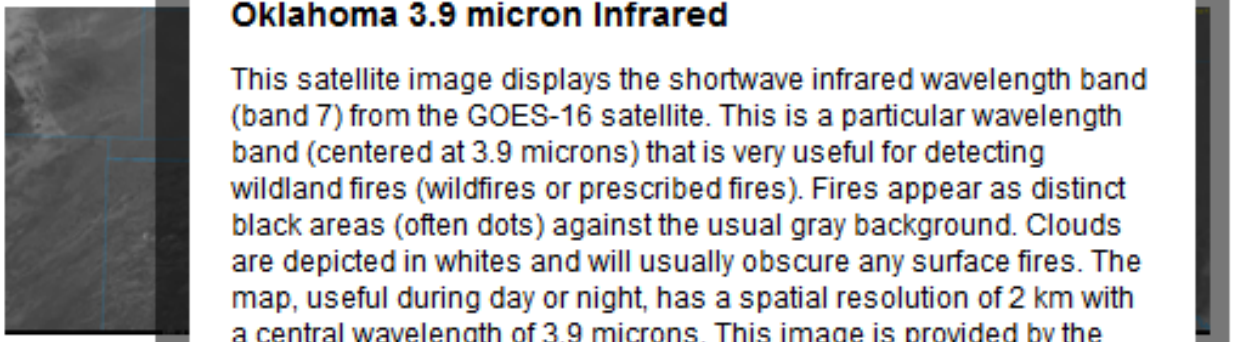
Satellite

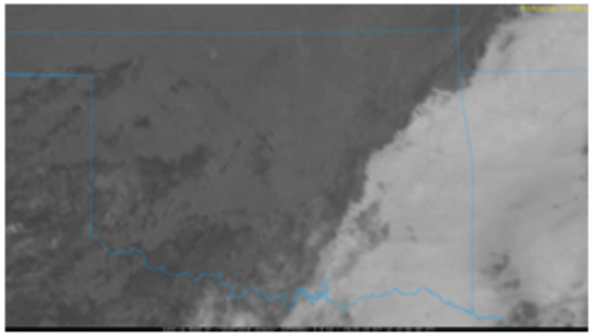


Oklahoma 3

learn more

Oklahoma 3.9 micron Infrared

This satellite image displays the shortwave infrared wavelength band (band 7) from the GOES-16 satellite. This is a particular wavelength band (centered at 3.9 microns) that is very useful for detecting wildland fires (wildfires or prescribed fires). Fires appear as distinct black areas (often dots) against the usual gray background. Clouds are depicted in whites and will usually obscure any surface fires. The map, useful during day or night, has a spatial resolution of 2 km with a central wavelength of 3.9 microns. This image is provided by the College of DuPage and is updated every 5 minutes. The time of the image is shown beneath the map in UTC time (CST = UTC - 6 hours; CDT = UTC - 5 hours). Click here to see an animation of this map with county boundaries over the past four hours. More information about this particular wavelength band and its uses can be found here.



Oklahoma East 3.9 micron Infrared

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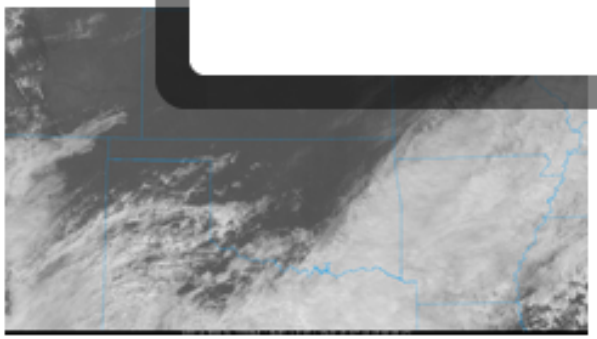

Oklahoma Visible (Blue)

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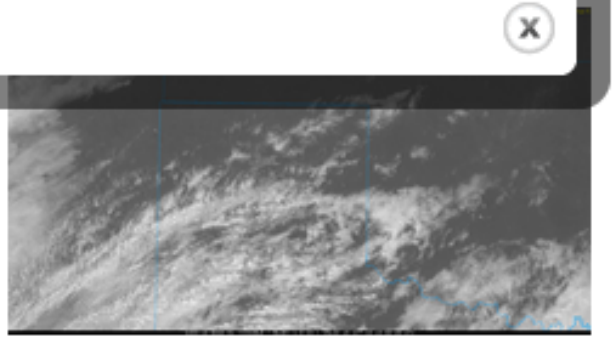

Oklahoma West Visible (Blue)

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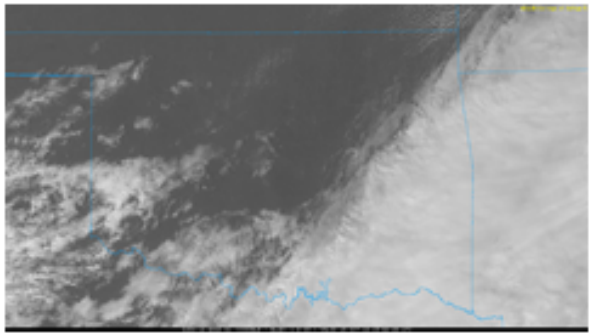

Oklahoma East Visible (Blue)

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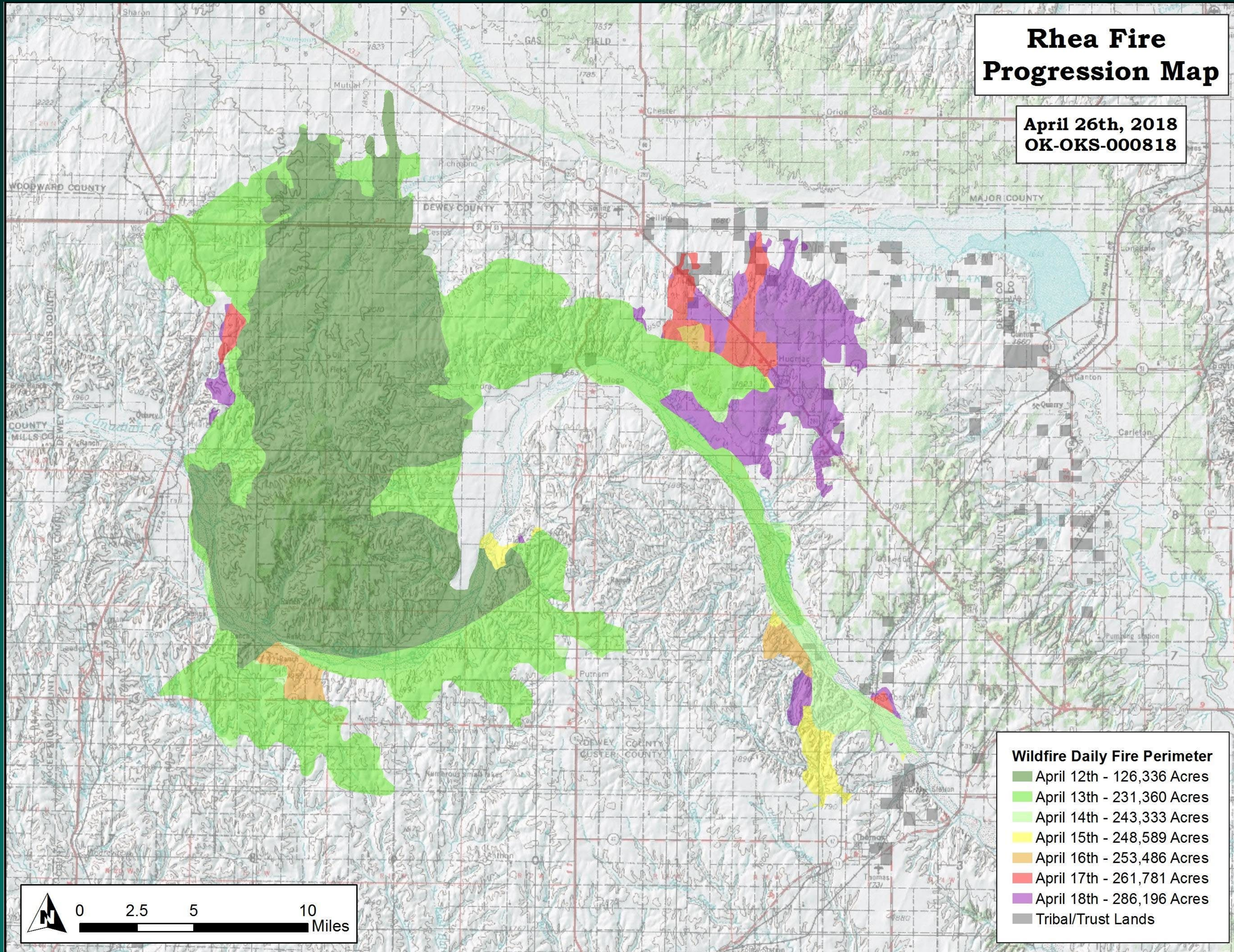
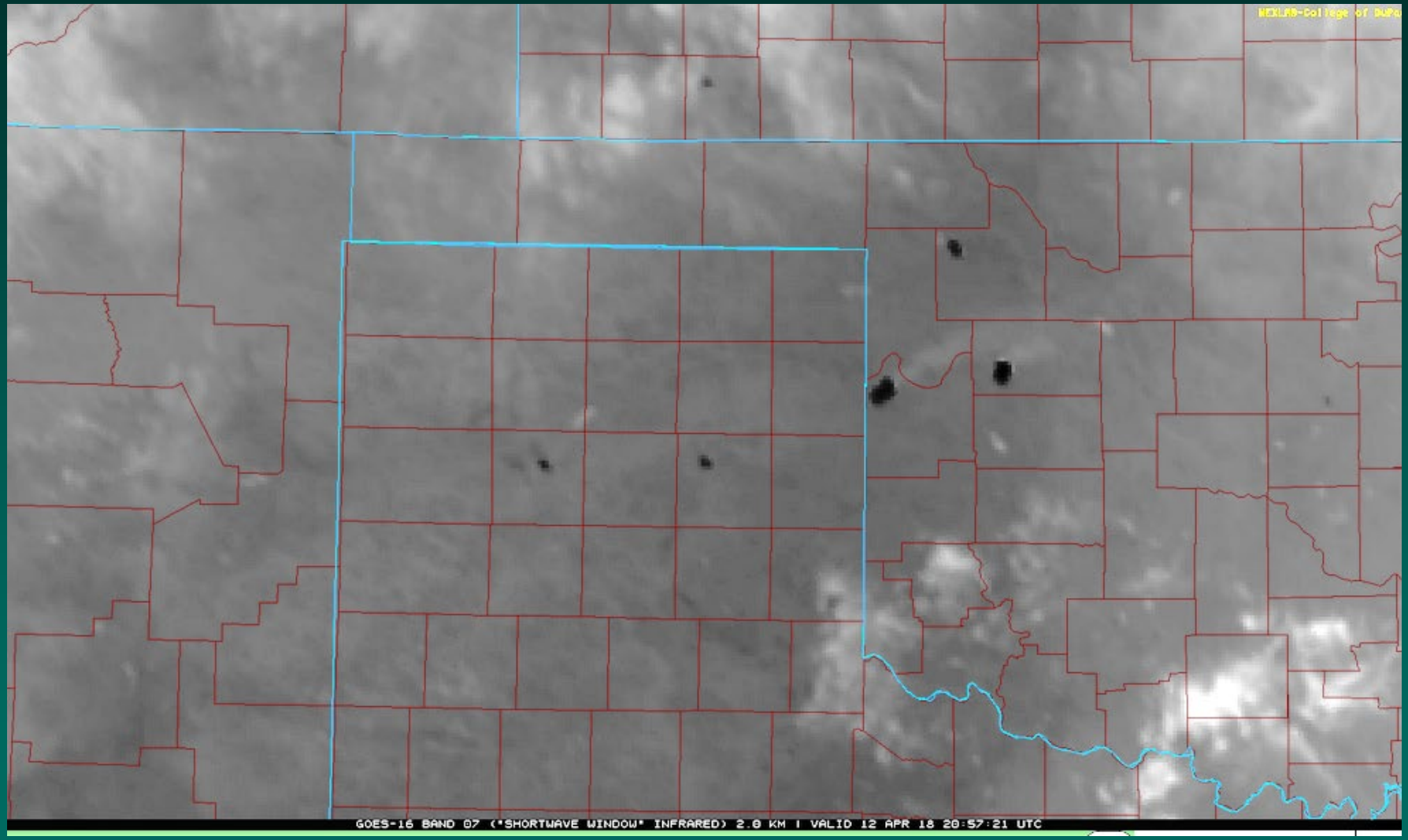
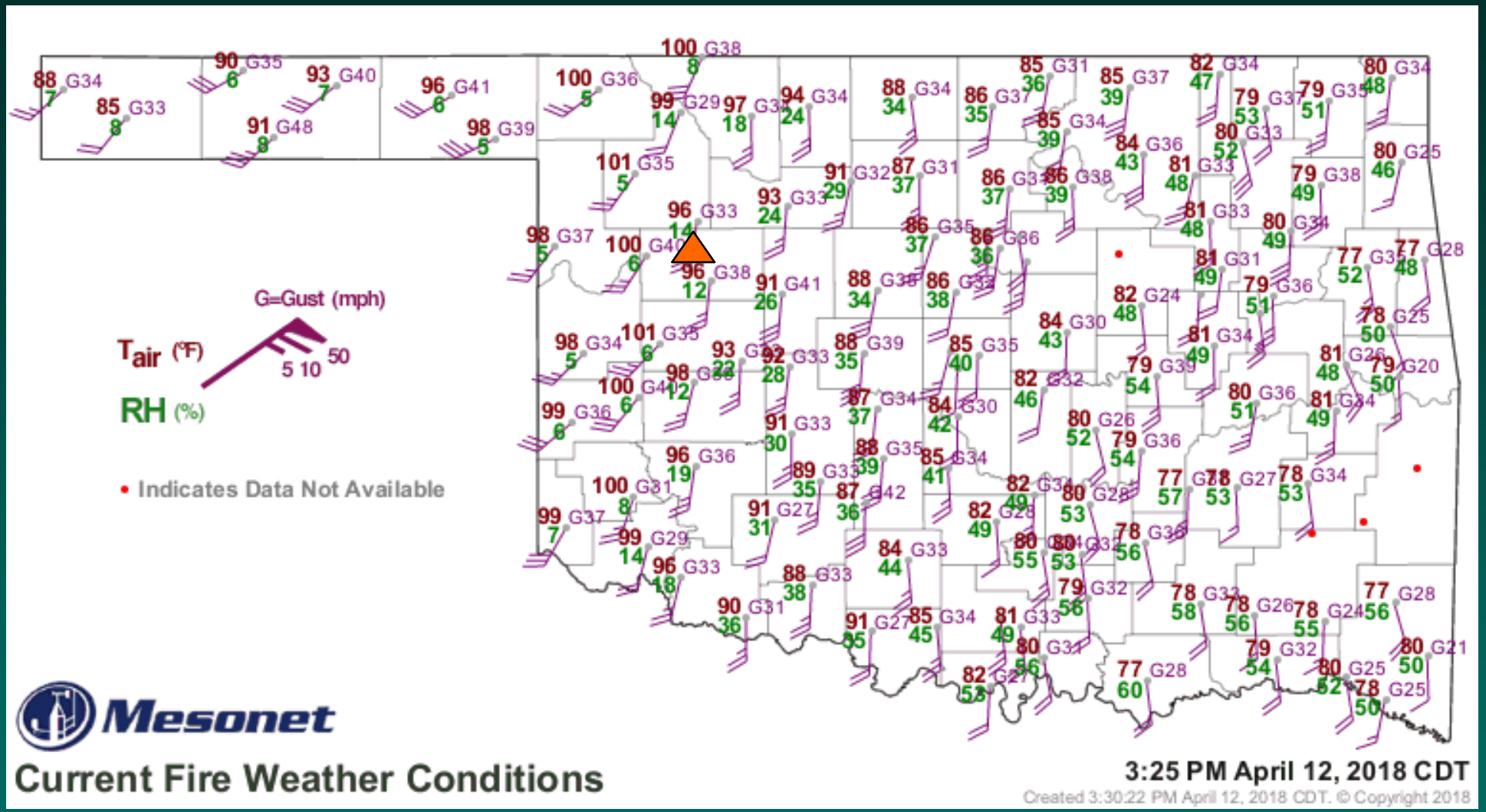
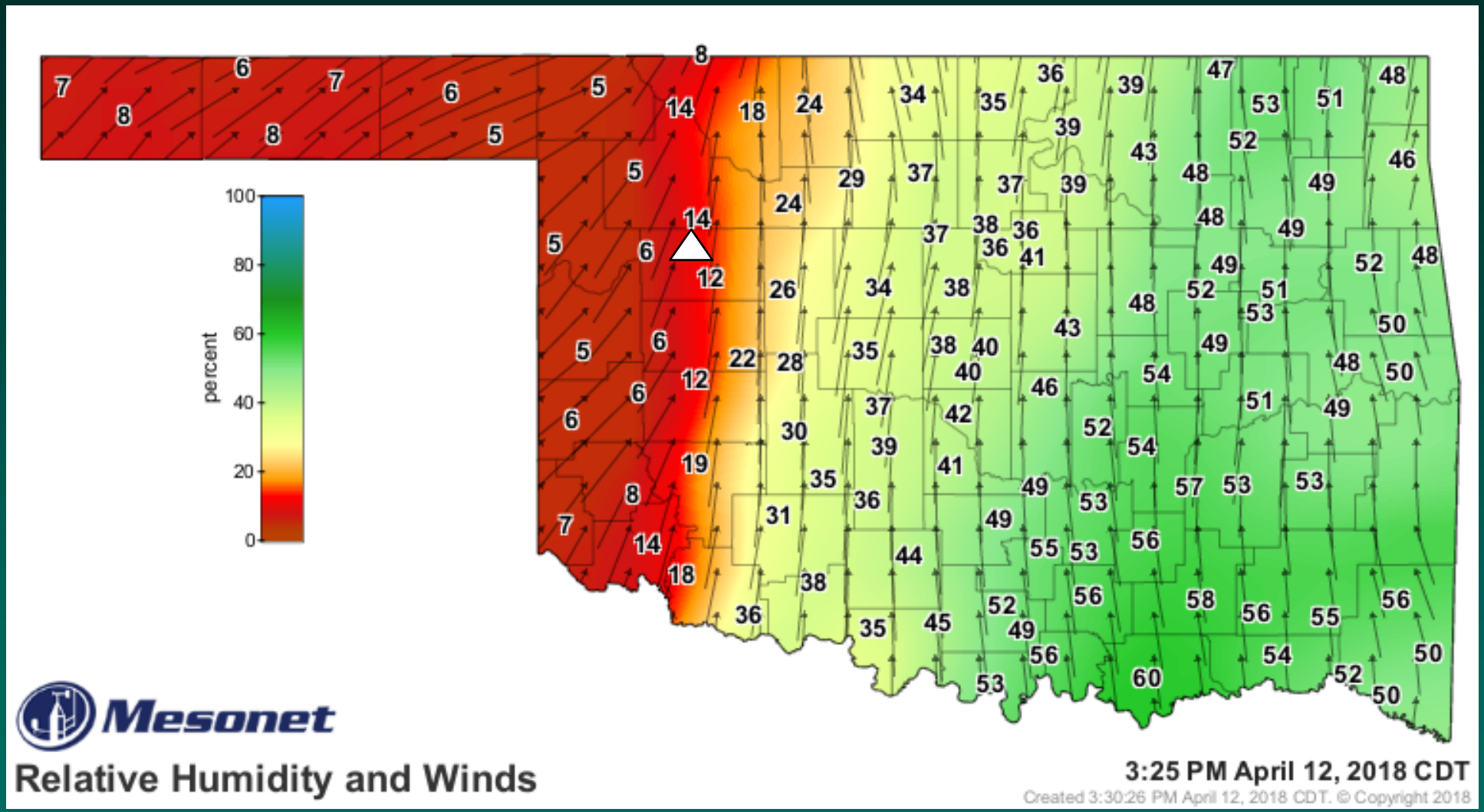
DEWEY CO, OK
INCIWEB.GOV
MONDAY
Rhea Fire
April 12-27, 2018
286,196 acres

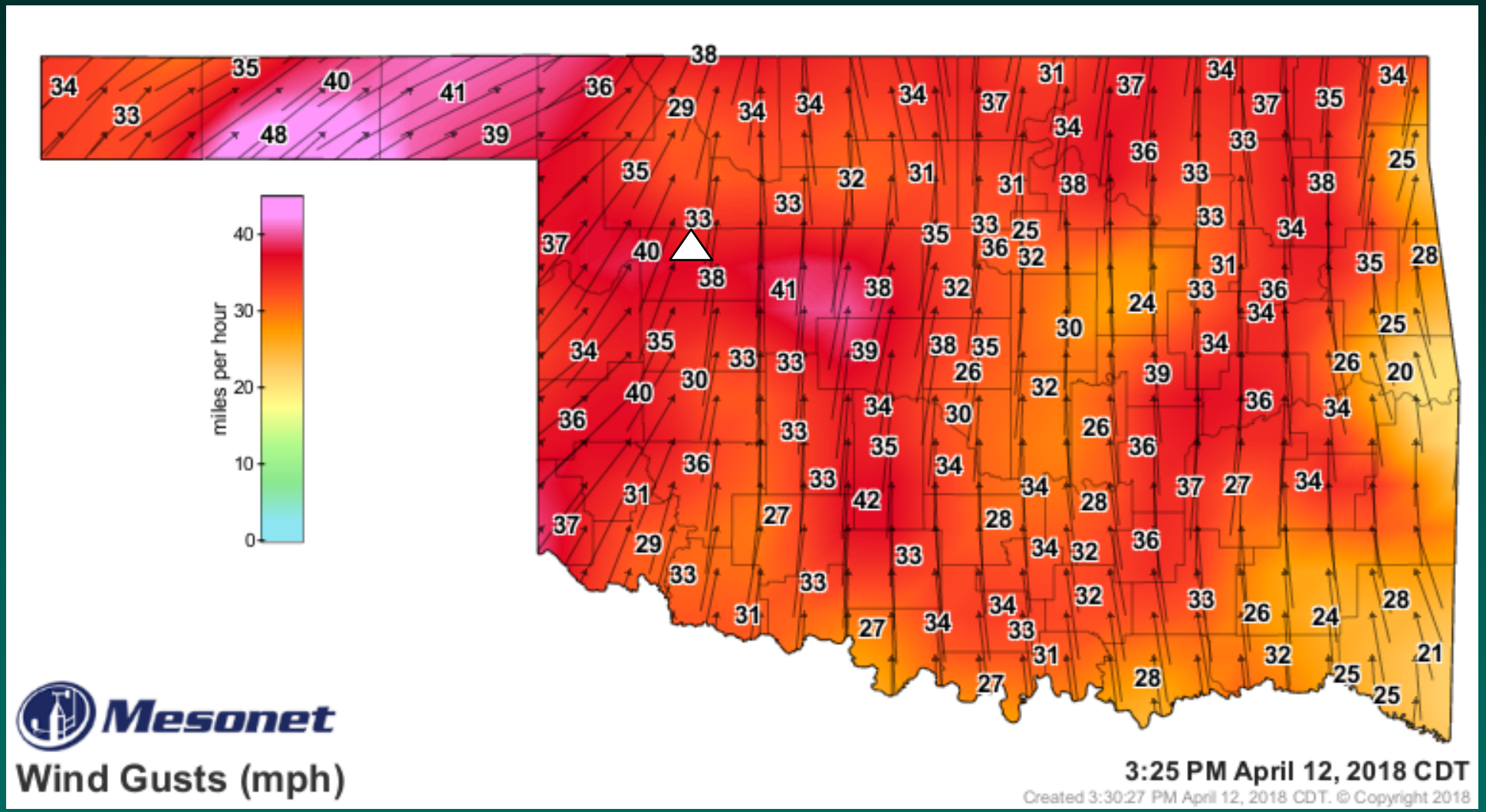

Rhea Fire
Progression Map
April 26th, 2018
OK-OKS-000818
Wildfire Daily Fire Perimeter
April 12th - 126,336 Acres
April 13th - 231,360 Acres
April 14th - 243,333 Acres
April 15th - 248,589 Acres
April 16th - 253,486 Acres
April 17th - 261,781 Acres
April 18th - 286,196 Acres
Tribal/Trust Lands
0 2.5 5 10
Miles
N

3.9μ Infrared

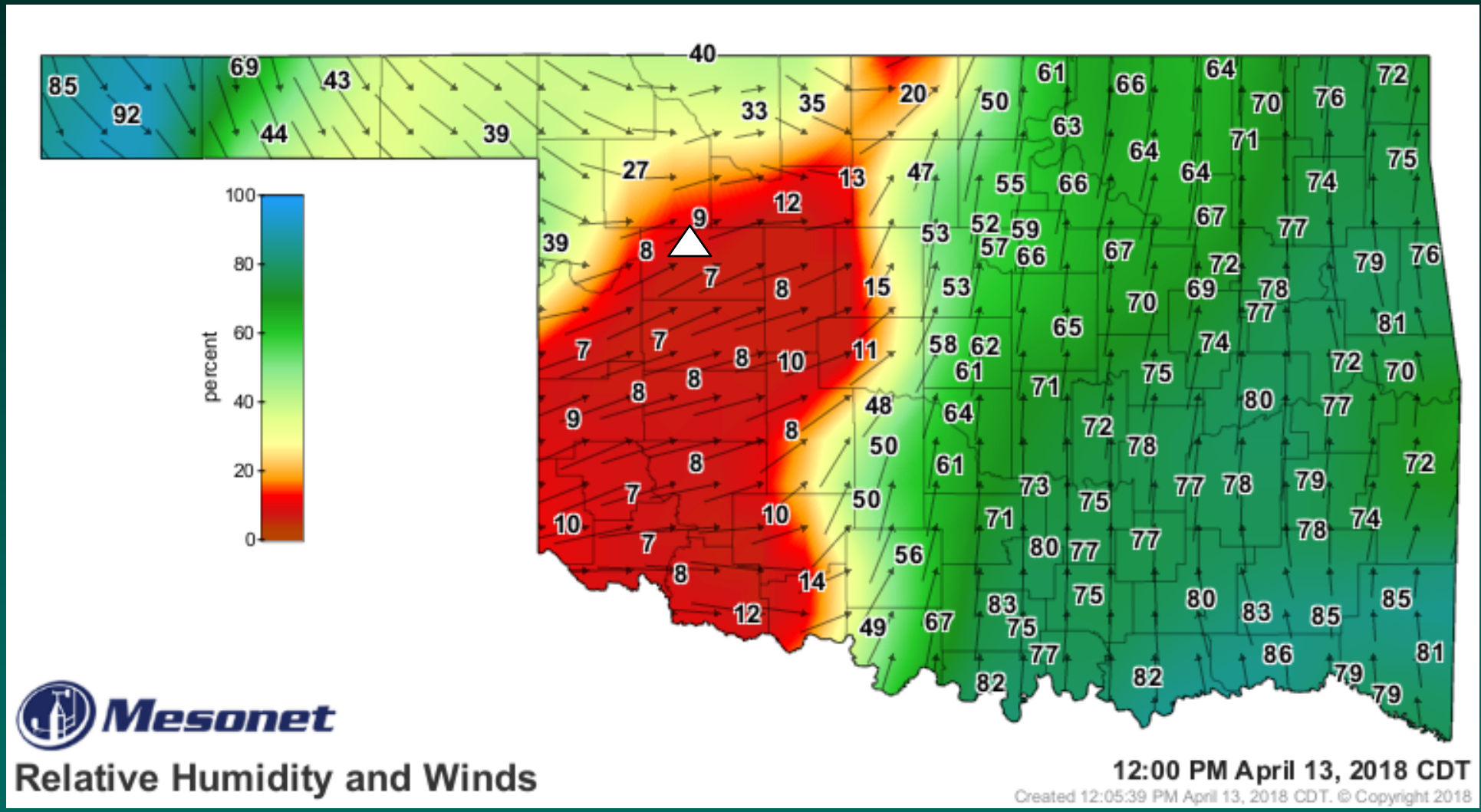


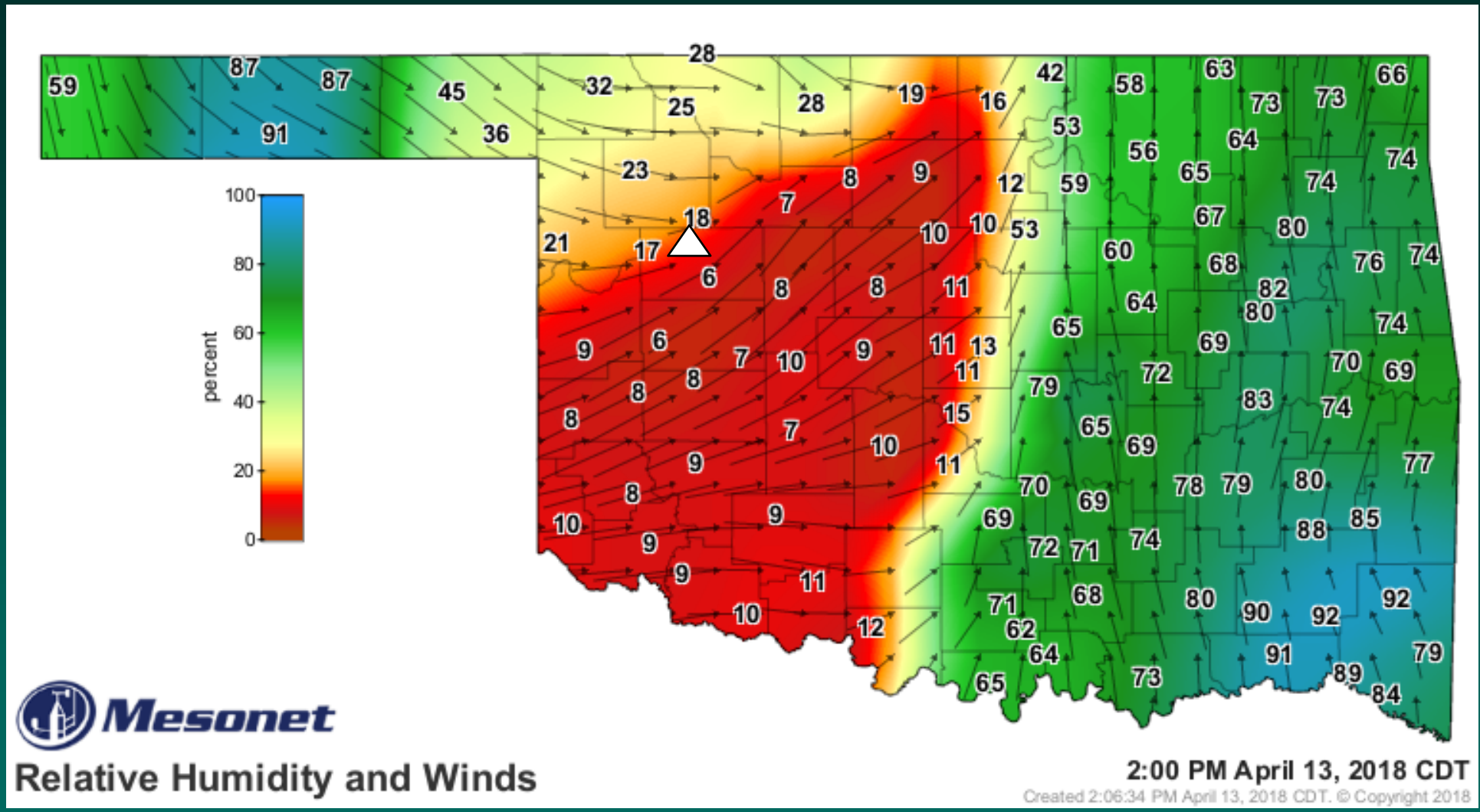

G=Gust (mph)
Tair (°F)
5 10 50
RH (%)
• Indicates Data Not Available
Mesonet
Current Fire Weather Conditions
3:25 PM April 12, 2018 CDT
Created 3:30:22 PM April 12, 2018 CDT. © Copyright 2018

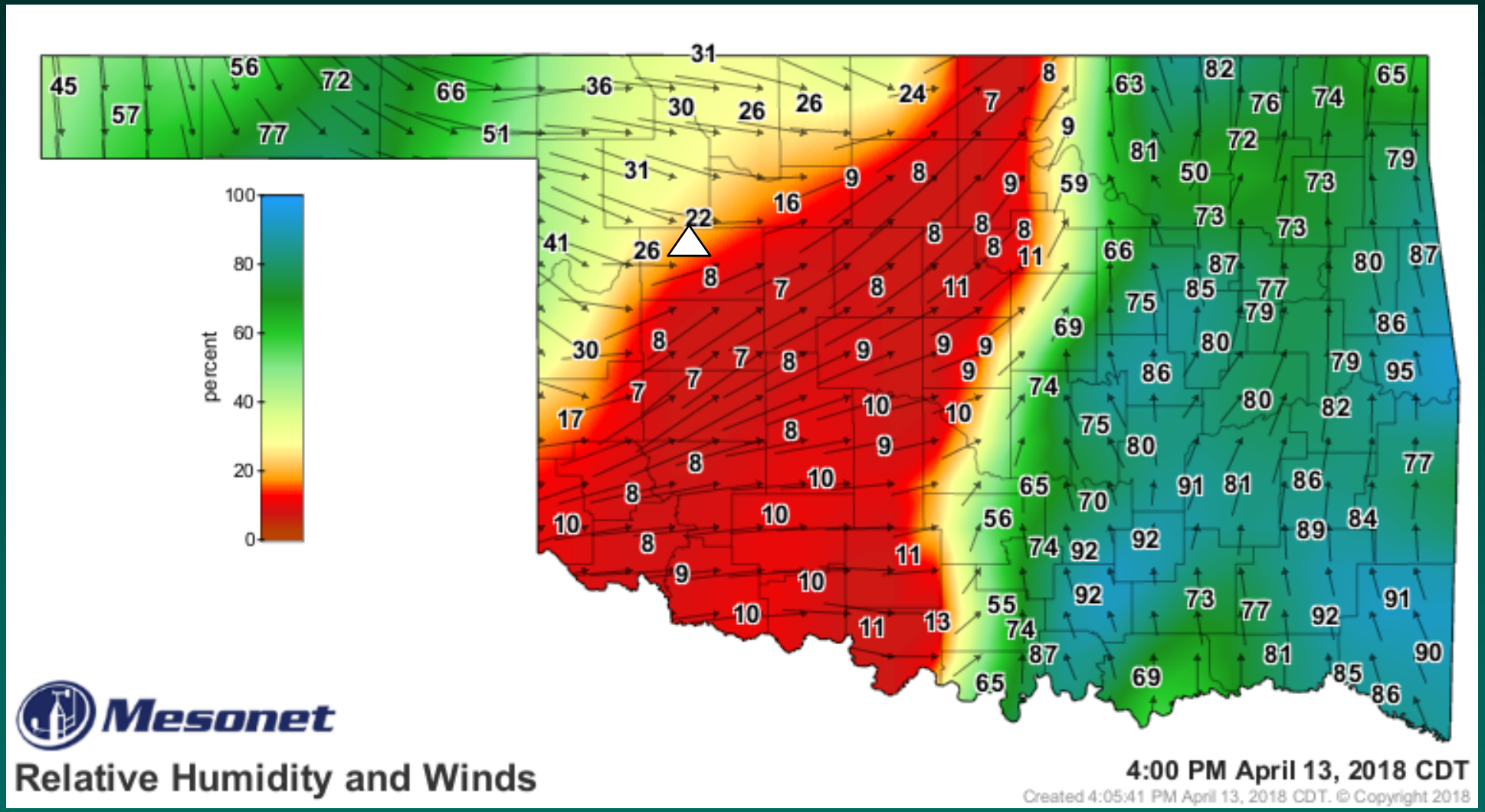

percent
100
80
60
40
20
0
Mesonet
Relative Humidity and Winds
3:25 PM April 12, 2018 CDT
Created 3:30:26 PM April 12, 2018 CDT. © Copyright 2018

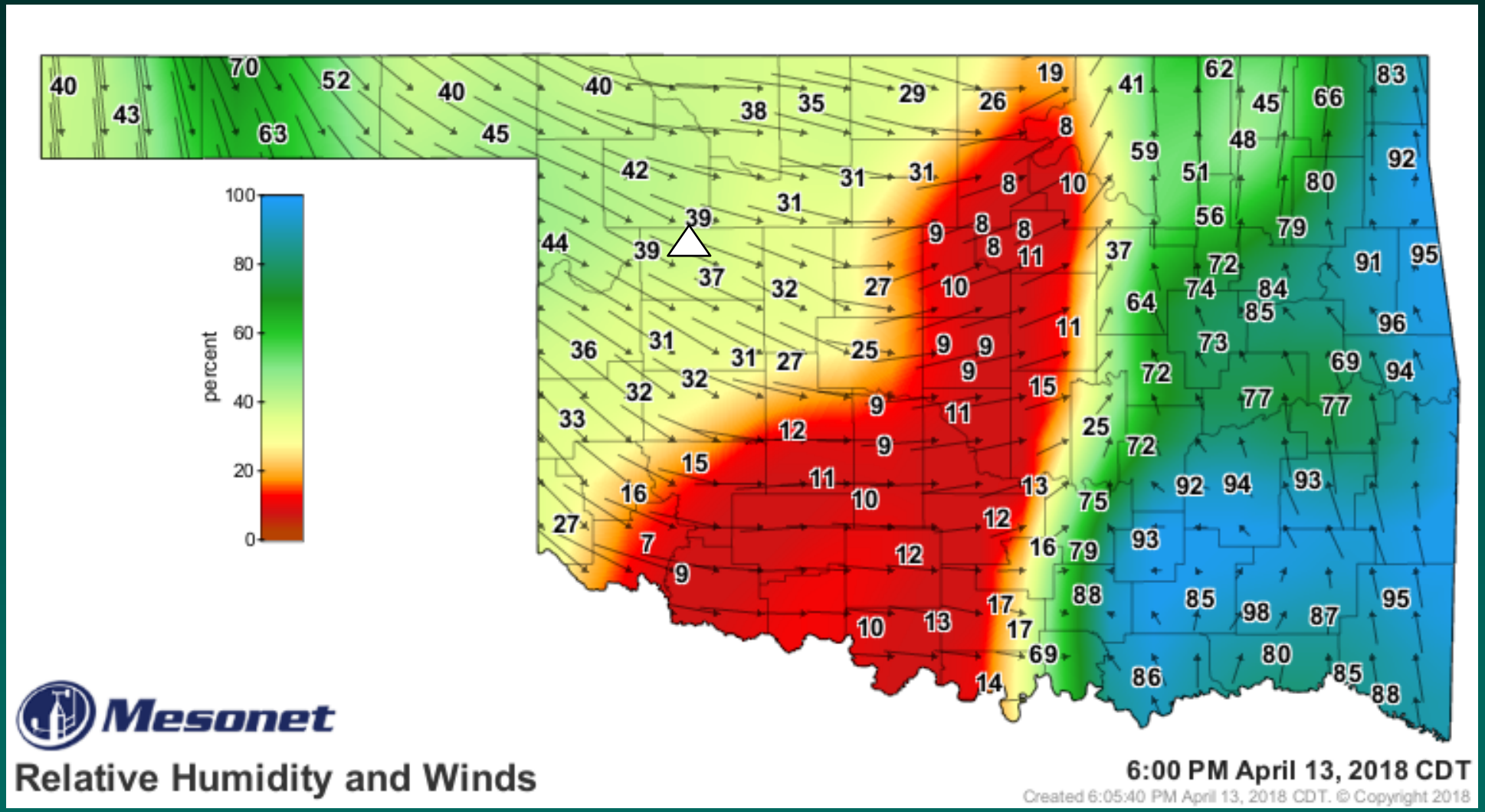

miles per hour
0
10
20
30
40
Mesonet
Wind Gusts (mph)
3:25 PM April 12, 2018 CDT
Created 3:30:27 PM April 12, 2018 CDT. © Copyright 2018

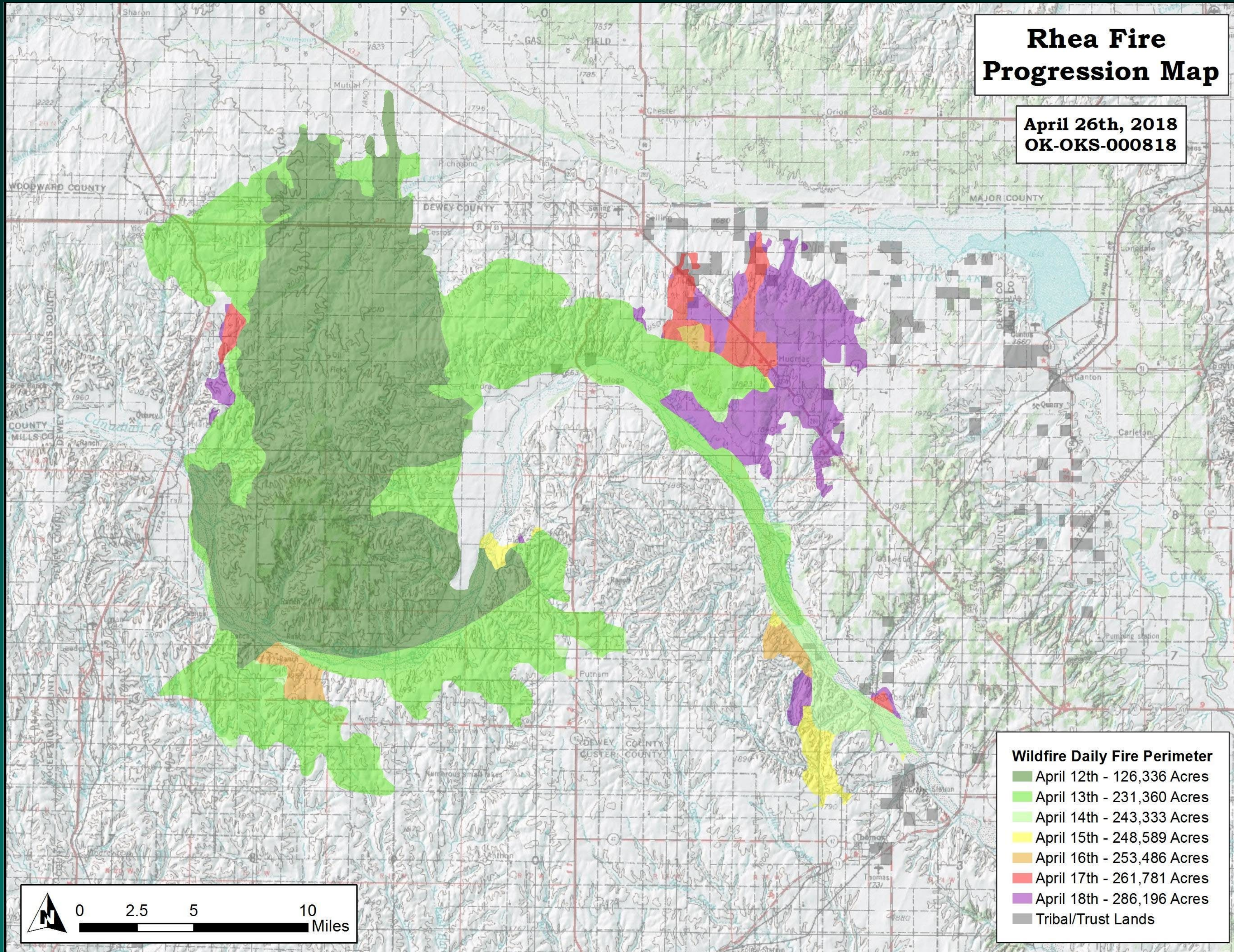

NEXLAB-College of DuPage R
Animation of 3.9μ Infrared
12-5 pm April 12
This animation can be found in the “Fire Detection by Satellite and Radar” workshop training video located in the “Contacts and Learning Tools” section of the OK-FIRE website. The direct link to this video is:
https://www.youtube.com/watch?v=g0Og4NkA-qA
GOES-16 BAND 07 ("SHORTWAVE WINDOW" INFRARED) 2.0 KM | VALID 13 APR 18 18:27:22 UTC


100
80
60
40
20
0
percent
Mesonet
Relative Humidity and Winds
12:00 PM April 13, 2018 CDT
Created 12:05:39 PM April 13, 2018 CDT. © Copyright 2018


percent
100
80
60
40
20
0
Mesonet
Relative Humidity and Winds
2:00 PM April 13, 2018 CDT
Created 2:06:34 PM April 13, 2018 CDT. © Copyright 2018


100
80
60
40
20
0
percent
Mesonet
Relative Humidity and Winds
4:00 PM April 13, 2018 CDT
Created 4:05:41 PM April 13, 2018 CDT. © Copyright 2018


percent
100
80
60
40
20
0
Mesonet
Relative Humidity and Winds
6:00 PM April 13, 2018 CDT
Created 6:05:40 PM April 13, 2018 CDT. © Copyright 2018


Rhea Fire
Progression Map
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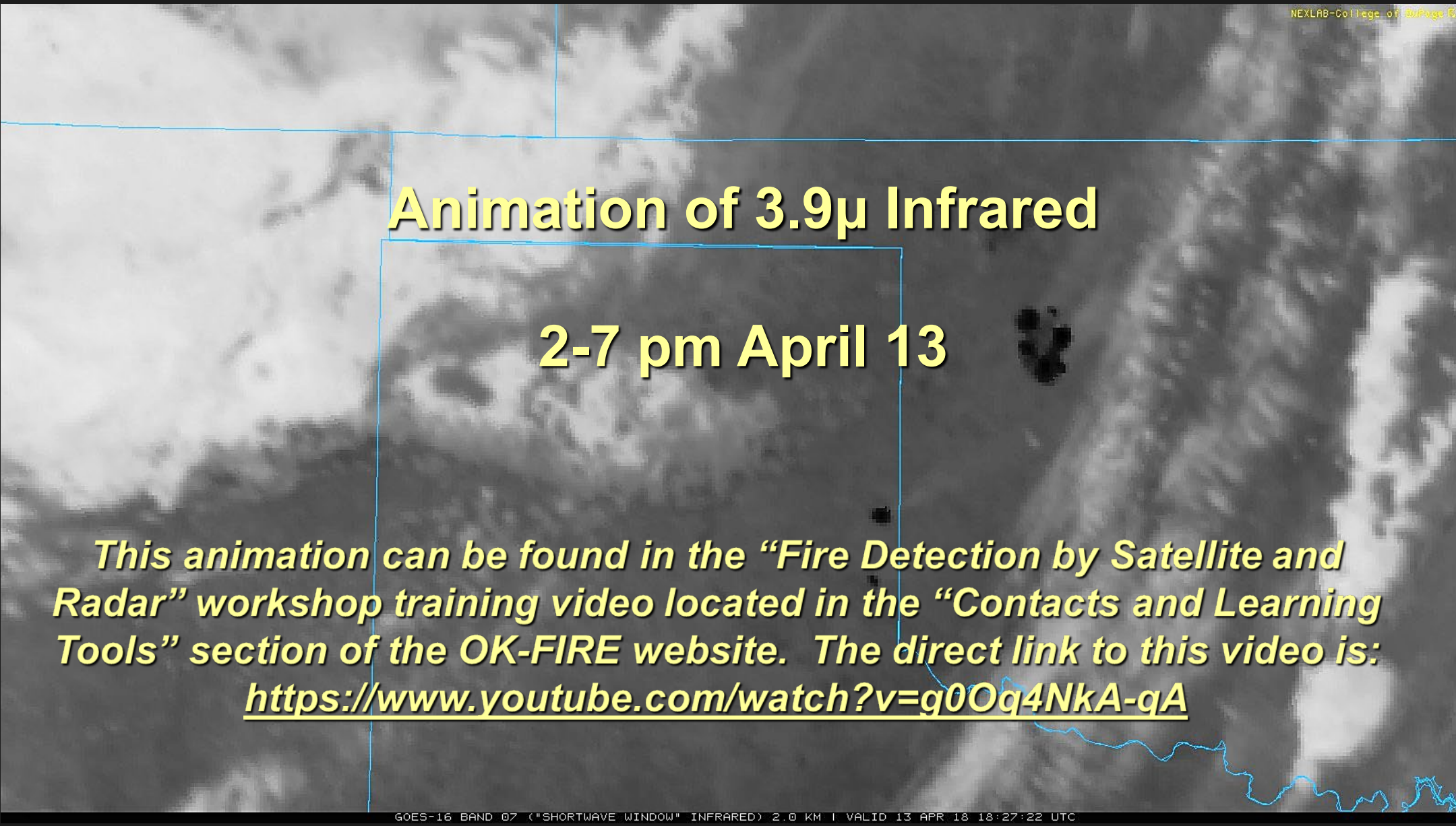
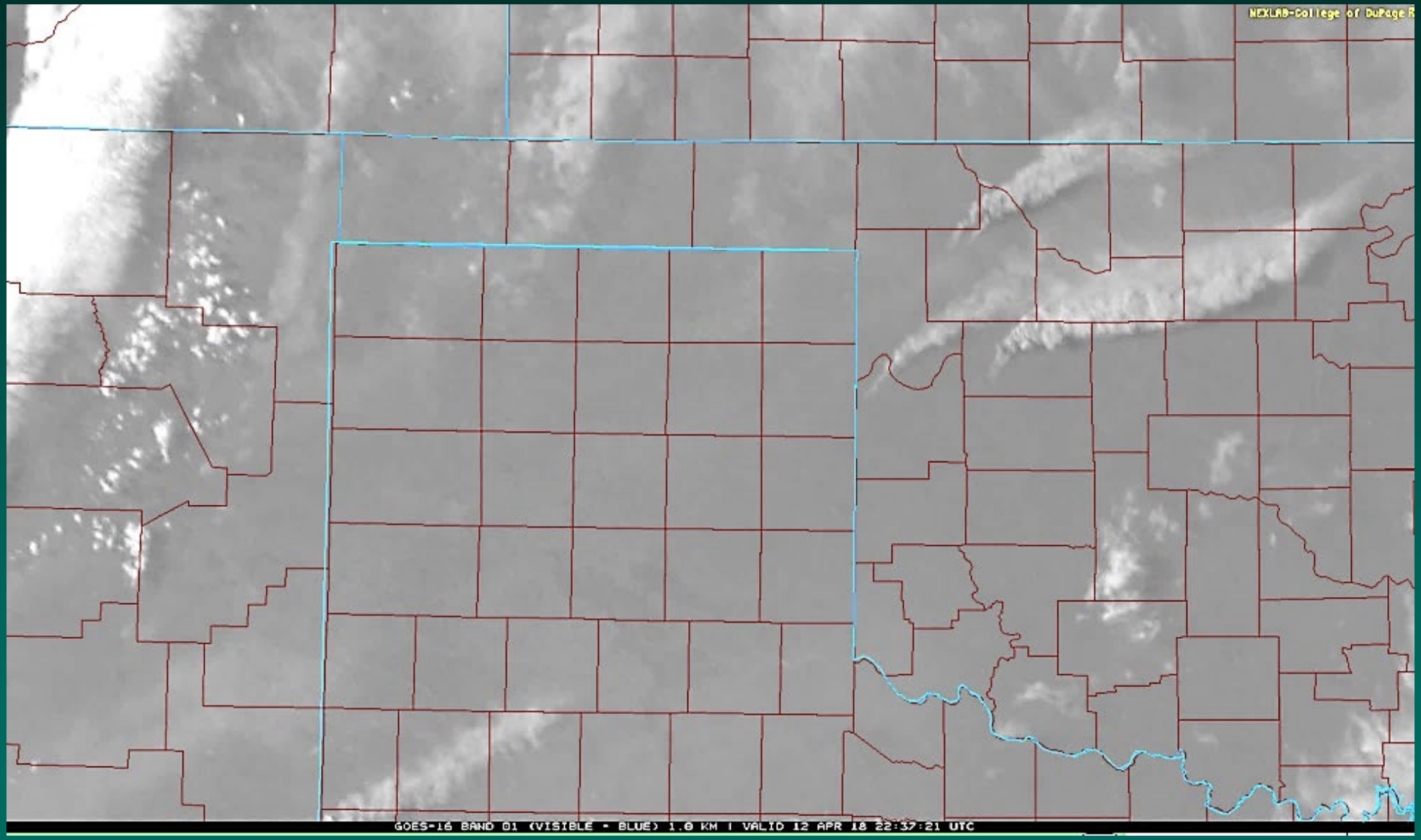
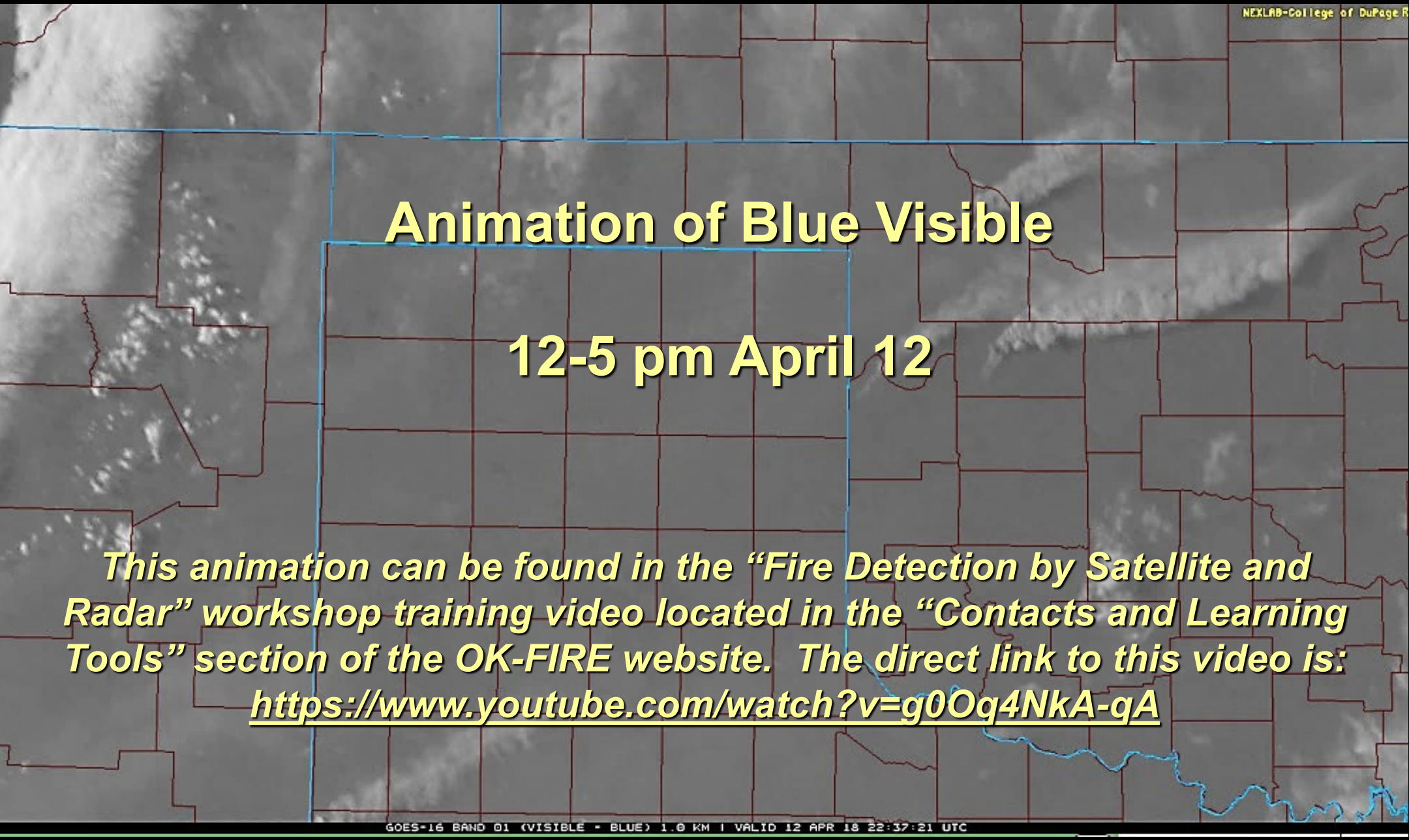
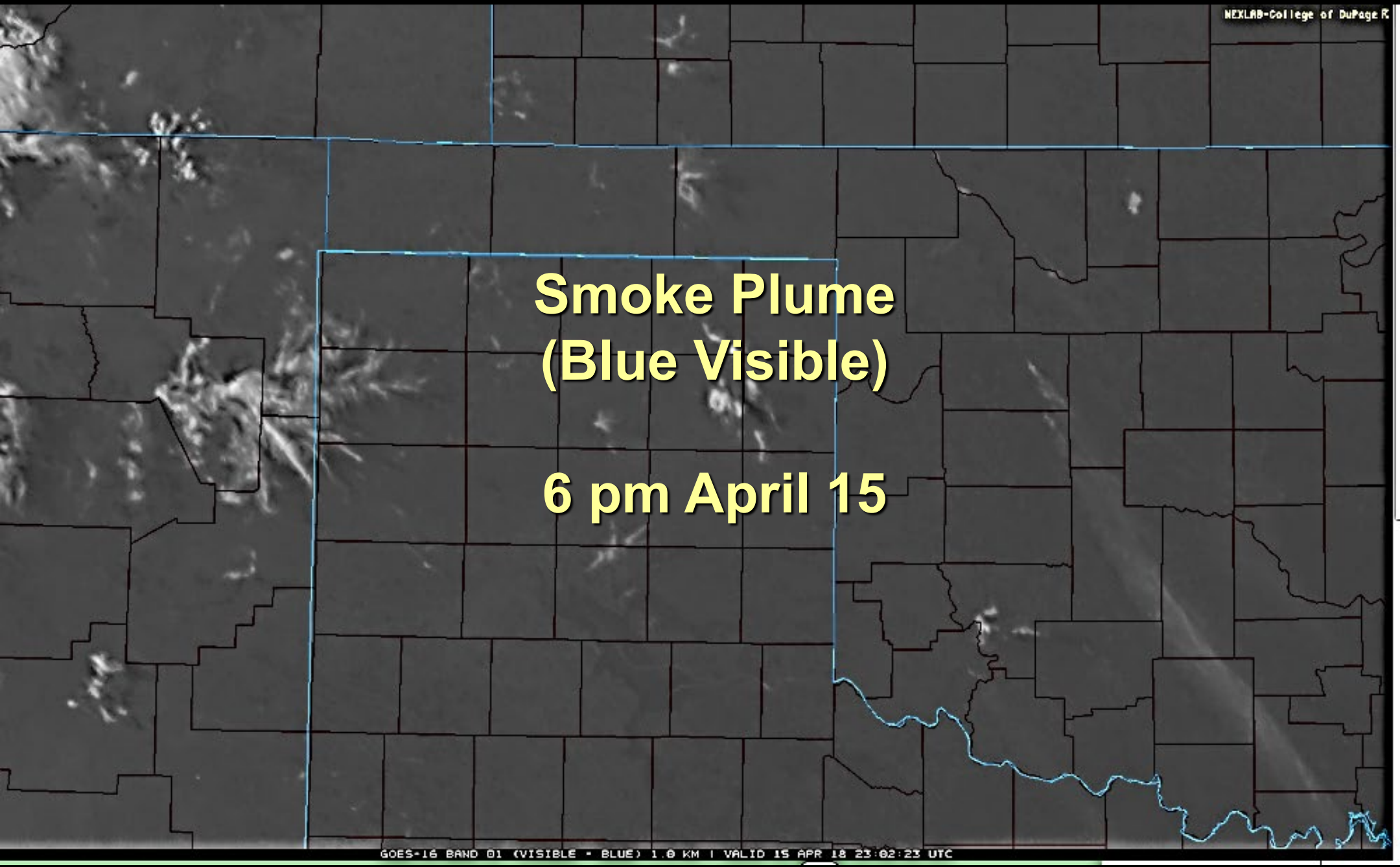
April 17th - 261,781 Acres
April 18th - 286,196 Acres
Tribal/Trust Lands
0 2.5 5 10
Miles
N


NEXLAB-College of DuPage
Animation of 3.9μ Infrared
2-7 pm April 13
This animation can be found in the "Fire Detection by Satellite and Radar" workshop training video located in the "Contacts and Learning Tools" section of the OK-FIRE website. The direct link to this video is:
https://www.youtube.com/watch?v=g0Oq4NkA-qA
GOES-16 BAND 07 ("SHORTWAVE WINDOW" INFRARED) 2.0 KM | VALID 13 APR 18 18:27:22 UTC

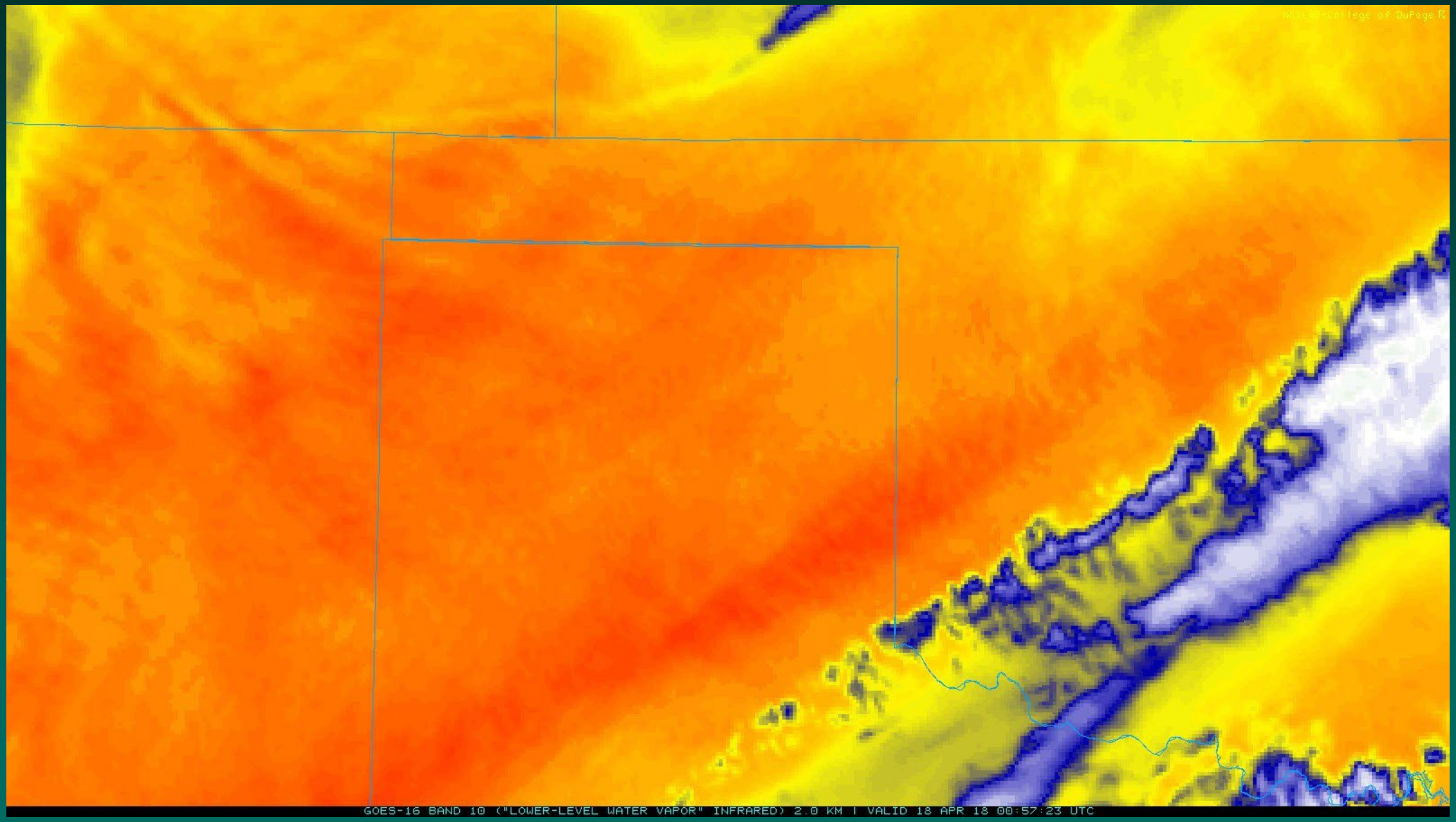
Visible (Blue)

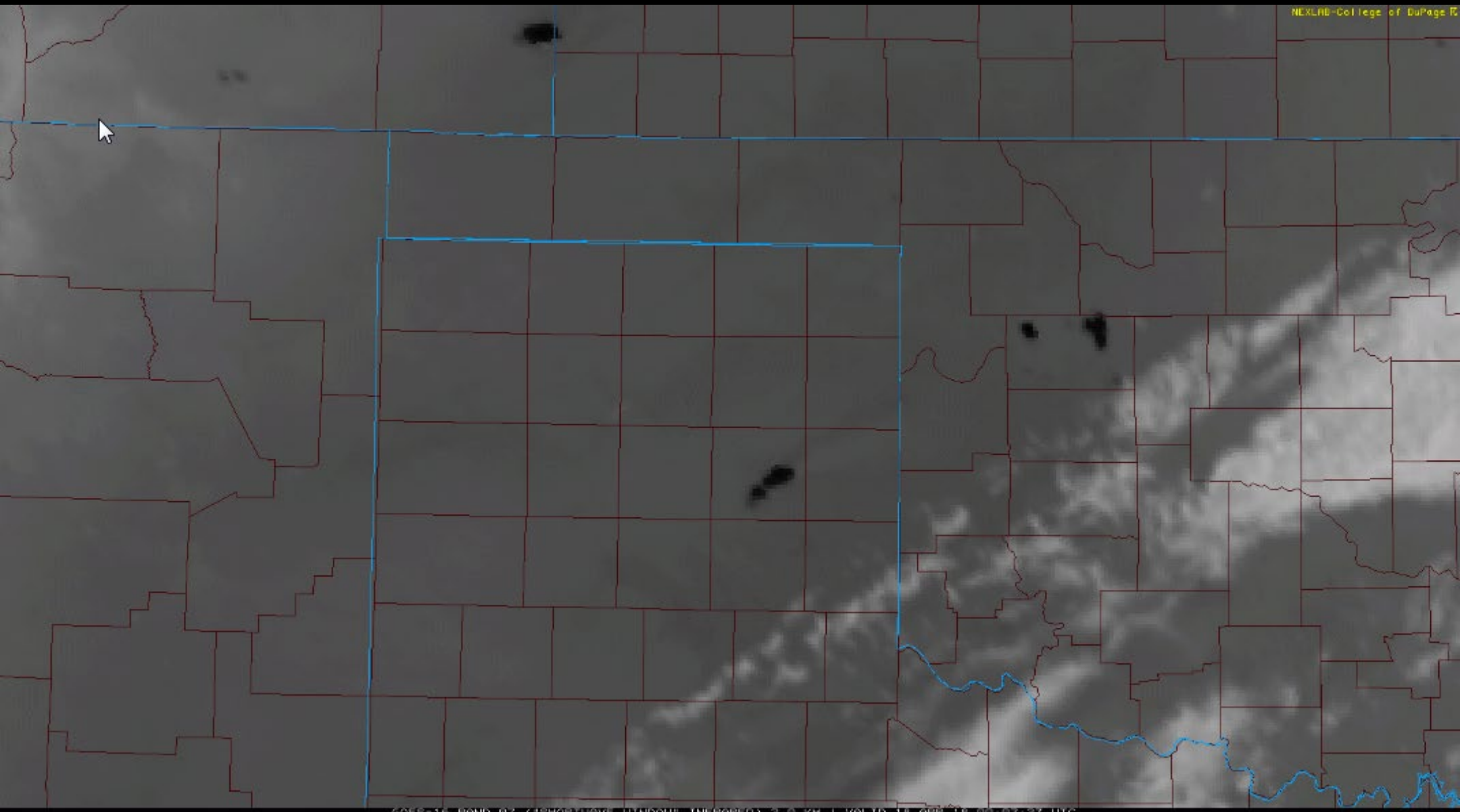


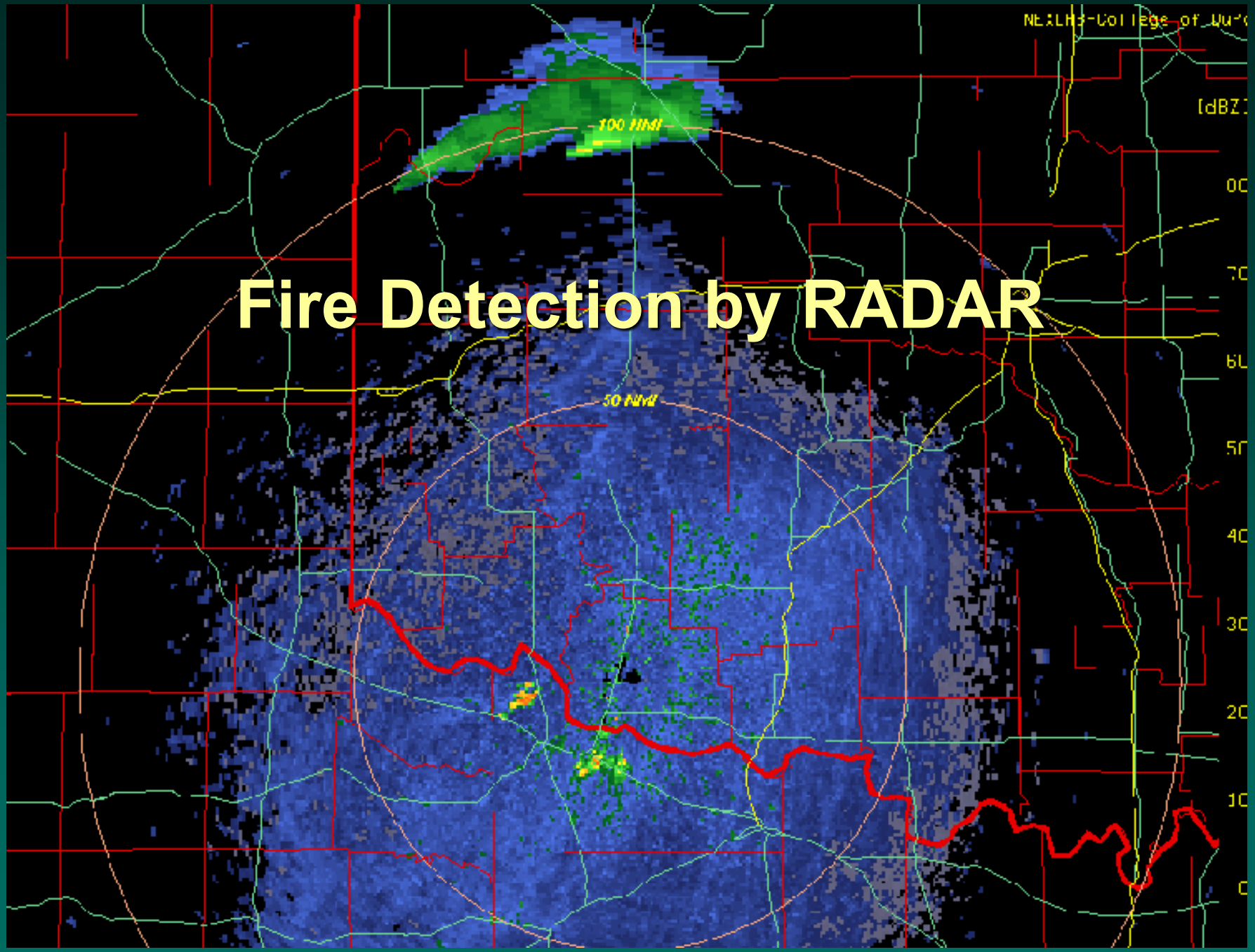

NEXLAB-College of DuPage R
Animation of Blue Visible
12-5 pm April 12
This animation can be found in the “Fire Detection by Satellite and Radar” workshop training video located in the “Contacts and Learning Tools” section of the OK-FIRE website. The direct link to this video is:
https://www.youtube.com/watch?v=g0Og4NkA-qA
GOES-16 BAND 01 (VISIBLE - BLUE) 1.0 KM | VALID 12 APR 18 22:37:21 UTC


NEXLAB-College of DuPage R
Smoke Plume
(Blue Visible)
6 pm April 15
GOES-16 BAND 01 (VISIBLE - BLUE) 1.0 KM | VALID 15 APR 18 23:02:23 UTC

Water Vapor (Apr. 17, 2018)




NEXLAB-College of DuPage
GOES-16 BAND 07 ("SHORTWAVE WINDOW" INFRARED) 2.0 KM | VALID 18 APR 18 00:07:23 UTC


Fire Detection by RADAR
100 NMI
50 NMI
[dBZ]

- Current Station Conditions
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- Past & Forecast Animated Maps
- Past & Forecast Charts/Tables
- Fire Prescription Planner
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- NWS Forecast Table (Stillwater)
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- 3.9 µ Infrared Satellite Map
- Recent Lightning Activity
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- News

Current Fuel Model for Stillwater

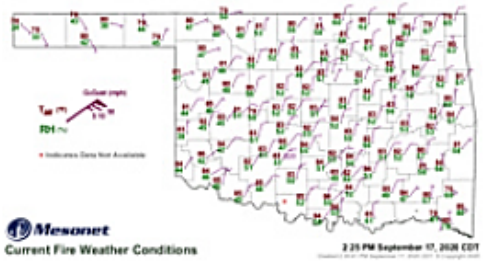
T - Tallgrass with open evergreen brus

Default is T

OK-FIRE Current Maps

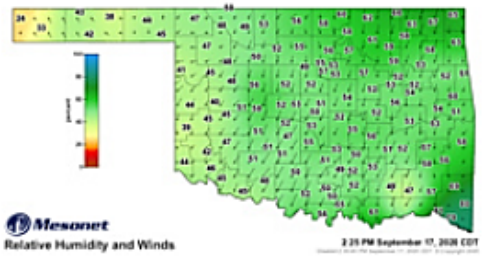
Fire Weather | Fire Danger | Satellite | Local Radar

Fire Weather



Current Fire Weather Conditions

learn more



Relative Humidity and Winds

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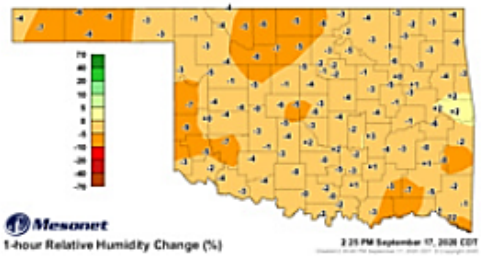

1-hr Relative Humidity Change

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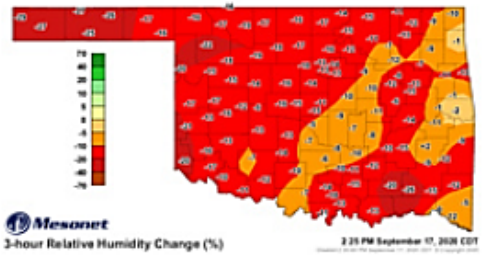

3-hr Relative Humidity Change

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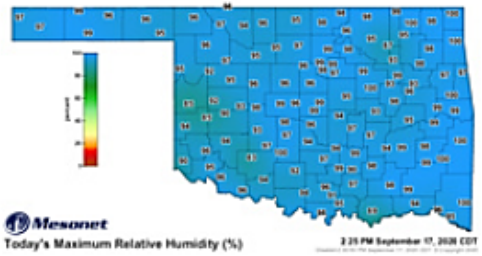

Today's Maximum Relative Humidity

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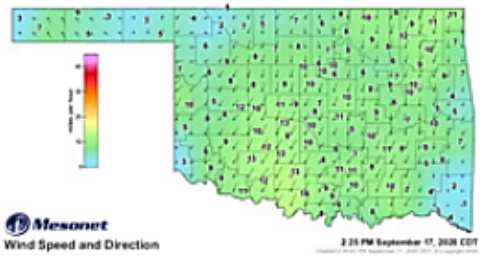

Wind Speed and Direction

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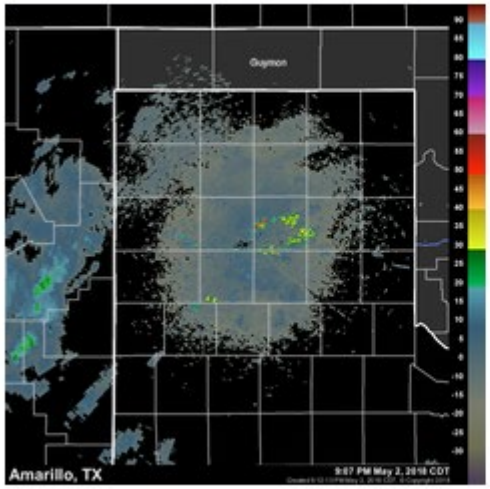
Local Radar



Amarillo

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Oklahoma City

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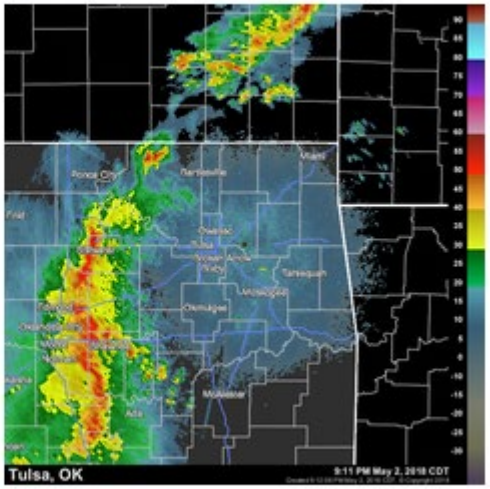

Tulsa

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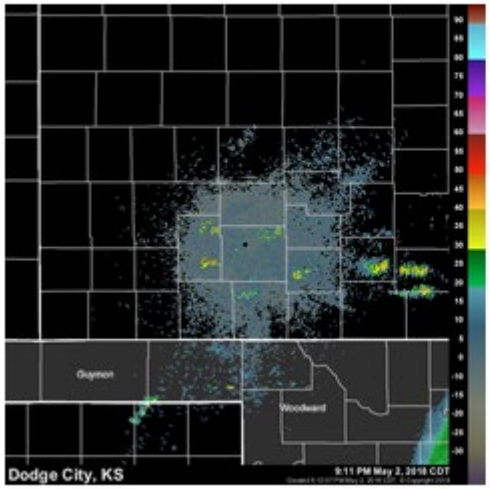
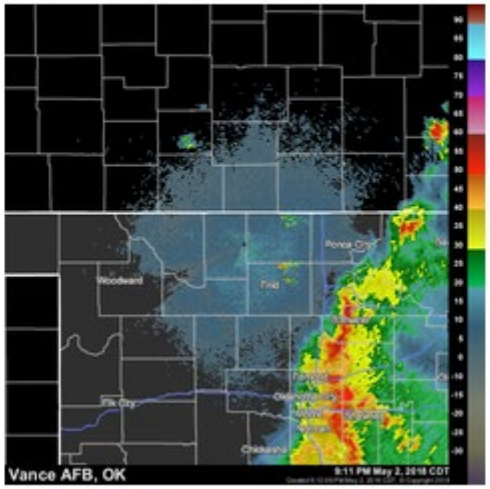
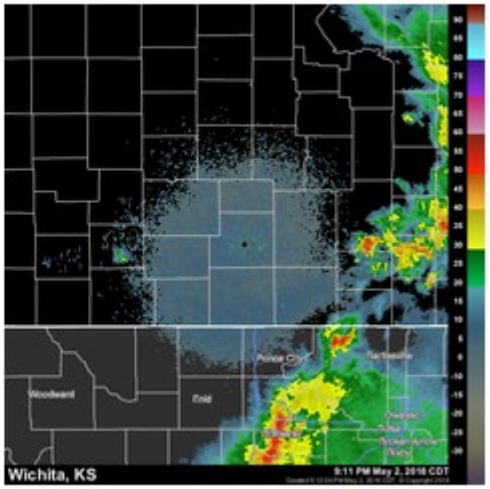


Dodge City



Vance AFB



Wichita

Frederick

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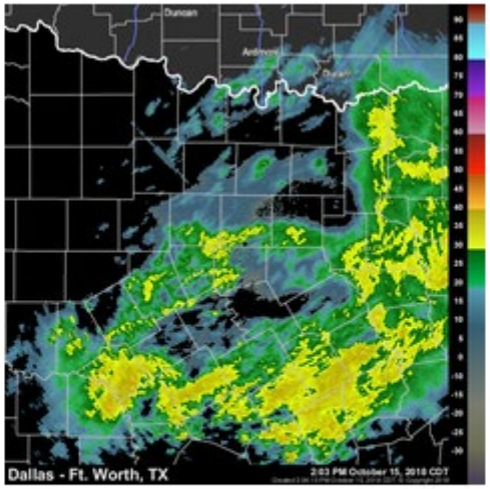

Dallas - Fort Worth

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Fort Smith

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Dodge City

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Frederick

This radar image from Frederick shows the current base reflectivity at a 0.5 degree upward tilt of the radar beam. Local radar can be useful, as can satellite imagery in the visible, in detecting smoke plumes from wildland fire. However, the radar beam has to intersect the smoke plume for the plume to be detected, meaning lower-level smoke plumes are more difficult to detect the further the distance from the radar site due to the upward tilt of the radar beam. During non-precipitation conditions, this map is updated approximately every 10 minutes, but during precipitation events the updates can be as frequent as every 2 to 3 minutes. To view a 24-frame past animation (4-hours under non-precipitation conditions) of this local radar map, click here. These animated maps are provided by the College of DuPage, with the time of each image shown beneath the map in UTC time (CST = UTC - 6 hours; CDT = UTC - 5 hours).

Wichita

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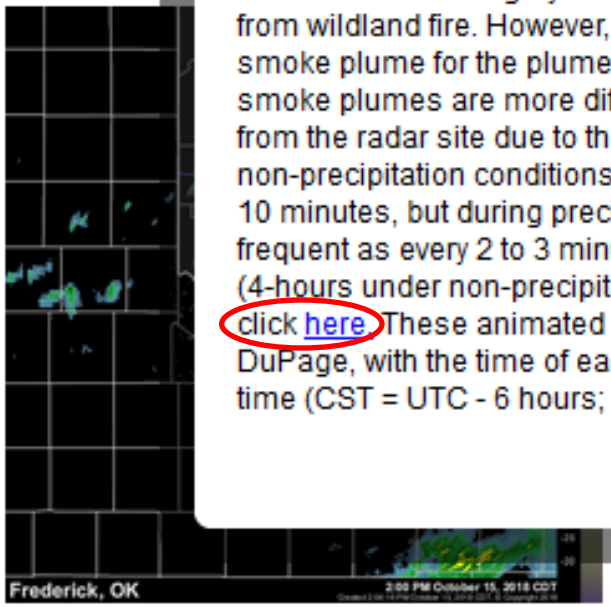

Frederick

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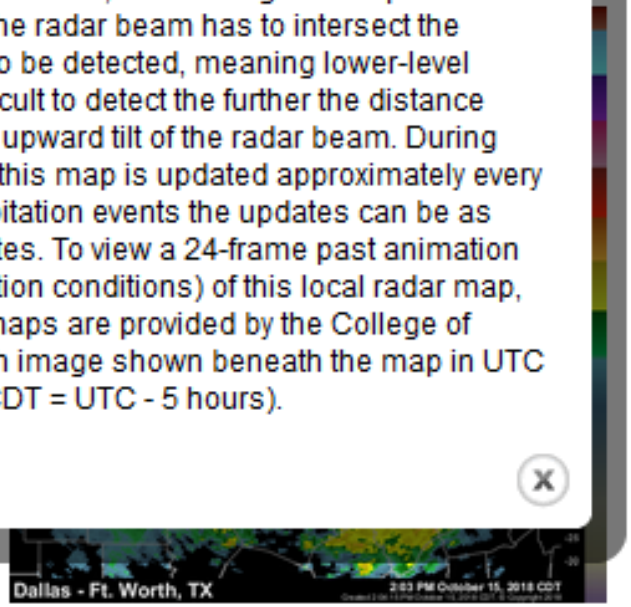

Dallas - Fort Worth

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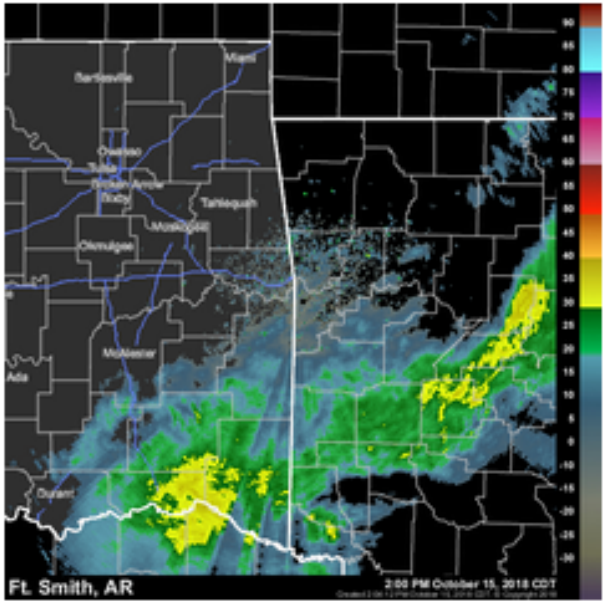

Fort Smith

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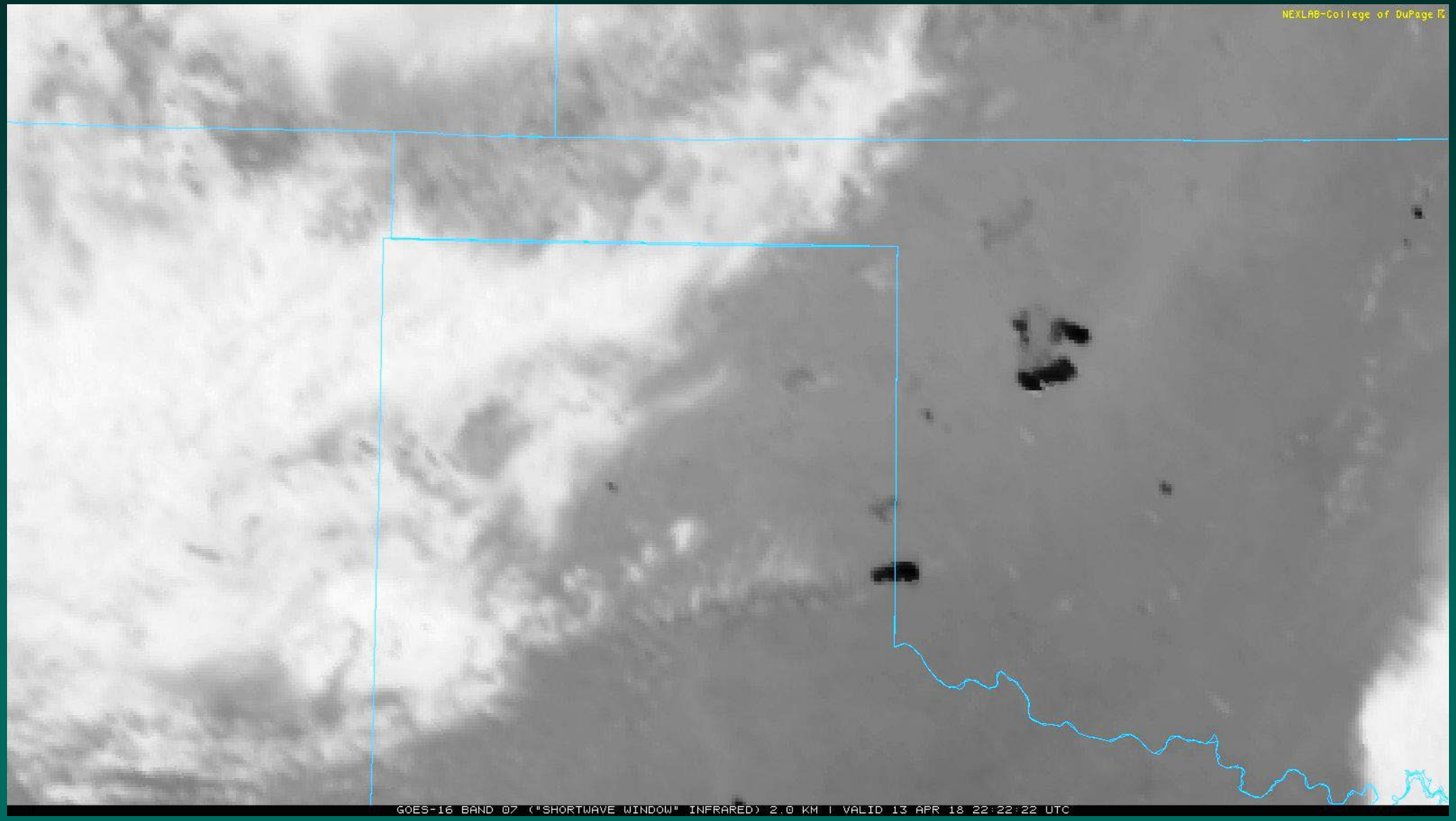
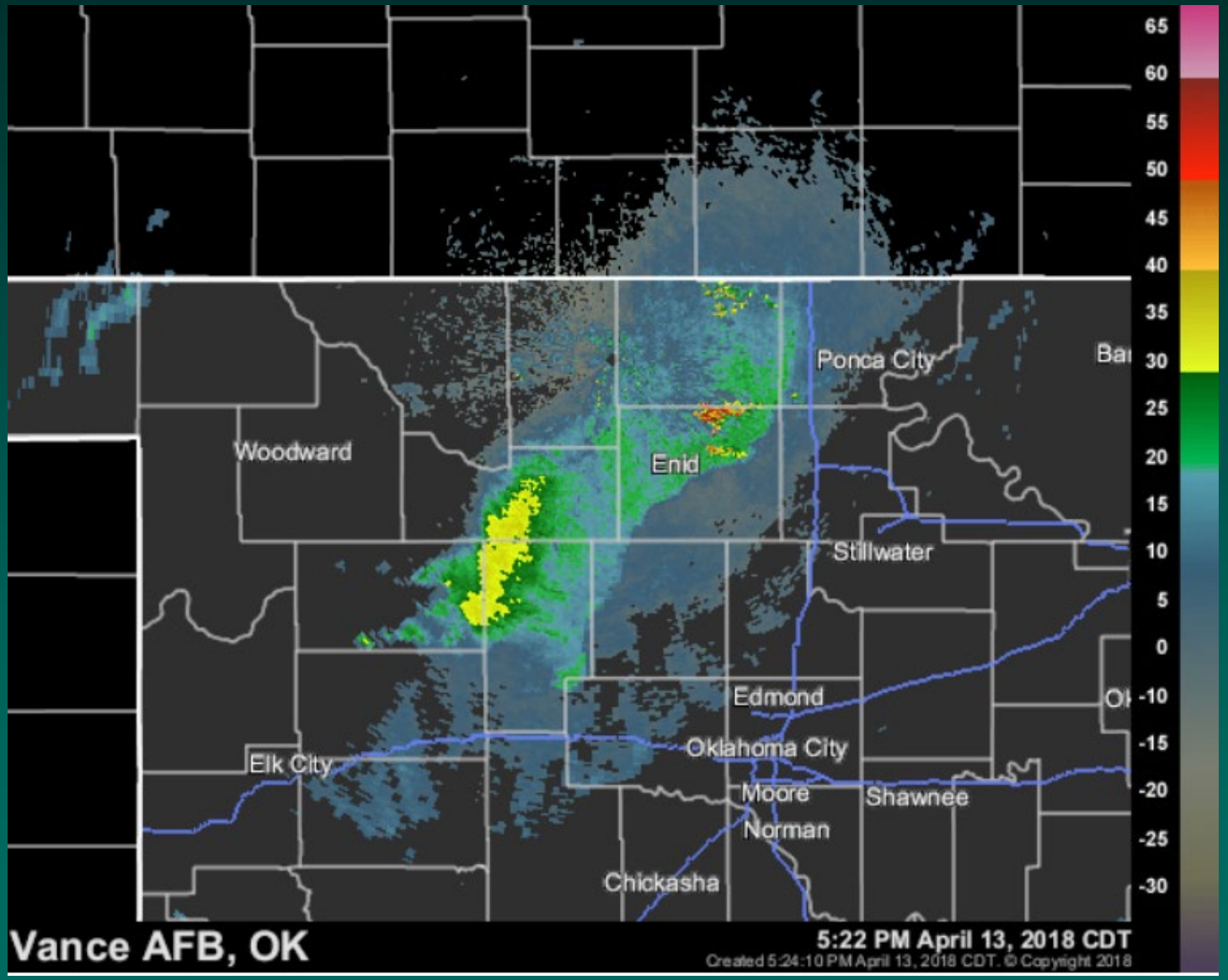
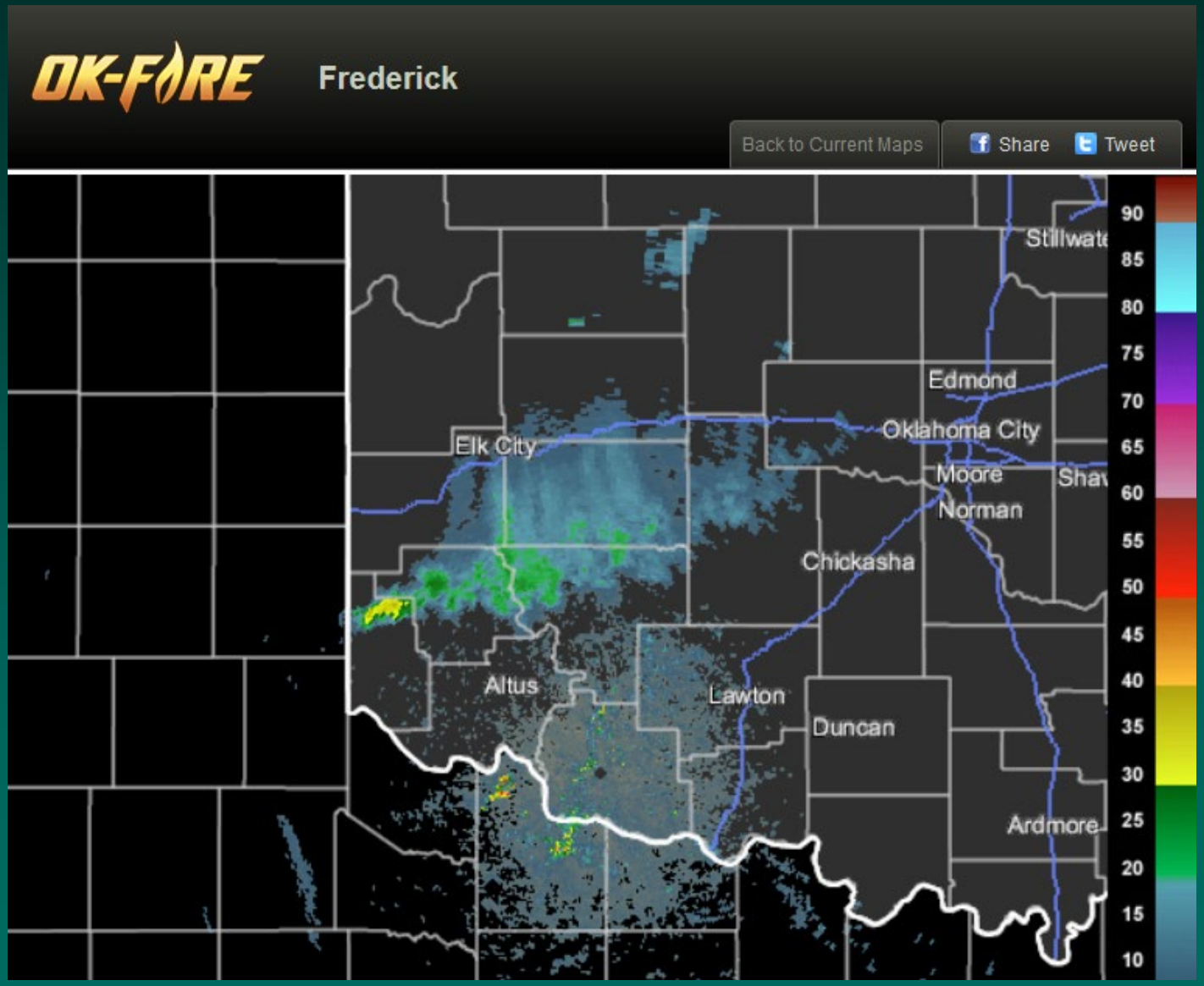
April 13, 2018

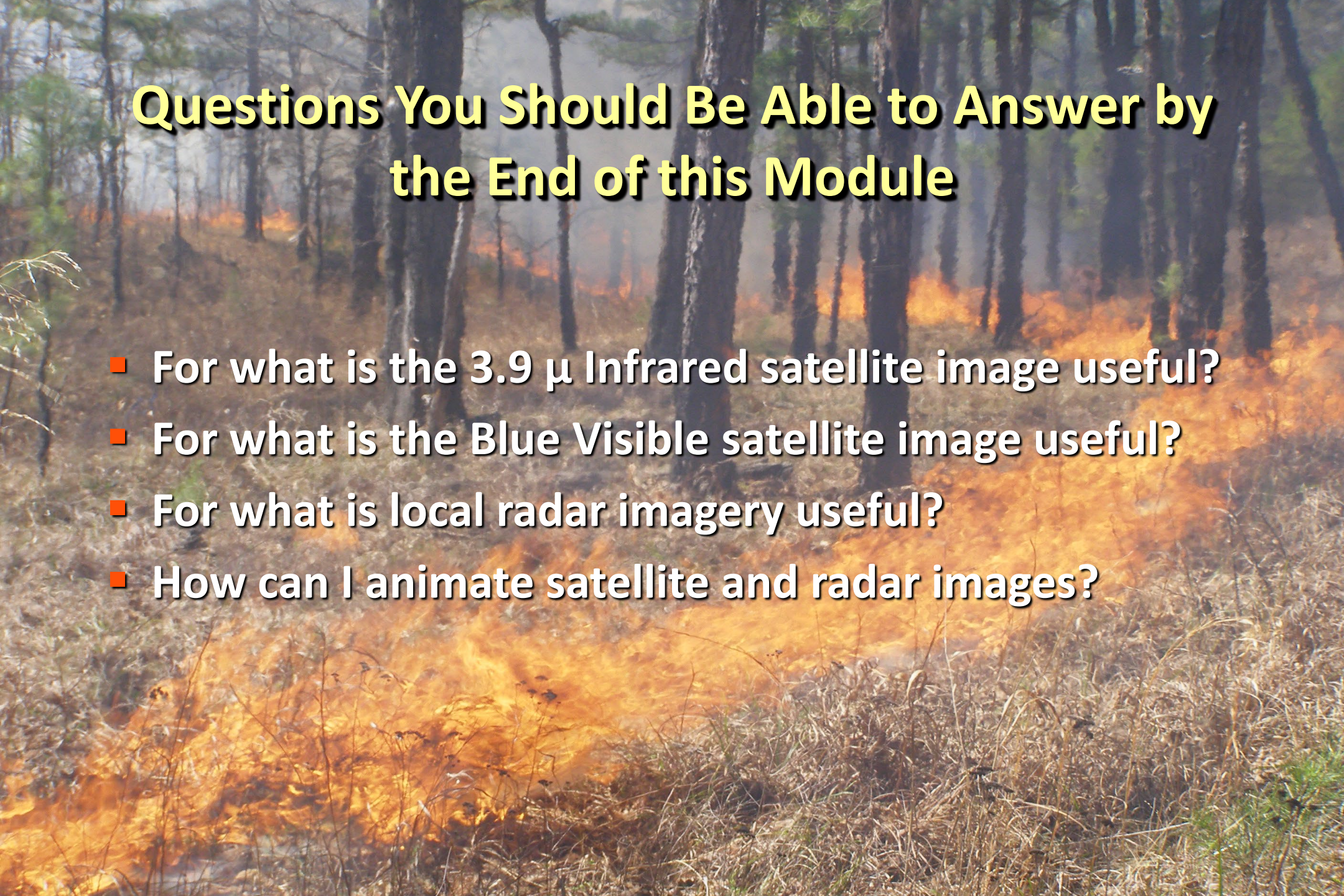


Vance AFB Radar



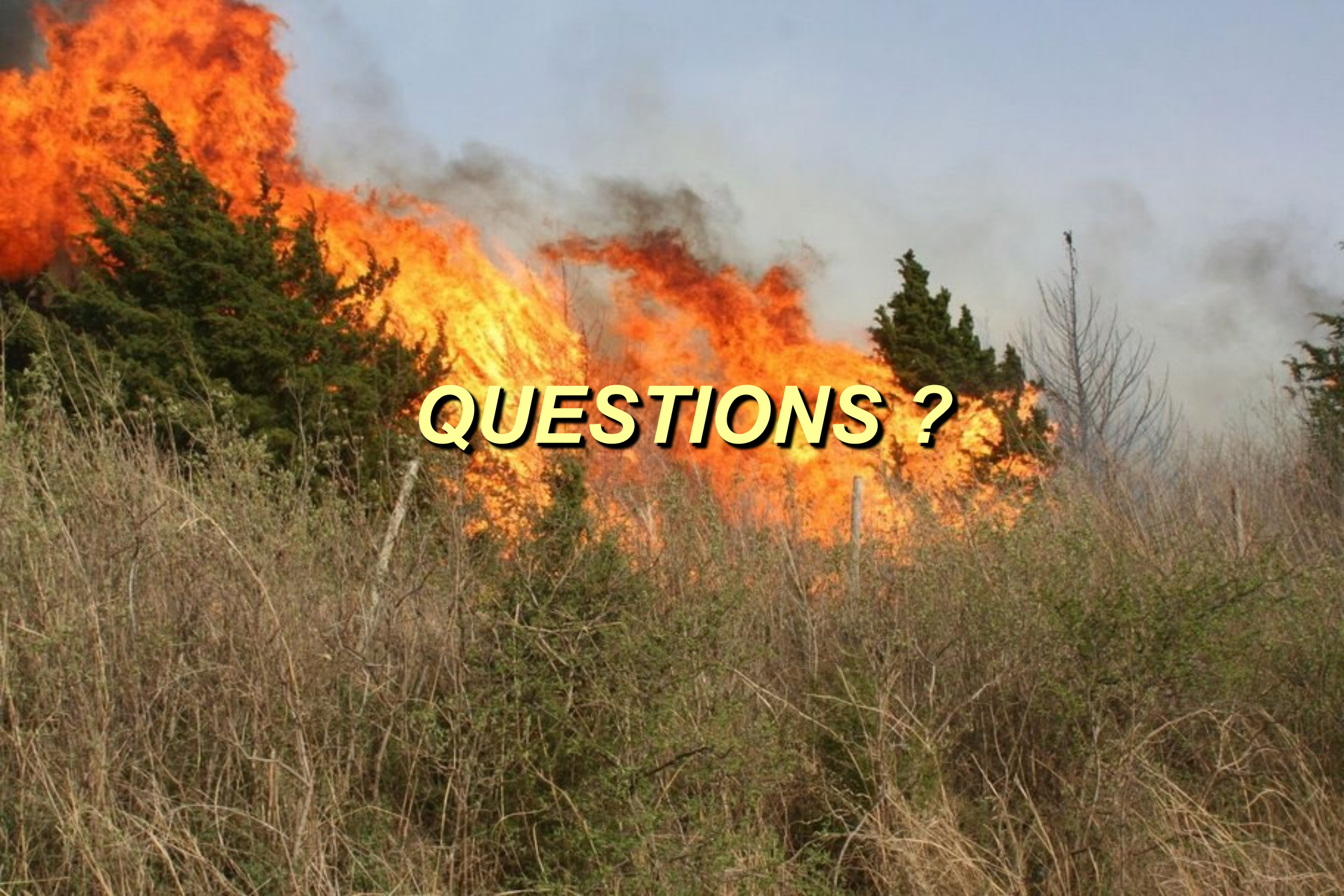
Frederick Radar

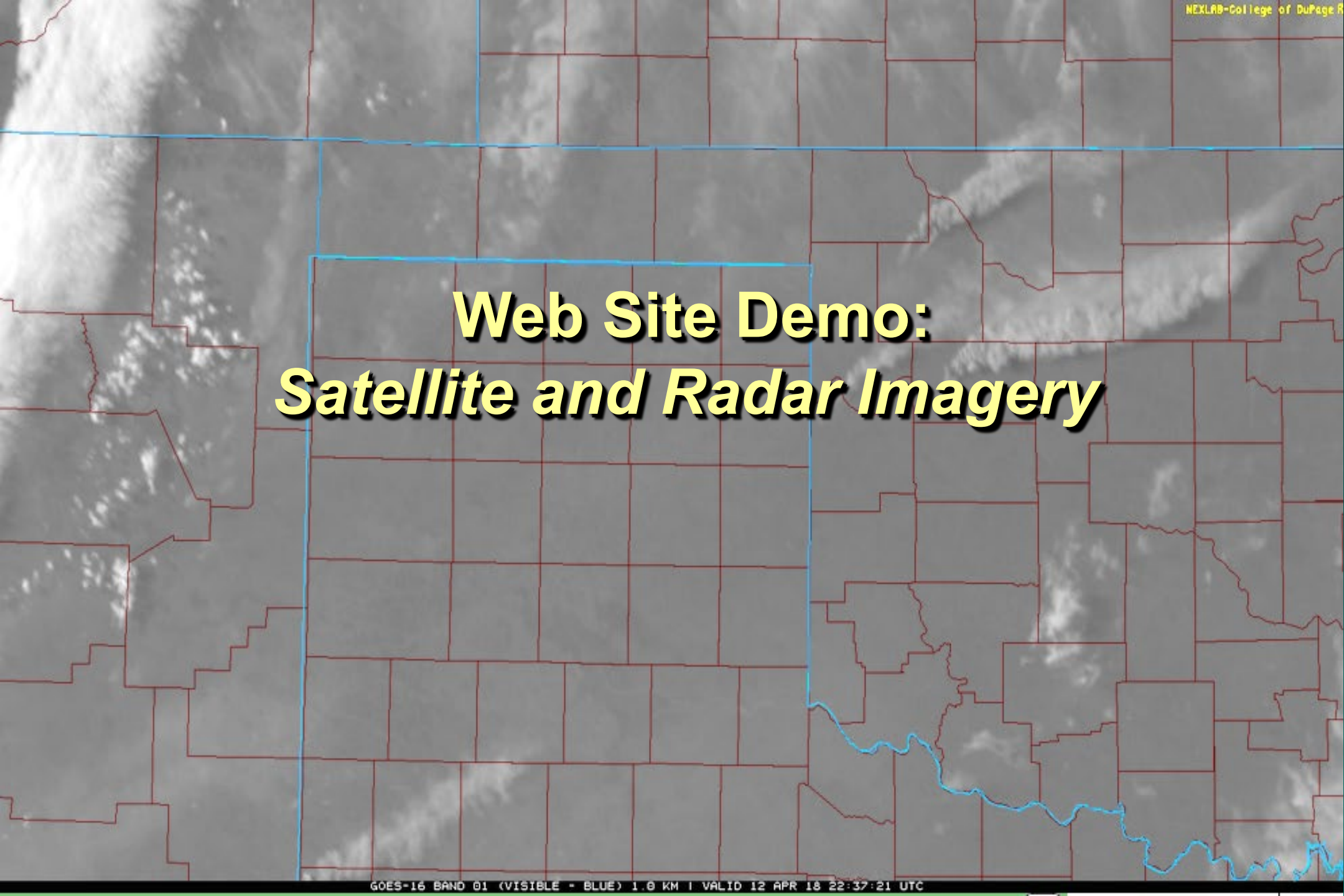




Questions You Should Be Able to Answer by the End of this Module

- For what is the 3.9 μ Infrared satellite image useful?
- For what is the Blue Visible satellite image useful?
- For what is local radar imagery useful?
- How can I animate satellite and radar images?


QUESTIONS ?


NEXLAB-College of DuPage
Web Site Demo:
Satellite and Radar Imagery
GOES-16 BAND 01 (VISIBLE - BLUE) 1.0 KM | VALID 12 APR 18 22:37:21 UTC