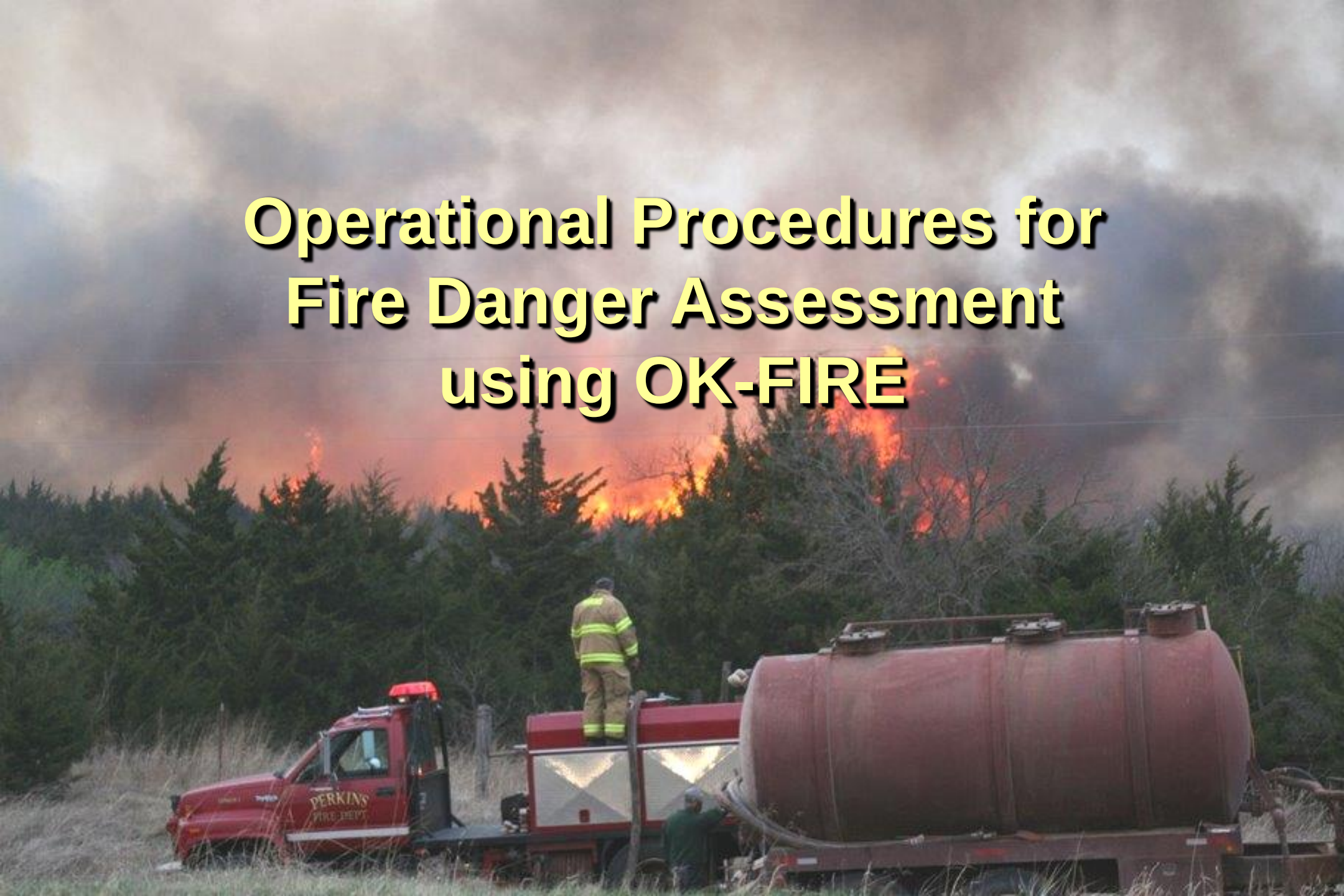
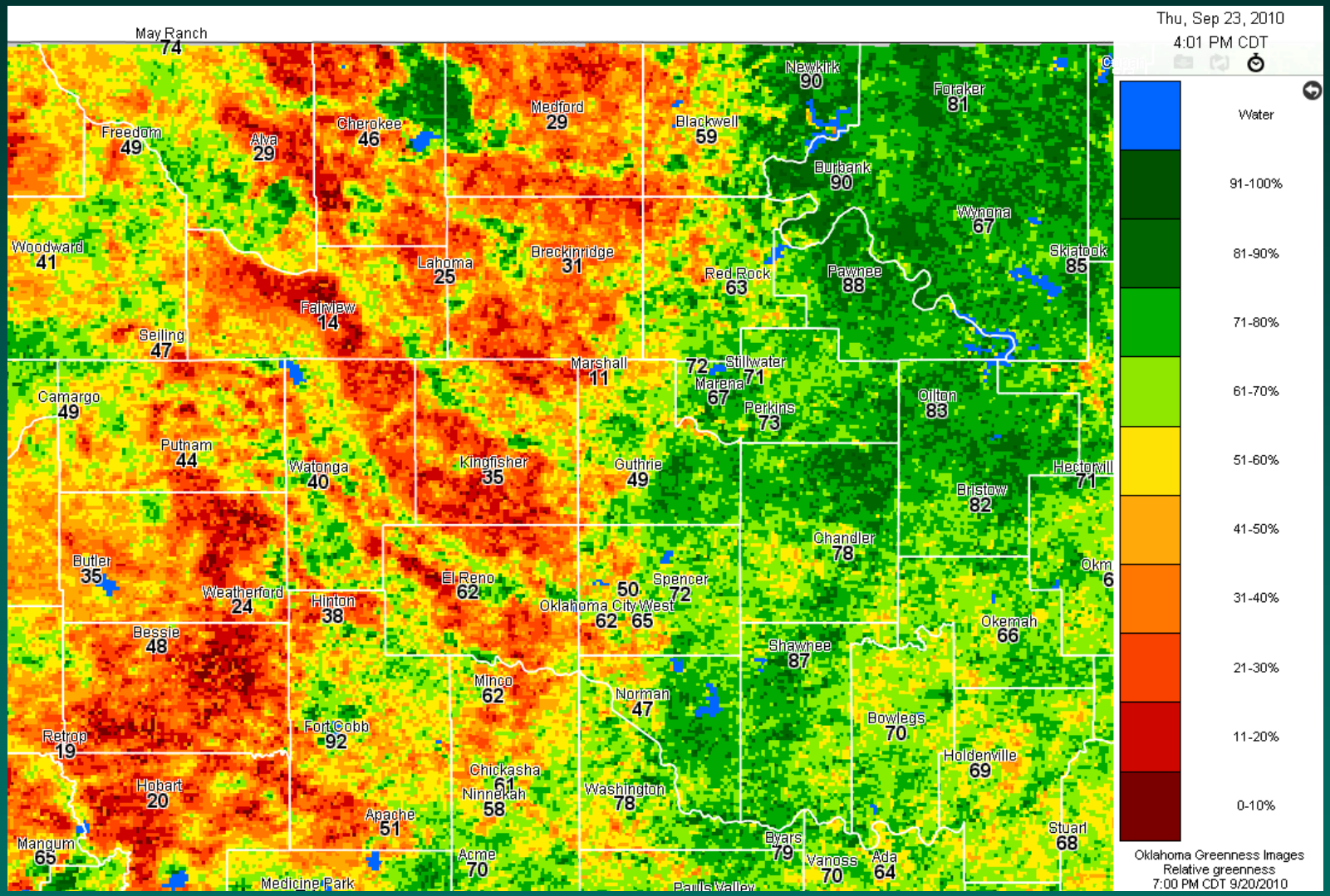
Operational Procedures for Fire Danger Assessment using OK-FIRE



Site-Specific Assessment of Fire Danger

Choose the closest Mesonet station whose Relative Greenness best approximates the current greenness levels of your wildland fuels



For that selected station, choose the fuel model which best fits the fuel complex you wish to model

(normally use one of the 5 fuel models below)

- **Model A – Western annual grasses**
- **Model L – Western perennial grasses**
- **Model T – Tallgrass with open evergreen brush**
- **Model R – Hardwood forest**
- **Model P – Southern pine forest**

Four Other Fuel Models Available

- Model B – Tall dense evergreen brush / eastern redcedar
- Model F – Intermediate evergreen brush
- Model G – Forest with heavy downed fuels
- Model K – Light slash

Current Conditions (Home Page)

- 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
- Contact and Product Information
- News

Current Fuel Model for Stillwater

T-Tallgrass with brush

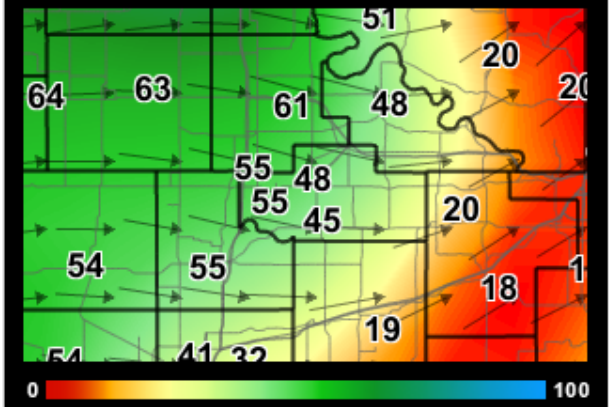
Default is T

Station Fuel Model Options

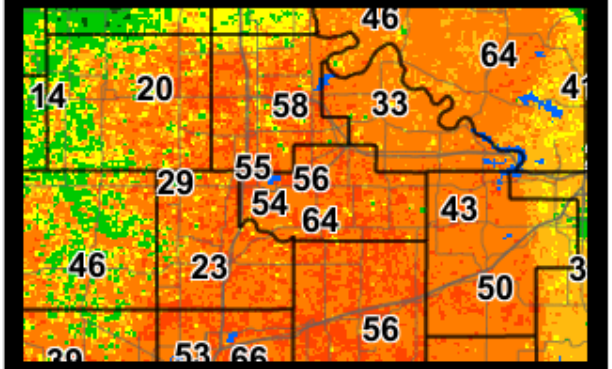
OK-FIRE

Share Tweet

Current Relative Humidity and Wind Direction

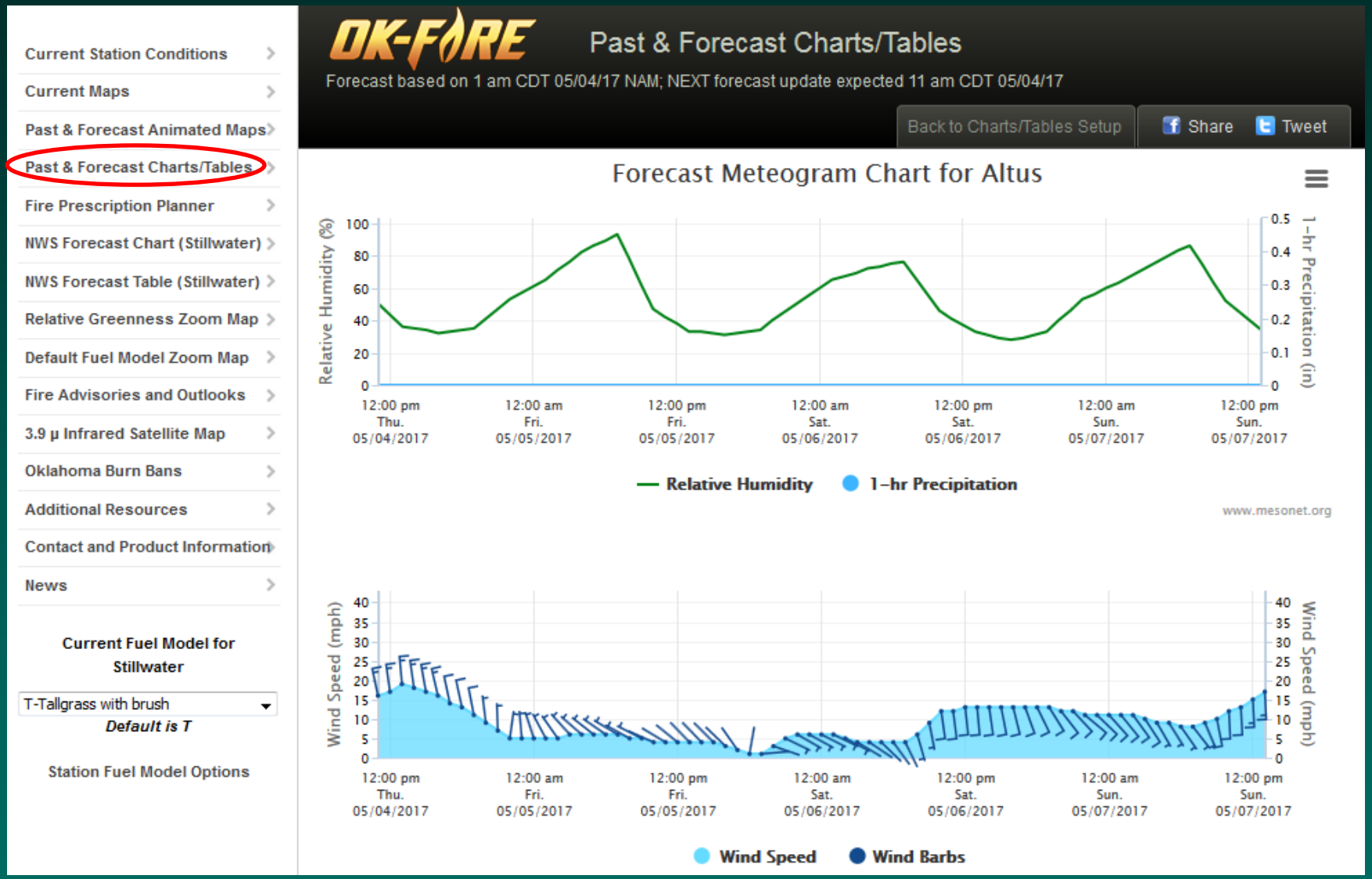


Current Burning Index

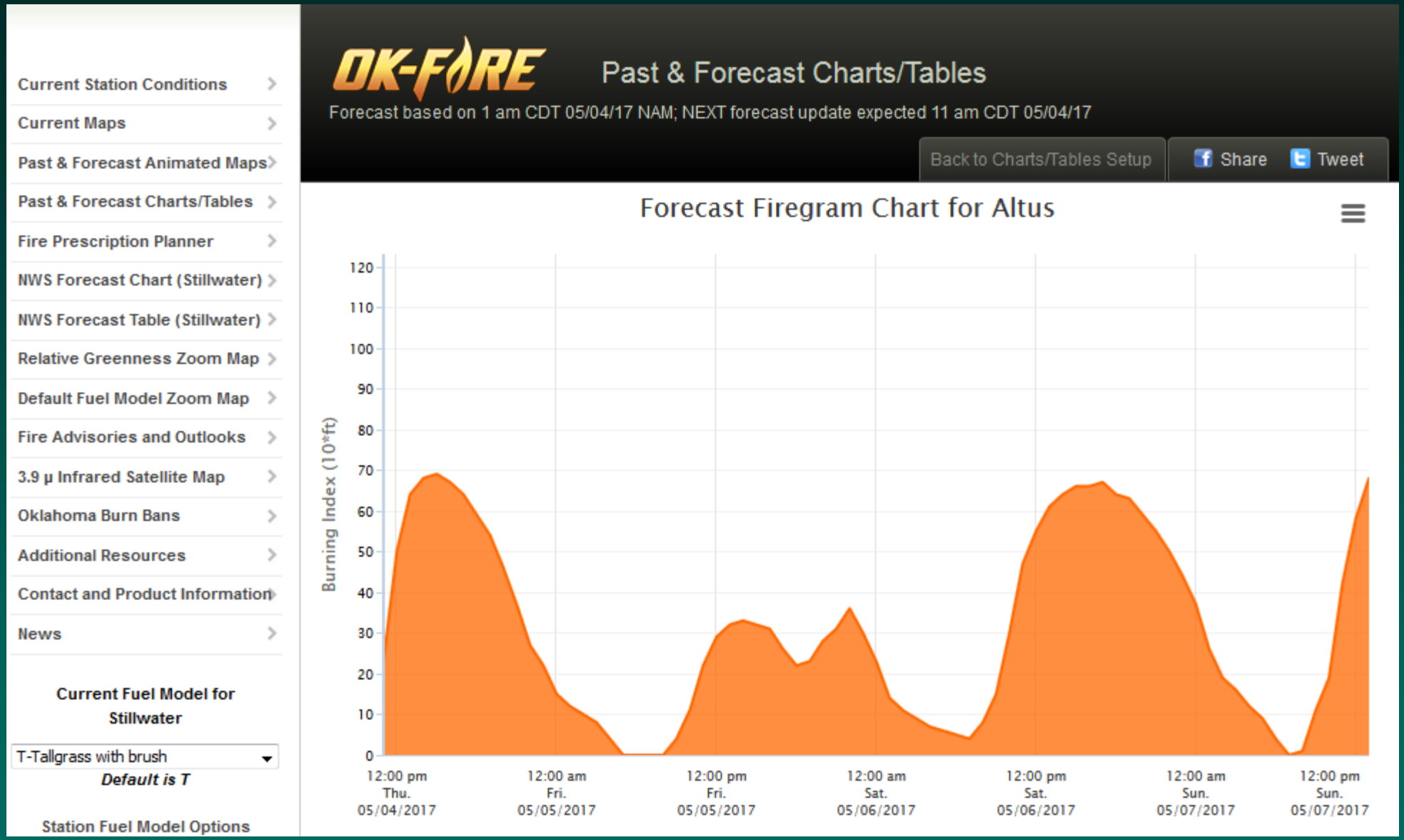


Station:	Stillwater	Bristow
Weather	Sun 1/21/18 11:00 pm CST	Sun 1/21/18 11:00 pm CST
Relative Humidity:	48%	18%
Past 1-hr RH Change:	+29%	+3%
10-m Wind:	W 14 mph	WSW 13 mph
Max Wind Gust:	24 mph	18 mph
Temperature:	49°F Wind Chill: 44°F	59°F
24-hr Rainfall:	0.00 in	0.00 in
Dispersion:	Moderately Good	Moderately Good
Sunrise / Sunset:	7:36 am / 5:44 pm	7:33 am / 5:41 pm
Fire Danger	Sun 1/21/18 10:00 pm CST	Sun 1/21/18 10:00 pm CST
Current Fire Danger:	HIGH	HIGH
Burning Index:	56	43
Spread Component:	44	12
Ignition Component:	31%	45%
NFDRS Fuel Model:	T	R
1-hr Fuel Moisture:	5%	6%
10-hr Fuel Moisture:	11%	12%
Soil Moisture:	--%	93%
KBDI:	114	194
Relative Greenness:	25%	21%

Forecast Conditions (Charts, Tables)

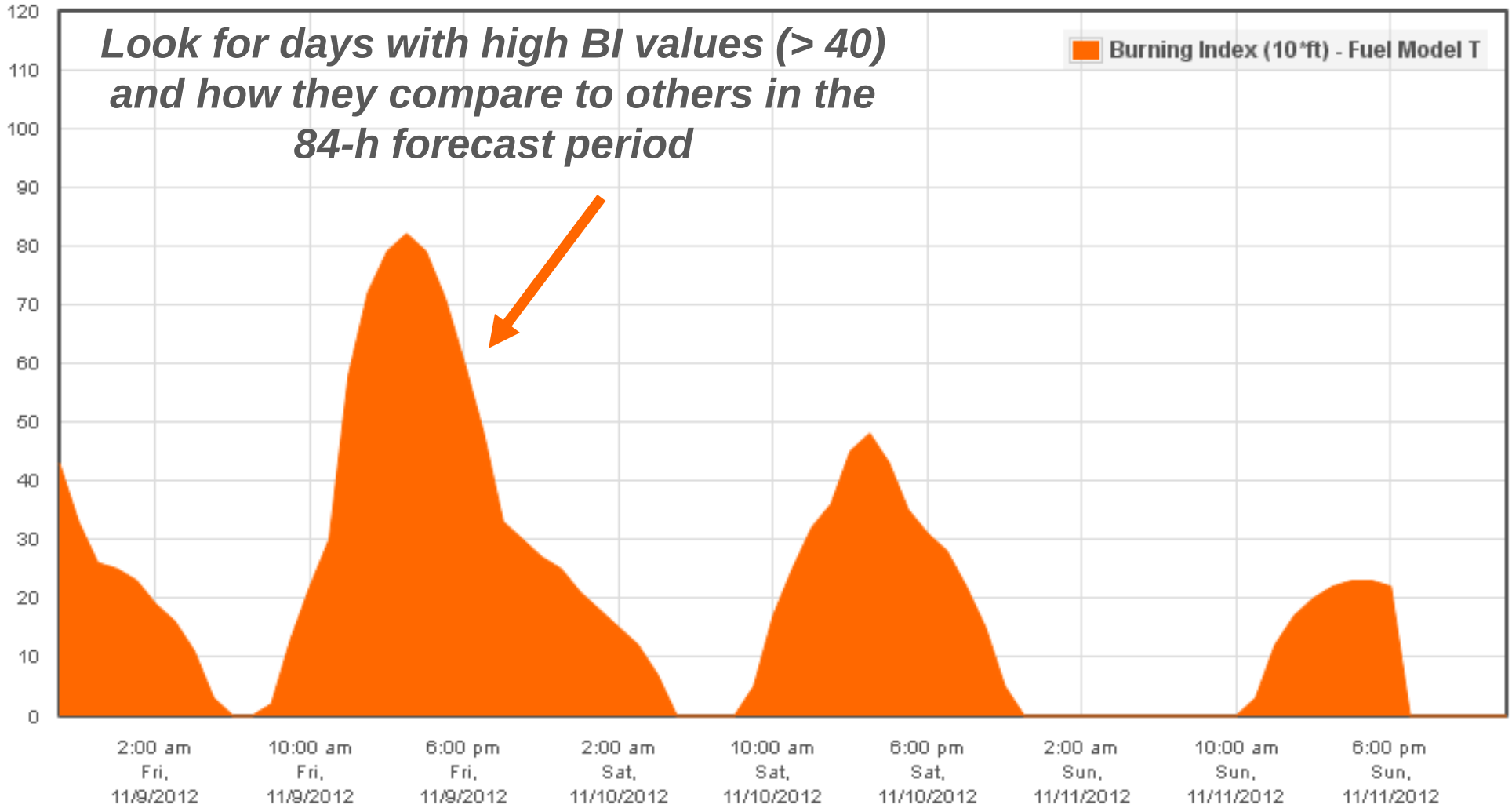


Relative Humidity and Winds

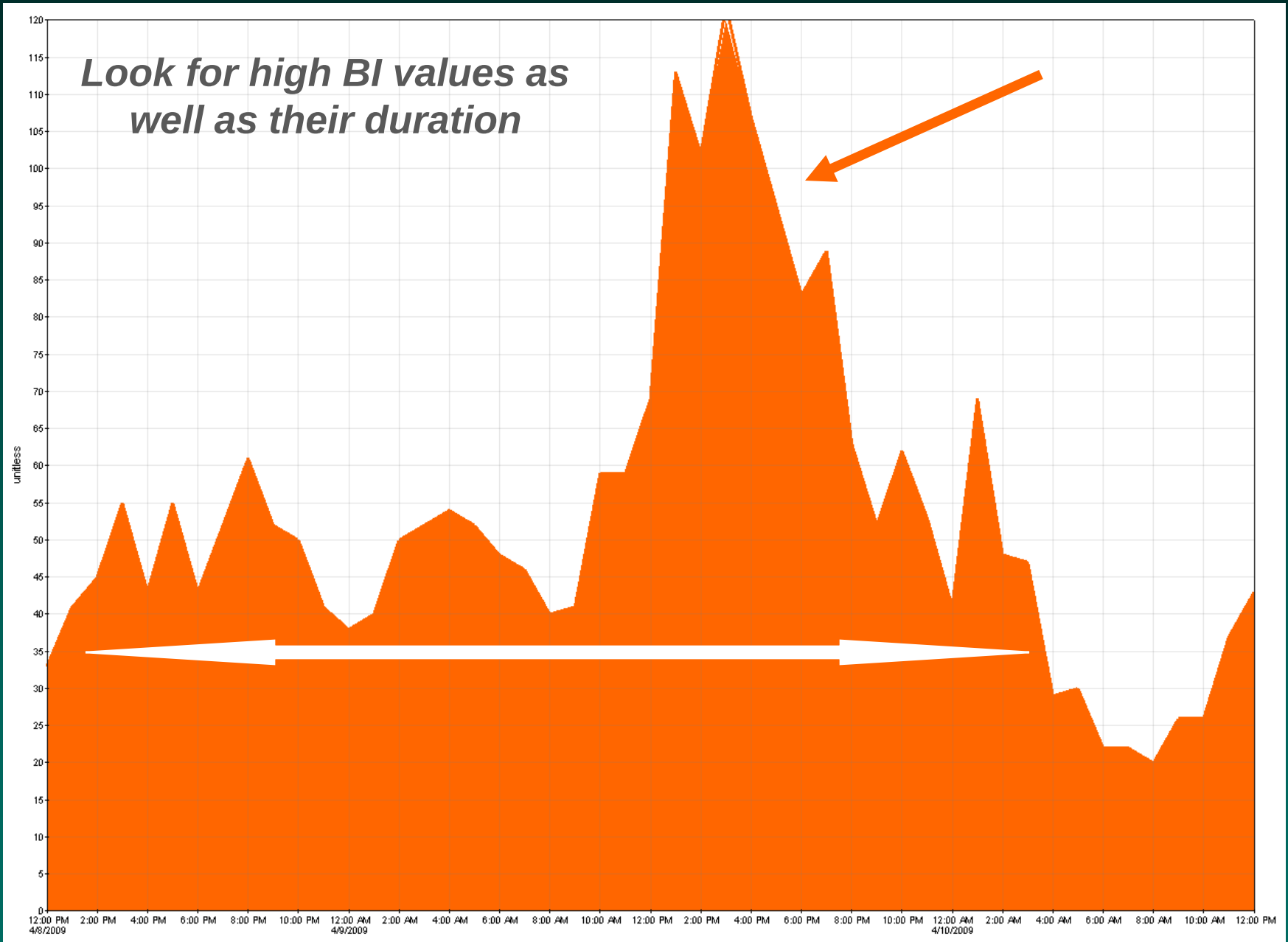


Burning Index

Firegram for Burbank



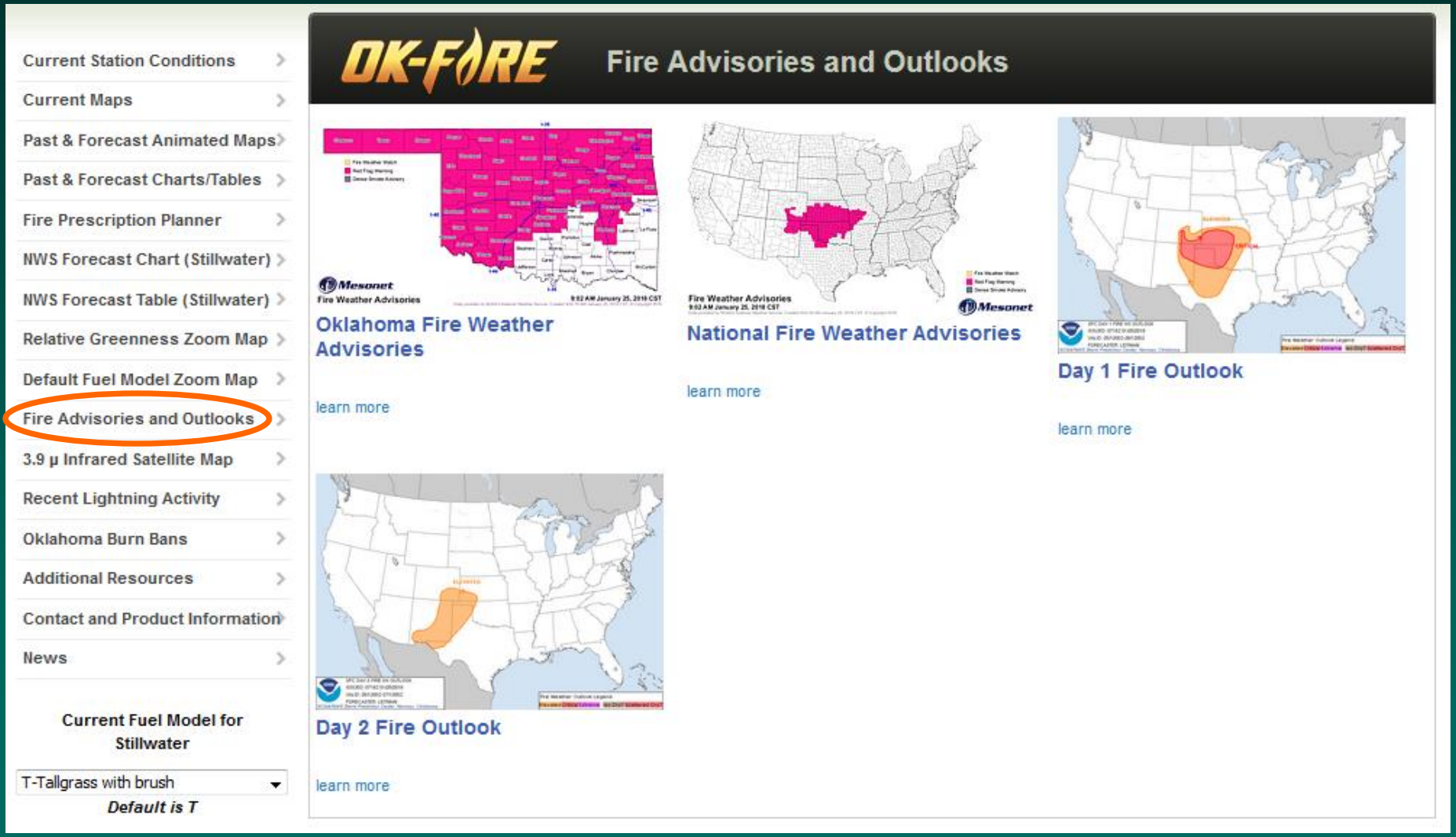
Waurika: Burning Index (April 9-10, 2009)

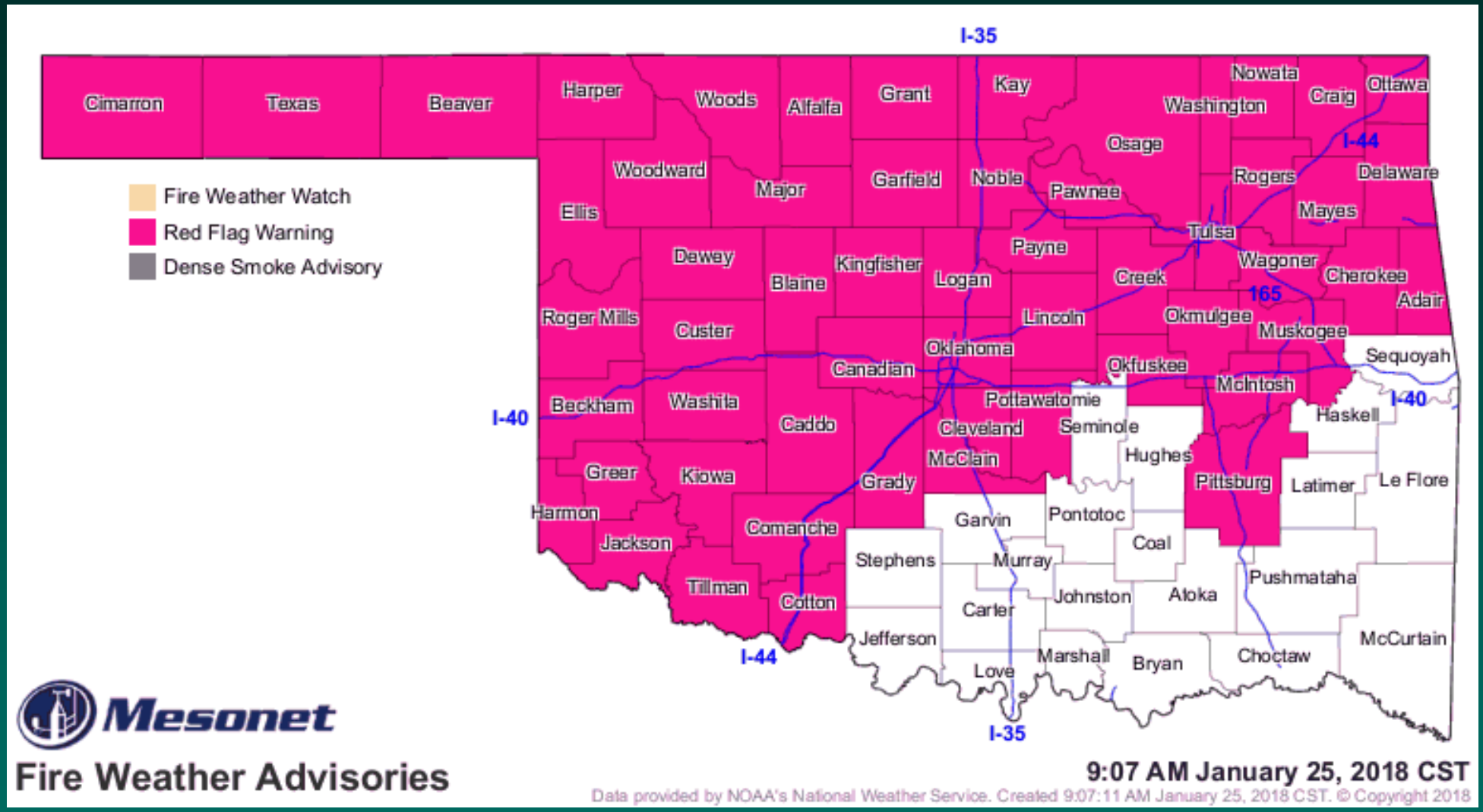


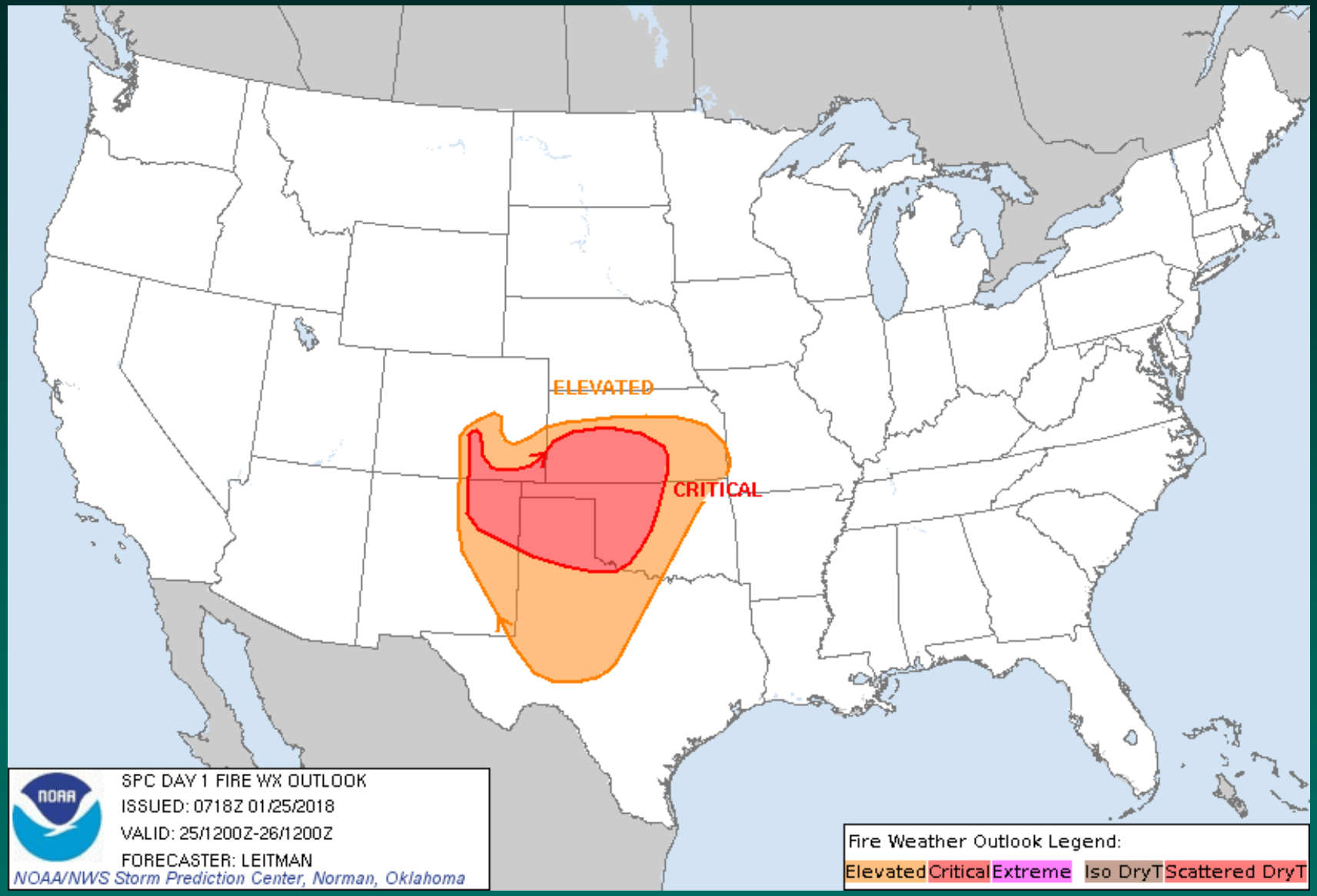
Regional Assessment of Fire Danger:

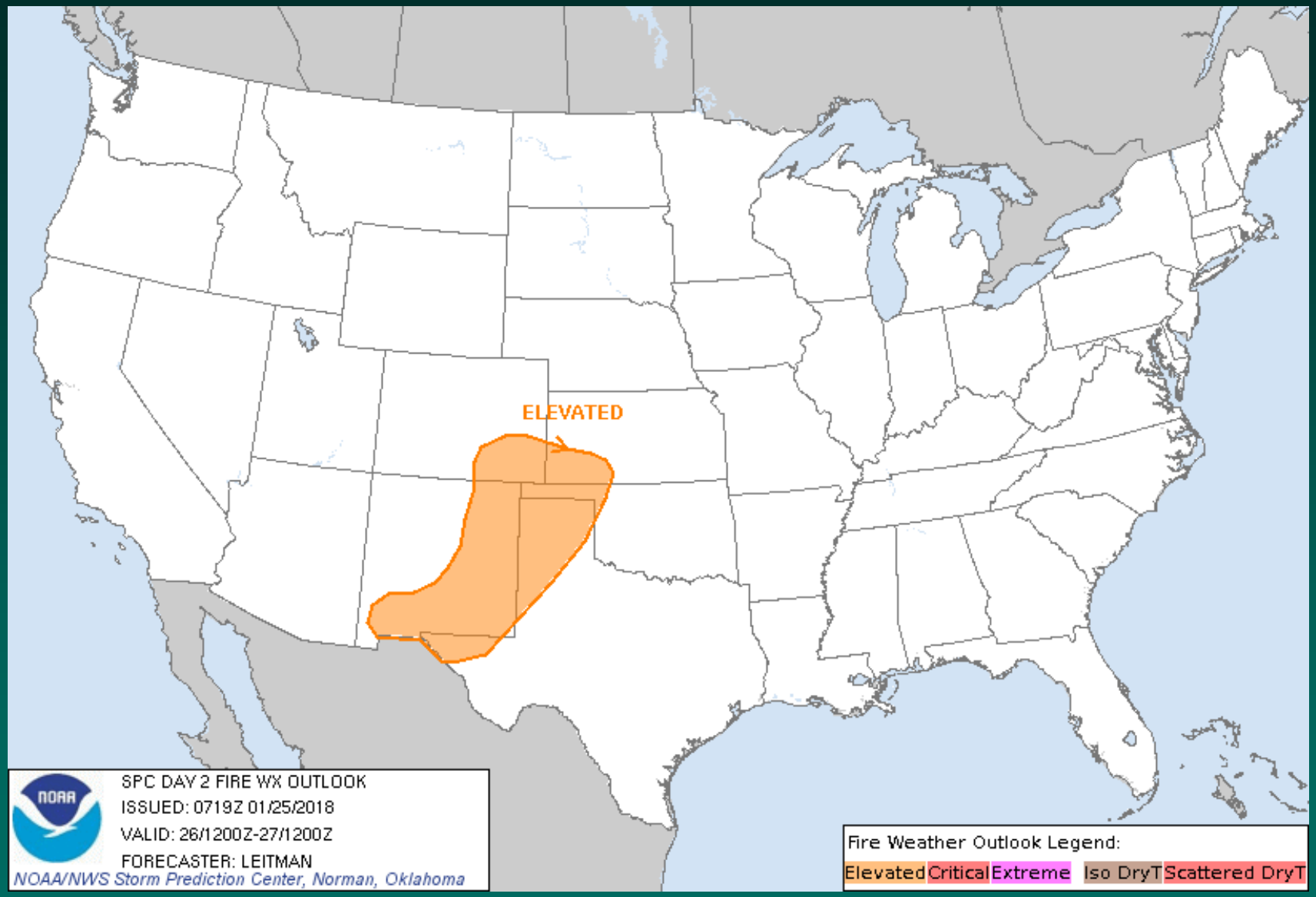
MAPS

National Weather Service
Fire Weather Advisories and Outlooks

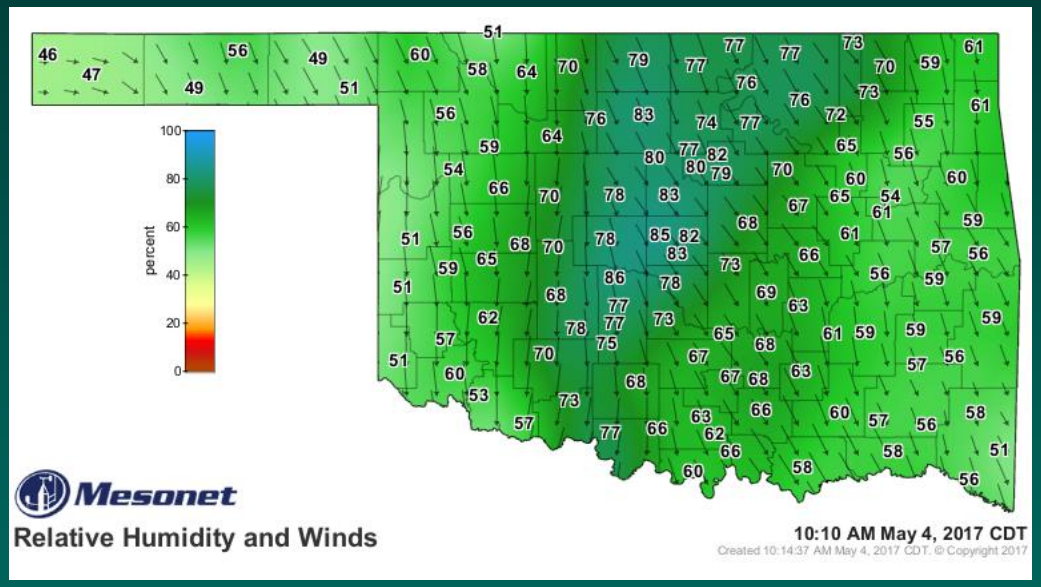



Fire Weather Watch
Red Flag Warning
Dense Smoke Advisory
Cimarron
Texas
Beaver
Harper
Woods
Alfalfa
Grant
Kay
Nowata
Craig
Ottawa
Washington
Osage
Woodward
Major
Garfield
Noble
Pawnee
Rogers
Delaware
Mayes
Ellis
Tulsa
Dewey
Payne
Kingfisher
Blaine
Logan
Creek
Wagoner
Cherokee
Adair
Roger Mills
Custer
Lincoln
Okmulgee
Muskogee
Oklahoma
Sequoyah
Canadian
Okfuskee
McIntosh
Beckham
Washita
Pottawatomie
Haskell
Caddo
Cleveland
Seminole
Greer
Kiowa
McClain
Hughes
Grady
Pittsburg
Latimer
Le Flore
Harmon
Garvin
Pontotoc
Comanche
Jackson
Coal
Stephens
Murray
Tillman
Pushmataha
Cotton
Johnston
Atoka
Carter
Jefferson
McCurtain
Marshall
Bryan
Choctaw
Love
I-35
I-44
I-40
165
Mesonet
Fire Weather Advisories
9:07 AM January 25, 2018 CST
Data provided by NOAA's National Weather Service. Created 9:07:11 AM January 25, 2018 CST. © Copyright 2018

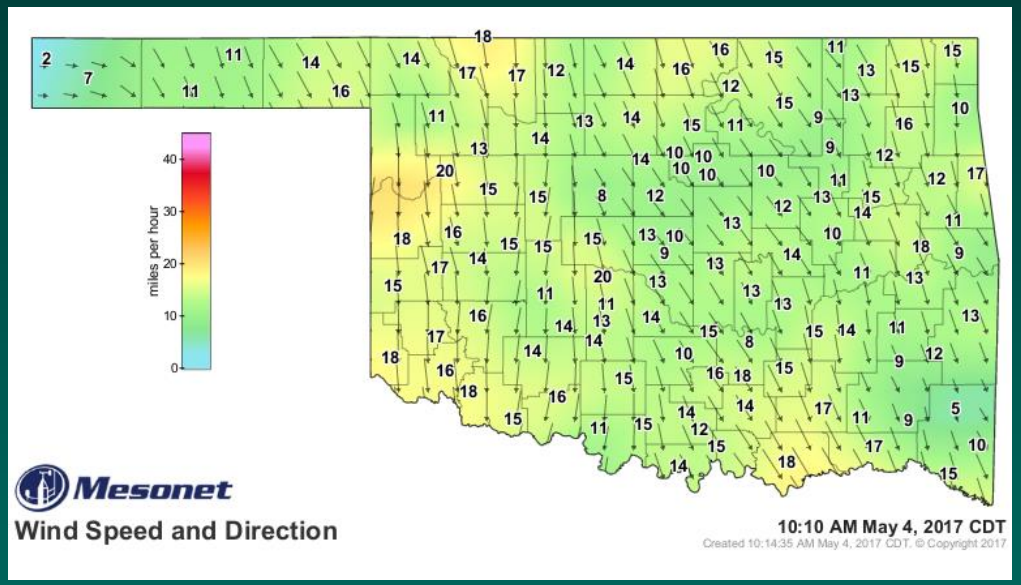

ELEVATED
CRITICAL
SPC DAY 1 FIRE WX OUTLOOK
ISSUED: 0718Z 01/25/2018
VALID: 25/1200Z-26/1200Z
FORECASTER: LEITMAN
NOAA/NWS Storm Prediction Center, Norman, Oklahoma
Fire Weather Outlook Legend:
Elevated Critical Extreme Iso DryT Scattered DryT


ELEVATED
SPC DAY 2 FIRE WX OUTLOOK
ISSUED: 0719Z 01/25/2018
VALID: 26/1200Z-27/1200Z
FORECASTER: LEITMAN
NOAA/NWS Storm Prediction Center, Norman, Oklahoma
Fire Weather Outlook Legend:
Elevated
Critical
Extreme
Iso DryT
Scattered DryT

Current Maps of Fire Weather

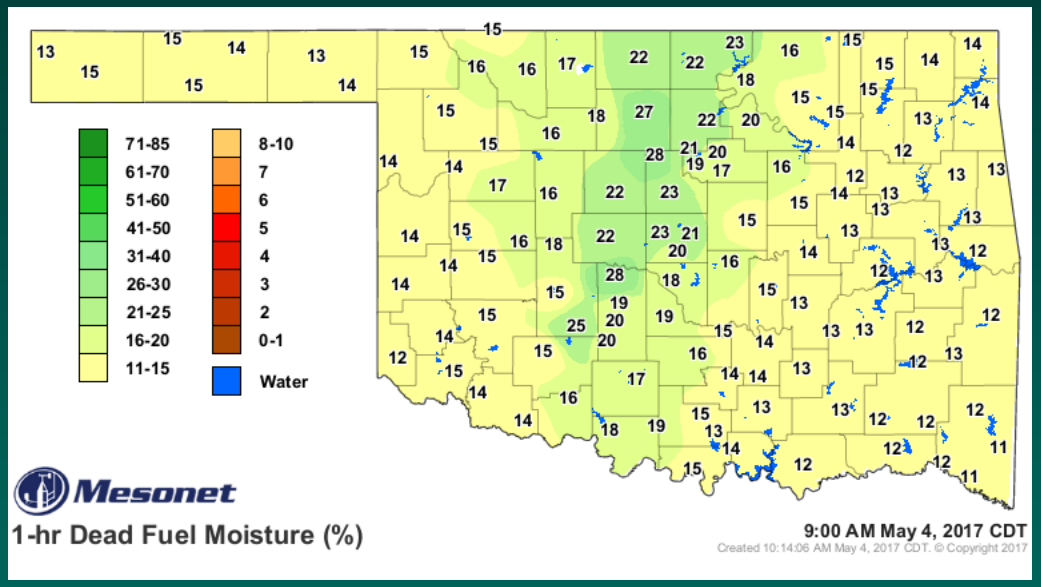


Relative Humidity & Winds

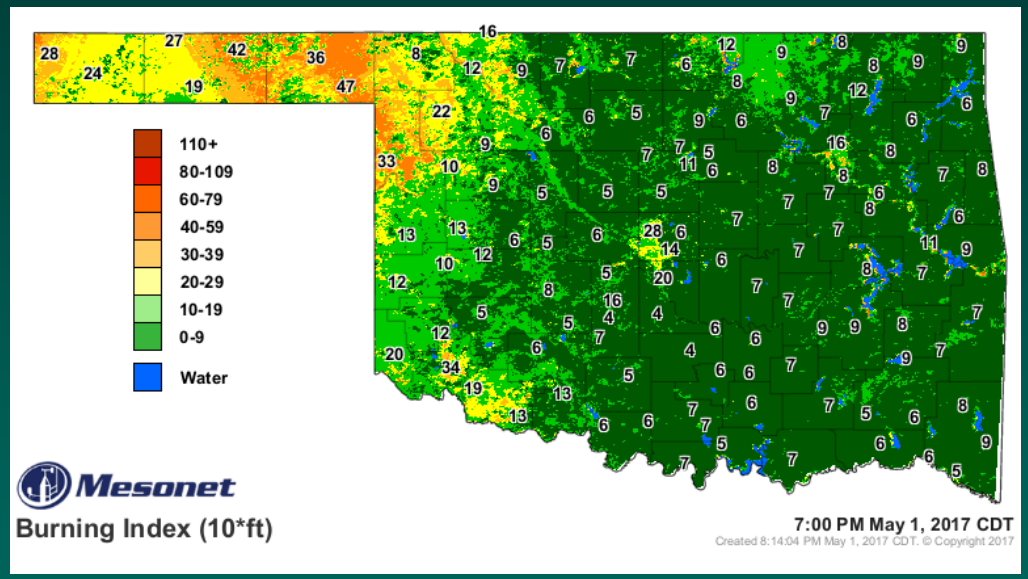


Wind Speed and Direction

Current Maps of Fire Danger

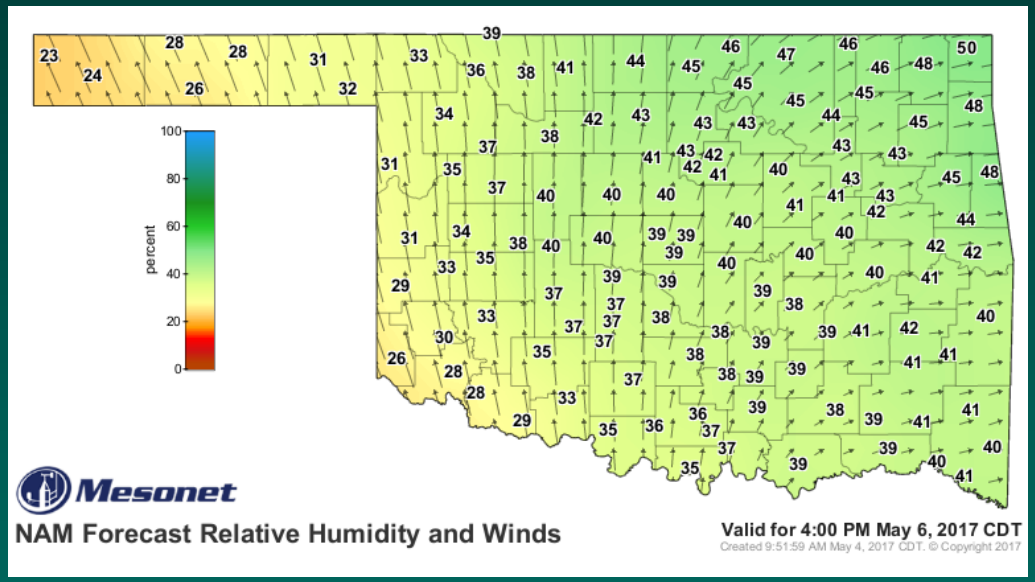


1-hr Dead Fuel Moisture

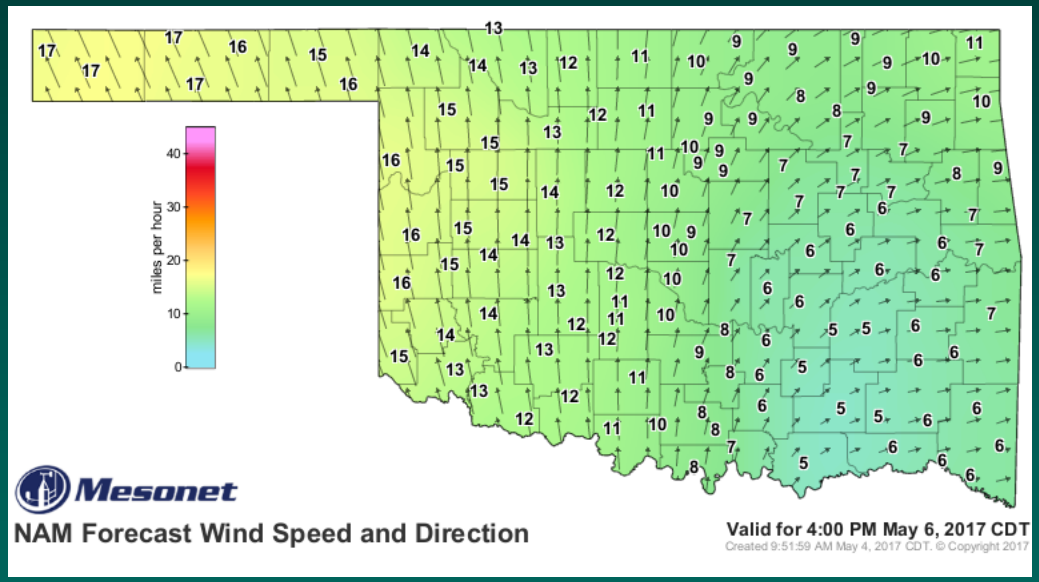


Burning Index

Forecast Maps of Fire Weather

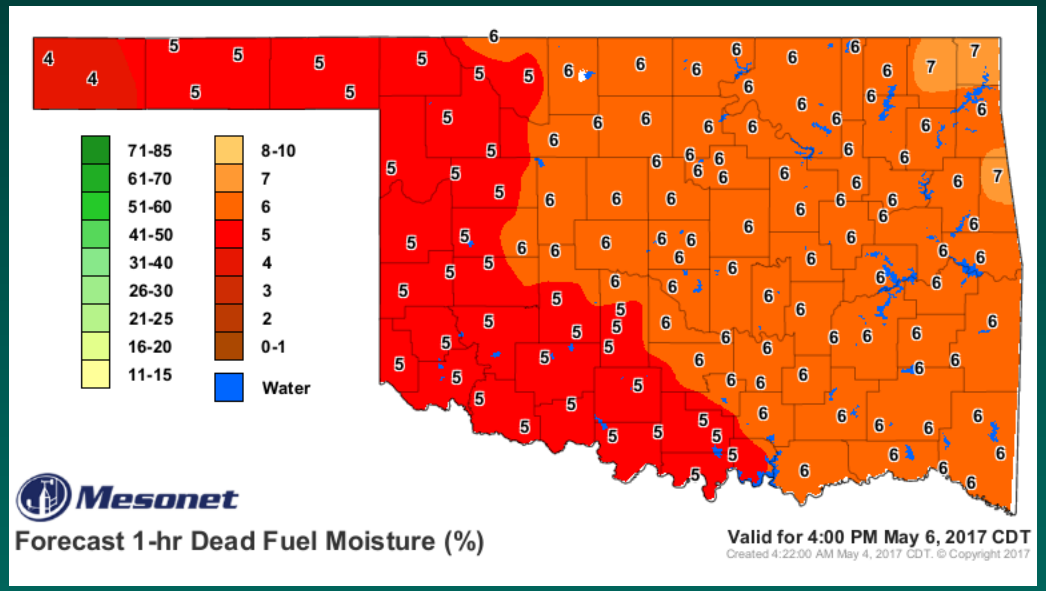


Relative Humidity & Winds

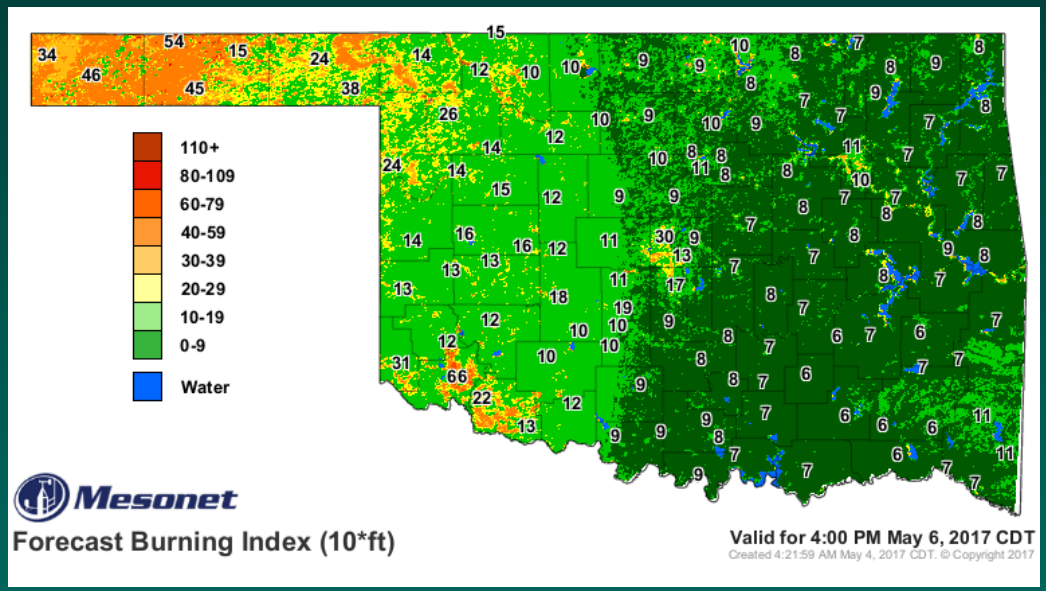


Wind Speed and Direction

Forecast Maps of Fire Danger



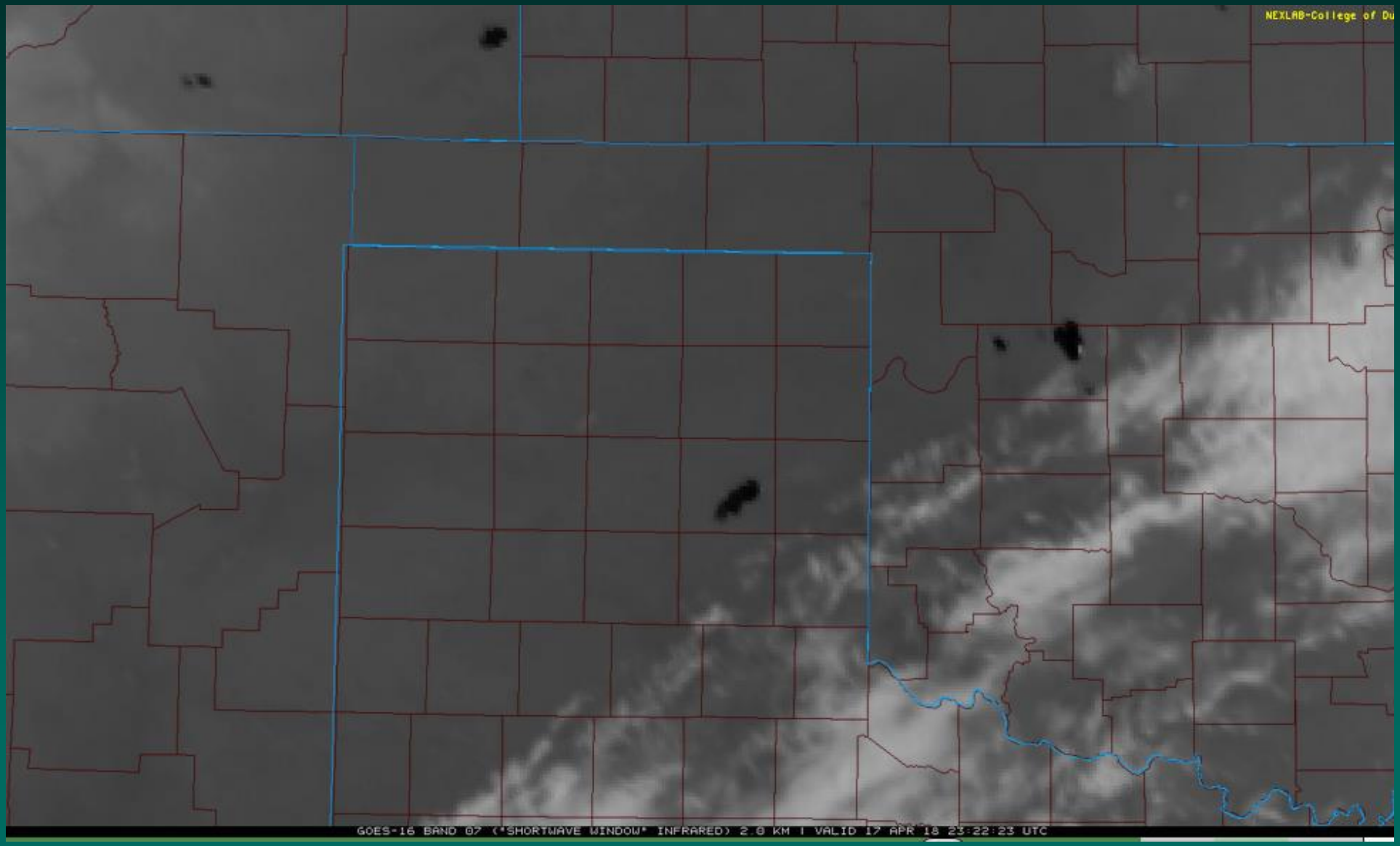
1-hr Dead Fuel Moisture



Burning Index

Site-Specific Assessment of Fire Danger

Rhea Fire – April 17, 2018



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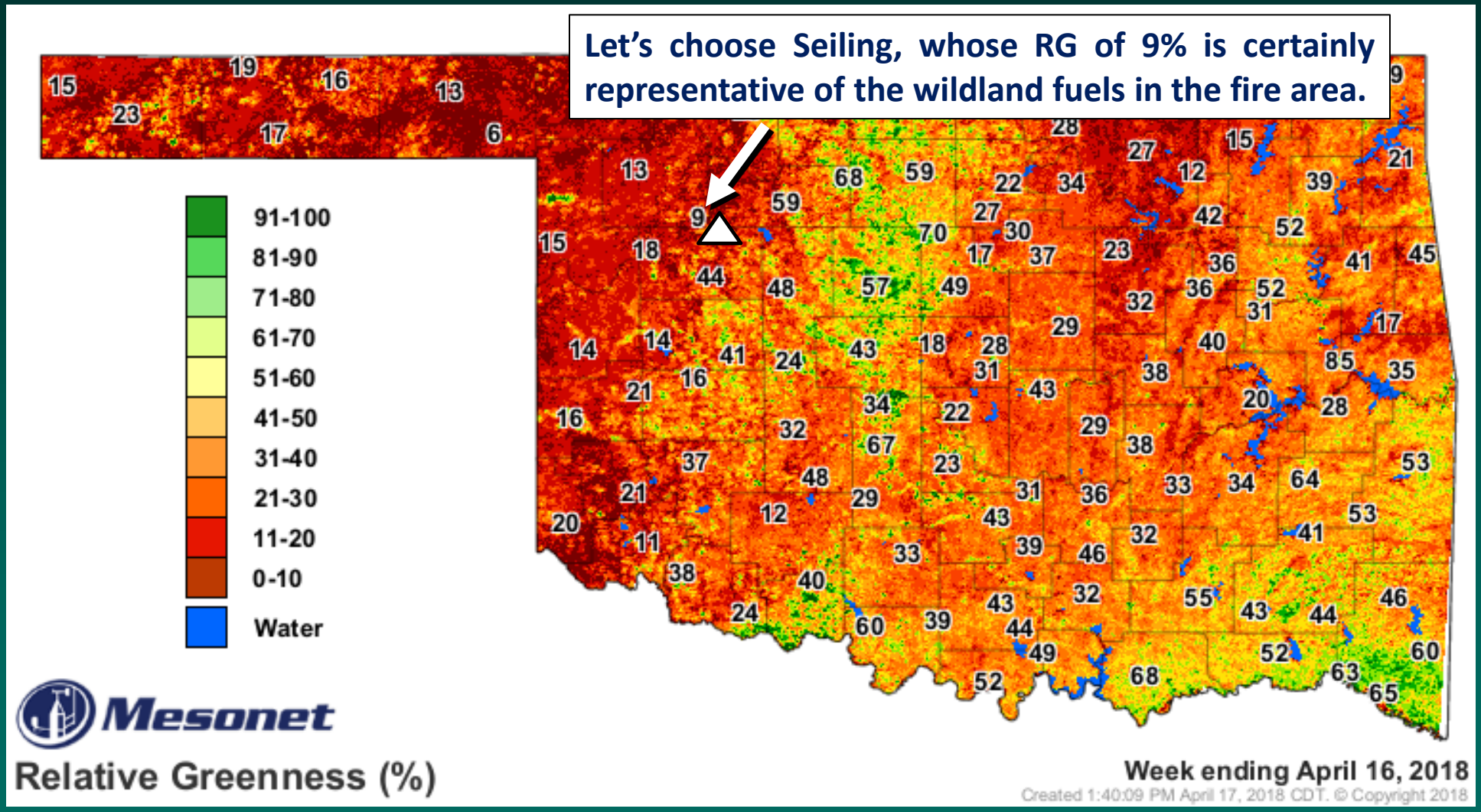

For that selected station, choose the fuel model which best fits the fuel complex you wish to model

(normally use one of the 5 fuel models below)

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- **Model L – Western perennial grasses**
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Current Fuel Model for Stillwater

T-Tallgrass with brush

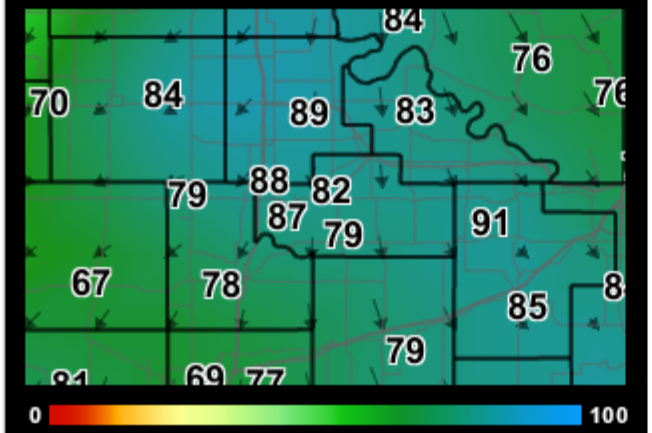
Default is T

Station Fuel Model Options

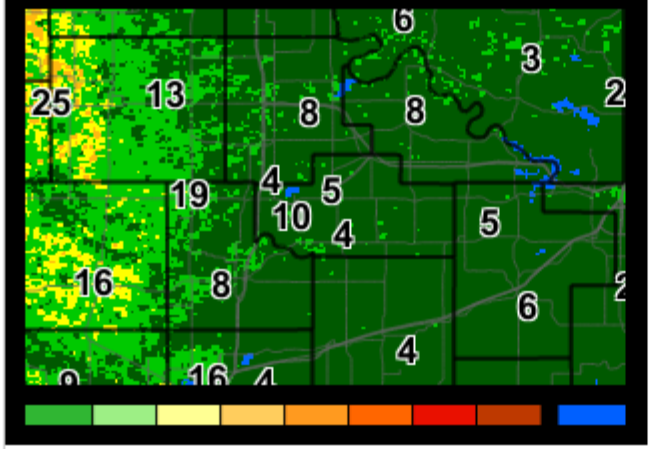
OK-FIRE

Share Tweet

Current Relative Humidity and Wind Direction



Current Burning Index

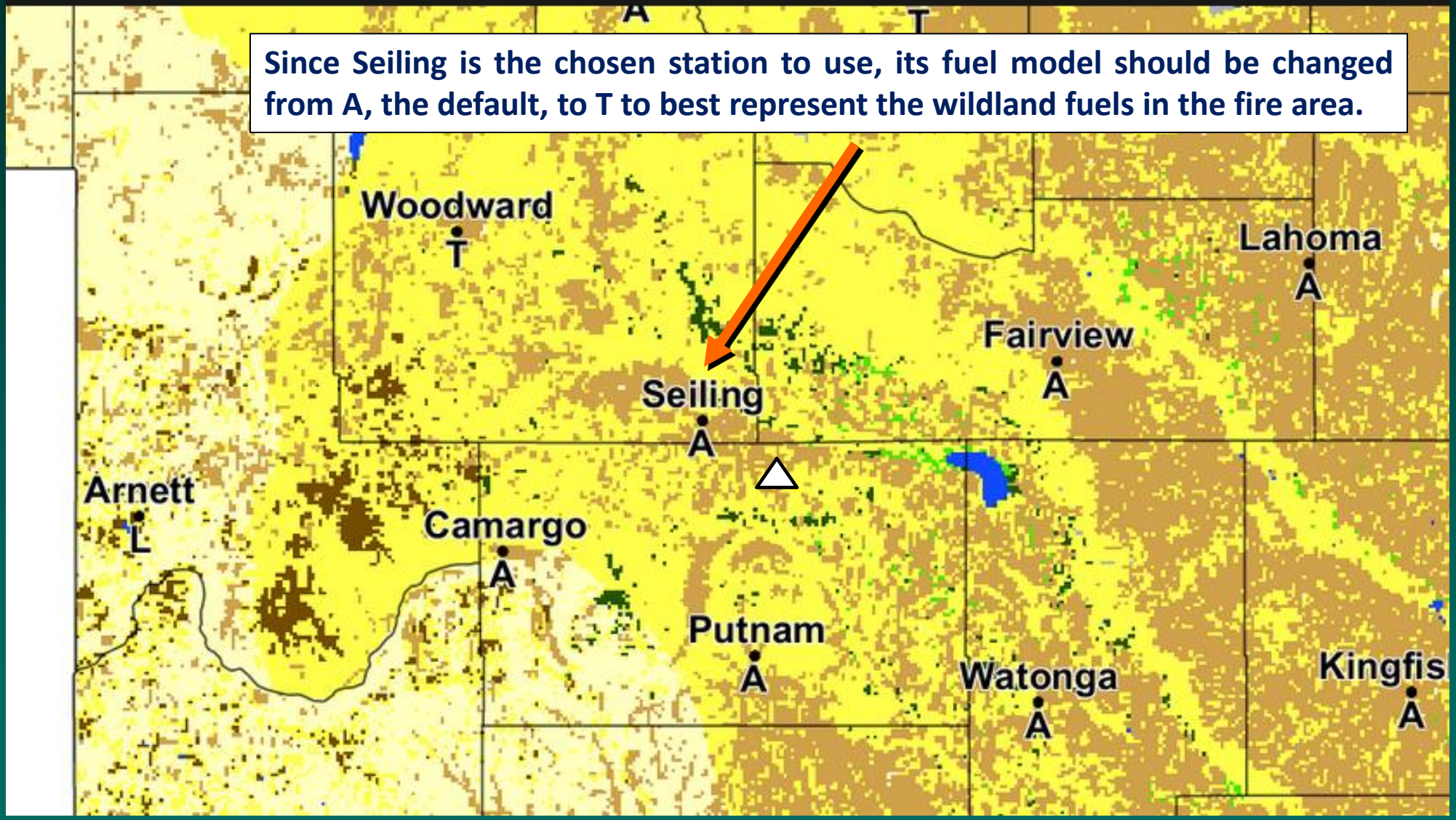


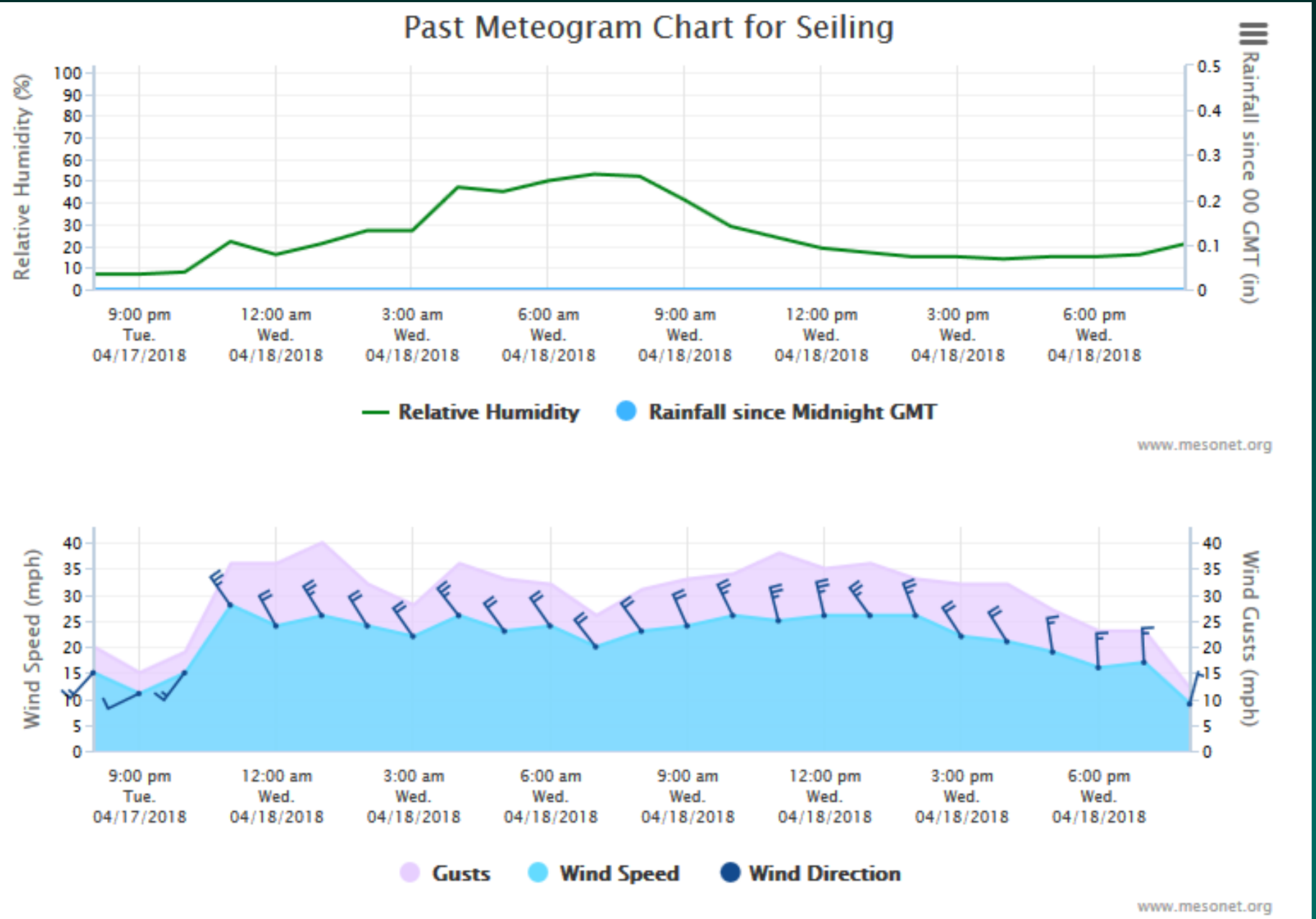
Station:	Stillwater	Oilton
Weather	Tue 10/10/17 8:05 pm CDT	Tue 10/10/17 8:05 pm CDT
Relative Humidity:	82%	91%
Past 1-hr RH Change:	+8%	+10%
10-m Wind:	NNE 4 mph	Calm
Max Wind Gust:	5 mph	0 mph
Temperature:	49°F Wind Chill: 48°F	51°F
24-hr Rainfall:	0.00 in	0.00 in
Dispersion:	Poor	Very Poor
Sunrise / Sunset:	7:31 am / 6:59 pm	7:28 am / 6:57 pm
Fire Danger	Tue 10/10/17 7:00 pm CDT	Tue 10/10/17 7:00 pm CDT
Current Fire Danger:	LOW	LOW
Burning Index:	5	5
Spread Component:	2	0
Ignition Component:	2%	4%
NFDRS Fuel Model:	T	R
1-hr Fuel Moisture:	11%	11%
10-hr Fuel Moisture:	12%	13%
Soil Moisture:	99%	96%
KBDI:	39	52
Relative Greenness:	58%	67%

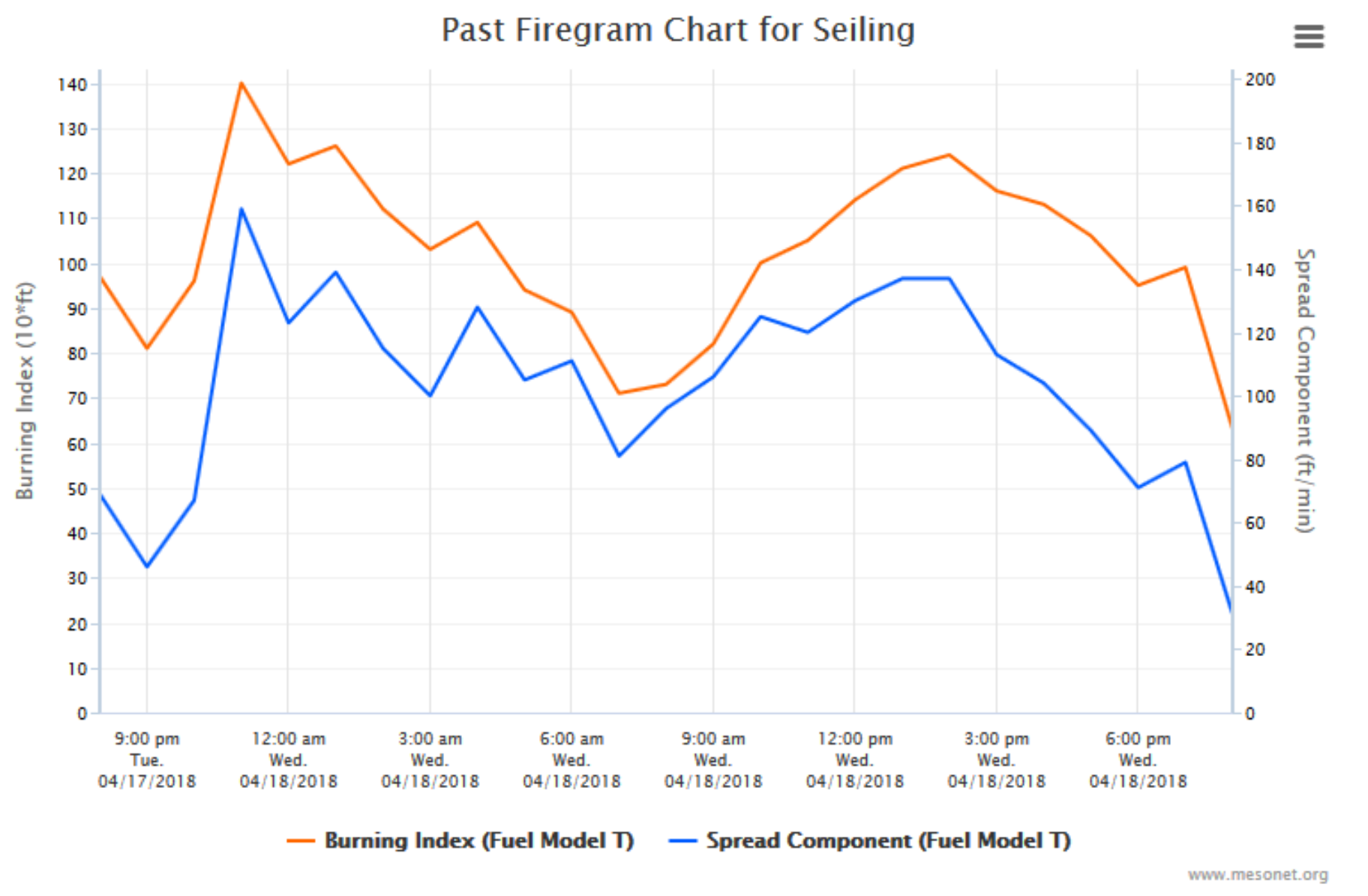
OK-FIRE

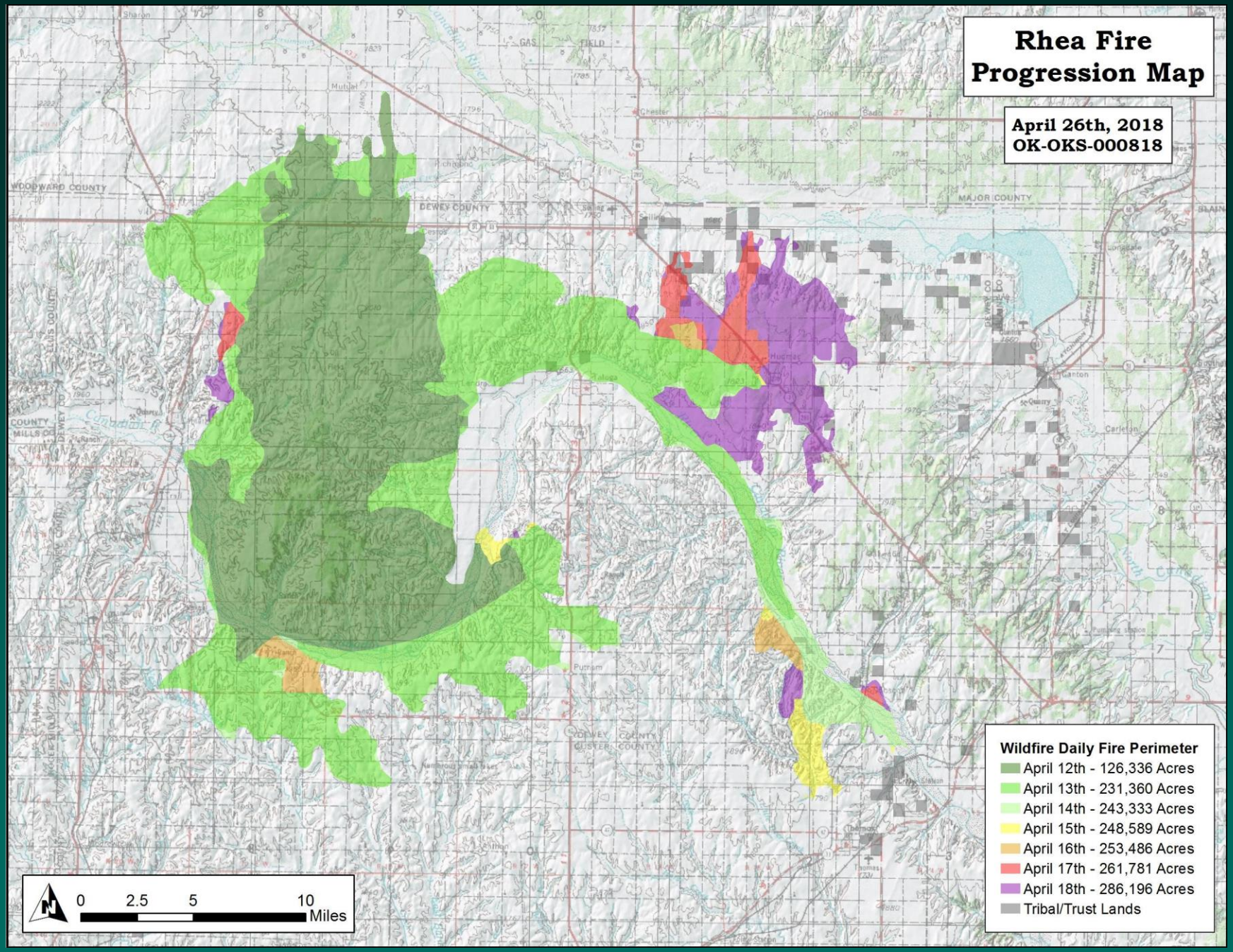
Default Fuel Model Zoom Map

Since Seiling is the chosen station to use, its fuel model should be changed from A, the default, to T to best represent the wildland fuels in the fire area.

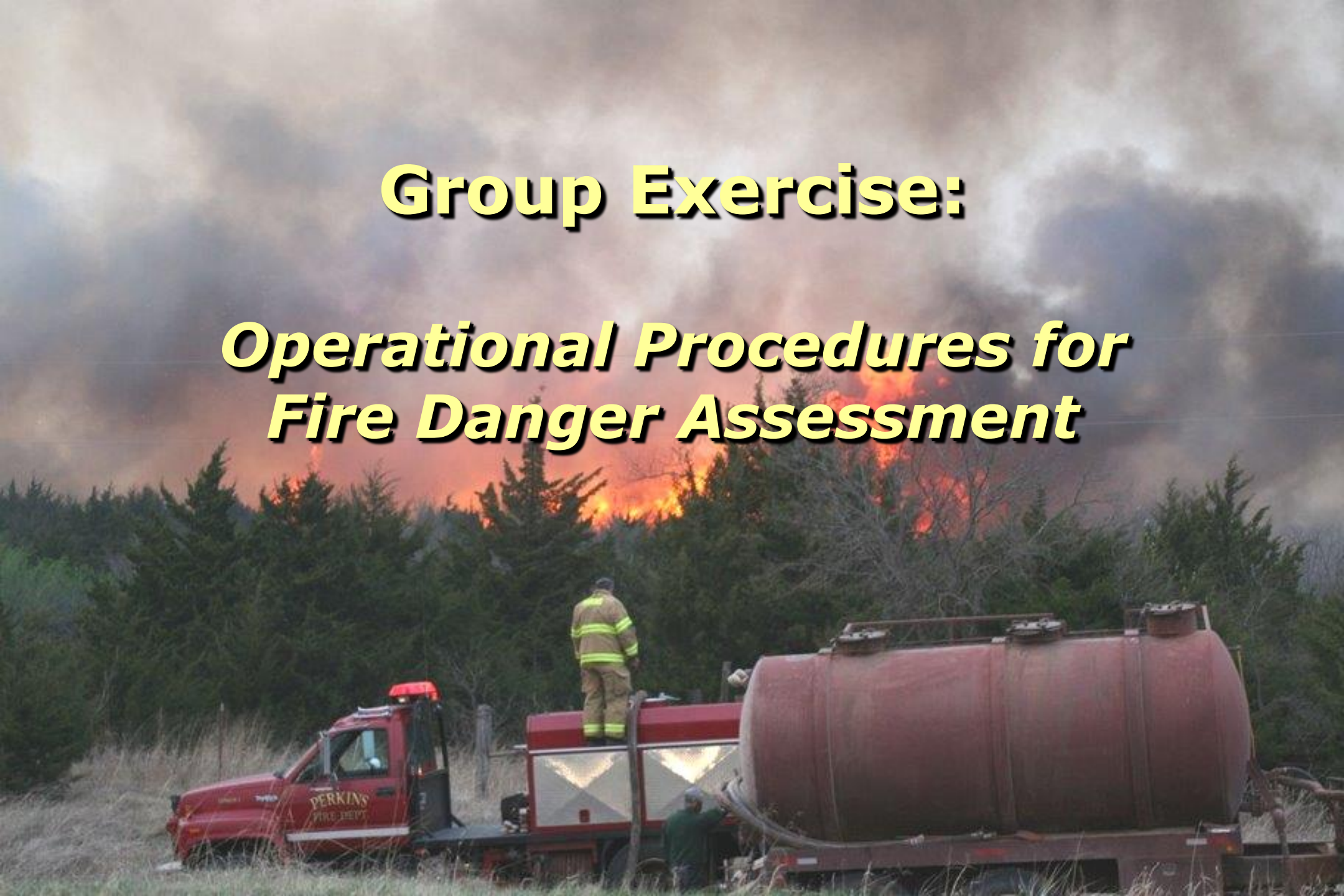



Past Meteogram Chart for Seiling
Relative Humidity (%)
Rainfall since 00 GMT (in)
100
90
80
70
60
50
40
30
20
10
0
0.5
0.4
0.3
0.2
0.1
0
9:00 pm Tue. 04/17/2018
12:00 am Wed. 04/18/2018
3:00 am Wed. 04/18/2018
6:00 am Wed. 04/18/2018
9:00 am Wed. 04/18/2018
12:00 pm Wed. 04/18/2018
3:00 pm Wed. 04/18/2018
6:00 pm Wed. 04/18/2018
Relative Humidity
Rainfall since Midnight GMT
www.mesonet.org
Wind Speed (mph)
Wind Gusts (mph)
40
35
30
25
20
15
10
5
0
9:00 pm Tue. 04/17/2018
12:00 am Wed. 04/18/2018
3:00 am Wed. 04/18/2018
6:00 am Wed. 04/18/2018
9:00 am Wed. 04/18/2018
12:00 pm Wed. 04/18/2018
3:00 pm Wed. 04/18/2018
6:00 pm Wed. 04/18/2018
Gusts
Wind Speed
Wind Direction
www.mesonet.org


Past Firegram Chart for Seiling
Burning Index (10*ft)
Spread Component (ft/min)
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
200
180
160
140
120
100
80
60
40
20
0
9:00 pm Tue. 04/17/2018
12:00 am Wed. 04/18/2018
3:00 am Wed. 04/18/2018
6:00 am Wed. 04/18/2018
9:00 am Wed. 04/18/2018
12:00 pm Wed. 04/18/2018
3:00 pm Wed. 04/18/2018
6:00 pm Wed. 04/18/2018
Burning Index (Fuel Model T)
Spread Component (Fuel Model T)
www.mesonet.org


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
WOODWARD COUNTY
DEWEY COUNTY
MAJOR COUNTY
CUSTER COUNTY
Putnam
Canton
Carleton
Thomas

QUESTIONS ?
CHP-NP

Group Exercise:

Operational Procedures for Fire Danger Assessment