

# 2018 Fire Weather Decision Support

*B.J. Simpson & Melissa Beat*

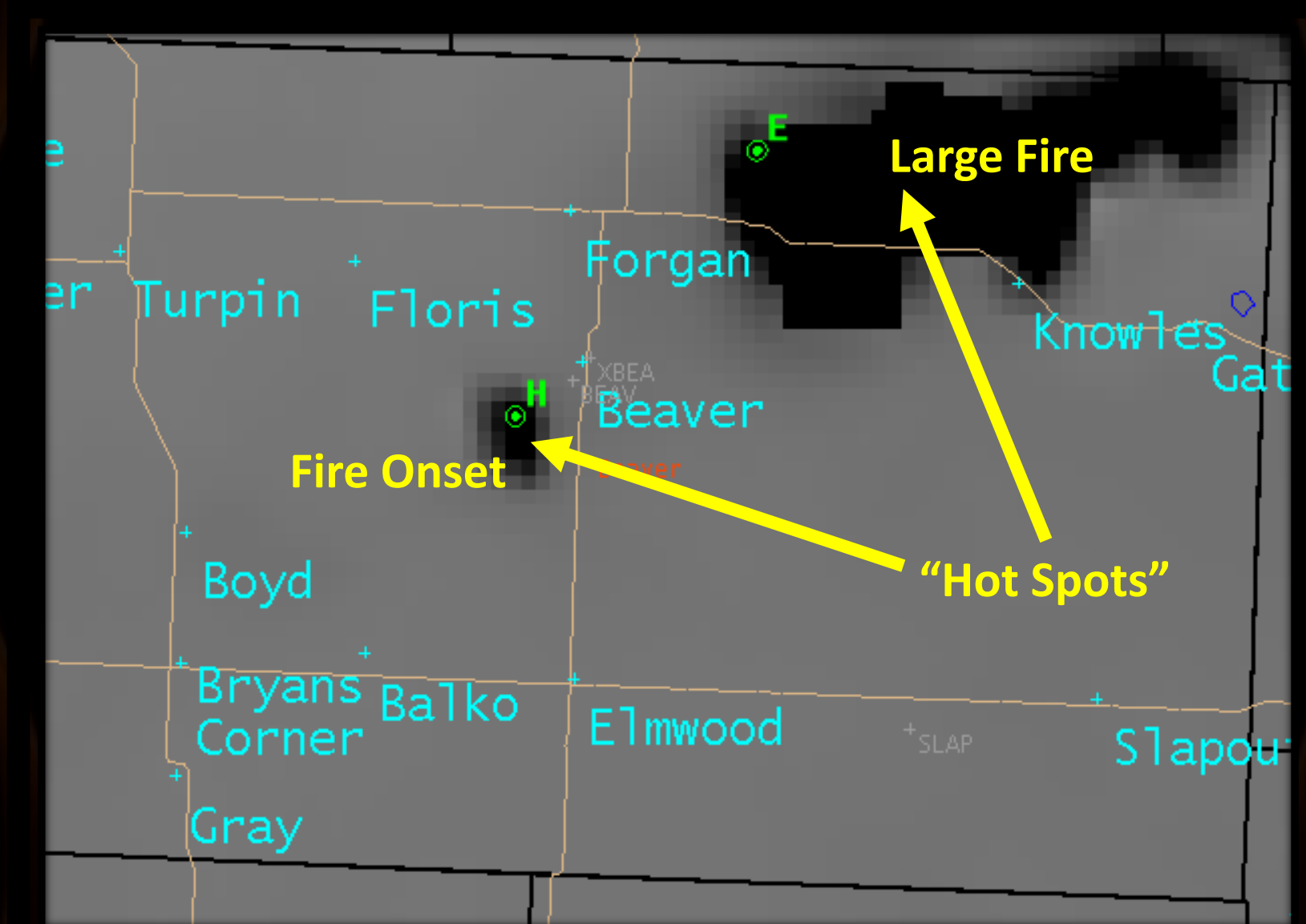
# Part 1: NWS Amarillo Hot Spot Notification Tool

*Original Developer:  
Aaron Anderson - NWS Norman*

# Background

- **New GOES-16 satellite can detect locations where the ground is much warmer than surrounding areas**
  - Right now, looks like 20-50 acre fires may be detectable
- **These warm areas on satellite are assumed to be fires**
- **We now have a tool that can send you text messages when we detect a possible fire**

# Example GOES-16 Hot Spots



# Initial Messages

- **Initial text message will contain:**
  - Location
  - Link to Google Map of the hot spot
  - Automated Spot Forecast for fire location
    - This link will remain updated throughout the fire
    - Formal Spot Forecast requests should be made through normal avenues

# Initial Notifications

← sr-ama.ops@noaa.gov  
Email

**Potential Fire in Armstrong County**  
 Thu Nov 16 2017 17:03 CST

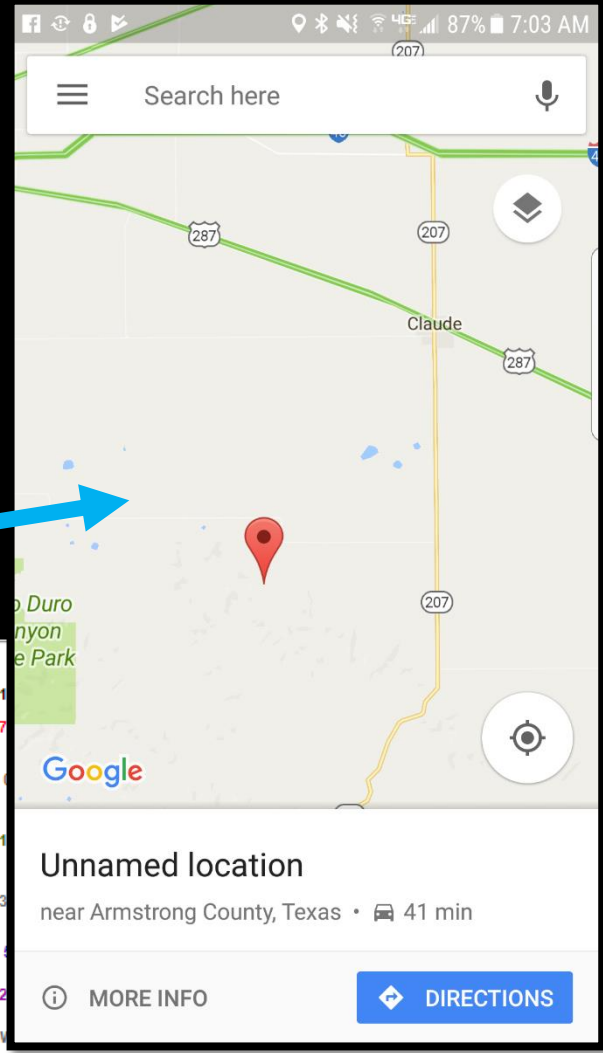
--County: Armstrong, TX

--NWS Amarillo detected a potential wildfire 11 miles E of Palo Duro Canyon, TX.

--Map: [maps.google.com/?q=34.963,-101.482&ll=34.963,-101.482&z=10](https://maps.google.com/?q=34.963,-101.482&ll=34.963,-101.482&z=10)

--Spot Forecast: [forecast.weather.gov/MapClick.php?w0=t&w3u=1&w5=pop&w6=rh&w13=mhgt&w13u=0&w14=haines&w15=twind&w15u=1&w16=ft20w&w16u=1&w17=vent&w18=rfti&FostType=digital&textField1=34.963&textField2=-101.482&site=all&unit=0](http://forecast.weather.gov/MapClick.php?w0=t&w3u=1&w5=pop&w6=rh&w13=mhgt&w13u=0&w14=haines&w15=twind&w15u=1&w16=ft20w&w16u=1&w17=vent&w18=rfti&FostType=digital&textField1=34.963&textField2=-101.482&site=all&unit=0)

Date	11/17											18	19	20	21	22	23	24	25	26
Hour (CST)	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Temperature (°F)	53	55	60	66	71	76	79	80	80	77	73	68	63	58	53	48	43	38	33	28
Precipitation Potential (%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Relative Humidity (%)	46	43	35	27	21	17	15	14	14	13	12	11	10	9	8	7	6	5	4	3
Mixing Height (x100ft)				10	15	25	35	40	50	30	20	15	10	8	7	6	5	4	3	2
Haines Index	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Transport Wind (mph)	10	10	12	15	21	25	30	33	33	28	22	18	15	12	10	8	7	6	5	4
Transport Wind Dir	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
20ft Wind (mph)	14	14	15	17	20	22	22	23	23	22	20	18	16	15	14	13	12	11	10	9
20ft Wind Dir	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW
Ventilation Rate (x1000 mph-ft)	0	0	0	15	32	63	105	132	165	91	27	0	0	0	0	0	0	0	0	0
Red Flag Threat Index	0	0	0	0	0	2	3	3	3	1	0	0	0	0	0	0	0	0	0	0



+ |Type a message...

# Update Messages

(Highly Staffing Dependent)

- **Update text message may contain any of the following:**
  - Location
  - Estimated Size (if known)
    - Note: Acreage estimates are crude and intended only as supplemental information
  - NOWcast
  - Screenshot of fire
  - Updated Spot Forecast for fire location
  - Wind shift graphics (if applicable)

←  sr-ama.ops@noaa.gov  
Email

**Claude 12SW Fire UPDATE**  
Thu Nov [16 2017 17:20 CST](#)

--County: Armstrong, TX

--NWS Amarillo continues to track a wildfire 11 miles E of Palo Duro Canyon, TX.

--Size (Estimated): 2000 acres

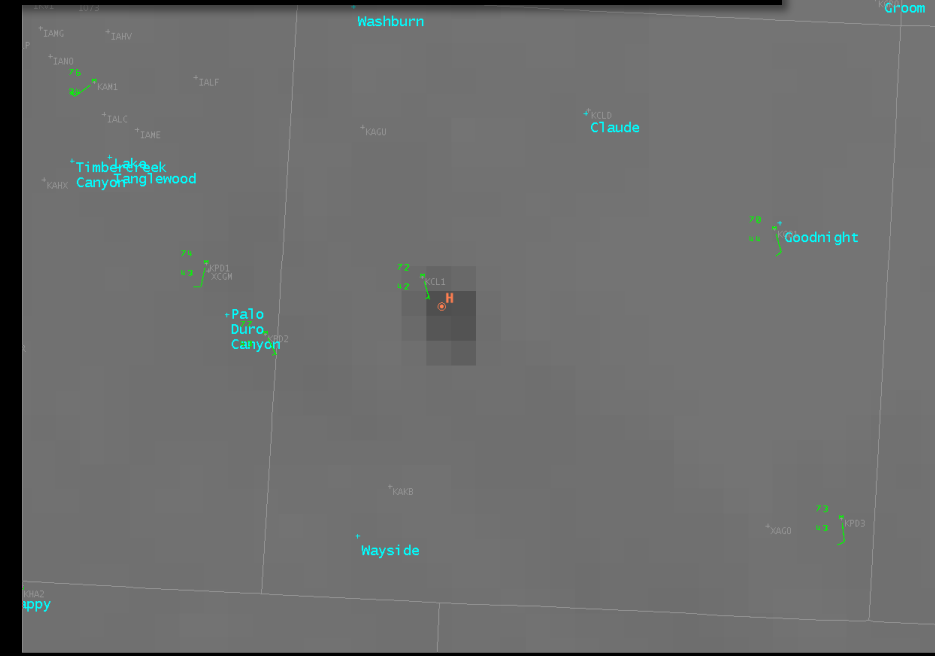
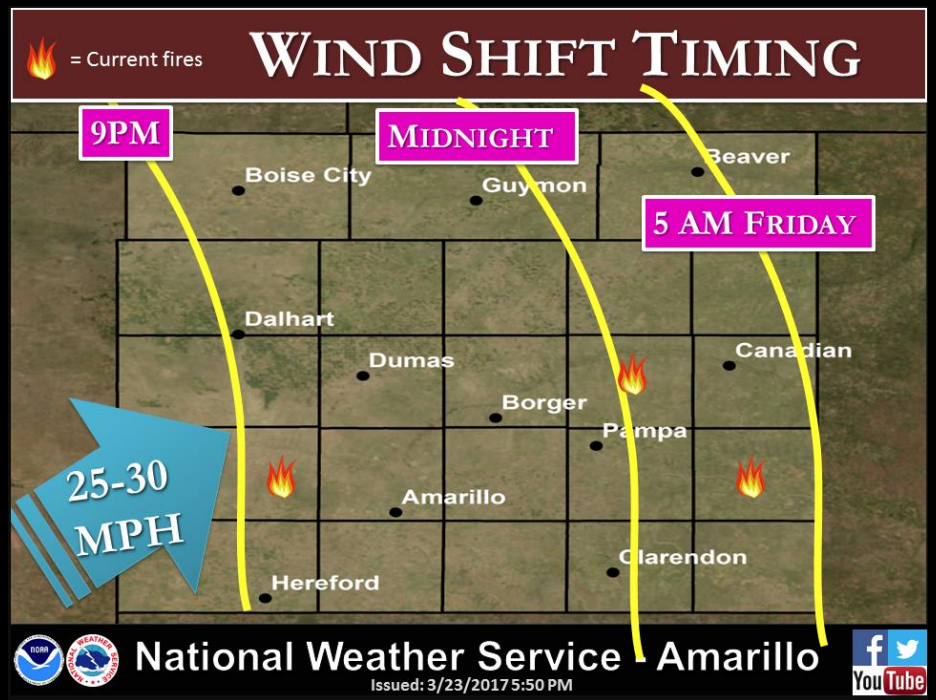
--NOWcast: Winds will remain S 5-15mph through 10 PM then shift to SW 5-15mph for remainder of night.

--Image: [weather.gov/images/ama/HotSpots/HotSpotH.png](http://weather.gov/images/ama/HotSpots/HotSpotH.png)

--Updated Spot Forecast:  
[forecast.weather.gov/MapClick.php?w0=t&w3u=1&w5=pop&w6=rh&w13=mhot&w13u=0&w14=haines&w15=wind&w15u=1&w16=ft20w&w16u=1&w17=vent&w18=rft&FcstType=digital&textField1=34.963&textField2=-101.482&site=all&unit=0](http://forecast.weather.gov/MapClick.php?w0=t&w3u=1&w5=pop&w6=rh&w13=mhot&w13u=0&w14=haines&w15=wind&w15u=1&w16=ft20w&w16u=1&w17=vent&w18=rft&FcstType=digital&textField1=34.963&textField2=-101.482&site=all&unit=0)

Update Notifications

+ Type a message...  





# Other Features

- **Replies to text messages end up in NWS AMA Operations email Inbox**
  - Feel free to request more information about your fire via text by sending a reply with which fire and what information you are seeking

# Caveats

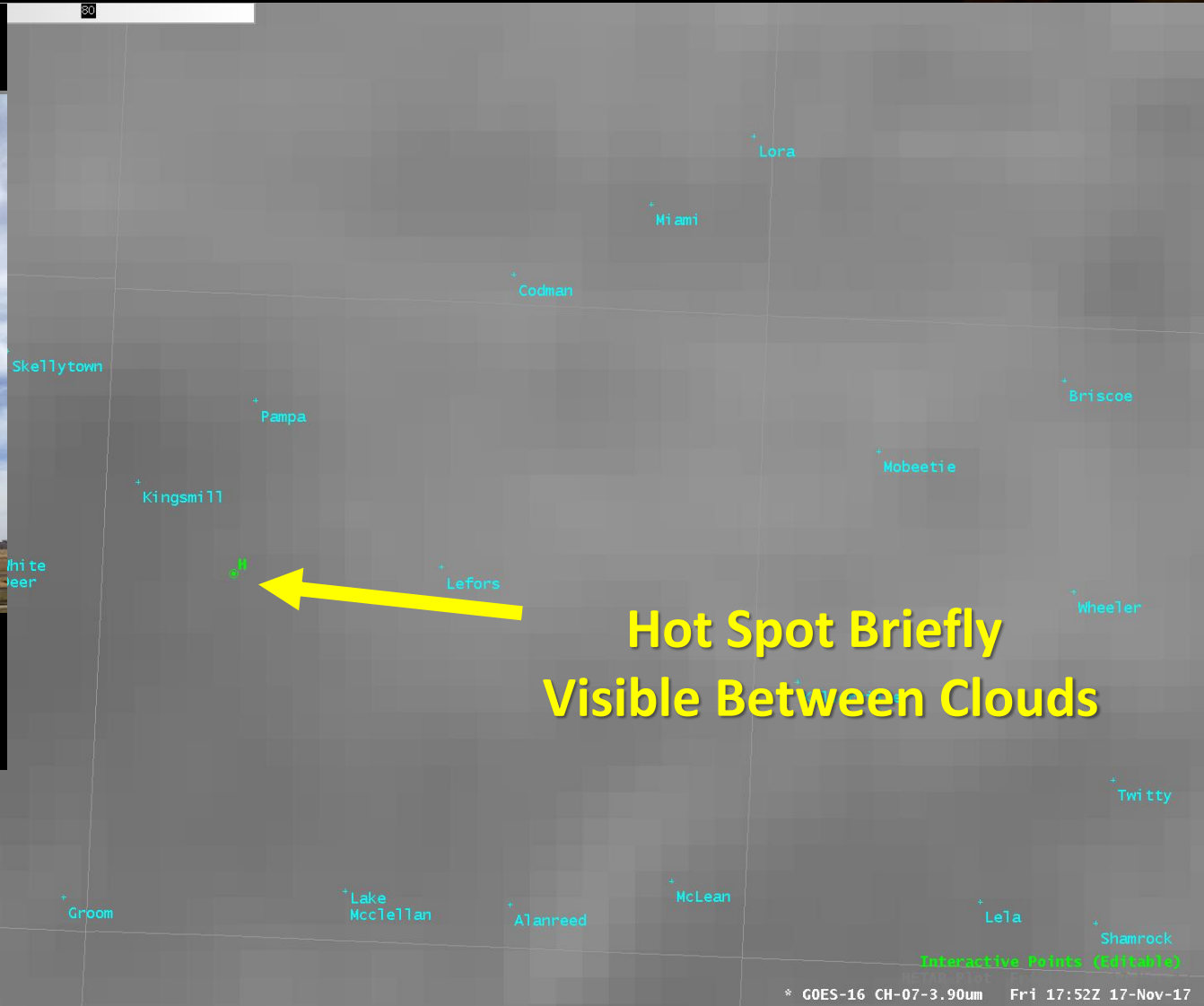
- **Active Monitoring on Red Flag Warning Days**
- **We can't be 100% positive it's a fire**
  - Very slight risk of false alarm
- **No way to decipher between prescribed burns and wildfires**
  - You may get a few notifications about prescribed burns if we are unaware of them
- **Cloud cover or dust **will likely** prevent detection**

# Cloud Caution

## Photo of Clouds this Day



**Even Thin Cirrus Clouds  
Can Obscure View**



# *Red Flag Day* Fire Support Desk

- **Staffing Permitting, Core Fire Weather Partner Support Can Be Activated On Higher End Events**
  - Hotspot tool
  - Increased analysis for better short term forecasts
  - More rapid graphical forecast updates
  - Spot Forecast fulfillment
  - Fire Warnings (evacuation orders)

# West Texas Mesonet Update

## • New Stations in 2017:

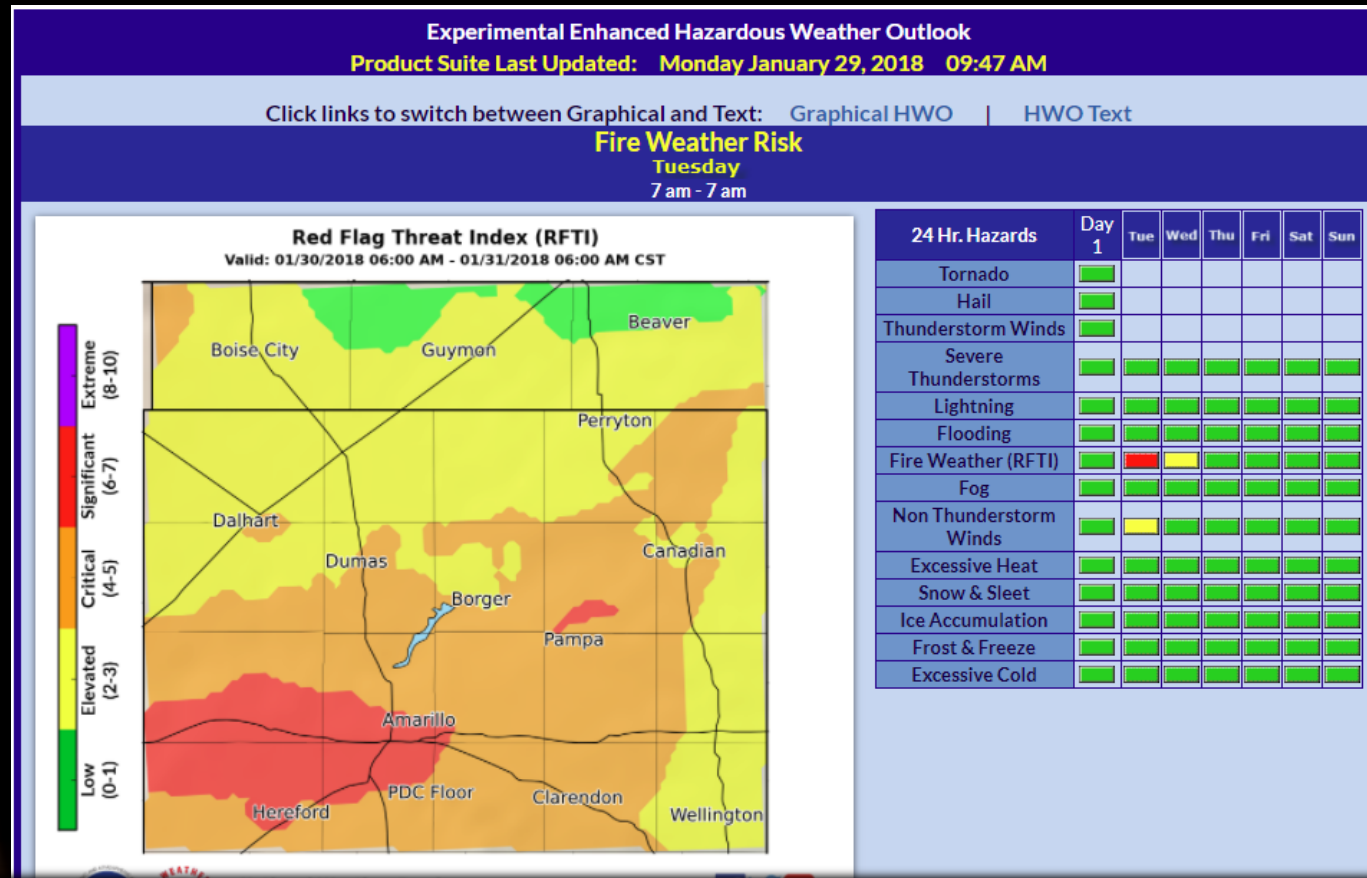
- Stinnett
- Happy
- Endee, NM
- JA Ranch (Donley County)
- Adrian

## • Possible Stations for 2018:

- Fritch
- Vega
- Lake McClellen
- Stratford
- Texline
- Hartley
- Wolf Creek Park
- Nara Visa



# Experimental Enhanced Hazardous Weather Outlook



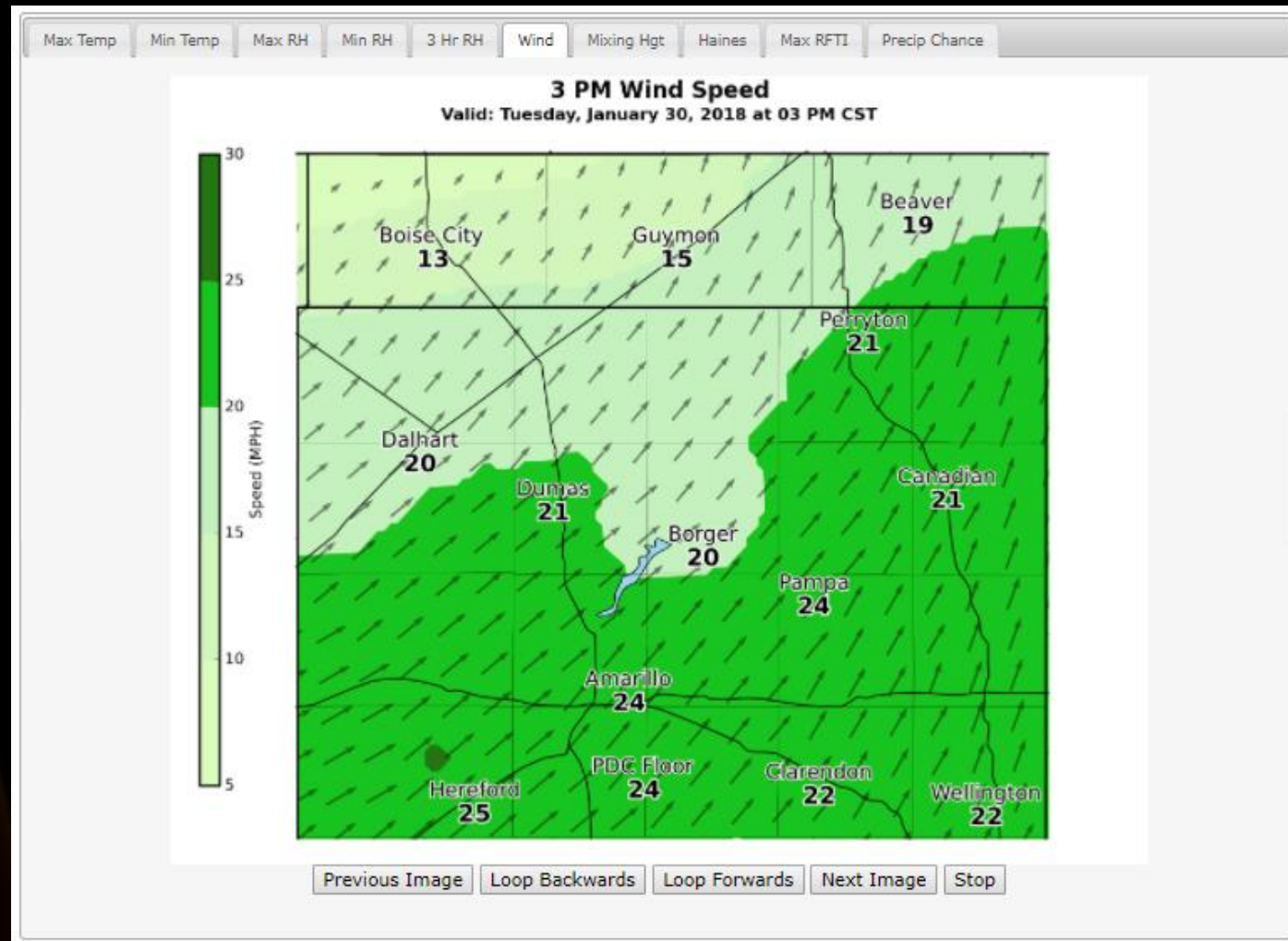
[www.weather.gov/ama/EHWO](http://www.weather.gov/ama/EHWO)

# Email Briefing and Conference Call Triggers

- Email Briefing
  - Fire Weather Watch or Red Flag Warning *and*
  - ERC  $\geq 50$  *and*
  - RFTI  $\geq 5$
- Webinar
  - Same as above + High Wind Watch/Warning
  - Basically high potential for outbreak



# New NWS Fire Weather Web Page



# Experimental Tool

*Feedback Welcome*

- Please don't be shy about letting us know how we can make this better