



**PENNSYLVANIA FIRE WEATHER FORECAST RESPONSIBILITY**  
**by National Weather Service County Warning and Forecast Area**

The **Binghamton, NY, (BGM)** forecast office covers the following seven (7) counties in Northeastern Pennsylvania, highlighted in teal in the map above: Bradford, Lackawanna, Luzerne, Pike, Susquehanna, Wayne and Wyoming.

The **Cleveland, OH (CLE)** forecast office covers the following two (2) counties in Northwestern Pennsylvania, highlighted in pink on the map above: Crawford and Erie.

The **Mount Holly, NJ/Philadelphia, PA (PHI)** forecast office covers the following ten (10) counties in Southeastern and East Central Pennsylvania, highlighted in yellow on the map above: Berks, Bucks, Carbon, Chester, Delaware, Lehigh, Monroe, Montgomery, Northampton, Philadelphia.

The **Pittsburgh, PA, (PBZ)** forecast office covers the following fifteen (15) counties in Western Pennsylvania, highlighted in green on the map above: Allegheny, Armstrong, Beaver, Butler, Clarion, Fayette, Forest, Greene, Indiana, Jefferson, Lawrence, Mercer, Venango, Washington, Westmoreland.

The **State College, PA, (CTP)** forecast office covers the following thirty three (33) counties in Central Pennsylvania, highlighted in blue on the map above: Adams, Bedford, Blair, Centre, Cambria, Cameron, Clearfield, Clinton, Columbia, Cumberland, Dauphin, Elk, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Lycoming, McKean, Mifflin, Montour, Northumberland, Perry, Potter, Schuylkill, Snyder, Somerset, Sullivan, Tioga, Union, Warren, York.

**NWS OFFICE- WFO Cleveland, OH (CLE) - Northwest PA**

<u>County</u>	<u>Zone Code</u>	<u>Metafire zone</u>
Northern Erie	PAZ001	10 - Northwest Plateau
Southern Erie	PAZ002	10 - Northwest Plateau
Crawford	PAZ003	10 - Northwest Plateau

**NWS OFFICE- WFO Mt. Holly, NJ (PHI) - Southeast PA**

<u>County</u>	<u>Zone Code</u>	<u>Metafire zone</u>
Monroe	PAZ055	1 - Pocono/E. Central Mtns
Carbon	PAZ054	1 - Pocono/E. Central Mtns
Northampton	PAZ062	1 - Pocono/E. Central Mtns
Lehigh	PAZ061	1 - Pocono/E. Central Mtns
Berks	PAZ060	3 - Southeast Piedmont
Eastern Chester	PAZ102	3 - Southeast Piedmont
Western Chester	PAZ101	3 - Southeast Piedmont
Eastern Montgomery	PAZ104	3 - Southeast Piedmont
Western Montgomery	PAZ103	3 - Southeast Piedmont
Upper Bucks	PAZ105	3 - Southeast Piedmont

Lower Bucks	PAZ106	3 - Southeast Piedmont
Delaware	PAZ070	3 - Southeast Piedmont
Philadelphia	PAZ071	3 - Southeast Piedmont

**NWS OFFICE- WFO State College, PA (CTP) - Central PA**

<u>County</u>	<u>Zone Code</u>	<u>Metafire zone</u>
Schuylkill	PAZ058	1 - Pocono Mountains
Dauphin	PAZ057	3 - Southeast Piedmont
Lebanon	PAZ059	3 - Southeast Piedmont
Lancaster	PAZ066	3 - Southeast Piedmont
Franklin	PAZ036	4 - Lower Susquehanna
Cumberland	PAZ063	4 - Lower Susquehanna
Adams	PAZ064	4 - Lower Susquehanna
York	PAZ065	4 - Lower Susquehanna
Mifflin	PAZ027	5- Middle Susquehanna
Juniata	PAZ028	5- Middle Susquehanna
Northern Lycoming	PAZ041	5- Middle Susquehanna
Southern Lycoming	PAZ046	5- Middle Susquehanna
Union	PAZ049	5- Middle Susquehanna
Snyder	PAZ050	5- Middle Susquehanna
Montour	PAZ051	5- Middle Susquehanna
Northumberland	PAZ052	5- Middle Susquehanna
Columbia	PAZ053	5- Middle Susquehanna
Perry	PAZ056	5 - Middle Susquehanna
Sullivan	PAZ042	6 - Upper Susquehanna
Tioga	PAZ037	6 - Upper Susquehanna
Elk	PAZ010	7 - Central Mountains
Cameron	PAZ011	7 - Central Mountains
Northern Clinton	PAZ012	7 - Central Mountains
Southern Clinton	PAZ045	7 - Central Mountains
Clearfield	PAZ017	7 - Central Mountains
Northern Centre	PAZ018	7 - Central Mountains
Southern Centre	PAZ019	7 - Central Mountains
Cambria	PAZ024	8 - South Central Mountains
Blair	PAZ025	8 - South Central Mountains
Huntingdon	PAZ026	8 - South Central Mountains
Bedford	PAZ034	8 - South Central Mountains
Fulton	PAZ035	8 - South Central Mountains
Somerset	PAZ033	9 - Southwest Plateau
Warren	PAZ004	10 - Northwest Plateau
McKean	PAZ005	10 - Northwest Plateau
Potter	PAZ006	10 - Northwest Plateau

**NWS OFFICE- WFO Pittsburgh, PA (PBZ) - Southwest PA**

<u>County</u>	<u>Zone Code</u>	<u>Metafire zone</u>
Lawrence	PAZ013	9 - Southwest Plateau
Butler	PAZ014	9 - Southwest Plateau
Beaver	PAZ020	9 - Southwest Plateau
Allegheny	PAZ021	9 - Southwest Plateau
Armstrong	PAZ022	9 - Southwest Plateau
Indiana	PAZ023	9 - Southwest Plateau
Washington	PAZ029	9 - Southwest Plateau
Westmoreland	PAZ073	9 - Southwest Plateau
Westmoreland Ridges	PAZ074	9 - Southwest Plateau
Greene	PAZ031	9 - Southwest Plateau
Fayette	PAZ075	9 - Southwest Plateau
Fayette Ridges	PAZ076	9 - Southwest Plateau
Mercer	PAZ007	10 - Northwest Plateau
Venango	PAZ008	10 - Northwest Plateau
Forest	PAZ009	10 - Northwest Plateau
Clarion	PAZ015	10 - Northwest Plateau
Jefferson	PAZ016	10 - Northwest Plateau

**NWS OFFICE- WFO Binghamton, NY (BGM) - Northeast PA**

<u>County/Zone</u>	<u>Zone Code</u>	<u>Metafire zone</u>
Bradford	PAZ038	6 - Upper Susquehanna
Susquehanna	PAZ039	6 - Upper Susquehanna
Wyoming	PAZ043	6 - Upper Susquehanna
Luzerne	PAZ047	1 - Pocono/E. Central Mtns
Lackawana	PAZ044	1 - Pocono/E. Central Mtns
Northern Wayne	PAZ040	1 - Pocono/E. Central Mtns
Southern Wayne	PAZ072	1 - Pocono/E. Central Mtns
Pike	PAZ048	1 - Pocono/E. Central Mtns

## Appendix B: PA Fire Weather Program Contact Information

### PA Bureau of Forestry

Division of Forest Fire Protection (FFP), Department of Environmental Resources  
Bureau of Forestry  
400 Market Street, Rachel Carson Office Building  
P.O. BOX 8552  
Harrisburg, PA  
17105-8552

## Appendix C: Content and format of the Fire Weather Forecast (FWF)

The communication headers for the fire weather forecasts for PA are as follows:

<b><i>FIRE WEATHER FORECAST</i></b>				
<u>OFFICE</u>	<u>9-letter ID</u>	<u>AWIPS</u>	<u>WMO</u>	<u>AREA</u>
WFO BGM –	ALBFWFBGM	FWFBGM	FNUS51 KBGM	Northeast PA
WFO CLE -	CLEFWFCLE	FWFCLE	FNUS51 KCLE	Northwest PA
WFO CTP -	PHLFWFCTP	FWFCTP	FNUS51 KCTP	Central PA
WFO PBZ -	PITFWFPIT	FWFPIT	FNUS51 KPBZ	Western PA
WFO PHI -	PHLFWFPHL	FWFPHL	FNUS51 KPHI	Southeast PA

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FNUS51 KCTP 031100  
FWFCTP

FIRE WEATHER PLANNING FORECAST FOR CENTRAL PENNSYLVANIA  
NATIONAL WEATHER SERVICE STATE COLLEGE PA  
600 AM EST SUN NOV 3 2013

.DISCUSSION...

COLD NORTHWESTERLY FLOW WILL CONTINUE TODAY. MOIST FLOW WILL ALLOW FOR SNOW SHOWERS OVER THE NORTHWEST MOUNTAINS THIS MORNING. THESE SNOW SHOWERS WILL END BY MID MORNING...AS HIGH PRESSURE BUILDS INTO THE REGION. THIS WILL LEADING TO MOSTLY SUNNY SKIES AFTER MORNING CLOUDS. NORTHWEST WINDS WILL AGAIN BECOME GUSTY IN THE AFTERNOON...ESPECIALLY OVER THE SOUTHEAST. HOWEVER WIND GUSTS WILL BE WEAKER THAN YESTERDAY...WITH GUSTS UP TO 20 MPH POSSIBLE. RELATIVE HUMIDITIES ARE FORECAST TO BE IN THE UPPER 30 TO UPPER 40 PERCENT RANGE.

PAZ004>006-010-011-032200-  
WARREN-MCKEAN-POTTER-ELK-CAMERON-  
INCLUDING THE CITIES OF...WARREN...BRADFORD...COUDERSPORT...  
ST. MARYS...RIDGWAY...EMPORIUM

600 AM EST SUN NOV 3 2013

	TODAY	TONIGHT	MON
CLOUD COVER	PCLDY	CLEAR	MCLEAR
PRECIP TYPE	NONE	NONE	NONE
CHANCE PRECIP (%)	0	0	0
TEMP (24H TREND)	40 (-7)	17 (-12)	42
RH % (24H TREND)	41 (-17)	91 (-7)	32
20FTWND-VAL/AM(MPH)	N 8		LGT/VAR
20FTWND-RDG/PM(MPH)	N 7	N 6	SE 5
PRECIP AMOUNT	0.00	0.00	0.00
PRECIP DURATION			
PRECIP BEGIN			
PRECIP END			
MIXING HGT(FT-AGL/MSL)	6140	10	3780
TRANSPORT WND (KTS)	NW 15	NE 9	SE 8
VENT RATE (KT-FT)	112110	40	43220
DISPERSION	5	1	5
DSI	2	0	1
LAL	NO TSTMS	NO TSTMS	NO TSTMS
HAINES INDEX	4	5	5
RH RECOVERY	EXCELLENT	EXCELLENT	EXCELLENT

REMARKS...NONE.

.FORECAST FOR DAYS 3 THROUGH 7...

.MONDAY NIGHT...PARTLY CLOUDY. LOWS IN THE UPPER 20S. SOUTHEAST WINDS 5 TO 10 MPH.

.TUESDAY...PARTLY SUNNY. HIGHS AROUND 50. SOUTHEAST WINDS 5 TO 10 MPH.

.TUESDAY NIGHT...MOSTLY CLOUDY. LOWS IN THE UPPER 30S. SOUTH WINDS 5 TO 10 MPH.

.WEDNESDAY...MOSTLY CLOUDY. HIGHS IN THE UPPER 50S. SOUTH WINDS 10 TO 15 MPH.

.WEDNESDAY NIGHT...MOSTLY CLOUDY WITH A CHANCE OF SHOWERS AND THUNDERSTORMS. LOWS IN THE MID 40S. SOUTH WINDS 10 TO 15 MPH.

.THURSDAY...CLOUDY WITH SHOWERS AND THUNDERSTORMS LIKELY. HIGHS IN THE LOWER 50S. SOUTHWEST WINDS 10 TO 15 MPH.

.THURSDAY NIGHT...MOSTLY CLOUDY WITH A CHANCE OF RAIN SHOWERS. COLDER. LOWS IN THE MID 30S. WEST WINDS 10 TO 15 MPH.

.FRIDAY...PARTLY SUNNY WITH A CHANCE OF RAIN SHOWERS. COLDER. HIGHS IN THE LOWER 40S. NORTHWEST WINDS 10 TO 15 MPH.

.FRIDAY NIGHT...PARTLY CLOUDY. LOWS IN THE LOWER 30S. WEST WINDS 10 TO 15 MPH.

.SATURDAY...MOSTLY SUNNY. HIGHS IN THE UPPER 40S. WEST WINDS 5 TO 10 MPH.

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.OUTLOOK 8 TO 14 DAYS...

TEMPERATURES ABOVE NORMAL. PRECIPITATION ABOVE NORMAL.

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## FWF content explanation

\*Format - The format of the Fire Weather Forecast is specified in National Weather Service Directive 10-401. Some forecast elements are optional and are not included by all WFOs or may vary by WFO.

\*Headlines - A headline is **required** when Red Flag Warnings and/or Fire Weather Watches are in effect. The headline will include the warning type, location, reason for issuance (e.g., high winds and low humidity), and effective time period(s). The headline is also included in the body of the FWF, in each appropriate zone grouping. Other headlines may be requested since the natural resource agencies are also considered "all risk agencies." When significant weather trends of locally-defined critical weather elements are forecast or observed during non-watch/warning periods, they will be identified in the headline.

Discussion - The discussion should be a brief, clear, non-technical description of the weather patterns that influence the weather in the forecast area.

Cloud Cover ("CLOUD COVER") - This is an indication of the expected sky condition. "Clear" or "Sunny" descriptors are designated when the forecast cloud cover is < 10%; "Mostly Clear" or "Mostly Sunny" are used when cloud cover is forecast to be  $\geq$  10% and < 30%; "Partly Cloudy" or "Partly Sunny" are used when cloud cover is forecast to be  $\geq$  30% and < 60%; "Mostly Cloudy" is used when cloud cover is  $\geq$  60% and < 80%; "Cloudy" is used when cloud cover is forecast to be  $\geq$  80%.

Precipitation Type ("PRECIP TYPE") - This refers to the predominant precipitation type during the forecast period, with an exception. When both "showers" and "thunderstorms" are included in the public forecast, "thunderstorms" will be designated as the precipitation type in the FWF.

Chance of Precipitation ("CHANCE PRECIP") - Refers to the probability of measurable precipitation (0.01 inches or more) during the forecast period. This will be rounded to the nearest 10%. Note: Drizzle and snow flurries are not considered measurable precipitation and thus will not be given a probability.

Temperature ("TEMP") - Refers to the forecasted maximum and minimum temperature for the zone, in degrees F, as measured at a standard 4.5 feet above the ground level.

Relative Humidity ("MAX/MIN RH") - Forecasted minimum relative humidity is provided during the daytime periods, while maximum RH is included at night. Relative humidity is highly variable from site to site, but for the purpose of the zone forecast will be the maximum or minimum relative humidity within the zone. In general, relative humidity values below 25 percent should deter a prescribed burn and cause a call to the National Weather Service to obtain a site specific forecast.

Note: The lowest average humidity typically occurs during the warmest part of the day. However, if it is expected to occur at a different time of the day, this will be noted in the "Remarks" portion of the forecast.

Surface Winds ("WND20FT2MIN/EARLY and WND20FT2MIN/LATE") - Surface wind speed and direction represent a two-minute average at 20 feet above the vegetative ground cover. Wind direction is the direction the wind blows from, to eight points of the compass. The "EARLY" designation refers to morning hours (before noon) during daytime periods, and also the evening hours (before midnight) during nighttime periods. "LATE" refers to the afternoon hours during the daytime periods, and also the pre-dawn hours (after midnight) during the nighttime periods. Wind gusts, which are rapid fluctuations in wind speed of usually less than 30 seconds in duration, are indicated in the forecast if gustiness is expected. Forecasts for highest probable gust will be preceded by "G".

Precipitation Amount ("PRECIP AMOUNT") - Refers to the forecasted precipitation amount (in hundredths of an inch) whenever the chance of precipitation is 25% or greater.

Precipitation Duration ("PRECIP DURATION") - Refers to the duration of the measurable precipitation (in hours) when the probability of measurable precipitation is greater than or equal to 25%. A precipitation duration forecast of "1" is used for "1 hour or less" duration.

Precipitation Begin/End ("PRECIP BEGIN/END") - Refers to the time measurable precipitation begins or ends.

Mixing Height ("MIXING HGT") - Mixing height is defined as the atmospheric limit above which vigorous vertical mixing does not take place. It provides the potential for the atmosphere to disperse smoke. Mixing height will vary from site to site, but for the purpose of the zone forecast will be the maximum height mixing is expected to occur within the zone. In general, a mixing height of 1650 feet or less should deter a prescribed burn and result in a call to the National Weather Service to obtain a site specific forecast. Routine upper air soundings are available after 0900 and may give a better indication of mixing heights than those in the forecast. Mixing height forecasts are given in either feet above the ground ("FT-AGL"), or feet above mean sea level ("FT-MSL"). Note: If forecast units are provided in FT-MSL, you must subtract your elevation height (terrain height above mean sea level) in order to obtain forecast units in FT-AGL.

Transport Wind ("TRANSPORT WND") - Defined as the average wind direction and speed from the surface to the top of the mixed layer. Direction of the transport wind (where the wind is blowing from) and speed will be given. The speed will be in MPH.

Ventilation Rate ("VENT RATE") - Refers to a multiplication of the mixing height and transport wind, with units in ft MPH. Ventilation rates, forecasted during the daytime, are used to calculate the Burn Category for each day. The ventilation rate gives the potential for the atmosphere to disperse smoke. Refer to the appendix for further details regarding the correlation of the Ventilation Rate and Burn Category.

Dispersion ("DISPERSION") - Refers to the forecasted smoke dispersion category at night, based on the surface wind speed. The dispersion category gives a general indication of the state of the atmosphere with respect to its ability to disperse smoke. The dispersion forecast (nighttime) is analogous to the daytime Ventilation Rate, though only a forecast during the evening hours is provided as a large majority of controlled/prescribed fire operations are completed before midnight. A spot forecast is recommended for critical operations that might involve smoke drift towards a populated area. Refer to the appendix for further details on Dispersion categories.

Lightning Activity Level ("LAL") - A numerical value which is used to describe the expected lightning activity for that day. Refer to the appendix for further details on the LAL.

Haines Index ("HAINES INDEX or LASI")- The index infers the stability of the atmosphere. It utilizes the atmospheric temperature at 950 MB and 850 MB as well as taking into account the moisture levels (dew point depression) at 850 MB. Haines Index values range from 2 through 6.

3 through 7 Day Forecast - The outlook period is an extended forecast for the zone, or the entire forecast area, provided in narrative form (non-digital, non-tabular), and appended at the bottom of each zone grouping (for just that zone).

Outlook 8 to 14 Days - This section will only include temperature and precipitation forecasts and will provide forecasts with respect to seasonal normal values for the specific time of year.

## Appendix D: Fire Weather Watches/Red Flag Warning content and format example

The communication headers for Fire Weather Watches/Red Flag Warnings for PA are as follows:

<b>FIRE WEATHER WATCH/ RED FLAG WARNING</b>				
<u>OFFICE</u>	<u>9 -letter ID</u>	<u>AWIPS</u>	<u>WMO</u>	<u>AREA</u>
WFO BGM -	ALBRFWBGM	RFWBGM	WWUS81 KBGM	Northeast PA
WFO CLE -	CLERFWCLE	RFWCLE	WWUS81 KCLE	Northwest PA
WFO CTP -	PHLRFWCTP	RFWCTP	WWUS81 KCTP	Central PA
WFO PBZ -	PITRFPIT	RFWPIT	WWUS81 KPBZ	Western PA
WFO PHI -	PHLRFWPHL	RFWPHL	WWUS81 KPHI	Southeast PA

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 WWUS81 KCTP 052043  
 RFWCTP

URGENT - FIRE WEATHER MESSAGE  
 NATIONAL WEATHER SERVICE STATE COLLEGE PA  
 443 PM EDT FRI APR 5 2013

...GUSTY WINDS AND VERY DRY CONDITIONS ARE EXPECTED TO CONTINUE THROUGH EARLY THIS EVENING...RAISING THE DANGER OF RAPID WILD FIRE SPREAD...

PAZ004>006-010>012-017>019-024>028-033>037-041-042-045-046-049>053-056>059-063>066-060000-  
 /O.CON.KCTP.FW.W.0002.000000T0000Z-130406T0000Z/  
 WARREN-MCKEAN-POTTER-ELK-CAMERON-NORTHERN CLINTON-CLEARFIELD-NORTHERN CENTRE-SOUTHERN CENTRE-CAMBRIA-BLAIR-HUNTINGDON-MIFFLIN-JUNIATA-SOMERSET-BEDFORD-FULTON-FRANKLIN-TIOGA-NORTHERN LYCOMING-SULLIVAN-SOUTHERN CLINTON-SOUTHERN LYCOMING-UNION-SNYDER-MONTOUR-NORTHUMBERLAND-COLUMBIA-PERRY-DAUPHIN-SCHUYLKILL-LEBANON-CUMBERLAND-ADAMS-YORK-LANCASTER-  
 443 PM EDT FRI APR 5 2013

...A RED FLAG WARNING REMAINS IN EFFECT UNTIL 8 PM EDT THIS EVENING FOR ALL OF CENTRAL PENNSYLVANIA...

- \* AFFECTED AREA...ALL OF CENTRAL PENNSYLVANIA.
- \* WINDS...NORTHWEST 15 TO 20 MPH...WITH FREQUENT GUSTS AROUND 25 MPH.
- \* TIMING...LATE THIS AFTERNOON INTO THE EARLY EVENING HOURS.
- \* RELATIVE HUMIDITY...AS LOW AS 20 TO 25 PERCENT.
- \* TEMPERATURES...RANGING FROM THE MID TO UPPER 40S ACROSS THE NORTHERN AND WESTERN MOUNTAINS...TO NEAR 60 ACROSS THE LOWER AND MIDDLE SUSQUEHANNA VALLEY.

\* LIGHTNING...NONE EXPECTED.

\* IMPACTS...THE POTENTIAL EXISTS FOR RAPID FIRE SPREAD IF UNCONTROLLED FIRES DEVELOP...OR FOR PRESCRIBED BURNS TO GET OUT OF CONTROL.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

CRITICAL FIRE WEATHER CONDITIONS ARE EXPECTED OR OCCURRING. ANY FIRES THAT DEVELOP MAY QUICKLY GET OUT OF CONTROL AND BECOME DIFFICULT TO CONTAIN.

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## **Appendix E: Red Flag Warning Call-To-Action statements**

The following wording was suggested by NWS Eastern Region Headquarters as the standard Call-To-Action statement for Red Flag Warnings for all NWS offices in Eastern Region.

“A RED FLAG WARNING MEANS THAT DANGEROUS FIRE WEATHER CONDITIONS ARE EXPECTED DUE TO THE COMBINATION OF GUSTY WINDS...LOW RELATIVE HUMIDITIES AND DRY FUELS. ANY FIRES THAT DEVELOP MAY QUICKLY GET OUT OF CONTROL AND BECOME DIFFICULT TO CONTAIN.”

## Appendix F: Content of Spot forecasts

979

FNUS71 KCTP 292137

FWSCTP

SPOT FORECAST FOR SNYDER 1...NPS  
NATIONAL WEATHER SERVICE STATE COLLEGE PA  
537 PM EDT TUE OCT 29 2013

FORECAST IS BASED ON IGNITION TIME OF 1130 EDT ON OCTOBER 30.  
IF CONDITIONS BECOME UNREPRESENTATIVE...CONTACT THE  
NATIONAL WEATHER SERVICE IN STATE COLLEGE.

.DISCUSSION...

HIGH PRESSURE...LOCATED OVER NEW ENGLAND THIS EVENING...WILL TRACK  
SOUTHEAST OFF THE EAST COAST DURING THE NEXT TWO DAYS. THIS WILL BRING  
A RELATIVELY MOIST SOUTHERLY FLOW TO THE AREA. WINDS WILL REMAIN LIGHT  
THROUGH WEDNESDAY...BUT INCREASE ON THURSDAY. WEDNESDAY SHOULD BE DRY...BUT  
SHOWERS WILL LIKELY AFFECT AT LEAST NORTHERN PENNSYLVANIA ON THURSDAY...AS A  
WARM FRONT LIFTS THROUGH THE AREA.

.WEDNESDAY...

SKY/WEATHER.....PARTLY SUNNY.  
TEMPERATURE.....58 AT IGNITION...MAX 65.  
RH.....70 PERCENT AT IGNITION...MIN 61 PERCENT.  
WIND (20 FT).....WINDS SOUTH AT 6 MPH AT IGNITION...OTHERWISE  
SOUTH WINDS 5 TO 6 MPH.  
LAL.....NO TSTMS.  
MIXING HEIGHT.....3200 FT AGL AT IGNITION...OTHERWISE 3100-4600  
FT AGL.  
TRANSPORT WINDS.....SOUTH 6 TO 9 MPH.  
HAINES INDEX.....4 OR LOW POTENTIAL FOR LARGE PLUME DOMINATED  
FIRE GROWTH.

TIME (EDT)	12P	1PM	2PM	3PM	4PM	5PM
SKY (%).....	63	57	54	56	59	62
WEATHER COV.....						
WEATHER TYPE.....						
TSTM COV.....						
TEMP.....	58	60	63	63	63	64
RH.....	70	65	62	62	62	61
20 FT WIND DIR.....	S	SW	SW	S	S	S
20 FT WIND SPD.....	6	5	5	5	6	6
20 FT WIND GUST.....	10	10				
MIX HGT (KFT).....	3.2	4.1	4.6	4.5	3.9	3.1
TRANSP WIND DIR.....	SW	SW	SW	SW	S	S
TRANSP WIND SPD.....	9	7	6	6	6	6
LAL.....	1	1	1	1	1	1
HAINES INDEX.....	3	3	4	4	4	3

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FORECASTER...FITZGERALD  
REQUESTED BY...CLIFF LIVELY  
TYPE OF REQUEST...PRESCRIBED  
.TAG 20131030.SNYDE.01/CTP

# Appendix G: Spot forecast request form (WS FORM D-1)

## SPOT AND PRESUPPRESSION FIRE WEATHER FORECAST

**REQUESTING AGENCY WILL FURNISH:**

NAME OF AGENCY:	LOCATION AND SIZE OF FIRE:	TIME:	DATE:
ELEVATION/GEOGRAPHY/TOPOGRAPHY			

**RECENT WEATHER OBSERVATION:**

PLACE	ELEVATION	OB TIME	20 FT. WIND	TEMP DEG F	RELATIVE HUMIDITY	REMARKS

ADDITIONAL INFORMATION:

**FIRE WEATHER FORECASTER WILL FURNISH:**

TIME PERIOD (USUALLY 12 HRS)	
<p>FORECAST AND OUTLOOK:          (SHOULD INCLUDE: BRIEF SYNOPSIS.....RH FORECAST (MIN DURING DAY AND MAX VALUE AT NIGHT).....20 FT.          FORECAST WIND DIRECTION AND SPEED.....PROBABILITY OF PRECIPITATION.....MESOSCALE FEATURES          (THUNDERSTORMS AND FRONTS).....OTHER WEATHER PHENOMENA.....)</p>	

**OPTIONAL INFORMATION:**

TRANSPORT WINDS (5000 FT, 10000 FT)	INVERSION(YES/NO)
NAME OF FORECASTER:	

## Appendix H: NFDRS forecasts

The NFDRS forecast will include the following elements:

a. ZONE/FCST: Shows whether this forecast is for an NFDRS zone or individual station. Zone average trends are forecast when enough observations are available for the zone area. Individual site forecasts are done where only a few observations are available.

b. NO: NFDRS Zone Number (or individual NFDRS site number).

c. YYMMDD: Year, month and day of valid forecast time.

d. 13: Valid forecast time. Always 1300 LST.

e. WX: Weather valid at 1300 LST tomorrow. Valid entries are:

0 = clear

1 = scattered clouds (1/8 to 4/8)

2 = broken clouds (5/8 to 7/8)

3 = overcast clouds (more than 7/8)

4 = fog

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5 = drizzle

6 = rain

7 = snow or sleet

8 = showers (in sight or at the station)

9 = thunderstorm

(Categories 5, 6 or 7 sets NFDRS index to 0)

f. TEMP: Temperature in degrees F valid at 1300 LST (or temperature trend + or - degrees F).

g. RH: Relative Humidity in percent valid at 1300 LST (or RH trend + or - percent).

h. LAL1: Lightning Activity Level 1400 LST to 2300 LST.

i. LAL2: Lightning Activity Level 2300 LST to 2300 LST.

j. WDIR: Wind Direction. Used only for point forecast (FCST) version. Enter direction using sixteen point compass (N, NNE, NE, ENE, etc.) valid at 1300 LST (20 ft level, 10 minute average).

- k. WSPD: Wind Speed. Enter wind speed in mph (or wind speed trend + or - mph) valid at 1300 LST (20 ft, 10 minute average).
- l. 10HR: 10 hour timelag fuel moisture in percent valid at 1300 LST (or trend + or - percent).
- m. Tx: Maximum temperature from 1300 LST to 1300 LST tomorrow.
- n. Tn: Minimum temperature from 1300 LST to 1300 LST tomorrow.
- o. RHx: Maximum relative humidity from 1300 LST to 1300 LST tomorrow.
- p. RHn: Minimum relative humidity from 1300 LST to 1300 LST tomorrow.
- q. PD1: Precipitation duration in hours 1300 LST to 0500 LST.
- r. PD 2: Precipitation duration in hours 0500 LST to 1300 LST.
- s. WETFLAG: Y or N. Indicates whether liquid water will be on the fuels at 1300 LST tomorrow. (Use with caution. A "Y" will set all the NFDRS indices to zero!).

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Format. The NFDRS Forecast will follow the comma delimited format as shown:

ZONE,NO,YYMMDD,13,WX,TEMP,RH,LAL1,LAL2,WSPD,10HR,TX,TN,RHx,RHn,PD1,PD2,WETFLAG

FCST,NO,YYMMDD,13,WX,TEMP,RH,LAL1,LAL2,WDIR,WSPD,10HR,TX,TN,RHx,RHn,PD1,PD2,WETFLAG

# Appendix I: Other NWS Fire Weather forecast products

## Graphical Forecast Maps

Warnings & Forecasts
Graphical Forecasts
National Maps
Radar
Water
Air Quality
Satellite
Climate

### Graphical Forecasts - State College, PA

Daily View
Weekly View
Loops

[Image List](#) | [Page Help](#) | [Metric Units](#) | [Key](#)

Public  
Fire Weather

Go to Region
View Images
Get Text Forecast

Mouse over the table below to change the forecast image.

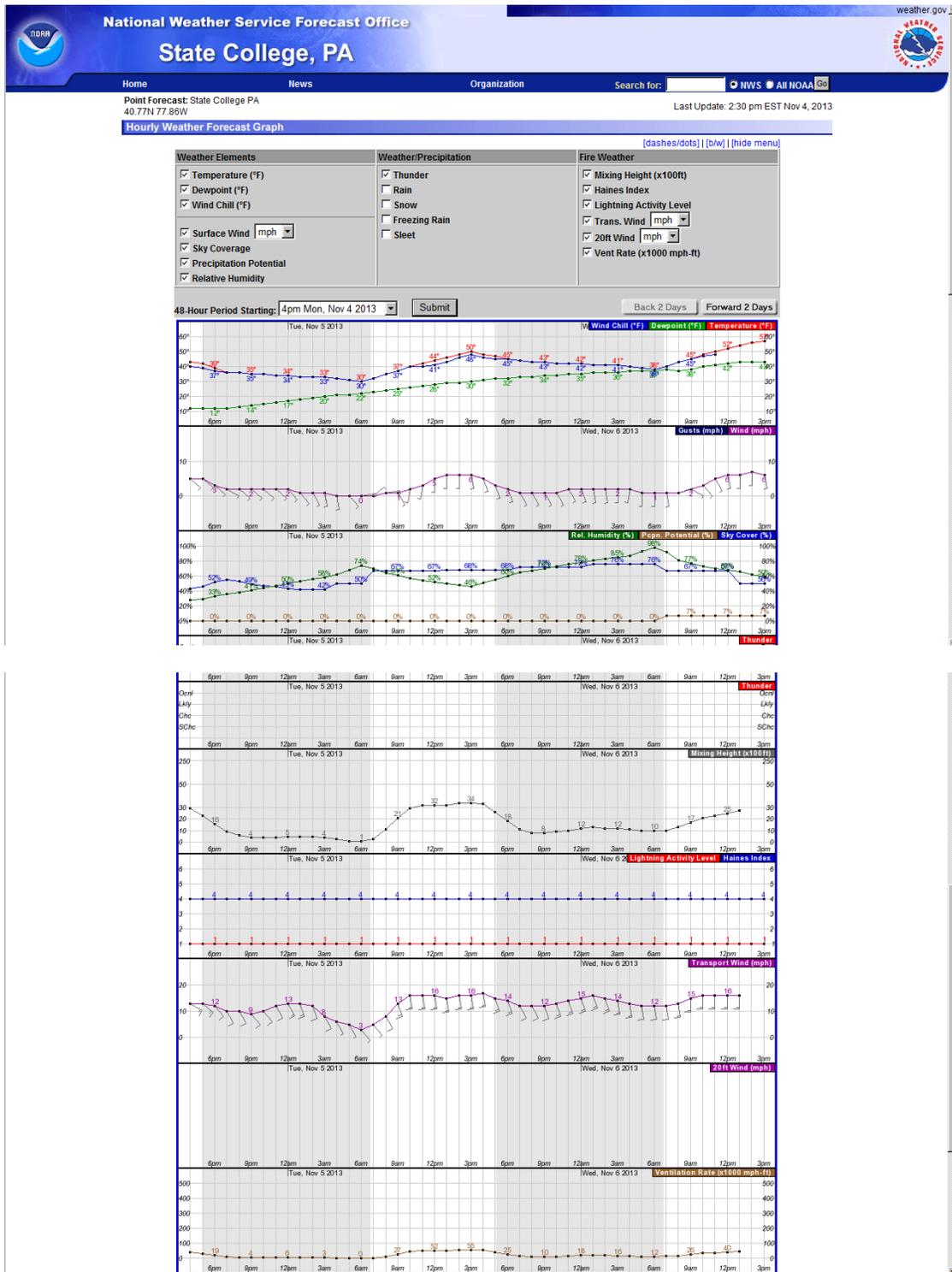
▶ Today	◀ -12Hrs	+12Hrs ▶		
Max/Min Temperature	High			
Probability of Precip.	12 hr. probability			
Weather	7am	10am	1pm	4pm
Temperature	7am	10am	1pm	4pm
Dewpoint	7am	10am	1pm	4pm
Sky Cover	7am	10am	1pm	4pm
Amount of Precip.	QPF	QPF		
Snow Amount	Snow Amount	Snow Amount		
Ice Accumulation	6hr Ice	6hr Ice		
Apparent Temp	7am	10am	1pm	4pm
Relative Humidity	7am	10am	1pm	4pm
Wind Speed & Direction	7am	10am	1pm	4pm
Wind Gust	7am	10am	1pm	4pm
Next Image	◀◀	▶▶		

Relative Humidity(%) For Fri Jan 03 2014 7AM EST  
(Fri Jan 03 2014 12Z)

**NWS State College, PA**  
Graphic Created Jan 03 6:38AM EST

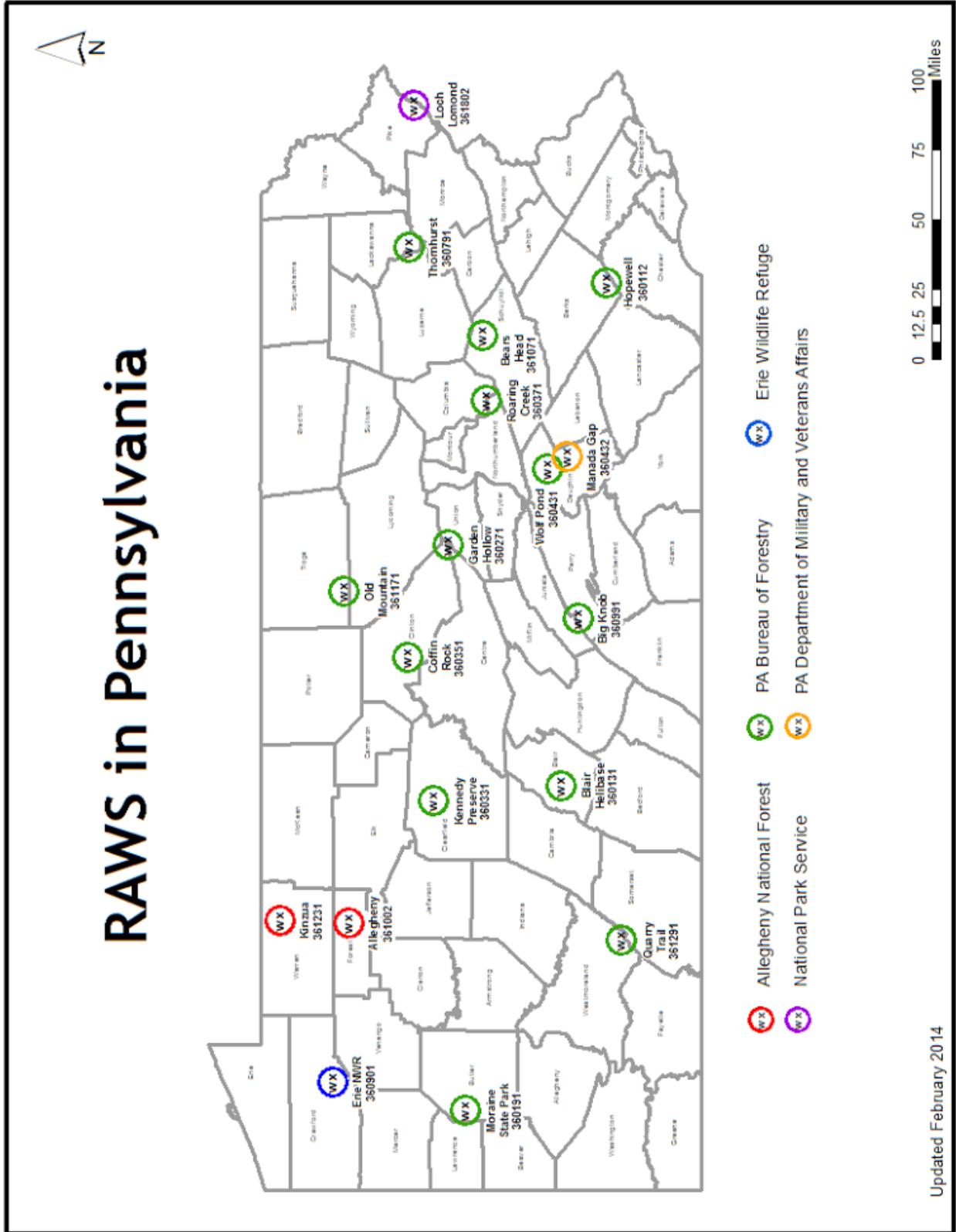
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# Hourly Weather Grids





# Appendix J: RAWS sites in PA (map and table)



Station #	Name	Agency	CWA	Lat	Long	County
360112	Hopewell	BOF	PHI	40 13	75 49	Berks
360131	Blair Helibase	BOF	CTP	40 26	78 25	Blair
360191	Moraine State Park	BOF	PBZ	40 58	80 07	Butler
360271	Garden Hollow	BOF	CTP	41 01	77 10	Centre
360331	Kennedy Preserve	BOF	CTP	41 06	78 29	Clearfield
360351	Coffin Rock	BOF	CTP	41 14	77 45	Clinton
360371	Roaring Creek	BOF	CTP	40 50	76 25	Columbia
360431	Wolf Pond	BOF	CTP	40 31	76 46	Dauphin
360432	Manada Gap	DMVA	CTP	40 41	76 71	Dauphin
360791	Thornhurst	BOF	BGM	41 23	75 62	Luzerne
360901	Erie NWR	EWR	CLE	41 37	79 57	Crawford
360991	Big Knob	BOF	CTP	40 21	77 33	Perry
361002	Allegheny	ANF	PBZ	41 26	79 04	Forest
361071	Bears Head	BOF	CTP	40 51	76 05	Schuylkill
361171	Old Mountain	BOF	CTP	41 36	77 24	Tioga
361231	Kinzua	ANF	CTP	41 29	79 06	Warren
361291	Quarry Trail	BOF	PBZ	40 08	79 13	Westmoreland
361802	Loch Lomond	NPS	BGM	41 12	74 53	Pike

## Appendix J: PA Game Commission mobile weather station links

PGC 1

URL: <https://www.hobolink.com/p/0490fe4a47c747e4afc0dae82dcd7934>

PGC 2

URL: <https://www.hobolink.com/p/0f9b34d5ba2a2fb36f0c326f38dda2f0>

PGC 3

URL: <https://www.hobolink.com/p/b2358082351e7847f5552c45d4475b29>

PGC 4

URL: <https://www.hobolink.com/p/c29e1ad127ec320180f3bfd9606d1c17>