

2007 Annual Operating Plan  
Fire Weather Forecasts and Services  
NWS Chicago/Romeoville

Updated 10/1/07 CMS

## I. INTRODUCTION

The fire weather forecast and service program provides forecast, warning, and consultation services to local, state, and federal government agencies for the prevention, suppression, and management of forest and rangeland fires. The National Weather Service (NWS) Chicago will issue routine fire weather forecasts during the fall and spring seasons to support fire and land management activities. In addition to routine fire weather forecasts, NWS Chicago will issue spot (site-specific) forecasts using the guidelines in Section 3, under SITE SPECIFIC WILDLAND FIRE FORECASTS.

## II. SERVICE AREA AND ORGANIZATIONAL DIRECTORY

NWS Chicago will issue routine forecasts for all 23 counties within its County Warning Area (CWA), during the spring and fall fire weather seasons. There are three federal users within the CWA; The Indiana Dunes National Lakeshore, The Midewin National Tallgrass Prairie and FermiLab. See appendices 1a through 1d for maps. The fire weather forecasts will be grouped by similar meteorological conditions. However, due to the potential for significant impacts on weather conditions by Lake Michigan (lake breezes, for example), Lake County Illinois, Cook County, and Lake and Porter Counties in Indiana should be grouped individually.

Following is a list of important contacts:

**National Weather Service Chicago/Romeoville**  
Casey Sullivan (Fire Weather Program Manager)  
Edward Fenelon (Meteorologist In Charge)  
333 W. University Drive  
Romeoville, IL 60446  
(815) 834-0651 (24 hour Internal)  
(815) 834-0645 (Fax)

**Midewin National Tallgrass Prairie**  
Peter To (Fire Management Officer)  
Jeff Martina (AFMO)  
30239 South State Route 53  
Wilmington, IL 60481  
(815) 423-6370/2136 (Office)  
(815) 423-6376 (Fax)  
(815) 922-2502 (Fire Manager Cell)

**Indiana Dunes National Lakeshore (NPS)**  
Louis Hartjes (Fire Management Officer)  
Neal Mulconrey  
1100 North Mineral Springs Road  
Porter, IN 46304  
(219) 926-7561 (Office)  
(219) 926-8516 (Fax)  
(219) 406-6111 (Fire Manager Cell)

**Eastern Area Coordination Center**  
Stephen Marien  
1 Federal Drive, P.O. Box 29  
Fort Snelling, MN 55111  
(612) 713-7300 (Office)  
(612) 713-7317 (Fax)

**FermiLab (DOE)**  
Dave Shemanske  
PO Box 500 MS 320  
Batavia, IL 60510  
(630) 840-3303  
(630) 399-6167 (Cell)

### III. SERVICES PROVIDED BY THE NATIONAL WEATHER SERVICE

#### 1) ROUTINE FIRE WEATHER SERVICES

Routine fire weather forecasts will be issued daily during the Spring and Fall fire seasons. The narrative fire weather forecast will be issued by 6 am local time and issued under the product ID CHIFWFLOT and updated as necessary. A National Fire Danger Rating System (NFDRS) forecast will be issued for the Bailey station (RAWS site) at the Indiana Dunes around 1 pm local time daily during the fire seasons under the product ID CHIFWMLOT.

The Spring fire season will begin around March 1st and end around May 15th while the Fall fire weather season will begin around October 1st and end around December 15th. **These dates are flexible based on the needs of the fire agencies and current weather conditions.**

The fire weather forecasts are issued using IFPS/GFE, after producing the proper grids for the fire weather forecasts. Both the FWFLOT and FWMLOT (NFDRS forecast) can be created and issued from IFPS/GFE. Instructions to create these grids can be found in Appendix 4. See Appendix 5 for a detailed listing of the forecast elements in the NFDRS forecast. Fire and land managers can access the fire weather forecasts from the NWS Chicago internet site: <http://www.crh.noaa.gov/lot/firewx.php>

The narrative fire weather forecast (FWFLOT) will include a discussion of storm systems, fronts, etc. with a focus on the first two days but including systems through day five of the forecast. The following specific elements will be forecast through the first 48 hours:

#### **TODAY & TOMMORROW**

SKY/WEATHER  
MAX TEMPERATURE  
24 HOUR TREND  
MIN HUMIDITY  
24 HOUR TREND  
20-FOOT WINDS  
HAINES INDEX  
MIXING HEIGHT  
TRANSPORT WIND  
VENT RATE MAX  
PRECIP AMOUNT  
CHANCE OF PRECIP

#### **TONIGHT & TOMMORROW NIGHT**

SKY/WEATHER  
MIN TEMPERATURE  
24 HOUR TREND  
MAX HUMIDITY  
24 HOUR TREND  
20-FOOT WINDS  
HAINES INDEX  
MIXING HEIGHT  
TRANSPORT WINDS  
VENT RATE MAX  
PRECIP AMOUNT  
CHANCE OF PRECIP

Beyond 48 hours, the narrative fire weather forecast will contain a general extended forecast for days 3 through 7. Included in the extended forecast will be winds of 15 mph or greater. See appendix 2a and 2b for a FWFLOT template with all required elements and fields. See appendix 2c for information about VENT RATE MAX.

Certain headlines which are important for fire weather are included in the FWF. They include any heat advisories, watches or warnings; and high wind watches or warnings or wind advisories as well as fire weather watches and red flag warnings. No other headlines are included in the FWF. Thus, the groups in the FWF should be identical (minus the adjacent Lake Michigan counties) to the groups in the ZFP for headlines.

## 2) SITE SPECIFIC WILDLAND FIRE FORECASTS

Spot (site-specific) forecasts will be issued under the following criteria:

- A) To any agency for an ongoing wildfire.
- B) Upon request of any federal official who represents that the spot forecast is required under the terms of the Interagency Agreement for Meteorological Services (NWS Instruction 10-406).
- C) Upon request of any state, tribal, or local official who represents that the spot forecast is required to carry out their wildland fire management responsibilities in coordination with any federal land management agency participating in the Interagency Agreement for Meteorological Services (NWS Instruction 10-406).
- D) Upon request of any public safety official who represents that the spot forecast is essential to public safety. A "public safety official" is an employee or contract agent of a government agency at any level (federal, state, local, tribal, etc.) charged with protecting the public from hazards including wildland fires of whatever origin and/or other hazards influenced by weather conditions such as hazardous material releases.

A spot forecast can be issued to any federal agency for a prescribed burn. However, spot forecasts can only be issued to non-federal agencies when the prescribed burn is essential to public safety or when federal resources are involved with the non-federal agency.

The requesting agency will provide a current weather observation at or near the location of the fire (an AWOS or ASOS can be used if representative). Spot forecasts should contain the same elements included in the routine narrative forecast as well as any additional elements needed by the requesting agency.

Spot forecasts can be issued two ways. The requesting agency can submit a spot forecast request from our internet page at the following link: <http://spot.nws.noaa.gov/cgi-bin/spot/spotmon?site=lot> The forecaster will complete the forecast using this same link or using GFE. Instructions for fire and land managers to request a spot forecast can be found in Appendix 6. Instructions for forecasters to complete the forecast for a spot forecast request can be found in Appendix 7a and 7b.

The second way to request a spot forecast is for the requesting agency to fill out WS FORM D-1 (see last appendix). Once the requesting agency has filled out this form, they can fax a copy to our office and should call us to make sure we have received it. The forecasters can then use the blue spot forecast form (see Appendix 3) to complete the spot forecast. This form can be faxed back to the requesting agency or the forecast can be given over the phone.

During service backup (primary for NWS Lincoln, secondary for NWS Milwaukee), NWS Chicago will complete spot forecasts requests using the appropriate NWSSpot links (listed below). The process for completing the forecast is similar to the instructions in Appendix 7.

NWS Lincoln NWSSpot Page: <http://spot.nws.noaa.gov/cgi-bin/spot/spotmon?site=ilx>

NWS Milwaukee NWSSpot Page: <http://spot.nws.noaa.gov/cgi-bin/spot/spotmon?site=mkx>

### 3) FIRE WEATHER WATCHES, RED FLAG WARNINGS

In coordination/collaboration with local, state, and federal fire managers, fire weather watches and red flag warnings will be issued for any or all counties within NWS Chicago CWA based on the following local criteria:

- 1) Sustained 20 foot winds of 20 mph or higher.**
- 2) Afternoon relative humidity less than 25%.**
- 3) 10 hour fuel moisture at 8% or less for one day.**

All three criteria must be met (or expected to be met) for the issuance of a fire weather watch or red flag warning. Both products are issued under the same AWIPS ID CHIRFWLOT. Fire weather watches and red flag warnings can be issued year-round, not just during the fire seasons.

During the fire seasons, the fire weather forecast (FWFLOT) will be updated whenever a fire weather watch or red flag warning (RFWLOT) is issued, cancelled or expires. A fire weather watch and red flag warning also are to be mentioned in the hazardous weather outlook (HWOLOT).

Forecasters should contact fire managers before issuing a fire weather watch or red flag warning for two important reasons. First, to gain knowledge of current fuel moisture levels and second, a watch or warning places restrictions on fire management programs. Coordination should be two way and fire managers should also contact NWS Chicago when conditions are critically dry. See "LOT Supplement to NDS 10-401" for more information on fire weather watches and red flag warnings.

#### IV. WILDLAND FIRE AGENCY RESPONSIBILITIES

The Indiana Dunes will maintain the Bailey weather station (a RAWS site) with telephone access so NWS Chicago can dial in and access current weather observations and issue the NFDRS (FWMLOT) forecast. Without access to a current weather observation, NWS Chicago can suspend issuance of the NDERS forecast.

All fire agencies are required to provide a current weather observation for spot forecasts for both prescribed burns and ongoing wildland fires. They should provide as much information about the fire and location as possible. Fire agencies should provide feedback to NWS Chicago about positive and negative aspects of the fire weather forecasts and services.

Fire and land managers should call NWS Chicago when fuels start or are expected to become critically dry. This information is very important when deciding to issue a fire weather watch or red flag warning.

#### V. JOINT RESPONSIBILITIES

NWS Chicago will have sole fire weather forecast and service responsibility for its 23 county warning area (CWA). NWS ILX (Lincoln, Illinois) will provide primary backup services and NWS MKX (Milwaukee) will provide secondary backup services if NWS Chicago cannot issue forecasts or other services.

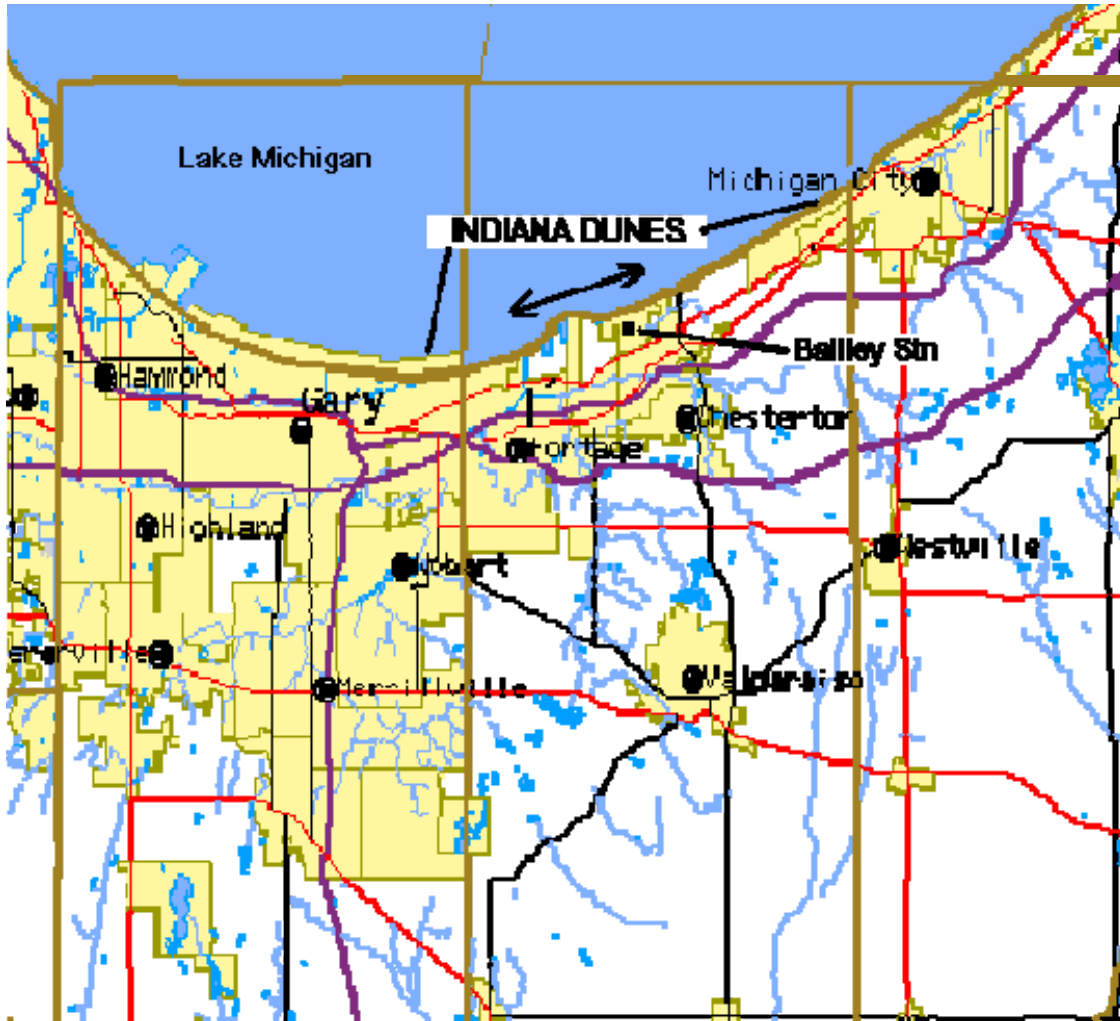
NWS Chicago provides primary service backup for spot forecasts for NWS ILX and secondary backup for spot forecasts, routine fire weather forecasts (FWFMKX) and NFDRS (FWMMKX) forecasts for NWS MKX. NWS GRB (Green Bay, Wisconsin) provides primary backup for all fire weather forecasts for NWS MKX. See Service Backup Manual for more information.

Contacts for these offices:

National Weather Service Lincoln Illinois (ILX)  
Pat Bak (Fire Weather Program Manager)  
24 hour phone (to reach a forecaster) (217) 732-7489

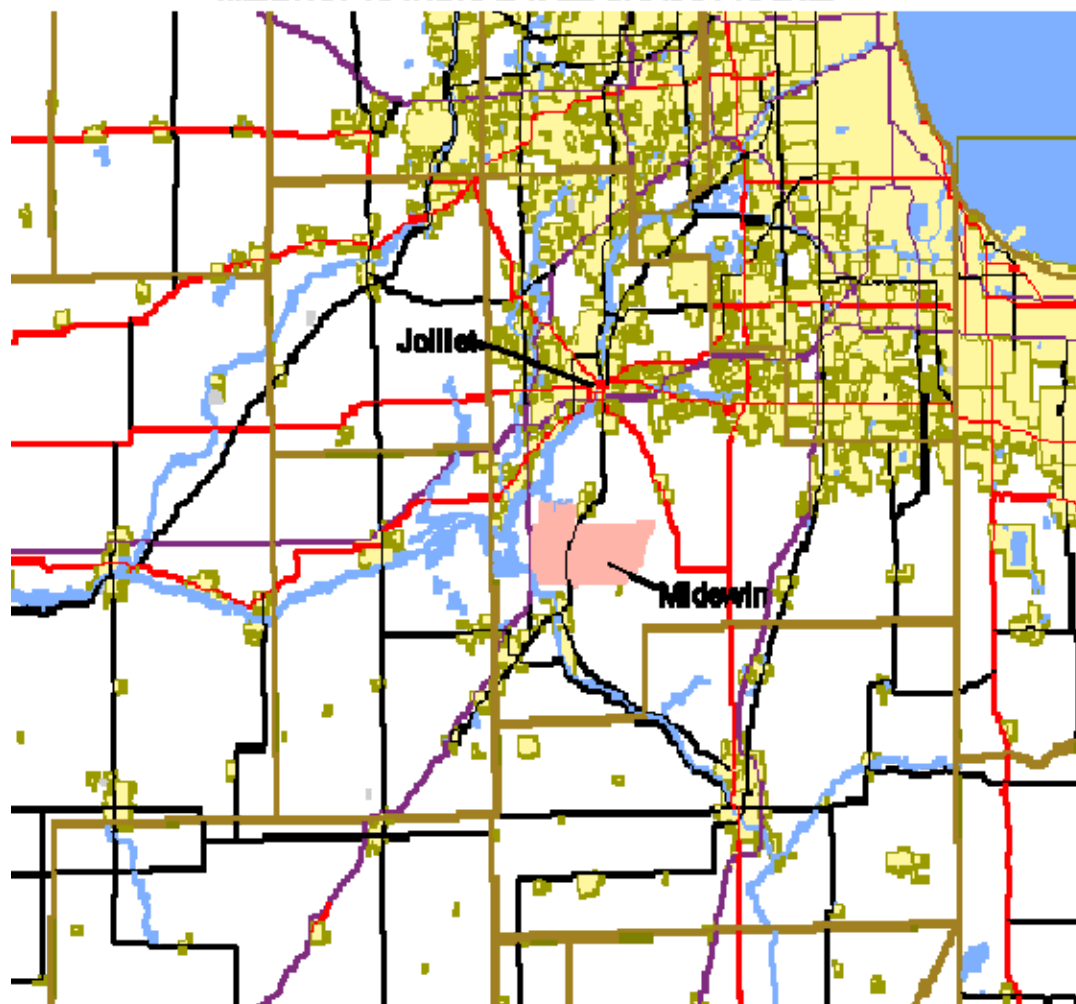
National Weather Service Milwaukee/Sullivan (MKX)  
Michael Fowle (Fire Weather Program Manager)  
24 hour phone (to reach a forecaster) (262) 965-5063

# INDIANA DUNES NATIONAL LAKESHORE



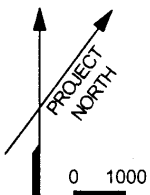
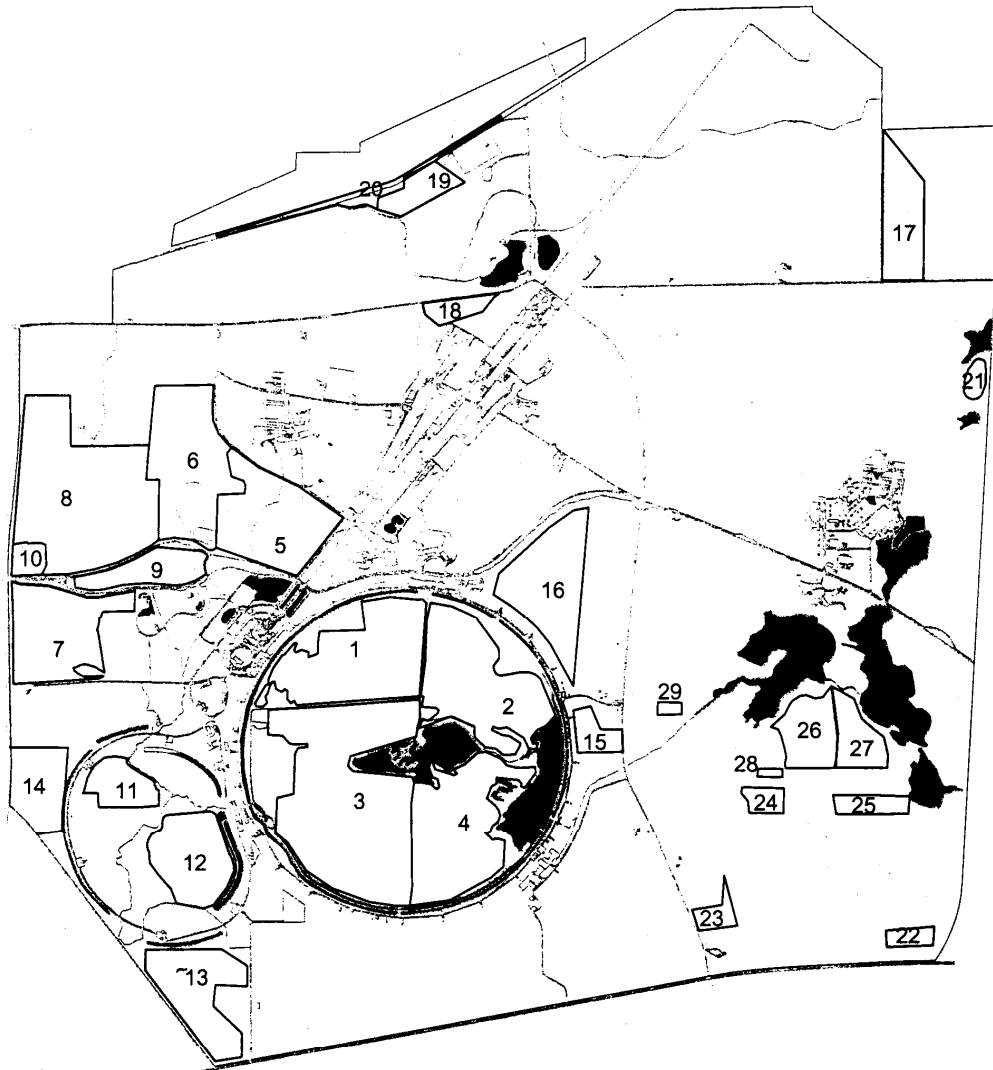
**WFO Chicago Fire Weather Spot Forecast area..**

**MIDEWIN NATIONAL TALL GRASS PRAIRE**









# Fermilab Fire Management Areas

November 5, 2002.

FIRE WEATHER PLANNING FORECAST FOR NORTHERN IL AND NORTHWEST IN  
NATIONAL WEATHER SERVICE CHICAGO/ROMEOVILLE IL  
700 AM CST TUE MAR 1 2005

...RED FLAG WARNING **OR** FIRE WEATHER WATCH HEADLINE (**LOCATION & TIME INCLUDED**) (AS NEEDED)...

.DISCUSSION... (Manually added by forecaster)

ILZ003>006\_008\_010>014\_019\_020>023\_032\_033\_039\_INZ001\_002\_010\_011\_019-  
DDHHMM-  
700 AM CST TUE MAR 1 2005

...RED FLAG WARNING **OR** FIRE WEATHER WATCH HEADLINE (**LOCATION & TIME INCLUDED**) (AS NEEDED)...

.TODAY...

SKY/WEATHER...  
MAX TEMPERATURE...  
    24 HOUR TREND...  
MIN HUMIDITY...           PERCENT  
    24 HOUR TREND...       PERCENT  
20-FOOT WINDS...         (DIRECTION/SPEED) MPH  
HAINES INDEX...  
MIXING HEIGHT...         FT AGL  
TRANSPORT WINDS...       (DIRECTION/SPEED) MPH  
VENT RATE MAX...         KNOT-FT.  
PRECIP AMOUNT...         INCHES  
CHANCE OF PRECIP...

.TONIGHT...

SKY/WEATHER...  
MIN TEMPERATURE...  
    24 HOUR TREND...  
MAX HUMIDITY...           PERCENT  
    24 HOUR TREND...       PERCENT  
20-FOOT WINDS...         (DIRECTION/SPEED) MPH  
HAINES INDEX...  
MIXING HEIGHT...         FT AGL  
TRANSPORT WINDS...       (DIRECTION/SPEED) MPH  
VENT RATE MAX...         KNOT-FT.  
PRECIP AMOUNT...         INCHES  
CHANCE OF PRECIP...

.TOMORROW...

SKY/WEATHER...

MAX TEMPERATURE...

24 HOUR TREND...

MIN HUMIDITY... PERCENT

24 HOUR TREND... PERCENT

20-FOOT WINDS... (DIRECTION/SPEED) MPH

HAINES INDEX...

MIXING HEIGHT... FT AGL

TRANSPORT WINDS... (DIRECTION/SPEED) MPH

PRECIP AMOUNT... INCHES

CHANCE OF PRECIP...

.TOMORROW TONIGHT...

SKY/WEATHER...

MIN TEMPERATURE...

24 HOUR TREND...

MAX HUMIDITY... PERCENT

24 HOUR TREND... PERCENT

20-FOOT WINDS... (DIRECTION/SPEED) MPH

HAINES INDEX...

MIXING HEIGHT... FT AGL

TRANSPORT WINDS... (DIRECTION/SPEED) MPH

VENT RATE MAX... KNOT-FT.

PRECIP AMOUNT... INCHES

CHANCE OF PRECIP...

.EXTENDED FORECAST...

(Period 5 through Period 14, each period 12 hours long)

**(WINDS OVER 15 MPH INCLUDED)**

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The VENT RATE MAX is the maximum value of the ventilation index during a 12 hour period. The ventilation index is another smoke dispersion tool which uses the transport winds (in knots) and the mixing height (in feet). Below is a list of ventilation index ranges and the corresponding air quality.

Poor, less than 40,000 knot feet

Fair, 40,000 to 60,000 knot feet

Good, 60,000 to 100,000 knot feet

Very Good, 100,000 to 150,000 knot feet

Excellent, greater than 150,000 knot feet

# PRESCRIBED BURN/SPOT WEATHER FORECAST

Date and Time Period of Burn \_\_\_\_\_

Location \_\_\_\_\_

Mixing Height \_\_\_\_\_ Feet AGL (must be at least 1600 for burns at Indiana Dunes and Midewin)

Transport wind speed \_\_\_\_\_ Knots (average wind speed in the mixed layer)

	Today	Tonight	Tomorrow
Max/Min Temp	_____	_____	_____
Min/Max RH	_____	_____	_____
Wind Speed (MPH)	_____	_____	_____
Wind Direction	_____	_____	_____
Cloud Cover	_____	_____	_____
Precipitation	_____	_____	_____

Remarks (especially concerning any wind shifts, fronts, etc.) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## **Indiana Dunes**

Fire Manager Cell (219) 406-6111

Fax (219) 926-8516

Office (219) 926-7561

## **Midewin**

Fire Manager Cell (815) 715-0726

Fax (815) 423-6376

Office (815) 423-2136

## Fire Weather Using IFPS/GFE

### Creating the FWF (~ 7 am)

- 1) Change to Fire Weather Element Group,  
Click **Weather Elements Group >> FireWx**
- 2) Populate FireWx Grids  
Click **Populate >> Populate\_Fire\_Wx**  
Check data to make sure it is reasonable and consistent
- 3) Save the Grids then Publish by **LEFT CLICKING ON GROUPS, SELECT FIREWX**
- 4) Create the FWF, **Products >> Formatter Launcher, then Products >> FWF**
- 5) Edit the WRKFWF to CHIFWFLOT, QC the data, add the Discussion, then transmit.

### Creating the FWM (~ 1 pm)

- 1) Change to Fire Weather Element Group,  
Click **Weather Elements Group >> FireWX**
- 2) FireWx grids should be present from morning populating, if not, complete step 2 above. QC and/or update FireWx grids. Manually enter thunderstorm data (if any) into the LAL grids.
- 3) Create the FWM, **Products >> Formatter Launcher, then Products >> FWM**
- 4) Edit the WRKFWM to CHIFWMLOT, QC and transmit.

If the “Populate\_Fire\_Wx” script bombs out, the data can be manually populated from any of the model data. Make sure to publish the grids to official before creating the FWF or FWM.

NFDRS Code Example

FCST,120201,971127,13,1,45,65,1,1,NW,06,M,49,37,98,58,5,0,N  
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.

**1. STATION NUMBER**

**2. VALID DATE AND TIME**...valid date is the next day (YYMMDD) and time 1300CST/CDT

**3. WEATHER**....Single digit number from 0 to 9 where...

- 0 Clear (less than 1/10 sky cover)
- 1 Scattered Clouds (1/10th to 5/10ths of sky cloud covered)
- 2 Broken Clouds (6/10ths to 9/10ths of sky cloud covered)
- 3 Overcast (more than 9/10ths of sky cloud covered)
- 4 Foggy
- 5 Drizzle
- 6 Rain
- 7 Snow or Sleet
- 8 Showers (in sight or at station and reaching the ground)
- 9 Thunderstorms/Hail

**4. TEMPERATURES**...Temperature forecast (in Fahrenheit) for 1 pm CST/CDT the next day.

**5. RELATIVE HUMIDITY**...Relative Humidity forecast for 1 pm the next day.

**6. LIGHTNING ACTIVITY**

A. Period 1 (L1) is until midnight that night (an 11 hour period).

Period 2 (L2) is from midnight the night of the forecast until midnight the next night.

B. A single digit (1 through 6) is used. The meaning for each number is as follows:

- 1 No Thunderstorms
- 2 Few building Cumulus with isolated Thunderstorms
- 3 Much building Cumulus with sct Tstms, light to mod rain reaching the ground
- 4 Tstms common but do not obscure the sky, moderate rain reaches the ground
- 5 Tstms common and ocnly obscure the sky, mod to hvy rain reaching the ground
- 6 Same as 3 but dry, no rain

**7. WIND DIRECTION AND SPEED**...Wind fest at 1 pm cst/cdt the next day (10 minute avg)

**8. TEN HOUR TIME LAG FUEL MOISTURE**

The gain or loss of moisture on fuels from 1/4 inch to 1 inch in diameter. Almost always will be "M" for moderate.

**9. TEMPERATURE**...24hr max/min temp (F) fcst fm 1pm the day of the fcst til 1pm next day

**10. RELATIVE HUMIDITY**...24hr max/min rh fcst fm 1pm the day of the fcst til 1pm next day

**11. PRECIPITATION**

The number of hours during a period when precipitation is forecast. Period 1 is from 1 pm the day of the forecast until 5 am the next day (16 hours). Period 2 runs from 5 am the next day until 1 pm that same day (8 hours).

**12. WET FLAG**

Wet flag is used to indicate "fuels wet". All indices will be forced to zero if "Y=yes" is used. NOTE, in most cases an "N=no" will be used unless there is snow on the ground or the ground is extremely wet.



## **Instructions for Fire and Land Managers to request an NWSSpot Internet spot forecast**

1) To start, go to the following link from the NWS Chicago web page:

<http://spot.nws.noaa.gov/cgi-bin/spot/spotmon?site=lot>

2) Click on “Submit a new Spot Forecast.”

3) Complete the request by filling in all known parameters. All parameters in red are REQUIRED for the spot forecast request. Use decimal form for the Lat/Lon.

4) Current weather observation(s) near or at the burn location are required for a spot forecast.

5) In the lower left, choose the weather elements needed and whether the forecast is for today, tonight or tomorrow. In the remarks section, include any important information that will assist the forecasters. For example, burn location is one mile from I-55; burn location is 3 blocks from Lake Michigan and a few hundred feet from residential homes.

6) When finished, click on “submit forecast.” If any fields are left blank, another page will appear requesting the information. If the missing information is not required, the request can go through.

7) After submitting the spot forecast, the name of the request will show up on the web page in step 1. On the right, the status will show “pending.” It will generally take the forecaster 30 to 45 minutes to complete the request. It may be helpful to call the NWS Chicago to make sure the forecaster has received the spot forecast request.

8) Once the spot forecast has been issued, the status will show “Completed”. If “Question” appears, this means the forecaster has requested more information about the request. Once the status shows complete, click on complete, the spot forecast will appear.

## **Instructions for forecasters to complete an NWSSpot Internet Spot Forecast Request through the NWSSpot Webpage**

- 1) The spot forecast request will alarm in on the Public and Aviation AWIPS workstations as CHISTQLOT. (CHISTQILX for NWS Lincoln and MKESTQMKX for NWS Milwaukee)
- 2) Go to the following webpage (linked off of our fire weather page and shortcuts added on the OPS PCs). Click on the name of the forecast that was alarmed (should say PENDING in the status column to the right). <http://spot.nws.noaa.gov/cgi-bin/spot/spotmon?site=lot>
- 3) After you click on the name of the forecast, make sure there is a current observation and that it looks accurate.
- 4) Scroll down the page and click on “initialize forecast.” This takes you to another page, click on the Initialize Forecast button to initialize the forecast.
- 5) Click on “edit forecast.” Edit the forecast in the window and include all parameters that were requested. (Smoke dispersion refers to mixing height and transport winds).
- 6) Choose a duration the forecast will be valid for (above the edit area).
- 7) Save the edits.
- 8) Send the forecast. You will be prompted “Are you sure?”
- 9) Once the forecast has been sent, it will alert in on the Public and Aviation AWIPS workstations as CHIFWSLOT. The user that originally requested the forecast can now go back to the webpage above to get the completed spot forecast and the status will say “COMPLETED”.
- 10) Please print a copy of the forecast and leave in focal point’s mailbox.

## **Instructions for forecasters to complete an NWSSpot Internet Spot Forecast Request using GFE/Formatter Launcher**

- 1) Create/update (as needed) the fire weather grids and publish the grids.
- 2) Open the formatter launcher, select FWS, and click on the run formatter icon.
- 3) A "Select Spot Forecast Values" GUI pops up. Select the name of the spot forecast request you wish to complete. Select the product issuance time (select a time closest to the current time). Select your name, click on OK.
- 4) An "Input Info Values" GUI pops up. 99% of the time, you will not need to change anything in this GUI. Click on OK.
- 5) The spot forecast will be generated in the formatter launcher. Type in the discussion on top and click transmit.
- 6) Check the spot forecast internet page and verify it made it to the internet (this will take a couple of minutes). Once it's there, you are done.
- 7) Please print a copy of the forecast and leave in focal point's mailbox.

**SPOT REQUEST**

(See reverse for instructions)

**Please call the NWS Weather Forecast Office (WFO) when submitting a request and also after you receive a forecast to ensure request and forecast were received.  
Please provide feedback to WFO on forecast.**

|                                                                                                                                                                                                                                                         |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <b>1. Time†</b>                                                                                                                                                                                                                                         | <b>2. Date</b> | <b>3. Name of Incident or Project</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>4. Requesting Agency</b>                                                                                                        |
| <b>5. Requesting Official</b>                                                                                                                                                                                                                           |                | <b>6. Phone Number</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>7. Fax Number</b>                                                                                                               |
| <b>9. Ignition/Incident Time and Date</b>                                                                                                                                                                                                               |                | <b>12. Reason for Spot Request (choose one only)</b><br><input type="radio"/> Wildfire<br><input type="radio"/> Non-Wildfire Under the Interagency Agreement for Meteorological Services (USFS, BLM, NPS, USFWS, BIA)<br><input type="radio"/> Non-Wildfire State, tribal or local fire agency working in coordination with a federal participant in the Interagency Agreement for Meteorological Services<br><input type="radio"/> Non-Wildfire Essential to public safety, e.g. due to the proximity of population centers or critical infrastructure. | <b>13. Latitude/Longitude:</b>                                                                                                     |
| <b>10. Size (Acres)</b>                                                                                                                                                                                                                                 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>14. Elevation (ft, Mean Sea Level)</b><br>Top: _____ Bottom: _____                                                              |
| <b>11. Type of Incident</b><br><input type="checkbox"/> Wildfire<br><input type="checkbox"/> Prescribed Fire<br><input type="checkbox"/> Wildland Fire Use (WFU)<br><input type="checkbox"/> HAZMAT<br><input type="checkbox"/> Search And Rescue (SAR) |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>15. Drainage</b>                                                                                                                |
|                                                                                                                                                                                                                                                         |                | <b>16. Aspect</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>17. Sheltering</b><br><input type="checkbox"/> Full<br><input type="checkbox"/> Partial<br><input type="checkbox"/> Unsheltered |

**18. Fuel Type:** \_\_\_Grass \_\_\_Brush \_\_\_Timber \_\_\_Slash \_\_\_Grass/Timber Understory \_\_\_Other  
**Fuel Model:** 1,2,3 4,5,6,7 8,9,10 11,12,13 2,5,8

**19. Location and name of nearest weather observing station (distance & direction from project):**

**20. Weather Observations from project or nearby station(s):** (Winds should be in compass direction e.g. N, NW, etc.)

| Place | Elevation | ↑Ob Time | 20 ft. Wind |       | Eye Level Wind. |       | Temp. |     | Moisture |    | Remarks<br>(Relevant Weather, etc) |
|-------|-----------|----------|-------------|-------|-----------------|-------|-------|-----|----------|----|------------------------------------|
|       |           |          | Dir         | Speed | Dir             | Speed | Dry   | Wet | RH       | DP |                                    |
|       |           |          |             |       |                 |       |       |     |          |    |                                    |
|       |           |          |             |       |                 |       |       |     |          |    |                                    |
|       |           |          |             |       |                 |       |       |     |          |    |                                    |

|                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                          |             |                          |          |                          |            |                          |        |                          |           |                          |                        |                          |                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------|-------------|--------------------------|----------|--------------------------|------------|--------------------------|--------|--------------------------|-----------|--------------------------|------------------------|--------------------------|-----------------------------------------------------------------------------------------------------|
| <p><b>21. Requested Forecast Period</b><br/>Date</p> <p>Start _____</p> <p>End _____</p> <p>Forecast needed for:</p> <input type="checkbox"/> Today<br><input type="checkbox"/> Tonight<br><input type="checkbox"/> Day 2<br><input type="checkbox"/> Extended | <p><b>22. Primary Forecast Elements (Check all that are needed)</b><br/>(for management ignited wildland fires, provide prescription parameters):</p> <p style="text-align: center;">Needed:</p> <table style="width:100%;"> <tr><td>Sky/Weather</td><td><input type="checkbox"/></td></tr> <tr><td>Temperature</td><td><input type="checkbox"/></td></tr> <tr><td>Humidity</td><td><input type="checkbox"/></td></tr> <tr><td>20 ft Wind</td><td><input type="checkbox"/></td></tr> <tr><td>Valley</td><td><input type="checkbox"/></td></tr> <tr><td>Ridge Top</td><td><input type="checkbox"/></td></tr> <tr><td>Other (Specify in #23)</td><td><input type="checkbox"/></td></tr> </table> | Sky/Weather | <input type="checkbox"/> | Temperature | <input type="checkbox"/> | Humidity | <input type="checkbox"/> | 20 ft Wind | <input type="checkbox"/> | Valley | <input type="checkbox"/> | Ridge Top | <input type="checkbox"/> | Other (Specify in #23) | <input type="checkbox"/> | <p><b>23. Remarks (other needed forecast elements, forecast needed for specific time, etc.)</b></p> |
| Sky/Weather                                                                                                                                                                                                                                                    | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                          |             |                          |          |                          |            |                          |        |                          |           |                          |                        |                          |                                                                                                     |
| Temperature                                                                                                                                                                                                                                                    | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                          |             |                          |          |                          |            |                          |        |                          |           |                          |                        |                          |                                                                                                     |
| Humidity                                                                                                                                                                                                                                                       | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                          |             |                          |          |                          |            |                          |        |                          |           |                          |                        |                          |                                                                                                     |
| 20 ft Wind                                                                                                                                                                                                                                                     | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                          |             |                          |          |                          |            |                          |        |                          |           |                          |                        |                          |                                                                                                     |
| Valley                                                                                                                                                                                                                                                         | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                          |             |                          |          |                          |            |                          |        |                          |           |                          |                        |                          |                                                                                                     |
| Ridge Top                                                                                                                                                                                                                                                      | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                          |             |                          |          |                          |            |                          |        |                          |           |                          |                        |                          |                                                                                                     |
| Other (Specify in #23)                                                                                                                                                                                                                                         | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                          |             |                          |          |                          |            |                          |        |                          |           |                          |                        |                          |                                                                                                     |

|                                       |                      |                                         |
|---------------------------------------|----------------------|-----------------------------------------|
| <b>24. Send Forecast to:</b><br>ATTN: | <b>25. Location:</b> | <b>26. Phone Number:</b><br>Fax Number: |
|---------------------------------------|----------------------|-----------------------------------------|

**27. Remarks (Special requests, incident details, Smoke Dispersion elements needed, etc.):**

**EXPLANATION OF SYMBOLS:** † Use 24-hour clock to indicate time. Example: 10:15 p.m. = 2215; 10:15 a.m. = 1015  
 Indicate local standard time or local daylight time

WS FORM D-1  
**WS FORM D-1, January 2005 INSTRUCTIONS:**

**I. Incident Personnel:**

1. Complete items 1 through 27 where applicable.
  - a. Example of weather conditions on site:

| 13. Weather Observations from project or nearby station(s): |           |          |             |       |                 |       |       |     |          |    |                                                             |
|-------------------------------------------------------------|-----------|----------|-------------|-------|-----------------|-------|-------|-----|----------|----|-------------------------------------------------------------|
| Place                                                       | Elevation | †Ob Time | 20 ft. Wind |       | Eye Level Wind. |       | Temp. |     | Moisture |    | Remarks<br><i>(Relevant Weather, etc.)</i>                  |
|                                                             |           |          | Dir         | Speed | Dir             | Speed | Dry   | Wet | RH       | DP |                                                             |
| Unit G-50                                                   | 1530'     | 0830     | NW          | 6-8   | NW              | 3-5   | 32    |     | 72       |    | Observations from unit<br>RAWS station, 50% cloud<br>cover. |

- b. If the incident (HAZMAT, SAR) involves marine, put the wave/swell height and direction in the Remarks section.
2. Transmit in numerical sequence or fax to the appropriate Weather Forecast Office. (A weather forecaster on duty will complete the special forecast as quickly as possible and transmit the forecast and outlook to you by the method requested)
3. Retain completed copy for your records.
4. **Provide feedback to NWS utilizing separate page.** Be sure to include a copy of the spot forecast with any feedback submission including forecaster's name. Feedback to NWS personnel is imperative to assist with future forecasts. **Remember, feedback on correct forecasts is equally as valuable as feedback on incorrect forecasts!** If spot forecast is significantly different than conditions on site, a second forecast may be required.

**II. ALL RELAY POINTS should use this form to insure completeness of date and forecast. A supply of this form should be kept by each dispatcher and all others who may be relaying requests for forecasts or relaying completed forecasts to field units.**

**III. Forms are available from your local National Weather Service Weather Forecast Office. They may also be reproduced by other agencies as needed, entering the phone number and radio identification if desired.**

***NOTICE: Information provided on this form may be used by the National Weather Service for official purposes in any way, including public release and publication in NWS products. False statements on this form may be subject to prosecution under the False Statement Accountability Act of 1996 (18 U.S.C. § 1001) or other statutes.***