

2007

Fire Weather Forecasting Services

for
North Dakota

Introduction

This Annual Operating plan is a procedural guide, based on the National Interagency Agreement for Meteorological Services, which describes fire meteorological services provided within North Dakota.

Service Area and Organizational Directory

The NOAA National Weather Service Office in Bismarck (WFO BIS) is responsible for the fire weather program in central and western North Dakota (Fire Weather zone 134). The NOAA National Weather Service Office in Grand Forks (WFO FGF) is responsible for eastern North Dakota (Fire Weather zone 135). See Figure 1. Points of contact can be found starting on page 4. The normal fire weather season begins in early April and continues to around the end of October. The season will vary according to the actual weather. Fire weather forecasts and other fire weather related information can be found on the Bismarck and Grand Forks Internet web pages: <http://www.crh.noaa.gov/bis/> or <http://www.crh.noaa.gov/fgf/>

Services Provided by the NOAA National Weather Service

A. Basic Services

1. Rangeland Fire Danger Forecast - Routine

This product is issued by WFO BIS and covers **all** of North Dakota and is issued daily around 5:00 am CDT during the fire weather season. It is a forecast of the potential for non-agricultural grasslands to carry fire. It is based on the temperature, humidity, wind, sky cover and the estimated “greenness” of the fuel. The highest threat period for the rangeland fire danger is usually before the spring green-up and again in the fall. This product is intended for public use as well as for state and local authorities. The product will be updated if conditions vary significantly from those forecast. The Rangeland Fire Danger Statement contains the numerical values generated when determining the Rangeland Fire Danger Index for each RFD Group, and may be useful to local fire management officials for daily planning and preparedness purposes. See figure 2 for an example of this product.

Rangeland Fire Danger Numerical Values	Rangeland Fire Danger Index Rating
95 +	Extreme
71 – 94	Very High
51 – 70	High
31 – 50	Moderate
0 - 30	Low

2. Daily Planning Forecast - Routine

This forecast product is issued twice daily during the fire weather season (730 am and 330 pm). The morning forecast contains a brief weather discussion, forecasts for today, tonight and tomorrow, and a general 3 to 7-day forecast. The afternoon forecast covers the periods of tonight, tomorrow, tomorrow night, the following day and a general 3 to 7-day forecast. The product will be updated as needed. The "Discussion" should be tailored to address items of importance to the fire weather forecast. Persistent errors or biases in the forecast should be brought to the attention of the NOAA NWS. The local optional elements may vary from office to office.

The Bismarck morning discussion will contain inversion information based on the morning Bismarck sounding. The Bismarck optional local elements will be the mid-level Haines index (Figure 3a), LAL (Figure 3b), Chance of Wetting Rain (CWR >.10 inches), transport wind, mixing height and smoke dispersal (Figure 6). See Figure 4 for examples of these products.

The Grand Forks optional local elements will be the mid-level Haines index, LAL, Precipitation, hours of sunshine, transport wind, mixing height, and smoke dispersal.

3. Fire Weather Watch/Red Flag Warning (non-routine)

These products are essential to the safety of the fire crews. Because of this, a Red Flag Warning should be issued even if the event appears to be borderline. Coordination with surrounding offices and land management agencies is essential. Red flag warnings should be issued any time of the day if conditions warrant.

1) A Fire Weather Watch will be issued when the potential for Red Flag conditions are expected in the next 12 to 72 hours.

2) A Red Flag Warning will be issued if the Red Flag criteria, given below, are expected to be met within the next 24 hours, are imminent or are occurring.

The Red Flag information will be included as a "headline" in the daily planning forecast. It will also be disseminated as a special product (see Figure 8) that is available on the Internet and NOAA Weather Wire. In addition, the North Dakota Inter-agency Dispatch Center will be notified by phone at 701-333-0260 (after hours and on weekends call the duty officer at 701-255-4015).

A Red Flag event is defined as weather conditions which could sustain extensive wildfire activity and meet one or more of the following criteria in conjunction with Very High or Extreme fire danger:

- a. Sustained surface winds, or frequent gusts, of 25 mph or higher.
- b. Unusually hot and dry conditions (e.g. RH less than 20 %).
- c. Dry thunderstorm activity is foreseen during an extremely dry period.

- d. Anytime the forecaster foresees a change in weather that would result in a significant increase in fire danger (e.g. very strong winds associated with a cold front even though the rangeland fire danger index is below the very high category, extensive lightning, etc).

See the RH/Wind guidance matrix in Figure 9.

4. Spot Forecasts (non-routine)

a. Policy

- Spot Forecasts will be issued upon request of any federal, state, tribal, or local official in support of a **wildfire**.
- Upon request of any **federal official** as required under the Interagency Agreement
- Upon request of any state, tribal, or local official **in coordination with any federal land management agency**.
- Upon request of any public safety official when **essential to public safety**
- Will **not** provide to private citizens or commercial entities not acting as an agent of a government agency.

b. Procedure for Requesting Spot Forecasts

The preferred method to request a spot forecast is via the internet web pages (Figure 5a):

<http://www.crh.noaa.gov/bis/> or <http://www.crh.noaa.gov/fgf/>

Requests for Spot forecasts to WFO Bismarck (Fire Zone 134) can also be made using WS Form D-1 or equivalent (Figure 5b). Normally, requests/forms should be submitted by fax (701-250-4450). Topographic information and observed weather conditions should be provided when appropriate/available. Phone inquiries should be directed to 701-250-4494. For Spot Forecast service in eastern North Dakota (Fire Zone 135), call WFO Grand Forks at 701-795-5127. The Spot Forecast will be posted to the web page and can be faxed to the requesting agency upon request. Our goal is to provide a forecast within 30 minutes of the request, however, higher priority duties may occasionally delay the spot forecast. An updated Spot Forecast may be requested if it appears conditions are significantly different than those forecast. Feedback on the utility of the Spot Forecast is requested.

The NWS will strive to provide as much detail as possible in the wind forecast. This includes specific wind shift times, wind gusts, etc.

c. Weather Elements Included in Spot Forecasts

Discussion - A brief synopsis of weather features affecting the area

Sky/Weather, Maximum/Minimum Temperature, Maximum/Minimum RH, 20 foot Winds, Wind Shifts/Gusts, Instability

Optional Elements (BIS) - Haines index, transport wind, mixing depth, LAL, and Chance of wetting rain (>.10 inches). These elements may vary from office to office.

See Figure 7 for an example of a Spot Forecast.

B. Special Services

Incident Response Meteorologist

If a wildfire is, or is expected to be, uncontrollable, and loss of life and/or considerable property damage is a possibility, the land management agency may request an on-site deployment of a trained and certified NWS Incident Meteorologist (IMET). The NWS IMET provides the Incident Command Team with 24-hour on-site fire weather support. The IMET's equipment requires at least 1 phone line, electrical power and a dry shelter at, or near, the command site. To request an IMET deployment, contact the ND Dispatch Center. Expenses are the responsibility of the requesting agency.

Contact Points:

National Weather Service:

Jim Meyer
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Operational Services Meteorologist
National Weather Service Central Region
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Kansas City, MO 64153
816-891-7734 ext 3143
816-268-3143 (Gary's direct line)

David McShane
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Grand Forks, ND 58203-0600
701-795-5198
david.mcshane@noaa.gov

Al Voelker
Fire Weather Program Leader
al.voelker@noaa.gov

US Fish & Wildlife Service:

Shane Del Grosso, Zone Fire Management Officer
Huron Wetland Management District
200 4th St SW Rm 309
Huron, SD 57350
605-352-5894 ext 16
605-352-6709 - fax
shane_delgrosso@fws.gov

North Dakota Dispatch Center

Andrew L. Randall, Dispatch Center Manager
3425 Miriam Ave
Bismarck, ND 58501
701-333-0260 701-333-0253 (Andy's direct line)
701-202-7334 – cell 701-255-4015 (Andy's home phone)
701-333-0269 - fax
ndndc@dms.nwcg.gov

Lily Husky, Lead Dispatcher
ND Interagency Dispatch Center
701-333-0260 701-333-0262 (Lily's direct line)
701-721-2334 – cell
701-333-0269 – fax
ndndc@dms.nwcg.gov

US Forest Service, Dakota Prairie Grasslands:

Maure Sand, FMO 240 W. Century Bismarck, ND 58503 701-250-44437 701-250-4454 – fax 701-222-0997 – home msand@fs.fed.us	Beth Card, FMO Medora District 99 23 rd Ave. West Dickinson, ND 58601 701-227-7800 701-227-7851 (Beth's direct line) 701-227-7801 - fax bcard@fs.fed.us
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701-842-3008 - fax
701-770-3527 - cell
oknudtson@fs.fed.us

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FMO, Theodore Roosevelt National Park
PO Box 7
Medora, ND 58645
701-623-4730 ext 3400
701-623-4840 – fax
Gary_Luce@nps.gov

North Dakota Forest Service:

David Geyer, Fire Management Coordinator
1511 E. Interstate Ave
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701-328-9947 - fax
David.Geyer@ndsu.edu

North Dakota Department of Emergency Services:

PO Box 5511
Bismarck, ND 58506-5511
701-328-8100
Amy Anton, Operations and Planning Chief
ajanton@state.nd.us

Bureau of Indian Affairs

Darrel Ausborn
Fire Management Officer
115 4th Ave SE
Aberdeen, SD 57401
605-226-7621
605-226-7358 - fax
605-530-9618 - cell
<mailto:364935@pop.net>

Northern Rockies Predictive Services

Fire Weather Program Manager
5765 West Broadway Street
Missoula, MT 59808
406-329-4703
406-829-6901 - fax
www.fs.fed.us/r1/fire/nrcc/

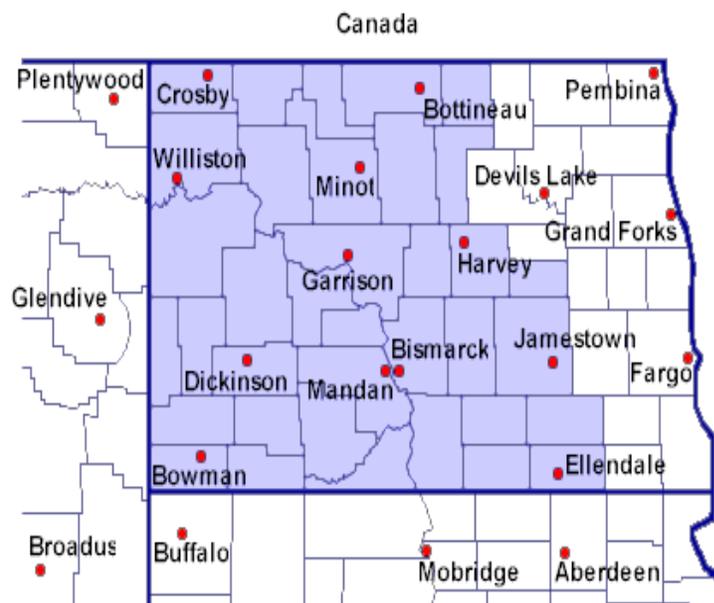


Figure 1. Fire Weather Zone 134 (shaded). Unshaded portions of North Dakota are Fire Weather Zone 135.

RFDBIS

NORTH DAKOTA RANGELAND FIRE DANGER STATEMENT
NATIONAL WEATHER SERVICE BISMARCK ND
348 AM CDT FRI APR 6 2007

DISCUSSION...HIGH PRESSURE IN CANADA WILL DROP DOWN OVER THE STATE TODAY. WINDY CONDITIONS CAN BE EXPECTED LATE THIS MORNING INTO THE AFTERNOON ACROSS CENTRAL AND EASTERN NORTH DAKOTA. SNOW COVER AND COOL TEMPERATURES WITH AFTERNOON RELATIVE HUMIDITIES IN THE 30S NORTH CENTRAL TO LOWER 50S SOUTH WILL KEEP THE RANGELAND FIRE DANGER INDEX IN THE LOW CATEGORY.

RFD GROUP 1...DIVIDE...WILLIAMS...
RFD INDEX=LOW.
RFD VALUE=17.

RFD GROUP 2...BURKE...FT BERTHOLD EAST RIVER...MOUNTRAIL...
RENVILLE...WARD...
RFD INDEX=LOW.
RFD VALUE=18.

RFD GROUP 3...BOTTINEAU...MCHENRY...PIERCE...ROLETTE...
RFD INDEX=LOW.
RFD VALUE=21.

RFD GROUP 4...BILLINGS...GOLDEN VALLEY...MCKENZIE...
RFD INDEX=LOW.
RFD VALUE=4.

RFD GROUP 5...DUNN...FT BERTHOLD WEST RIVER...STARK...
RFD INDEX=LOW.
RFD VALUE=4.

RFD GROUP 6...MERCER...MORTON...OLIVER...
RFD INDEX=LOW.
RFD VALUE=4.

RFD GROUP 7...MCLEAN...SHERIDAN...
RFD INDEX=LOW.
RFD VALUE=4.

RFD GROUP 8...FOSTER...KIDDER...STUTSMAN...WELLS...
RFD INDEX=LOW.
RFD VALUE=5.

RFD GROUP 9...BOWMAN...SLOPE...
RFD INDEX=LOW.
RFD VALUE=4.

RFD GROUP 10...ADAMS...HETTINGER...
RFD INDEX=LOW.
RFD VALUE=4.

RFD GROUP 11...GRANT...SIOUX...
RFD INDEX=LOW.
RFD VALUE=4.

RFD GROUP 12...BURLEIGH...EMMONS...
RFD INDEX=LOW.
RFD VALUE=4.

RFD GROUP 13...DICKEY...LAMOURE...LOGAN...MCINTOSH...
RFD INDEX=LOW.
RFD VALUE=5.

RFD GROUP 14...BENSON...CAVALIER...EDDY...NELSON...RAMSEY...
TOWNER...
RFD INDEX=LOW.
RFD VALUE=22.

RFD GROUP 15...GRAND FORKS...PEMBINA...WALSH...
RFD INDEX=LOW.
RFD VALUE=5.

RFD GROUP 16...BARNES...CASS...GRIGGS...STEELE...TRAILL...
RFD INDEX=LOW.
RFD VALUE=5.

RFD GROUP 17...RANSOM...RICHLAND...SARGENT...
RFD INDEX=LOW.
RFD VALUE=5.

OUTLOOK FOR TOMORROW...THE FIRE DANGER INDEX WILL BE IN THE LOW CATEGORY.

CONTACT LOCAL FIRE OFFICIALS...THE STATE FIRE MARSHALL
OR THE NORTH DAKOTA DEPARTMENT OF EMERGENCY SERVICES FOR
INFORMATION ON RESTRICTIONS OR PROHIBITIONS. VISIT THE DES WEBSITE
WWW.ND.GOV/DES/INFO/FIREDANGER.HTML

Figure 2

FIRE WEATHER PLANNING FORECAST (MORNING)

NATIONAL WEATHER SERVICE

TIME-DATE

...HEADLINE... (REQUIRED FOR RED FLAG WARNINGS AND FIRE WEATHER WATCHES...SIGNIFICANT FEATURES AT OTHER TIMES RECOMMENDED)

.DISCUSSION...

NDZXXX-XXX>XXX-DDHHMM-

GEOGRAPHICAL DESCRIPTORS

...RED FLAG WARNING/FIRE WEATHER WATCH HEADLINE... (AS NEEDED)

.TODAY...

SKY/WEATHER.....

MAX TEMPERATURE....

24 HR TREND.....

MIN HUMIDITY.....

24 HR TREND.....

WIND (20 FT)...../.....

OPTIONAL ELEMENTS...

.TONIGHT...

SKY/WEATHER.....

MIN TEMPERATURE...

24 HR TREND.....

MAX HUMIDITY.....

24 HR TREND.....

WIND (20 FT).....

OPTIONAL ELEMENTS...

.TOMORROW...

SKY/WEATHER.....

MAX TEMPERATURE...

MIN HUMIDITY.....

WIND (20 FT).....

OPTIONAL ELEMENTS....

.FORECAST DAYS 3 THROUGH 7... (WINDS MUST BE INCLUDED DAYS 3-5)

.DAY3... (DAYS CAN BE COMBINED)

.DAY4...

.DAY5...

.DAY6...

.DAY7...

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[FORECAST FOR NEXT GEOGRAPHICAL DESCRIPTOR AND FIRE WEATHER ZONE GROUP]

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FIRE WEATHER PLANNING FORECAST (AFTERNOON)

NATIONAL WEATHER SERVICE

TIME-DATE

...HEADLINE... (REQUIRED FOR RED FLAG WARNINGS AND FIRE WEATHER WATCHES...SIGNIFICANT FEATURES AT OTHER TIMES RECOMMENDED)

.DISCUSSION...

NDZXXX-XXX>XXX-DDHHMM-

GEOGRAPHICAL DESCRIPTORS

...RED FLAG WARNING/FIRE WEATHER WATCH HEADLINE... (AS NEEDED)

.TONIGHT...

SKY/WEATHER.....

MIN TEMPERATURE...

24 HR TREND.....

MAX HUMIDITY.....

24 HR TREND.....

WIND (20 FT).....

OPTIONAL ELEMENTS...

.TOMORROW...

SKY/WEATHER.....
MAX TEMPERATURE...
 24 HR TREND.....
MIN HUMIDITY.....
 24 HR TREND.....
WIND (20 FT).....
OPTIONAL ELEMENTS...

.TOMORROW NIGHT...
SKY/WEATHER.....
MIN TEMPERATURE...
MAX HUMIDITY.....
WIND (20 FT).....
OPTIONAL ELEMENTS...

.FOLLOWING DAY...
SKY/WEATHER.....
MAX TEMPERATURE...
MIN HUMIDITY.....
WIND (20 FT).....
OPTIONAL ELEMENTS...

.FORECAST DAYS 3 THROUGH 7... (WINDS MUST BE INCLUDED DAYS 3-5)
.DAY3... (DAYS CAN BE COMBINED)
.DAY4...
.DAY5...
.DAY6...
.DAY7...

\$\$

[FORECAST FOR NEXT GEOGRAPHICAL DESCRIPTOR AND FIRE WEATHER ZONE GROUP]

\$\$

Figure 4

PRIMARY FORECAST ELEMENTS

TDA TNT TMR (Today, Tonight, Tomorrow)

- Sky / Weather
- Temperature
- Relative Humidity
- 20 Foot Wind
- Haines Index
- Smoke Dispersion
- LAL
- Chc Wetting Rain

REMARKS

Submit Request	Cancel Request	Clear Form
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Figure 5a

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.

1. Time†	2. Date	3. Name of Incident or Project	4. Requesting Agency
5. Requesting Official		6. Phone Number	7. Fax Number
8. Contact Person			
9. Ignition/Incident Time and Date	12. Reason for Spot Request (choose one only)		13. Latitude/Longitude:
10. Size (Acres)	<ul style="list-style-type: none"> <input type="radio"/> Wildfire <input type="radio"/> Non-Wildfire Under the Interagency Agreement for Meteorological Services (USFS, BLM, NPS, USFWS, BIA) <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 <input type="radio"/> Non-Wildfire Essential to public safety, e.g. due to the proximity of population centers or critical infrastructure. 		14. Elevation (ft, Mean Sea Level) Top: Bottom:
11. Type of Incident			15. Drainage
<ul style="list-style-type: none"> <input type="radio"/> Wildfire <input type="radio"/> Prescribed Fire <input type="radio"/> Wildland Fire Use (WFU) <input type="radio"/> HAZMAT <input type="radio"/> Search And Rescue (SAR) 			16. Aspect 17. Sheltering
<ul style="list-style-type: none"> <input type="radio"/> Full <input type="radio"/> Partial <input type="radio"/> 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 (Relevant Weather, etc)
			Dir	Speed	Dir	Speed	Dry	Wet	RH	DP	

21. Requested Forecast Period Date	22. Primary Forecast Elements (Check all that are needed) (for management ignited wildland fires, provide prescription parameters):	23. Remarks (other needed forecast elements, forecast needed for specific time, etc.)
Start _____	Needed:	
End _____	Sky/Weather _____	
Forecast needed for:	Temperature _____	
<input type="radio"/> Today	Humidity _____	
<input type="radio"/> Tonight	20 ft Wind _____	
<input type="radio"/> Day 2	Valley _____	
<input type="radio"/> Extended	Ridge Top _____	
	Other (Specify in #23) _____	

24. Send Forecast to: ATTN:	25. Location:	26. Phone Number: Fax Number:
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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, 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 <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 RAWS station, 50% cloud 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.

Figure 5b

Smoke Dispersal Terms

Category

Description

Very Poor

High smoke pollution potential. Usually occurs in a very stable air (strong

inversion) and light winds. Normally occurs late at night and early in the morning hours, but could occur during the daytime when a shallow pool of cold air intrudes into the area creating strong low level inversions. Burning is not advised under this category.

- Poor** Moderate to High smoke potential. Burning not advised under this category. Most likely time of occurrence is from evening through the early morning.
- Fair** Marginal smoke pollution potential. Dependent on trend of weather and local conditions. Generally acceptable for small burns of dry fuels.
- Good** Moderate to Low smoke pollution potential. No inversion and gentle winds expected. Most likely to occur in the late morning and afternoon when surface heating usually breaks through the low level inversions.
- Very Good** Low smoke pollution potential. Transport winds or mixing height lower than that for Excellent. Transport winds stronger than that for Good. Most likely to occur in the late morning and afternoon.
- Excellent** Low smoke pollution potential. Unstable airmass and/or brisk winds. Best time to conduct burning operations if fire can be controlled. Most likely to occur in the late morning and afternoon or when a strong weather system affects the area, eliminating all low level inversions and generating moderate winds.

Breakdown of Ventilation

Based on Mixing Height and Transport Wind

Excellent.....150,000 Knot Feet and Greater
Very Good.....100,000 to 150,000 Knot Feet
Good.....60,000 to 100,000 Knot Feet
Fair.....40,000 to 60,000 Knot Feet
Poor.....Less than 40,000 Knot Feet

Figure 6

IF CONDITIONS BECOME UNREPRESENTATIVE, CONTACT THE NATIONAL WEATHER SERVICE.

...HEADLINE... (REQUIRED IF FIRE WEATHER WATCH/RED FLAG WARNING IN EFFECT)

DISCUSSION...

FIRST PERIOD

SKY/WEATHER.....

TEMPERATURE.....

HUMIDITY.....

WIND (20 FT).....

OPTIONAL ELEMENTS...

SECOND PERIOD

SKY/WEATHER.....

TEMPERATURE.....

HUMIDITY.....

WIND (20 FT).....

OPTIONAL ELEMENTS...

THIRD PERIOD

SKY/WEATHER.....

TEMPERATURE.....

HUMIDITY.....

WIND (20 FT).....

OPTIONAL ELEMENTS...

FORECASTER...

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REQUESTING OFFICIAL...

REASON FOR REQUEST...

Figure 7

RED FLAG WARNING/(FIRE WEATHER WATCH)

NATIONAL WEATHER SERVICE BISMARCK ND

400 AM CDT SAT OCT 1 2005

NDZ009-017-018-031>033-040-041-043-044-011700-
/O.NEW.KBIS.FW.W.0006.051001T1800Z-051002T0100Z/
WILLIAMS-MCKENZIE-DUNN-GOLDEN VALLEY-BILLINGS-STARK-SLOPE-
HETTINGER-BOWMAN-ADAMS-
400 AM CDT SAT OCT 1 2005

...RED FLAG WARNING IN EFFECT FROM 1 PM CDT THIS AFTERNOON TO 8 PM CDT THIS EVENING...

THE NATIONAL WEATHER SERVICE IN BISMARCK HAS ISSUED A RED FLAG WARNING...
WHICH IS IN EFFECT FROM 1 PM CDT THIS AFTERNOON TO 8 PM CDT THIS EVENING.

UNSEASONABLY WARM TEMPERATURES...RELATIVE HUMIDITIES DECREASING TO THE TEENS
AND DRY PASTURE CONDITIONS WILL PRODUCE HAZARDOUS FIRE WEATHER CONDITIONS THIS
AFTERNOON AND EVENING OVER WESTERN NORTH DAKOTA.

A RED FLAG WARNING MEANS THAT CRITICAL FIRE WEATHER CONDITIONS ARE EITHER OCCURRING
NOW...OR WILL SHORTLY. A COMBINATION OF LOW RELATIVE HUMIDITIES...VERY WARM
TEMPERATURES AND DRY PASTURE CONDITIONS WILL CREATE WILDFIRE GROWTH POTENTIAL.

\$\$

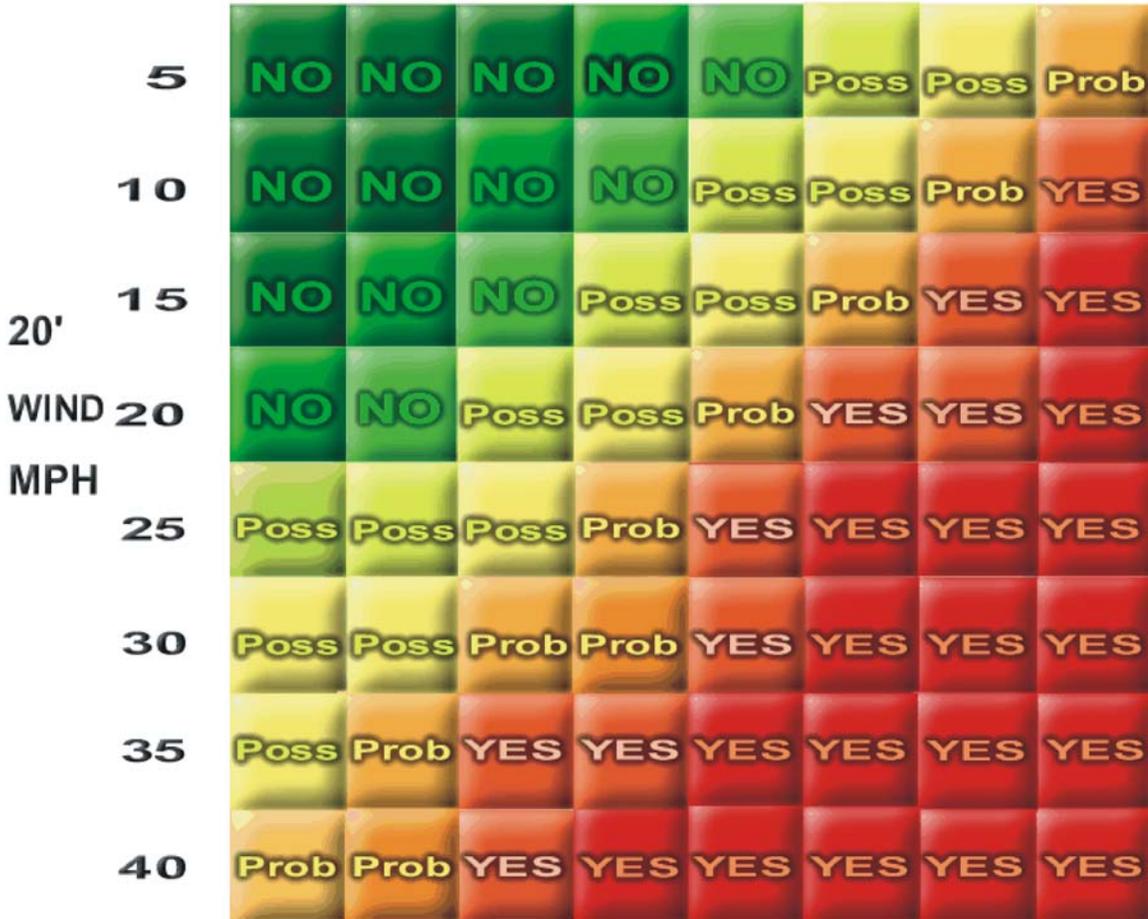
TURNER

Figure 8

RED FLAG DECISION CHART

RELATIVE HUMIDITY

40% 35% 30% 25% 20% 15% 10% 5%



RED FLAG DECISION MATRIX

Bismarck's Fire Weather Forecasters use the following Red Flag Decision Matrix, based on increasing wind and low relative humidity, as a "first look" to consider the need for a Red Flag Warning. This chart is meant as a guide, and is not absolute.

NO	No Red Flag Warning needed.
POSS	Possible Red Flag Warning; Not likely, but may be needed depending upon criteria in addition to wind speed and RH.
PROB	Probable Red Flag Warning; Likely warranted, depending upon other red flag criteria in addition to wind speed and RH.
YES	Red Flag Warning needed based solely on wind speed and RH.

Figure 9.

This plan is valid for the 2007 fire season.

Jim Meyer, NOAA National Weather Service
4/11/07

North Dakota Fire Council
4/11/07