

WILDFIRE RISK & PREVENTION

Considerations for Southeast Alaska

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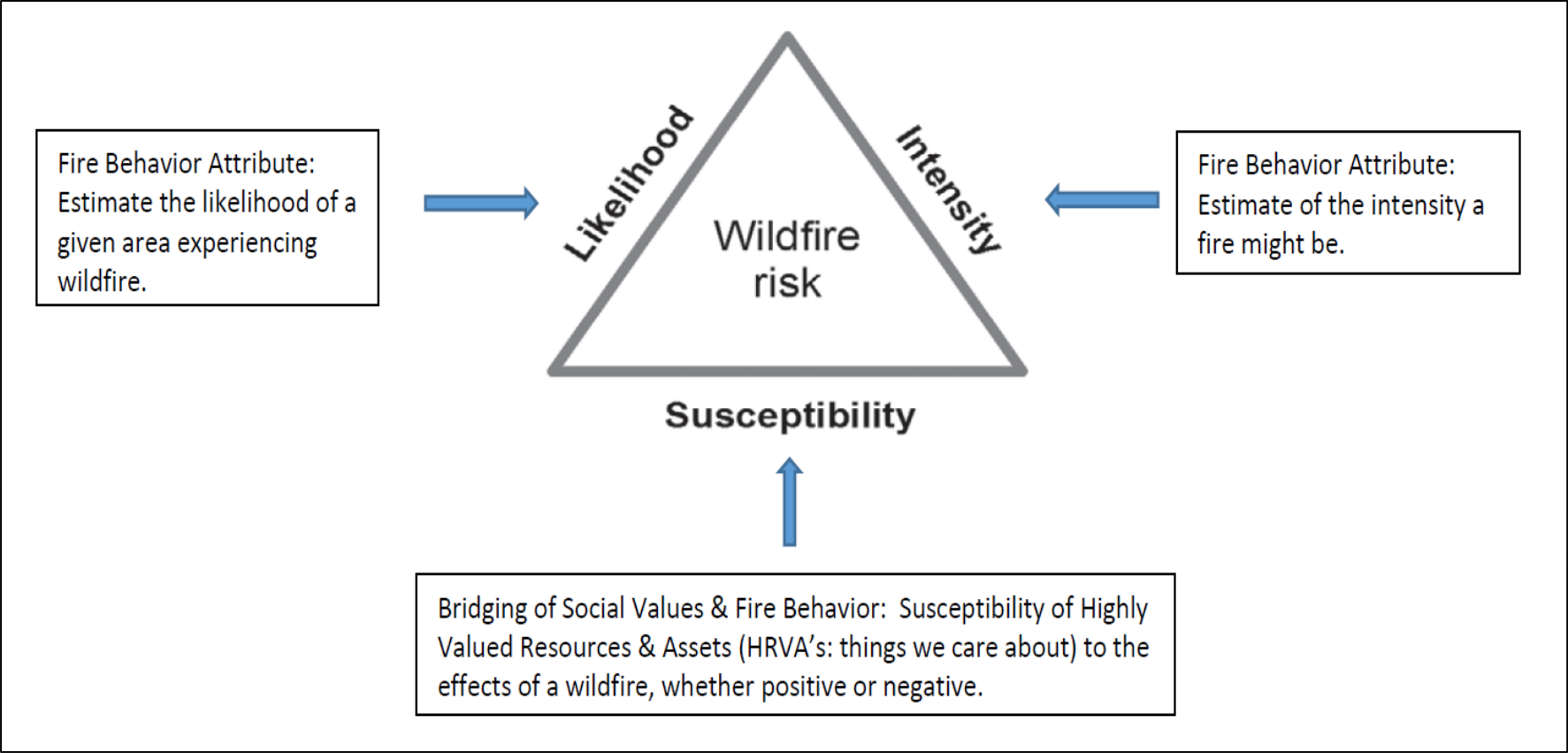
WILDFIRE RISK

- DETERMINATION OF WILDFIRE RISK CAN BE COMPLEX
- SIMPLIFIED CONSIDERATIONS OF WILDFIRE RISK CAN BE VERY USEFUL

WILDFIRE PREVENTION

- COMMON SENSE APPROACH
 - MULTI-FACETED AND USEABLE PREVENTION TOOLS
- 

WILDFIRE RISK SIMPLIFIED



UNDERSTANDING SE ALASKA FIRE SEASON

- DEPENDING ON THE QUESTION CONSIDER: ANALYSIS AT THE REGIONAL, ZONE, AREA OR LOCAL LEVEL
- LOCALIZED CONDITIONS MAY HAVE SIGNIFICANT INFLUENCES ON EXPECTED FIRE DANGER
- LOCAL CASE STUDIES CAN BE USEFUL AND ARE OCCURRING



TOOLS THAT CAN HELP WITH WILDFIRE UNDERSTANDING

CANADIAN FOREST FIRE DANGER RATING SYSTEM (CFFDRS)
&
NATIONAL FIRE DANGER RATING SYSTEM (NFDRS)



FIRE DANGER RATING SYSTEM: Daily Wildfire Risk?

Using CFFDRS Fire Behavior Prediction (FBP) Tools in your Local Situation Assessment

Weather Forecasts

With a variety of available sources and products, your understanding of both what is expected and what is possible is critical. Participate in the Daily AICC Weather Briefing. Consult the NWS Fire Weather Planning Forecast. Review the diurnal trends for temperature, humidity, windspeed and direction, cloud cover, and lightning potential. Consider whether you need a spot weather forecast.

AICC Daily Weather Briefing at 0930

How accurate was yesterday's forecast?

National Weather Service (NWS) Forecasts

National Digital Forecast Database <http://weather.gov/fire>

Daily Fire Weather Index (FWI)

Documenting the daily codes for yesterday or a past event and forecasting expected codes is much easier with the help of the Alaska Fire & Fuels Database.

<http://akff.mesowest.org>

Situation Reports

Mentors will encourage you to find a local contact, fireline observation, or a key photograph that provides a mental image of the fire situation similar to your assessment. Keep in mind that these reports are anecdotal and may represent a situation different than what you anticipate.

As it can be difficult to find the person who has the information you need, there are sources available. The AICC Situation Report, its fire history mapping page, radio communications, and other documentations all describe **receptive fuels, fire behavior descriptions, and growth info.**

Fire Rank
Fire Descriptions
Fuels
Fire Behavior
Fire Growth

AICC Maps/Imagery <http://fire.ak.blm.gov/pressocs/maps.php>

Fire Behavior Fuel Type/Modifier

Information in the FBP Guide and the AK Fuel Model Guide can help you pick the fuel type. Modifiers like grass curing's & conifer's have a big impact.

Diurnal FMFC Changes

Fires burn more aggressively at the peak of the burn period, in part, because fuels become drier. How much change is coming later in the day?

Wind, Slope, and ISI

Along with Fuel Type, Initial Spread Index (ISI) is the key input to a successful fire behavior prediction. Ensure that you have made your best wind forecast and account for slope.

Fire Behavior

Head Fire & Backing Fire Rates of Spread

Using ISI/BISI and BUI (from daily values or with locally adjusted ISIs) and the chosen fuel type, the resulting number is the rate of spread in chains/hour. Conversion factors for different units are available at the top of the page.

Fire Intensity/Flame Length

The body of these Fire Behavior Tables are colored to indicate ranges of fire intensity, or flame length. The table at the top of the page provides the key, with categories representing ranges useful for tactical decisions, much like the hauling charts described elsewhere.

Fire Description/Rank

Much like the Description chart above, descriptions help you communicate the type of fire that is predicted:

- Surface fire (Rank 1/2/3) in normal font
- Torching fire (Rank 4) in **bold italic underline font**
- Active Crown Fire (Rank 5/6) in **bold white font**

Adjustments & Interpretation

Your experience and judgment are an important part of any fire behavior prediction. Describe what **you** expect.

Factors that aren't in the FWI model:

- Cloud cover and Rainfall
- Thunderstorms and Instability
- Greenup

How does your prediction fit with what was observed in the recent past?

- What is expected and possible?
- Is persistence better than the model

Learn from your past predictions. Remember, if you're not keeping score, it's just practice.

Make Your Prediction

Fire Growth/Size/Shape

Ultimately, fires pose the greatest risk when they are growing. In every fire, fatality related to fire behavior, rapid spread was identified as a critical factor. Comparing how much time you have to how much time you need may save your life one day. The tools in this guide are for simple, initiating fires. However, the process outlined here can still help you estimate spread distance and time from the fire to your location in any situation.

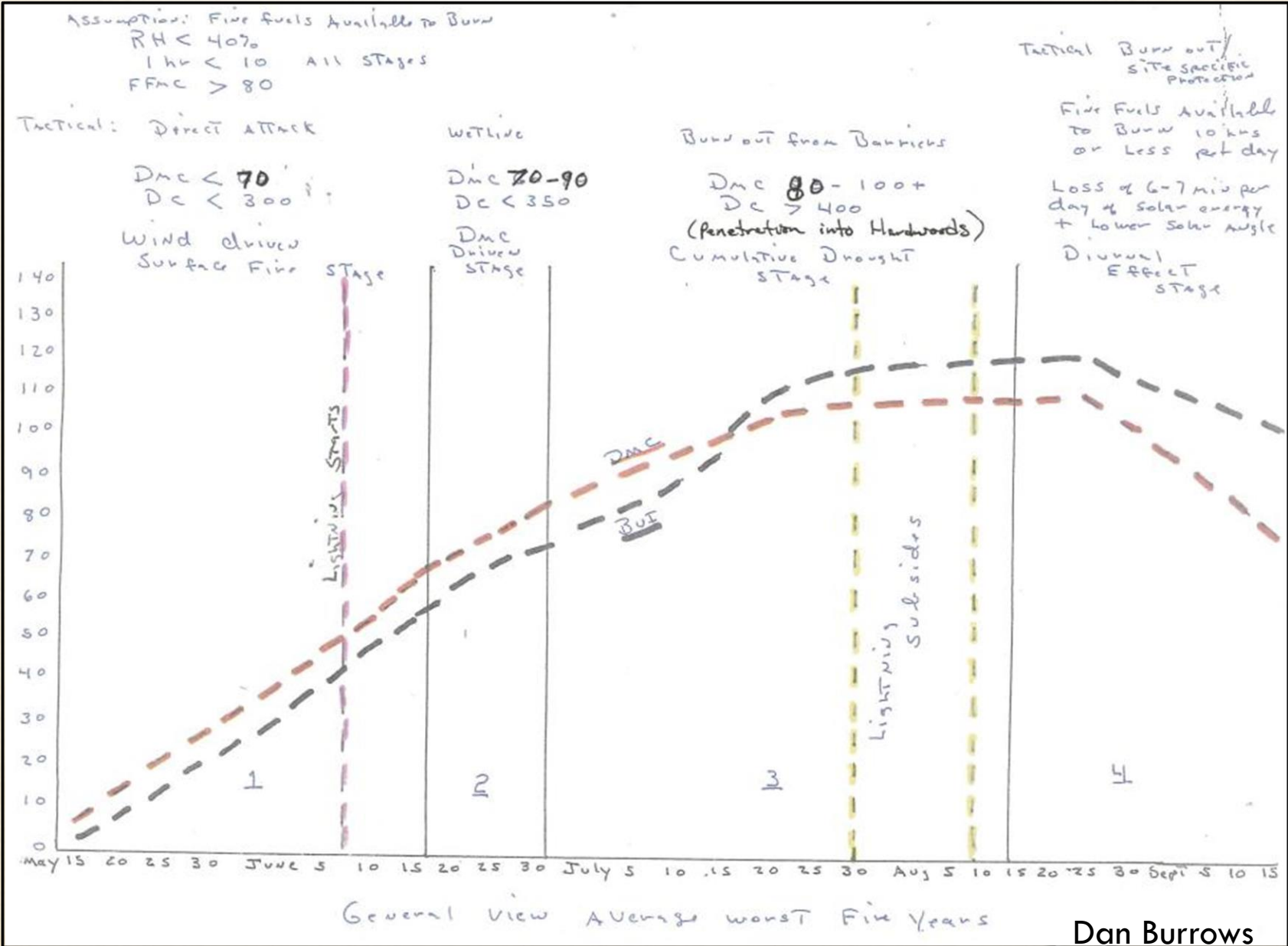
Effective Windspeed

A simple input, and one estimated earlier when determining ISI, effective windspeed determines the length to width ratio (page 10 of the FBP Guide).

Duration and Spread Distance

Whether estimating spread for an entire burn period or estimating how long it will take the fire to reach a point of concern, these two factors are interrelated. Knowing spread distance, along with windspeed, will allow you to estimate the fire size and the fireline perimeter.

WHEN DO MOST FIRES BURN IN SE ALASKA?

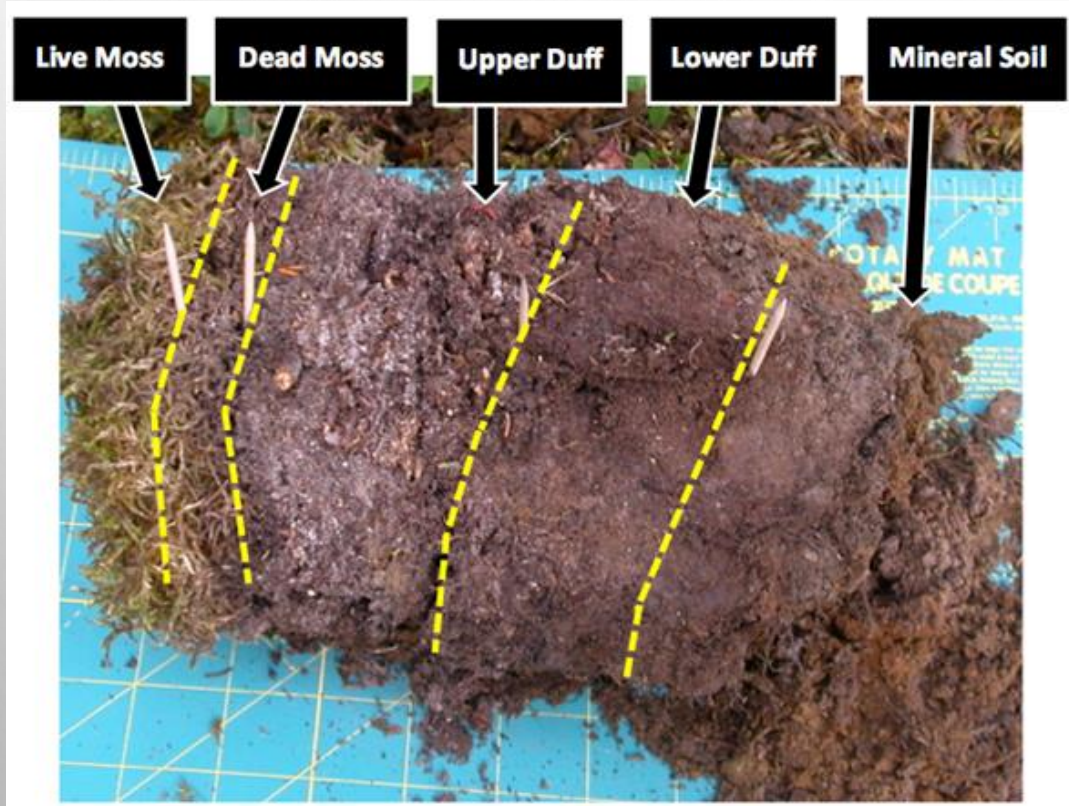


CFFDRS INDICIES

Fine Fuel
Moisture
Code

Duff
Moisture
Code

Drought
Code



Antler Fire May 31st 2018
56 acres Grass

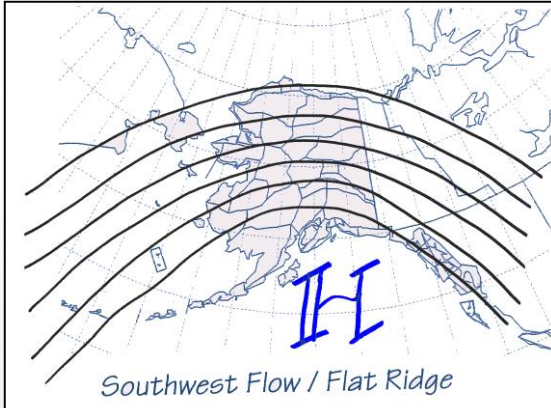
Moser Fire August 20th 2018
2 acres Timber

ANTLER FIRE – Pre-Green Up



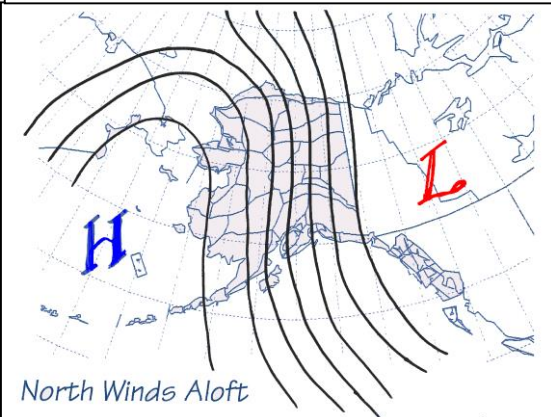
MOSER FIRE – Drought Related





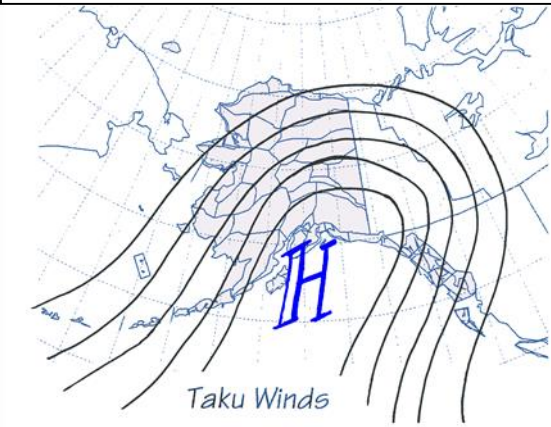
Southwest Flow / Flat Ridge

This is the wettest pattern for most of Alaska and can signal the end of the fire season. The key to bringing moisture across the state is the upper level flow parallel to the Alaska Range. This allows clouds and rain to reach into the usually-protected areas near the Alaska-Canadian border. The Copper River Basin still may be protected by the Talkeetna Mountains.



North Winds Aloft-Dry Cold Front

North winds aloft will bring cooler air but little moisture. With high pressure over northern Alaska, strong winds can blow through mountain ranges and get funneled and accelerate through passes. The temperatures are low, and so is the humidity. With strong winds this pattern can increase fire danger.



Taku Winds

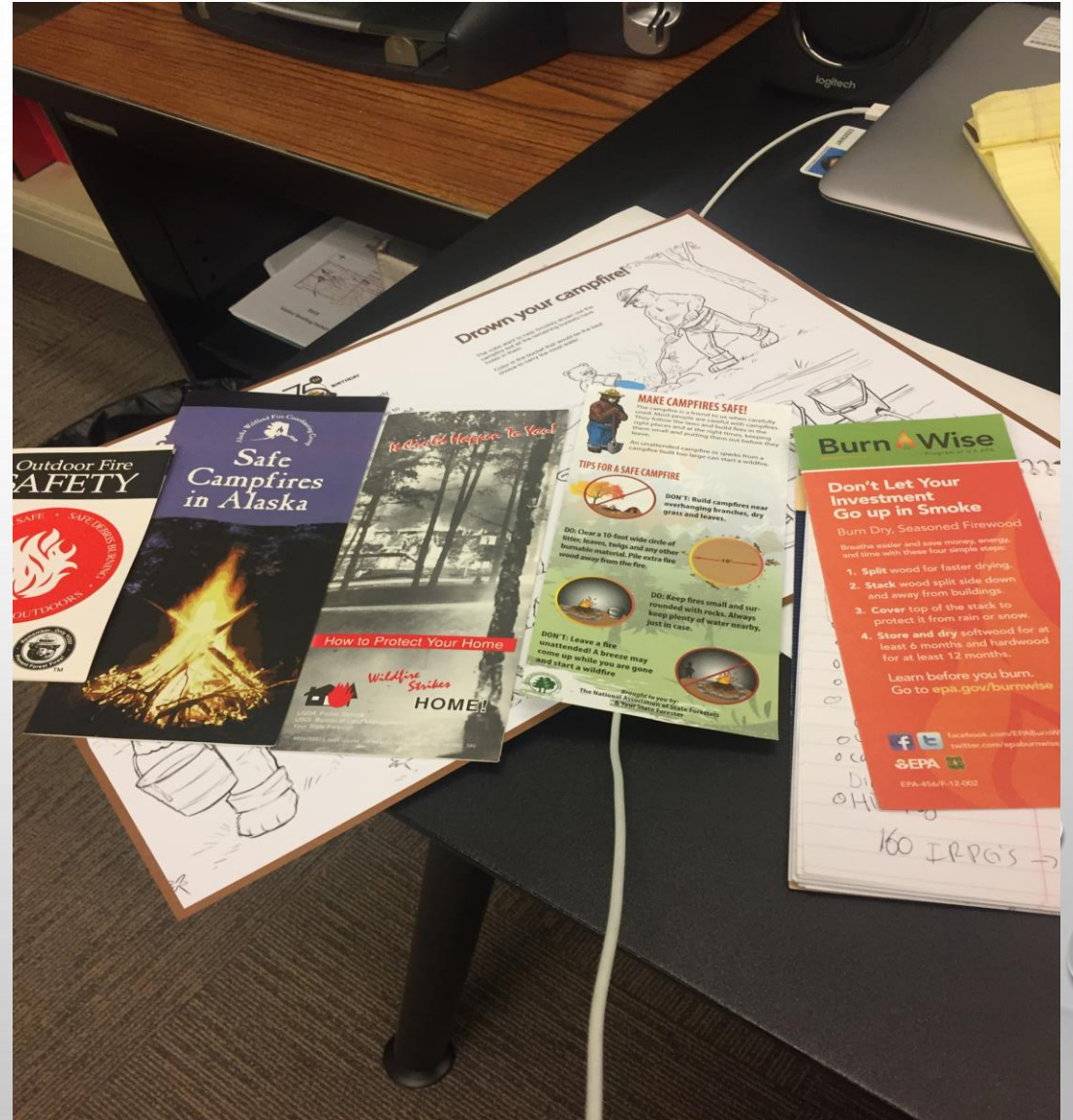
This pattern is one of the few that will bring fire danger to southeast Alaska and is usually forecast well in advance of the onset. Surface high pressure to the northeast of the Alaska Panhandle with upper level flow from the continent. This pattern can produce very strong, dry offshore winds.

“OPERATIONALIZING” FIRE RISK

- UNDERSTAND YOUR FIRE SEASON BY LINKING INDICES AND FIRE WEATHER AND FIRE HISTORY
- EVALUATE FACTORS, CRITICAL FIRE WEATHER, AND HOW IT WILL AFFECT FUELS IN YOUR AREA
- OBSERVE & DOCUMENT FIRES AS THEY BURN:
 - INDIVIDUAL FIRE CASE STUDIES & DETECTION REPORTS
 - WHAT IS BURNING
 - HOW FAST IT SPREADS
 - HOW INTENSELY FUELS BURN

WILDFIRE PREVENTION

- MOST FIRE IN SE ALASKA ARE HUMAN CAUSED
- EDUCATION FOR PREVENTION IS KEY
- CONSIDER SUSCEPTIBILITY OF THOSE THINGS WE CARE ABOUT





FIRE HISTORY & ANALYSIS TOOLS

<https://akff.mesowest.org/> & <https://fire.ak.blm.gov>

An Interagency Incident Support Website

AICC Alaska Interagency Coordination Center

Mobilizing Incident Resources ... throughout Alaska

National | **AICC Home** | **Alaska Fire Service** | **About Us** | **Links** | **Contact Us** | **Preparedness Level: 1** | **April 12, 2017**

Incident Information

- Alaska Fires
- Interagency Newsroom
- InciWeb

Predictive Services

- Intelligence / Reports
- Maps / Imagery / Geospatial
- Fire Weather
- Fuels / Fire Danger
- Air Quality
- Outlooks

Logistics and Dispatch

- Interagency Mobilization Guide
- Aviation
- Crews
- ROSS
- Overhead / Teams
- New D110 Alternative Delivery Method

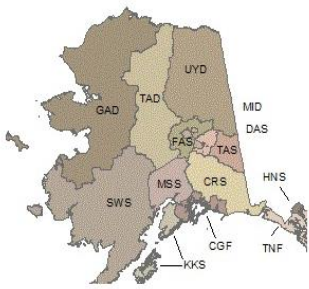
Administration

- Statewide Master Agreement
- Agency Administrator's Guide
- Incident Business Management
- AWFCG
- AWFCG Committees
- MAC Group
- WFDSS

Welcome to the Alaska Interagency Coordination Center

[AICC Situation Report](#)

[Alaska Wildland Fire Information \(akfireinfo.com\)](#)





The Alaska Interagency Coordination Center (AICC) is the Geographic Area Coordination Center for Alaska. Located on Ft. Wainwright (near Fairbanks), AICC serves as the focal point for initial attack resource coordination, logistics support, and predictive services for all state and federal agencies involved in wildland fire management and suppression in Alaska.

AICC operates on an interagency basis - cooperators include the Bureau of Land Management, State of Alaska Department of Natural Resources, USDA Forest Service, National Park Service, Bureau of Indian Affairs, and the Fish and Wildlife Service.

To report a wildland fire in Alaska call 1-800-237-3633

[Home](#) | [About Us](#) | [Disclaimer](#) | [Links](#) | [Contact Us](#)


AICC - Alaska Fire Service P.O. Box 35005 Ft. Wainwright, AK 99703 907.356.5600 907.356.5678 fax		FBK RAWS station, air temperature: 31F Reading taken at: 2017-04-12 09:00
		AKTEST RAWS station, air temperature: 34F Reading taken at: 2017-04-12 09:00

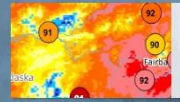
Mesowest Alaska Fire & Fuels

Apr 11 2017 15:35:52 AKDT AKD Log In/Sign Up

Welcome to Alaska Fire & Fuels

Alaska Fire & Fuels is an interagency resource for fire weather and fuel conditions throughout Alaska. Prior, current, and future conditions are accessible





[AKFF Map](#)

View data on an interactive map

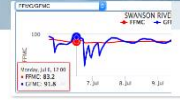
18	54	32	3	356
17	56	28	3	320
16	56	29	2	310
15	54	31	3	0

[Tabular & Station Data](#)

Weather and FWI obs and forecasts

[Graphs](#)

Visual histograms of observations and indexes



[CFDRS Definitions and Adjectives](#)





Get more information about our tools

[Download Data](#)

Use our data elsewhere

[Tools](#)

External Links & Information

Alaska Interagency Coordination Center

- AICC Homepage
- Fire Weather Page
- Fire Danger Page
- Daily Weather Briefing Presentation
- Daily Weather Briefing Podcast
- Red Flag Criteria
- Daily Satellite Analysis
- 7-Day Outlook Table
- 7-Day Outlook Map

Home | Map | Tables | Graphs | Tools | Download

FIRE WEATHER FORECASTS

<https://fire.ak.blm.gov/predsvcs/weather.php>

Predictive Services - Today's Fire Weather

There are no Fire Weather Watches or Warnings at this time
Current NWS Fire Weather Watch/Warning Information Map
Red Flag Criteria

Click to view AM or PM Fire Weather Forecasts

Select Clock for:
AM PM
Forecast Forecast

Fire Weather Forecasts discontinued until Spring 2018

Hot Links

- AKFF MesoWest Maps
- 7-Day Outlook
- Spot Requests
- NWS Fire Weather Page

Observations

- AKCC Weather Database
- AKFF Tabular Database
- MesoWest Map
- MesoWest Weather Summary

Other Weather Data

- Satellite Loop
- RADAR Loop
- WebCams

+ Alaska Climate Links
+ Alaska NWS Links
+ Alaska Snowpack Links
+ Fire Season Summaries
+ Weather Help Tools
+ WIMS Information

Weather Briefing (pdf)
Mon, 08/28/17 09:33 AKDT

Weather Briefing Podcast
Mon, 08/28/17 16:02 AKDT

Fire Weather Briefing

AK Daily Fire Weather Briefing:
<https://www.gotomast.net/Users/7f66ak-daily-fire-weather-briefing>

Use your computer speakers or
Call in: 224-501-3412
Access Code: 514-900-9259

(MP4 file download)

Contact Us

Alaska Fire Weather Watch/Warning Information

Regional Headquarters

[Weather.gov](#) > > Alaska Fire Weather Watch/Warning Information

[Current Hazards](#) | [Text Products](#) | [Spot Forecast Request](#) | [Operating Plan](#) | [Red Flag Warning Criteria](#)

Quick Zoom: [Alaska Statewide](#) | [Southcentral](#) | [Southwest](#) | [Bering](#) | [Juneau/Southeast](#) | [Central/Northern](#)

Land Hazards

- Warning
- Watch
- Advisory
- Special Wx

Marine Hazards

- Hvy Frzg Spray
- Hurr Frze Wnd
- Storm Warning
- Gale Warning
- Small Crft Adv

Map showing Alaska with various hazard zones and city labels: Barrow, Kotzebue, Nome, Fairbanks, McGrath, Bethel, Anchorage, Homer, King Salmon, Kodiak, Cold Bay, Juneau, Sitka, Ketchikan.

<http://www.weaher.gov/arh/fire>

CALIBRATING SE ALASKA

- WHAT STARTS YOUR FIRES?
- WHAT BURNS IN YOUR ZONE OR AREA?
- WHEN DO MOST OF YOUR FIRES BURN?
- WHAT ARE YOUR CRITICAL FUELS & WEATHER FACTORS?

THANK YOU

Mark Cahur – USDA Forest Service

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Anchorage, Alaska

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