

# NORTHERN FRONT RANGE INTERAGENCY WILDLAND FIRE COOPERATORS

## *WEATHER STATION MAINTENANCE OPERATING PLAN*

**Last Revision: May 2003**



**WEATHER STATION NETWORK WEBSITE:**

[http://www.fs.fed.us/arnf/fire/gallery\\_wx.html](http://www.fs.fed.us/arnf/fire/gallery_wx.html)

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PROJECT MANAGER

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**I.** The purpose of this document is to outline procedures, identify responsible personnel and track fiscal responsibility for the installation, maintenance, and planning of the remote access fire weather stations used by the cooperating agencies of the northern front range of Colorado. The project manager is Mark Nelson (970) 498-1040

**II.** The Northern Front Range Interagency Wildland Fire Cooperators (NFRWFC) maintain and use a network of Remote Access Weather Stations to provide National Fire Danger Ratings (NFDRS) and general weather and seasonal trend information. These stations are all electronic in nature and require various levels of Satellite, Solar power, Cell Phone and Data logger technology. Proper maintenance and care of the stations is critical for proper use and interpretation of National Fire Danger Ratings, Preparedness planning, fire planning, smoke management and Public and firefighter safety and numerous fire management activities. The network currently consists of seven remote access weather stations. Five are Handar Satellite telemetry units and the other two are Forest Technologies Systems incorporating telephone modems. The Handar stations are located at Redfeather Lakes, RMNP headquarters building in Estes Park, near Sugar Loaf fire station in Boulder County, Gilpin County near the Pickle Gulch Picnic Area, and Corral Creek at the Mount Evans Outdoor Lab. The FTS units are located in Redstone canyon behind Horsetooth Reservoir, and the Keewaneeche Vistor center at the west entrance of Rocky Mountain National Park. The stations at Kewaneeche is scheduled to be replaced by Handar 555 GPS, Radio Alert systems in 2003. Redfeather, Estes Park, Boulder, and Clear Creek stations were upgraded to 555 DCP's with GPS, and radio alert systems in 2000/01. The Corral Creek station was installed the spring of 2001.

**III.** All agencies have agreed that baseline NFDRS fire danger ratings and FireFamily Plus Seasonal Severity charts, and Pocket Cards will be generated by the Fort Collins Interagency Dispatch office and distributed by electronic means including E-mail, Fax machines, and the FTC website (<http://www.fs.fed.us/arnf/fire/fire.html> See "Fire Danger" Section). The Dispatch Center will maintain all software programs, WIMS access, and current knowledge of the NFDRS applications and weather station maintenance agreements. Center staff will have training in WIMS (Weather Information Management System). The project manger will have responsibility for WIMS station catalog maintenance, NFDRS (National Fire Danger Rating System), Fire Family Plus software, Fire Weather Plus software, FIRES, and NetTerm/ASCADS applications

**IV.** All of the Remote access weather stations will be covered under the National Raws Maintenance agreement. The Arapaho-Roosevelt National Forests will maintain this agreement through the Regional office. As decided by the Northern Front Range Wildland Fire Cooperators Board of Directors, funding for these agreements will be provided by cooperating agencies. The current year agreements will be for the following:

Redfeather:	Arapaho-Roosevelt will finance \$650.00	Station Owner: ARF
Larimer:	Poudre Fire Authority will finance \$650.00	Station Owner: PFA
Estes Park:	Rocky Mountain National Park will finance \$650.00	Station Owner: ARF
Boulder:	Arapaho-Roosevelt will finance \$650.00	Station Owner: ARF
Gilpin :	Arapaho-Roosevelt will finance \$650.00	Station Owner: ARF
Clear Creek:	Arapaho-Roosevelt will finance \$650.00	Station Owner: ARF
Sulphur:	Arapaho-Roosevelt will finance \$650.00	Station Owner: ARF

These funds will be collected as part of the annual funding agreement(s) for support of the Fort Collins Interagency Dispatch Center. The Project Manager will consolidate and coordinate the National Maintenance agreement. Maintenance agreement costs will be reviewed annually and adjustments to annual funding agreements will be reviewed by the NFRWFC Board of Directors.

**V. The following is a generic outline of annual maintenance procedures:**

1. The project manager will insure that all stations are covered by the national contract each fiscal year.
2. The project manager will review, update and present this Operating Plan to the NFRWFC Board of Directors in the spring of each year.
3. The project manager will order replacement sensors for each of the stations. These sensors will be shipped to the responsible Maintenance technician listed in this Operating Plan.
4. The identified technician will change the sensors at the station. Inspect station for damage, identify needed repairs and check operation.
5. Complete the RAWS station maintenance documentation and send it to the Project manager.
6. Return the used Sensors within two weeks of receiving sensors.
7. Coordinate with the project manager on any additional needs, training, problems.
8. Any station programming changes will be coordinated by the Project manager.

**VI. Station Maintenance Technicians**

**Project Manager: Mark Nelson**

Redfeather	Handar	Arapaho-Roosevelt	Mark Nelson	498-1040
Larimer	FTS	Poudre Fire Authority	Phil Kessler	282-1301
Estes Park	Handar	Rocky Mountain National Park	Doug Watry	586-1237
Boulder	Handar	Arapaho-Roosevelt	Mark Nelson	498-1040
Gilpin	Handar	Arapaho-Roosevelt	Mark Nelson	498-1040
Clear Creek	Handar	Arapaho-Roosevelt	Mark Nelson	498-1040
Sulphur	FTS/Handar	Arapaho-Roosevelt	Doug Watry	568-1237
Gunsight	Handar	BLM	Craig Dsp	

**VII.** Short and long term issues to address with the current Remote access weather station network.

**SHORT TERM ISSUES/PLANS:**

Replace weather stations with the new generation of Handar RAWS station (GPS, Satellite, and Voice Alert Capabilities) at Sulphur and Larimer. All stations will need to meet national standards by 2005. These new stations will allow hourly transmission of weather data, meet future station requirements and allow for voice alert capabilities over a radio system when pre-determined variables are reached at the station site. Example: station will transmit alert when wind speed exceeds 12 MPH and relative humidities are below 15%. The following outlines short and long term implementation and maintenance goals.

1. Order and replace sensors for all weather stations under National contract in April/May.
2. Update seasonal FireFamily + (ERC/BI/1000-Hours) charts and Firefighter Pocket Cards and post on website as needed.
3. Review Fire Restriction and Closure Criteria annually.
4. Document all weather station changes in ASCADS.

**LONG TERM GOALS AND PLANS:**

1. Review of existing equipment and technology and evaluation on a yearly basis. Conversion of FTS stations to new satellite technology, standardization of station type should be evaluated and addressed for short to long term planning applications. Prepare for implementation of expected national weather station standards.
2. Software development and changes in fire weather data processing (Fire Wx Plus, WIMS, Firefamily +, NFDRS, FIRES, ASCADS, Handar Programming Software, Ect... need to be maintained.
3. Development of RAWS maintenance capabilities, particularly of the Handar station(s), needs to be established and maintained.
4. Training for field personnel needs to be formalized to address understanding and implementation related to NFDRS, preparedness planning, pre-dispatch plans, Fire Restriction/Closure Criteria, fire behavior, safety, ect...