

**United States Department of the Interior
BUREAU OF LAND MANAGEMENT**

Office of Fire and Aviation
3833 S. Development Ave.
Boise, Idaho 83705-5354

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To: SDs

From: Director, Office of Fire and Aviation

Subject: Fire & Aviation Management Remote Automatic Weather Station Activities

The Remote Sensing/Fire Weather Support Unit (RSFWSU) at NIFC is charged with managing and coordinating all Remote Automatic Weather Station (RAWS) activities for the Office of Fire and Aviation Management. Part of that program is the Portable RAWS Cache. RSFWSU manages a cache of 30 portable RAWS for field use. These systems are made available to the field for project work, prescribed fire preparation, and during Rx burn operations. These units are available for periods of up to one year (extensions are considered on a case-by-case basis) and with the exception of any special delivery, removal or operations requirements, are available at essentially no cost to the user.

With the expansion of Rx burn projects in recent years, NIFC, at the field's request, configured a "specialized" portable RAWS during 1999. This unit was deployed on numerous Rx burns and received excellent reviews. One suggestion from the Vale Hotshots was to make this special system available for direct fire suppression activities in wildland fire operations. Thus, the Fire RAWS (FRWS) became a reality. Field testing using limited numbers was performed during the 1999 and 2000 fire seasons. As a result of this testing, field review, and interagency support, the Fire RAWS Program will be incorporated into the RSFWSU mission. A cache of these systems will be available at NIFC and managed by RSFWSU. The primary purpose of the FRWS is to support wildland fire operations. However, it is our intention to have adequate resources to meet the growing demand for this technology in the states' Rx Burn Programs.

We request that all states make use of the cached equipment at NIFC for your RAWS needs. Having equipment located and coordinated at a central site provides for maximum utilization of the resource, coordinated purchases, deployment, and operations efforts, and calibration and maintenance assuredness for accurate weather observations for field operations.

The Bureau is also bound by various national agreements to coordinate all RAWS operations, both satellite and non-satellite via the RSFWSU at NIFC. Therefore, all RAWS related activities must be processed through RSFWSU to ensure compliance with national and interagency agreements.

Attached is a document explaining in detail the inception of the FRWS, its capabilities, and how it is used.

If you have any questions or need assistance with any RAWS related matters, please contact Phil Sielaff at 208-387-5726 or John Gebhard at 208-387-5164.

Signed by:
Lynn P. Findley
Acting Director, Office of Fire and Aviation

Authenticated by:
Pat Lewis
Supervisory Mgmt. Asst.

1 Attachment
Attachment 1 - NIFC Fire RAWS Program

Distribution:

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NIFC Fire RAWS Program

The Remote Sensing/Fire Weather Support Unit was approached by various Rx Burn Programs to see if we could provide a single RAWS unit that could be fielded prior to a scheduled burn. “It should provide advanced data for pre-ignition analysis via the satellite; provide on-site real-time “voice” data via hand held radio during the burn; have individual and combination sensor programmable alarm features to provide “voice” warning should weather parameters move outside the fire prescription and be automatically transmitted over the tactical frequency; and provide a detailed data set of the entire burn for post burn prescription analysis.” With this informal specification, RSFWSU went to work and packaged such a system. Initial installations were made in fall of 1998 and spring 1999. During these installations and later discussions with several Hot Shot personnel, the idea for possible use of this unit on wildland fires on or near the fire line was discussed. As a result, the “NIFC Fire RAWS” (FRWS) concept was configured in mid-summer 1999.

The “NIFC Fire RAWS” is actually a new derivation of the portable (Class III, Class IV, Micro) weather station that has been in service since the early 1980's. With the newer technology, it can provide data to multiple users, using multiple communications methods, at different sampling rates, all at the same time. It also uses the latest technology in synthesized voice, and in multiple languages. A new key feature, that lends itself so well to the emergency response organizations (Wildfire), is the automatic alarm feature. Once programmed, the system monitors fire line weather conditions and transmits an alarm via radio should the conditions be met. Another significant improvement and capability of the FRWS over its predecessors are the availability of hourly data via the Internet. This hourly satellite data is available to fire weather staff for spot forecasts and other fire support from other central locations (GACC's, NIFC, etc.).

On an incident, the FRWS will be used in two different capacities. The Incident Meteorologist (IMET) and Fire Behavior Analyst (FBAN) will use one system for overall fire weather forecasting and fire behavior. Typically this system will be placed at the higher ridge top locations on or near the fire. However, additional systems will be placed on or near the actual fire line. These FRWS will be used by the Operations Chief and fire line overhead personnel (or directly by the fire crews) and provide real time weather for fire operations. Operations can interrogate the systems to attain current conditions on the line. The systems also watch for (monitor) preprogrammed hazardous weather conditions and “sound the alarm” should they occur. **Note:** As was pointed out on the Storrie Fire this year in California; “It is important to note...the RAWS (are a very impressive tactical tool, however they) are not a substitute for field personnel taking regular weather readings. Use them as you would any other tool that is available to you, but rely on your training, instincts, and common sense to keep you out of trouble.”

The standard FRWS sensors monitor: precipitation, wind speed and direction, peak winds, air temperature, fuel temperature, fuel moisture, relative humidity, and solar radiation.