Process for Installing a New or Moving an Existing Station

1. When installing a new or moving an existing station, it is particularly important to involve the National Weather Service (NWS) fire weather and Predictive Services meteorologists along with other interagency wildland fire personnel, as appropriate, in determining a new site or relocating an existing station.

2. Contact your agency and/or regional RAWS coordinator. To get help from your national coordinator, go to the National Interagency Fire Center Interagency Remote Automatic Weather Stations web page, https://raws.nifc.gov/raws-interagency-contacts. It is particularly important to contact your agency weather station coordinator when moving an existing station in order to maintain integrity of historical data. If an existing station has been moved, relocation information must be updated in WIMS application to clearly include the fact that the station is reporting from a new location.

3. Obtain the following station site information: station name, county, elevation, latitude/longitude, and data measurement elements. Complete station information is to be entered in the WXx Weather database. For latitude and longitude, NAD 83 is the datum standard and the data are to be entered in degrees/minutes/seconds and decimal seconds out to the nearest hundredth (two decimal places). Ensure the station data entered into WXx Weather and WIMS are identical.

4. Stations that will be used for NFDRS calculations will need to obtain a 6-digit weather station identification number (also referred to as NWS/WIMS station ID number) for your station through your Geographic Area Coordination Center (GACC) Predictive Services unit.

5. Transmission via GOES satellite requires a National Environmental Satellite Data Information Systems (NESDIS) Identification Number. Contact the RAWS Depot at rawshelp@blm.gov.

Site Selection Guidelines

The standard fire weather station should be located in a large, open area away from obstructions and sources of dust and surface moisture. The station should be on level ground where there is a low vegetative cover. Furthermore, it should be situated to receive full sun for the greatest possible number of hours per day during the fire season (generally 0700 to 1900 hours). If located on a slope, a south or west exposure is required to meet fire danger rating standards. (John E. Deeming, 1972). Consider security from animals and human vandalism when selecting a site. To prevent any damage from wildlife, livestock etc., installation of a fence is highly recommended.
The following rules govern the location of an NFDRS fire weather station:

- Locate the station in a place that is representative of the conditions existing in the general area of concern. Consider vegetative cover type, topographic features, elevation, climate, local weather patterns, etc.
- Select a site that will provide for long-term operation and a relatively unchanged exposure. Consider site development plans, e.g., roads, buildings, parking areas; ultimate sheltering by growth of vegetation; and site accessibility during the intended operational period.
- Arrange the station so as to give data that is representative of the area in which the station is situated. Consider exposure requirements for each instrument in relation to such things as prevailing winds, movement of the sun, topography, vegetative cover, nearby reflective surfaces, and wind obstructions.

In accordance with the above rules, the following situations should be avoided when selecting a station site:

• **Sources of dust** such as roads and parking areas. If unavoidable, locate station at least 100 feet on the windward side of the source.

• **Sources** of surface moisture such as irrigated lawns, pastures, gardens, lakes, swamps, and rivers. If unavoidable, locate station several hundred feet to the windward side of the source.

• **Large reflective surfaces** such as white painted buildings. The same holds for natural reflective surfaces such as lakes, ponds, canals, and large rock surfaces. If unavoidable, locate station on north side, but far enough away so as not to be artificially shaded or influenced (at least a distance equal to the height of the reflective surface or 50 feet, whichever is greater).

• **Extensively paved or black-topped areas.** If unavoidable, locate station at least 50 feet to the windward side.

• **Large buildings, trees, and dense vegetation.** Locate station at least a distance equal to the height of the obstruction. Ideally, when dealing with tall, dense vegetation the station should be located a distance that is equal to seven times the height of the obstructing vegetation.

• Distinct changes in topography such as gullies, peaks, ridges, steep slopes, and narrow valleys.

Site Relocation Guidelines

• Stations that do not meet the siting guidelines should be considered for relocation according to the process outlined above.

• When moving an existing station, regardless of distance moved, Predictive Services must be contacted to assist in the entire administrative process and to make contact with interagency partners and other users. It is particularly important to contact your agency weather station coordinator when moving an existing station in order to maintain integrity of historical data. Station relocation information must be updated in WXx Weather by the person with MaintEdit Role for the station, WIMS by the station owner, and the Western Regional Climate Center (WRCC) by emailing wrcc@dri.edu to clearly include the fact that the station is reporting from a new location. It is important to remember that the function of the GPS unit on the RAWS station is not to store and/or transmit location data but to synchronize of transmission times.

A WIMS station ID number must be changed if:

• The station is moved to a significantly different elevation or distance from the original station location.

• The station is moved across a county boundary.

Other considerations when moving a station with regard to changing WIMS station ID numbers include the following:

• The station is moved into an area of different exposure (for example shading, wind obstructions, etc.).

• The station is moved into an area of different topography.

A new NESDIS ID is not required for a move, but station location metadata must be kept as accurate as possible. The appropriate person should enter/change that information in WXx Weather as soon as possible.