



MOUNT WASHINGTON OBSERVATORY

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JOB DESCRIPTION

POSITION: WEATHER OBSERVER/IT SPECIALIST
UPDATED: DECEMBER 2015
TYPE: SALARIED – EXEMPT FROM OVERTIME
REPORTS TO: CO-DIRECTORS OF SUMMIT OPERATIONS

General Description

A Mount Washington Observatory (MWO) Weather Observer's principal role is weather observation—the collecting of weather data at the summit of Mount Washington, New Hampshire. The principal work location for this position, for the entirety of the 8-day work week (Wednesday-Wednesday), is the mountaintop weather station. During the 8-day work week, the Weather Observer/IT Specialist is living in a remote mountaintop station with limited access. Bunk room and living quarters are shared with other staff, volunteers, and guests.

The IT Specialist is the individual primarily responsible for the Observatory's technology-related tasks on the summit of Mount Washington while on shift. S/he will complete projects and respond to problems, in cooperation with IT Staff based out of MWO's valley office. Duties will involve software, hardware, wireless radio technologies, voice and data networking. The IT Specialist will have some familiarity with a broad range of concepts and technologies. In addition to these duties, the IT Specialist is responsible for taking hourly weather observations, some data QA/QC, and other meteorology-related tasks. The IT Specialist generally works the day shift, but may occasionally be required to fill in on the 12-hour night shift.

Also, s/he performs many other tasks while on duty at the Observatory. These tasks include educational outreach, hospitality, logistical planning, coordination, and research support, as well as the direction of interns and volunteers. As a group, Weather Observers are responsible for helping to maintain the summit facility and for the overall quality of our various programs.

Supervisory Responsibilities:

The Weather Observer/IT Specialist is required to assist in the oversight and motivation of intern and summit volunteer positions.

1. Summit Interns: Assists in the training of summit interns, specifically with regards to weather operations such as weather observation and database use.
2. Summit Volunteers: Assists in the orientation and logistical coordination of new summit volunteers.

Essential Tasks: The Weather Observer/IT Specialist is responsible for the following:

1. Weather & Forecasting:
 - a. Obtain METAR certification in accordance with the Federal Meteorological Handbook-1 (FMH-1) within six (6) months of date of hire.
 - b. Transmission of consistent, accurate weather observations in a punctual manner to the National Weather Service (NWS) six to twelve times per day (generally during the hours of 5AM – 5PM EST)
 - c. Dissemination of current and future weather conditions to appropriate outlets, including media, social media, and Search-and-Rescue inquiries
 - d. Regular creation and dissemination of local and statewide forecasts, via the internet, radio, television, and social media
2. Internal Data Quality Assurance/Quality Control:
 - a. Daily checks of all summit observational data and related forms in a timely manner
 - b. Daily checks of all mesonet stations and their data
3. Instrumentation
 - a. Assist in instrumentation upkeep and repairs, and make related recommendations to the Co-Directors of Summit Operations
 - b. General maintenance of weather instrumentation and data systems, including regular de-icing in the winter months
 - c. Oversee the troubleshooting of any instrumentation malfunctions, particularly with regards to IT problems
4. Network Hardware, Management & Maintenance
 - a. Oversee routine preventative maintenance of all technology at the summit weather station, including (but not limited to) Campbell Scientific dataloggers, weather instrumentation, electrical and electronic devices, webcams, 900 MHz and microwave radios
 - b. Maintenance of MWO network infrastructure including firewalls, Cisco routers and switches, phone systems, audio/visual equipment, Windows and Linux servers, workstations, etc.
5. Database Maintenance & Programming
 - a. Oversee routine preventative maintenance of all internal MWO databases
 - b. Ensure all internal MWO databases are constantly functioning properly, and troubleshoot malfunctions as they arise
 - c. Programming in PHP, C++, HTML, BASH, PERL, CS dataloggers
6. Research & Product Testing
 - a. Assist in the execution of product tests at the summit weather station
 - b. Oversee any IT needs required by research projects and product tests, and aid in the setup and continued functionality of the IT aspects of these projects
 - c. Assist in the maintenance and upkeep of all research projects in process under the auspices of summit operations
7. Transportation
 - a. Safe and competent operation of Observatory vehicles (excluding the Snow Cat) during the summer months in all manner of weather conditions.
 - b. Actively ensure the safety of all passengers (staff or guests) while operating or riding in Observatory vehicles, in accordance with MWO's safety standards
8. Outreach & Social Media
 - a. Assist in daily updates to all social media outlets, particularly during notable weather events or vital MWO fundraising events

- b. Compose regular blog entries for website dissemination
 - c. Write an article for MWO's quarterly magazine, Windswept, and other articles as required
 - d. Interaction with the media, membership, and the general public in person, over the phone, via e-mail, or through social media as required
 - e. Assist in providing hospitality and support for day and overnight trips to the summit weather station
9. Organizational Success
- a. Regular participation in and support of ongoing fundraising efforts
 - b. Work with other Observatory departments as needed
 - c. Interaction with the scientific, educational, and other professional communities as required
10. Facilities
- a. Participation in general building maintenance and upkeep, including the yearly winterization effort, monitoring building statistics, and assisting in snow removal efforts
 - b. Maintenance and repair of MWO's leased space (tower, offices, living quarters) on the summit, keeping the facility neat, clean, orderly, and in good repair
11. Public Safety & Emergency Response
- a. Assist in the maintenance of first aid supplies at the summit facility
 - b. Assist in providing safety tours to overnight MWO guests, and assist in enforcing safety regulations with all guests that pass through the confines of the Observatory
 - c. Be willing and able to handle emergency situations with MWO staff and guests

Because every department within the Observatory depends in varying degrees on the resources of the summit, it is essential that a Weather Observer supports, communicates, cooperates, and works as a team member with all departments to ensure optimization of each department's goals.

Additional Schedule & Logistical Obligations

1. Work Schedule
- a. Is present on the summit for a full shift, Wednesday to Wednesday, opposite the other Weather Observer/IT Specialist.
 - b. Is required to work a 12-hour shift during shift weeks, being on duty from 5:30 AM – 5:30 PM, with 2 hours of discretionary break time.
 - c. Will expect to be “on-call” at all times during a shift week, in the event of network, database, or instrumentation failures after hours.
 - d. Occasionally will be required to assist with IT Tasks remotely while off-shift, in the event of an IT emergency at the summit station.
 - e. Occasionally may be required to assist in special events, activities, or projects while off-site and/or off-shift.
2. Logistics
- a. Coordinates unfinished tasks, ongoing projects, and other vital logistics with the opposite Weather Observer/IT Specialist at shift change
 - b. Keeps a regular up-to-date list of all ongoing IT tasks that need to be accomplished.
 - c. Takes direction from IT Staff based out of MWO's valley office, with regards to prioritizing IT tasks, working on special projects, and troubleshooting IT issues.

- d. Participate in the weekly food order process, including crafting lists and/or shopping for necessary weekly items before shift change Wednesday.
3. Off-Summit Living
 - a. Due to the nature of the week-on/week-off schedule, it is commonplace for summit staff to live considerable distances from the summit weather station. Despite this distance, the Weather Observer/IT Specialist is always responsible for on-time arrival to the base of the Mt. Washington Auto Road for shift changes. Due to the nature of Mount Washington's weather, regular Wednesday shift changes may be rescheduled last-minute to earlier or later times; the Weather Observer/IT Specialist is still responsible for his/her on-time arrival to the base amidst these circumstances.

Knowledge, Skills and Abilities:

- Must be in excellent physical condition and capable of self-rescue in extreme weather conditions and/or assisting others as necessary.
- Able to lift in excess of 50 lbs, strength for shoveling, the ability to climb stairs and ladders frequently, and must be able to handle constant exposure to a combination of high winds, low temperatures, and white-out conditions.
- All Weather Observers serve as the Observatory's ambassadors. They must be courteous and comfortable working with the general public, Observatory guests, and fellow staff members in tight living situations.
- METAR certification within six (6) months of acceptance of the position. Failure to achieve certification in this period may result in termination.

Education and Experience

- A minimum of a Bachelor's Degree with specific focus on Information Technology or Computer Science.
- Experience with both MySQL and Maria databases preferred.
- Experience with Campbell Scientific dataloggers, weather instruments, electrical and electronic devices, webcams 900 MHz and microwave radios preferred.
- Hands-on experience working with additional hardware, software, and networking equipment desired.
- Background or interest in meteorology and/or weather observation is preferable.

Work Environment

This position is year-round and is based on the summit of Mount Washington. The typical work-week is Wednesday to Wednesday at the summit, although occasional interruptions in this week-on/week-off schedule are possible due to weather conditions or scheduling changes. The summit of Mount Washington is a remote location and should be considered a dangerous work environment. Safety must be at the forefront of all obligations.

Salary & Benefits: The duties and tasks listed above are for a salaried, exempt from overtime position. Salary range is commensurate with experience. The standard MWO benefits package applies.

Employment at Will: This job description does not constitute an employment agreement between MWO and the employee and is subject to change by MWO as the needs of the employer and requirements of the job change.