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Hydrologist in Charge 15

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INTRODUCTION

This position is located in one of thirteen River Forecast Centers (RFC). The RFC provides hydrologic/hydrometeorologic forecast and guidance products along with other forms of technical support to NWS offices in its area of responsibility. With regard to these NWS offices, the HIC provides the essential management of the technical aspects of the hydrologic services program that are based on RFC products and services. The RFC also provides hydrologic and hydrometeorologic forecast and guidance products to an increasing number of users outside the NWS, especially water management agencies and, in doing so, the RFC serves as a major reference point for these users. Accordingly, the HIC serves as the principal spokesperson with regard to RFC forecast operations and products.

The complexity of the center's mission and operations, its large area of responsibility covering several states, one or more major river basins, and several WFO areas; along with the diversity of its scientific, technological, and interagency activities requires active leadership from an individual who understands all facets of operations at the RFC and has thorough knowledge of the science of hydrology and the operational applications of meteorology to the NWS hydrologic services program.

DUTIES

The incumbent provides oversight for all RFC activities and the technical aspects of hydrologic services in his/her area of responsibility. He/she is involved in the many cooperative efforts with other NWS offices as well as water management and hydrologic-oriented agencies outside the NWS. The incumbent manages the RFC involvement in these areas and provides overall direction of the staff effort given to maintaining and improving a variety of RFC services to WFOs and outside authorities and agencies. The incumbent provides supervision for the entire RFC staff and is the most knowledgeable person on overall operations of the center.

Specific Duties Include:

1. Performance of supervisory responsibilities associated with leadership of a major NWS field center.
 - Serve as senior manager for hydrologic forecast operations and services within an RFC area of responsibility.
 - Maintain performance plans and conduct performance evaluation for all RFC staff. Monitor technical progress of each hydrologist/hydrometeorologist on staff through consultation with and input from the Development and Operations Hydrologist (DOH).
 - Direct the hydrometeorological training program for all RFC personnel. In addition, direct the hydrology-specific on-the-job training provided for personnel at the collocated WFO, such as that covering hydrologic modeling principles. Oversee RFC participation in the hydrologic cross-training for WFO personnel.
 - Ensure that policies and guidelines established by the regional and national headquarters are followed by the RFC. Recommend solutions to operational problems to the Regional Director.
 - Ensure that directives contained in weather Service Operations Manuals are followed by the RFC staff.
 - Lead the center's implementation of NWS policies for a modernized service regarding new procedures, products, services and cooperative efforts involving other NWS offices and external agencies and local authorities.

- Lead RFC staff in achieving NWS goals and objectives.

2. Direction and evaluation of RFC effort to maintain and continuously improve operational and technical support for the hydrologic program at each WFO. Also provide technical oversight for the content of hydrologic services provided to the public in the RFC area of responsibility. As the overall office manager at the RFC, the incumbent is responsible for ensuring that the implementation of operational hydrologic and hydrometeorological technology is directed towards providing the highest quality services. Specific responsibilities are as follows:

- Interact on a frequent basis with the Meteorologists In Charge (MIC) at WFOs in the RFC area to maintain and improve support to WFO operations and to enhance the operational application of RFC products in each WFO. Also is responsible for integrating meteorological products into operational applications produced by the RFC. Maintain an ongoing cross-training program between the RFC and WFO staffs.

- Work with the MIC and other staff at the collocated WFO to maintain and improve his/her understanding of WFO operations and to increase the operational usefulness of these hydrometeorological products to all WFOs. Also work together with all MICs to improve the technical aspects of the hydrologic services program of WFOs.

- Manage the RFC's efforts to utilize centrally supported software systems and procedures used to produce RFC products and support services. Oversee the DOH's effort to direct development and implementation of this software. Together with MICs and national and regional headquarters personnel, ensure that all NWS offices benefit from techniques developed at the RFC.

- Exercise authority pertaining to overall responsibility for the RFC staff effort to implement and operate centrally supported software systems such as the NWS River Forecast System (NWSRFS), the Extended Streamflow Prediction (ESP) program, and the Hydrometeorological Automated Data System (HADS); along with locally supported software systems; and ensure that efforts made to expand use of these systems are directed towards improving the quality of both intra and interagency support. Oversee the DOH's effort to direct implementation of this software.

3. Direction and oversight of staff effort to maintain and continuously improve RFC support and interaction with cooperating water management and other hydrology-oriented agencies and authorities. Support requirements of these outside users are obtained through frequent contact and negotiations. The incumbent is responsible for ensuring that the implementation of operational hydrologic and hydrometeorological technology is directed toward meeting the RFC's mission requirements as they relate to outside users. Specific responsibilities are as follows:

- Evaluate the execution and improvement of existing cooperative arrangements that have been developed in the past with water management agencies.

- Initiate new cooperative arrangements with water management agencies, especially with regard to the new generation of RFC forecast and guidance products.

- Interact with leaders in cooperating water management and other hydrologic organizations and agencies on a frequent basis (often daily) with regard to operational hydrologic problems common to the NWS and the other agencies such as flood mitigation or possible consequences of droughts.

- Lead efforts to optimize the exchange of data and the cooperative support between the RFC and water management agencies. These exchanges are of critical importance to the RFC forecasting effort and to the water management efforts of cooperating agencies.

- Represent the NWS hydrologic program at planning and/or coordination meetings with local, state, Federal water management agencies and others. Describe operational responsibilities and capabilities of the RFC and suggests ways to improve exchange of data and forecasts and to resolve other technical issues and problems. Serve as chairperson of interagency committees as necessary.

4. Lead the NWS contingent at local, state, and regional briefings and news conferences concerning drought, floods, or significant water supply situations.

- Serve as an "expert" hydrologist at meetings, public briefings, hearings, and inquiries. Provide technical information on current and future water resource management situations in a manner that is understandable to authorities and the general public.

- Serve as the NWS principal spokesperson in interactions with the news media and various senior officials during major flood and drought episodes and for other hydrologic events which have impact on critical water management or water quality decisions in the RFC area of responsibility.

5. Evaluate the overall production of hydrologic forecasts and guidance by the RFC staff. Participate in the forecast effort when situation requires HIC presence.

KNOWLEDGE REQUIRED

Knowledge of those management principles and practices necessary to manage a highly technical program and to supervise a professional, highly educated staff in an operational NWS field office. Management training is highly desirable.

Knowledge of theoretical and applied hydrologic/hydraulic sciences, especially as they apply to operational hydrologic forecasting. In addition, the incumbent has a basic knowledge of applied meteorology. A minimal educational background is at the Bachelor of Science level or equivalent with some additional professional education through in-house training or university course work, but graduate work at the Master of Science level or higher is highly desirable.

A thorough knowledge of the RFC mission, operations, and external requirements for products and services. This knowledge is particularly necessary in order to oversee the staff effort to maintain or improve the quality of the numerous hydrologic/hydrometeorologic services provided by the RFC.

A thorough knowledge of the NWSRFS Operational Forecast System and ESP Systems.

Knowledge of overall forecast operations including RFC/WFO communication systems, RFC and central computer technology, relational databases, computer-based modeling technology, and application of advanced observation systems (e.g., WSR-88D) to hydrologic forecasting.

Knowledge of WFO operations and an understanding of the complexity of hydrologic conditions along WFO boundaries, especially as they apply to flash floods.

Knowledge of NWS/NOAA/DOC policy objectives as they apply to hydrologic/hydrometeorological operations and services.

Effective communication skills in both writing and public speaking are required. Initiative, good judgment, creativity, originality, resourcefulness, and personnel management skills are also necessary attributes.

SUPERVISORY CONTROLS

The incumbent's immediate supervisor is the Regional Director. The HIC receives general policy guidance in the form of discussions and memoranda from the regional and national headquarters. Originality and independent reasoning are required on a continuous basis. The incumbent's opinions and management decisions often have a direct impact on national policies and directives. The HIC works closely with all RFC staff and other management officials and outside technical interfaces. The incumbent's work and accomplishments are reviewed for efficiency and impact on the NWS hydrology program.

GUIDELINES

As the most senior hydrometeorologist in the RFC, the incumbent has wide latitude in fulfilling responsibilities. Guidelines include appropriate reference materials such as operating manuals, regional, national and agency directives, policies, agreements, plans and other such documents. Guidance is also received through contacts with research agencies, universities, private industry, and other NWS personnel. The incumbent relies, on previous technical experience and training as well as specific knowledge of operations, objectives, and interface requirements of the RFC, WFOS, and external users. The incumbent is responsible for outlining scope, limitations and resources needed to complete work. Judgment is used to deviate from and extrapolate beyond known guidelines.

COMPLEXITY

The complexity of the NWSRFS Operational Forecast System and WSR-88D, AWIPS, ESP and HADS technologies, as well as locally supported software systems, in combination with the diversity of local forecast considerations and internal/external interactions faced by the RFC, places the HIC in a very complex and demanding position. The incumbent must be conversant in each of these complex systems and in all aspects of service delivery and must be able to lead and direct the resolution of major hydrologic/hydrometeorologic issues. The incumbent also is faced with the final responsibility for resolving a multitude of problems associated with technical procedures and systems. This is required in order to minimize negative impact of these problems on operations of the RFC, WFOS, and other NWS offices such as NMC as well as external offices. All of these complexities relate back to the requirement for HIC to exercise continuous leadership in optimizing local development activities and improving the products and services that are dependent on the RFC's operational functions.

SCOPE AND EFFECT

The RFC provides forecasts and guidance products and services for major river basins in a large area of responsibility covering several states and WFO areas. The population densities over these river basins in each respective RFC may range from very low (i.e., wilderness areas) to very high (i.e., dense urban areas). River flows directly affect the nation's well-being and economy in numerous ways. The water supplies for towns and cities as well as agricultural interests are directly affected by river flows. Flooding impacts the lives of millions of Americans each year, and in some cases, results in permanent changes to the landscape. Therefore, RFC forecast efforts directly affect a variety of economic interests and public safety concerns. This highlights the need for accurate and timely production of river and flood forecasts to meet many different purposes.

The completeness of integrated planning and the effective implementation of locally and centrally provided upgrades to the RFC's technology are singularly dependent on the incumbent's performance. The quality of performance and technical direction provided by the HIC have a vital effect on the effectiveness of policy implementation, quality of hydrologic service programs, and accuracy of hydrologic forecast products provided by the RFC for flood, streamflow, and water resource management.

PERSONAL CONTACTS

Contacts involve management level interactions with the Regional Headquarters and the Office of Hydrology. Contacts also involve MICs, other HICs, and other field office personnel. Interagency contacts include high level interactions with various Federal water management agencies, the Federal Emergency Management Agency, senior state and local government officials, state and local water management agencies, and civil defense interests.

Additional contacts include community and river commission officials, the news media, consulting engineers and to a somewhat lesser degree the general public and the international hydrologic community.

PURPOSE OF CONTACTS

Contacts are made with the Regional Director, the Regional Hydrologist, the Director of the Office of Hydrology, and other senior managers in regional and national headquarters as required to plan and implement regional and national programs and policies.

WFO contacts are made with MICs to ensure optimum RFC service to each WFO; to achieve consistency in the application of RFC forecast and guidance and forecast products among all WFOs in the RFC area; to ensure optimum use of meteorological forecasts in RFC forecast operations and, together with MICs, to ensure the technical excellence of WFO's hydrologic services programs.

Contacts with management personnel in cooperating water agencies concern the coordination of operations; agreements on procedures, schedules, and content of data and information exchanged on a two-way basis between the RFC and each cooperating agency; explanation of RFC forecast and guidance products; and efforts associated with cooperative projects.

Contacts with the public and emergency management agencies are made when in-depth hydrologic forecast expertise on a hydrologic situation affecting large river basins is required.

Press, radio, TV, and other media contacts occur when the HIC is called upon as a principal spokesperson during flooding or other major hydrologic events.

PHYSICAL DEMANDS

The work is generally sedentary. However, long arduous work periods may be required when flood conditions threaten or occur. During flood events, the duty may result in extended periods of stressful activity. Travel is required approximately 25 percent of the time.

WORK ENVIRONMENT

The work environment is an office with added specialized computer and communications equipment. Meetings with other NWS personnel and water managers are held in a variety of settings.

FAIR LABOR STANDARDS ACT (FLSA)

This position is exempt from the Fair Labor Standards Act in that it meets the criteria for professional positions as defined in 5 CFR 551.206.

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