

JOB DESCRIPTION AND POSITION CLASSIFICATION

CLASSIFICATION Engineer, Water Resources		DWR POSITION NUMBER 1425-3137-008	SAP POSITION NUMBER 50105704	MCR 1
APPOINTEE Vacant		SAP PERSONNEL NO. TBD	DIVISION/SECTION DFO/HFO/OSS/RCOU	
COLLECTIVE BARGAINING IDENTIFIER Management Related BU: ☐ Supervisory Related BU: ☐ Confidential Related BU: ☒ Rank and File BU: R09				
RESPONSIBILITIES EXERCISED ☐ Supervisory ☐ Lead Person		IMMEDIATE SUPERVISOR (Print) George "Chan" Modini	SUPERVISOR'S CLASSIFICATION Senior Engineer, Water Resources	
APPROVED BY (Personnel Analyst's Name) Sydney Mecke			DATE 10/13/26	
<i>Percent of Time</i>	<i>Activity</i>			
	POSITION SUMMARY Under the direction of the Reservoir Coordinated Operations unit manager, this position is part of a State-federal team that is responsible for monitoring storms and preparing and issuing short-term forecasts of reservoir inflows and river stages. Duties also include conducting long-term water supply runoff forecasts and performing hydrologic and hydraulic engineering studies. Some assignments are broadly outlined, and many have short timelines with steadfast due dates. The duties will require initiative, judgment, and creativity; essential interpersonal skills; extensive Microsoft (MS) Excel and MS Word skills; familiarity with objective oriented/scripting programming and UNIX/Linux; and the ability to interpret and analyze hydrologic data. With experience, the incumbent will transition from an assistant role into more of a lead role in the various tasks. ESSENTIAL FUNCTIONS This position requires the incumbent to work cooperatively with others, maintain regular, consistent, predictable attendance, and exercise good judgment and initiative. This position requires the incumbent to: reason logically and creatively, utilizing a variety of analytical techniques to resolve hydrologic and hydraulic problems under the direction of the unit manager; develop and evaluate alternatives; analyze data and present ideas and information effectively, both verbal and in writing; consult with and advise water agencies, State and federal operators, other State and federal agencies, and the general public on hydrologic matters; gain and maintain the confidence and cooperation of those contacted during the course of work; review and edit written reports; and establish and maintain project priorities. The specific duties of this position are essential in meeting the Department of Water Resources' (DWR) goals for which the California Water Code gives DWR broad statutory authority, including planning and managing statewide water resources, ensuring dam safety, educating the public, and providing local assistance. DWR runoff forecasts and hydrologic indices, which are a component of the water supply forecasts, are specifically cited as thresholds in many water rights agreements, in State Water Resource Control Board Decision 1641, in many Federal Energy Regulatory Commission licenses, and in a variety of other interagency agreements regulating flows			
SUPERVISOR'S STATEMENT: I HAVE DISCUSSED THE DUTIES OF THE POSITION WITH THE EMPLOYEE.				
SUPERVISOR'S NAME (Print) George "Chan" Modini		SUPERVISOR'S SIGNATURE ➤		DATE
EMPLOYEE'S STATEMENT: I HAVE DISCUSSED WITH MY SUPERVISOR THE DUTIES OF THE POSITION AND HAVE RECEIVED A COPY OF THE DUTY STATEMENT.				
EMPLOYEE'S NAME (Print) Vacant		EMPLOYEE'S SIGNATURE ➤		DATE

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	or reservoir levels.			
	The specific duties include, but are not limited to, the following:			
35%	Support the development and implementation of the Forecast-Coordinated Operations program (F-CO) for flood control reservoirs in California. Perform reservoir operation analysis using computer models such as HEC-ResSim or enhanced reservoir operation tools. Develop reservoir models for flood control reservoirs. Provide training to reservoir operators on developed reservoir operations decision support tools. Evaluate and provide improvements to F-CO decision support tools and models. Coordinate with local, State and federal agencies on flood releases during high-water events. Support and provide technical engineering assistance on the development and implementation of Forecast Informed Reservoir Operations.			
25%	Issue real-time river, reservoir inflow and tide forecast using the National Weather Service (NWS) Community Hydrologic Prediction System for the water resources community and emergency management agencies as a part of the State-federal forecasting team with NWS River Forecasting Center. Monitor hydrologic conditions in real-time on a rotating schedule, including evenings and weekends as warranted by pending weather conditions and river forecasts. Provide hydrologic conditions to the flood operations center and DWR managers. Produce reservoir inflow forecasts, including storm inflows and projected weekly runoff volumes, for several reservoirs for the State Water Project operators. Review or develop new reservoir inflow simulation models, as needed.			
15%	Conduct hydrologic and reservoir operations studies by using various computer modeling programs, which leads to improvements in forecasting models and procedures. Explore the development of new hydrologic models to be utilized within the F-CO program. Prepare reports on completed studies using MS Word or other word processing means as well as output from the various computer modeling programs.			
15%	Analyze statistics for probabilistic forecasts, hydrologic and meteorologic data for flood and water supply forecasting needs through the use of prepackaged software such as MS Excel, HEC-DSSVue and HEC-SSP, as well as developing new forecasting tools with the use of programming languages such as Java, Python, MATLAB and R.			
5%	Produce monthly water supply forecasts in conjunction with the Snow Surveys and Water Supply Forecasting Unit staff. This may include occasional fieldwork to perform snow surveys and assistance with other field maintenance, as needed, and may require driving a vehicle on public roadways or in the field on uneven terrain.			
5%	Provide hydrologic information to DWR programs, other agencies, and the public as required by using the appropriate tools, some of which include accessing California Data Exchange Center or running various computer programs, to acquire the hydrologic information.			

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	OTHER RESPONSIBILITIES This position provides necessary support to the Division of Flood Operations, Flood Planning and Improvements, Safety of Dams, Operations and Maintenance, Engineering, and/or the Public Affairs Office during Governor declared emergencies, flood, dam, State Water Project, and other incidents and emergencies. Additionally, this position may participate in emergency operations in the capacity of area teams, field inspection, coordination, and assist agencies such as California Governor's Office of Emergency Services and Federal Emergency Management Agency in disaster work, including performing fieldwork to complete damage survey reports for droughts, flooding, earthquakes, and other emergencies. This position may also serve in one of the sections as established in the Incident Command System to assist the Department in performing its emergency preparedness, response, recovery, and mitigation functions. These functions are established in the California State Emergency Plan and the Department's Administrative Orders. SPECIAL REQUIREMENTS All employees are responsible for contributing to an inclusive, safe, and secure work environment that values diverse cultures, perspectives, and experiences, and is free from discrimination. The Department of Water Resources is committed to its mission and employees, and we are grounded in our commitment to public safety. Regular, consistent, and predictable attendance is essential to the successful performance in this position. Possession of a valid California driver's license as the work will require driving a vehicle on public roadways or in the field on uneven terrain to participate in on-site field investigations, public outreach, or similar meetings and to operate a state vehicle. Knowledgeable of California's hydrology, flood management, and emergency management systems to collect and analyze flood-related data, prepare engineering reports and presentations, and analyze situations accurately and take appropriate action. As hydrologic and meteorologic conditions warrant, shift work during nights and weekends will be required to issue flood forecasts and to support the Flood Operations Center during activation. A necessary function of this position is to provide daily forecasts in close coordination with NWS, utilizing NWS hydrologic tools and models and accessing NWS networks and databases in the performance of these duties. Pre-employment eligibility may require successfully passing a security check and meeting applicable access requirements, as outlined in U.S. Department of Commerce Departmental Administrative Order (DAO) 207-12, NOAA Administrative Order (NAO) 207-12, and NWS Foreign National Access and Technology Transfer Directive (NWSI) 60-704, including any applicable requirements related to access by foreign nationals. Continued access to NWS networks and databases may also require periodic reverification and compliance with applicable security and access requirements.			