

JOB DESCRIPTION AND POSITION CLASSIFICATION

CLASSIFICATION Engineer, Water Resources		DWR POSITION NUMBER 1421-3137-005	SAP POSITION NUMBER 50001010	MCR 1
APPOINTEE Vacant		SAP PERSONNEL NO. TBD	DIVISION/SECTION DFO/HFO/HS/SSWSFU	
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) Andrew Reising	SUPERVISOR'S CLASSIFICATION Senior Engineer, Water Resources	
APPROVED BY (Personnel Analyst's Name) Sydney Mecke			DATE 7/17/2026	
<i>Percent of Time</i>	<i>Activity</i>			
	POSITION SUMMARY Under the direction of the Senior Engineer, Water Resources, this position is a member of the Snow Surveys and Water Supply Forecasting Unit (SSWSFU) team and is responsible for the preparation of runoff forecasts by gathering and analyzing hydrometeorological and snow hydrology data. Responsibilities also include maintenance, improvement, and distribution of the water supply forecasts on a regular basis and conducting field data collection and maintenance activities in remote work areas. This position is 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 Resources Control Board Decision 1641, in many Federal Energy Regulatory Commission licenses, and in a variety of other interagency agreements regulating flows or reservoir levels. ESSENTIAL FUNCTIONS This position requires the incumbent to work cooperatively with others, maintain regular, consistent, predictable attendance, and exercise good judgment and initiative. Using reason, logic, and creativity, the incumbent will utilize a variety of analytical techniques to resolve hydrologic and hydraulic problems under the direction of the SSWSFU manager. The incumbent will conduct data collection in remote areas; aid in the administration of the California Cooperative Snow Survey program; develop and calibrate hydrologic models; collect and analyze data and present ideas and information effectively, both verbally 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. Exercise independent judgment in work assignments during water supply and snow-melt forecasting and on hydrometeorologic analyses.			
SUPERVISOR'S STATEMENT: I HAVE DISCUSSED THE DUTIES OF THE POSITION WITH THE EMPLOYEE.				
SUPERVISOR'S NAME (Print) Andrew Reising		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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30%	The specific duties include, but are not limited to, the following: Gather, review, and provide quality assurance of hydrological data. Analyze runoff forecast equations, models, and methodologies utilizing a suite of web applications, spreadsheets, hydrologic models, computer and Python scripting, computer applications, and data obtained from the California Data Exchange Center (CDEC) and other sources to issue forecasts of runoff from major snowmelt watersheds. This involves evaluating general water supply conditions and snow conditions of the State. Produce and issue Bulletin 120 "Water Conditions of California", an annual series of publications presenting forecasts of streamflow and snowmelt runoff. Compile and publish resulting data by producing monthly and weekly water supply forecasts that are issued to various water agencies, State and federal operators and agencies, and the general public during the winter and spring seasons. Interpret runoff forecasts and provide technical engineering assistance through use of effective oral or written communication including public presentations to DWR management, reservoir operators, water users, the media, and the public.				
30%	Develop machine learning, artificial intelligence, computer or Python scripting, or other methods to incorporate in-situ and spatial hydro climatological data into runoff forecasts. Process in-situ and spatial climatological data using scripts to aid in forecasting. In coordination with the California Cooperative Snow Surveys Unit (CCSSU) develop, maintain, and document watershed specific hydrologic runoff models such as WRF-Hydro and iSnobal, and other complex hydrologic models in order to produce daily, weekly, and seasonal snowmelt runoff forecasts. Coordinate multi-agency user group activities providing technical engineering assistance and interpreting forecast results. Prepare water condition summaries and respond to inquiries from water users, the media, and make public presentations summarizing findings of work conducted for a broad audience.				
20%	In coordination with CCSSU, assist in the administration of the CCSS program. Coordinate and conduct manual field measurements on snow surveys, perform snow course maintenance, and assist with maintenance and installation of hydrologic data sensors with Statewide Monitoring Network Unit (SMNU) staff. Procure and maintain equipment and supplies for data collection and snow surveying fieldwork. In coordination with the California Data Exchange Technology Services staff, create and maintain water supply forecast and snow hydrology content on the CDEC, SnowTrax, and California Water Watch websites. Ensure dashboards, reports, and data tables and tools are accurate and accessible for the public. Work with student assistants reviewing hydrologic data.				
10%	Assist with planning and conducting annual coordination meetings with cooperating agencies of the CCSS program including the annual meeting of the CCSS program. The emphasis of these meetings is to discuss ongoing program activities, review runoff forecast techniques and results, discuss new forecast techniques and models, engage in academic research associated with snow surveying and runoff forecasting, discuss cooperative snow surveying agreements with partner agencies, and discuss developments in field work and safety. Present completed work, forecasting improvements, and other findings associated with all listed work duties to meeting participants				

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10%	which may require traveling or driving to meetings at locations statewide. Perform engineering analyses in collaboration with the State Hydrometeorologist, CCSSU, SMNU, and DWR's partners to progress state-of-the art technologies and implement them into DWR's hydrometeorological forecasts. Collect material and conduct and prepare engineering analyses and use engineering judgment to evaluate the capacity of current water supply forecasting methods to keep pace with climate change and evaluate alternatives. 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 (CalOES) 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. Infrequent travel may be required. May be required to assist field engineers in the collection of data from and maintenance of the remotely located hydrologic data collection network during both summer and winter months. May be required to work evenings, nights, weekends, or holidays during flood emergencies or emergencies for which CalOES tasks DWR to assist. Must be able to walk on a variety of terrain including uneven, inclined, graveled, slippery or rocky surfaces. Must be able to stoop, bend, climb, and crawl; grasp with both hands; put arms overhead and to the side while holding objects. Must be able to move and transport up to fifty pounds, walk through mud and water, work in rain and snow conditions, and stay on duty for extended periods of time without relief.			

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		May need to snowshoe or cross-country ski to visit snow courses during winter and spring months for manual snow measurements. Backcountry experience is preferred but not required. May be asked to act for the section manager in their absence. Possession of a valid California driver's license as the work may 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.					