CEA ACTION PROPOSAL

Per California Code of Regulations, title 2, section 548.5, the following information will be posted to CalHR's Career Executive Assignment Action Proposals website for 30 calendar days when departments propose new CEA concepts or major revisions to existing CEA concepts. Presence of the department-submitted CEA Action Proposal information on CalHR's website does not indicate CalHR support for the proposal.

A. GENERAL INFORMATION

1. Date: April 30, 2018

2. Department: Water Resources

3. Organizational Placement (Division/Branch/Office Name)

Executive Division

4. CEA Position Title

State Climatologist

5. Summary of proposed position description and how it relates to the program's mission or purpose. (*2-3 sentences)*

The State Climatologist will oversee the State Climate Office, develop and implement statewide policy related to climatological research, and advise Executive management on developments in the field of Climatology, specifically as they impact California's water supply. The incumbent will be responsible for providing climate information, including analyses and projections, to the public, end users, interest groups, media, Governor's Office, and the Legislature.

6. Reports to: (*Class Title/Level*)

Deputy Director (CEA) / B

7. Relationship with Department Director (*Select one)*

☐ Member of department's Executive Management Team, and has frequent contact with director on a wide range of department-wide issues.

☑ Not a member of department's Executive Management Team but has frequent contact with the Executive Management Team on policy issues.

(*Explain*): This position manages policy and research in climatology for the state and frequently interacts with the Executive leadership in DWR and other State departments, as well as with leaders in the field through the United States.

8. Organizational Level *(Select one)*

☐ 1st ☐ 2nd ☑ 3rd ☐ 4th ☐ 5th (mega departments only - 17,001+ allocated positions)

B. SUMMARY OF REQUEST

9. What are the duties and responsibilities of the CEA position? Be specific and provide examples.

The State Climatologist will oversee the State Climate Office, develop and implement statewide policy related to climatological research, and advise Executive management on developments in the field of Climatology, specifically as they impact California's water supply. The incumbent will also be responsible for developing policies regarding the dissemination of climate data to all interested parties, from the public to the Governor's Office.

The State Climatologist will use climatological and management expertise to develop policies regarding specific climatological areas to be researched, the methods and technologies to be utilized in the performance of such research, and tools and procedures to be instituted in the field of Climatology throughout the Department and statewide. These duties will require the incumbent to make complex, multifaceted decisions regarding the most effective uses of State resources to conduct the appropriate research.

The State Climatologist will serve as an advisor to the Department's Executive management on developments in the field of Climatology and how climate trends may impact California's water resources, including the potential for drought and flooding events. This information is critical to allow the Department to ensure it is prepared for such events, particularly given their significant potential economic and safety impacts.

In addition to serving as an Executive advisor, the State Climatologist will develop and implement policies to guide the dissemination of climate information to the public, end users, interest groups, the media, the Governor's Office, and the Legislature. Given the critical nature of these topics, the incumbent must have the expertise and experience necessary to ensure such policies promote effective communication to all interested parties and provide the information necessary to make effective decisions.

In performing these duties, the CEA will be the primary departmental and State liaison on climate issues to many State and national organizations, such as:

- National Oceanic and Atmospheric Administration's (NOAA) Earth Systems Research Laboratory (ESRL)
- Academic and Agency Research Collaborative for Climate
- State's Climate Action Team Research Working Group
- Coastal and Oceans Work Group
- Steering Committee of the Western Water Applications Office of the National Aeronautics and Space Administration (NASA) Jet Propulsion Laboratory
- University of California Climate Services Agreement
- National Climatic Data Center (NCDC) and Western Regional Climate Center (WRCC)
- United States Bureau of Reclamation (USBR)

As the liaison to these organizations, the State Climatologist will provide input and feedback on far-reaching climatological guidelines and documents, including Safeguarding California, Sea Level-Rise Adaptation Guidance, and Cal-OSHA Heat Guidance. The incumbent will also design and analyze methods to evaluate hydro-meteorological data and coordinate seasonal forecasting work between NOAA's Office of Atmospheric Research at the Climate Prediction Center and ESRL.

Furthermore, the State Climatologist will review and advise on hydro/climate programs, work plans, and policies; work with the National Inter-agency Drought Information System Team on projects, including the California/Nevada Drought Early Warning System; and coordinate with National Weather Service (NWS) partners on projects of mutual interest, including response support for the California Governor's Office of Emergency Services (Cal-OES) and input to the United States Drought Monitor.

B. SUMMARY OF REQUEST (continued)

10. How critical is the program's mission or purpose to the department's mission as a whole? Include a description of the degree to which the program is critical to the department's mission.

- ☑ Program is directly related to department's primary mission and is critical to achieving the department's goals.
- ☐ Program is indirectly related to department's primary mission.
- ☐ Program plays a supporting role in achieving department's mission (i.e., budget, personnel, other admin functions).

Description:

The Department's mission is "to sustainably manage the water resources of California, in cooperation with other agencies, to benefit the State's people and protect, restore, and enhance the natural and human environments." Climatology is central to protection of the environment and plays a role in restoration and enhancement, as well.

Federal and State agencies work together to manage the State's water resources. Climate research and climate models are used to create seasonal streamflow forecasts to estimate preseason water collection, to anticipate how much water should be released from reservoirs during high water events, and to predict whether end-of-season water storage targets will be met. All of these decisions impact public safety and water supply.

During high-water events, forecasts drive decisions regarding how much water to release from reservoirs to prevent flooding. Climate data helps predict where flooding may occur and is central to emergency response preparation. Climate research and forecasts are used to ensure water reliability and are a part of determining environmental water needs tied to specific geographical areas, which also play an important role in restoring and enhancing the environment.

The State Climatologist will work with the NCDC and other organizations leading climate research and policy. This position will also be on the forefront of climate research and make California a leader in new techniques to improve the collection, analysis, and use of climate data in water management.

B. SUMMARY OF REQUEST (continued)

11. Describe what has changed that makes this request necessary. Explain how the change justifies the current request. Be specific and provide examples.

Until 1973, the National Weather Service provided climate services to local constituencies within each state. When these services were discontinued, concerned members of the climate community formed the American Association of State Climatologists in 1976, leading to the creation of the State Climatologist program in 1978. This program designated an entity in each state as the State Climatologist Office and created a Memorandum of Agreement between that office and the National Climatic Data Center (NCDC) to provide services at the local level.

State Climatologists are individuals who have been identified by a state entity as the State's Climatologist and who are also recognized by the Director of the NCDC of the National Oceanic and Atmospheric Administration as the State Climatologist of a particular state. State Climatologists currently exist in 48 states and Puerto Rico. Since the 1980s, the California State Climatologist function has been housed in the Department's Division of Flood Management. However, over time, the role and need for a State Climatologist has continued to evolve and grow.

Recent severe weather patterns have been attributed to the effects of climate change. Two such examples of these patterns include the statewide drought that began in 2012 and the record precipitation of the 2016-17 winter season, which led to major flooding events throughout the State. Such severe weather patterns place a strain on the State's water infrastructure and demonstrate the need for effective climatological forecasts to allow the Department to focus its resources where they are most needed.

States throughout the country are beginning to recognize the increasing need to use climate data to direct water management operations and prepare for severe weather events, and California is no exception. As part of its efforts to ensure public safety and effective water management, DWR will utilize climate forecasts provided by the State Climatologist to ensure that the Department is as prepared as possible for both drought and flooding events. Therefore, the importance of this position in water management will continue to increase. The incumbent will create policy for all climate-related issues, ultimately impacting many of the Department's programs. As the State's lead climate expert, this position would also influence climate policy for the entire State.

C. ROLE IN POLICY INFLUENCE

12. Provide 3-5 specific examples of policy areas over which the CEA position will be the principle policy maker. Each example should cite a policy that would have an identifiable impact. Include a description of the statewide impact of the assigned program.

The State Climatologist will represent California in national conversations on how states can best use climate information to inform water management in areas of reservoir operations and emergency response, as well as guide the State's actions in these areas. This position will lead the development of the role of Climatology in water management by working with a number of entities, including the National Climatic Data Center, Western Regional Climate Center, United States Bureau of Reclamation, United State Army Corps of Engineers, United State Coast and Geodetic Survey, and National Oceanic and Atmospheric Administration to represent California's interests in the climate related aspects of water management and to coordinate the Department's climate related activities.

This position will also be responsible for developing policies related to the communication of climate information to the public, end users, interest groups, media, Governor's Office, and Legislature. This is critical to keeping the public informed (such as during emergencies) and ensuring climate data is easily accessible to multiple federal, State, and local end users who need the information. For example, farmers need climate data to assess risks and plan for water use, and reservoir operators need climate information to guide water release decisions.

Goal 1 in the Department's Strategic Business Plan is to “Provide Strategic Leadership for the Planning and Management of California’s Water Resources.” This is part of Objective 1.2 under the goal, “Develop Integrated Water Management Evaluation Systems.” The State’s preparation for and response to floods and droughts are driven by climate data. Farming, water supply, and energy needs are all impacted by the weather, and forecast models are developed to anticipate and respond to these changes. Integrated water management is more effective with better forecasts and longer lead times. The State Climatologist leads this work for the State and will develop policies and strategies for the most effective way to use forecasting to improve water management decisions.

Goal 5 in the Department’s Strategic Business Plan is to “Increase Resiliency to Reduce Residual Risks Resulting from Floods, Drought, and Climate Change.” This is part of the objectives, “Prepare for and Respond to Periods of Critical Water Shortage," "Provide Effective Emergency Response," and "Address Climate Change.” This CEA's efforts will help drive departmental policy for managing water flow during high water events because weather forecasting is a key factor in determining how much water is released from reservoirs. California's water management system is interconnected, and water volume has a statewide impact during times of possible flooding and in terms of water supply. Forecast Informed Operations (F-IO) are used to optimize water and flood operations at reservoirs. F-IO uses weather forecasting to guide reservoir management. Preliminary findings show that F-IO can increase operational flexibility and resiliency to flood management and result in a large reduction of downstream peak flow and stages. This position will lead the development, use, and management of weather forecasting tools that drive water flow decisions.

Climate data management is a part of Goals 1 and 5 in the Department’s Strategic Business Plan. The State Climatologist will be a principal policy maker in this area because he or she will manage components of the State’s advanced observing systems, which are how the State collects climate information. Climate information is collected throughout the State by several State and federal entities who work together to organize and use it. This position will be the Department’s key point for coordinating technical elements of research with federal partners related to hydrometeorogical observations and forecasting. This position will set the policy on what information is collected, how it is collected, and how it is used.

The State Climatologist will develop and implement policies on what areas will be researched, which methods and technologies will be utilized, and which tools and procedures will be implemented within the Department and the State in the field of Climatology. The incumbent must have specific familiarity with national and global research trends and provide advice to the Department’s Executive management team. In addition, the incumbent will create and sit on numerous boards and collaboratives and shape policy regarding how climate information is gathered, analyzed, and used in water management.

Through these efforts, new uses for technology will be developed, and new methods to gather and use climate information for the State's benefit will be created. This position will collaborate with the National Oceanic and Atmospheric Administration Earth System Research Laboratory regarding new observing systems for extreme precipitation, as well as serve as a member and participant in the State's Climate Action Team Research working group and Coastal and Oceans Work Group, providing input on various documents, including Safeguarding California, Sea Level - Rise Adaptation Guidance, and Cal-OSHA heat guidance. The State Climatologist will also participate in the Steering Committee of the Western Water Applications Office of the NASA Jet Propulsion Laboratory.

C. ROLE IN POLICY INFLUENCE (continued)

13. What is the CEA position's scope and nature of decision-making authority?

As stated previously, the State Climatologist will develop policies regarding which areas are important to the concept of water management in the field of Climatology, what the Department and State should spend their time and resources on to research, what methods or technologies should be pursued, and what tools and processes should be used to protect and preserve the State's resources. The State Climatologist will oversee the operations of the State Climate Office, which conducts much of the State's climate research and information gathering.

This position will also provide information about upcoming climate conditions, trends, and the role of Climatology in decision making to the Governor's Office, Legislature, media, and the Department's Executive management team. This information will drive decisions regarding water management and public safety, impacting millions of Californians. Further, this position will lead the production of a substantial amount of climate information available to the public and hold seats on numerous federal and State boards that collaborate to guide climate issues in the nation.

14. Will the CEA position be developing and implementing new policy, or interpreting and implementing existing policy? How?

This position will develop new policy related to cutting-edge research in the field of Climatology and how to use Climatology in water management and other State functions. The State Climatologist represents California on national boards and collaboratives and sets statewide policy regarding climate research and tools.