



California Water Quality Monitoring Council



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CALIFORNIA WATER PLAN 2013 UPDATE – TECHNOLOGY NEEDS TO OPTIMIZE DATA MANAGEMENT AND USE

Dear Dr. Longley:

The California Water Quality Monitoring Council is grateful for the opportunity to provide input to the California Council on Science and Technology (CCST) on technology needs to improve water resources management in California. It is our understanding that CCST will develop recommendations to enhance the 2013 update of the California Water Plan currently being developed by the Department of Water Resources.

As you know, the Monitoring Council was formed through legislation and an interagency agreement to improve the efficiency and effectiveness of water quality and associated ecosystem monitoring and assessment and to make the resulting data and information available to decision makers and the public via the Internet. To achieve these goals, the Monitoring Council developed the recommended *Comprehensive Monitoring Program Strategy for California* for the California Environmental Protection and Natural Resources Agencies and has been working for over four years to implement that strategy.

During this time, it has become apparent that the greatest barrier to success has been the difficulty gaining access to water quality and aquatic ecosystem data and information generated by the numerous boards, departments, offices, commissions, and conservancies within State government. Currently, each of these organizations has its own separate system(s) to store and manage the data generated by each of their monitoring programs. To enable broader meaningful assessments of the status of our waters and aquatic ecosystems, public health and welfare issues related to water quality, and the effectiveness of agency programs to manage our water resources, the state must be able to tear down the existing silos so as to bring these data together.

Two areas where technology can play a role in improving data access are:

1. Solutions that enable the user-driven exchange of data between existing systems, and
2. Mechanisms that document the quality of existing data.

Data users in one organization need to be able to access data from other organizations without having to work through staff in data-source organizations. Methods are needed to provide such data exchanges without resorting to the development of new aggregated data systems. To maintain high quality, data should reside with the organization where it was generated. For data users to know whether data from diverse sources are able to be combined in meaningful assessments the quality of those data must be documented and such documentation must be readily available to the data user.

While most state governmental organizations understand the need to solve these problems, few are voluntarily developing solutions. Creating and implementing technologic solutions to address these barriers will require the commitment that this is a high priority for agency managers, as well as the expenditure of sufficient funds.

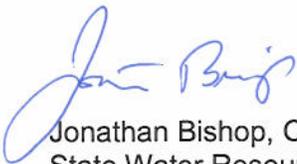
Even with improved access to existing data, there will always be gaps in our water resource information. Modeling can help to fill these gaps and allow decisions to be made where substantial uncertainties currently exist, especially regarding future climatic conditions. Three additional recommendations where new or improved technology can provide solutions are:

3. Better access to and use of modeling and advanced analytical approaches,
4. Use of modeling and advanced analytical approaches to address uncertainties that arise from the lack of monitoring data and future climatic uncertainties, and
5. Use of modeling to help direct additional monitoring.

The Monitoring Council's Healthy Streams Partnership is currently working with Cadmus Group under contract from the U.S. Environmental Protection Agency to use monitoring data in conjunction with multi-metric regression analysis to develop a statewide picture of watershed health at the catchment level. Advanced models and analytical tools can augment existing monitoring data to allow inferences to be made in areas where little or no monitoring data exist, and in areas where climate change will alter watershed health.

We hope that these recommendations will be useful to CCST in their development of enhancements to the 2013 update of the California Water Plan.

Sincerely,



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State Water Resources Control Board
Monitoring Council Co-Chair
Representing Cal/EPA



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Enclosure

cc: Members of the California Water Quality Monitoring Council
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