D R A F T

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 2018-

ADOPTING PRINCIPLES OF OPEN DATA AS A CORE VALUE AND DIRECTING PROGRAMS AND ACTIVITIES TO IMPLEMENT STRATEGIC ACTIONS TO IMPROVE DATA ACCESSIBILITY AND ASSOCIATED INNOVATION

WHEREAS:

1. **Open data[1] initiatives are transforming the way governments across the country interact with their communities and are promoting civic engagement through transparency and accountability. Open data is much more than just making data available to the public; it's about transforming the way we think about data, how it's collected, used, published and maintained.**

~~1.~~2. Effective water resource management demands that California better integrate existing water and ecological data into an authoritative open-access platform to help water managers operate the State of California's (State) water system more effectively and help water users make informed decisions based on water availability and allocation.

~~2.~~3. The State Water Resources Control Board (State Water Board) recognizes that a wide range of activities and projects require data for management, including problem quantification, prioritization, implementation of strategies, and evaluation of results.

~~3.~~4. The ~~D~~data life cycle ~~management~~**at our organization** involves managing the flow of information from the initial identification of data needs through the stages of data collection, data storage, data accessibility, and the final process of turning data into information and knowledge. Data life cycle management often requires the development and/or enhancement of information systems to address various life cycle stages, including functions that ensure quality data are collected, managed, reformatted, and made accessible to users (including machine readability). The data and information systems (data ecosystem), that the State Water Board is a steward of, is part of the critical infrastructure needed by all Californians to best address the State's current and future water priorities.

~~4.~~5. The State Water Resources Control Board and the California Regional Water Quality Control Boards (collectively Water Boards) collect data to:
   a. Inform critical decisions regarding our mission(s) and water management responsibilities including those related to water allocation and use, water quality planning, policy development, permitting, program prioritization, and more;
   b. Inform our ~~data-driven management~~**operational** and planning ~~activities~~ **decisions** through performance report cards, workplans, resource assignment/augmentation, program evaluation, and more; and
   c. Provide ~~transparency~~ **data** to our many partners and **public** stakeholders.

---

[1] For the purposes of this resolution "open data" is defined as data that is acceptable to be shared with the public, machine readable, and well described.

DRAFT

~~5.~~6. Goal 5 of the 2008 Water Board's Strategic Plan is to "Improve transparency and accountability by ensuring that Water Board goals and actions are clear and accessible, by demonstrating and explaining results achieved with respect to the goals and resources available, by enhancing and improving accessibility of data and information, and by encouraging the creation of organizations or cooperative agreements that advance this goal, such as establishment of a statewide water data institute."

~~6.~~7. The Water Boards are leading the State government in transparency and accountability with the development of publicly available annual performance reports since 2009. The Water Boards' performance reports provide a mechanism to measure and evaluate what we do and how the environment is responding to Water Boards' actions, and is part of the overall effort toward developing as performance-based organizations. The performance report presents numerous performance measures for specific outputs and outcomes that are currently tracked through the Water Board's data systems.

~~7.~~8. The State is working to improve access to water data collected by state agencies. Since 2016 the State Water Board has been publishing its core water datasets on the State's main open data portal. The portal creates opportunities to foster collaboration among all our stakeholders to share and integrate existing datasets, improve state agency operations through data-driven decision making, improve transparency and accountability, and create new insights.

~~8.~~9. The Water Boards have been actively engaged in organizing and collaborating in data-driven public civic engagement events in collaboration with The California Government Operations Agency, The Governor's Office of Planning and Research, The Departments of Water Resources and Fish and Wildlife, The University of California, and others.

~~9.~~10. Water Code sections 13167, 13225, 13223, 13385 and 13399.27, require specific enforcement data and information to be reported on a regular basis.

~~10.~~11. The California Public Records Act (Statutes of 1968, Chapter 1473; currently codified as California Government Code sections 6250 through 6276.48) is a law passed by the California State Legislature and signed by the governor in 1968 requiring inspection or disclosure of governmental records to the public upon request, unless exempted by law.

~~11.~~12. The State Water Board should lead the state in promotion of openness and interoperability of water data. Ensuring information is accessible, discoverable, and usable by the public will foster entrepreneurship, innovation, and scientific discovery.

~~12.~~13. The State Water Board developed and maintains several water-related information systems that include public reporting functionality.

~~13.~~14. Water data can be complex, with significant variability over time that requires long-term analyses to understand current conditions and identify historical trends. Open data is important to understand the conditions of our waters but also requires data synthesis, analysis, and clear communication of results so the Board and the public have the best information possible to make decisions.

DRAFT

~~14.~~**15.** Water information and water data reflect a highly dynamic environment where conditions and technology can change rapidly. In some cases, water data must be compared for long periods of time to identify clear trends and patterns.

~~15.~~**16.** The releasing of open data can improve the effectiveness and efficiency of Water Board programs, improve public trust, facilitate conversations with stakeholders, and encourage participation.

~~16.~~**17.** The Open and Transparent Water Data Act, AB 1755 of 2016 will improve access to water data by creating a statewide information system to integrate critical water data in a user friendly, publicly accessible website to simplify and expedite decision-making. The implementation of the bill requires the State Water Board to provide consulting services and specific datasets to the Department of Water Resources.

~~17.~~**18.** There is increasing demand for government data and information from the public and stakeholders. The State already maintains several open data portals to share public data and information including the California Natural Resources Agency Open Data Portal, the California Health and Human Services Open Data Portal, the California State Controller's Office Local Government Financial Data, the California Department of Justice Open Justice, the California State Board of Equalization Open Data Portal, the California Employment Development Department, the California State Treasurer DebtWatch, the California Franchise Tax Board Open Data Portal, and the Government Operations Agency Open Data Portal.

~~18.~~**19.** The federal government launched Data.gov in 2009 as a public repository for data about the federal government, including budgets, revenues, and more. Many federal datasets are required to be published in machine-readable formats under open license.

THEREFORE BE IT RESOLVED THAT:

The State Water Board commits to the following core principles for open data **and data management**[2]:

1. Make Data Accessible ("Open First"): our organization values transparency and strives to make all critical public data available in machine readable datasets with metadata ~~and~~ **including** data dictionaries.

2. Understand Data Quality and Integrity: our data are of known and acceptable quality and we deploy practices to protect its integrity with standards and protocols.

---

[2] **"Data management" is the development and execution of architectures, policies, practices and procedures that properly manage the full data lifecycle needs of our organization. This whole system is also often referred to as data infrastructure, which includes the ways we collect, store, transform, clean, structure and make accessible our state data.**

DRAFT

3. Improve Data Literacy: our whole organization understands its data needs and responsibilities, can speak the language of data science**, and** the staff and managers have robust data science capacity.

4. Use Data to Govern: our organization uses data to govern and makes decisions that are in the best interest of our mission~~(s)~~.

5. Govern our Data: our organization takes proactive steps to develop effective data and information technology management practices to ensure our data flows to where it is needed in a timely manner while complying with our data sharing policies.

In order to implement the principles for open data the following shall be addressed:

6. The Office of Information Management and Analysis (OIMA), in consultation with all the Water Boards' Divisions and Offices, shall conduct a strategic review of database governance and delivery for our primary enterprise database applications. This includes an inventory and assessment of open data readiness for all existing datasets at the Water Boards.

7. OIMA shall develop, in consultation with all Water Boards' Divisions, Offices and Regional Boards, a Data Management *(governance)* Strategy to be presented to the Water Board by **March 1, 2019**. The key initiative areas of this strategy should include projects to address the above principles of data management.

8. In order to address core principles for open data, the Data Management Strategy shall include the following minimum elements:

   8.1. An open data strategy:
      8.1.1. An open data handbook that provides procedures and governance steps to approve publication of open data;
      8.1.2. Use cases for Water Board related to the Open and Transparent Water Data Act (AB1755) to prioritize the data infrastructure (e.g., flat files) needed to pipeline data and information from key priority program areas;
      8.1.3. Protocols for Data Sharing; including development of data standards for open data, identification of data stewards, metadata, data dictionaries, data sharing protocols; and
      8.1.4. The Protocols for Data Sharing should comply with protocols for data sharing developed by the Department of Water Resources to implement AB1755.

   8.2. A data literacy strategy:
      8.2.1. Develop staff and management ~~will~~ **with** skills and knowledge to better derive information from data;
      8.2.2. Develop staff and management in the areas of business intelligence, data analysis and science, and data engineering. (Advanced Data Analytics Team); and
      8.2.3. Build Data storytelling capacity throughout the organization, starting with the executive body.

DRAFT

8.3. A data driven management[3] strategy:
- 8.3.1. Identify metrics and the use of data in performance management;
- 8.3.2. Development of program management information tools;
- 8.3.3. Business intelligence software distributed to staff, managers and executives;
- 8.3.4. A storytelling reporting platform; and
- 8.3.5. Reliable open data web services.

8.4. A quality management strategy:
- 8.4.1. Incorporates the Water Boards' Quality Management Plan (QMP) and 8.4.2. Quality Assurance Program Plan (QAPrP), and Quality Assurance Project Plan (QAPP) structure into all our core business workflows;
- 8.4.2. Coordinates with other data management strategic elements; and
- 8.4.3. Puts systems in place to conduct necessary data quality assurance and control protocols.

8.5. A data governance and administration strategy:
- 8.5.1. Addresses data governance and management for all data life cycle stages;
- 8.5.2. Uses data management plans, quality assurance plans, and related documents to align our interests and practices to better achieve our mission, goals, etc; and
- 8.5.3. Builds a legal framework for data sharing agreements, approval of open data publications, address emerging legal and/or governance issues with new data collection, storage and accessibility technologies.

9. In order to comply with the requirements set forth in the Open and Transparent ~~Open~~ Water Data Act (AB1755), by March 1, 2019, OIMA will bring to the State Water Board a proposed list and description of critical public high priority datasets to be made public in machine readable format according to the protocols for data sharing.

10. OIMA will coordinate the sharing of water data and information with other state and federal agencies open data portals following the protocols set forth in the open data strategy.

11. ~~All~~ **Data represented in** presentations made by State Water Board staff in support of permits, policies, or other regulatory decisions should be made available in an open data format according to the protocols for data sharing to be developed by OIMA. OIMA will coordinate with and assist all the divisions and offices to ensure that the data are made available according to those protocols. In the case where this data is available as a curated, open data publication prior to the Board item the data resource(s) used to support the item must be referenced in the presentation and agenda item materials.

---

[3] **"Data driven management" is an approach to business governance that values decisions that can be backed up with verifiable data. For the Water Boards this means it includes, but is not limited to, our Performance-Based Management Program, which has over 190 output report cards measuring resource alignment with core activities, like inspections and permit issuance. Other examples of data-driven management include planning and operational decisions that are not directly related to water regulatory programs, like administrative and time management decisions.**

DRAFT

12. Recipients of state funds managed by the State Water Board through grants or contracts for research or any other projects and studies shall, **as determined feasible by the State Water Board's authorized representative of the grant or contract program,** as a condition of the receipt of a grant or contract, adhere to the Data Management Strategy protocols for data sharing, transparency, documentation, and quality control. Every contract and grant that includes the gathering or analysis of data shall provide all the data and metadata used or collected in the format specified in the Data Management Strategy.

13. New policies and permits adopted by the State Water Board that require collection of data or information or any other reporting requirement shall include a data management plan that documents the path that the data must take to become open. OIMA shall develop guidance and protocols on the content and structure of the data management plans.

14. OIMA shall provide quarterly progress reports regarding implementation of this resolution to the board, and incorporate that information into the annual performance report.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Board held on July 10, 2018.

_____
Jeanine Townsend
Clerk to the Board