



WESTERN STATES WATER COUNCIL

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Web Page: www.westernstateswater.org

April 21, 2020

Mr. Tim Petty
Assistant Secretary, Water and Science
U.S. Department of the Interior

Sent via email: timothy_petty@ios.doi.gov

Dear Dr. Petty:

The Western States Water Council (WSWC) was created by western governors in 1965, and charged with ensuring that the West had an adequate supply of water of suitable quality to meet its present and future needs. The challenges we face today are increasingly serious as recognized in the Presidential Memorandum on Promoting the Reliable Supply and Delivery of Water in the West. The National Academy of Public Administration (NAPA) has also identified 12 Grand Challenges for the next decade, including water. NAPA recently reached out to the Council for advice on water resources challenges, and I highlighted water observing systems and data needs.

As you know, Council has been an active and longstanding advocate for Thermal Infrared (TIR) data and imagery as an increasingly essential tool for water management and water use monitoring applications in the western United States, included as part of the Department of the Interior's National Land Imaging Program (NLIP) and the National Aeronautics and Space Administration's (NASA's) Landsat Data Continuity Mission (LDCM). The successful launch and operational hand off of Landsat 8, in 2013, now provides the only fully operational satellite having both thermal data and a spatial resolution fine enough to map water-resources use at the level of agricultural fields, which is critical for state water management and water rights administration, as well as many other applications.

The Council strongly supports the current Sustainable Land Imaging (SLI) partnership between NASA and Interior's U.S. Geological Survey (USGS). This involves a long-term commitment that includes the future launch of Landsat 9 and continuing work on "Landsat Next" options and opportunities. The goal is to ensure a vibrant earth observation system that maintains and expands on current visible and infrared bands and temporal and spatial resolution using scientific and technological advances. The full suite of Landsat spectral measurements – both thermal and reflected – with measurement accuracy and quality consistent with previous Landsat missions at land and watershed scales that are important to western water managers and administrators.

Water managers are increasingly using Landsat-derived data and maps to monitor and manage water rights, both spatial and temporal data (seasonal and inter-annual), as well as evaluate beneficial consumptive use. Typical applications include mapping irrigated lands (by far the predominant use of water in the West), as well as crop type; measuring, monitoring, and mapping evapotranspiration and consumptive surface and groundwater use; and allocating and administering state water rights, including approval of water rights transfers and consideration of water right "calls" based on seniority.

States also use the data to administer negotiated agreements, monitoring interstate compacts and tribal water rights settlements. The data is also used to monitor agricultural fallowing and conservation reserve programs, outdoor urban uses and conservation measures, to evaluate water and food sustainability and security, and to inform forecasts and moderate agricultural market fluctuations. Environmental monitoring using Landsat data involves water use by invasive species (such as tamarisk or salt cedar) and the effectiveness of control strategies, as well as identify and monitoring wetlands, endangered and threatened aquatic species habitat, water quality parameters and harmful algal blooms.

Some of the state agencies using Landsat data as an element of their water planning and water rights management programs include the California Department of Water Resources (DWR), Colorado Division of Water Resources, Idaho DWR, Montana Department of Natural Resources and Conservation, Nebraska Department of Natural Resources, Nevada DWR, New Mexico Office of the State Engineer (OSE), Wyoming OSE, as well as the North Platte Decree Committee and a growing number of water conservation and irrigation districts.

Landsat data is also used by federal agencies, including USDA's Agricultural Research Service and the Forest Service, the Environmental Protection Agency, Interior's Bureau of Reclamation, and the U.S. Department of Justice.

None of these applications would be possible without Landsat thermal and reflected imagery. We recognize the need to make timely decisions on viable SLI options moving forward with the most, efficient and cost-effective means to provide consistent data for present and future applications. There is a need to accelerate policy and funding decisions in order to ensure there are no future data gaps and to take advantage of opportunities to leverage resources. In the past, uncertainty regarding future funding and TIR data availability has been an obstacle to expanding operational water resources planning, monitoring and management programs.

The Western States Water Council strongly supports SLI and urges DOI to provide sufficient resources for USGS to ensure its success. The western water community worked hard to secure a place for the TIR imager on Landsat 8 and will continue to work to ensure that quality TIR imagery remains available as part of SLI's future. We also expect to see further innovations in the use of TIR data under a continuation of the existing policy of no-cost data access for all archived and future scenes.

If you have any questions, please don't hesitate to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Tony Willardson".

Tony Willardson
Executive Director