



State Engineer's Office

HERSCHLER BUILDING, 4-E CHEYENNE, WYOMING 82002
(307) 777-7354 FAX (307) 777-5451
seoleg@seo.wyo.gov

DAVE FREUDENTHAL
GOVERNOR

PATRICK T. TYRRELL
STATE ENGINEER

August 11, 2006

Dr. Gene Whitney
White House Office of Science and Technology Policy
725 17th Street, Room 5228
Washington DC 20502

Sent via email to: gwhitney@ostp.eop.gov

Dear Dr. Whitney:

Thank you for your past participation with both the Western States Water Council and the Interstate Council on Water Policy and your briefing me and my staff at those meetings on the current Landsat discussions and notifying us that the proposal for the latest satellite includes a provision for a thermal band option. As we have expressed, the use of the data from the thermal band has increasing applications in water management in the West, and I believe it is crucial that these data continue to be made available from Landsat. You had requested some specific examples of how these data can be utilized in our work in daily water management. Although Wyoming is not currently making use of the Landsat data to make consumptive use estimates, within the next year we will be determining the capability of using those data in at least two of our river basins.

Colorado River basin (Green River and Little Snake River basins in Wyoming):

The drought years of the 2000's and resulting low elevation of Lake Powell raised concerns for the Upper Basin states in the Colorado River basin. Under the provisions of the two compacts in the Colorado River basin, the upper basin states have a non-depletion obligation at Lee Ferry, below Glen Canyon dam. The Colorado River Compact is between the states of Wyoming, Utah, Colorado, New Mexico, Arizona, Nevada, and California. If the upper basin states (Wyoming, Utah, Colorado, and New Mexico) are not able to satisfy that obligation of water, the Upper Colorado River Basin Compact specifies that curtailment will be done based upon the water use in the previous year. Wyoming simply does not have that detailed of information currently available. We hope to be able to make use of the Landsat capabilities to determine the amount of consumptive use from irrigated lands in the Colorado River basin. We believe that the use of this technology could enable Wyoming to determine water use much more cheaply and efficiently than the standard methods of employing multiple staff to visit each irrigated field, map the use and crop types and then apply a consumptive use factor to those acres. This methodology is very labor intensive and

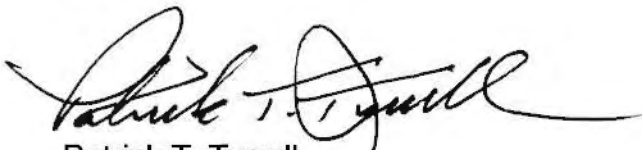
requires measuring devices on all ditches and diversions as well as many more stream gages and weather stations than are currently in this area of Wyoming.

North Platte U.S. Supreme Court Decree (Wyoming, Nebraska, Colorado)

The state of Nebraska sued Wyoming in 1986 over provisions of the 1945 North Platte Decree. This interstate litigation was settled in 2001. Wyoming agreed to many reporting requirements as a part of that settlement decree, one of which is estimating consumptive use. Similar to the Colorado River basin, we believe that utilizing the thermal band information available from Landsat would be an efficient way for making these calculations that would be agreeable to all the parties, including the federal government which is party to the settlement represented by the Bureau of Reclamation.

Wyoming believes that the federal government does have an obligation to provide continuity in the availability of the Landsat data. The federal government is party in some way to the seven interstate compacts and two U.S. Supreme Court decrees which apportion water from the river basins arising in Wyoming among our downstream neighbors. As the use of these data to make objective, reliable estimates of water use in the west is increasing, it would be wasteful and inefficient for the states to not be able to make use of this technology. I strongly support the spending necessary to provide for the continued availability of Landsat-comparable thermal data, and oppose any move to delete the thermal band from future satellites. We hope to be able to work with you to ensure the availability of this data as we struggle to balance water uses and demands in the West. If you have any questions or if we can provide you with additional details, please don't hesitate to contact me or Sue Lowry of my staff. We can be reached at 307-777-6150.

Sincerely,



Patrick T. Tyrrell
State Engineer

cc: Mark Myers, Director (nominated), USGS
Dr. Michael Griffin, Administrator, National Aeronautics and Space Administration
Vice Admiral Conrad C. Lautenbacher, Administrator, National Oceanic and
Atmospheric Administration
Wyoming Congressional delegation
Governor Freudenthal