

THE IRRIGATION ASSOCIATION

Dr. Ron Beck
USGS
517 USGS National Center
Reston, Virginia 20192

Feb. 2, 2006

Re: High Resolution Thermal Imager on the next Landsat Satellite System

Dear Mr. Beck,

The mission of the Irrigation Association is to promote efficient and effective water management. One of the biggest developments in irrigation efficiency in recent years is climate-based controllers, which schedule irrigation based on current or historic climate data rather than a clock timer. The potential for water savings with this technology, which allows us to apply water only when the plant needs it, is growing rapidly as it gains acceptance in agriculture as well as landscape irrigation.

Many "smart" controllers rely on data about Evapotranspiration (ET), the rate that water is lost through evaporation and the plant's transpiration. Idaho, New Mexico, California, Texas and Colorado are applying ET maps created by the University of Idaho's METRIC or similar image processing software based on Landsat images. Usage of these maps is likely to spread to other states soon.

Landsat images are a valuable legacy, with short-wave and thermal images dating to 1982. Consistency of future Landsat images with historical images, in regard to resolution, is critical for determining changes in ET over time.

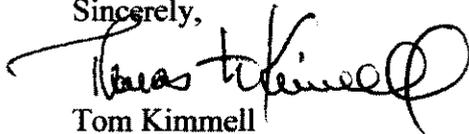
I understand that Landsat 7 was damaged in 2003 and its usability for ET determination has been substantially impaired, and Landsat 5, the only other Landsat system remaining in orbit, may soon be inoperable. I also understand it's possible the appropriate thermal imager may be left off the next Landsat satellite.

A thermal imager is a critical component of the Landsat system for determining evapotranspiration. Resolution of the MODIS thermal imager is too coarse for use in determining ET from individual fields and within city environments. The ASTER satellite has inconsistent return times.

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I urge you to support the country's critical water management needs by including a high resolution thermal imager aboard all future Landsat Data Continuity Missions. It is recommended that the thermal imager have 120 m resolution or better and that two or more Landsat satellites be constructed and launched, each with a thermal imager, to reduce the image return time and as a contingency for future malfunctions.

Sincerely,



Tom Kimmell
Executive Director
Irrigation Association

National Aeronautics and
Space Administration
Headquarters
Washington, DC 20546-0001



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3/24 ec / Hagan
Quirk
R.S. Thompson
Ferguson

Reply to Attn of:

SMD/Earth-Sun System Division

Mr. Tom Kimmell
The Irrigation Association
6540 Arlington Boulevard
Falls Church, VA 22042

Dear Mr. Kimmell:

Thank you for your letter dated February 2, 2006, expressing concern regarding the Landsat Program, and your strong support for the continued availability of Landsat-comparable thermal data. As you may be aware the Office of Science and Technology Policy on December 23, 2005 issued a memorandum revising the Landsat data continuity mission strategy to ensure continuous availability of scientifically sound Landsat-type data. This policy directs for the near term that NASA acquire a single Landsat data continuity mission in the form of a free-flyer spacecraft. Also the National Science and Technology Council, in coordination with NASA, Department of the Interior (DOI)/United States Geological Survey (USGS), and other agencies and Executive Offices of the President as appropriate, will lead an effort to develop a long-term plan to achieve technical, financial, and managerial stability for operational land imaging in accord with the goals and objectives of the U.S. Integrated Earth Observation System.

NASA will be working closely with DOI/USGS, who is responsible for the operations of the Landsat Data Continuity Mission (LDCM) and for the collection, archiving, processing, and distribution of land surface data, during the implementation of the Landsat free flyer. We are presently developing competitive procurement material for the LDCM Free flyer. We will take into account your expressed need for Landsat-comparable thermal data as we do the trades necessary to provide a timely capability that minimizes the risk to data continuity. We will also bring your expressed need forward as we support the efforts of the National Science and Technology Council to develop a long term plan for operational land imaging.

Thank you for your expressed interest in the Landsat Data Continuity Mission. Your continued support is essential to us as we move forward with our near and far term efforts for operational land imaging.

Sincerely,

Mary L. Cleave
Associate Administrator for
Science Mission Directorate

cc:

Science Mission Directorate/Dr. Colleen Hartman

- Mr. Mike Luther

Earth-Sun System Division/Dr. Richard Fisher

- Dr. Jack Kaye
- Dr. Garik Gutman
- Dr. Bryant Cramer
- Mr. Ted Hammer
- Mr. Edward Grigsby

Goddard Space Flight Center/Mr. William R. Ochs

National Oceanic and Atmospheric Administration/Vice Admiral Lautenbacher

U.S. Geological Survey/Mr. Patrick Leahy

National Polar-Orbiting Operational Environment Satellite/Col. Dan Stockton

Bureau of Reclamation/Mr. John Keys

National Science and Technology Council/Dr. Gene Whitney