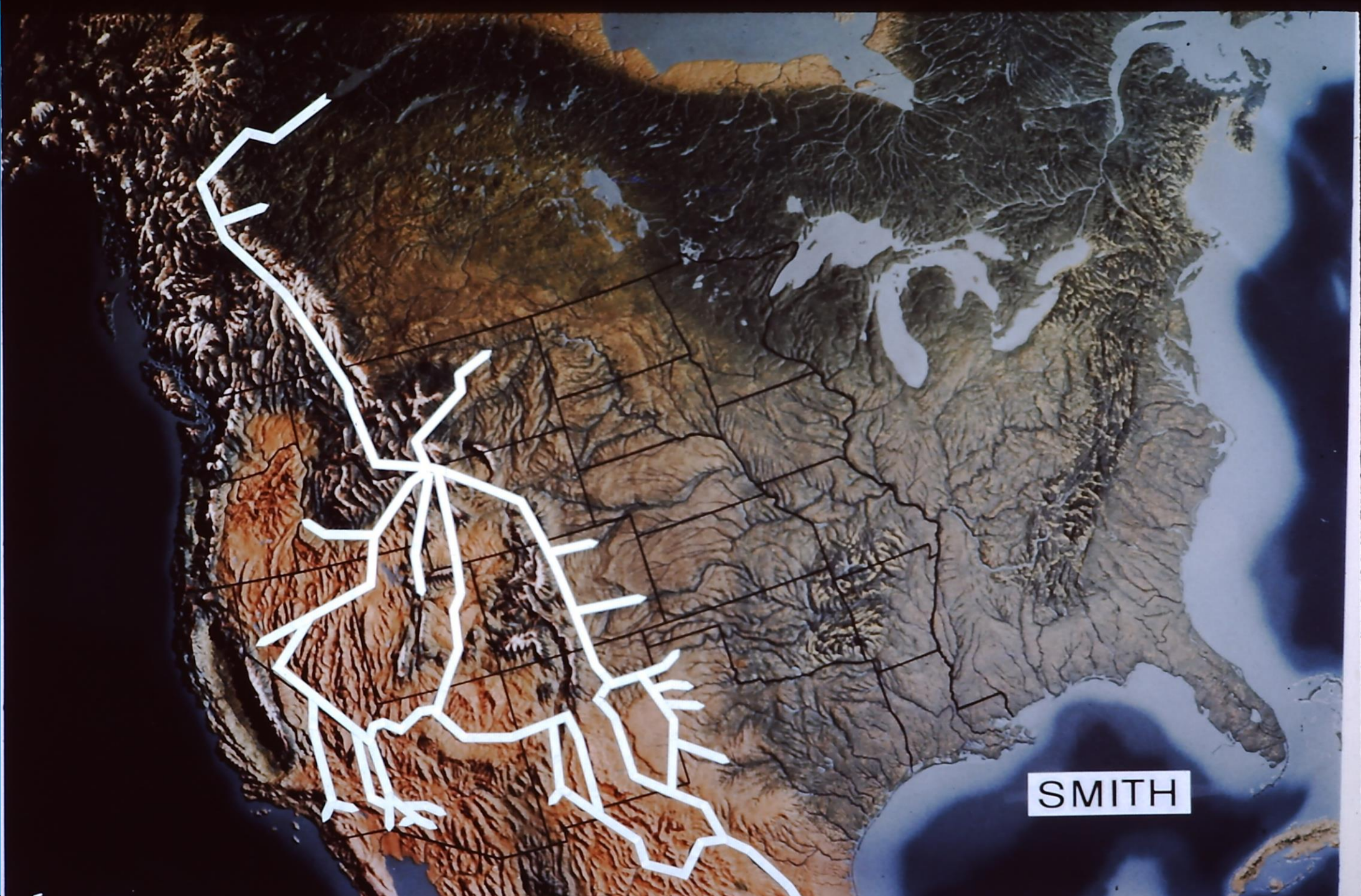


A REVIEW OF INTER-REGIONAL AND INTERNATIONAL WATER TRANSFER PROPOSALS

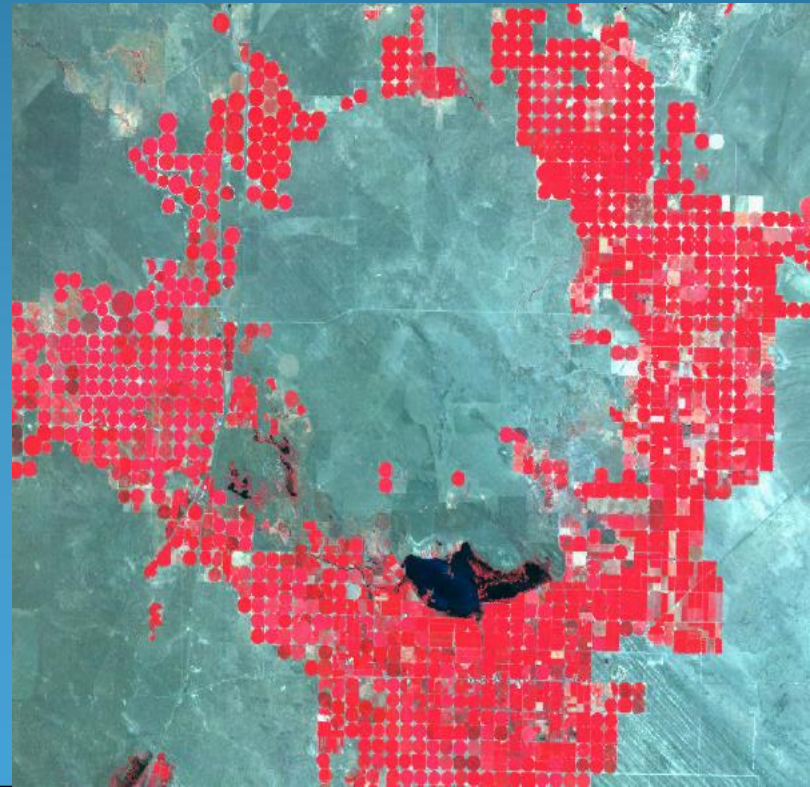




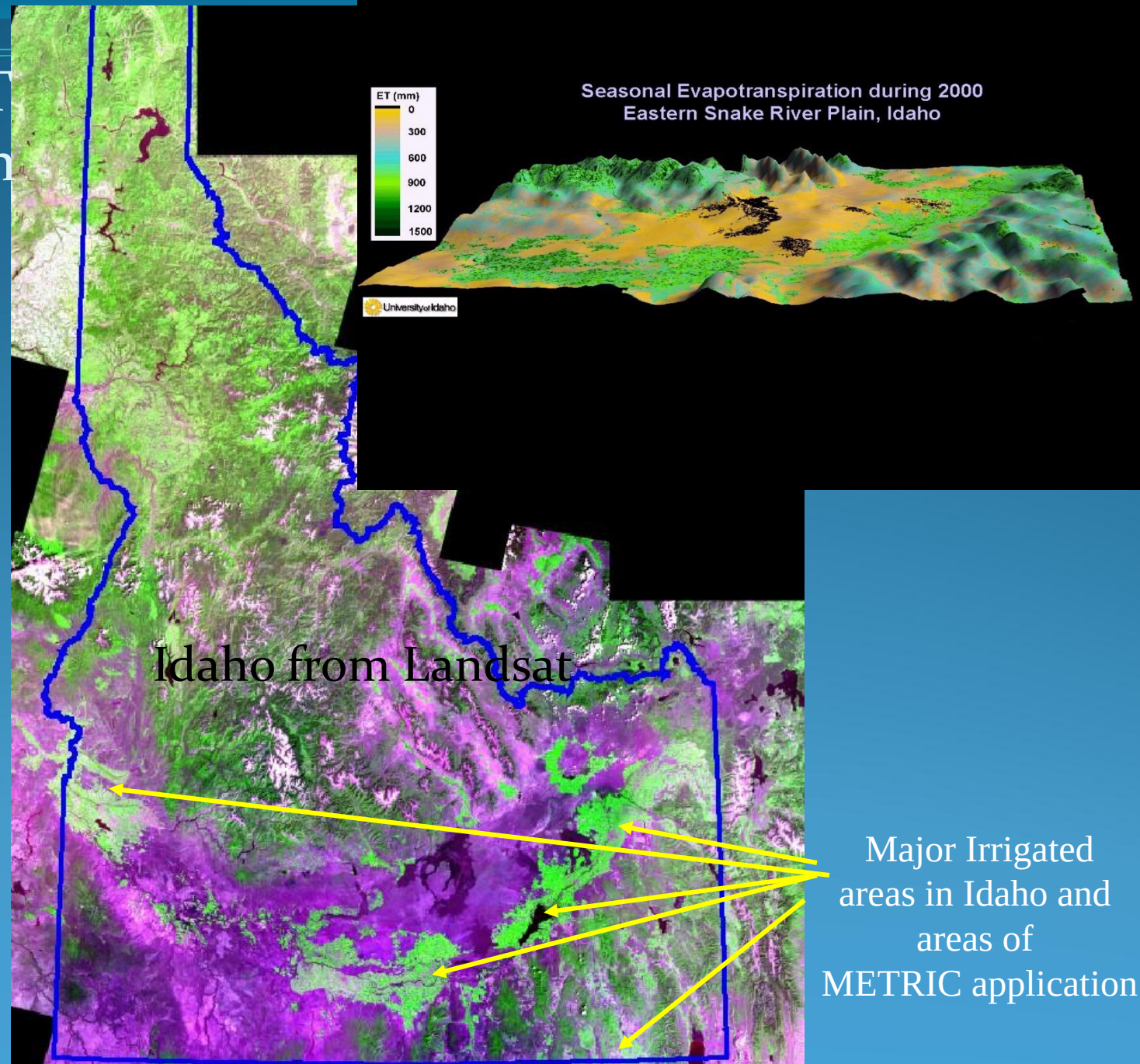
SMITH

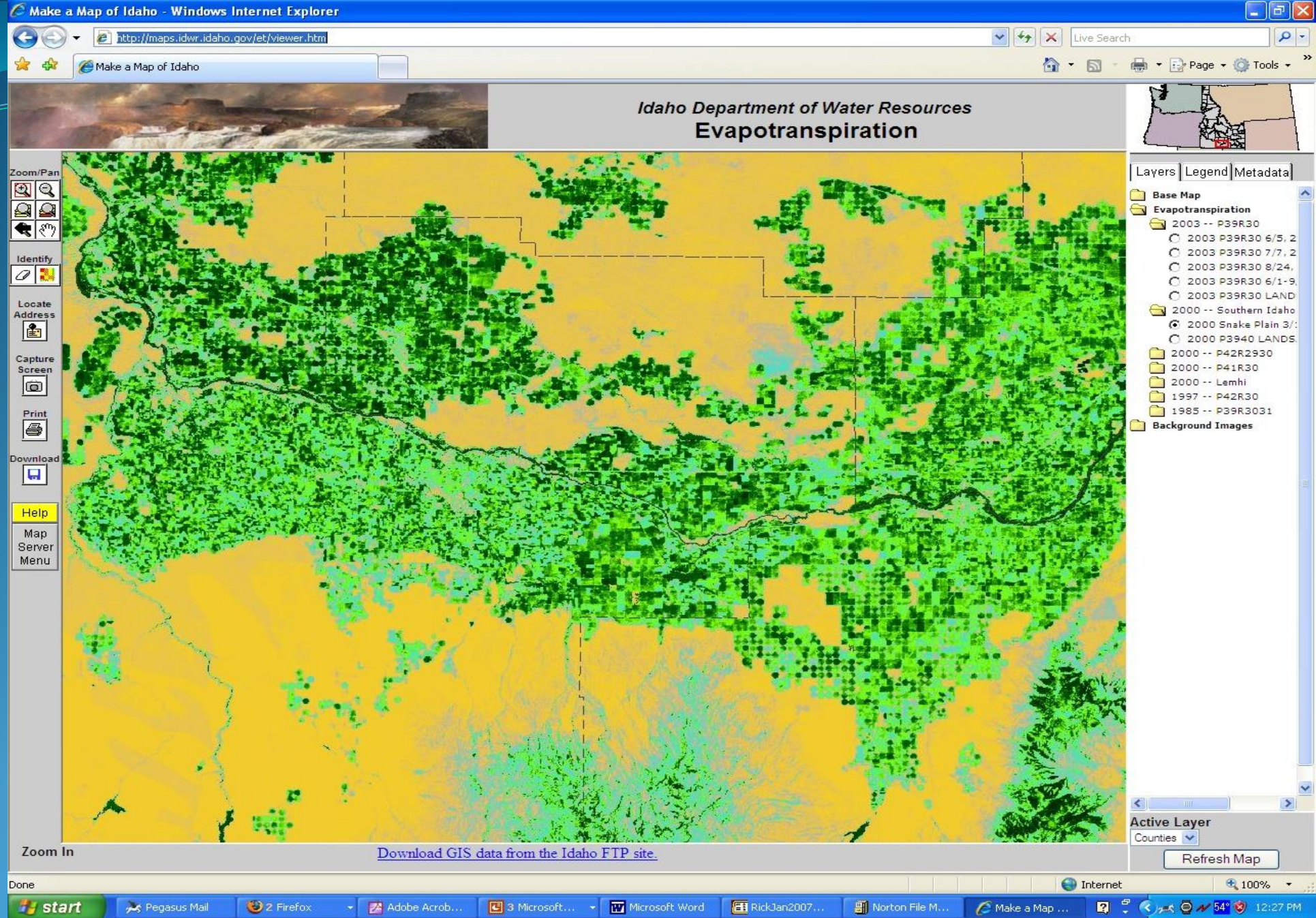
Priority Water Information Needs

- Available Surface and Ground Water Supplies
- Present Water Uses
- Snowpack (NRCS)
- Streamflow (USGS)
- Evapotranspiration (NASA Landsat 8)
- Climate Change Impacts & Adaptation



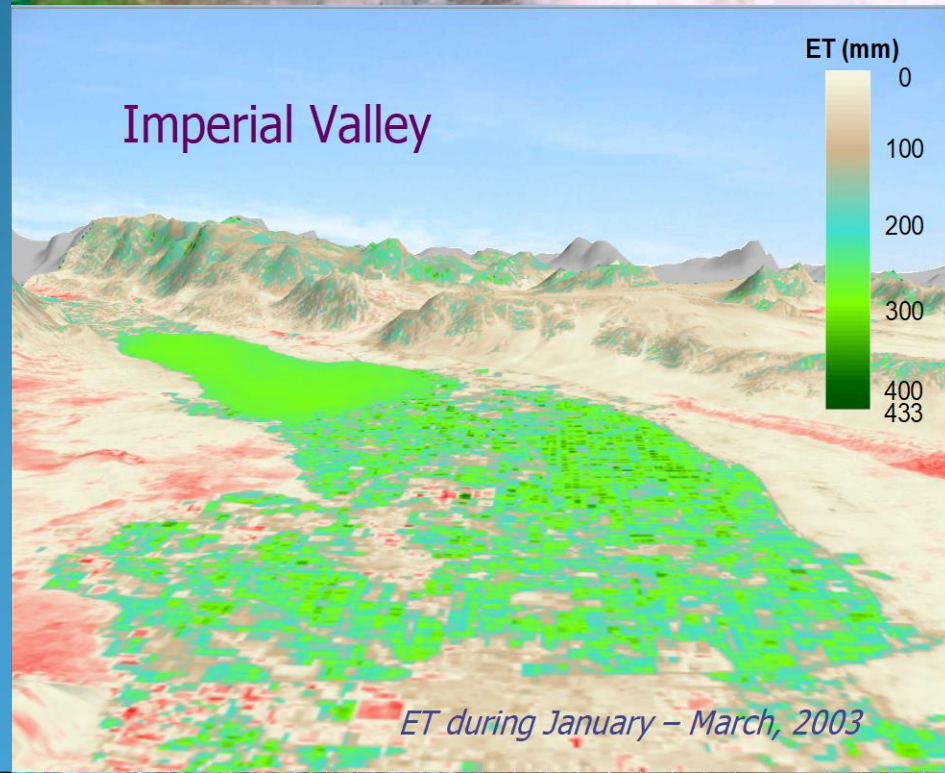
Vegetation,
Water and ET
are variable in
space and
time



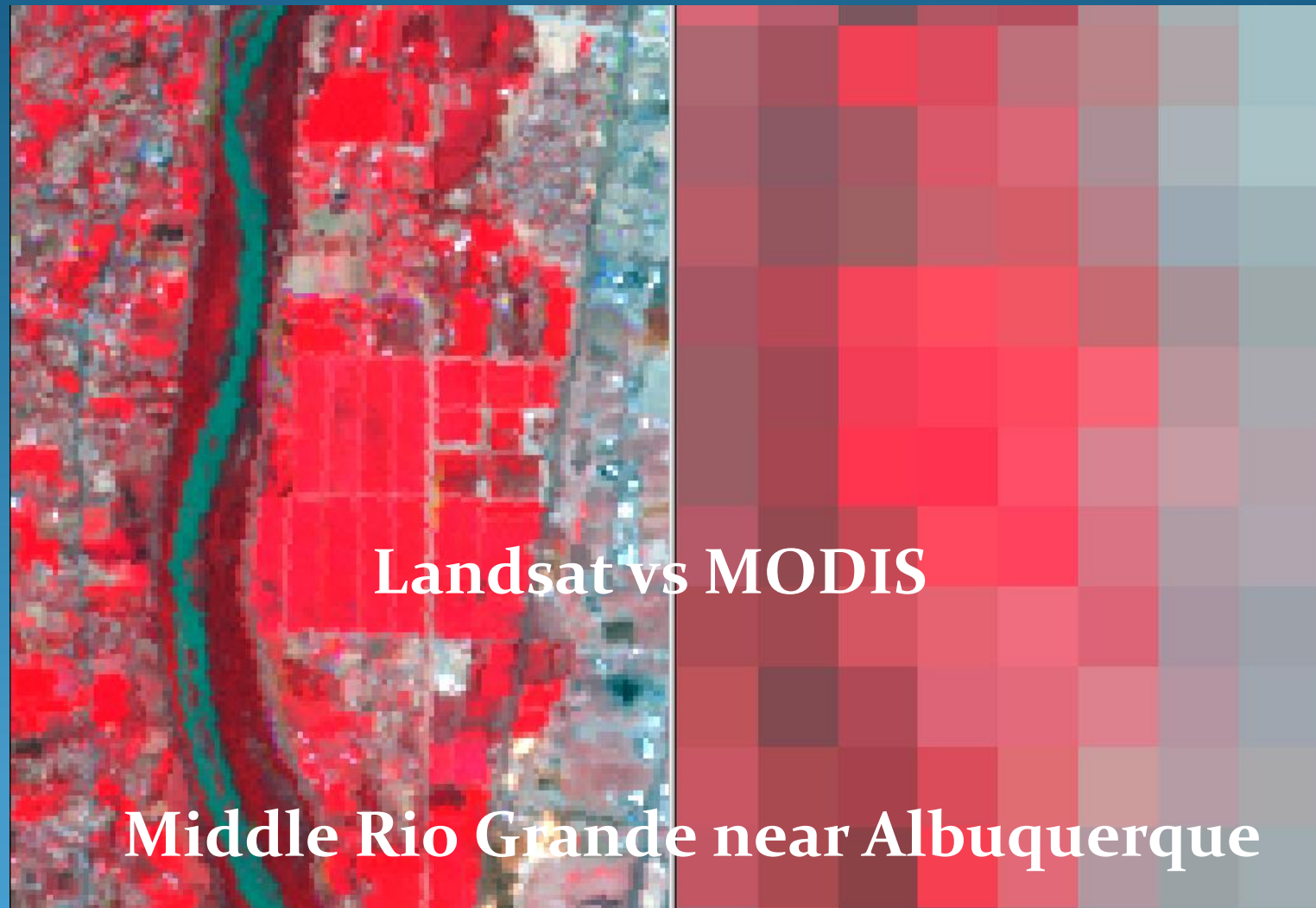


<http://maps.idwr.idaho.gov/et/>

Imperial Valley, CA
via Landsat 7



Why use High Resolution Imagery?



Middle Rio Grande near Albuquerque

Landsat False Color
8/26/2002 10:33am

MODIS False Color
8/26/2002 11:02am

United States Senate

WASHINGTON, DC 20510

May 5, 2008

Senator Robert C. Byrd
Chairman
Committee on Appropriations
Washington, D.C. 20510

Senator Barbara Mikulski
Chairwoman
Subcommittee on Commerce,
Justice, Science & Related Agencies

Senator Thad Cochran
Ranking Member
Committee on Appropriations
Washington, D.C. 20510

Senator Richard Shelby
Ranking Member
Subcommittee on Commerce,
Justice, Science & Related Agencies

Dear Chairman Byrd, Chairwoman Mikulski, Ranking Member Cochran, and Ranking Member Shelby:

We are writing to request inclusion of \$35 million in NASA's budget for FY 2009, to design, construct and deploy a thermal infrared (TIR) instrument on Landsat 8 that will provide data continuity consistent with that now available from Landsat 5 and Landsat 7. The total funding commitment required for a TIR instrument on Landsat 8 should be between \$90 and \$100 million over three years.

The future of our Nation's water resources is increasingly unclear. Conflicts over water use are growing, and the serious situation in the Southeast demonstrates that scarcity isn't just a problem in the West, where water has always been a scarce resource and roughly 80% of all consumptive water use is for irrigation. Across the U.S. water demands for agriculture, energy production, and municipal and industrial uses are rising, while reservoir and ground water levels are falling. It is clear that more data on water supplies and water uses will be needed to address present and future water problems.

Today, TIR data is essential for measuring and monitoring evapotranspiration and calculating consumptive water usage, particularly for agriculture. This data stream has been the gold standard for administration of water transfer agreements as it provides a cost effective means of determining not only present, but past consumptive use, given the U.S. Geological Survey's (USGS) archive of TIR data collected since 1982.

We are grateful that the Appropriations Committee is committed to ensuring the continuity of these unique and fundamentally valuable data streams. In particular, the FY 2008 Consolidated Appropriations Act included the following language: "NASA is directed to provide a plan on all continuity of data for the Landsat Data Continuity Mission (LDCM) to the Appropriations committees no later than 120 days after enactment of this Act. The amended bill provides \$1 million above the budget request for this mission to ensure data continuity."

Unfortunately there is evidence that NASA does not share the Committee's priorities. Although NASA plans to present its report to the committees later this month, in a December 19, 2007 letter, Administrator Michael Griffin stated, "While thermal data is scientifically relevant, analysis of the mission development cost and schedule indicates that LDCM cannot be implemented with the thermal capability within the present budget constraints. Additionally, if the thermal infrared sensor were added, it is likely that NASA would be unable to maintain the current launch readiness date and, consequently, the undesirable gap in data continuity between existing Landsat capability on-orbit and the launch of LDCM would be increased."

Administrator Griffin omits the fact that a thermal infrared (TIR) instrument was included on Landsat 4 in 1982, Landsat 5 in 1984, Landsat 6 in 1993 and Landsat 7 in 1999. Without TIR on the next spacecraft, the Landsat Data Continuity Mission will not be complete, and we fear none of the TIR alternatives under NASA review will prove acceptable. A delay in the launch of Landsat 8 merits serious NASA consideration, rather than prematurely eliminating what has become an invaluable practical application of our nation's investment in NASA-pioneered research and development.

Landsat 5 and 7 TIR data has become an irreplaceable resource for a variety of applications that are increasingly important, but hampered by the uncertainty surrounding its future availability. There is no other comparable federal source of this data, a past privatization attempt proved "troublesome" in NASA's own words, and relying on limited foreign data sources would prove costly and difficult.

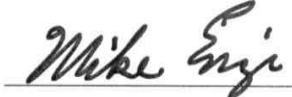
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Sincerely,

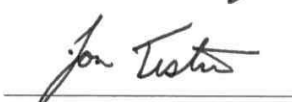




















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