

MEMORANDUM OF AGREEMENT

BETWEEN THE

**MONTANA RESERVED WATER RIGHTS COMPACT COMMISSION
DEPARTMENT OF
NATURAL RESOURCES AND CONSERVATION**

AND

UNIVERSITY OF IDAHO

concerning

**FUNDS FOR TRAINING AND ASSISTANCE TO PRODUCE SATELLITE-BASED MAPS
OF EVAPOTRANSPIRATION ON THE FLATHEAD INDIAN RESERVATION TO
FACILITATE A WATER RIGHTS COMPACT**

1. Purpose: This Memorandum of Agreement (MOA) is between the University of Idaho (UI) through its Research and Extension Center and the Montana Reserved Water Rights Compact Commission, Department of Natural Resources and Conservation (MT RWRCC). The intent of this MOA is to establish mutually agreeable terms and conditions, specifications and requirements to provide training and assistance to produce satellite-based maps of evapotranspiration (ET) on the Flathead Indian Reservation to facilitate a Water Rights Compact among the Tribe, the United States and the State of Montana.
2. Objective: The satellite-based maps of evapotranspiration on the Flathead Indian Reservation will be used to assist in determining specific aspects of current water distribution by irrigated agriculture and other uses on the Flathead Indian Reservation as necessary for facilitating the above mentioned Water Compact negotiations. Quantification of evapotranspiration from irrigated projects aids in water resources planning and water management.
3. University of Idaho responsibilities: The Scope of Work requires UI reports (in draft form and final product) as described in Section 4, Scope of Work, Tasks 6 and 7. Other deliverables are as in Section 4, Scope of Work, Tasks 1-4, 8, 9.
4. Scope of Work: The University of Idaho shall administer all activities provided for in this MOA on behalf of the RWRCC. Dr. Richard Allen at UI shall be assigned the Project Director for the administration of the MOA.
 - A. Task 1
University of Idaho (UI) will a) purchase terrain-corrected Landsat images, and b) process and produce ET maps over one (150 x 150 km) Landsat scene and application year, determined by MT RWRCC, for seven Landsat image dates within the selected year.

- B. Task 2
UI will provide quality assessment and control of weather data pertinent to the application of Mapping Evapotranspiration at high Resolution and with Internalized Calibration (METRIC) to the processed images.
- C. Task 3
UI will provide cloud masking for processed images.
- D. Task 4
UI will integrate the processed ET images to develop ET maps by month and growing season.
- E. Task 5
UI will provide four days of training to MT RWRCC and MT DNRC staff on METRIC processing and product management.
- F. Task 6
UI will review any ET images produced by MT RWRCC for the study area and common to the set of seven images that UI will process, and will provide written reports summarizing the review and advise on improvements needed to the processing.
- G. Task 7
UI will provide a report describing the processing of Landsat images by UI and summarizing results.
- H. Task 8
UI will transfer all raw image and final ET products to MT RWRCC at any time, upon request, and at the termination of the contract.
- I. Task 9
UI will advise MT RWRCC on comparisons of METRIC-generated ET and energy balance components with any ground-based flux measurements made available.

5. RWRCC Responsibilities:

- A. In consideration of services rendered pursuant to this MOU, MT RWRCC agrees to pay the Contractor an amount not to exceed Fifty-four Thousand Eight Hundred Sixteen Dollars and no/100 Dollars (\$54,816).
- B. Upon delivery of all deliverables, the RWRCC will have 30 calendar days from the last date of delivery to review the data for acceptance.
- C. The State shall pay on a lump sum basis according to the following payment schedule:
 - 1. \$4,375.00 upon completion of Task 1.a. specified in Section 4, Scope of Work.

2. \$4,280.00 upon completion of Task 5. specified in Section 4, Scope of Work.

D. The University of Idaho shall submit invoices to the MT RWRCC for reimbursement of approved services as outlined herein other than those lump sum payments in Section 5 C. RWRCC Responsibilities. Payment will be made within thirty (30) days of delivery of services/goods OR receipt of a properly executed invoice, whichever is later.

6. Budget: The budget for this Scope of Work under this MOA is \$54,816. Payment under this MOA shall not exceed this amount.

7. Products:

The deliverables and end products produced by this MOA shall be made available to MT RWRCC as set forth under the terms of this MOA. All information, reports, records, data, documents and materials produced under this MOU shall be owned by the University of Idaho and shall be made available to MT RWRCC upon request. University of Idaho grants MT RWRCC rights to use, disseminate, transfer, and display all above referenced products and materials and acknowledges that products and materials produced under this MOA are public information under Montana Law.

8. The Scope of Work must be complete and all deliverables delivered to the MT RWRCC by December 15, 2008.

9. This MOA may be modified by the mutual written consent of the Parties.

10 Contact Persons:

The RWRCC's contact person for purposes of this MOA is:

Bill Greiman,
Reserved Water Rights Compact Commission
P.O. Box 201601
1625 11th Avenue
Helena, Montana 59620-1601
Phone: 406- 444-6607
Fax: 406- 444-6721
E-mail: bgreiman@mt.gov.

The University of Idaho technical contact person for purposes of this MOA is:

Dr. Richard G. Allen
Kimberly R&E Center
University of Idaho
3806 North 3600 East
Kimberly, ID 83341-5082
Phone: 208-423-6601
Fax: 208- 423-6559
E-mail: rallen@kimberly.uidaho.edu

IN WITNESS WHEREOF, the Parties express their intent to be bound by the terms of this MOA by and through their signatures below:

Polly Knutson, Interim Director
University of Idaho
Office of Sponsored Programs
PO Box 443020
Moscow, ID 83844-3020

Date

Montana Reserved Water Rights Compact
Commission

Date