Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
Agenda Item 11b

Applicant: Colorado Climate Center, Colorado State University

Water Activity Name: Colorado Agricultural Meteorological Network (CoAgMet)

Water Activity Purpose: Study or analysis of nonstructural consumptive water project

Counties: Larimer, Weld, Morgan, Logan, Sedgwick, Washington, Phillips, Yuma

Drainage Basin: South Platte and Republican

Water Source: South Platte and Republican

Amount Requested: $20,000

Source of Funds: South Platte Basin Account

Matching Funds: Unspecified matching funds from the applicant

Staff Recommendation
Staff recommends approval of up to $20,000 from the South Platte Basin Account for the Colorado Agricultural Meteorological Network (CoAgMet).

Water Activity Summary:
This project supports both new and ongoing efforts to better understand and track consumptive use of water resources in northeastern Colorado through the careful monitoring of weather conditions. The Colorado Climate Center (CCC) and Northern Colorado Water Conservancy District (NCWCD) operate a network of weather stations in Colorado to help schedule irrigation applications, more accurately track evapotranspiration and crop water use, and observe long term trends and variations in crop water use in Colorado. In this one-year project, the CCC will identify the ten best weather stations in the South Platte and Republican River basins that best complement the existing network. These ten stations located from the foothills eastward to the Nebraska border will be fully serviced, calibrated and maintained to assure a rich dataset accessible to both agricultural and water professionals, research scientists and the general public.

Data from these weather stations are provided on the Colorado Agricultural Meteorological Network website hosted by the CCC (http://ccc.atmos.colostate.edu/~coagmet/). This data will be used to routinely compute and track evapotranspiration/crop water use, providing a quantitative assessment of consumptive use at these locations across the basin. Together, with the existing network operated by NCWCD, it will be possible to examine spatial variations in consumptive use across the basin as a function of location and crop. These data will then become the basis for field-specific estimates of crop water use from satellite remote sensing.

The Colorado Agricultural Meteorological Network has been operated cooperatively in Colorado for nearly 20 years. The CCC, CSU Extension, CSU Agricultural Experiment Station, the CSU Soil and Crop Science Department, the CSU Bio-Agricultural Sciences and Pest Management Department, the USDA Agricultural Research Service, and the Natural Resources Conservation Service along with a number of agricultural commodities groups and individual producers have helped provide the resources and expertise to develop a statewide weather monitoring network focused on irrigation water use. In 2009, the North Platte Roundtable provided support to the Colorado Climate Center to add CoAgMet monitoring capabilities for the North Platte Basin. The Yampa-White Basin Roundtable is currently considering monitoring efforts in their area as well. Because of extremely limited financial resources, the network is in great need of committed sponsors to help maintain the existing infrastructure and continue to provide timely and high quality weather data for

water resources applications. The CCC continues to pursue strategies for long term support to maintain the CoAgMet network for the beneficial use of the citizens of Colorado. In the years to come, satellite estimates of crop water use on a field by field basis will becoming increasingly feasible, but the accuracy of such estimates are contingent upon the availability of high quality weather station data across the region.

Threshold and Evaluation Criteria
The application meets all four Threshold Criteria.

Funding Overview
Grant funding in the amount of $20,000 is requested from the South Platte Basin Account. The applicant has stated that some matching funds from Colorado State University and the Colorado Climate Center will be provided.

Discussion:
This is an important effort to expand the CoAgMet weather station network in the South Platte Basin. We have seen benefits from the Board's investment in the CoAgMet network in the Arkansas and North Platte basins in terms of better estimates of consumptive use as well as the collection of accurate and reliable weather data which can be used for many purposes in the future. This data can be used to assess climate trends as well as integration with efforts to obtain ET estimates through remote sensing. This project expands the scope of CSU's ongoing collaborative CoAgMet and brings the State closer to having a comprehensive statewide water use monitoring program in place.

Issues/Additional Needs:
No issues or additional needs remain.

Staff Recommendation:
Staff recommends approval of up to $20,000 from the South Platte Basin Account for the Colorado Agricultural Meteorological Network (CoAgMet).

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform. In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

Reporting: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Deliverable: At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

Engineering: All engineering work (as defined in the Engineers Practice Act (§12-25-102(10) C.R.S.)) performed under this grant shall be performed by or under the responsible charge of professional engineer licensed by the State of Colorado to practice Engineering.