

# AgKnowledge

For more information see the college web site at [www.cals.uidaho.edu](http://www.cals.uidaho.edu) or call 208.885.6681. For other AgKnowledges see <http://info.ag.uidaho.edu/>.

## WATER/ENVIRONMENT—Idaho's universities team up to study climate impacts on water

CONTACT RICHARD ALLEN at [rallen@kimberly.uidaho.edu](mailto:rallen@kimberly.uidaho.edu)

A COOPERATIVE PROJECT among Idaho's three universities will focus their broad range of expertise in hydrology, biology, economics, and a wide array of scientific fields to prepare for the effects of climate change on Idaho's Snake and Salmon rivers.

The project will seek ways to anticipate and manage impacts from climate change on Idaho agriculture, the environment, and society, said Richard Allen, professor of water resources engineering at the Kimberly Research and Extension Center.

Even if the best available scientific projections on climate change miss the mark, the research will help prepare the state for a phenomenon everyone does expect—drought.

The 5-year, \$15 million project was sought by the statewide Experimental Program to Stimulate Competitive Research (EPSCoR) and funded by the National Science Foundation. The grant is shared by the University of Idaho, Boise State University, and Idaho State University.

Allen's work to monitor evapotranspiration, better known as ET, and apply his Idaho findings to increase the efficiency of water use for crops has won widespread recognition. The new 5-year project will employ the broadest range of scientific experts in the most concentrated time frame and the most sophisticated technology that has yet been applied to the problem.

**Two rivers, two purposes:** Von Walden, a University of Idaho geophysicist who specializes in meteorology and climate change, will lead the statewide project. The Salmon will serve as the ecosystem more subject to natural forces while the Snake will serve as the working river more closely managed by society.

**Monitoring device:** The project will deploy three large-aperture scintillometers—sophisticated monitoring devices that shine a beam of invisible light across up to three miles of desert, rangeland, agriculture, and forests—to track energy balance that can be translated to ET. The new data will increase the usefulness of 25 years' worth of satellite data that Allen has collected.

The improved measurements of ET will help Allen and others understand the fate of water flows through the ecosystem, whether watering crops on the Snake River plain, flowing back into the Snake or sinking to recharge the Snake River Aquifer. Allen said for every 100 units of water in irrigation canals, 60 may be used by crops; fate of the remainder is uncertain.

## Magic Valley growers gain 10 days of water

CONTACT CHRISTI FALLEN at [cfalen@uidaho.edu](mailto:cfalen@uidaho.edu) or HOWARD NEIBLING at [hneiblin@uidaho.edu](mailto:hneiblin@uidaho.edu)

THE BIG WOOD CANAL CO. (BWCC) extended its days of available water by 10 last year after a team of shareholders, managers, employees, consultants, and educators worked together intensively to find water-saving solutions. The value of those 10 days in 2008 crop prices: at least \$1.6 million system-wide.

All 17 of the team's recommendations—which included water conservation, soil moisture monitoring, water loss assessments and reductions, and more flexible and demand-based delivery—were implemented by the BWCC board, says team member Christi Falen, UI Extension's Lincoln County

educator. "Quite a few of the recommendations required a shift in traditional thinking, and the team was excited by the board's willingness to move forward."

CALS irrigation engineer Howard Neibling, another team member, says tracking early-season soil moisture allowed BWCC to delay water release until crops really needed it. Once flows began, they were delivered at a more measured pace to stretch them farther into the growing season.

Lynn Harmon, BWCC general manager, expects "new ideas" and "new attitudes" to continue to add available days—"and that's dollars back in the pockets of farmers."

## CALS takes its native plant trials statewide

CONTACT STEVE LOVE at [slove@uidaho.edu](mailto:slove@uidaho.edu)

VISIT THE IDAHO Botanical Garden in Boise, the Sawtooth Botanical Garden in Ketchum, or the University of Idaho Arboretum in Moscow and you'll see native plants being intensively evaluated for landscape use.

Steve Love, UI Extension horticulture team leader, brought 50 plants of 14 different species to the Boise garden last spring. These penstemon, agastache, purple sage, buckwheat, columbine, Idaho fescue, and other Western natives are being compared for foliage and flower appeal and for their ability to stand up smartly to challenging growing conditions.

Plants delivered to the Ketchum garden must thrive despite high-altitude winters, while those in Moscow demonstrate native desert splendor within a recreated southern Idaho ecosystem. Students at two Idaho schools—Holy Rosary in Idaho Falls and Sorensen Elementary in Coeur d'Alene—are also cooperating by recording their observations of Love's plants.

After three years, the species showing the most promise will start down the road towards commercialization—bringing the beauty of Idaho's wildlands to its front yards.

### DID YOU KNOW?

**75%**  
AMOUNT OF IDAHO'S ANNUAL STREAMFLOW THAT COMES FROM MELTING MOUNTAIN SNOWPACK. IDAHO STREAMFLOW FORECASTS RANGE FROM 70% TO 95% OF AVERAGE FOR THE 2009 RUNOFF SEASON.

Source: USDA Natural Resources Conservation Service, Snow Survey Office  
[http://www.id.nrcs.usda.gov/snow/Agriculture/2008\\_projections](http://www.id.nrcs.usda.gov/snow/Agriculture/2008_projections)