COLORADO DROUGHT CONFERENCE DISCUSSES OPTIONS FOR SURVIVING THE UNCERTAINTY

Over 250 scientists, public officials, water managers, and media representatives gathered on the campus of Colorado State University on December 4th to share lessons learned in managing the driest year on record (2002) and examine options for addressing the uncertainty of water availability in 2003.

The Colorado Drought Conference was organized under the auspices of the new CSU DroughtLab, a joint initiative of the CSU Water Center and the Colorado Climate Center to proactively engage higher education expertise in addressing the knowledge needs associated with the not only the current drought, but future drought preparation.

The conference was cosponsored by the Colorado Water Conservation Board, the Colorado Water Congress, the Division of Water Resources (State Engineer's Office), and the Colorado District of the U.S. Geological Survey.

The conference examined data from 2002, beginning with the available water supply and the context of the current drought within the historic record. While a three-year drought is not unusual for the semi-arid Colorado climate, the extremely low flow of 2002 is a rare event. Projections for moisture in 2003 vary, adding to the uncertainty facing water managers.

While the low flows of 2002 created stresses on Colorado's water management system, the system appeared, in general, to work well. Water managers were able to make the adjustments needed to minimize the impacts. However, several sectors of Colorado's economy, it was noted, such as agriculture and recreation and tourism, experienced major losses.

Options discussed for better preparing for future droughts included increasing funding for water infrastructure and management, managing forests in a more 'healthy' manner (which will result in additional flows), and cloud seeding to enhance stream flows.

A proceedings of the conference will be published by the Colorado Water Resources Research Institute. It is hoped the proceedings can capture not only the information and data presented, but also the uncertainty expressed by many water managers as to the situation they face in 2003. When droughts end, the problems during the drought tend to be forgotten quickly. Hopefully, the proceedings will serve to remind us of the uncertainty drought brings and the need to be mindful of drought preparation at all times, not just during times of drought.

The Colorado Climate Center at Colorado State University is documenting the severity of the drought in terms of precipitation deficit and temperature anomalies. So far, we have found that the one year from September 1, 2001 to August 30, 2002 was exceptionally dry and warm, but the several-year period ending August 30, 2002 was not an unusual drought period. The threat of longer-term drought, based on the historical precipitation record, raises concern about even more serious drought impacts in the future. This work was reported in part at the December 4, 2002 Drought Conference.

Roger Pielke, Sr.

The College of Engineering and the Department of Civil Engineering provided seed resources to characterize the severity of droughts in the Poudre River. The project, under the direction of Jose D. Salas, Professor of Civil Engineering and co-Director of DroughtLab and in collaboration with Water Resources Specialists of the City of Fort Collins and the Northern Colorado Water Conservancy District, is quantifying the drought severity and drought risk using streamflow records of the Poudre River. Partial results of this project, which were summarized in a poster presentation during the Colorado Drought Conference on Dec. 4th, suggest that the return period of the 2000-02 three-year drought in the Poudre is of the order of 500-1000 years depending on the definition of drought event considered, i.e. quite a severe drought.

Pictures on page 14, clockwise from upper left: Jose Salas, Professor of Civil Engineering and Co-Director, Colorado DroughtLab; Roger Pielke, Sr., Professor of Atmospheric Science and Co-Director, Colorado DroughtLab; Representative Diane Hoppe with Dick MacRavey, Executive Director, Colorado Water Congress and Larry Simpson, Water Resources Management, Loveland; Tom Sanders, Professor of Civil Engineering and Rocky Wiley, Denver Water; and Chips Barry, Denver Water with Klaus Wolter, NOAA/CDC, Boulder; and Mark Waage, Denver Water.Chips Barry, Denver Water with Klaus Wolter, NOAA/CDC, Boulder; and Mark Waage, Denver Water.

…Despite regular snowfalls since September, reservoirs, on average, are still more than half empty after three years of below average snowpacks. Streams and rivers lost nearly one-third of their flow this year as Colorado sweated out a hot, dry summer when massive wildfires chased rain clouds from the sky, experts said. Meteorologists were split on whether the state will get plenty of snow this winter. Klaus Wolter, a Colorado-based atmospheric scientist with the National Oceanic and Atmospheric Administration, predicted a dry midwinter...Others said historical trends pointed to a wetter-than-usual year ahead, based on weather patterns and tree rings that have recorded droughts for centuries. Denver Post, 12/5/02.

The Colorado Drought Conference attracted a great deal of interest from the media, with coverage located at the following websites:

Channel 9 News: http://stream.liquidcompass.net/9news/newmedia/, 9News web site story: http://www.9news.com/storyfull-search.asp?id=9103 and Channel 7 News: http://www.thedenverchannel.com/news/1820973/detail.html

Loveland Reporter Herald: http://www.lovelandfyi.com/region.htm

Coloradoan: http://www.coloradoan.com/news/stories/20021205/news/511560.html

Rocky Mountain News: http://www.insidedenver.com/drmn/local/article/0,1299,DRMN_15_1588532,00.html

Denver Post: http://www.denverpost.com/Stories/0,1413,36%257E23447%257E1030610,00.html

Longmont Times Call: http://www.longmontfyi.com/regionstate.htm#story2

Clockwise from upper left: Larry Simpson, Water Resources Management, Loveland with John Porter, Retired Manager, Dolores Water Conservancy District and Dan Merriman, Colorado Water Conservation Board; Peter Binney, City of Aurora Utilities with Cat Shrier, CSU Graduate Student and Representative Bob McCluskey; Evan Vlachos, Professor of Sociology, CSU with David Thaemert, SEH of Fort Collins and John Eckhardt, CH2M Hill, Englewood; Representative Diane Hoppe and Kevin Darst, reporter with Longmont Times Call; Tony Frank, CSU Vice President for Research and Information Technology; and Charles W. Howe, Professor of Economics at the University of Colorado with Ray Anderson, retired USDA/ARS agricultural economics specialist and faculty affiliate at CSU.