

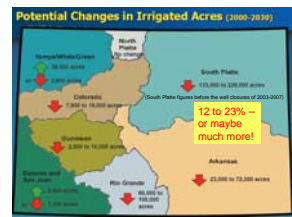
Climate Responsive Water Management: The motivation for improving Ag-to-Urban Frontiers: What's at Stake? John Wiener, U. of Colorado at Boulder and National Center for Atmospheric Research

www.colorado.edu/ibs/eb/wiener - hand-outs and presentations

We've got big trouble even without climate change!

Meanwhile, back on the farm, Out where the land isn't going into sprawl or urbanizing...

Urbanizing or sprawl...



Going "back to nature" after sod-busting...

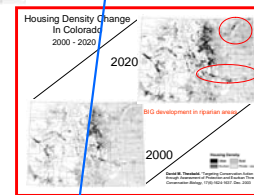
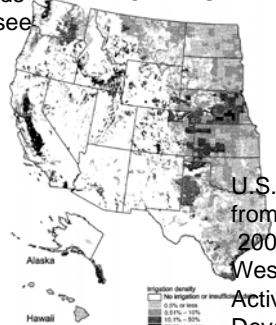


Furrow Irrigation We put a lot of green out there!



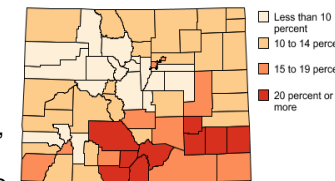
We **DISPLACED** pre-development wetlands and ecology and **REPLACED** it in part... see AWRA 2008 presentation, URL above.

A LOT AT STAKE!



U.S. West irrigated acreage, from Gollehon, N. and W. Quinby, 2000, Irrigation in the American West: Area, Water and Economic Activity. Water Resources Development 16(2): 187-195

Percent population in poverty, 2005 - before the "fiscal crisis"

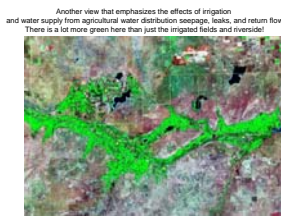
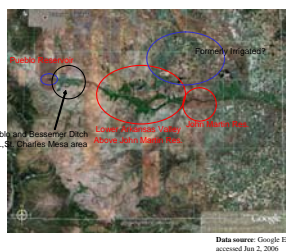


Growth, and Poverty are NOT Evenly distributed - farm and ranch dependent areas are not sharing urban prosperity

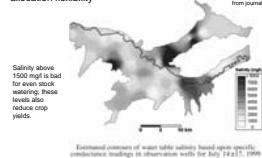


Cumulative impacts are generally not considered in water law... only if there is a major federal action or if there is an identified Endangered Species Act problem or if a TMDL is created, or if the State is actively pursuing an already-identified water quality problem...

Colorado's Lower Arkansas Valley - Unknowns and Issues...



Inhomogeneity of salt loading suggests remediation by ending deep percolation in source areas - One of several reasons for internal re-allocation flexibility



What will be affected? And, what will surprise us?

CHOICES? HOW CAN IRRIGATORS RETAIN WATER DESPITE URBAN DEMAND, AND WHAT CHANGES IN WATER LAW MIGHT HELP? Please see handouts (will be posted on the website as well). The essence: (1) use the whole market better - get compensation for benefits to environment, real estate, amenity and open space value; (2) manage ALL the assets - the land and the water and the farming capacity, better matched (3) Make LONG deals, FINANCE AND PLAN long term!

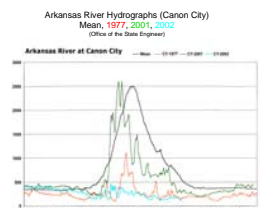
HOW MUCH OF THIS, AND HOW MUCH OF THIS?

A drainage ditch near Ordway, CO, May 2008, after the wind erosion after the fire after the wet spring and winter after an average year after the multi-year drought after years of water erosion on the formerly irrigated lands after farming from 1860s -70s until the 1960s... When the water was sold and there was no idea of revegetation...

Pueblo Chieftain Photo, Chris Mclean, 02 May 08



This is what the 2002-centered drought looked like in the Arkansas Valley - images of more water removals and climate change?



Fort Lyon Storage Canal Headgate



Holbrook Headgate Works, May 2002 on the Arkansas River, North of La Junta - Preview of how much of the future?

