

**New Mexico Regional Water Planning  
Governance Study Group  
Issue Paper**

## **Technical Information**

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### **Data in Regional Water Planning**

***Common Technical Platform*** - In the first round of regional water planning, the regions used different methods of measuring bio-physical and demographic conditions. That made it difficult to compare or combine Region A's results with Region B's results. Accordingly, the ISC determined that for the second round of regional planning, we needed a "Common Technical Platform" for use by all regions.

***Administrative Water Supply*** - The ISC went further by declaring that the Common Technical Platform would be a new construct called the "Administrative Water Supply" (AWS) in which 2010 withdrawals were equated to 2010 supply, with withdrawals scaled by population growth over future years. The approach is too simple. The AWS doesn't allow regional planning consideration of: (a) the data differences from the first round of regional water planning, (b) the effects of riparian and open water losses, (c) the existence and implications of groundwater mining, (d) the existence of unsatisfied demands, (e) the coming extreme climatic events, (f) the significant annual variations in precipitation, (g) steady vs. weather dependent demands, (h) differences in water rights and hence demand regimes (sovereign, adjudicated, permitted/dedicated, unadjudicated), (i) existence of already existing deficit, if any, and (j) conditions upstream and downstream of each region, including those within the same compact basin.

***Demographic Data*** – In addition, the Common Technical Platform does not account for variations in demographic conditions across regions. For example, in the previous round of regional water planning, the Northwest New Mexico plan incorporated projections of tribal populations that differed from county-wide projections prepared by the Bureau of Business and Economic Research. Tribal populations may be affected differently by economic conditions and may have goals of having members return to their homelands. The current round of water planning, constrained by time, resources, and participation, does not allow tribal or other population variations to be addressed.

***Climate Disruptions*** - Regions are already experiencing more extreme climate disruptions and are being forced to find solutions. The Common Technical Platform does not address the variability with the Severe Drought Impacted Administrative Water Supply ("based on the ratio of the minimum drought of record to the 2010 administrative water supply") Regions are not experiencing a static point.

- Climate assessments predict significant reductions in surface water supply below 2010.
- Even without climate change, records show frequent occurrences of multi-decadal drought.
- Planning must deal with great year-to-year variability in available surface water.

- Planning should acknowledge the likelihood of frequent intense events – storms, droughts, wildfires

With the historical data now being a less than credible image of possible future resources, the regions need data, tools and projects that demonstrate the need for resiliency and help to build it.

## **Successful Examples**

**Technical Committees** - During the first cycle of regional water planning, several regions created “Technical Committees”. To the extent available, the committees included experts representing various disciplines and viewpoints (hydrology, law, biology, planning, utilities, agriculture, etc.). These committees made varying contributions to their respective regions’ planning, but all helped the regions to establish a bio-physical and demographic ground truth upon which the water planning decisions could be made. They allowed stakeholders to have and express their own opinions, but not work from their own facts. Local knowledge imbued the process with a level of trust and ensured that the product was relevant to the region, both of which made acceptance more widespread.

In a comparison of water planning done several years ago, the ISC found that many western states "allow technical studies and communication among stakeholders to occur at a more meaningful, local level."<sup>1</sup>

**Climate Change Handbooks** – California’s *Climate Change Handbook for Regional Water Planning*,<sup>2</sup> and the Colorado Climate Plan<sup>3</sup> provide a framework for considering climate change in water management planning. Key considerations, resources, tools, and options are presented that will guide resource managers and planners as they develop means of adapting their programs to a changing climate. The handbook uses the Department of Water Resources' Integrated Regional Water Management planning framework as a model into which analysis of climate change impacts and planning for adaptation and mitigation can be integrated.

## **Recommendations**

**Technical Committees** – To address the need for credible, comparable, and meaningful data we recommend that the State allow, encourage, and fund the regions to establish technical committees of local experts to the extent practicable, for the purpose of developing a credible regional set of data for the region.

**Common Technical Platform** - We also recommend that the state build on the concept of a “Common Technical Platform” to allow comparison among regions, adding to it to reflect the sometimes vast differences among regions’ environmental and human attributes. Commonalities among regions’ data should be based on a wider range of parameters that can reflect the regional attributes, allowing supply and demand for the more complex regions to be well described, while

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<sup>1</sup> ISC's Overview of Water Planning in Western States, February 2009,

<http://www.ose.state.nm.us/Planning/SWP/PDF/WesternStatesWaterPlanningOverview-2009-02.pdf>

<sup>2</sup> California Department of Water Resources, 11/11, <http://www.water.ca.gov/climatechange/CCHandbook.cfm>.

<sup>3</sup> The 2015 Colorado Climate Plan, <http://cwcb.state.co.us/environment/climate-change/Pages/main.aspx>.

less complicated situations could report “not applicable” or “still to be measured” where appropriate. At a minimum, the following common parameters should be defined and established on a statewide basis, to apply for all regional water plans:

- Identification and definition of reporting methods
- Requirement to address each demand type (depletions and withdrawals, M&I, ag, riparian, mining, etc.).
- Definition of each sector of use (M&I, ag, riparian, mining etc.).
- Requirement to be compatible with (or deliberately different from) NMSU’s Statewide Water Assessment
- Requirement for incorporation of groundwater impacts.
- Time frame for historical basis data
- Time frame or horizon for the cycle of planning
- Definitions of key water planning related words and phrases
- Annual scaling of future water availability (or other means) to account adequately for climate change.
- Definition(s) of supply/demand “gap” (e.g., renewable supply minus depletions or withdrawals minus water rights, etc.).
- Definitions of data components to describe water availability and demand for accounting (paper water components, wet water components, dedicated rights components, permitting components, stream flow components, rainfall components, pumping components, etc.) and when/how to aggregate components.
- Demand projection methodologies – how to project demands upon available water (population estimates, conservation estimates, economic expansion estimates, specific knowledge corrections, uncertainty reporting, etc.)

Subject to these commonalities, the technical committees, where available, should interpret the hydrological attributes for their regions. The regions without such technical committees could seek assistance from a state university or defer to the expertise of the OSE/ISC.

To further improve water planning and administration, the state (and/or adjacent regions) should establish formal mechanisms to (a) account for groundwater and surface water flows between adjacent regions (i.e., pseudo-compacts) and (b) plan for adequately coordinated inter-basin and inter-region transfers of water.

***Climate Change*** – We recommend that the State work with the regions to develop a New Mexico framework for considering climate change in water planning. Key considerations, resources, tools, and options should be included, to guide resource managers and planners as they adapt their programs to a changing climate. The framework should encourage chapters on climate change impact assessment, planning, and coordination in regional and state water plans.