

**Statement of Michael L. Connor, Commissioner  
Bureau of Reclamation  
U.S. Department of the Interior**

**before the  
Committee on Energy and Natural Resources  
United States Senate  
Field Hearing  
Climate Change and its Effect on Western Water Supplies  
Santa Fe, NM**

**April 27, 2011**

Chairman Bingaman, Ranking Member Murkowski and members of the Committee, I am Mike Connor, Commissioner of the Bureau of Reclamation (Reclamation) at the Department of the Interior (Department). Thank you for the opportunity to testify before the Committee today regarding the water supply situation in New Mexico and within the Colorado River Basin, as well as the longer-term subject of climate change and its effect on western water supplies. These are areas of special emphasis and study at the Department, and as a long-term New Mexican, I am pleased to report on the many activities we have underway.

Last year on March 16, 2010, the Water and Power Subcommittee of this Committee held a hearing on a Department program called WaterSMART (Sustain and Manage America's Resources for Tomorrow). The WaterSMART program provides the foundation for the Department's efforts to achieve a sustainable water supply for this country. It includes efforts of Reclamation and the U.S. Geological Survey (USGS) to improve water conservation and help water-resource managers make sound decisions about water use. It is a prominent feature in the Department's Fiscal Year 2012 budget request. WaterSMART was established pursuant to Secretarial Order 3297, and the Program functions as the Department's implementation of the SECURE Water Act, Title IX Subtitle F of Public Law 111-11. Much of my statement today will review WaterSMART activities to date, but I'd also like to discuss future activities and where the current research on climate change is pointing the Department and Reclamation.

The science is quite clear that climate change will add to the challenges we face in managing our water supply, water quality, flood risks, wastewater, aquatic ecosystems, and energy production. These new stresses are likely to be felt first in the western United States, the fastest growing region of the nation. From 2000 to 2010, Nevada grew the most at 35.1 percent, followed by Arizona, Utah, Idaho and Texas. Nevada is the only state that has maintained a growth rate of 25.0 percent or greater for the last three decades,<sup>1</sup> with some of the fastest growth in the driest areas.

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<sup>1</sup> Source: U.S. Census Bureau, *Population Distribution and Change: 2000 to 2010*. Summary online at [http://www.census.gov/newsroom/releases/archives/2010\\_census/cb11-cn124.html](http://www.census.gov/newsroom/releases/archives/2010_census/cb11-cn124.html)

Earlier this week, the Department published the report called for under Section 9503(c) of the SECURE Water Act (Report). The Report synthesizes existing peer-reviewed literature on climate change, and also features an original assessment of climate change implications for snowpack and natural hydrology. The Report provides a presentation of Reclamation's work to date on assessing the effects and risks from global climate change on water resources in each major Reclamation river basin; the impact of global climate change on operations in each of these basins; mitigation and adaptation strategies to address global climate change; and each coordination activity conducted by the Department within Federal and state water resource agencies.

The Report re-emphasizes other scientific studies which conclude that in the 21<sup>st</sup> century temperatures may increase by roughly 3 to 4 degrees Celsius (°C) in the Western United States. This increase is in addition to the approximate 1-2 °C average warming experienced across much of the West during the 20<sup>th</sup> Century. Also, in the coming years, it is likely that the northwestern and north central portions of the United States will have greater rainfall (e.g., Columbia and Missouri basins), while the southwestern and south central portions are expected to have less precipitation (e.g., San Joaquin, Truckee, middle to lower Colorado, and Rio Grande basins). For the areas in between trends in precipitation have not yet been identified, though increasing temperatures may still affect water supply availability (e.g., Klamath and Sacramento River Basins). April 1<sup>st</sup> snowpacks are projected in the Report to decrease for almost all of the Western United States and annual water supplies may change, with the peak flow in snow-pack dominated watersheds occurring earlier.

Speaking to the Colorado River Basin specifically, the Report shows that the entire basin experienced an increase in temperature in the 20<sup>th</sup> century. The amount of increase varies geographically and seasonally, but is roughly between 1 and 3 °C. This temperature increase is changing the dynamics of the basin, identified through measurement of the number of frost-free days, length of the frost-free season, and in the growing season length (spring is coming earlier). Results from climate simulations indicate a high degree of agreement on projected changes in temperature. Temperature is projected to increase by 1 to 2 °C by 2040, 2 to 2.75 °C by 2070 and by up to 4 °C by the end of the 21<sup>st</sup> century.

Precipitation changes in the basin are more variable than temperature and the distribution of these changes are more complex. Precipitation variability is tied to ocean dynamics, in particular, sea surface temperatures in the Atlantic and Pacific Oceans. This partially explains why Colorado River Basin precipitation varies through time. However, the period from 2000 to 2010, inclusive, has been the driest 11-year period in the 100-year historical record on the Colorado River Basin. It is unknown whether this current drought can be attributed to climate change, as stream flow records reconstructed from tree-rings indicate that droughts of this magnitude have occurred in previous centuries. However, several scientific studies have concluded that the recent drought is likely a harbinger of future conditions. Modeled projections for precipitation indicate that there may be an increase in the Upper Colorado River Basin and a decrease over the more arid regions within the Lower Colorado River Basin.

Despite the significant range of potential changes in precipitation patterns and quantities, the temperature driver is anticipated to continue to alter snowpack conditions within the Colorado

River Basin. The trend towards earlier spring runoff is expected to continue, changing the time when snowpack melts and the dynamics of runoff. These changes are already apparent in that the snowpack in the Colorado River Basin has been experiencing a general decline in the spring, reduced fractions of winter precipitation occurring as snowfall, and earlier snowmelt runoff. Reduced mountain snowpack, earlier snowmelt, and reductions in spring and summer streamflow volumes originating from snowmelt could trigger increased reliance on ground water resources. However, warmer, wetter winters could increase the amount of water available for ground water recharge, but this is an area that is poorly understood and in need of further study.

Many studies investigating changes in Colorado River streamflow have been conducted in recent years; in combination, they project reductions from 6 to 20 percent by the middle of the 21<sup>st</sup> century. The risks of shortage to users in the lower Colorado River Basin (as defined in Reclamation's *Interim Guidelines for Lower Basin Shortages and Coordinated Operations of Lakes Mead and Powell*)<sup>2</sup>, although averted in 2012 due to a reasonably good snowpack and runoff this year, are expected to increase over time to about 40 percent in 2026. With current water management strategies throughout the Colorado River Basin, risks of full reservoir depletion are less than 5 percent through 2026, however these risks increase significantly between 2026 and 2057, inclusive. Risks can be reduced through alternative water management strategies, and Reclamation, in cooperation with stakeholders Basin-wide, is aggressively pursuing investigation of such studies in its WaterSMART Basin Study, which I will describe in more detail below.

It is not possible to infer water management impacts, nor develop adaptation strategies, simply from these runoff changes alone. Water management systems across the west have been designed to operate within wide envelopes of hydrologic variability, handling variations from season-to-season and year-to-year. These systems were designed with local hydrologic variability and demand patterns in mind, and as a result, their physical and operating characteristics vary depending on storage capacity and conveyance flexibility. For example, the Colorado River Basin has a relatively large amount of storage relative to annual runoff compared to California basins, and particularly relative to the Columbia basin. Each basin or Reclamation project also has different constraints in which it operates including providing hydropower, managing floods in conjunction with the U.S. Army Corps of Engineers, delivering water to agricultural and municipal water users, and supporting the recovery of threatened and endangered species. The ability to use storage resources to mitigate future hydrologic variability, changing water demands, constraints on operations, and changes in runoff seasonality are key determinants of whether these natural runoff changes will translate into significant management impacts. Assessment of these water management impacts on a local level is the subject of ongoing activities within Reclamation's Basin Studies Program and West-Wide Climate Risk Assessments (WWCRAs).

In its Fiscal Year 2012 budget request submitted to Congress in February, Reclamation requested \$58.9 million for the WaterSMART Program, of which the Basin Studies and WWCRAs are a part. Beyond the initial Report, the request of \$1 million for the WWCRAs will continue Reclamation's development of consistent and comprehensive baseline projections of risks and

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<sup>2</sup> <http://www.usbr.gov/lc/region/programs/strategies/documents.html>

impacts to Reclamation operations due to impacts of climate change. Funding of \$2.5 million will support the Basin Studies, through which Reclamation will continue to work with state and local partners to evaluate the ability to meet future water demands within a river basin and to identify adaptation strategies where water supply and demands may not be in balance. Basin Studies benefit from results generated through the WWCRA. The purpose of the WWCRA is to identify and examine water supply and demand imbalances so that the Basin Studies can analyze how those imbalances impact operations. The Basin Studies may then develop strategies to mitigate or adapt to impacts to operations. The Fiscal Year 2012 Budget Request included \$6.0 million for Basin Studies. As an example, the Colorado River Basin Study is focusing on a more detailed, basin-wide assessment of risk to Colorado River Basin resources from future water supply and water demand imbalances and identification and evaluation of strategies to resolve future imbalances and mitigate risks. As a separate activity from the work developed for the Report, Colorado River Basin stakeholders throughout the Basin are heavily engaged in the Colorado River Basin Water Supply and Demand Study.

The Colorado River Basin Study contains four major phases: water supply assessment, water demand assessment, system reliability analysis, and development and evaluation of opportunities for balancing supply and demand. A scenario planning process has been undertaken to provide a framework to incorporate the high degree of uncertainty in the assessment of future water supply and water demand. This process, which includes input from stakeholders throughout the Colorado River Basin, is being used to develop a broad range of plausible scenarios of future supply and demand. Four water supply scenarios have been formulated and quantified, one of which incorporates future climate projections from Global Climate Models. The remaining three water supply scenarios use approaches applied to observed and paleoreconstructed streamflow records. Four water demand scenarios also have been identified that incorporate plausible future trajectories related to demographics and land use, technology and economics, and social and governance factors.

All of this work is geared toward providing very real-world, practical results: preparing our facilities to continue delivering benefits in the future. Reclamation's customers – farms, cities, power users, recreationalists and our ecosystem programs – all rely on the stability provided by the existing water infrastructure in the West. In 2012 Reclamation will begin providing funding for specific feasibility studies for actions to address climate change impacts through the WaterSMART Basin Study Program. Funding for the studies will require a 50 percent non-Federal cost share, and will pursue strategies previously identified in Basin Studies or equivalent appraisal level analyses. Potential areas include the Colorado, Columbia, Klamath, Missouri, Rio Grande, Sacramento, San Joaquin, and Truckee rivers, to be determined by Reclamation and its partners. In addition, a WaterSMART Funding Opportunity Announcement (FOA) was published by Reclamation and the Department of Agriculture's Natural Resources Conservation Service (NRCS) at the end of 2010 inviting irrigation districts, water districts and other organizations to apply for conservation projects. In partnership with Reclamation, NRCS will provide funding and technical assistance to farmers and ranchers eligible for on-farm conservation practices through the WaterSMART program.

In addition to these programs, Reclamation is completing major projects to recover power plant generating capacity and efficiency in the face of a more than 100-foot decline in the level of

water in Lake Mead. These projects include installing new turbine components and modifying or adjusting existing turbine components to increase generation capacity available when the lake level is low. As a result, the total increase in generating capacity achieved at Hoover Dam to date is 93 megawatts (MW), and an additional 7 MW is scheduled for May 2011. Reclamation is also replacing existing turbine runners to wide range turbine runners to improve efficiency and provide wide range turbine operation at Glen Canyon and Hoover power plants.

As you can see, Reclamation's activities in the face of drought and potential climate change impacts are many and varied. In addition to the Programs described above, Reclamation also works with its many partners on a day-to-day basis to better understand and incorporate climate information into western water resource management as well as in the implementation of Section 9503 of the SECURE Water Act. These partnerships include:

- Through the WaterSMART Program Task Force, each bureau and office under the Department is tasked to use available program discretionary authorities, within the scope of its mission. The Task Force is responsible for working within existing relationships and developing new partnerships between Federal agencies, States, and tribes to collaborate on implementation of WaterSMART. Through the WaterSMART Basin Studies, Reclamation is partnering with local water and power delivery entities to develop mitigation and adaptation strategies to meet any water supply and demand imbalances that may exist now and in the future. As noted above, within the Colorado River Basin Water Supply and Demand Study, Reclamation is partnering with the seven basin States (New Mexico, Arizona, Colorado, Utah, California, Nevada, and Wyoming). Similar partnerships exist for other basin studies.
- Secretarial Order 3289 established the Department's coordinated approach to dealing with climate change through the Landscape Conservation Cooperatives (LCCs) and Climate Science Centers. Reclamation's collaboration within the LCC framework is part of its WaterSMART implementation. Each LCC functions in a specific geographic area and will form a national and international network for applied science to inform resource management. Over the past year, Reclamation and the U.S. Fish and Wildlife Service have formed broad-based scoping committees for the Desert and Southern Rockies LCCs, with participation by multiple State and Federal agencies, non-governmental organizations, tribes and universities. The steering committees for the Desert and Southern Rockies LCCs will be established in April 2011. Reclamation plans to integrate and coordinate its WaterSMART activities with the LCCs. Additionally, the Bureau of Reclamation has begun working with the DOI Climate Science Centers and National Climate Change and Wildlife Science Center to identify develop and begin research specific to water management.
- In 2008, Reclamation collaborated with the U.S. Army Corps of Engineers, National Oceanic and Atmospheric Administration (NOAA), and the USGS to form the Climate Change and Water Working Group (CCAWWG) to bring water managers and climate scientists together to identify common information gaps to assess, forecast, and adapt to climate change impacts on Western water supplies. Additional CCAWWG Federal participants include the Environmental Protection Agency, Federal Emergency

Management Agency, and National Aeronautics and Space Administration; non-Federal participants include the Western States Water Council; local municipal water authorities; NOAA's Regional Integrated Science and Assessment (RISA) Centers; and the National Center for Atmospheric Research.

- Department of Commerce – NOAA – Reclamation continues to collaborate with NOAA Regional Integrated Science Assessment (RISA) teams and regional climate centers in the western U.S. to assist in developing climate information to support stakeholders in a variety of sectors, including identifying information needs, development of decision support tools related to climate variability and change, and data selection, interpretation, and understanding. These centers include the Climate Decision Support Consortium, the California-Nevada Applications Group, the Western Water Assessment, the Climate Assessment for the Southwest, and the Southern Climate Impacts Planning Program. Reclamation also continues to collaborate with the former RISA center at The University of Washington, the Climate Impacts Group. In addition to engaging with RISA centers, we are collaborating with NOAA Earth System Research Laboratory to better understand the science surrounding climate variability and climate change.
- NRCS – NRCS's Snowpack Telemetry network provides an extensive, automated system designed to collect snowpack and related climate data in Alaska and the western United States which is used to produce water supply forecasts. NRCS's Soil Climate Analysis Network (SCAN) is an information system designed to provide data on soil moisture and climate information from a number of different sources also used in forecasting.
- The Department of Interior participates on the Interagency Climate Change Adaptation Task Force, co-chaired by the Council on Environmental Quality, the National Oceanic and Atmospheric Administration, and the Office of Science and Technology Policy. The Task Force works with Federal agencies to identify actions to better prepare the United States to respond to the impacts of climate change. The October 2010 *Progress Report* of the Task Force recommends that the Federal Government implement actions to expand and strengthen the Nation's capacity to better understand, prepare for, and respond to climate change. The Task Force's work has been guided by a strategic vision of a resilient, healthy, and prosperous Nation in the face of a changing climate. Reclamation participates on the Water Resources and Climate Change Adaptation Workgroup that supports the Task Force and is developing the *National Action Plan* for adaptation of freshwater resources management to climate change called for in the October 2010 *Progress Report* of the Adaptation Task Force (see the October 2010 *Progress Report* of the Task Force for more information).
- Finally, I'd like to note that the Administration recently transmitted a report to Congress that was required in Section 9506 of the SECURE Water Act. Section 9506 of the Omnibus Public Lands Act (Public Law 111-11) calls for a report to Congress on the

adequacy of water resources measurement, modeling, and data sharing systems that are relevant to climate change adaptation. The Nation invests considerable resources in monitoring, mapping, evaluating, assessing, modeling, and managing water resources. Many of the existing observational water data networks, models, and hydro-statistical methods were developed for specific users and pre-date recent advances in climate change science. As a result, these systems (networks, methods, and models) were not designed to account for the effects of a changing climate on water resources, or to evaluate the effectiveness of climate change mitigation and adaptation strategies. Today, there is a need and an opportunity to modernize data networks and climate-relevant data collection, data management, mapping, modeling, and information dissemination. Of particular importance is maintenance and strengthening of long-term ground-based and remote observational capabilities to detect change. The report addressing these concerns has been reviewed by the multiagency panel authorized in Section 9506(a), and a draft version is out for public comment. The panel looks forward to presenting its findings to the Secretary for transmission to Congress.

### **Hydrology – Colorado River and New Mexico Water Supply, 2011**

Apart from the longer-term topic of west wide climate change, the other focus of the Committee today is the near-term water supply picture on the Colorado River and here in New Mexico for 2011. We've discussed long-term trends on the Colorado above, so let me turn now to the Rio Grande.

In New Mexico, predictions of a strong La Niña, with drier conditions expected in the Rio Grande and Pecos river basins, are proving accurate this year based on the early season conditions in these basins. The Rio Grande is seeing lower than average precipitation (80 percent as of April 17), and higher than average temperatures. The Pecos River Basin has been even drier, with only 51 percent of average water year precipitation for this date (April 17). These factors, coupled with below average carryover storage in the systems, do not bode well for conditions in the spring and summer in these two basins unless significant late spring precipitation occurs. While current conditions and projections are positive for the Upper Colorado River basin, a warming trend during April has the potential to erode the above average conditions that we are currently seeing.

The low precipitation levels that currently exist in the Rio Grande and Pecos river basins are of significant concern to Reclamation with respect to its operations in New Mexico. In the Middle Rio Grande, although there is likely to be sufficient water to meet endangered species needs and still maintain water operations in 2011, reservoir levels will fall and the situation lends urgency to our efforts to put a new long-term biological opinion in place upon expiration of the existing opinion at the end of 2012.

In the Pecos river basin, Reclamation is working closely with its water user partners and the New Mexico Interstate Stream Commission to acquire additional water through lease and forbearance

agreements that will provide sufficient flows for meeting the 2006 biological opinion flow targets, assist in meeting Pecos River Compact obligations, and provide efficient irrigation deliveries. The U.S. Fish Wildlife Service and Reclamation are monitoring conditions and adjusting operational plans for anticipated reduced in-river flow conditions on the Pecos so that the available supply is optimized to protect the Pecos Bluntnose Shiner while meeting downstream needs.

Finally, with respect to the Rio Grande Project, forecasted inflow to Elephant Butte Reservoir is 36 percent of average and the reservoir is expected to drop 24 feet this summer impacting the recreational economy of the area. Water users, the states of New Mexico and Texas, and Reclamation are looking at alternatives to conserve storage while meeting irrigation demands for two irrigation districts and treaty obligations for water deliveries to lands in the Republic of Mexico. As part of its primary mission in the Middle Rio Grande, Reclamation continues to improve the Rio Grande channel conditions for the efficient transport of water and sediment to Elephant Butte in collaboration with the New Mexico Interstate Stream Commission, and is working closely with irrigation districts to increase their conservation efforts.

To the west and north of New Mexico on the Colorado River, the upper basin of the Colorado has received healthy, above average precipitation so far this year (121 percent of average as of 4/21). The April to July inflow forecast to Glen Canyon Dam / Lake Powell, which represents the bulk of the inflow, increased by 6 percent since March 1 to 122 percent of average. The above average inflow forecast will result in increased releases from Lake Powell under the equalization rules. These additional releases from Lake Powell will increase Lake Mead's content to approximately 46 percent of capacity by the end of the water year, more closely balancing the contents between Lake Powell and Lake Mead. While we are encouraged by the water availability this year, we would caution that it is too early to say that we are out of the long-term drought we have been facing since 2000 in the southwest.

As of April 21, 2011, the storage in Lake Mead was 11.1 million acre-feet (43 percent of capacity) and its surface water elevation was 1,096 feet above sea level. Total overall reservoir storage in the Colorado River Basin was 31.4 million acre-feet (53 percent of capacity).

Due to winter storms in the Lower Basin in late 2010, tributary inflows were well above average in December. Inflows resulting from these storms increased Lake Mead's elevation by nearly 2 feet during a 7-day period in December 2010. Also due to the winter storms in late December 2010, and additional storms in February 2011, demands in the Lower Basin were less than projected during the months of January and February 2011. The month of February brought cooler than normal temperatures and precipitation varied with below normal precipitation in some areas and above normal precipitation in other parts of the Lower Basin. During March, temperatures were warmer than normal and precipitation was well below normal throughout the basin. The Climate Prediction Center outlook (dated April 21, 2011) indicates that over the next three months that more likely than not it will be warmer than normal with equal chances for above or below normal precipitation in the Lower Basin.

## **WaterSMART Water Availability and Use Assessment Initiative**

The Department of the Interior's High Priority Performance Goal set a target for water conservation through the WaterSMART Program. For Fiscal Year 2012, Reclamation is seeking to achieve 490,000 acre-feet of water savings. In Fiscal Year 2010, Reclamation achieved a savings of 150,000 acre-feet of water. The Fiscal Year 2011 assessment is still underway.

As previously mentioned, the USGS is an important partner of Reclamation on the WaterSMART initiative. I would like to end this statement with a discussion of the USGS's WaterSMART Water Availability and use Assessment Initiative. Many factors affect the amount of water that is available; precipitation patterns, streamflows, groundwater availability, and land uses all affect water availability. The USGS's WaterSMART Water Availability and Use Assessment Initiative will account for the changing amount, quality, and use of water resources across the Nation. It provides a standard way for the Nation to understand water availability using measurements or estimates of the different components of the water cycle, including precipitation, surface water, and groundwater. The President's 2012 budget includes \$10.9 million USGS to carry out this initiative. The key components of this initiative include:

- A nationwide system to deliver information about water availability factors that every manager needs when dealing with availability questions - precipitation and evapotranspiration, surface-water runoff and baseflows, recharge to groundwater and changing storage in aquifers.
- Increased knowledge of water use science – withdrawals, demands, consumption, and return flows.
- An investment in the science of ecological flows.
- A new grant program for state water resource agencies to assist them with critical work on their water use databases.
- A series of "focus area" studies that will include a comprehensive three-year technical assessment of water availability with the best available tools.

The ultimate objective of USGS WaterSMART efforts is to provide the ability to track water use from its point of withdrawal, through how the water is used and consumed, and ultimately how it is returned to the environment. The Administration fully recognizes the important role of states in producing water use information, and we realize the heavy burden that states currently bear financially. For that reason, USGS investment in water use science will include a program of grants to state water resource agencies to assist them with critical work on their water use databases.

Finally, throughout the United States there are areas where competition for water resources has reached a level of national attention and concern. Sometimes the competing interests are multiple human needs – needs for potable water, for irrigation, for energy, for industrial processes or for other uses. In other circumstances, the competition is between human and aquatic ecosystems needs. Through WaterSMART, USGS proposes a series of studies, focused

on selected watersheds, where there is a desire on the part of watershed stakeholders to conduct a comprehensive technical assessment of water availability with the best available tools. These studies will provide critical information to land and water resource managers through a comprehensive technical analysis of the factors affecting the availability of water. The first three geographically focused studies of water availability and use will be in the Colorado River (CO, UT, WY, NV, NM, AZ, CA), Delaware River (NY, PA, NJ, DE), and Apalachicola, Chattahoochee, and Flint River Basins (AL, FL, GA). USGS will work with watershed stakeholders and the various agencies involved in these geographic focus areas to scope and conduct these studies. During the early months of 2011, USGS began seeking stakeholder input to develop the scope of the Colorado River geographic focus area study.

The 2012 budget provides \$10.9 million for USGS activities in the WaterSmart initiative, \$9.0 million above the 2010 Enacted/2011 CR level, to implement the WaterSmart Availability and Use Assessment. USGS will conduct comprehensive water supply and demand inventories to provide the baseline information needed by public and private water managers to work toward sustainable water supplies. This effort will include estimating freshwater resources, how those supplies are distributed, and how they are changing over time; evaluating factors affecting water availability including energy development, changes in agricultural practices, increasing population, and competing priorities for limited water resources; and assessing water use and distribution for human, environmental, and wildlife needs.

### **Conclusion**

Droughts and dry weather are nothing new in the Southwest. And as you know, the water infrastructure constructed by Reclamation and our partners in the West was built to mitigate for that reality. This year, we will work with the hydrology in New Mexico and on the Rio Grande and Colorado River together with our partners to maximize water reliability on the rivers, and meet our obligations to the maximum extent practicable.

In the longer term, the Department is working every day to equip our agencies and other resource managers with the data they need to answer the questions they face about water supply and use and to continue delivering water and power in the face of a changed climate.

While the activities described here today are wide-ranging, they are by no means inclusive of every avenue we're pursuing. New ideas are at the heart of innovation, and we value our partnership with Congress to bring the best thinking to the challenge of climate change. In ways both large and subtle, this challenge will impact nearly every facet of Reclamation's operations, so if new thinking on how to anticipate and adapt to climate change comes to our attention, we will pursue those as well.

Chairman Bingaman, thank you for the opportunity to discuss these important topics. I would be pleased to answer any questions the Committee may have.