



An Overview and Discussion of Colorado River Basin Hydrology Datasets: Impact on Management and Policy

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Abstract:

River hydrology – the flow within the main stem and its tributaries – plays a crucial role in determining water resource management and operational policy within the river’s basin. Multiple hydrology datasets (henceforth “hydrologies”) developed by various sources are being used in efforts to analyze current and potential policies for future water distribution in the Colorado River Basin. To fully understand their impact on policy development efforts, we must understand the impact of hydrology on operation and planning forecasts, the major methods used to develop hydrologies, the hydrologies’ basic attributes, how they compare to the observed record and each other, their advantages, and their drawbacks. In this overview, we provide an example of hydrology impact on forecasts, summarize a select 15 hydrologies, the method used to produce them, their basic attributes and summary statistics, and their advantages and drawbacks based on the context of what techniques are currently available. We end with discussion of conclusions and potential next steps.

Speaker(s) Bio: Shane Coors, MS, PE – Principal: The founder and principal of Precision Water Resources Engineering, Mr. Coors received a BS in Engineering Physics from Westmont College, and an MA Civil Engineering from Texas A&M University. He taught in the Physics department of the University of Utah for four years, while working toward a MS in Computational Physics. He was employed by the United States Bureau of Reclamation in Salt Lake City and Carson City for six years, specializing in water resource system modeling. He left federal service in 2008 to start Precision. He is a registered professional engineer in the state of Nevada. Mr. Coors specializes in RiverWare model development, high-precision realtime operations modeling, and utilizing water resource system models to support reservoir operations, planning studies, climate change studies, NEPA compliance, and expert witness services. **Benjamin Abel, PhD – Water Resources Engineer:** Dr. Abel received a BA in Music from Westminster College in New Wilmington, Pennsylvania. He then moved to Los Angeles, California and spent six years in software quality assurance before deciding to return to school. He moved to Colorado in 2013 to attend the University of Northern Colorado in Greeley where he received his MA in Earth and Atmospheric Sciences. Then, he received his PhD in Civil Engineering from the University of Colorado at Boulder. His diverse, interdisciplinary background includes climatology, data science, numerical modeling, and programming. During his time at CU, he gained experience with RiverWare, and he will continue development of RiverWare models to assist in water resources management with Precision. He will also use his climatology and data science knowledge to help clients better understand how climate and hydrologic data affect and inform water resources management.