Post-2026 Integrated Technical Education Workgroup (ITEW) Glossary

(Terms are in order of relevance to the presentation)

Session 4: Demands

Colorado River Simulation System (CRSS): Reclamation's Basin-wide, long-term policy planning model

Risk: percent of simulations in which an event occurred

Uncertainty: lack of perfect knowledge about measurements or physical relationships, either in past data or future projections

Deep uncertainty: planning condition under which it is impossible to determine the most appropriate planning assumptions, and/or there is no universally agreed upon way to balance different system priorities, and/or stakeholders to a decision disagree about how to best represent the system in a model

Decision Making under Deep Uncertainty (DMDU): field of decision science that uses tools and techniques to address challenges of planning under deep uncertainty. DMDU approaches explore a wide range of potential futures, emphasize robustness rather than optimality, and seek to identify conditions under which policies or plans may result in system vulnerability.

Robustness: ability of a policy or plan to perform acceptably well in a wide range of future conditions

Vulnerability: system condition that does not meet minimum performance requirements

Many Objective Robust Decision Making (MORDM): a DMDU framework that uses many objective optimization to search for candidate policies based on system performance tradeoffs. High performing policies are simulated in a wide range of potential future conditions in order to quantify robustness and identify combinations of conditions that are likely to result in system vulnerability

Performance tradeoff: when improving system performance in one measure degrades performance in another

Demand/Depletion Requested: volume of water needed to meet identified uses under ideal hydrologic and economic conditions

Diversion: volume of water diverted from the river system

Depletion: volume of water diverted and not returned to the river system

Water user efficiency: portion of the diversion that is depleted

Shortage: unmet demand

Calibration: process of systematically adjusting model parameters to improve model's ability to simulate observed conditions

Demand scenario: narrative that quantifies how factors such as economic development, agriculture markets, and policies result in demands evolving over time for the purposes of long-term modeling.

Steady-state demand level: projection of future demands that does not vary over time

Hydrology trace: single sequence of river flows

Hydrology ensemble: set of hydrology traces that are grouped because they were generated using a particular method