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Climate Variability and Climate Change: Seeking the Meaning for Water Resources Management

Understanding of the global climate system and its expression at regional and local scales has progressed substantially in recent decades. There is greater understanding of natural climate fluctuations from weeks to many years, and there is also greater understanding of the likely impacts of the recent massive increase in human activity and associated changes in the environment, including the climate. This collective knowledge allows a better evaluation of climatic risks on a range of timescales. There is therefore potential to bring better climate knowledge into the management of climatic risks. Examples will be given of some key "targets of opportunity" where established and emerging climate knowledge is thought to best match management opportunities in water resources. Even in these examples, there is often need for a technical integrating research step that tailors the scientific climate information into forms that are useful for uptake, leading to a key area being tools for downscaling and transforming climate information to the needs of the risk management problem.