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Water availability and security in New Brunswick, Canada

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New Brunswick is experiencing economic growth, giving rise to increased water demand for industrial, municipal and irrigation uses, and for the production of energy. New Brunswick has among the highest per capita consumption of water in Canada with reported values 821 l/day per capita in 2009, compared to the Canadian average consumption of 510 l/day per capita. Sustainability, health and the quality of life require that water quality, quantity and important aquatic habitats be protected. New Brunswick is a province with a high and intra-annual water availability ranging from droughts in winter and late summer to floods in the spring. Rainfall, snowmelt, and groundwater all contribute to the volume of flow, producing variations from season to season and year to year. Many facets of our daily lives depend on water. As such, water security is becoming increasing important not only for water availability but also for the protection of water quality, quantity and the sustainability of water supplies within the Province. This requires a comprehensive technical evaluation that includes determining the status of current water availability and withdrawals, as well as assessing the anticipated future water demands, water quality, cumulative impacts, and ecosystem health.
The present study will focus on water availability and security by addressing a variety of issues such as: (1) Defining the concept of water security; (2) Quantifying water availability in the Province and (3) Presenting methods for water system managers to assess current status and potential risks to water availability and security.