



SOUTHERN ONTARIO WATER CONSORTIUM
LE CONSORTIUM POUR L'EAU
DU SUD DE L'ONTARIO

A PLATFORM FOR RESEARCH, DEVELOPMENT, TESTING & DEMONSTRATION OF WATER TECHNOLOGIES AND SERVICES



OVERVIEW OF WATERSHED FACILITIES

FOR DEMONSTRATION OF SMARTER WATERSHED MANAGEMENT APPLICATIONS AND TECHNOLOGIES



Watershed Monitoring

- Access available to single or multiple network stations for field deployment of instrumentation and new sensor
- Integrated sensors network situated at strategic locations throughout the Grand River Watershed
- Monitoring stations deployed along the length of the main river channel and principal sub-watersheds including Hopewell Creek, Alder Creek
- Stations designed to collect climatic, hydrologic and subsurface information
- Stations connected through wireless telemetry

- Data collected will be transmitted to a computational centre and will be available on a near-real-time basis for all users of the platform
- Data compilation and management is further enabled by the data environment being developed with IBM Canada including sophisticated software that will capture and analyze data from sensors in the watershed
- On-site technical support included
- Access also available to additional water quality monitoring stations and level gauges through the Grand River Conservation Authority
- Technical knowledge and support from associated researchers
- University of Waterloo led, in collaboration with University of Guelph, University of Toronto, and Wilfrid Laurier University

Station Equipment Can Include:

- Eddy covariance system
- Net radiation sensor
- Water content reflectometers
- Sonic snow depth sensor
- Soil Temperature
- Infrared radiometers
- Pressure transducers and data loggers
- Flow meters

- Water quality sondes (temperature, conductivity, DO, pH, and turbidity)
- Weather stations include sensors for barometric pressure, Photosynthetically Active Radiation (PAR), wind speed and direction, precipitation, air temperature and relative humidity
- Cellular network telemetry

Other Unique Capacity:

Ground Water Monitoring – The University of Guelph Bedrock Aquifer Field Facility is a platform for the development and evaluation of advanced rock borehole monitoring, characterizing and sampling technologies. Single or multiple deep boreholes in carbonate rock facilitate testing of:

- Borehole geophysical tools
- Multilevel monitoring instruments
- Pressure and tracer testing capabilities

Ground Water Remediation - Canadian Forces Base Borden research facility is a platform for developing and field testing concepts and technologies in contaminant hydrogeology including access to:

- Sheet-piling isolated cells
- Extensive multilevel groundwater monitoring networks
- Wells for testing sampling devices
- Sites with existing contamination

For more information:

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