

Okanagan Water Demand Model Technician

Location: Kelowna, BC

Terms: Full-time Term Position 6-8 months.

Information:

The Okanagan Basin Water Board (OBWB) is seeking a highly motivated individual with excellent interpersonal, research, writing and organization skills to fill the position of **Water Demand Model Technician**, reporting to the Executive Director. We offer a competitive wage, based on qualifications. This position is made available through a Green Jobs initiative of Agriculture and Agri-Food Canada (AAFC), and is open to early-career professionals, up to age 30 years old.

The OBWB is a local government agency, providing leadership on water issues in the Okanagan. Beginning in 2006, the BC Ministry of Agriculture and AAFC, with the OBWB, developed a Water Demand Model to estimate the needs of different crops, given the different irrigation systems throughout the valley. Okanagan agriculture depends on irrigation, and the water demands for irrigated agriculture will increase with climate change. At the same time, a growing population also requires more water, and the flows in Okanagan streams must be protected for sensitive salmon populations and environmental needs. Water must be carefully managed to avoid conflict in times of shortages.

Using a GIS-based model with a land use inventory, climate projections, soils, and other data, the water demand model helps local communities and provincial agencies develop irrigation plans, agricultural plans, environmental stream flow studies and many areas of research. The basic model design has been replicated in other areas of B.C., but the Okanagan is the pilot for improvements and new approaches.

For this project, we seek a research technician to work with the developers of the Okanagan Water Demand Model to test and make improvements to the base data sets - incorporating new BC Assessment codes, land use change, estimates of indoor water use, the accuracy of landscape irrigation estimates, water purveyor sources and delivery boundaries, and ways to better delineate demand on groundwater vs. surface water sources. Depending on skills and experience, the intern will also help incorporate down-scaled climate layers, and be trained to run the model. This is an opportunity to gain experience with a tool that is being used throughout BC, and this experience will be in demand in the future province-wide.

The successful candidate will have:

- Post-secondary education in geography or related field;
- Excellent interpersonal, phone and written communication skills;
- Ability to work independently with limited supervision;
- Accurate and detail-oriented, with excellent organizational and time-management skills;
- Extensive experience and proficiency in data handling (see attached list), as well as independent research;
- Valid Drivers License;
- Experience with coding a plus; and
- Knowledge of water management and irrigation practices a plus.

For additional information, contact Anna Warwick Sears, OBWB Executive Director, at 250-469-6251 or anna.warwick.sears@obwb.ca. For more information on the OBWB, visit www.obwb.ca.

Resumes/expressions of interest will be accepted until March 19th, 2018; and final decision will be made by March 29th, 2018.

Desired skill set and experience

Software:

- Esri ArcMap & ArcCatalogue
- Google Earth, Maps & Streetview
- MS Access
- MS Sharepoint
- MS Office Suite- word, excel & outlook
- Tableau
- Aquarius

GIS Skills

- Knowledge of the Esri ArcGIS ArcMap and ArcCatalogue
- Basic Geoprocessing tools such as Erase, Append, dissolve, aggregate polygons, multipart to single part, spatial join. Updating Attribute tables: insert, update and delete fields and automating/modeling procedures
- Knowing the data—Attributes, Metadata, currency, limitations, etc...
- Experience Editing spatial boundaries in ArcMap
- Create KML files & and view in Google earth
- Microsoft Access Databases and how it works with Esri Software.
- Data management, File extensions, data formats and data storage. (.exe, .gdb, .mdb, .zip, .shp)
- Understanding of data projections and how to convert the projection. (BC Albers vs. NAD 83UTM Zone 11). For the entire basin BC Albers is less distorted than UTM Zone 11. Most data comes in UTM Zone 11.
- Where to find and how to acquire data from open sources. How to politely request data from other sources.
- Ability to make simple, and effective maps
- Finding and addressing data discrepancies
- Vector analysis, raster interpretation (air photo& satellite images) & spatial awareness

Other skills

- Independent Research & an eye out for useful information
- Ability to query and calculate analysis in MS Access. (For average Water Use average calculations that seem reasonable with the capabilities to be displayed in ArcMap).
- Detail orientated while still keeping the big picture in mind
- Consistency & ambition
- Self-motivated and able work independently with minimal to no supervision
- Problem solving and Troubleshooting along the way
- Experience with data sharing agreements and handling confidential information (water meter data)
- Self-motivated and able work independently with minimal to no supervision

- Knowledge of water use and water issues in the Okanagan Basin, Agriculture Land Use Inventory data and the Water Demand Model is an asset.
- Knowledge of HTTP and/ or SOAP protocol scripting to export (Aquarius) database tables to csv an asset
- Coding in SQL an asset