

ENVIRONMENTAL SOFTWARE SOLUTIONS

Computer models are being used to assess complex environmental and engineering issues at an ever increasing rate.

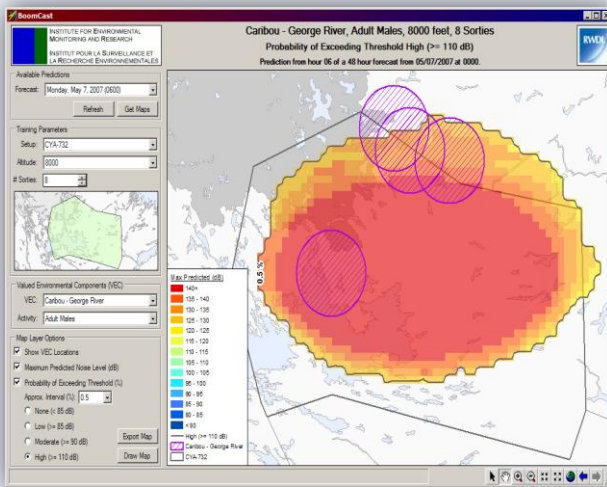
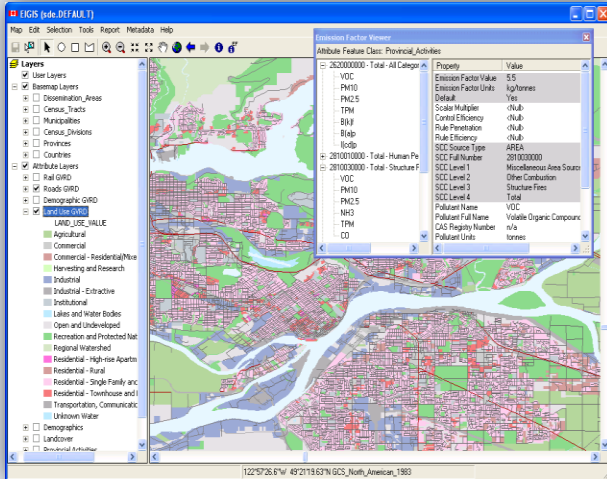
Custom software development and model refinements, when coupled with RWDI's in-depth knowledge of the relevant areas of science and engineering, can be leveraged to replicate and predict complex existing and potential real-world conditions much more accurately and cost-effectively than ever before.

RWDI employs a staff of full-time, professional software / hardware engineers and developers.

Backed by RWDI's team of engineers, scientists, meteorologists, GIS experts, and technical specialists, our development team offers the ability to modify and make improvements to existing models and software applications, as well as design and develop custom software solutions for our client's most complicated environmental and engineering challenges.

RWDI has been retained by industry, institutional, and government agencies to provide services ranging from the development and deployment of complex, stand-alone and hosted software solutions to porting, recompiling and parallelizing scientific and engineering models onto other computing / hardware platforms.

Have a unique computational or software related challenge? Explore our capabilities and industry experience, then contact us to find out more about how RWDI can help you meet your specific needs.



OUR ENVIRONMENTAL SOFTWARE SERVICES:

- Custom Windows and Linux application development
- Windows and Linux automation and scripting
- Scoping / Discovery and Requirements Documentation
- Software / hardware system development, integration, installation, maintenance, and training
- Custom measurement & data transfer applications
- GIS analysis & software development under ArcGIS: EDN, SDE, ArcInfo, ArcObjects, etc. (registered ESRI Business Partner since 2001)
- Database design and development (SQL Server, MSAccess, MYSQL, etc.)
- Programming languages: C#/C++/C, F90/F77, VB.NET, VBA, XML, .NET 3.0, Python, Java, etc.

SAMPLE APPLICATIONS

- **Plume-RT** (Real-time Dispersion Modelling)
- **WEIT** (Web Enabled Emissions Inventory)
- **Envision** (Environmental Data Platform)
- **EIGIS** (GIS-based Emission Inventory Tool) – Environment Canada
- **BoomCast** (Sonic Boom Forecast System) – IEMR
- **MMEU** (Multi-Model Extraction Utility) – Alberta Env.
- **Ethanol in Gasoline Reporting Form** – Ontario MOE
- **EMIT** (Emission Mapping & Information Tool) Environment Canada

RWDI Services

- **Regulatory Permitting/
Emission Inventories & Reporting**
- **Noise & Vibration**
- **Environmental Impact Assessments**
- **Ambient Monitoring**
- **Stack Testing**
- **Odour Assessments**
- **Ventilation & Control Systems**
- **Environmental Geoscience**
- **Hydrogeology Water Resources**
- **Waste Management**
- **Environmental Software**
- **Regional Atmospheric Modelling/ Meteorology**
- **Greenhouse Gases**

PROJECT PROFILES

Environment Canada – Development of a Multi-User, GIS-Based Emission Inventory System (EIGIS)

RWDI has worked with Environment Canada and other stakeholders to develop EIGIS, a unique software system that is the foundation of a new conceptual paradigm for computing emissions inventories. EIGIS follows a bottom-up approach by computing emissions using spatially resolved activity data, obtained and stored as high-resolution GIS layers.

Sample GIS-based activity layers include: road networks and traffic volumes, population statistics, and land use. EIGIS has been used for pilot projects in Canada and the US to compute and analyze emissions estimates, generate reports, and prepare SMOKE model input files.

Institute for Environmental Monitoring and Research (IEMR) – Development of a Sonic Boom Forecast System (BoomCast)

In cooperation with scientists at Wyle Laboratories Inc., RWDI has developed a one-of-a-kind software system for predicting, up to 48 hours into the future, the probability and magnitude of sonic booms associated with military aircraft training over a 45,000 km² area of northwest Labrador, Canada. The BoomCast system integrates real-time weather forecasts and Wyle's PCBoom model with a custom GIS interface to allow planners to select training activities that minimize environmental impacts.

Air, Noise, Water & Waste Services

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Consulting Engineers
& Scientists

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