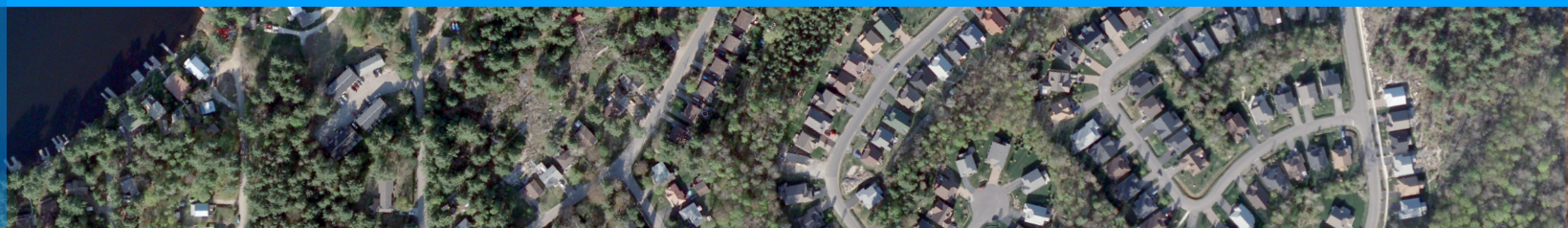


Natural. Valued. Protected.

Land Information Ontario

Quarterly Newsletter June 2009

Coordinator's Update

By Raphael Sussman



For those of us in the Ontario Government, this is the first issue for the new fiscal year. It is also Spring, that season of fresh new beginnings and optimism, despite the recent downturn in the economy.

This month, in response to suggestions from our users LIO has improved the [Make-a-Map](#) application to include, among other things, the display of Ontario imagery, Ontario Parcel, and Ontario

Trail Network, use of the LIO GeoCoder for searches, and the ability to identify address ranges by clicking on ORN road segments. Please give it a test drive and send us your feedback.

The Ontario Trail Network Report describes LIO's first use of Google Maps for the new "Do We Have Your Trail?" application to support the Ministry of Health Promotion's Ontario Trail Strategy and to work together with the very popular Ontario Trails Council website. The Ontario Road Network update includes a very interesting story by the Ontario Ministry of Health & Long Term Care on how they use the ORN, and LIO generally, in their day-to-day work.

In the Technology Report, look for some improvements in performance as a result of migrating all our services and applications to a new environment and introducing an automated system monitoring utility. We have also begun work on a number of projects to improve or replace our metadata management tool (OLID) and to simplify the way in which our transfer file (SNIF) meets the needs of our users. These, and some other major changes, should be in place by April 2010.

Our feature article is on the City of Dryden's geographic

portal. This is but one example of the many municipal websites that take advantage of LIO's programs and services to deliver excellent services to their citizens. Congratulations to Dryden on your recent award!

As always, your feedback on these quarterly LIO Newsletters is very much appreciated. We are pleased to let you know that the 10-year LIO retrospective published in our February 2009 issue was reprinted in Geomatica Journal and formed the basis for another article printed in the Ontario Professional Surveyor Magazine. Please consider taking a moment to send us your suggestions or comment about LIO or any of our communications. Contributions for consideration in an upcoming LIO Newsletter issue should be sent to carrie.belton@ontario.ca. Take care, and stay well.

Raphael

Technical Bulletins

[Road Segment Data Class Retired](#)
[Change to Aggregate Data](#)
[Aquatic Resource Area Data Class Reanalysis](#)

[...More](#)

New Data in the Warehouse

[Soil Survey Complex](#)
[Source Protection Area Generalized](#)

Ontario Road Network Report

By Carol-Anne Albertson



This issue, I thought users might be interested to know how another government ministry is using Ontario Road Network (ORN) data to support decision making. Special thanks to Elsa Ho, Senior Health Analyst at the Ministry of Health and Long Term Care, for providing the following article.

Better information, better decisions...better health is the mission statement of the Health System Information Management and Investment (HSIMI) Division of the Ontario Ministry of Health and Long-Term Care (MOHLTC). The HSIMI Division mission statement highlights the value of timely, accurate and useful information to Ontario's health system.

The Health Analytics Branch (HAB), within HSIMI Division, provides analytical and methodological support to enhance evidence-based decision making. HAB relies on Geographic Information Systems (GIS) for cartographic support, to manage regional boundaries and as a query tool for other analyses. GIS makes it possible for HAB to link a wide range of data to real world locations and facilitates visualization, analysis and planning. This ability to map data spatially is of great use to HAB when serving its clients. To access spatial data, HAB analysts frequently turn to Land Information Ontario (LIO) and Statistics Canada as well as other sources within the Ministry.

HAB receives many requests from its clients for mapping and spatial analysis. As a result, LIO's broad range of quality data holdings has proved to be a valuable resource. LIO's Ontario Road Network (ORN) has been particularly useful for cartography and as an address locator to georeference data.

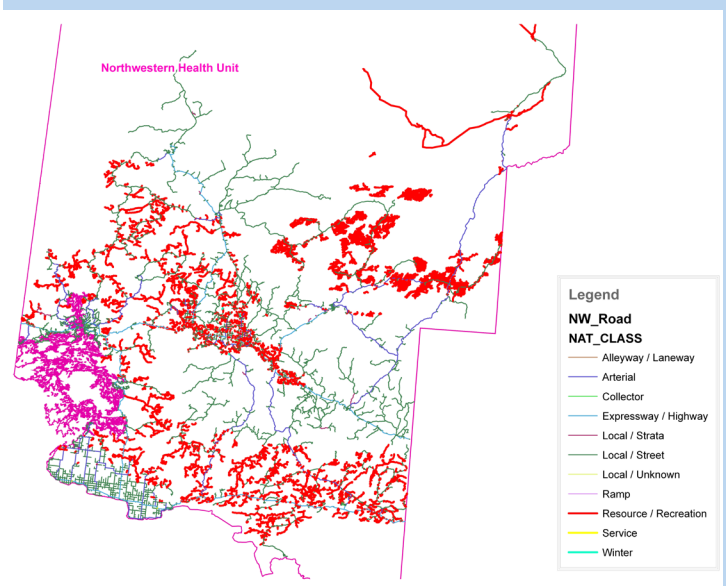
Analysts have also used data from the ORN to develop measures for rurality. While various measures have been developed to quantify this multi-dimensional concept, existing measures for rurality have been cited as needing improvement in order to adequately support healthcare planning. With GIS tools, analysts have been able to incorporate attributes from

the ORN to create measures that correlate with the cost of delivering and accessing health services. MOHLTC is now looking to integrate these newly developed measures of rurality into provincial healthcare planning.

Municipality and community data from LIO have also been used in HAB analyses. For example, a recent project involved mapping distances between Northern Ontario hospitals by size of facility. In this instance, the LIO geographic community points layer, along with the ORN and other data sources, was used successfully to accomplish this initiative. Municipality and community data have also proven useful for mapping communities by Local Health Integration Network (LHIN) planning areas and for mapping French language health services in Ontario.

These are just a few examples of how LIO spatial data has proven useful. Ultimately, LIO spatial data helps HAB succeed in its information management capacity and its mandate to provide better information to support evidence-based decision making for the Ontario health system. HAB will continue to rely on LIO's data and GIS tools to serve its clients effectively.

For more information how the ORN can be used to support your business needs, please contact carolanne.albertson@ontario.ca.



This map shows the distribution of road classes within the Northwestern Health Unit.

Ontario Trail Network Report

By Carol-Anne Albertson

Recreational trails offer many benefits. They contribute to health and increased physical activity by providing low-cost, readily available venues for many of the outdoor activities that Ontarians enjoy. They also help people get out and connect with the natural environment.

The Ontario Trails Strategy is part of ACTIVE2010, Ontario's plan to increase opportunities for participation in physical activities, sport and recreation. The Strategy is a \$3.5 million initiative to build a world-class system of diversified trails.

To support the Ministry of Health Promotion on this special initiative, LIO is collecting trail data and has developed a database called the Ontario Trail Network (OTN). The OTN currently contains over 4,000 km of trail segments and over 900 trailheads, representing over 11,000 km of trails across Ontario.

Dr. Helena Jaczek, Parliamentary Assistant to the Minister of Health and Ontario Trails Strategy lead, sent this acknowledgement letter to the groups and organizations that are working to implement the Strategy.

LIO is also developing a Google map that features trailhead locations across Ontario. The maps can be viewed with either traditional map or satellite imagery backgrounds. Users can select "Find a Trail" to scroll through a list of trails or use the zoom-in/zoom-out feature to find a specific trail. Additional information such as trail description, length, difficulty level and driving directions are also available. We're asking all trail organizations to provide us with their trail information so all trails are included in the map! The map will likely be available on the LIO website in June.

For more information on the Ontario Trail Network (OTN), please contact carolanne.albertson@ontario.ca.

Ontario Parcel Report

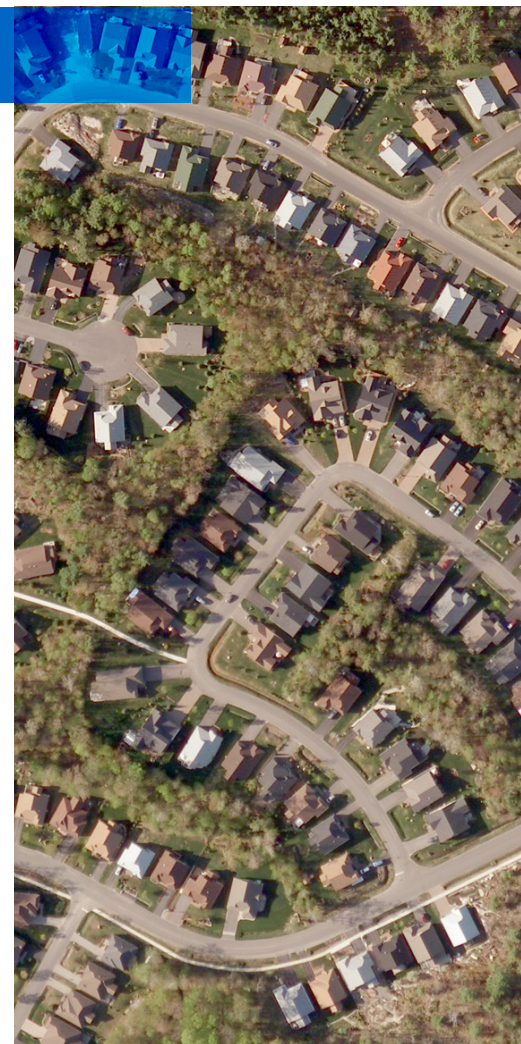
By Carla Jordan-Cooke

The Ontario Parcel is a standardized, province-wide geospatial database of assessment and ownership parcels of land. There are 4,228,506 assessment parcels in the LIO Warehouse.

The Ontario Parcel is used by LIO as a change detection tool to identify new roads in the Ontario Road Network (ORN). This information can help determine where data collection is required. Ontario Parcel addressing is also used to validate the ORN addresses. Discrepancies are then flagged and resolved through a maintenance process. This cross examination improves the accuracy of both datasets.

Recently, the City of Guelph identified an interest in improving the spatial accuracy of the parcel fabric for their area. Through a partnership with the City of Guelph, over the next three months, Teranet will be aligning 45,000 parcels to match the ortho-imagery. This improvement to the parcel geometry affects the BIM ownership data, as well as the Ontario Parcel Crown and Assessment parcel data in the City of Guelph. Because the data is only being aligned in the City of Guelph area there may be some small shifts in the outer areas. For most users, this should have limited or no impact to the data received, as all parcels will continue to exist and be maintained. The improved parcel data will eventually be available from the LIO warehouse to licenced users.

For more information on the Ontario Parcel, please contact carla.jordan-cooke@ontario.ca.



Technology Report

By Bruce Wurtele

A major system upgrade was completed in March for the LIO Warehouse applications. While much of this work was to upgrade the underlying database and server infrastructure, users of the LIO Warehouse (download utility) will notice improved performance and structure of the data extracts. Shapefiles downloaded from the LIO Warehouse are now named after the actual data layer instead of the geometry type (i.e. windturb.shp instead of point.shp).

Other changes include the reinstatement of the 'Forgot Password' functionality and automatic disabling of accounts that have not been used. Many LIO applications (including LIO Warehouse, Internet Mapping Sites, and Web Mapping Services) now have new URLs so be sure to check the [LIO website](#) if you have bookmarked any sites.

A new version of [LIO's Make a Map](#) application is now available to view primary datasets. Make a Map (based on the Internet Mapping Framework) now provides access to a vast and growing inventory of satellite and orthophotography as well as the Ontario Road Network, Ontario Trail Network and the Ontario Parcel data classes. The LIO GeoCoder web service is also used within Make a Map to provide advanced address searching.

The Internet Mapping Framework (IMF) technology hosted by LIO supports approximately 20 different mapping applications across the OPS. Sharing a common hosting infrastructure and application development framework has resulted in significant cost savings for these clients. The LIO Imagery Web Mapping Service is used in several of these Internet mapping sites, thereby eliminating the need to duplicate data storage for imagery products. Also, LIO's secure Web Mapping Service (SAML) is used to provide access to several data classes that have specific licensing or sensitivity restrictions.

On the imagery front, LIO is implementing the Geographic Information Archive (GIA). This system was developed to address the exponential growth in data storage required to securely manage imagery data products. GIA is an enterprise scale information system that provides a secure archive for millions of dollars of imagery products. Initially, GIA will support the storage of 1.2 Petabytes of imagery products (including a full copy in offsite storage) but is expected to grow to several Petabytes in the coming years. Organizations that have partnered with LIO on imagery acquisition programs can rest assured that LIO has created an authoritative and secure archive of these imagery products and may choose to offset their own backup systems to lower their costs.



LIO has also implemented a new application monitoring software to monitor the uptime, performance and availability of LIO's applications and services. This will allow our technical support staff to more effectively and proactively manage LIO's applications and services to ensure quality service.

As noted in the last newsletter, work is actively underway on Phase 2 of the GIS Application Architecture Renewal Project. This is a multi-year initiative to upgrade or replace LIO's enterprise GIS applications. Several key projects are now underway to address the priority areas, including:

- Development of a new metadata discovery and management tool to replace the Ontario Land Information Directory (OLID).
- Simplification of data structures in the LIO Warehouse.
- Implementation of a new, streamlined and 'simple' web-based mapping tool.
- Re-engineering the corporate data maintenance system (currently called the Natural Resources and Values Information System).

For more information, please contact Bruce Wurtele at bruce.wurtele@ontario.ca.

[Click here to see the LIDS 2.4.1 Release Notes](#)

MOE Uses LIO GeoCoder to Improve Efficiency

By Bruce Wurtele

The following article was provided by Patrick Leung, Divisional Lead of the Information Management & Technology Operational Services Office at the Ministry of the Environment.

New GIS functionality using the LIO GeoCoder was recently added to the Ministry of Environment's Integrated Divisional System (IDS). IDS is used by MOE's Operations Division to manage Certificates of Approval, Permits, Incidents, Orders, Inspections, Investigations, Prosecutions, and Convictions, all of which have some geographic location. Address information is collected and entered into IDS and is automatically sent every night to the LIO GeoCoder to lookup geographic coordinates. If an IDS civic address cannot be matched by the LIO GeoCoder, an e-mail is automatically sent to the ministry user who created or updated the record to indicate that improvements to the address details are required to permit retrieval of geo-coordinates from LIO. This allows correction of data entry errors and a subsequent LIO re-match.

By leveraging the LIO GeoCoder, MOE has significantly improved the efficiency of geocoding the location of clients and sites used in our operations programs. Prior to using the LIO GeoCoder only 1% of clients and 20% of sites were geocoded – now 85% of clients and 45% of sites have geographic coordinates. IDS users can now click a 'show map' button in various IDS business modules to display the address location (as a flag and lat/long coordinates) on a Google Map. As a next step, MOE's Operations Division is working with LRC/LIO to enable geocoding for rural addresses (e.g. lot & concession, part & reference plan).

For more information on the LIO GeoCoder, please contact Bruce Wurtele at bruce.wurtele@ontario.ca.

I have been using GIS data from the Ministry of Natural Resources for the last 3 years. I have worked on a number of watershed studies in Ontario like the flood forecasting study in Toronto area, remote sensing in Niagara region, drainage study in Southern Ontario, watershed modeling for Grand River Watershed, and many others.

I am using high resolution Digital Elevation Models from the MNR for remote sensed watershed hydrologic modeling as my main research project. This research has helped me prove the importance of high resolution data, with future potential of improving real time watershed research. The bedrock data and Ortho Photographs of the Toronto/Hamilton area have been very helpful. I can't even count the number of projects, where I have used Ontario Flow Assessment Techniques (OFAT) for delineation, and extraction of physiographic and climatic parameters for Ontario Watersheds.

I would like to thank Ontario Ministry of Natural Resources for providing such a vast source of Geographic Information System to University of Guelph Students, in such an easily accessible form.

Water Resources Engineer
University of Guelph

Welcome New Data Exchange Members!

[Public Works and Government Services Canada - Geomatic Services Directorate](#)

[Township of Centre Wellington](#)

[London District Catholic School Board](#)

[Bimose Tribal Council](#)

[Leeds, Genville & Lanark District Health Unit](#)

[The Township of Lake of the Woods \(formerly the Township of Dawson\)](#)

[City of Thunder Bay](#)

[Corporation of the Township of Malahide](#)

[Northeast Superior Forest Community Corporation](#)

[Township of Wainfleet](#)

[Central East Community Care Access Centre](#)

[Corporation of the Town of Fort Frances](#)

[Corporation of the Township of Papineau-Cameron](#)

[South Simcoe Police Service](#)

[List of all Data Exchange Members](#)

Imagery Report

By Mike Robertson

The spring of 2009 is another busy one as projects are wrapped up and new acquisitions are being planned for the spring of 2010. A number of projects that were started last year are now in the delivery phases and data is now available for many areas across the province.

To find out which Imagery projects your organization has access to, please contact LIO Support at lio@ontario.ca or (705) 755-1878

SPOT Imagery Project:

This project is a national project that is collecting 10 m panchromatic and 20 m multispectral SPOT imagery for all of Canada. Raw data is available through [GeoBase](#) and can be downloaded for no cost. The Ministry of Natural Resources is in the process of pan sharpening those products in order to provide users with true colour imagery. The current focus is on creating true colour imagery for the Far North project and there is a project underway to complete that for the remainder of the province, as cloud free scenes become available. We anticipate that this will be completed later in the year.

Far North Project:

Imagery options are being examined for significant areas across the far north to support land use planning. High resolution imagery (QuickBird and WorldView1) data has been acquired for all communities and other selected areas across the north so that mapping can be updated. Other imagery options are being examined, along with major project needs in selected areas.

As well, the Shuttle Radar Topography Mission data is being used to generate elevation data that will complete the elevation products throughout the far north area. This project is being undertaken in conjunction with the Canadian Digital Elevation Data national project.

Digital Orthophotography Projects:

Forest Resource Inventory

Data delivery is underway for the Forest Resource Inventory (FRI) project. We hope to acquire the remainder of the project area this summer and next. See [acquisition status map](#) to determine what areas have been delivered. Delivery of the final products will be ongoing for a few years.

Digital Raster Acquisition Project for the East (DRAPE)

The DRAPE acquisition is now complete, with the exception of the military base in Petawawa. Data that was acquired last year has been delivered and we were required to acquire approximately 20 % of the project area this past spring.



Partners in the project are currently examining the deliverables and are very happy with the results. This imagery acquisition project will start to provide benefits to all partners in the project and will be close to completion in the late fall 2009.

LIO would like to thank everyone for their participation in the project and we hope this will help eastern Ontario in realizing the value of entering into these broad, multi sector partnerships.

DRAPE Project Area

Other Imagery Projects and Opportunities:

SWOOP 2010

An initiative is underway to develop another partnership in south western Ontario. This is intended to provide updated data across the original South Western Ontario Orthophotography Project (SWOOP) area using a similar partnership-based approach. A Steering Committee has been formed and plans are underway to issue a Request for Proposal some time this fall. The immediate goal is to generate interest from potential partners in the project to help the Steering Committee finalize the project extent.

This project is also considering the generation of a quality Digital Terrain Model (DTM). It has been recognized that a quality DTM would provide substantial benefits for all sectors and is a data set that is essential for water, infrastructure, agricultural, natural resource and emergency management activities across the landscape.

Partners will be kept informed of the project through a SWOOP 2010 web site that was designed by the County of Oxford.

LIO will be hosting a general stakeholder meeting in London in June. If you're interested in attending the meeting and want to be included on the distribution list for this project or if you need more information about any of the other imagery projects, please contact Mike Robertson at mike.robertson@ontario.ca.

City of Dryden Wins ESRI Canada's Award of Excellence

By Karen Kahtova, GIS-Analyst, City of Dryden

The City of Dryden is located in the heart of North Western Ontario, situated midway between Winnipeg and Thunder Bay. The City is secluded, yet well connected by highway and air, and a sophisticated wireless network.

Recently, The City of Dryden won ESRI Canada's Award of Excellence.

"The award was presented to recognize Dryden's determination in overcoming a number of challenges to fully-integrate enterprise GIS throughout the municipality."

"The City of Dryden has proven that an organization's size is not a limiting factor when it comes to recognizing the value of GIS," said John Houweling, Ontario Regional Manager, ESRI Canada. "They have not only reduced costs and increased productivity; they will also be sharing their knowledge to help other small municipalities benefit from GIS technology." http://www.esri.ca/EN_company/1140_9107.asp

Dryden's GIS system would be of little to no use without information to serve out to our internal and external users. This data has been collected and/or updated or acquired through the many data sharing agreements the City has with local clubs and businesses. Dryden is also a member of the Ontario Geospatial Data Exchange (OGDE) and through this membership, Dryden has been allowed access to datasets that would otherwise be inaccessible or costly to acquire.

OGDE Members data along with Dryden's data is used internally and externally through one of the many Web Mapping Applications, which can be viewed at www.dryden.ca/living_in_dryden/maps.

One Specific web mapping application that uses the integration of data is the Snow Machine Trails -<http://maps.dryden.ca/WinterTrails>. The snow machine trail layer for Dryden and surrounding area is used along with the Lakes and Roads layers that were acquired through LIO. The use of this data enables users of the application to be able to see where the trails go in reference to roads and lakes.

The City of Dryden has not only been able to acquire imagery of Dryden and surrounding areas, but by working with the local MNR office under the OGDE agreement, Dryden has acquired depth contours and hazard data for Wabigoon Lake. This data has been used to create the Wabigoon Lake Hazards Map which can be found at the following URL - <http://maps.dryden.ca/WabigoonHazards>

In the near future, Dryden will be looking more closely at LIO's Ontario Parcel, Ontario Road Network and Ontario Trails Network data, available through the OGDE.

Being a member of the OGDE has benefited the City of Dryden by allowing access to data that is otherwise elusive or hard to acquire.

Dryden and Area Snowmachine Trails - OFSC Trail Permits Mandatory



Wabigoon Lake Hazards and Depth Contours

