Quarterly Newsletter
February 2009

Coordinator's Update

By Raphael Sussman

INSIDE THIS ISSUE ...

Guo Nian Hao - 过年好 and a **Happy Chinese New Year** to all of you, whether you celebrate the event or not. The Year of the Ox certainly represents Ontario's Geomatics community who work very hard day in and day out to achieve tremendous results although, quite often, with very little glory.

Last fall, we issued a survey to measure the level of satisfaction of customer service received by members of the Ontario Geospatial Data Exchange (OGDE). Of those 181 individuals who responded:

- Over 85% rely on the LIO Warehouse to get their geospatial data, and most prefer to download data through the LIO Warehouse or to use LIO web services.
- 80% find the OGDE valuable, if not extremely valuable.
- 60% find value in the tools and services that LIO provides.
- Almost 50% rely on the OGDE for 75% or more of their data.
- Of the 50% that use Web services, 50% use LIO web services.
- Out of all respondents, 80% would like to make use of LIO web services in the future (*most common comment here was that they didn't know we had them*).
- Most common feedback received was that respondents were frustrated with searching for metadata using the Ontario Land Information Directory (OLID), and they would prefer something other than the SNIF format. Only half of respondents are cataloguing their metadata, but 60% search through OLID (*LIO is currently investigating a new metadata management tool*).
- 80% of respondents feel that the content of the LIO newsletter is relevant to them.

LIO has been an active member of the GeoConnections Data Licensing Guide Working Group, which recently issued a second version of The Dissemination of Government Geographic Data-Best Practices Guide.

The updated version includes an unrestricted-use model template, is more Internet-friendly and accommodates changes in government data dissemination policies. It also offers a series of standard legal clauses that allow you to customize your data-licensing agreements with reference to intellectual property rights, source protection and acknowledgement, fees, royalties, reporting, representations, warranties and indemnities. These changes will make it easier for LIO clients and partners to design solid agreements that reflect their individual circumstances.

In this issue's Technology Report, look for some improvements to both LIO web services and our download data utility. In addition, we have included a short retrospective of LIO's first ten years and some hopes for the next ten years.

Please consider taking a moment to send us your suggestions or comments about LIO. Contributions for consideration in an upcoming LIO Newsletter issue should be sent to: carrie.belton@ontario.ca.

Welcome New Data Exchange Members!

Anishinaabeg of Kabapikowangag Resource Council INC.

City of Guelph

Ontario Federation of Trail Riders

List of all Members

ONTARIO TRAIL NETWORK REPORT

LIO is facilitating the collection of trail information across Ontario to support of the Ministry of Health Promotion's Ontario Trails Strategy. This information is being consolidated into a database called the Ontario Trail Network (OTN). The OTN defines trails within natural or urban environments and is currently composed of over 4,000 kms of trail segments and over 890 trailheads which represent over 11,000 kms of trails.

Two data classes are currently available for download from the LIO Warehouse called the OTN Trail Segment and OTN Trailhead. Trail data can be acquired through the Ontario Geospatial Data Exchange (OGDE) or through an Unrestricted Use License.

LIO continues to work with trail users and managers to define data standards, collection methods, and long-term data maintenance approaches for trail data. In coordination with the Ontario Trails Council and Trans Canada Trail Ontario, LIO will be hosting regional trail workshops on February 6th in Wyoming, ON and March 6th in Thorold, ON. The trail workshops are free and are open to any trail organization in Ontario. For more information, please contact carolanne.albertson@ontario.ca.

ONTARIO ROAD NETWORK REPORT

The Ontario Road Network (ORN) is a province-wide standardized database with detailed information on more than 235,000 kms of municipal roads, provincial highways and resource access roads across Ontario. ORN data is a Government of Ontario Information Technology Standard and is considered the authoritative source of roads data for Ontario.

Approximately 80% of ORN data was updated in 2008. The updates were based on data sharing agreements with municipalities. Over 1,100 kms of new roads and attributes were collected through field work for areas without a data sharing agreement. Major updates include new and improved geometry, street names and address ranges.

Two data classes are currently available for download from the LIO Warehouse: ORN Road Element and the ORN Segmented by Address. Both data classes can be acquired through the Ontario Geospatial Data Exchange or an Unrestricted Use License.

The ORN Road Element is a Linear Reference System (LRS) data set and includes attribute information such as: official street names, alternate street names, street address ranges, road class, direction and municipality. Other attributed such as blocked passage, toll points, junctions, direction, jurisdiction, structure, road surface, route names and numbers, number of lanes and speed limit make the ORN Road Element a good data set for analysis and routing.

A second version of the ORN LRS model (ORN v2.0) is now available. This version includes the original ORN v1.0 data but features a number of modifications and additions to the data model. The second version improves efficiency and use of the ORN and promotes the Linear Reference System.

The ORN Segmented by Address is derived from the LRS data set and is suitable for routing and context mapping. The segmented data set provides attributes such as: official street names, alternate street names, street address ranges, road class, direction and municipality.

ORN geometry and attributes have been updated in MNR's Resource Access Road layer to support forestry management planning, recreational access opportunities for northern residents and tourists and to facilitate the province's resource management activities.

ORN geometry is also provided annually for incorporation into the National Road Network (NRN). This allows federal agencies and the public at large to use road data to support various analysis, planning and management activities at both a national and provincial level. ORN attribution (street names and street range addressing) will be provided in 2009 for publication by Natural Resources Canada through Geobase. For more information, please contact carolanne.albertson@ontario.ca.

ONTARIO PARCEL REPORT

Good news for Assessment Parcel users! The Assessment Parcel data set is very large, containing over 4.2 million parcel polygons. We have made an improvement to make the data easier to order from the LIO Warehouse.

Assessment data, for the entire province, can now be extracted by authorized users from the LIO Warehouse in one package.

The shapefile had previously contained several fields that were not frequently used. We reduced the size of the shapefile, thereby reducing the number of fields. For most users, the important field is the Assessment Roll Number (ARN) which is still included on the shapefile. All fields, including the ones that were previously on the shapefile are still available in the associated tables.

Users should create a spatial index for the shapefile to improve the map display drawing rate and the feature selection query speed. For more information, please review the following Technical Bulletin or contact carla.jordan-cooke@ontario.ca.

TECHNOLOGY REPORT

Since the last LIO Newsletter, we have been working on some significant changes to the underlying LIO technology infrastructure. We are very pleased to announce that all LIO applications will be moving to a new platform during winter 2009. This change will ensure that LIO web services are as current as the data sets in the LIO Warehouse from which they are drawn. Stay posted for the notice and be prepared for our servers to be down for a weekend.

The most noticeable change is from the perspective of individuals who regularly download data from the LIO Warehouse. As requested by our users, received files known as SNIF packages will include shapefiles that are named after the actual data layer (or Concrete Class) rather than after the feature type classification (or Abstract Class) that had previously been the case. This will make the SNIF file much easier to understand and use. For more information, please refer to the following Technical Bulletin.

"All LIO applications will be moving to a new platform this winter."

The Ontario Government uses a LIO application platform known as Internet Mapping Framework (IMF). Several new IMF sites have gone "live" and are successfully providing service to the public. We are particularly proud of the Rural Drainage application released by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA). This application makes data created by drain contractors, and validated by OMAFRA, available in interactive map form to farmers, contractors and government inspectors.

As noted in the last newsletter, LIO is moving forward with its Application Architecture Renewal Project. A strategy has been finalized; the business case completed and planning on the first few projects is underway. We will keep you posted on the progress of these projects as they move through the system and enhance the level of service provided to our clients. For more information, please contact bruce.wurtele@ontario.ca.

IMAGERY REPORT

About 80% of the Digital Raster Acquisition Project for the East (DRAPE) area has been flown. The remainder will be flown in the spring of 2009. We were only able to acquire a very small amount of imagery last fall due to late leaf off conditions and unacceptable sun angles. Delivery of DRAPE imagery is underway. The bulk of acquired data will be sent to partners before the end of March. The remaining imagery will be provided in the fall of 2009.

LIO has an agreement with Natural Resources Canada to acquire 10 metre panchromatic and 20 metre multi-spectral SPOT satellite imagery. This project will provide complete coverage of Ontario over the next five years. We are starting to get some of the imagery although it is focused, at the moment in the far north. The raw data will be converted into pan sharpened products to allow for wider use of the imagery. All raw data collected through this project is being made available, at no charge, through GeoBase. We anticipate that most of the province will be completed next year.

A meeting was held in London, Ontario in January to begin planning for a refresh of the South Western Ontario Orthophotography Project (SWOOP) area in 2010. Over 60 people, representing 45 organizations attended the meeting, which demonstrates a strong interest for this refresh of imagery. For more information, please contact mike.robertson@ontario.ca.

NEED HELP? CALL US AT 705-755-1878!

Have you ever had more questions than answers? Can't find the geospatial data that you're looking for or need help ordering data from the LIO Warehouse? Or perhaps you need help cataloguing metadata or want to know how you can access LIO's imagery products. LIO provides a wide range of support services to members of the Ontario Geospatial Data Exchange that are just a phone call or a mouse click away.

Behind the email address and phone number is a team of people with a wealth of knowledge and experience about all things LIO. Although we work as a team, we each have specialized in-depth knowledge on various aspects of LIO.

Kiley Akiyama manages and disseminates LIO's vast imagery collection. He also looks after imagery licensing, data formats and the availability of imagery.

Catherine Bickram has supported the Data Exchange for more than seven years by encouraging and promoting data sharing between exchange members and locating elusive data sources.

Shari MacDonald has been with LIO for more than eight years and specializes in metadata creation, maintenance and standards. Shari also provides metadata information sessions and training.

The LIO Support Team: *Shari MacDonald, Catherine Bickram and Kiley Akiyama.*

We also:

- Encourage new memberships with public organizations and non-profit NGOs
- Support and promote initiatives like the Ontario Trail Network and Ontario Parcel
- Provide support for data access agreements and licensing
- Provide account management for LIO tools and services
- Promote data management and access policies
- Reduce redundancy be encouraging proper reuse of existing geospatial data
- Actively manage and archive Ontario's data assets
- Work to remove barriers to accessing data
- Provide support and advise to the general public

The next time you have a question or need help, call or email LIO at (705) 755-1878 or lio@ontario.ca.

BUILDING THE OTN: ONE TRAIL SEGMENT AT A TIME

By Patrick Connor, Executive Director, Ontario Trails Council

We are all engaged in a huge effort to make Ontario, and Ontario's trails, look great in front of the rest of the world, and we are succeeding. Ontario Trails Council (OTC) is feeding Land Information Ontario (LIO) the necessary information to create and maintain an Ontario Trails Layer (OTN) for over 1,800 (and counting) trails in Ontario. All trail users have to do is complete the on-line survey at: http://otc-forms.hq-dev.com/. If you spot a fact that needs a correction, please give us a call, we correct as we go along!

For years the public has known about the trails in their vicinity, but now we all know about trails throughout Ontario. This will allow search and rescue workers to find folks who are lost or injured in the wilderness and help trail maintenance teams identify and get to those places on trails where work is required. It will be easier to organize events, knowing at a glance, the location and types of trails that exist in a given area. We are getting comments from cross-country skiers, dog-sledders and snowshoers about the ease of planning and quality of experience – because they can locate a trail easily, or find one they didn't know about before!

LIO and the OTN have the first 1,000 trailheads on a map for the first time. The content drives the traffic: here are some of our website stats for the last 9 months:

- Over the past 9 months the OTC website grown from 800 to 1600 trails.
- Our number one traffic over the fair weather months - cycling trails.
- **Our website traffic is in the top 5.66% of all websites worldwide.**
- 4.7 million hits from April to September, with 212,000 individual visitors.
- 40,000 individual page views a month into the winter season as well or 500,000 a year.

We are now able to profile trails and have started to do analysis on types of trails, opportunity and multiplier effects, regional densities and trail concentrations. This has made the OTC a better organization from a knowledge point of view and a better partner to the Ontario Government and to the 337 Ontario communities that have contributed trails information as part of their services to the public.

Our thanks to Minister Cansfield, MNR Staff, the Ministry of Health Promotion, the Ontario Trillium Foundation and the countless volunteers and users who have contributed to the success of our presentation of trails at: www.ontariotrails.on.ca.

LIO: TEN YEARS LATER

By Raphael Sussman

Ten years ago, at the beginning of 1999, Land information Ontario (LIO) hired its first staff and opened its offices in downtown Toronto. It was the culmination of numerous studies, reports, and debates by individuals and organizations in Ontario's public and private sectors. LIO's Vision was to see that *Ontario's land information is well-managed, accessible, easy to integrate, and affordable*. LIO is a combination of people, physical elements, data sets, policies, programs, processes and procedures integrated with the Canadian Geospatial Data Infrastructure (CGDI) coordinated by the Government of Canada through GeoConnections. It is used on a daily basis by individuals from more than 350 organizations.

Has LIO realized its Vision? In addition to several technical achievements, LIO is recognized for its active participation in organizations and working groups, in providing advice and education, and especially in providing coordination for major imagery and data initiatives. Today, there is an Ontario Road Network actively maintained by dozens of municipalities and considered the province's authoritative source of roads data; the Ontario Parcel is the de facto standard for ownership and assessment parcels; Metadata is seen by the geospatial community as an essential component of good information management; and LIO is seen as an effective agent for coordinating the collection of imagery on behalf of hundreds of partners.

Is LIO's vision still appropriate? Geographic information, especially in digital format, is used today by virtually every organization in every sector, and at every level and discipline within Ontario. Although each organization needs different information about the same places, there is a tremendous advantage to all organizations using the same underlying framework and standards to be able to work with common data sets.

The ideal approach sees data captured once and used many times; assembled and maintained closest to source; available in common standards; and accessible to those individuals that need it. No single set of geographic data will ever meet all the needs of prospective users. It remains important for users to determine whether a given data set is appropriate for the purpose for which it is being considered, to actively work towards making data sets useable for multiple purposes, to encourage data managers to align their data sets with the data sets of others, and to work towards reducing costs for data users and data managers alike so that the best data for the purpose at hand is used whenever possible.

What is LIO's role as it begins its second decade? The early LIO years were spent building an effective infrastructure: partnerships like the OGDE, data distribution tools like the LIO Warehouse, the Data Directory, and Web Services, as well as critical data sets like the Ontario Road Network and the Ontario Parcel. The subsequent years were spent in making this infrastructure better and more sensitive to the evolving needs of LIO's partners and clients, and in helping nascent users of geographic information develop and enhance their own capabilities and wherewithal. These years were also spent in helping national and international organizations better understand their own tools and requirements based on Ontario's extensive experience.

The day-to-day use of geospatial information is now mainstream and commonplace. However, it remains expensive to create and time-consuming to maintain. Sharing this expense and effort reduces the time required to acquire information and permits more time to be spent on the subject area itself. Land Information Ontario will be needed over the next decade to ensure that the ever-growing demand for good and useful data will be met efficiently and effectively through partnerships, education, and standards.