



Redesign of GéoIndex+: towards a platform of shared stories

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Roadmap

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- 📍 Target situation
- 📍 Demo T...
- 📍 New Features to come
- 📍 Project details

Centre GéoStat



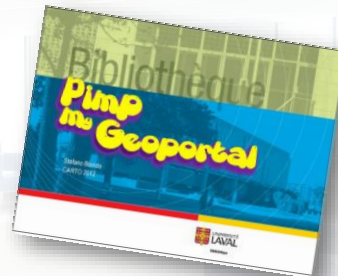
A service offered by the Laval University Library

- 📍 Books, statistics, maps, atlases, geospatial data
- 📍 30,000 geospatial datasets (over 25 TB)
- 📍 Teachers, students, and researchers across the campus

Mission: Facilitate **discovery** and **access**
for research and education

The story behind the redesign of GéoIndex+

- 📍 **June 2010**: Beginning of the GéoIndex+ project towards a complete redesign of GéoIndex (2005–2011)
- 📍 **2012** : GéoIndex+ system launched
- 📍 **2012** : Award: Innovation 2012 des services documentaires du Québec (presented at various conferences, Montréal, Chicoutimi, Toronto, Winnipeg, Alaska, Switzerland, Sweden)
- 📍 **2013–2014** : Signing of agreements with UdeM and UQAM to acquire the GéoIndex+ platform
- 📍 **2015** : Signature of an agreement with the City of Montreal to acquire the GéoIndex+ front end



So why “pimping” again?

- 📍 **August 2015 : Historical agreement between BCI–MERN:**
 - 📍 2-year agreement (\$75K/year) is granted to the BCI (to Quebec universities, through their libraries) to use geospatial data produced or disseminated by the Québec government for research and teaching purposes.
 - 📍 For the first time, all universities in Quebec could use and share the same core geospatial data: 300 layers, 50 TB.
 - 📍 Not all universities have a tool to discover, visualize, and extract all that data.
- 📍 In a vision of inter-university collaboration and process and resource sharing, the Laval University (UL) Library has been open to sharing its expertise and know-how in the geospatial field via a shared platform managed by UL and accessible to participating libraries.

The story behind the redesign of GéoIndex+

- 📍 **March to June 2016:** A diagnosis of the GéoIndex+ system recommends the complete redesign in a unified cloud architecture for the BCI–MERN.
- 📍 **July 2016 to February 2017:** The “GéoIndex+ Redesign” project is started in order to design the functional, software, and technical architecture, but also to prepare the project planning to support the BCI–MERN agreement (System Architecture).
- 📍 **March 2017:** Beginning of the GéoIndex+ redesign work (according to a unified system vision to support the BCI–MERN agreement).

Target situation (redesign)

- 📍 Correct all irritants
- 📍 Make improvements for discovery, consultation, and retrieval
- 📍 Make the loading process less restrictive
- 📍 Allow the loading of alternative data formats (e.g., geodatabase)
- 📍 A cloud-based system that aims to share the management and dissemination of geospatial data
- 📍 Adding a management module by institution (metadata, dashboard, report, statistics, etc.)
- 📍 Attempt to have a single platform combining GéoIndex+ and GéoPhoto+

The nature of the data

Data shared unilaterally:

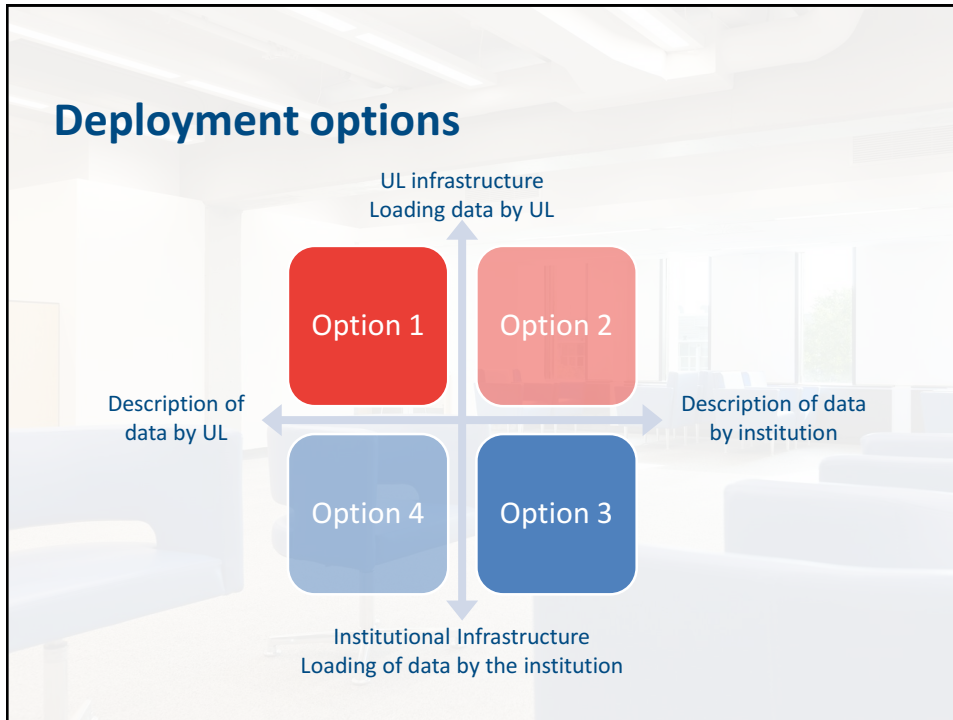
- 📍 BCI–MERN Agreement Data
- 📍 Other data purchased in BCI consortium from which all institutions benefit
- 📍 Data created by an institution and freely accessible

Shared data:

- 📍 Data purchased in consortia from which certain institutions benefit
- 📍 Data purchased individually by certain institutions and having the same operating licence

Non-shared (or institution-specific) data:

- 📍 Institution-specific research data
- 📍 Data whose rights are held by a single institution



SCREEN SHOTS DEMO TIME ;-)

Real one next year! ;-)

Main new features

The screenshot shows the Géoindex+ web application interface. The header includes the Université Laval logo, the title 'Géoindex+', and user information 'Stefano Biondo'. The main content area features a search bar, a list of results (1 to 11), and a sidebar with various map layers and filters. The map itself displays a geographical area with various colored overlays representing different data layers. The footer includes copyright information for 2018 Géoindex and a list of data sources: USDA FSA, DigitalGlobe, GeoEye, CNES/Airbus DS, and Diffusion Bibliothèque de l'Université Laval - Centre Géostat, Propulsé par ESRI.

One or more infrastructures but 17 access doors

The screenshot displays the Géoindex+ web application. On the left, a sidebar lists various geographical data sources: Régions postales, CMO 2008 (Ortho), Polygone de lot, Régions administratives, MRC111, Circonscriptions, Peuplement écoforestier (MAJ), Circonscriptions, and Hypsométrie. Below this is a map view with a search bar and a 'Se connecter à Géoindex+' button. A blue arrow points from the map view to a stack of 17 overlapping window thumbnails on the right, each representing a different institution's data access point. The institutions listed include: Université Laval, HEC Montréal, UQAM, UQAR, UQAC, McGill, INRS, and UQO. The bottom of the interface shows a 'Sélectionner une zone' button and an 'Extraire' button.

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Institution- and User-Level Parameterization (Preferences, Sessions, Extractions)

The screenshot shows the 'My Preferences' page in the Géoindex+ application. The page is divided into two main sections: 'Personal settings' and 'Global setting of the system'. The 'Personal settings' section includes fields for Language (en-CA), Map center (lat lon) (-68.517, 48.4510), Zoom level (16), and Basemap (streets). The 'Global setting of the system' section includes fields for Number of vector objects allowed (5000), Maximum size for raster data (800000), Maximum Session number (10), Nombre de zones d'extraction prédéfinies (10), Duration for the download link (hrs) (24), and Extractions historic availability (days) (365). A 'Reset with parameters from my institution' button is located between the two sections. A 'Menu' dropdown is visible in the top right corner, showing options: Content Management, My Profile (highlighted), My Preferences, My Sessions, My Extractions, Management, and Sign out.

"The personal settings can be changed with the menu « Save – My Preferences » from the cartographic interface."

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Institution- and User-Level Parameterization (Preferences, Sessions, Extractions)

UNIVERSITÉ LAVAL GéoIndex+ Stefano Blondo Menu > Français

[Quit](#)

My Sessions

No	Description ▼	Date ↓ ↑	Action
1	Repentigny_with_Parcels	2018-05-23 21:26:53	Download View Delete
2	Research-Zone3	2018-05-23 21:24:02	Download View Delete
3	Research-Zone2	2018-05-23 21:23:24	Download View Delete
4	Research-Zone1	2018-05-23 21:22:31	Download View Delete
5	Rimouski	2018-05-23 21:21:42	Download View Delete
6	Fatima	2018-05-23 21:20:02	Download View Delete

The maximum numbers of saved sessions: 10

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Institution- and User-Level Parameterization (Preferences, Sessions, Extractions)

UNIVERSITÉ LAVAL GéoIndex+ Stefano Blondo Menu > Français

[Quit](#)

My Extractions

Search text

Your extraction will be saved for: 365 days.

No	List of layers ▼	Status ▼	Date ↓ ↑	Link	Size	Action
1	irda_irda_pedo_poly	In Progress (0%)	2018-05-23 21:44:15			Download View Delete
2	cadastre_mrnf_cadastre_polylot_2015_poly	In Progress (100%)	2018-05-23 21:43:42			Download View Delete
3	mhs_cmqa_2013_photogeoref_mhs_point	Completed	2018-05-16 15:18:16			Download View Delete
4	franklin_coppermine1823_york_factory	Completed	2018-05-16 14:11:07			Download View Delete

1

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Predefined Extraction Area (Institution and User)

The screenshot displays the GéoIndex+ web application interface. The header includes the Université de Sherbrooke logo and the user name Stefano Biondo. The left sidebar shows search results for 'Carte pédologique' and a list of predefined areas. A red box highlights the 'Select a predefined area' dropdown menu, which currently shows 'Sherbrooke'. The main map area displays a topographic map of the Sherbrooke region with a large green polygon representing the predefined extraction area. The bottom of the interface includes a copyright notice for 2018 GéoIndex.

Parameterization of the Search Directory (Institution)

The screenshot displays the GéoIndex+ web application interface for UQAC. The header includes the UQAC logo and the user name Nadia Villeneuve. The left sidebar shows search results for 'Polygone de lot' and a list of predefined areas. A dropdown menu is open, showing a list of predefined areas including '22D06-102', 'Map index 20K', '22D06-101', '22D06-102', '22D06-201', '22D06-202', 'Map index 50K', and '022D06'. The main map area displays a topographic map of the Sherbrooke region with a large orange polygon representing the predefined extraction area. The bottom of the interface includes a copyright notice for 2018 GéoIndex.

Content Management Integrated (Metadata and Template)

UNIVERSITÉ LAVAL GéoIndex+ Stefano Biondo Menu Français

Search text [] New layer

Title ↑	Layer name ↑	Template name ↑	Type ↑	File status ↑			
Limites des municipalités (AQcarto)	copyfsaldfdsfdfsdfdsfdfsals	testvecteurPublic	Vector	In progress			
Expedition Coppermine	franklin_franklin_expedition_coppermine_point	testvecteurPublic	Vector	Validated			
Carte pédologique numérique	lrda_lrda_pedo_poly	testvecteurPublic	Vector	Validated			
Équipement	mern_mern equip_s_poly	testvecteurPublic	Vector	Validated	Loaded	Published	
Photos géolocalisées (reconnaissance aérienne et validation terrain)	mhs_cmq_2013_photogeoref_mhs_point	testvecteurPublic	Vector	Validated	Loaded	Published	
Limites municipalité régionale de comté (AQcarto)	aq_aq_mrc_s_poly	Vectoriel_Uil_20171211	Vector	Validated	Loaded	Published	
Orthophotographie couleur de la Communauté métropolitaine de Québec - 2008 (30 cm)	cmq2008_Ortho2008	RasterGabarit	Grid	Validated	Loaded	Published	Public
An Outline to show	franklin_coppermine3823_connected_discoveries	RasterGabarit	Grid	Validated	Loaded	Published	Public

<https://geoappacc.bibl.ulaval.ca/MetaData/MetaDataList>

Menu: Content Management, Metadata manager, Template manager, Contact management, License management, Workflow management, My Profile, Management, Sign out

Sharing: Bureau de coopération inter-université, Bureau de coopération inter-université, Bureau de coopération inter-université, Bureau de coopération inter-université, Bureau de coopération inter-université, Bureau de coopération inter-université, Bureau de coopération inter-université, Public

Content Management Integrated (Metadata Window)

UNIVERSITÉ LAVAL GéoIndex+ Stefano Biondo Menu Français

Save Save and Quit Quit without saving

Resource description Join us Data Quality Guide, Codebook, etc. Reference system and spatial information Metadata Distribution

Template name: testvecteurPublic

File status: In progress

Reference information

Title: Limites des municipalités (AQcarto)

Alternative title or acronym: []

Date: 2016-05-16

Date type: Publication

Presentation form: Digital map

Edition or version: []

Date type edition or version: Adoptée (PNA)

Date edition or version: 2017-11-23

Collection title: Adresses Québec 2006

Abstract: Cette couche représente, sous forme de polygones, les limites des municipalités. La municipalité est un territoire sur lequel s'exerce un gouvernement local conformément aux lois municipales.

La couche Municipalités fait partie de la base de données AQcarto, qui fournit les éléments de contexte lors de la recherche dans Adresses Québec.

Adresses Québec est une base de données qui offre, pour l'ensemble du territoire québécois, un réseau routier complet comprenant les adresses, les adresses par tranches et par points, l'information permettant la gestion de parcs, les codes postaux ainsi qu'un contexte cartographique.

Adresses Québec est produit grâce à une collaboration entre le ministère des Transports, de la Mobilité durable et de l'Électrification des transports (MNT), le ministère des Affaires municipales et de l'Occupation du territoire (MAMOT), le Directeur général des élections (DGE), le ministère des Forêts, de la Faune et des Parcs (MFFP) et le ministère de l'Énergie et des Ressources naturelles (MERN).

Content Management Integrated (Workflow Window)

UNIVERSITÉ LAVAL GéoIndex+ Stefano Biondo Menu > Français

Search Search text

	Title ↑	Layer name ↑	Type	File status	Dataset status	Final status	Modified date
	Complexe des milieux humides3	mhs_cmm_2010_complexe_mhs_poly	Vector	Validated	Loaded	Published	2018-01-26
	Photos géolocalisées (reconnaissance aérienne et validation terrain)	mhs_cm2_2013_photogeoref_mhs_point	Vector	Validated	In progress	In progress	2018-05-24
	nouvelle fiche martin	nouvelle_martin	Vector	In progress	To load	In progress	2018-05-23
	Modèle stéréoscopique et photographie infrarouge numérique de la région administrative de l'Outaouais - 2014 (30 cm)	outaouais2014_PhotoNIR2014	Grid	Validated	Loaded	In progress	2018-05-24
	testlicenceprise234	prise100000	Vector	In progress	To load	In progress	2018-05-23
	31H-06e, Québec, 1963, édition 2 (carte topographique)1	test366	Grid	In progress	In progress	In progress	2018-05-24
	save mathieu	testmath10fadfids	Vector	In progress	In progress	In progress	2018-05-24
	test save math12	testsave12	Vector	In progress	To load	In progress	2018-05-23
	Orthophotographie couleur des villages nordiques - 2009-2012 (15 cm)	villages_nordiques_Ortho20092012	Grid	Validated	Loaded	Published	2017-09-01

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User Roles and Permissions Integrated

UNIVERSITÉ LAVAL GéoIndex+ Stefano Biondo Menu > Français

Content Management
My Profile
Management
Role Management and Permissions
Sharing management
Sign out

Users Roles Roles and Rights

Search Search text Roles Administrator L14009

User ↑	Institution	Affiliation	Role
<input type="checkbox"/> Nadia Villeneuve	Laval University	Alumni	Institution pilot
<input type="checkbox"/> Nicolas Marcotte	University of Sherbrooke		User
<input type="checkbox"/> Patrice Béliveau-Nadeau	University of Quebec at Trois Rivières	Student_Staff	User
<input type="checkbox"/> Simon Trotter	University of Sherbrooke		Institution pilot
<input type="checkbox"/> SÃdaphane Paquet	University of Quebec at Trois Rivières	Staff	User
<input type="checkbox"/> Stefano Biondo	Laval University	StaffAffiliate	Administrator
<input type="checkbox"/> Sylvie St-pierre	Laval University	Affiliate	Institution pilot

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User Roles and Permissions Integrated

UNIVERSITÉ LAVAL GéoIndex+

Stefano Biondo Menu Français

Content Management >
My Profile >
Management >
Role Management and Permissions
Sharing management
Sign out

Users Roles **Roles and Rights**

Roles

- Administrator
- Institution pilot
- Workflow supervisor**
- Data manager
- Metadata manager
- Super user
- User

Permissions

L140009

- ☒ Edit metadata
- ☒ Licences management
- ☐ Data loading
- ☒ Metadata revision
- ☐ Template management
- ☒ Data extraction
- ☐ Share a layer
- ☐ Grant permission
- ☒ Publish a layer
- ☐ Create an institution

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Sharing Management

UNIVERSITÉ LAVAL GéoIndex+

Stefano Biondo Menu Français

Content Management >
My Profile >
Management >
Role Management and Permissions
Sharing management >
Sign out

Search Search text 🔍 Share

	Title ↑ ↓	Layer name ↑ ↓			
<input type="checkbox"/>	Peuplement écoforestier à jour	ecofor_mrrnf_20k_peu_ecofo_maj_poly			
<input type="checkbox"/>	test	fdsafdsfdffads			
<input type="checkbox"/>	A chart of the discoveries & route of the Northern Land Expedition, under the command of captain Franklin, R.N. in the years 1820 & 21, laid down under his inspection by the officers assisting in the expedition	franklin_coppermine1823_chart_discoveries			coopération inter-université
<input type="checkbox"/>	A chart of the discoveries & route of the Northern Land Expedition, under the command of captain Franklin, R.N. in the years 1820 & 21, laid down under his inspection by the officers assisting in the expedition	franklin_coppermine1823_chart_discoveriescopy	Published	Bureau de coopération inter-université	
<input type="checkbox"/>	An Outline to shew the Connected Discoveries of Captains Ross, Parry & Franklin, in the years 1818, 19, 20 and 21.	franklin_coppermine1823_connected_discoveries	Published	Public	
<input type="checkbox"/>	An Outline to shew the Connected Discoveries of Captains Ross, Parry & Franklin, in the years 1818, 19, 20 and 21.	franklin_coppermine1823_connected_discoveries876587	Published	Bureau de coopération inter-université	
<input type="checkbox"/>	Route of the Expedition from Isle à la Croix to Fort Providence, in 1819 & 20.	franklin_coppermine1823_isle_a_la_croix	Published	Bureau de coopération inter-université	
<input type="checkbox"/>	Route of the Expedition from York Factory to Cumberland House, and the Summer & Winter tracks from thence to Isle à la Croix, in 1819 & 1820.	franklin_coppermine1823_york_factory	Published	Bureau de coopération inter-université	
<input type="checkbox"/>	Expedition Coppermine	franklin_franklin_expedition_coppermine_point	Published	Bureau de coopération inter-université	
<input type="checkbox"/>	Expedition Coppermine - Trajet	franklin_franklin_expedition_coppermine_trajet_arc	Published	Public	

Sharing Management (between 2 or more institutions)

The screenshot shows the GéoIndex+ web application interface. At the top, the 'Share' button is highlighted with a red circle. Below it, a 'Share to' dialog box is open, listing various institutions with checkboxes. The 'Bureau de coopération inter-université' and 'Université Laval (o)' are checked. The dialog also includes 'Cancel' and 'Save' buttons. In the background, a list of documents is visible, with one document's checkbox highlighted by a red circle.

New Features to Come

- 📍 Possibility to retrieve printed air photos of all institution collections : 1.2 million in the same interface (toggle switch)
- 📊 Dashboard and statistic usage report
- 📍 Upload of users personal extraction zone
- 📍 Massive extraction for some users

The screenshot shows the GéoIndex+ web application interface with a map in the background. A blue arrow points from the 'New Features to Come' section to a map showing an extraction zone. Below the map, there is a 'Sélectionner une' button and a 'Géolocaliser' button. The interface also displays a list of documents and a search bar.

The Project at a Glance

Duration: 2 years

2 deliveries:

- 1st: December 2017

Delivered modules: discovery, visualization and extraction of geospatial data

Beta version: September 2018 (UL & steering committee)

- 2nd: November 2018

Delivered modules: platform administration and management (security, metadata, loading), user profiles, statistics, integration of GéoPhoto+, and user guides

Content (Day 1): BCI–MERN Agreement Data Set

Development team: 2–3 computer analysts + 1 technician developer

Steering Committee

Committee made up of 7 geospatial data managers: Stéfano Biondo(UL), Kati Brown (UQAR), Alex Guindon (Concordia), Anne Hakier (UdeM), Sylvie St-Pierre(UQAM), Simon Trottier (Sherbrooke) and Nadia Villeneuve (UQAC)

- ♥ Prioritize existing improvements/modifications to develop
- ♥ Prioritize future developments
- ♥ Make design recommendations
- ♥ Participate in validating the detailed analysis (DA) of the next development sprint

Not exclusive to members of the steering committee:

- ♥ Participate in the demo at the end of each development sprint
- ♥ Access the production version of the platform
- ♥ Test the platform

Specific Objectives & Expected Benefits

- 📍 Democratize access to geospatial datasets through the implementation of a shared, efficient, and secure platform
- 📍 Mutualization of activities and optimization of human and material resources
- 📍 Wider use of geospatial data by members of university communities at participating institutions
- 📍 Reduced operating costs (hardware, human, software, etc.)
- 📍 Provide a better user experience for discovering, viewing, and extracting data with the ease of use of the platform

Thank you



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