

## How to geo-locate your digital collection

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A copy of the poster presentation and notes are available in YorkSpace, York University's Institutional Repository, at: <http://hdl.handle.net/10315/33177>.

### Abstract

A multi-year project is underway featuring a collaboration between York University's Clara Thomas Archives & Special Collections, the Map Library, and Bibliographic Services at York University Libraries. Similar to projects at other institutions, our goal is to determine the geographic location of photos and create interactive maps of specific collections, in our case the John Warkentin fonds and Lou Wise fonds. Using visual examples, this poster presentation discusses the methodology we use at York University Libraries to create interactive maps of our digital collections. The methodology is as follows:

- Step 1: Using landmarks, we look for clues in the description and cartographic resources we determine the geographic location of the photo
- Step 2: For specific photo stored in the York University Digital Library (YUDL), our Islandora digital library, we enter into the metadata the latitude and longitude in decimal degrees, as well as the hierarchical geographic jurisdictions for the photo (e.g. County, Municipality, Neighbourhood / Unincorporated Area)
- Step 3: We prepare the data for mapping by batch exporting the full records of the specific fonds or collection in YUDL, into a spreadsheet that contains the descriptive metadata fields, latitude and longitude coordinates, and the URL to the records and images in YUDL.
- Step 4: Using ArcGIS Online, an online mapping software, we convert the data in the spreadsheet into a map file, and we create an interactive map displaying the geographic locations of photos.

### Acknowledgements

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### Poster Footnotes

1. The work at York University Libraries isn't unique, as there are other archives and libraries that have created interactive maps of their digital collections. Listed below are some examples:

- OldNYC: Mapping historical photos from the New York Public Library <https://www.oldnyc.org/>
  - Photogrammar at Yale University <http://photogrammar.yale.edu/>
2. There are a variety of primary and secondary sources that can be used to determine the geographic location of a photo. For contemporary photos of areas that haven't had seen a lot of change in the cultural landscape, we use: Google Maps (satellite view, street view and map view), Google Earth (satellite imagery and interactive layers), Google Image Search and HistoryPin. For photos of areas that have undergone significant changes since the photo was taken, we use primary resources such as: historical street directories, topographic maps, large scale (detailed) maps, fire Insurance plans, aerial photographs, historical society websites, open government datasets, local history books and local archives.
  3. Most metadata schemas and document description standards permit the recording of latitude and longitude coordinates in the metadata record. At York University, we use MODS (in future, RDF) to describe our records in YUDL. Listed below are several schemas, with direct links to webpages describing how to implement geographic coordinates:
    - Metadata Object Description Schema (MODS) <http://www.loc.gov/standards/mods/userguide/subject.html#coordinates>
    - MARC21 <https://www.loc.gov/marc/bibliographic/bd034.html>
    - Dublin Core <http://dublincore.org/documents/dcmi-point/>
    - Resource Description Access (RDA) [http://www.rda-jsc.org/archivesite/workspace/rdachp7\\_2014april.pdf](http://www.rda-jsc.org/archivesite/workspace/rdachp7_2014april.pdf)
    - Encoded Archival Description (EAD) <http://loc.gov/ead/EAD3taglib/index.html#elem-geographiccoordinates>
  4. There are several thesauri and authority indexes that can be used to verify place names. The Library Archives Canada [[www.bac-lac.gc.ca/eng/services/cataloguing-metadata/Pages/geographic-headings.aspx](http://www.bac-lac.gc.ca/eng/services/cataloguing-metadata/Pages/geographic-headings.aspx)] suggests using the Canadian Geographic Names Database (CGNDB) [<https://www.nrcan.gc.ca/earth-sciences/geography/place-names/>] for Canadian place names, the Geographic Names Information System (GNIS) [<https://nhd.usgs.gov/gnis.html>] for place names in the United States, and the NGA GEOnet Names Service [<http://geonames.nga.mil/gns/html/>] for place names in other foreign countries. The Geonames ([www.geonames.org](http://www.geonames.org)) database and the Getty Thesaurus of Geographic Names are ontologies that can be used in a linked open data environment [<http://www.getty.edu/research/tools/vocabularies/tgn/>]. At York University we are using the CGNDB to verify and record place names in YUDL. In future, we are considering using Geonames to describe geographic names in Canada and foreign place names.
  5. ArcGIS Online [[www.arcgis.com](http://www.arcgis.com)], produced by ESRI, is an online and collaborative Geographic Information System that allows you to create, use and publish maps. Many Canadian universities and colleges have Education Site Licenses that provides access to ArcGIS Online and other ESRI products. To find out if your institution is a member, go to : <http://hed.esri.ca/>. Please note ArcGIS Online is also available at cost to researchers and institutions that don't have access via the Education Site License.

6. The map displaying the geographic location of John Warkentin ArcGIS Online Map is available at <http://arcg.is/1OmzHq>. This interactive map only displays the location of 422 of the approximately 12,000 photos in the John Warkentin fonds.
7. Google Fusion Tables is an experimental application on Google Drive. It is a free and alternative option to ArcGIS Online. With a minimal coding skills, it is possible to customize the pop ups, map markers, and layers. For more information go to : <https://support.google.com/fusiontables/>
8. Other interactive map platforms that can be used are: CARTO (formerly CartoDB) [<https://carto.com/>] is an online GIS software available at cost; Neatline for Omeka [<http://neatline.org/>] has a waypoints plugin that can be used to create digital exhibits; Tableau Public [<https://public.tableau.com/>] the free version of Tableau can also be used to map points in a collection. The above list are suggestions, as there are many more mapping applications that could be used to map a digital collection.
9. Google Fusion Table map displaying the location of 422 photos in the John Warkentin fonds : [https://www.google.com/fusiontables/DataSource?docid=10WUBpXE4BF4yV\\_d7fgMiyohfst8DL86loS5LMkxb](https://www.google.com/fusiontables/DataSource?docid=10WUBpXE4BF4yV_d7fgMiyohfst8DL86loS5LMkxb)
10. The **Lou Wise fonds** project was made possible through the cooperation of archivists, librarians and staff at the Scott Library's Bibliographic Services, the Map Library and the Clara Thomas Archives & Special Collections who arranged and described and digitized each photographic slide, assisted by Wise's original annotations. The project also benefited from a Young Canada Works Grant in 2012, administered by the Canadian Council of Archives which allowed the university to hire a contract digitization assistant, Craig Butosi to identify and geolocate individual images. The project continued through 2012 2013, and 2015 with several undergraduate student assistants from the Map Library tasked with identifying precise geographic locations for the photographs. Project team managers estimate that this project has taken over 2,500 hours to digitize, describe, geo-locate and generate useful metadata for about 5,800 images over five years. The Lou Wise project team participants included: Nick Benko, Craig Butosi, Marissa Chase, Ling He, Julia Holland, Rehan Khan, Andrea Kosavic, Prathna Lor, Michael Moir, Janet Neate, Rosa Orlandini, and Anna St.Onge.

The **John Warkentin fonds** project benefited from the aforementioned Young Canada Works grant 2012 to scan and describe a sample of slides in the fonds, and create a digital exhibit: <http://archives.library.yorku.ca/exhibits/show/warkentin>. In 2015, students were hired to scan and determine the geographic location of another batch of slides in the collection. This spring (2017) several undergraduate student assistants have been hired by Bibliographic Services to scan the remaining 11,000 + slides in the Warkentin fonds. Moving forward, students at the Map Library will be trained to describe each photographic slide and determine the precise geographic location. We anticipate it will take at least two more years to complete the project. To date project team participants include: Craig Butosi, Johanna Chojnacka, Cesare Ciraco, Laura Conangelo, Morag Hegge, Fauzia Khalid. Zara Malm, Rosa Orlandini, Nick Ruest, Anna St.Onge, Marisa Thomas-Perrier, and Veronica Wojnas.