

Accessibility and the Map/Data Library

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Scholars Portal*

Topics

- Accessibility legislation in Ontario
- Impacts on libraries in general; Map/Data Libraries in particular
- OCUL Scholars Portal activities: accessibility of web mapping applications like Scholars GeoPortal

Ontario's accessibility legislation

Accessibility for Ontarians with Disabilities Act 2005 (AODA)

- Make Ontario accessible by 2025
- Standards in five areas
 - Customer service
 - Employment
 - Information and communications
 - Transportation
 - Design of public spaces



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 - **Information and communications**
 - Transportation
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Why Accessibility?

Ontario government perspective:

“It’s just good business”

University perspective:

Foster a community of natural curiosity and inclusivity, within our ever-diversifying communities

Accessibility benefits everyone

How is accessibility defined?

“Ability [of persons with disabilities] to obtain the same information, at the same time, for the same price and at the same quality [as persons with no disability].”

Americans with Disabilities Act, 2013

Accessibility in Libraries: Collections

- Academic libraries are expected to “provide, procure or acquire...an accessible or conversion ready format...upon request” (Section 18, AODA)
- Both the content and the platform need to be accessible
- If accessible procurement is not available
 - Document the steps taken to identify alternative
 - Document a plan for obtaining alternative if one is requested

Accessibility in Libraries: Public Service

- Academic libraries are expected to provide accessible methods of interacting with their services, including:
 - Websites
 - Documents
 - Event signups
 - Videos, tutorials, research guides, etc.
 - Learning Management Systems
 - Interpersonal communications, reference services

Compliance timeline

- Jan 2014
 - All new internet websites and web content on those sites going back to January 1, 2012 must conform with Web Content Accessibility Guidelines (WCAG) 2.0 Level A
- Jan 2015
 - Accessible formats and communication supports
 - Educational libraries - print-based resources
- Jan 2020
 - Educational libraries - multi-media/digital resources
- Jan 2021
 - All internet websites and web content must conform with WCAG 2.0 Level AAA (excluding live captioning and audio description)

You may be asking...

- But...how can maps and GIS be made accessible?
- Users require proprietary software which we have no control over!
- Our collections are unique and can't be procured in alternate formats!!
- Our collections are inherently visual!!!

The reality is...

- There are many kinds of disabilities
- People with a range of disabilities can and do use maps & GIS
- There is plenty we can do to support them!

Strategies

- Communication: “Patience, respect and a willingness to find a way to communicate are your best tools” www.accessiblecampus.ca
- Collections: Provide alternative formats (digitized maps, data conversion)
- Advocate for users with disabilities when negotiating with data producers
- Make online user interfaces accessible

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- **Make online user interfaces accessible**

Scholars GeoPortal

Scholars GeoPortal

Search Map (1) Download Login ?

☒ Data ☐ Place or address

soil Anywhere Search ?

☒ Downloadable content only

[Back To Browse](#)

Found 25 results
showing results 1 to 10

Sort by:
Relevance

Refine:
Topics

- Geological and geophysical (17)
- Environment and conservation (4)
- Land use and planning (2)
- Elevation and derived products (1)
- Agriculture and farming (1)

Keywords

- Soil Classification (18)
- Geology (15)
- Geological Survey (14)
- Géologie (14)
- Glacial Deposits (14)
- Glacial Till Soils (14)
- Glacier (12)
- Glaciers (12)
- Alluvium (10)
- Arip (10)
- Deposits (10)
- Drift (10)
- Gravel Pits (10)
- Mines (10)
- Ministry Of Northern Development And Mines (10)
- Paleozoic Bedrock Geology (10)
- Precambrian Bedrock Geology (10)
- Sand Dunes (10)
- Sand Pits (10)

Producers

- Ministry of Northern Development, Mines and Forestry (10)
- Ontario Ministry of Natural Resources (7)
- Ministry of Northern Development and Mines (4)
- Ontario Ministry of Agriculture, Food and

Soil Survey Complex
[Remove](#) [Zoom](#) [Details](#)

Producer: Ontario Ministry of Agriculture, Food, and Rural Affairs
Date published: 1929-01-01 (creation), 2003-01-01 (revision)
Type of data layer: Vector

Digital Northern Ontario Engineering Geology Terrain Study (NOEGTS) - Points
[Add](#) [Details](#)

Producer: Ministry of Northern Development and Mines
Date published: 2005-06-06 (creation), 2005-06-06 (revision)
Type of data layer: Vector

Digital Northern Ontario Engineering Geology Terrain Study (NOEGTS) - Index
[Add](#) [Details](#)

Producer: Ministry of Northern Development and Mines
Date published: 2005-06-06 (creation), 2005-06-06 (revision)
Type of data layer: Vector

Digital Northern Ontario Engineering Geology Terrain Study (NOEGTS) - Lines
[Add](#) [Details](#)

Producer: Ministry of Northern Development and Mines
Date published: 2005-06-06 (creation), 2005-06-06 (revision)
Type of data layer: Vector


Digital Northern Ontario Engineering Geology Terrain Study (NOEGTS) - Polygons
[Add](#) [Details](#)

Producer: Ministry of Northern Development and Mines
Date published: 2005-06-06 (creation), 2005-06-06 (revision)
Type of data layer: Vector

Surficial Geology of Southern Ontario 2010 - Point Representation
[Add](#) [Details](#)

Producer: Ministry of Northern Development, Mines and Forestry
Date published: 2010-04-07 (creation), 2010-04-07 (revision)
Type of data layer: Vector

Save Share Print Export Data Table Base Maps Contact Français



Disabilities & Assistive Technology

Visual

- Screen reader software (e.g. Jaws, VoiceOver, ChromeVox)
- Magnifiers (software such as ZoomText, or physical devices),
- colour contrast enhancers (e.g. Vischeck)



Disabilities & Assistive Technology

Auditory

- Transcripts
- Captioning
- Sign language interpretation



Disabilities & Assistive Technology

Mobility/dexterity

- Specialized keyboards and mice/pedals
- Voice recognition software (e.g. Dragon NaturallySpeaking)



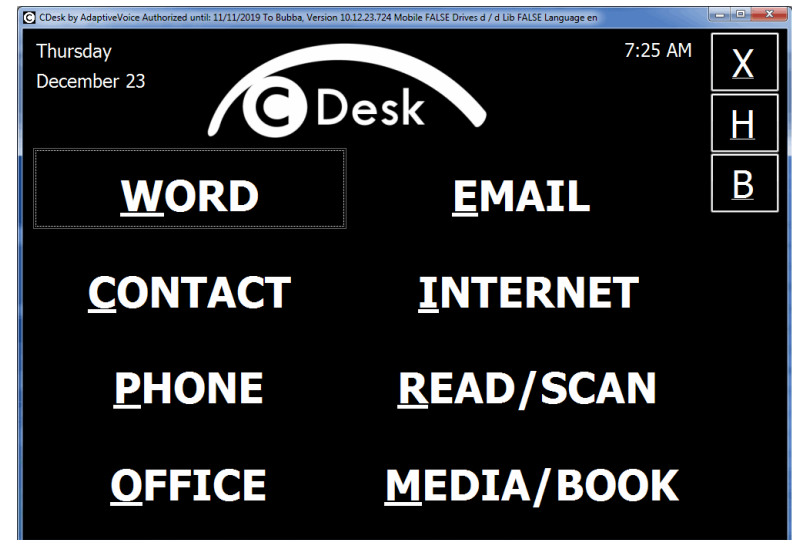
DRAGON
NATURALLY SPEAKING



Disabilities & Assistive Technology


Cognitive

- Specialized keyboards with simplified layouts or custom iconography
- Simpler interfaces



Checking the code

HTML_CodeSniffer



HTML_CODESNIFFER BY SQUIZ

Standards: WCAG2AA

Count	Type	Toggle
1	Error	<input checked="" type="checkbox"/>
5	Warnings	<input checked="" type="checkbox"/>
14	Notices	<input type="checkbox"/>

Select the types of issues to include in the report

[View Report](#)

Issues detected by the bookmarklet:

16,285,433

Get the Accessibility Auditor Bookmarklet
Drag this link to your bookmarks bar to install

Auditor version: 2.0.1

This bookmarklet has been designed to work with Google Chrome, Firefox 10+, Safari 5+ and Internet Explorer 8+

Results

Scholars GeoPortal

Search Map (0) Download Login ?

☒ Data ☐ Place or address

Anywhere

?

☒ Downloadable content only

Browse by...

Subject category ?

Census and administrative boundaries (177)
Transportation networks (150)
Inland water resources (97)
Environment and conservation (93)
Utility and communication networks (52)
Geological and geophysical (49)
Imagery, base maps, and land cover (42)
Land use and planning (27)
Cultural, society, and demographic (26)
Biologic and ecologic (20)
Facilities and structures (19)
Business and economic (18)
Agriculture and farming (17)
Elevation and derived products (14)
Human health and disease (11)
Locations and geodetic networks (10)
Military and intelligence (9)

Save Share Print Export

Arctic Ocean

Beaufort Sea

HTML_CODESNIFFER BY SQUIZ

Standards: WCAG2AA

184 Errors	87 Warnings	197 Notices
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Select the types of issues to include in the report

View Report

By comparison

The screenshot displays the USGS The National Map Viewer interface. The main map shows the United States with various data layers. A sidebar on the left lists the 'Base Data Layers' with checkboxes for each:

- ☐ US Topo Availability
- ☐ Geographic Names (GNIS)
- ☐ Structures
- ☐ Transportation
- ☐ Governmental Unit Boundaries
- ☐ Map Indices
- ☐ Hydrography (NHD)
- ☐ National Land Cover Database (NLCD)
- ☐ Elevation Availability
- ☐ Elevation Contours - Small Scale
- ☐ Imagery - 1 meter
- ☐ Imagery - 1 foot
- ☒ Reference Polygons

The top navigation bar includes 'Overlays', 'Selection', and 'Cart' tabs. The 'Content' tab is active, showing 'Reorder Layers'. The 'Standard' tab is selected in the top right, and the 'Active Tool' is 'None (Map Navigation)'. A search bar and 'Download Data' button are also present.

An overlay window titled 'HTML_CODESNIFFER BY SQUIZ' is displayed over the map. It shows the following results for WCAG2AA:

Standard	WCAG2AA
323 Errors	294 Warnings
292 Notices	

Below the counts, there are three toggle switches for selecting the types of issues to include in the report. The 'View Report' button is at the bottom.

By comparison

**GROUP ON
EARTH OBSERVATIONS**

GEOSS Portal
Discover, Access, Contribute
Earth Observations, Information and Services



HOME | **VIDEO TUTORIAL** | **SEND FEEDBACK**

SEARCH

Enter search word [?]

Related Topics [?]

+ Themes [?]

+ Country/Geography [?]

+ Data Access Conditions [?]

+ Earth Observation Catalogs [?]

Start Date [?] End Date [?]

CLEAR **SEARCH**

POPULAR SEARCHES

Precipitation Land Surface Temperature Land Cover Urbanization Sea Surface
Temperature River Flow Observation Surface Atmospheric Condition Elevation **Soil**
Moisture

EO NEWS

 **Taking Earth's temperature**



HTML_CODESNIFFER BY SQUIZ

Standards: WCAG2AA

140
Errors

63
Warnings

201
Notices

Select the types of issues to include in the report

View Report

[Tell US what you think](#)
Your Feedback helps us
improve the GEO Portal

By comparison

ArcGIS

My Map

NEW MAP

Leanne

Details

Add

Basemap

Save

Share

Print

Measure

Bookmarks

Find address or place

About

Content

Legend

Make your own map

It's easy to make your own map. Just follow these steps:

- 1. Choose an area.**
Pan and zoom the map to an area or search by its name or address.
- 2. Decide what to show.**
Choose a Basemap then Add layers on top of it.
- 3. Add more to your map.**
Add map notes to draw features on the map.
Display descriptive text, images, and charts for map features in a pop-up.
- 4. Save and share your map.**
Give your map a name and description then share it with other people.

+

Home

-

Refresh

HTML_CODESNIFFER BY SQUIZ

Standards: WCAG2AA

58 Errors

4 Warnings

87 Notices

Select the types of issues to include in the report

View Report

Great Bear Lake

Mackenzie

Baffin Bay

Davis Strait

By comparison



[Reset](#) | [Help](#) | [About](#) | [Login](#)

Where:

What:

[Search](#)

[Advanced Search](#)

1303 Results

Cart (0)

Relevancy Columns Clear Views

Type	Name	Originator	Rep	Meta	View
+	Global GIS : Natural resources ex	United States.	H	i	✓
+	DCW Cultural Landmarks, Points	National Imag	H	i	
+	Global GIS : Miscellaneous indust	United States.	H	i	
+	Global GIS : Natural resources ex	United States.	H	i	✓
Opacity: 80% Border: 1px					
+	VMap1 Industry, Lines	National Geos	H	i	
+	VMap1 Industrial Wells, Points	National Geos	H	i	
+	Global GIS : Miscellaneous hydro	United States.	H	i	
+	VMap1 Industry Text Label Points	National Geos	H	i	
+	VMap1 Industrial Void Collection	National Geos	H	i	
+	DCW Utility Features, Lines	National Imag	H	i	
+	DCW Cultural Landmarks, Lines	National Imag	H	i	
+	Global GIS : Utility point features	United States.	H	i	
+	World (Petroleum Fields, 2003)	Feliks M. Persi	H	i	
+	VMap1 Buildings, Polygons	National Geos	H	i	
+	VMap1 Buildings, Points	National Geos	H	i	
+	GNIS Buildings U.S.A. 1979-2011	Geological Sur	H	i	Login
+	VMap1 Vertical Structures, Points	National Geos	H	i	
+	VMap1 Processing Plants, Polygon	National Geos	H	i	
+	VMap1 Processing Plants, Points	National Geos	H	i	
+	VMap1 Pumping Stations, Points	National Geos	H	i	
+	VMap1 Agricultural Structures, Poi	National Geos	H	i	
+	US Fish and Wildlife Service Cada	United States	H	i	
+	USA (106th Congressional District	U.S. Bureau o	H	i	
+	GNIS Churches U.S.A. 1974- 201	Geological Sur	H	i	Login
+	DCW Cultural Landmarks, Polygon	National Imag	H	i	
+	VMap1 Boundary Barriers, Lines	National Geos	H	i	
+	Africa, Catholic Missions and Colo	Harvard Map	H	i	
+	VMap1 Fortifications, Polygons	National Geos	H	i	
+	VMap1 Fortifications, Points	National Geos	H	i	

Save Image Print Google Physical

HTML_CODESNIFFER BY SQUIZ

Standards: WCAG2AA

56 Errors

76 Warnings

184 Notices

Select the types of issues to include in the report

View Report

What's causing the errors?

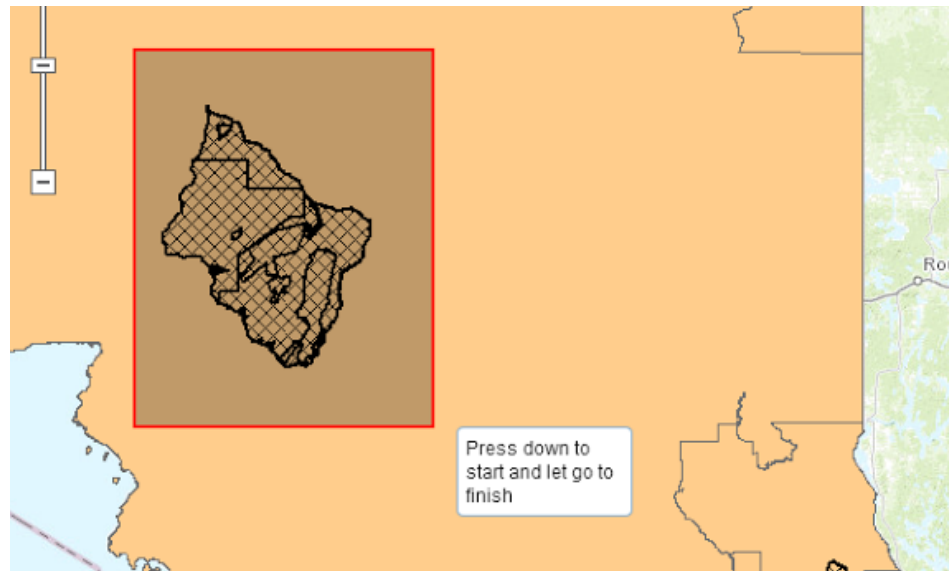
video demo

Improvements Needed

- Need an accessibility statement
- Images need 'alt tags', form controls need labels
- Structure site to allow users to gain an overview of available sections of the site, and features within sections (ARIA / HTML5 section tags)
- Keyboard navigable map controls (pan, zoom)
- Ensure that all pop-ups, panels, and alerts can be interpreted by assistive technology
- High contrast mode

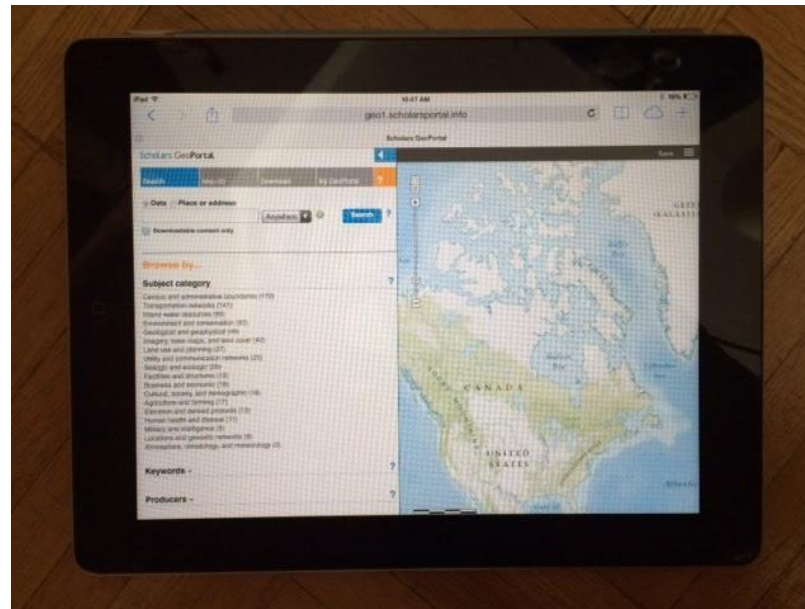
The really hard stuff

- Areas of the site where both physical movement and visual awareness are required
 - “Clip & ship” (drawing a box on the screen)
 - Clicking on a point to view attributes
 - Annotations (drawing shapes on the screen)



The really hard stuff

- Full site functionality on tablets
 - Touch screen controls offer new possibilities for people with disabilities
 - However, Scholars GeoPortal download tools don't work on tablets at this time



Where do we go from here?

- Start working on improving the Scholars GeoPortal user interface!
- Tackle the low-hanging fruit first (2014)
- Reconsider our site design with universal design principles in mind (2015)

Resources

OCUL Accessibility Information Toolkit for Libraries <http://www.ocul.on.ca/node/2127>

Derek Featherstone webinar on Accessible Maps (fee based):

<http://store.simplyaccessible.com/virtual-seminar/accessible-maps/>

Love, B. (2014). Accessibility in map and GIS libraries. *ACMLA Bulletin*, 146: 10-15.