The Geological Survey continues to make advancements in the field of geoscience delivery online. Part of this effort includes participating in various pilot projects and testing new initiatives. This summer a pilot project was completed that resulted in developing and deploying the first phase of transferring the existing geoscience databases and maps to a modern platform.

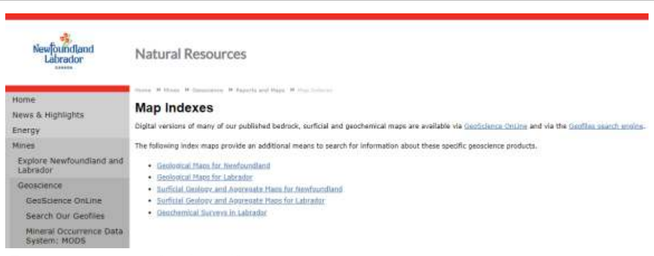
In coordination with the GIS governance committee, the Geological Survey has developed a Proof of Concept in support of using ArcGIS Online (AGOL) to publish data. Part of this project required the modernization of existing data and the rehousing of data in the newer platform of AGOL. To continue to meet and exceed the needs of our client groups, the Geological Survey is modernizing the delivery of its data to ensure the most user friendly platform. This transition will provide access to sharing and hosting data in ArcGIS online.

The change allows data, which are generated from different government agencies, to be interwoven, thus reducing "outdated" basemaps and the need to host multiple copies of the same data on multiple servers. The goal is to provide comprehensive, authoritative maps and data on standardized basemaps and imagery. Available base maps that are currently free to use, include: landscape (elevation –DEM; Soils and Geology; Land cover; Natural Hazards); imagery/basemaps (hybrid imagery; radarsat; Landsat 8; High resolution imagery - less than 30 cm; DEM; topographic), earth observation (seismic, cartographic distortion) and much more. In addition, AGOL allows for the ability to deal with big datasets by enabling geographic analysis and tools that filter and convert those elements into geographic layers of information. These can be analyzed to create new, more useful maps for decision making.

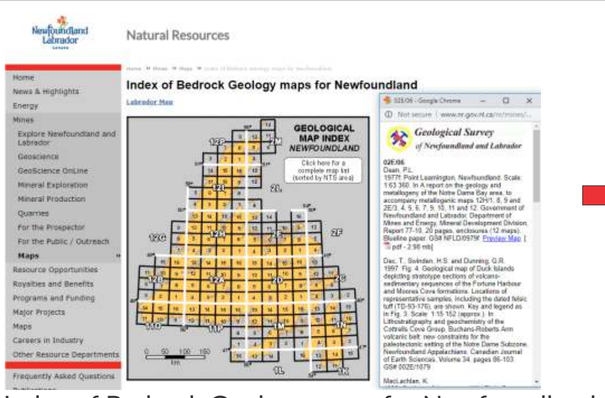
Items completed during pilot project:

- ☑ Organize published maps into a collection that can be shared as map services viewed on the web
- ☑ Develop a workflow for converting the map collection to a format shared online (pdf, vector shapefile and downloadable)
- ☑ Test and evaluate available ArcGIS configurable templates to produce a web map app custom tailored to fit our collection
- ☑ Evaluate a text query application (CSV-format information that allows advanced users to write custom download scripts)
- ☑ Evaluate the feasibility of using geospatial extensions (GeoPDF®) patented by TerraGo Technologies
- ☑ Document how data owners can develop responsive design applications and have them implemented on AGOL
- ☑ Document best practices for developing themed web maps
- ☑ Identify any best practices related to locally-hosted or cloud-hosted storage that would affect credit usage including the requirements for the OCIO network configuration

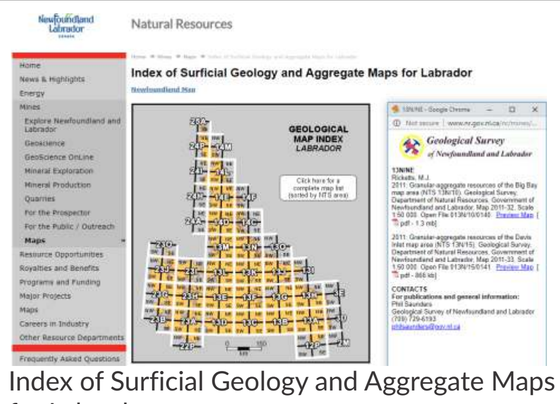
FORMER INDEX PLATFORM



Current map index list.

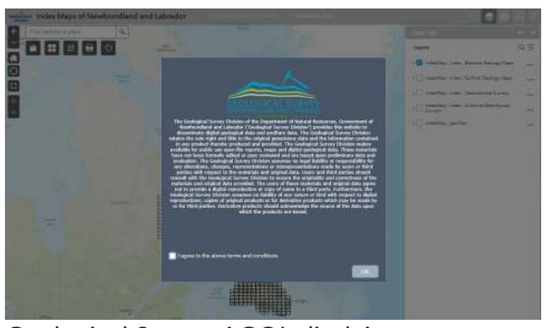


Index of Bedrock Geology maps for Newfoundland.

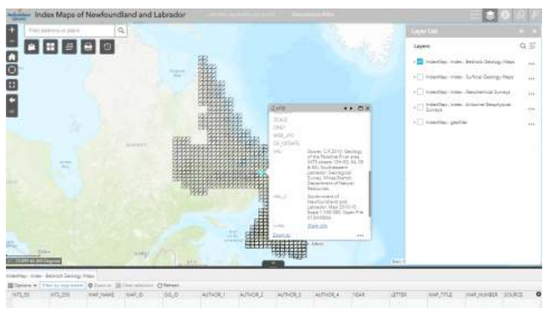


Index of Surficial Geology and Aggregate Maps for Labrador.

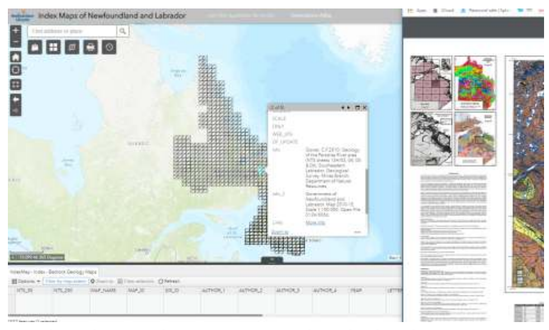
CURRENT INDEX PLATFORM (AGOL)



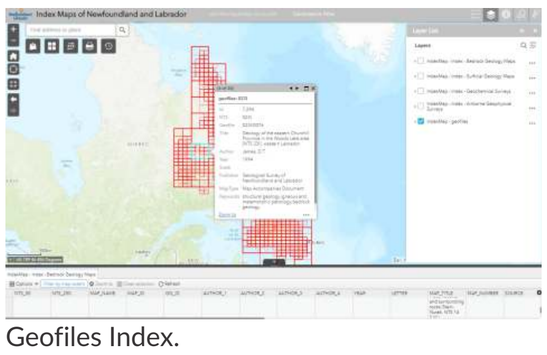
Geological Survey AGOL disclaimer screen.



Bedrock Geology Map Index.



Bedrock Geology Map Index linked to a downloadable pdf map.



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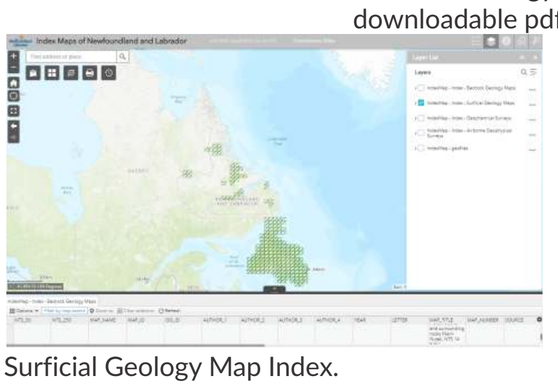

Surficial Geology Map Index.

A key benefit will be implementing ArcGIS Pro and ArcGIS Online which facilitates the effective and efficient creation and maintenance of online maps. Specific examples of benefits include the following:

- The ability to perform searches and analysis using ArcGIS online tools
- Developing story maps that provide graphic images, videos and links to additional information. The various story maps are beneficial for informing the public about coastal erosion, flood risks, general geology, mineral deposits and mineral promotion
- Developing story maps to promote geo-tourism opportunities throughout the province
- Responsive design apps that cater to all online viewing tools (desktops, tablets and smartphones)
- Expanding the features and dataset of the online maps
- Provides the GSNL with the ability to host multiple user accounts with custom access and security settings tailored for specific user needs
- The ability to use various ESRI apps