

User Guide

Inventory of Landscape Change Map Viewer

Version 4.0
(2024 Revised Data Schema)

For:
Government of Northwest Territories Cumulative Impact Monitoring Program

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1.0 INTRODUCTION

1.1 Overview

The *Inventory of Landscape Change (ILC) Map Viewer* allows users to browse online map information and real-time data maintained by the GNWT Centre for Geomatics and the Cumulative Impact Monitoring Program (CIMP). This support document provides an introduction to the components of the Map Viewer and how to use them. For more information about CIMP and the Inventory of Landscape Change Program, visit our website <http://www.enr.gov.nt.ca/en/services/cumulative-impact-monitoring-program-nwt-cimp>



The Map Viewer is designed to be used with minimal technical support through intuitive and standard web mapping functions. The easiest way to familiarize yourself with the Map Viewer is to review the Quick Start Guide and various map layers that are available, as well as the toolbar tips that appear when you hover over each button. If further information is required, this user manual can be referenced for details outlining specific map functions. For those already familiar with the Map Viewer – Section 2.0 highlights changes made following the 2024 data update.

The Map Viewer *Home (About)* page is found on the left side of the map. It provides basic information about the website and an introduction to the functions and support documentation for the *Inventory of Landscape Change Map Viewer* application.

Should you have questions, concerns, or recommendations on how to improve the Map Viewer or support documents, provide feedback using the contact information available in Section 6.0.

1.2 Internet Browser Compatibility

Before beginning to explore the ILC Map Viewer, it is important to check the internet browser compatibility on the computer that will be used to launch the Map Viewer. The Map Viewer is designed for compatibility between various internet browser services including Google Chrome, Mozilla Firefox and Apple Safari. If you are using an older version of Internet Explorer and you are finding that the application does not operate as presented in this user manual, you should consider changing the Internet Explorer tools/settings for compatibility mode.

1.3 Quick Reference Guide

The quick reference guide on page 2 is available to provide a simple overview of the Map Viewer layout and key functions. Print this guide and keep it on hand for reference while using the Map Viewer application.

Quick Reference Guide

Toolbar Menu Tabs:
Click on other menu tabs to review other toolsets and controls.
Pg. 14

Toolbar Buttons:
Use these buttons to perform specific tasks and move around the map window, explore data, and mark up map for printing.

Information Window:
The Information Window can be toggled on/off to add space for map window.
Tabs control what you see in the Information Window. By default, the Home and Layers tabs are visible. Searches will open new tabs. The new tabs can be closed via the "X" in the top right corner of the information window.

Layer Tab:
All layers are displayed in this tab. Customize visible layers by using the check boxes to toggle on/off layers. Some layers are only visible within a certain map scale range, indicated by lighter font.
Use + and - to expand or collapse layers.

Global Search:
Search geographic place names, NTS map sheet numbers, key words, and layer fields.

Toggle Toolbar:
Hide the toolbar to increase map window size.

Map Window:
The map window includes base mapping layers and interactive display of map layers.

Download Map Data:
Data can be exported to shapefiles or tables (.csv, .xlsx) for use in desktop applications.

Scale Button:
Display current map scale and switch to various pre-set scales.

Coordinate Button:
Display xy coordinates in different coordinate systems.

Common Shortcuts:
Click here to find shortcuts to some common tasks.

Zoom Controls:
Click here to zoom in and out within the map window.

Window slider:
Drag the slider to widen the Information Window.

Basemaps:
Choose between satellite imagery and a topographic map background.

Access additional tools and information for each map layer (including metadata).

Reference Grids
1:50 000 NTS Grid - 0-11M...

Inventory of Landscape Change MAP VIEWER
An up-to-date inventory of disturbances and other changes on the landscape provides the foundation for monitoring and assessing cumulative effects and is a critical piece to the success of regulatory environmental assessment, wildlife and habitat management, forest management planning, and cumulative effects management and modelling. This information will also benefit aboriginal governments and other stakeholders by providing a picture of current and historic development that has occurred in the NWT.

Use the Inventory of Landscape Change Map Viewer
to explore spatial data related to human and natural disturbance in the Northwest Territories. To help navigate this website, begin by reviewing the many tools found under the **Navigation** and **Tools** menu tabs. Once you find what you're looking for, you can print a map or export data in tabular or shapefile format.

Click the **Toolbar** icon (on the right side) to hide or show the menu toolbar just above the map window. This can help maximize the map view when needed.

Click the map layers icon to the left of the map window (near the bottom) and you can toggle on/off many of the individual map layers components. Expand out grouped layers as required. **Toggle Show Legend** or **Show Layer List** as required.

Need more help? Hover your pointer over tools to see what they do. Or, refer to more detailed support documents here: [User Manual](#)

2.0 REVISED HUMAN DISTURBANCE DATASET (DATA MODEL)

In 2024, CIMP implemented a series of changes to the data model of the human disturbance dataset for ILC to better reflect the needs of users. A key improvement to the dataset is the Human Development Footprint layers (lines and areas) now contain all visible human development features and no longer require the need to also reference other layers such as roads, pipelines, forestry cut blocks, runways, powerlines etc. to get an overall picture of the full disturbance footprint.

The details of these changes are outlined below along with rationale for the changes and ways that users can benefit from the changes.

2.1 Overview of the Changes

Figure 1 on the following page highlights the key changes. It presents the old layer list along side the two map layers that now display the human disturbance footprint. Not only have the map layers changed, but the process to update them on a regular basis is also revised. Now, the first step is to compile the various authoritative sources of data available from other mapping programs, merge them together with the previous ILC dataset, and then go through a review of all features using current satellite imagery and referring to the Land and Water Board registries for attribute details where applicable. This results in more accurate delineations of features, removes all duplicates that are found from various inputs, and builds out a chronology of current and historic features. Current features have been validated to still be on the landscape, while historic features have been removed or replaced with more accurate delineations and attributes. There are no overlaps between current polygon features. No changes have been made to the Water License data capture process or layers.

Figure 2 highlights the various data sources that augment the ILC Human Disturbance Dataset. This figure also presents the new map legend that includes different symbols for various Disturbance Types that are associated with all features. Section 2.2 describes how to explore the information associated with any feature by clicking on them, reviewing additional details and exploring links to current or past registry permits numbers when those features originate from Land and Water Board registries.

Figure 1. Comparing Previous and Current Human Disturbance Datasets

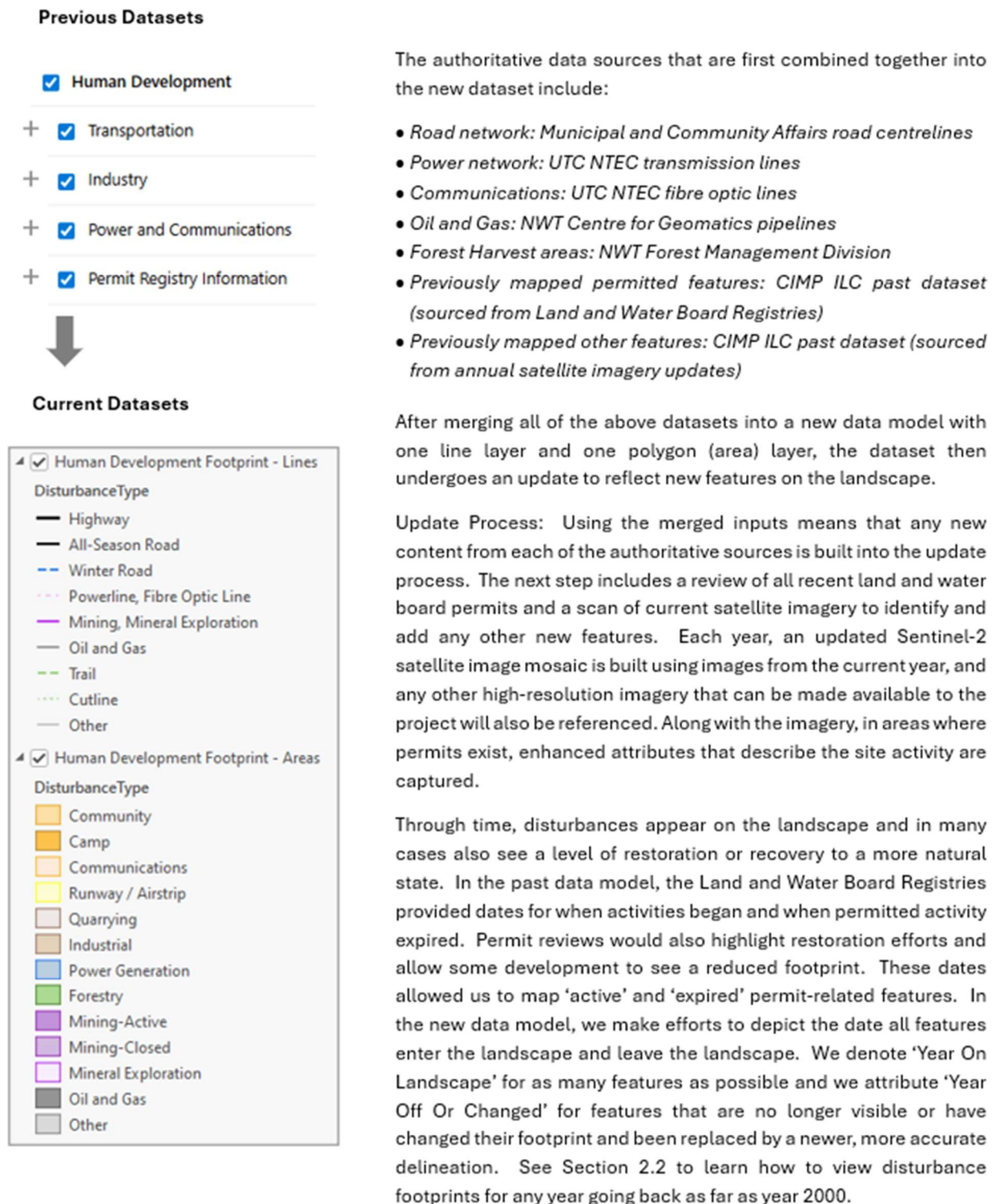
The ILC program has relied in the past on a series of map layers to represent the human disturbance footprint. These layers included the best available Transportation layer, Industry layers such as oil and gas features and seismic cutlines, power transmission lines, and fibre optic lines. Land and Water Board Registries were used to delineate other disturbances on the landscape and attribute them with pertinent information to describe those features. Those Permitted Feature layers included points, lines, and polygons to represent the visible disturbances and noted features as active or inactive based on date information associated with the permit. During data capture, up to date satellite imagery was used to also identify and map any Additional Observed Features that don't appear to be associated with any permit information. Together, all of these layers could be displayed in combination to represent the Human Disturbance Footprint. Water License information was also gathered. No changes have been made to the Water License capture process or data layers that are displayed.

In 2024, CIMP adopted a new process to better delineate the Human Disturbance Footprint into a single dataset that includes a polygon (areas) layer and a line layer to represent linear features like roads, trails, pipelines, powerlines etc. The data capture process was altered to first merge in data from authoritative sources which have previously mapped many features, and then review the permits and satellite imagery to add or modify new or changed features on the landscape. The result is now presented in two layers symbolized by Disturbance Type:

- ▶ Human Development Footprint - Lines
- ▶ Human Development Footprint - Areas

These two new layers capture all this information (as displayed on the following page) and the updated dataset simplifies the process of displaying a complete human disturbance map.

Figure 2. Data Sources and Revised Update Process



2.2 How to Explore the New Disturbance Dataset in the ILC Map Viewer

You may click on human disturbance features to explore their attributes. Then use the 'View Additional Details' link to see the full list of attributes. For features that originated from Land and Water Board registries, you will find additional information by scrolling down to the bottom of the attribute details on the left of the map window. Here you will find a 'Registry Records' heading and links to current and/or past registry information.

Figure 3. Exploring Additional Information for Human Disturbance Features

Symbology

Human Development Footprint - Lines

DisturbanceType

- Highway
- All-Season Road
- Winter Road
- Powerline, Fibre Optic Line
- Mining, Mineral Exploration
- Oil and Gas
- Trail
- Outline
- Other

Human Development Footprint - Areas

DisturbanceType

- Community
- Camp
- Communications
- Runway / Airstrip
- Quarrying
- Industrial
- Power Generation
- Forestry
- Mining-Active
- Mining-Closed
- Mineral Exploration
- Oil and Gas
- Other

Date Attributes

Features are now symbolized on the map by the Disturbance Type category. Some less common categories are grouped or aggregated into the 'Other' class. You can click on Human Disturbance Footprint features on the map to display more information as illustrated below.

☆ Human Disturbance: Mineral Exploration
✕

Project: Nechalacho Rare Metals Property (Thor Lake)
 Disturbance Type: Mineral Exploration
 Permit: MV2018C0011
 Year on Landscape: 2024
 Year off Landscape (or changed): 2025

[View Additional Details](#)
[Add to Results](#)



Notice the Project name, Disturbance Type, Permit details (when pertinent) as well as the year this feature was first captured into the dataset in this delineation (Year On Landscape) and the year the displayed feature is current until (Year Off Landscape (or changed)). Keep in mind that the image above is a snapshot of the 2024 data update and the data, by default, maintains this feature as current for one year into the future. In the 2025 update (which will take place after the publishing of this document), the feature will be reviewed and could be replaced by a new delineation that better reflects the disturbance at that time. At that time, the Year Off Or Changed attribute may increment to 2026 if no changes are noticed, or it may become a 'Historic' feature and be replaced by a newer delineation that best reflects the updated footprint and disturbance characteristics. This continuous update process better reflects changes to the landscape and keeps the ILC Human Disturbance Dataset more accurate and current. Users can press the 'View Additional Details' link in the dialog to see all attribute information.

Continue reading to learn how to explore all attributes, including the current and older permit details associated with a selected feature.

Feature Attributes

Human Disturbance: Mineral Exploration

Details

OBJECTID
349

FootprintArea_Ha
44.2525

CaptureMethod
Sentinel Imagery

Notes
Source: HDD_Footprint_A, Notes: Renewal of Permit MV2011C006 and MV2012G0005,

UpdateDate
N/A

HistoricDate
N/A

Reference
MV2018C0011

Source
Mackenzie Valley Land and Water Board Registry

DisturbanceType
Mineral Exploration

ImagerySource
Sentinel Imagery

ImageryYear
2020

ImageryResolution
10

CaptureScale
10000

HistoricReason
N/A

Version
Current

HDD_ID
100259

ProjectName
Nechalacho Rare Metals Property (Thor Lake)

YearOffOrChanged
2025

YearOnLandscape
2024

UID
1000357

SHAPE
N/A

Shape.STArea0
442525.1022

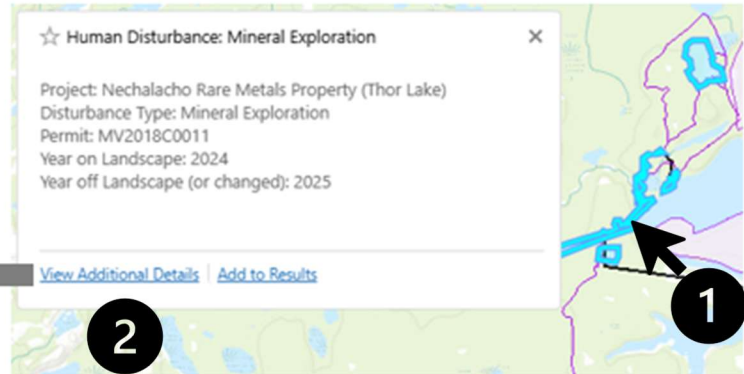
SHAPE.STLength0
9609.9161

Registry Records

Thor Lake
Thor Lake 100 Km SE of Yellowknife
Thor Lake
Nechalacho Rare Metals Property (Thor Lake)

Permit Registry Attributes

In the example from the previous page, Clicking on the feature highlights it in light blue and also opens the dialog shown below.



Follow the 'View Additional Details' link to open more attribute details to the left of the map window. Scroll down to see them all if needed.

When a feature is associated with a permit, you will see the Reference field populated (in this case MV2018C0011). This feature has seen various permits issued over the years, and each of them can be reviewed by clicking on the 'Registry Record' links in bold text at the bottom of the attribute details.

Thor Lake 100 Km SE of Yellowknife

Reference
MV2012G0005

Company
Avalon Rare Metals Inc.

LocationGeneral
Thor Lake

Status
Closed

Expiry
Mar 26, 2017 5:00 PM

ProjectName
Thor Lake 100 Km SE of Yellowknife

EffectiveDate
Mar 27, 2012 5:00 PM

ActivityEnd
Mar 26, 2017 5:00 PM

SeasonStart_MMM

SeasonEnd_MMM

SeasonStart_Num
0

SeasonEnd_Num
0

Accommodations
Y

ExistingSpatialData

ReviewDate
Feb 27, 2024 4:00 PM

LinkRegistry
<http://www.mvlwb.ca/Registry.aspx?a=MV2012G0005>

Notice details related to one of the past 2012 permits that expired in 2017. There is a link to the registry for this permit. Press the x on the top right of the window to close this display and return to the previous view and explore other related permits.

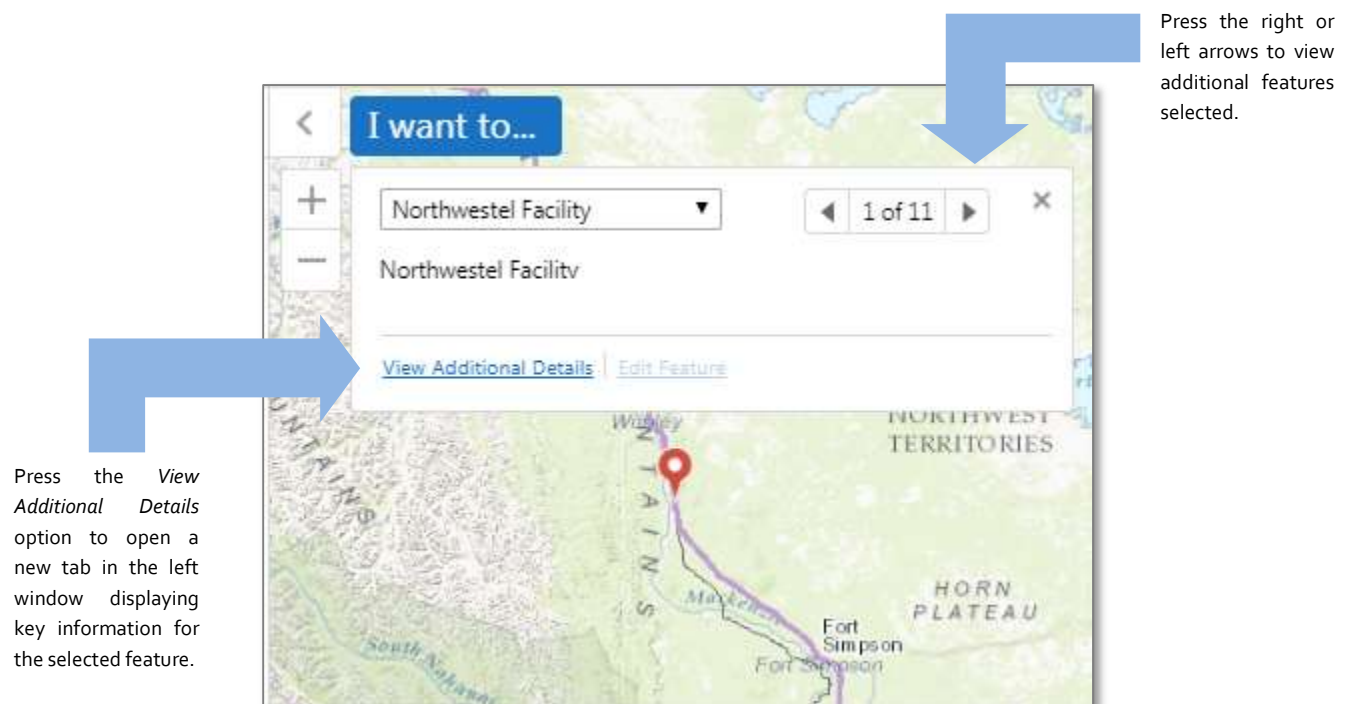
3.0 GETTING STARTED

3.1 First Steps

While using the Map Viewer, explore information in the map window while also checking on/off layers of interest in the layers list left of the map. Keep in mind that some layers are only visible within a certain map scale range. For example, many human development layers are only drawn when zoomed in closer than 1:3,000,000 scale. Also, a layer group must be checked to see individual (indented) layers. Use the Map Viewer to see maps and tables online or export tabular data and map information to common formats for use in spreadsheets, e-mail, or documents.

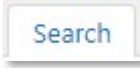

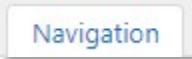


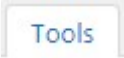

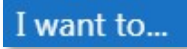
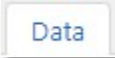
Keep in mind these common characteristics of the application to help you get started quickly:

- Read the welcome message found left of the map window to get a quick introduction to the ILC Map Viewer.
- Use the **Toolbars** and *I want to...* shortcuts to complete most tasks.
- Maximize the **Map Window** when needed by collapsing the **Information Window** left of the map window and/or the toolbar above the map window.
- Use the tabs on the bottom-left of the Information Window to view map layers or to show the map legend and also to see various tool dialog messages or search results.
- This User Manual is accessible from all **Toolbar** tabs and the **Home** page.
- Hover the mouse over the tools to view **Tool Tips** that provide a description of each button.
- Click any feature displayed within the map window to learn more details (as illustrated below).



3.2 Key Features

Provided are a list of key features that are available to investigate the data layers available within the ILC Map Viewer. Available features fall within four categories: search, navigation, editing/analysis, and communication.

Category	Feature	Description	Location
Search	<i>Search Toolbar</i>	Query or filter a data layer by date, date range, or attributes.	
	<i>Global Search</i>	Search designed to provide an easy way to find specific data layers or places. Search for a geographic place, map sheet, or layer name.	
Navigation	<i>Navigation Toolbar</i>	Simple tools to pan, zoom, and quickly change map extents. Printing options are also found in this toolbar.	
	<i>Coordinate Button</i>	Change the coordinate system of the map window. Navigate around the map and the coordinates will update according to the mouse location.	
	<i>Zoom Controls</i>	Zoom in and out within the map window.	
Editing/Analysis	<i>Tools Toolbar</i>	Plot coordinates and locate the coordinates of a point. Calculate area and distance. Use various shapes to identify features on the map.	
	<i>Map Mark-Up Toolbar</i>	Add text or draw within the map window. Marked-up objects will be included in printed maps.	
	<i>Print Map</i>	Select print extent by drawing a box within the map window. Select an output format and page size.	
Contribute	<i>Data Toolbar</i>	Provide direct feedback or submit data suggestions or contributions. Feedback may be general or relate to a specific data issue.	

3.3 Common Tasks

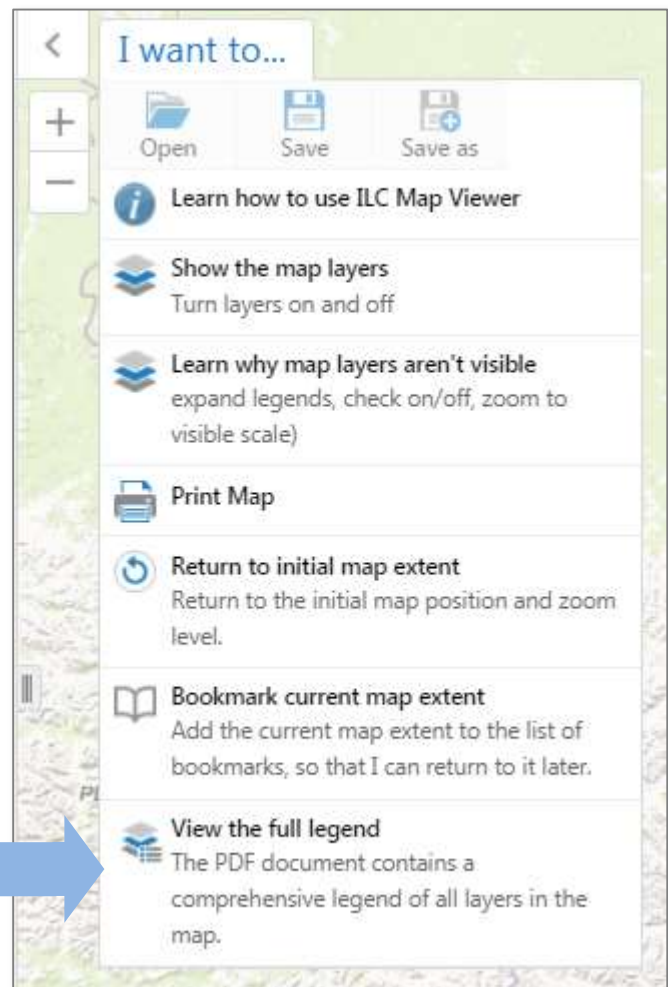
The information contained within this section outlines key ways to complete common tasks using the ILC Map Viewer.

3.3.1 *I Want To...*

Use this menu located inside the map window to quickly find and launch common tasks.



It can be helpful to print out a copy of the full map legend (available as a .PDF file). This legend should also be printed and included with any printed map products created using the *Print Map* tool in the *I Want To...* menu or in the *Navigation* toolbar (pg. 14).



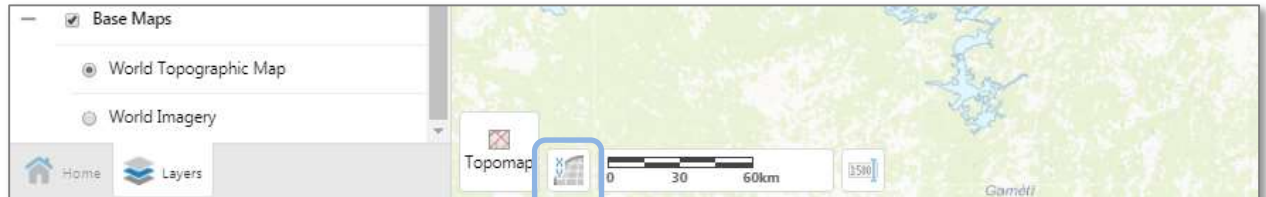
3.3.2 *Scale*

The scale bar is located in the bottom left corner of the map window. Press the scale bar icon to view the current scale or to change to one of the pre-set scale options.



3.3.3 Coordinate System

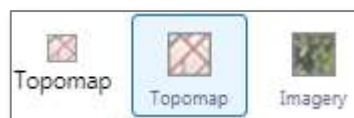
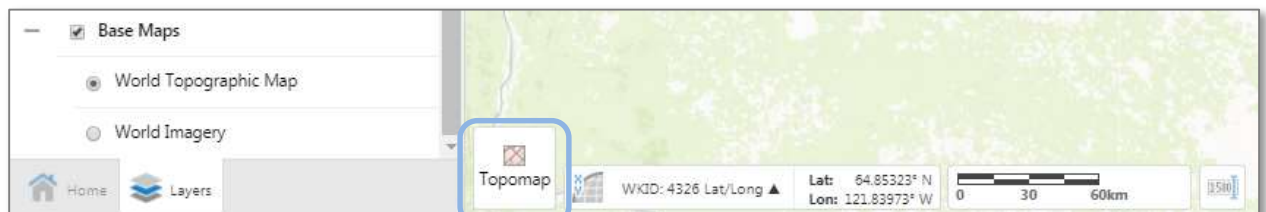
Click the coordinate system button to display the current coordinate system for the map viewer. Click the black arrow to change the coordinate system to a set of predefined choices.



Move the mouse around the map and the coordinates will dynamically change.

3.3.4 Base Maps

Change base map options using the shortcut icons on the bottom right of the map window. Or you'll find base maps at the bottom of the layers list.



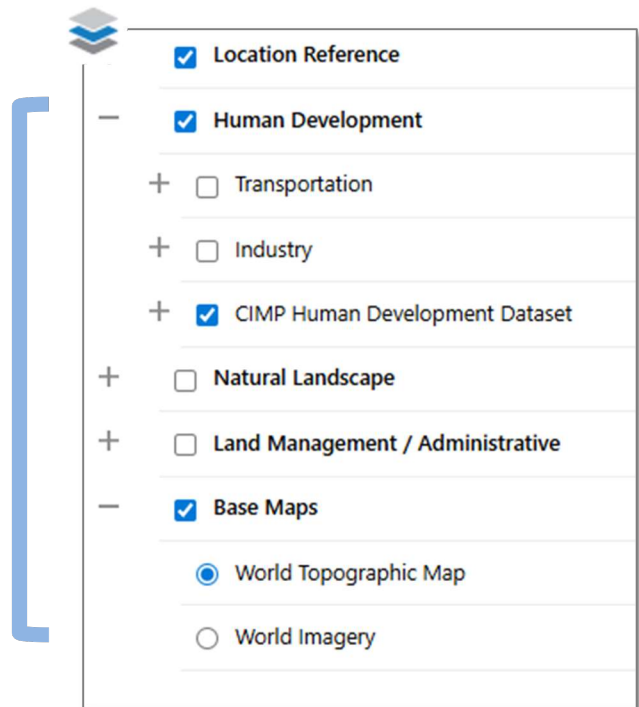
4.0 LAYER WINDOW

4.1 Map Layers

4.1.1 Default Map Layers

The map layers tab displays a table of contents for all data layers within the Map Viewer.

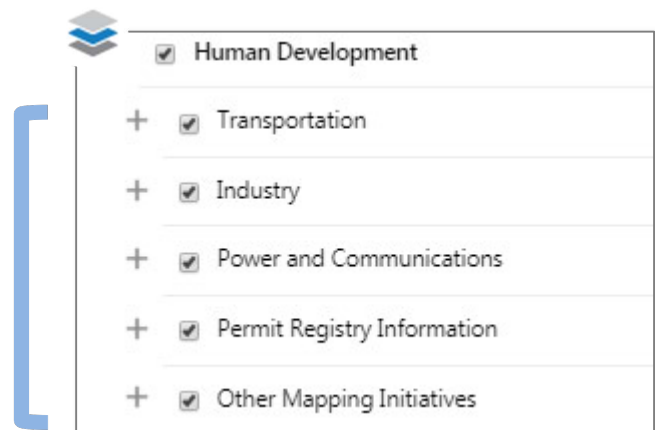
Several map layers are turned off by default (e.g., the *Natural Landscape* and *Land Management/ Administrative* layers), but you may expand layer groups and turn on layers as needed. To turn on (make visible) or off (hide) a layer, click the checkbox. To expand or minimize a layer category, click the + or – buttons.



4.1.2 Expanded Map Layers

The map layers are grouped into three main categories: (1) Human Development, (2) Natural Landscape, and (3) Land Management/Administrative. Each category holds a series of relevant data layers.

The **Human Development** category holds a set of subcategories. *Transportation* includes road, airport, and railway features. *Industry* is composed of mining, leases, and oil/gas features. *Power and Communications* includes transmission/fibre optic lines as well as facilities. *Permit Registry Information* is further split into Permitted Features (active – as of current date – and inactive) and Additional Observed Features. Other Mapping Initiatives includes mapping initiatives completed by other agencies (i.e., contaminated sites, arctic change imagery, and caribou recovery strategies).



The **Natural Landscape** category holds a set of hydrology and fire history layers as well as four subcategories: *Geological*, *Species at Risk*, *Ecological Land Classification Photos* and *Ecological Regions*.

Natural Landscape

- Watersheds (sub-basins)
- Watersheds (major-basins)
- Wetlands - 0-1:300k scale
- Wetlands - 1:300k-1:1M scale
- Fire History
 - 2016
 - 2006 - 2015
 - 1996 - 2005
 - 1986 - 1995
 - 1976 - 1985
 - 1965-1975
- + Geological
- + Species At Risk
- + Ecological Land Classification Photos
- + Ecological Regions

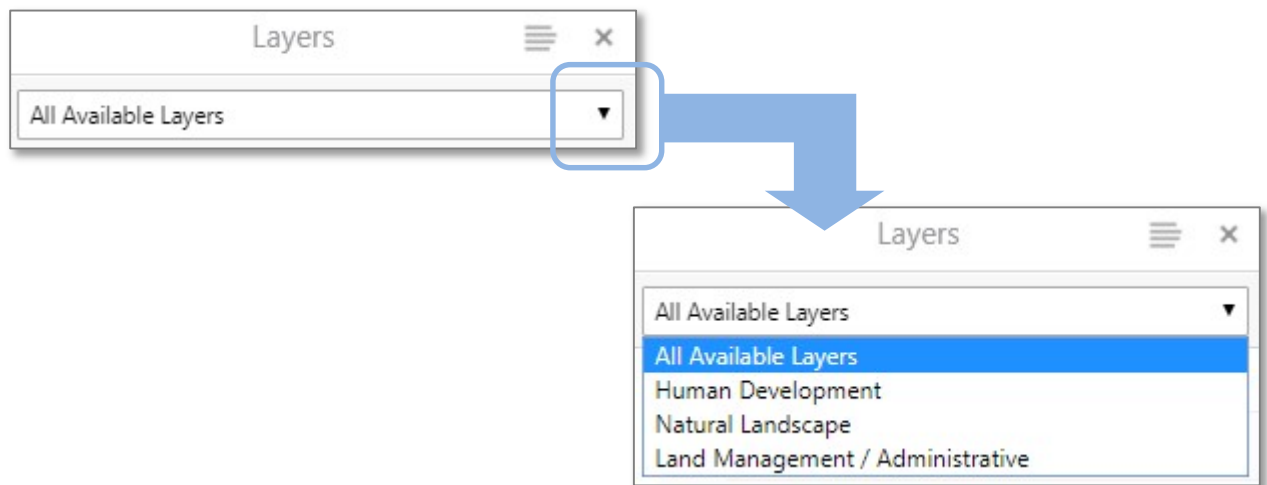
Land Management / Administrative

- Canadian Geopolitical Boundary
- Final Land Claims
- Land Withdrawal Areas
 - Subsurface
 - Surface
 - Surface/Subsurface
- Regulated Areas
- Conservation/Protected Areas
 - Subsurface
 - Surface
 - Surface/Subsurface
- Federally Managed Lands
 - Subsurface
 - Surface
 - Surface/Subsurface
- ENR/ITI/LANDS Admin Regions

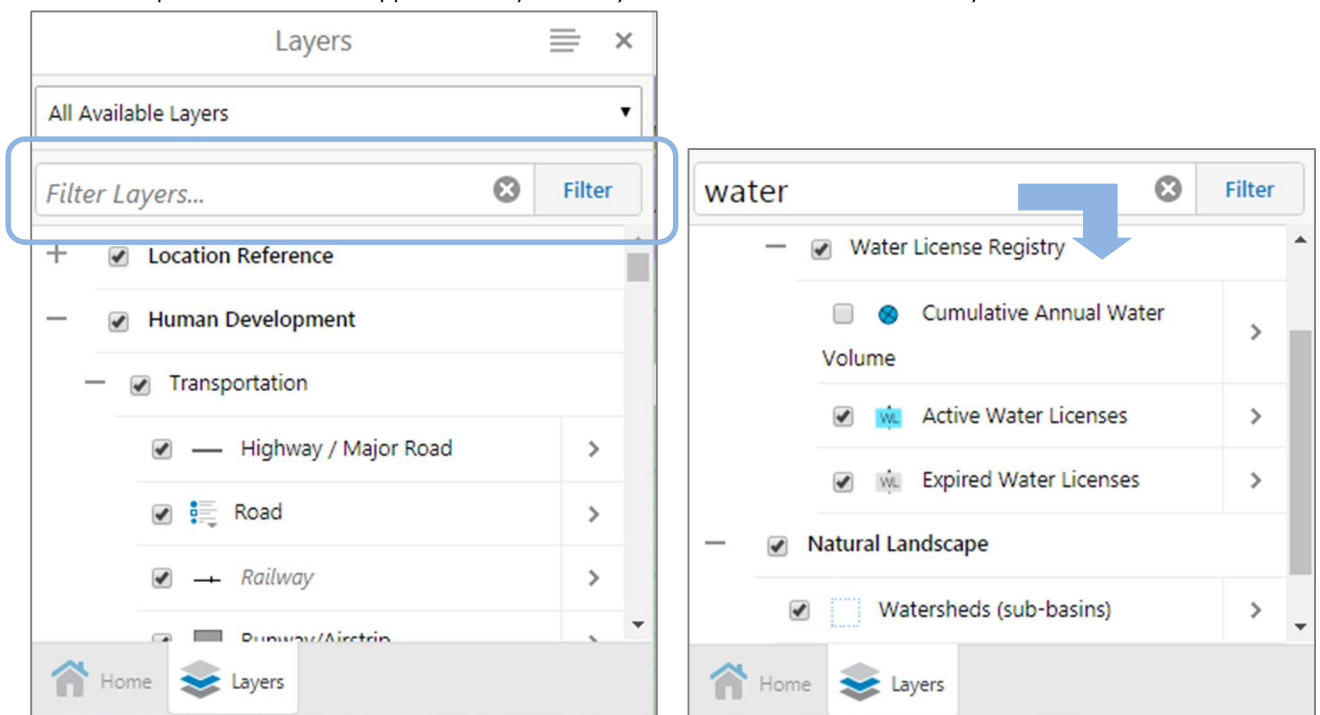
The **Land Management/ Administrative** category holds a series of administration related data layers, including political boundaries, land claims, as well as protected and regulated areas. *Land Withdrawal Areas* are those regions where land disposal is limited or prohibited. *Federally Managed Lands* include all public lands and *ENR/ITI/LANDS Administration Regions* are provided for reference.

4.2 Layer Themes / Filters




Layer themes are used to quickly turn on a selected category while simultaneously turning off other, unrelated, layers. This function aims to streamline the process for narrowing down layers to specific types of desired features (i.e., to focus on the Natural Landscape context vs. the Human Development context). To switch between layer themes, click the drop down menu (black arrow) at the top of the layer window. Select the desired category from the list to make visible all layers within the chosen theme. To return to the default selections choose the *All Available Layers* option.



The Filter Layers tool is used to only show certain layers in the Layer List window to the left of the map window. In the example below a filter is applied to only show layers that include 'water' in the layer name.





4.3 Layer Customization and Information



To access basic tools and to get more detailed layer information, click the  icon next to the layer name. A new tab will open and will be titled with the selected layer name. To return to the layer main menu, click the  but  in the top right hand corner of the layer window.


The *Zoom to Full Extent* option will automatically zoom the features in the map window to the full extent of the layer. All features contained within the layer should be subsequently visible within the map window. However, some layers are only visible within certain scale ranges. Use the *Zoom to Visible Scale* tool to zoom to the visible extent of the selected layer.











Additional customization tools are discussed in sections 3.3.1 (Turn on/off layer visualizations), 3.3.2 (Customize Labels), 3.3.3 (Toggle Labels), and 3.3.4 (Metadata).


 **Show Legend**
 Display the legend for visible layers







The menu button  will open an option to see all visible layers displayed in a legend.



Layers
 

All Available Layers


- + Location Reference
- Human Development
- Transportation
 -  Highway / Major Road 
 -  Road 
 -  Road - 0-1:2M scale
 -  Winter Road
 -  Railway 
 -  Runway/Airstrip 


Highway / Major Road


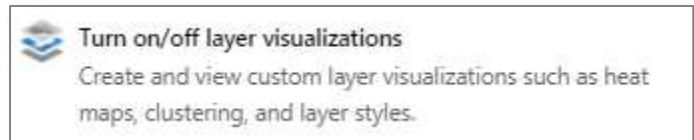
-  **Zoom to full extent**
Zoom the map to the full extent of the layer.
-  **Zoom to visible scale**
Zoom the map to a scale where the layer is visible.
-  **Turn on/off layer visualizations**
Create and view custom layer visualizations such as heat maps, clustering, and layer styles.
-  **Toggle labels**
Turn the layer's labels on or off.
-  **Customize labels**
Toggle and customize the layer's labels.
-  **Metadata**

 To close any new window (i.e., tab in the left panel) or to return to the Home or Layers main menu press the  button.

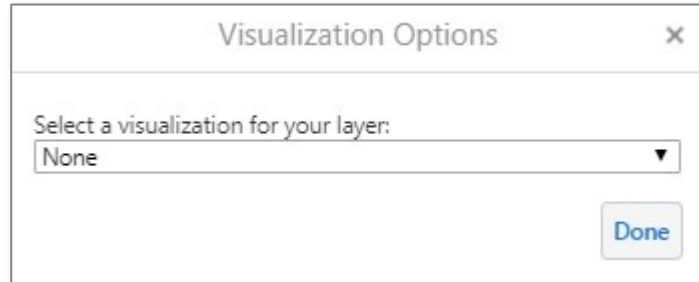
4.3.1 Turn On/Off Layer Visualizations

Layer visualizations tool provides a way for the user to customize how each layer is symbolized within the map viewer. Users can change the colours, line widths, or make layers semi-transparent to see other datasets more clearly.

To access layer visualizations, click the  button next to the layer name and select the *Turn On/Off Layer Visualizations* button.



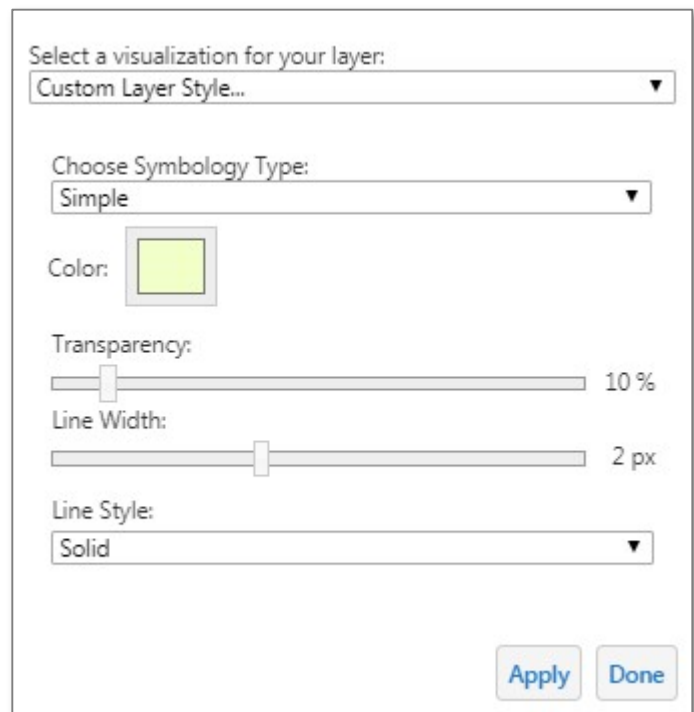
Click the black arrow to expand the drop down menu. Select custom layer style.



A layer can be symbolized using the simple or attribute symbology type selected from the drop down menu under the *Choose Symbology Type* option.


The simple symbology menu will provide options to change the colour, transparency and line style and width of the selected layer (as illustrated on the right).

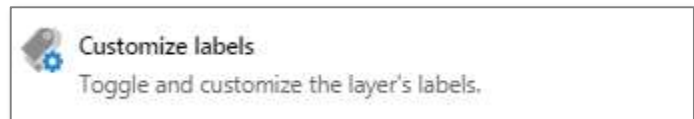
The attribute symbology menu will provide a drop down list of available attributes for the selected layer. Select the attribute to be symbolized. Additional selections then become available. Adjust colour, transparency and line/marker style as necessary.



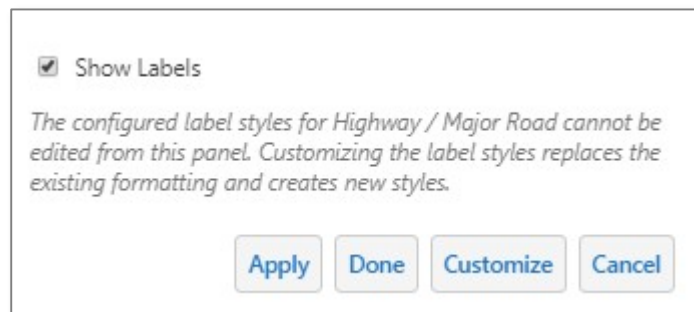
4.3.2 Customize Labels

Use the *Customize Labels* tool to change the font size, colour, or placement of the layer labels in the map window. The illustration below uses the Highway/ Major Road layer as an example.

To access *Customize Labels*, click the  button next to the layer name and select the *Customize Labels* button.



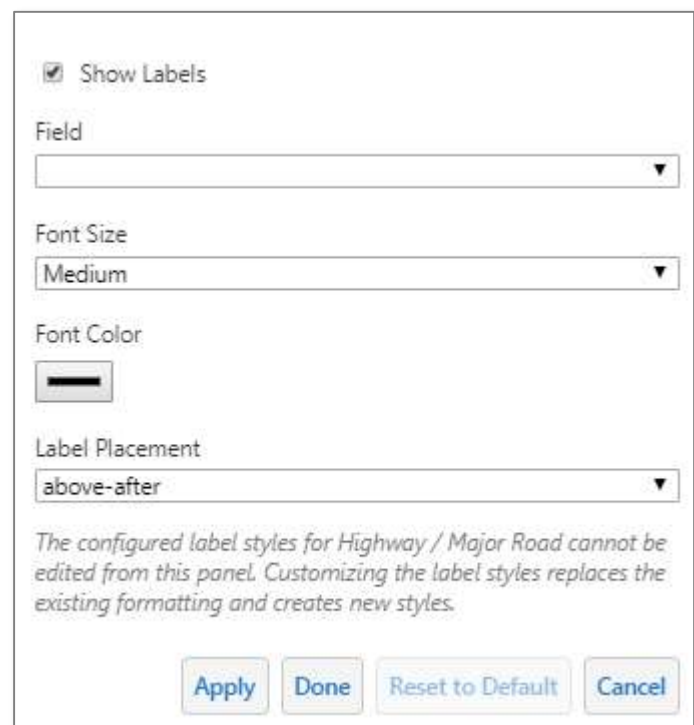
Click the *Customize* button to open the customization window.



The *Show Labels* toggle controls the label visibility. Check the box to make the label visible in the map window or uncheck to hide all labels.

Select the layer field (attribute) that contains the attribution of desired information.

Change font size and colour as necessary and adjust the label placement by selecting one of the options from the drop down menu.



4.3.3 Toggle Labels

The *Toggle Labels* feature will turn on and off the layer labels within the map window. The example below toggles the labels of the Mining (Advanced Exploration) layer.



4.3.4 Metadata

Layer metadata contains the important information (e.g., spatial reference, description, citation, and dataset credit) associated with a particular dataset. To access the metadata for a particular layer, click the > button next to the layer name and select the *Metadata* button. A new internet browser tab will open with the metadata information. To return to the Map Viewer, click the internet browser Geocortex tab.

Metadata

Geocortex Viewer for HT: x | https://www.mapstest.ge x

Government of the Northwest Territories [CA] | https://www.mapstest.geomatics.gov.nt.ca

Metadata for: Railway

Title:
sd.DBO.TRA_NRCAN_NTDB50K_Railways
Geospatial_Data_Presentation_Form: vector digital data

← Name of the source file on NWT CG spatial data infrastructure for direct use within desktop GIS.

Description:

Abstract:
NTDB digital topographical dataset of NTS sheets within NWT, Nunavut and Yukon with northern parts of Alberta, British Columbia, Manitoba and Saskatchewan (to the east). The NTDB (NTDB) comprises digital vector data sets that cover the entire Canadian landmass. Geomatics Canada has digitized and structured thousands of topographic product that can be highly useful in a broad range of industries. The NTDB includes features such as watercourses, urban areas, railways, roads, vegetation, and relief. The National Topographic System (NTS), based on the North American Datum of 1983 (NAD83). Each file (data set) consists of one NTS unit at either the 1:50,000 or 1:250,000 scale, now available by themes within a file. The ground data is depicted through points, lines, and areas.












Purpose:
NTDB railway lines at 1:50,000 scale. The NTDB provides a base of properly structured vector data (segmentation, mathematical closure, connection and sharing between geographic information system (GIS) applications. It also can be used for preparing thematic maps. Data was downloaded from ftp site ftp://ftp2.cits.mcan.gc.ca/pub/bnd/

5.0 TOOLBARS

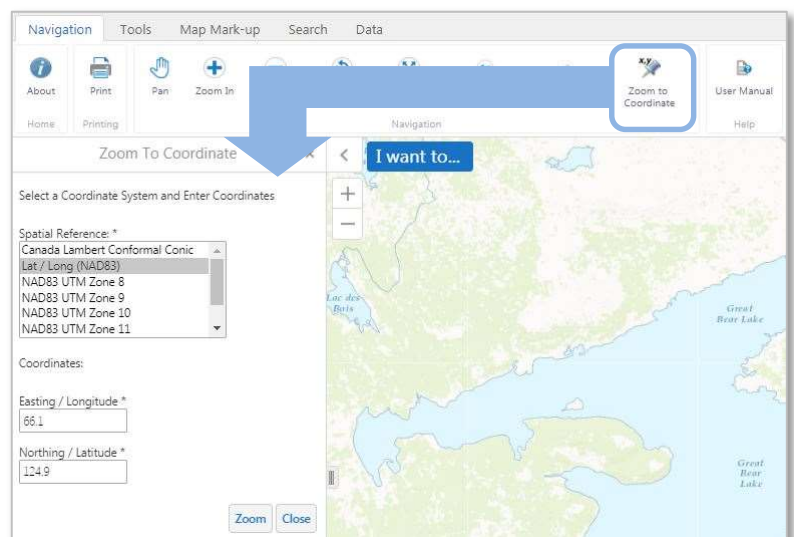
The five toolbars hold a variety of map functions, editing tools and analysis options. Hover over each tool to view a description. Select the *User Manual* button to be directed to the user manual and quick start guide.

5.1 Navigation Toolbar

The *Navigation Toolbar* includes several tools to help zoom to an area of interest or browse the mineral tenure landscape cartographically. Review the following section to learn about key ways to move around in the map view and find more information concerning particular layers at the selected location. The user guidance shown below is activated by using the associated tool buttons.

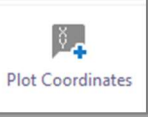
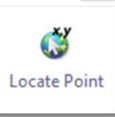
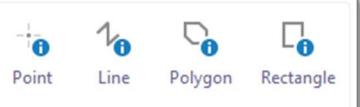

Navigation	Tools	Map Mark-up	Search	Data
 About  Print	Press the <i>About</i> tool to open the <i>Home Page</i> with information to help guide you through the use of the Map Viewer. Use the <i>Print</i> dialog to save a map view as a PDF.  Selecting a map scale of <i>Current Scale</i> or <i>Current Extent</i> will result in the printed map being created and a non-standard map scale when printed to letter-size (8.5x11) paper.			
 Pan  Zoom In  Zoom Out	Press these navigation tools, and then drag the mouse in the map window to complete pan or zoom functions.			
 Initial View  Full Extent  Previous Extent  Next Extent	<i>Initial View</i> will zoom to the default map extent. Press <i>Full Extent</i> to zoom to the full extent of the current map data. Return to a prior map extent by clicking the <i>Previous Extent</i> button or press <i>Next Extent</i> to quickly locate and zoom to another location.			
 Zoom to Coordinate	<i>Zoom to Coordinate</i> tool prompts users to enter a known coordinate to zoom to that location within the map window (as illustrated below).			

The *Zoom to Coordinate* tool is used to pan the map directly to a specific coordinate users enter. Be sure to select the appropriate *Spatial Reference* (coordinate system) from the available choices. Then enter the pair of coordinate values and press the *Zoom* to complete the task.

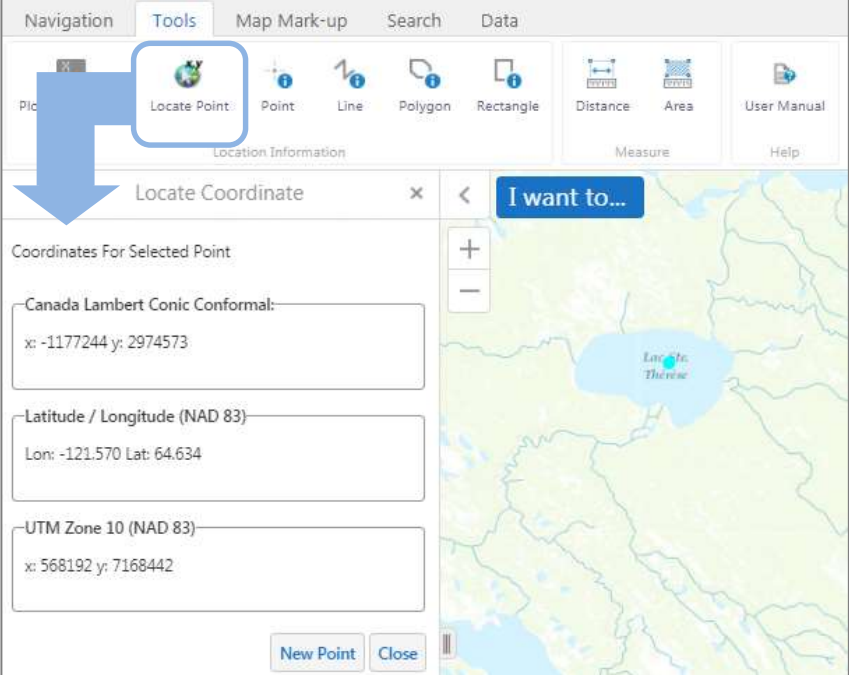


5.2 Tools Toolbar

The *Tools* Toolbar includes tools to measure distances or areas, and view the information of map features at any point location or larger area of interest on the map. The user guidance shown below is activated by using the associated tool buttons.

Navigation	Tools	Map Mark-up	Search	Data
 Use the Plot Coordinates tool to record and label points on the map with coordinates.				
 Press the <i>Locate Point</i> tool, then click on the map to identify the coordinates of that location.				
 Use any of the identify tools to select records from map layers under a point, line, polygon or rectangle. Then explore individual records from the results indicated left of the map window.				
 Press the <i>Distance</i> tool to draw line segments that will be annotated with lengths shown in the units set in the adjacent pull-down menu (default is metres). Double click to end line measurement. Press the <i>Area</i> tool to draw a polygon annotated with total area measurements in the units indicated.				

When using the *Locate Point* tool, click on a location within the map and coordinates are displayed in common coordinate systems. UTM (North American Datum 1983) coordinates are automatically assigned to the correct UTM zone. Press *New Point* to display another location or *Close* to continue with another task.

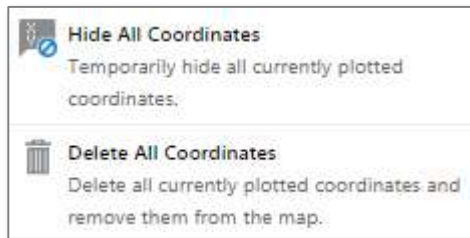
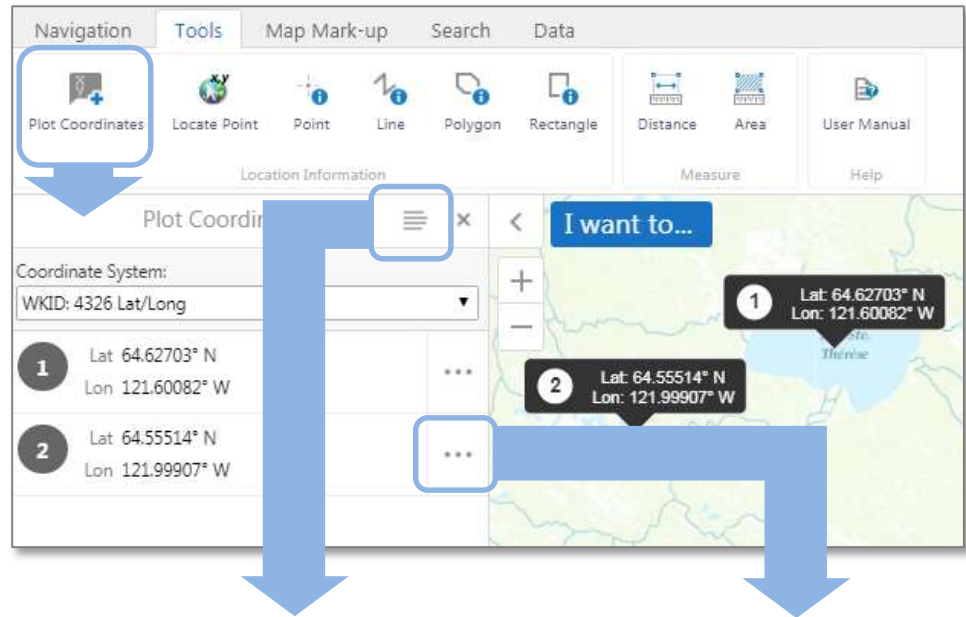


The screenshot shows the 'Tools' toolbar with the 'Locate Point' tool highlighted. A blue arrow points from this tool to a 'Locate Coordinate' dialog box. The dialog box displays the following information:

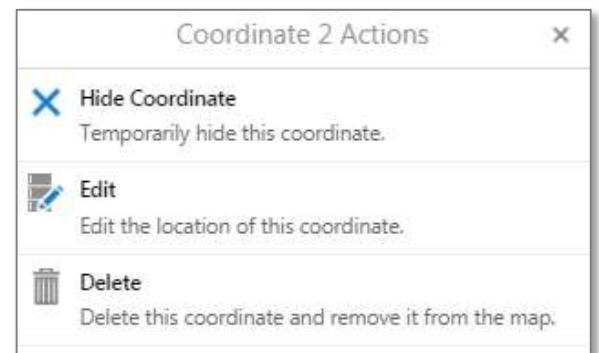
- Coordinates For Selected Point**
- Canada Lambert Conic Conformal:** x: -1177244 y: 2974573
- Latitude / Longitude (NAD 83):** Lon: -121.570 Lat: 64.634
- UTM Zone 10 (NAD 83):** x: 568192 y: 7168442

The dialog also features a 'New Point' button, a 'Close' button, and a map view showing the location of the point on a map of a lake area.

When using the *Plot Coordinates* tool, choose a coordinate system from the drop down menu. Click on a location within the map and a label populates on the screen and records the coordinates to the left of the map.



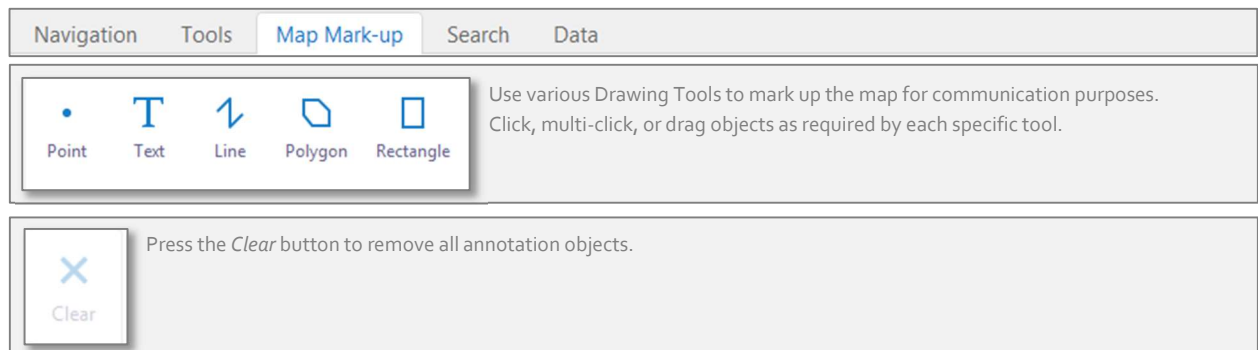
To hide all coordinate points, click on the ☰ symbol to open the menu options. Press the *Hide All Coordinates* button. Press the *Delete All Coordinates* button to remove the all points.



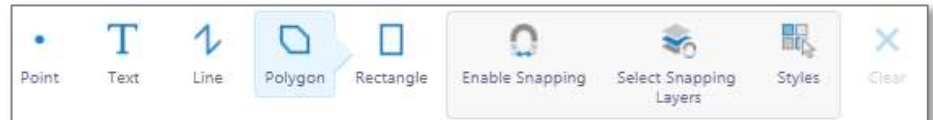
To remove a point, click on the ... symbol to open the menu options. Press the *Delete* button to remove the selected point.

5.3 Map Mark-Up Toolbar

The *Map Mark-up* toolbar includes drawing tools to add *points, lines, polygons* and *text* annotation to the dynamic map. This can be useful document ideas prior to printing (.PDF) or exporting the map view as an image (.JPG). Graphics can be added, symbolized, altered, labeled, or erased prior to printing. Due to the nature of web mapping, these graphics are only intended to be temporary and can only be saved as an image or PDF map output using the *Print Map* tool. Often, mark-up tools can serve to mark an area of interest to a map that can be shared with colleagues or other stakeholders. The user guidance shown below is activated by using the associated tool buttons.



Select the type of annotation required (point, text, line, polygon, or rectangle). Once selected, the snapping and styles options become available.



Single click on the map to start the drawing process. To finish, double click to complete the shape or text. The shape will turn blue.

To change the look of the shape click the *Styles* button in the toolbar tab before starting the drawing process. To clear all shapes or text, click the *Clear* button.





A dialog on the bottom of the map window provides guidance to any drawing tool that has been selected. Be sure to press the close the dialog before beginning the next task.


5.4 Search Toolbar


The *Search* Toolbar contains a series of tools that are focused on filtering human development by date for the Permit Registry Information layers or conducting *Advanced Search* (filter or query to select) based on attributes for key map layers. The user guidance shown below is activated by using the associated tool buttons.

Navigation Tools Map Mark-up **Search** Data

 Set Disturbance Year
 Current Disturbance Year


Set the map disturbance year to the current year or back as far as year 2000. In some cases, it is difficult to determine the precise year that a feature first appeared on the landscape, so there is increasing error as you progress back through time. Press 'Current Disturbance Year' to quickly return to the current year. These tools use the Year On Landscape and Year Off Or Changed fields. Each year that the data is updated, current features will see the Year Off Or Changed value increment to the following year.

 **New Functionality in 2024 Update**


Filter

Use the Advanced Search tools and follow the dialog to *Filter* or *Query* other key map layers by any specific attribute field.

Filter removes features from the map based on a set of conditions.


Query

Use the Advanced Search tools and follow the dialog to *Filter* or *Query* other key map layers by any specific attribute field.

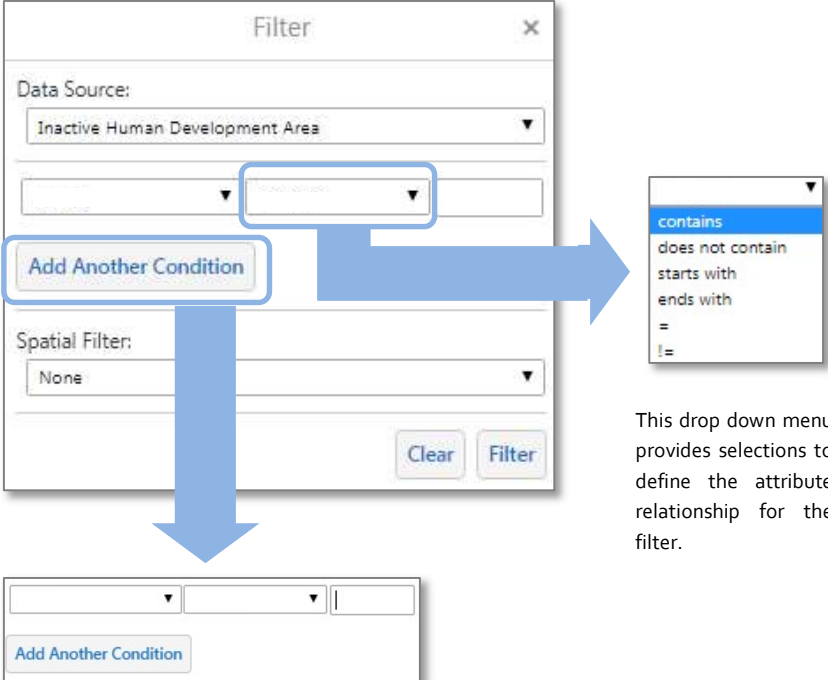
Query performs a selection query that highlights features (on the map or in a table) that fulfill the defined conditions.

Filters hide all features that fulfill the selected conditions.

Once a data source is selected (e.g., *Inactive Human Development Area*) selections for three boxes below will be available. These boxes define the filter conditions.

The first box allows the user to choose of any available attributes specific to the data layer selected as the data source. Select a new attribute from the drop down menu and define the attribute relationship in the adjacent box. The last box provides a way to manually enter values/attributes or click within the box to open a list based on the information contained within the selected layer.

Spatial filters will search the entire layer (selected as *None*) or only the data visible within the current map extent (selected as *Current*)



Multiple attributes may be filtered. To add another condition click the *Add Another Condition* button. The new condition will be added to any current filters.

Queries are similar to filters, but will highlight features that fulfill the selected conditions rather than hide features.



The process for querying is the same as filtering data. See the filter section above for more information.

The image shows a 'Query' dialog box with a close button (X) in the top right corner. It contains the following elements:

- Data Source:** A dropdown menu currently showing 'Inactive Human Development Area'.
- Condition Fields:** Three input fields for defining a query condition. The first two are dropdown menus, and the third is a text input field.
- Add Another Condition:** A button to add more conditions to the query.
- Spatial Filter:** A dropdown menu currently showing 'None'.
- Search:** A button to execute the query.

5.5 Data Toolbar

The *Data* Toolbar includes a set of tools intended to provide users with a way to contribute towards improving the information used on this website. The user guidance shown below is activated by using the associated tool buttons.

Navigation	Tools	Map Mark-up	Search	Data
<div data-bbox="251 493 397 619">  <p>New Map Layers</p> </div> <div data-bbox="414 493 1469 567"> <p>The <i>New Map Layers</i> provides users with an opportunity to contribute suggestions towards the types of data layers that could improve the ILC website for all users.</p> </div>				
<div data-bbox="251 640 365 766">  <p>Get in touch</p> </div> <div data-bbox="381 640 1469 714"> <p><i>Get in Touch</i> allows users to provide specific feedback about the spatial data on this website so that it can be further validated and improved upon to maintain the best quality landscape dataset for the Northwest Territories.</p> </div>				

Contribute Data [X]

Suggest dataset to be added

Tell us the name of the dataset and describe it for us. Also let us know where or how we can get it.

*

Contact Information

Name: *

Organization:

Email: *

Phone:

General Feedback [X]

Comments or Suggestions

*

Contact Information

Name: *

Organization:

Email: *

Phone:

The *New Map Layers* and *Get In Touch* buttons will open a new tab and will prompt the user through a series of questions. Fill in the appropriate sections and press submit to send your feedback to the site administrator.

6.0 GLOBAL SEARCH

Global Search is a simple way to zoom to a known feature or geographical region, such as the city of Yellowknife used in the example below. Place names (communities, geographic features, lakes, and rivers) and NTS Mapsheets (1:50,000 and 1:250,000) are a few of the map layers that are searchable using the Global Search Tool.

The Global Search tool is located in the top right corner of the Map Viewer, within the ILC banner.



Enter the search term in the Global Search box. Notice the relevant results that populate in a new tab to the left of the map window.

Click any result to zoom into the area of the selected feature or geographic area.

Press the **X** to close the search results window.

Search Results: Yellowknife (74) **X** < I want to...

- Yellowknife River
- Yellowknife Bay
- Yellowknife Highway
- Yellowknife Highway
- Yellowknife River
- Yellowknife Highway
- Yellowknife Highway
- Yellowknife Highway
- Yellowknife Bay
- Yellowknife Seaplane Anchorage
- Yellowknife
- Yellowknife River Wavside Park

Displaying 1 - 50 (Total: 74)

7.0 CONTACT INFORMATION

For more information related to the ILC Map Viewer contact:

NWT Centre for Geomatics
Shared Services Centre for
Environment and Natural Resources,
Industry, Tourism and Investment

www.geomatics.gov.nt.ca

NWT Cumulative Impact Monitoring Program
Department of Environment and Natural Resources
5102-50th Avenue
Yellowknife, NT X1A 3S8

www.enr.gov.nt.ca/programs/nwt-cimp

The map viewer has been developed with the assistance of Caslys Consulting Ltd.

Caslys Consulting Ltd.
Unit 10 – 6782 Veyaness Road
Saanichton, B.C., V8M 2A1

Contact: ILC Project Lead
Tel: (250) 652-9268; Fax: (250) 652-9269
Email: info@caslys.ca

Human Development

Transportation

— Highway / Major Road

→ Railway

Industry

Oil and Gas

CIRNAC Oil and Gas Rights

 Exploration Licence

 Pioneer Production Licence

 Significant Discovery Licence

ITI NWT Oil and Gas Rights

 Pioneer Production Licence

 Production Licence

 Significant Discovery Licence

Mining (Advanced Exploration)

Current Mineral Lease

CIMP Human Development Dataset

Human Development Footprint (Lines)

— Highway

— All-Season Road

--- Winter Road

--- Powerline, Fibre Optic Lines

--- Mining, Mineral Exploration

— Oil and Gas

--- Trail

--- Cutline

— Other

Human Development Footprint (Areas)

 Community

 Camp

 Communications

 Runway / Airstrip

 Quarrying

 Industrial

 Power Generation

 Forestry

 Mining-Active

 Mining-Closed

 Mineral Exploration

 Oil and Gas


 Other

Water License Registry

 Cumulative Annual Water Volume

 Active Water Licenses


 Expired Water Licenses


 Point Bathymetry

Natural Landscape

Watersheds (sub-basins)

Watersheds (major-basins)

 Wetlands – 0 – 1:300k scale

 Wetlands – 1:300k – 1:1M scale

 Fire History

 2019 - 2024

 2009 - 2019

 1999 - 2009

 1990 - 1999

 1979 - 1989

 1950 - 1979

Geological

— Eskers

 NTGS Slumps

 NTGS Slump Density Grid

 High

 Medium

 Low

 None

Ecological Land Classification Photos

 Ecological Land Classification Photos

 Ecological Land Classification Flight Lines

— 2005

— 2006

— 2007

— 2009

— 2010


— 2011

Inventory of Landscape Change Map Viewer:

MAP LEGEND

v4.0

Ecological Regions (See page 2 for expanded list)

 Level II Ecoregions

 Level III Ecoregions

 Level IV Ecoregions

Land Management / Administrative


Canadian Geopolitical Boundary

Final Land Claims

 Land Withdrawal Areas

 Subsurface


 Surface

 Surface / Subsurface

 Regulated Areas


 Conservation / Protected Areas


 Subsurface

 Surface

 Surface / Subsurface

 Federally Managed Lands

 Subsurface

 Surface

 Surface / Subsurface

ENR / ITI / LANDS Admin Regions

Location Reference

Place Names

NWT Community Boundary

Geonames

1:50,000 Scale Location Labels

Communities

Reference Grids

1:50,000 NTS Grid – 0 - 1:1M scale

1:250,000 NTS Grid – 1:250k – 1:20M scale

UTM Grid Zones

Base Maps

World Topographic Map

World Imagery

Ecological Regions



Level II EcoRegions

 Taiga Plains

 Taiga Shield

 Boreal Cordillera

 Taiga Cordillera

 Tundra Cordillera

 Southern Arctic

 Northern Arctic



Level III EcoRegions

 High Arctic oceanic

 High Arctic

 Mid-Arctic

 Low Arctic north

 Low Arctic south

 High Subarctic

 Low Subarctic

 High Boreal

 Mid-Boreal



Level IV EcoRegions

 Boreal Cordillera, High Boreal

 Boreal Cordillera, Mid-Boreal

 Taiga Cordillera, High Subarctic

 Taiga Cordillera, Low Subarctic

 Tundra Cordillera, High Subarctic

 Taiga Plains, High Boreal

 Taiga Plains, High Subarctic

 Taiga Plains, Low Subarctic

 Taiga Plains, Mid-Boreal

 Taiga Shield, High Boreal

 Taiga Shield, High Subarctic

 Taiga Shield, Low Subarctic

 Taiga Shield, Mid-Boreal

 Southern Arctic Tundra Plains, Low Arctic

 Southern Arctic Tundra Plains, Low Arctic

 Northern Arctic, Low Arctic north

 Northern Arctic, Mid-Arctic

 Northern Arctic, High Arctic

 Northern Arctic, High Arctic oceanic