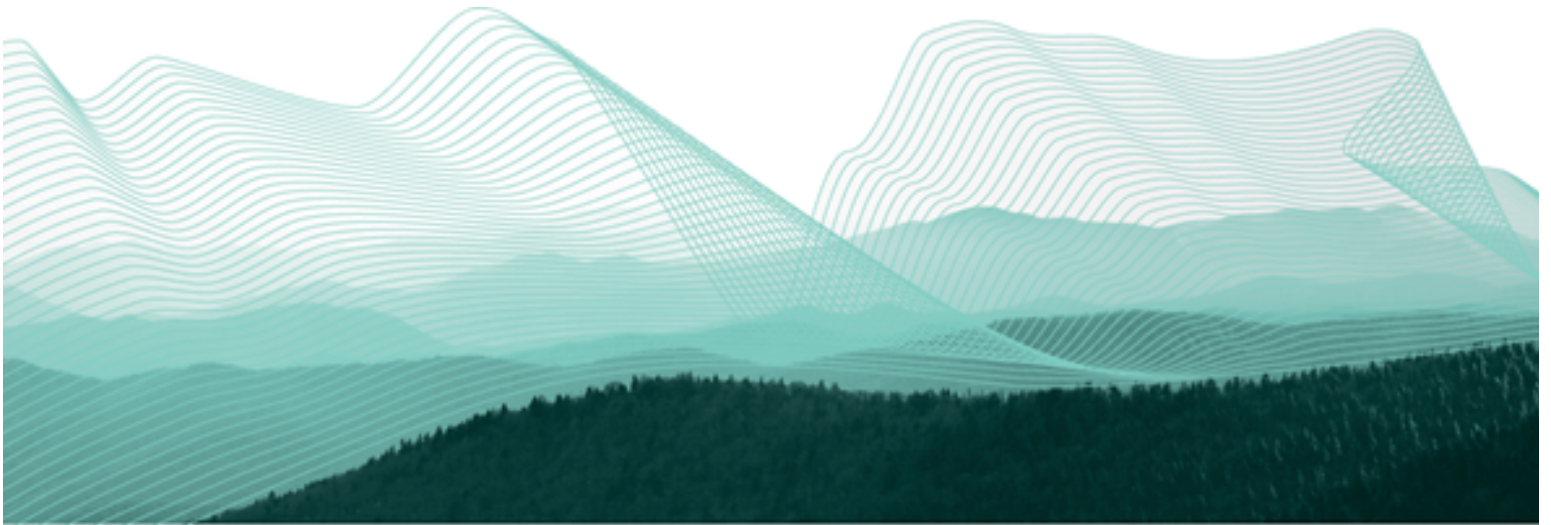


# WALKTHROUGH 1

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*uDig Install and Introduction*

*21 August 2006*



  
**Refractions**  
RESEARCH  
THE GEOSPATIAL EXPERTS

**Walkthrough 1**

uDig Install and Introduction

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# 1 GOALS

After completing this walkthrough, you will have:

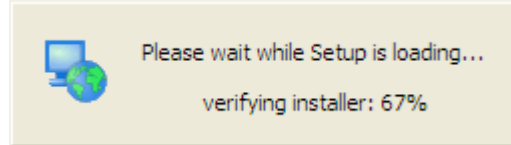
- Installed uDig from the Windows installer.
- Learned the basic uDig functionality

## 2 INSTALLING AND RUNNING THE UDIG APPLICATION

In this section, you will install and run the Eclipse Application, which will be used for viewing map information.

### Windows install:

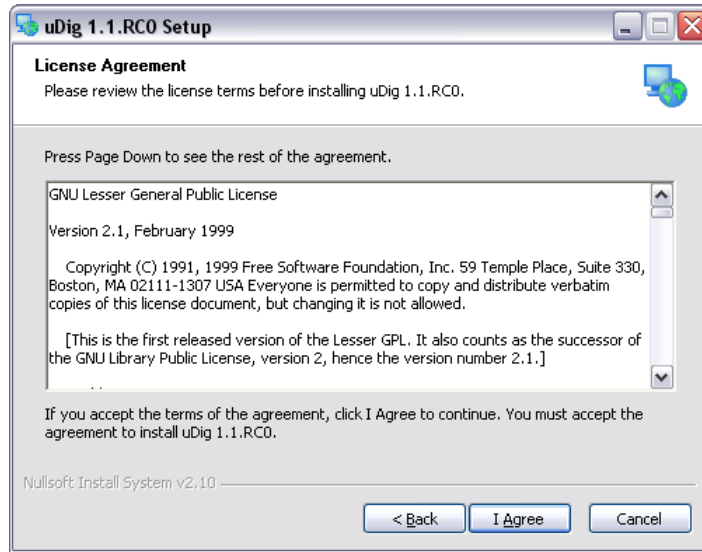
1. Double-click the installer uDig 1.1.exe (located in the same directory as this walkthrough)



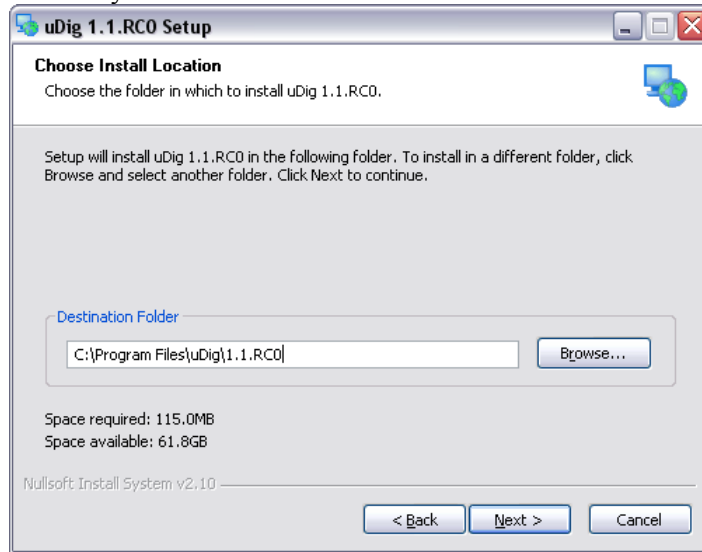
2. The installer will allow you to install uDig into the directory of your choice.



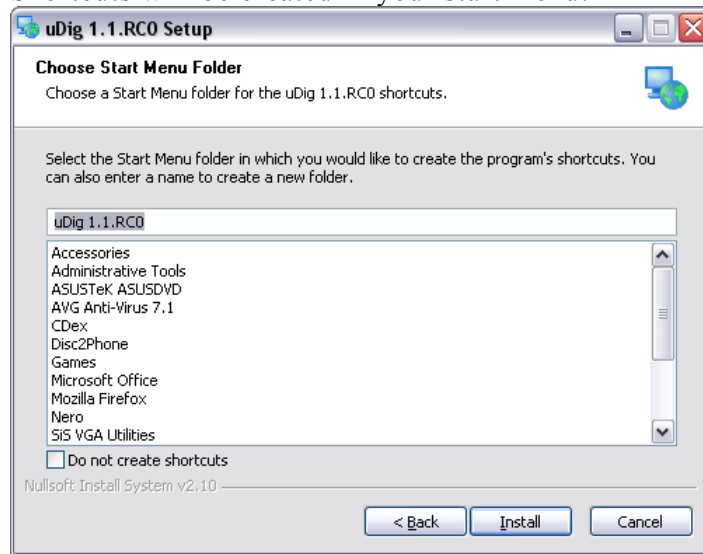
3. Agree to the **License Agreement** – uDig is made available under the LGPL.



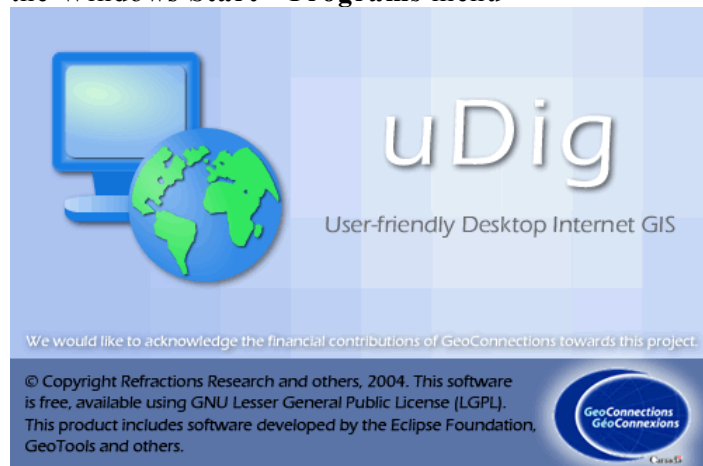
4. By default uDig will be installed into your Program Files directory.



5. Shortcuts will be created in your start menu.



6. After completing the installation, run the uDig application from the Windows **Start->Programs** menu



7. Click on the **Workbench** arrow in the top right corner of the uDig welcome screen to open the uDig workbench area.

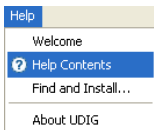




### 3 ONLINE DOCUMENTATION AND TUTORIALS

In this section you will open up the online tutorial, and access reference information.

*You can also access online help at any time from the Help menu.*



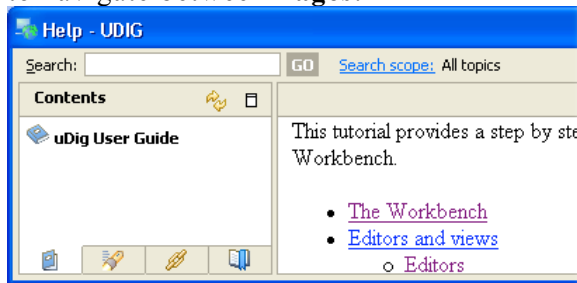
*Warning if you have the windows firewall enabled you will need to allow the help application to startup.*



1. From the Welcome screen you can access an online tutorial.



2. This will bring up the online help system; the help system is a web application that makes use of a **Contents** view to allow you to navigate between **Pages**.



#### **Refresh / Show Current Topic**

Can be used to find your place in the table of contents




#### **Show in Table of Contents**

Can be used to find your place in the table of contents


## 3.1 HELP CATEGORIES

You can access additional reference information in the following categories:


- Getting Started

 <b>uDig User Guide</b> <ul style="list-style-type: none"><li>+ Getting Started</li><li>+ Concepts</li><li>+ Tasks</li><li>+ Reference</li><li>+ FAQ</li></ul>	<p>This section contains tutorials that will help users to familiarize themselves with UDIG and its user interface.</p> <p>At this time there is one tutorial available:</p>
---	--


- Concepts

 <b>uDig User Guide</b> <ul style="list-style-type: none"><li>+ Getting Started</li><li>+ Concepts</li><li>+ Tasks</li><li>+ Reference</li><li>+ FAQ</li></ul>	<p>High-Level description of ideas, architecture. Provides background information to understand what is going on.</p> <p><input type="checkbox"/> Related concepts</p>
---	--

- Tasks

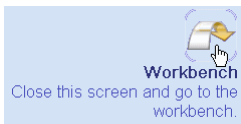
 <b>uDig User Guide</b> <ul style="list-style-type: none"><li>+ Getting Started</li><li>+ Concepts</li><li>+ Tasks</li><li>+ Reference</li><li>+ FAQ</li></ul>	<p>Task descriptions are step by step instructions for performing specific actions and tasks in the Workbench. For example, the Tasks section contains step by step instructions for connecting to a Web Map Server, and for adding a layer into a Map.</p> <p><input type="checkbox"/> Related tasks</p>
---	---

- Reference

 <b>uDig User Guide</b> <ul style="list-style-type: none"><li>+ Getting Started</li><li>+ Concepts</li><li>+ Tasks</li><li>+ Reference</li><li>+ FAQ</li></ul>	<p><input type="checkbox"/> Related reference</p> <ul style="list-style-type: none"><li>• <a href="#">Views and editors</a></li><li>• <a href="#">Menus</a></li><li>• <a href="#">Toolbars</a></li><li>• <a href="#">Preferences</a></li></ul>
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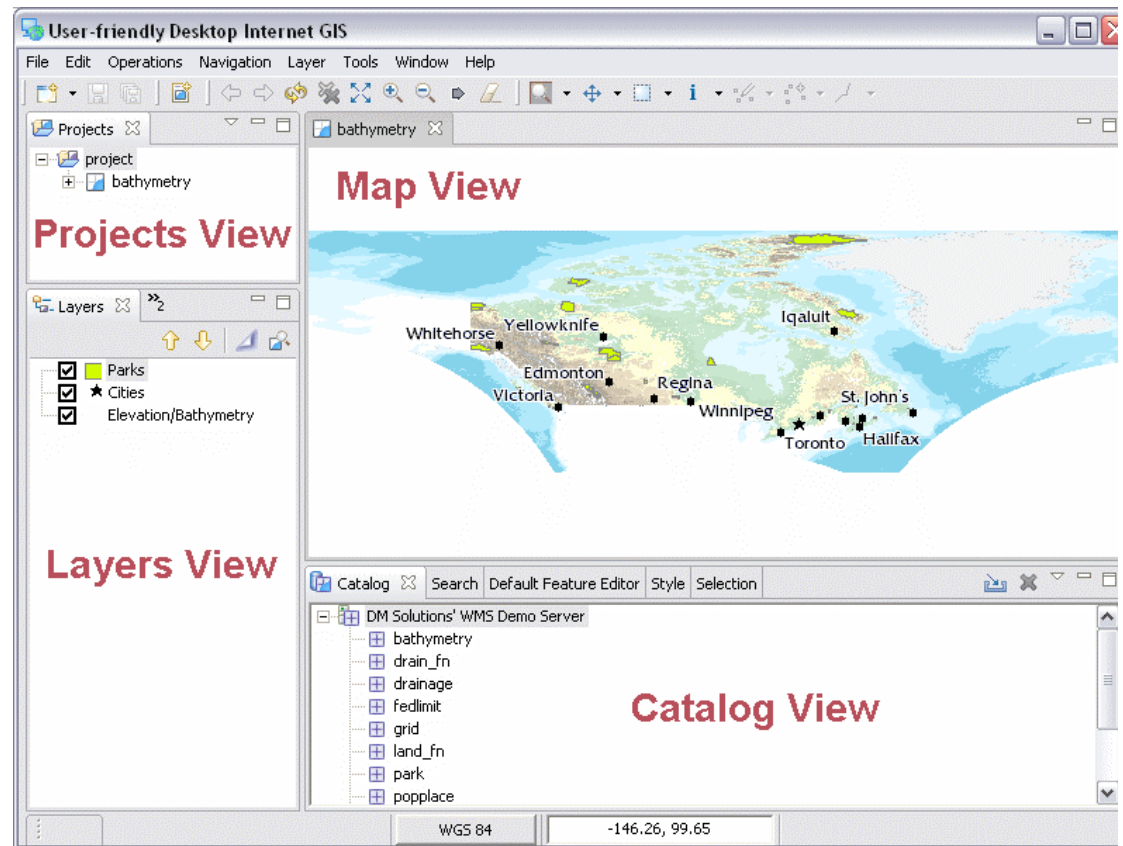
## 4 THE WORKBENCH

*Accessing the workbench from the welcome screen:*



Before we start playing with maps, let's take a look at the default layout of the uDig workbench and what some of the key components are.

Shown below is a typical session of uDig with the Map, Projects, Layers, and Catalog views labeled. These views will be described further as we demonstrate their uses.



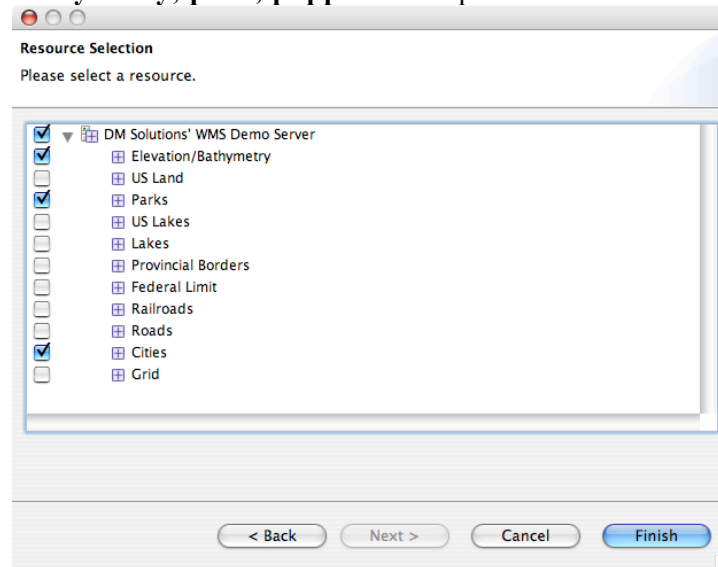
## 5 CONNECTING TO A WEB MAP SERVER

In this section you will learn how to drag and drop a Web Map Server (WMS) link into uDig for the purpose of viewing its layers.

1. There are many ways to load map data into uDig, including drag and drop. To drag a Web Map Server (WMS) link into uDig, open up a web browser.
2. Please connect to the Walkthrough 1 page with your web browser:
  - <http://udig.refractions.net/confluence/display/UDIG/Walkthrough+1>
3. Click and drag the DM Solutions WMS link from the web page onto the Layers View on the left, and drop it there.
4. The **Add Layers** wizard will appear asking you what layers from this WMS you want to show in your map. Select **bathymetry, park, popplace** and press the **Finish** button.

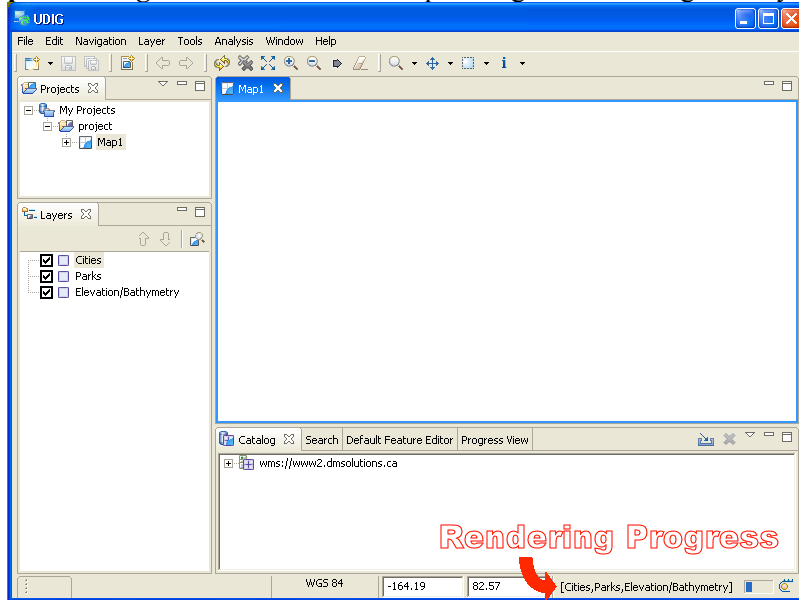
*If working with your windows maximized:*

- 1) Drag from the web browser
- 2) Hover on the uDig application in the windows taskbar
- 3) Drop into the Map area.

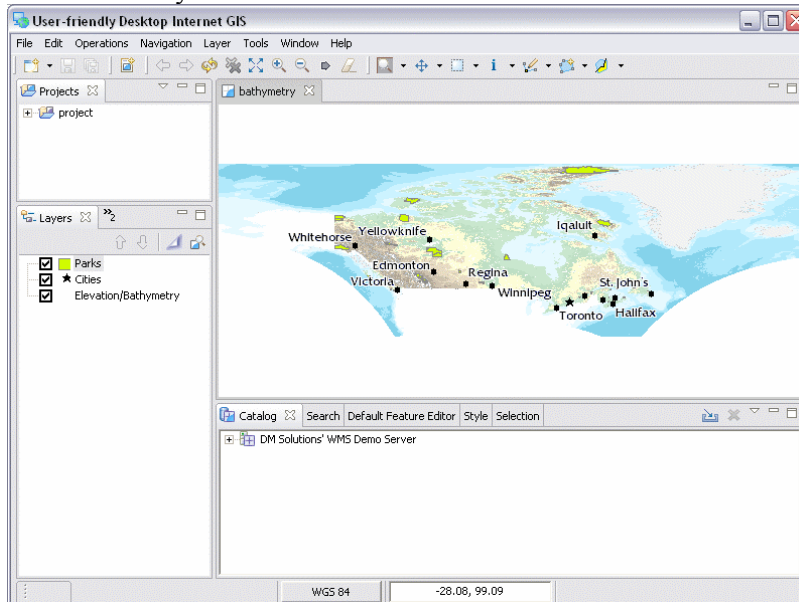


- The map layers will now **render** in the Map view. Notice the bottom right corner of the uDig Application will display a **processing notice** while it is requesting and drawing the layers.

*You can press on the button next to the progress monitor to watch detailed information (and cancel) rendering requests.*






- When the layers are done rendering, the **Map** view will display the visible layers



- Now that you have some data on screen try the following tools:

*When using the zoom or pan tools the mouse scroll wheel can be used to zoom in and out quickly.*

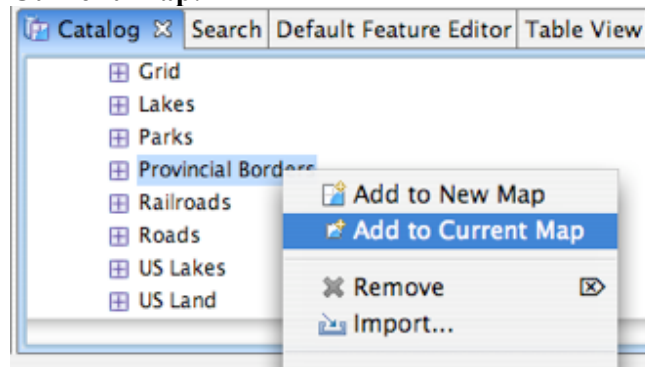
-  **Zoom Tool:** (keyboard short cut Z)  
Click or drag the left button to zoom in, or right button to zoom out.
-  **Pan Tool:** (keyboard short cut P)  
Click and drag to move the display.
-  **Extent Tool:** Press to show all

## 6 ADDING LAYERS FROM THE CATALOG VIEW

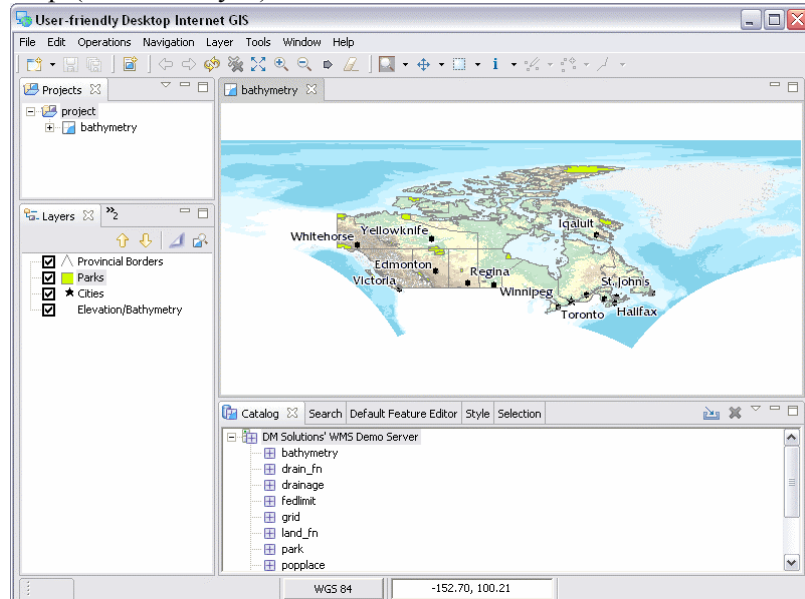
In this section you will learn how to add additional layers to your map from a previously connected data source (the DM Solutions WMS).

Adding a Layer from a previously connected WMS:

1. In the **Catalog** view of uDig (center bottom), expand the connection you have to **DM Solutions' WMS Demo Server**. Right-click on the **prov\_bound** layer and select **Add to Current Map**.



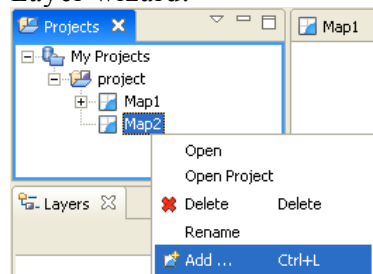
- The new layer will appear in the **Layers** view, and it will automatically start to render. When it finishes rendering, you should see black lines representing the provincial borders on the map (the new layer).



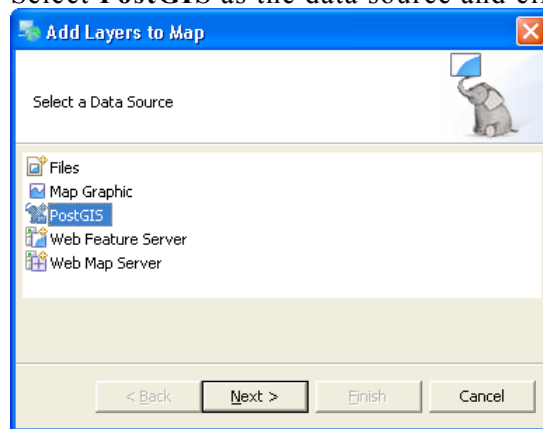
## 7 ADDING A LAYER FROM PROJECTS VIEW

Adding a Layer from a PostGIS database:

1. In the File menu, select **New -> New Map**. Then in the **Projects** view, right-click on **Map2** Select **Add...** to bring up the Add Layer wizard.



2. Select **PostGIS** as the data source and click **Next**.





3. Enter the following connection information:

Host:  Port:

Username:

Password:

Database:

Schema:

Advanced

< Back Next > Finish Cancel

4. Once the connection information is entered, click on the database drop-down. Select the **demo-bc** database and press **Next**.
5. Select only the **bc\_hospitals** and **bc\_municipality** data, and click **Finish**.

Select resources that the new map will be composed from.

- PostGIS www.refractions.net.postgis.jdbc
  - bc\_hospitals
  - bc\_municipality
  - bc\_pubs
  - bc\_roads
  - bc\_voting\_areas

< Back Next > Finish Cancel

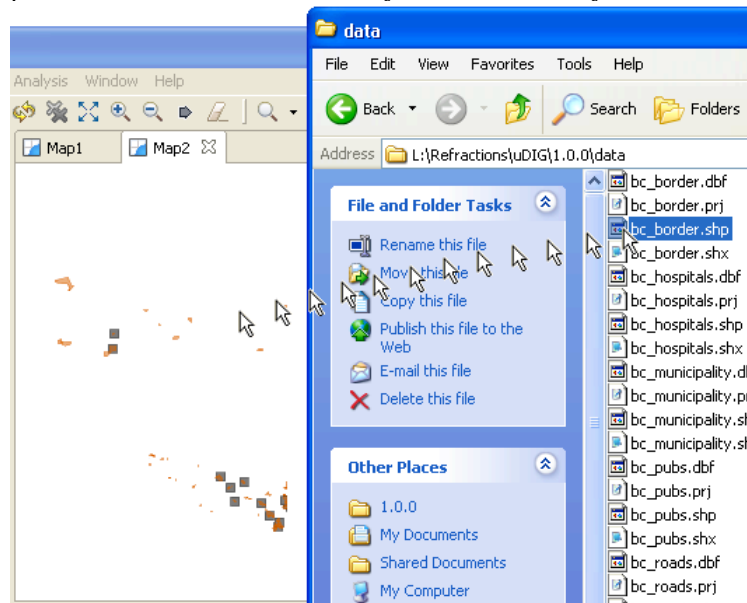
6. It may take a short while to fully render since you are zoomed out so far, but your new map should look something like this:



## 8 WORKING WITH FILES

You can work directly with files from the file system:

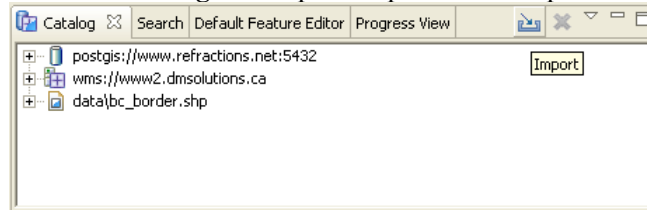
1. Please connect to the Walkthrough 1 page with your web browser:
  - <http://udig.refractions.net/confluence/display/UDIG/Walkthrough+1>
2. Download the “data download” zip file to your local computer and unzip to create your data directory.
  - [http://udig.refractions.net/docs/data-v1\\_1.zip](http://udig.refractions.net/docs/data-v1_1.zip)
3. Navigate to the included data directory using windows.
4. Drag and Drop the file **bc\_border.shp** onto **Map2**; this provides a bit of context for your PostGIS layers.



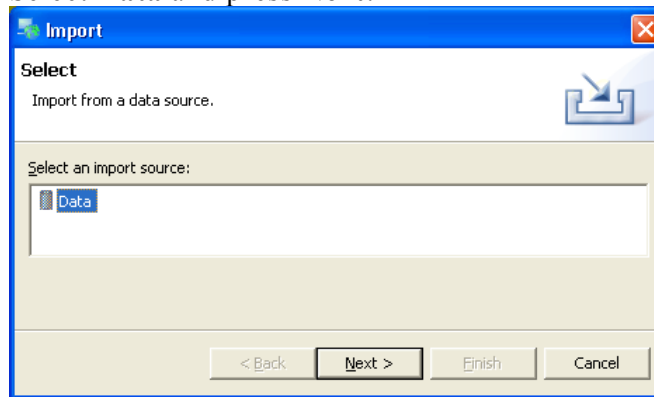
## 9 IMPORT DIRECTLY TO THE CATALOG

Earlier we learned how to work with content from the Catalog view, in this section we will import content directly into the catalog.

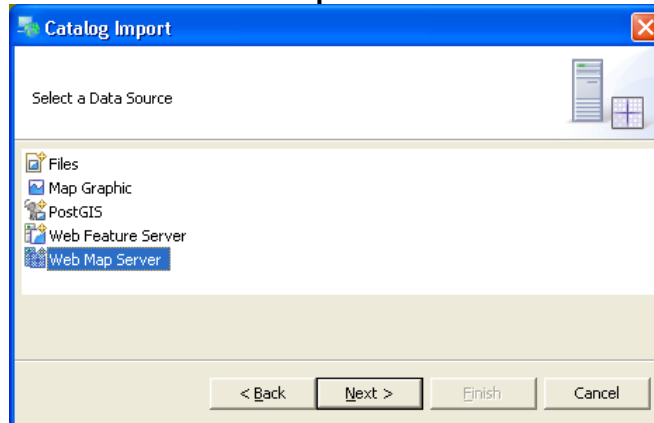
1. On the **Catalog View** please press the Import button:



2. Select **Data** and press **Next**.



3. Please choose **Web Map Server** from the list and press **Next**.

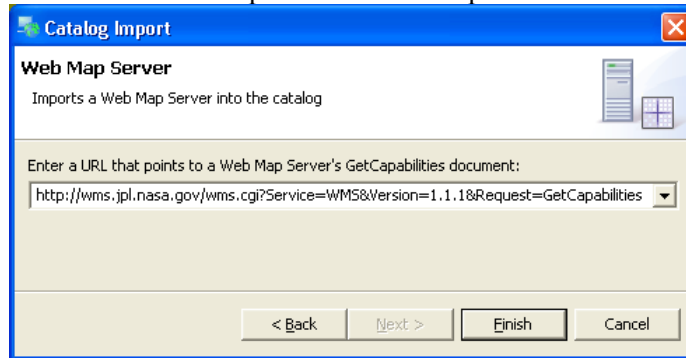


4. This time we are going to import the JPL World Map Service from the following Capabilities document:

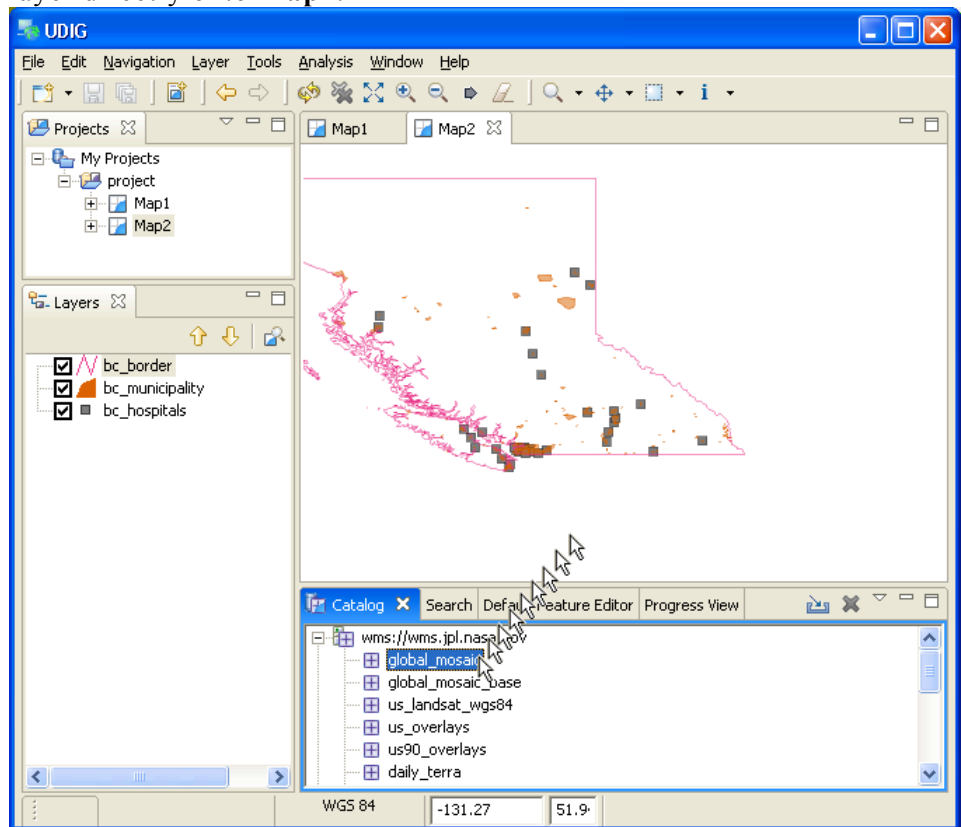
- <http://wms.jpl.nasa.gov/wms.cgi?Service=WMS&Version=1.1.1&Request=GetCapabilities>

*You can copy this URL from the walkthrough page*

5. Press **Finish** to import the Web Map server.



6. Now that we have imported the WMS into the catalog we can add it to our Map. Please Drag and Drop the **global\_mosaic** layer directly onto **Map2**.

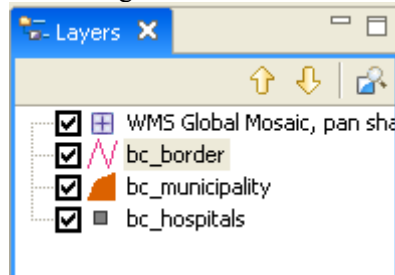


Now that the **global\_mosaic** layer is rendered on top of your existing content let's proceed to the next section, reordering layers.

# 10 REORDERING LAYERS

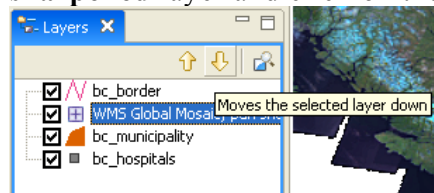
In this section you will learn how to reorder layers in your map.

1. At the end of the previous section we left **Map2** in the following state:

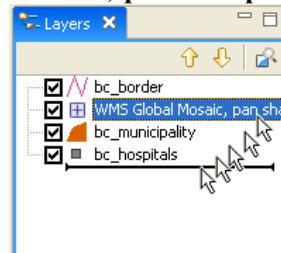


The **Layers view** is used to describe the content of the map, and the order in which the content is drawn.

2. To change the layer order, select the **WMS Global Mosaic, pan sharpened** layer and click on the **Down** arrow.



3. You can also just select a Layer and Drag it to the position you desire. Let's do that now, Drag and Drop the **WMS Global Mosaic, pan sharpened** layer to the bottom of the list.

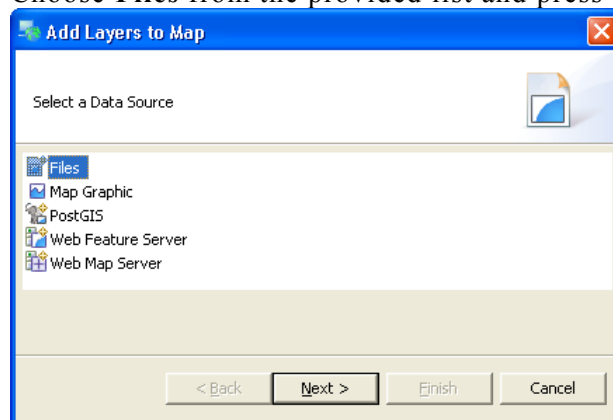


Moving layers up and down will change their visibility in relation to each other, and it will automatically restart rendering the map.

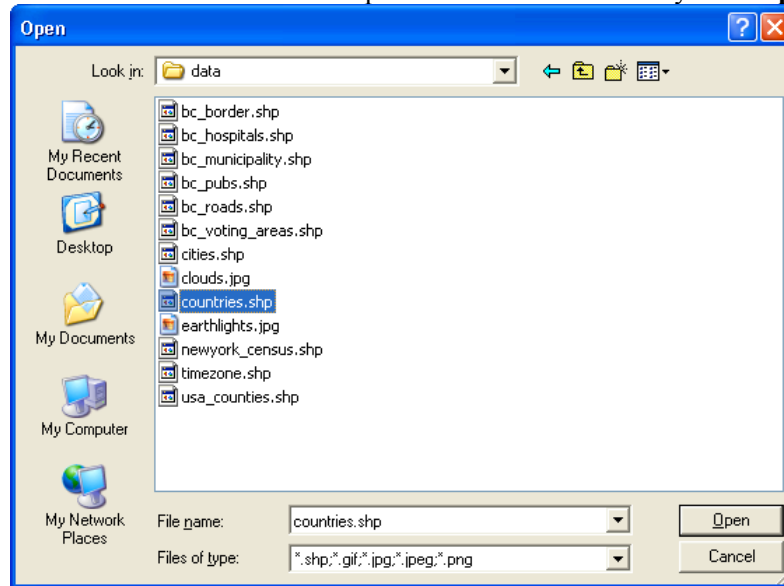
# 11 THEMED DATA

Some data contains attributes we may use to thematically style a layer. In this section we will create a “Styled Layer Descriptor” (SLD) with the uDig **SLD Editor** in order to interpret these attributes:

1. In the **Catalog** view of uDig (center bottom), under the “*JPL World Map Service*” tree, right click on “**modis**” and select **Add to New Map**.
2. In the **Layer** menu, select **Add...**
3. Choose **Files** from the provided list and press Next:



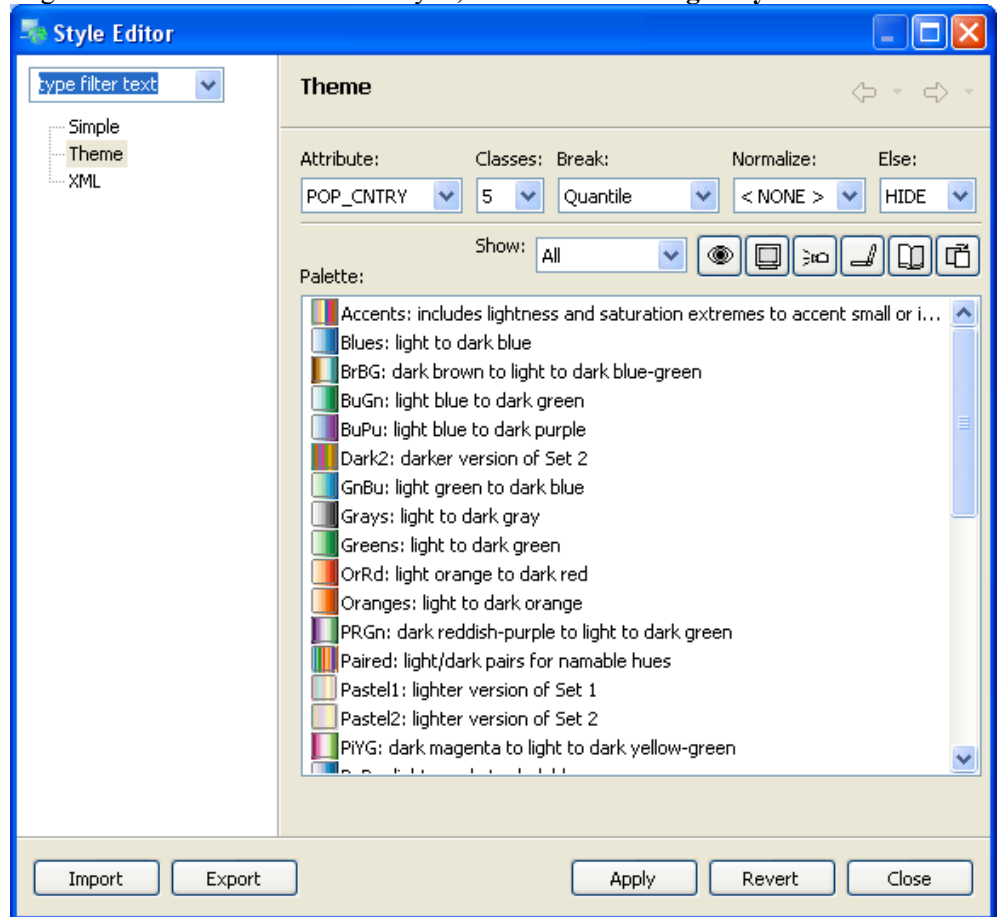
4. Select the file **countries.shp** from the data directory and **Open**:



5. The **countries** layer will be added, and rendered with a default style.
6. Select the **countries** layer in the **Layers View**, and click on the up arrow to make it visible.



7. Right-click on the **countries** layer, and select **Change Style...**



8. Please select the following options:

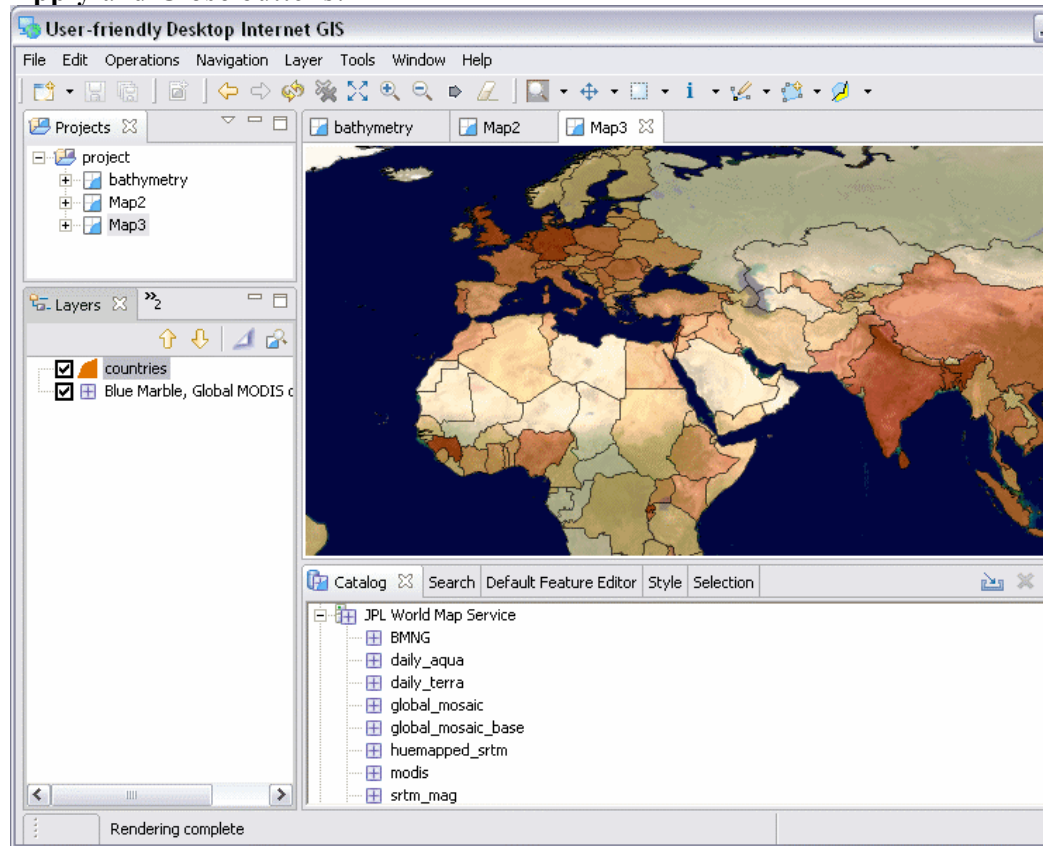
- Attribute: POP\_CNTRY
- Normalize: SQKM


These options color the countries layer by population density.

9. Filter the available colour palettes to show a subset of those available:
- a. Changing from **Show** “All” to **Show** “Numerical”
  - b. Press the **Colour-blind**, **CRT**, and **LCD** buttons

These options show palettes which are ramp of colors suitable for viewing by colour-blind people, and are well displayed on both CRT and LCD monitors.

10. Select the “light orange to dark red” palette, and click the **Apply** and **Close** buttons.



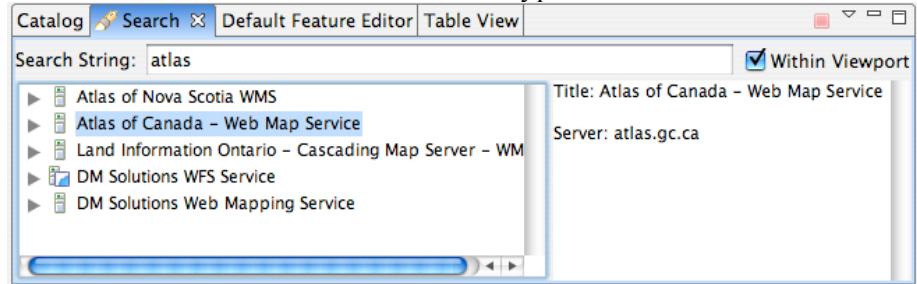
11. Press the  **Mylar** button in the **Layers View**. Select each layer and observe the effect.

Mylar will fade out all they layers except the one selected.

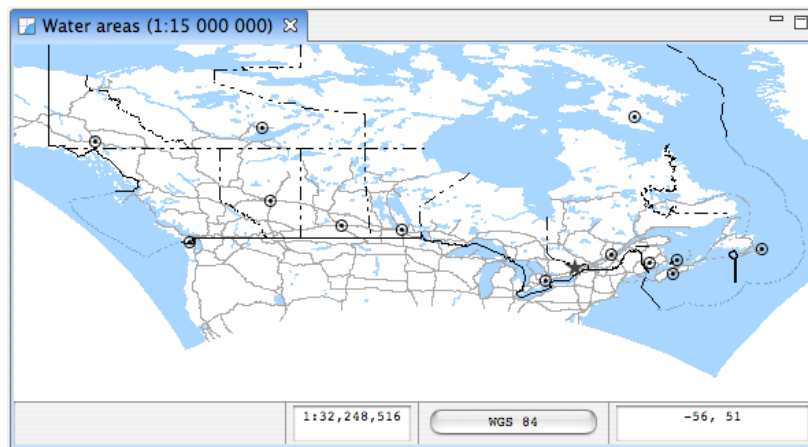
## 12 SEARCHING

In this section, you will learn how to use the Search View.

1. Select the **Search View**.
2. Insert the cursor into the **text box** and type “atlas”. Press **enter**.



3. Once the entries appear expand the **atlas.gc.ca** result, right-click on **Water Areas (1:15 000 000)** and select **Add to New Map**.
4. Drag-and-drop the following to the new Map:
  - Roads network (1:15 000 000)
  - Provincial and Territorial Boundaries
  - Boundaries
  - Capitals (symbols)

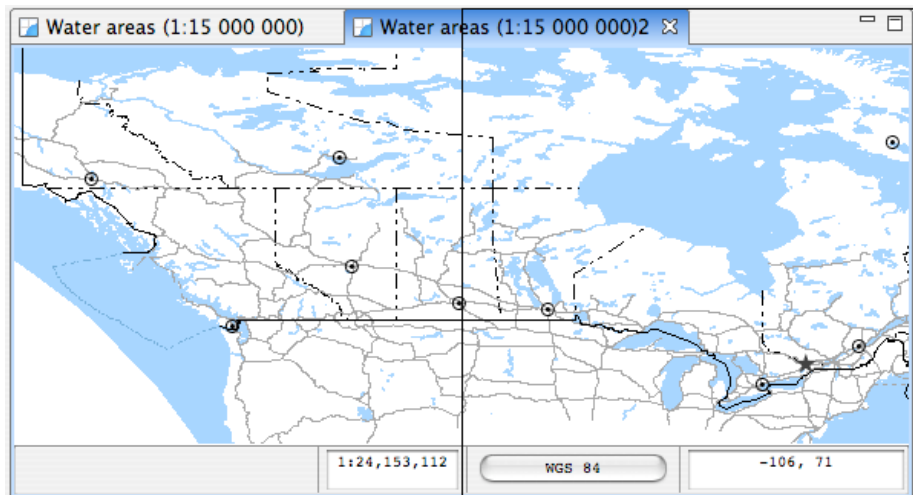
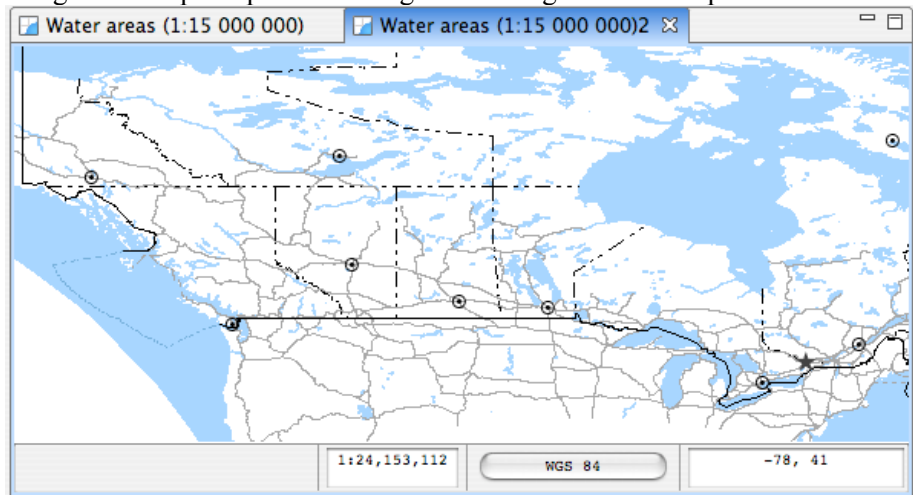


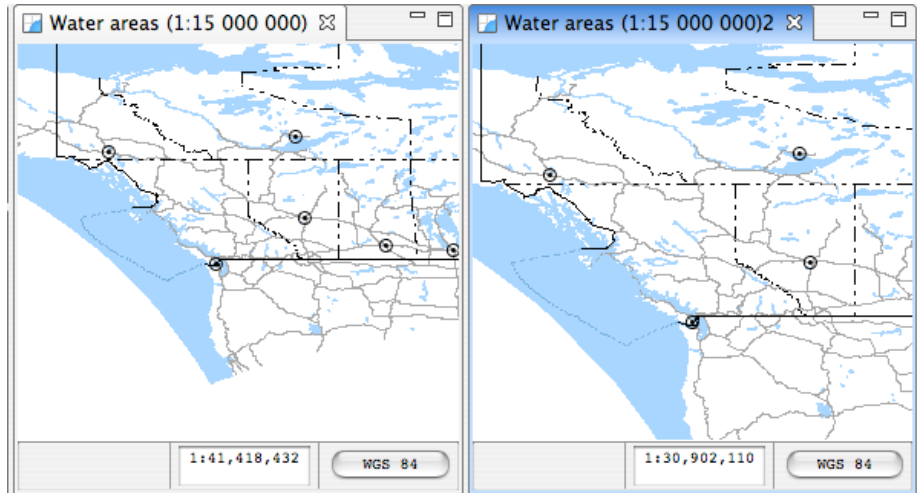
All sorts of interesting content is available on the web. What can you find?

## 13 RE-PROJECTION

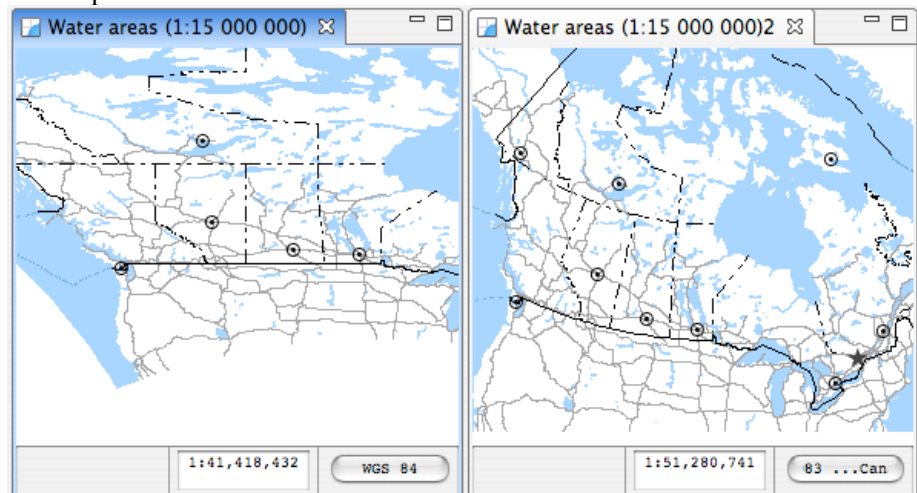
Since the world is not flat, maps are projected in a Co-ordinate Reference System (CRS). We will now make 2 identical maps, perform a re-projection on one, and compare.

1. Repeat steps 3 and 4 from the previous section in order to create a map identical to Map4. Zoom to an appropriate level.
2. Drag-and-drop Map 5 to the rightmost edge of the Map View.





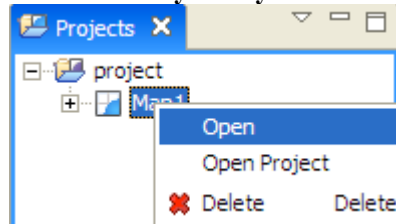
3. With Map5 selected, click the button labeled “WGS 84”, which is centered at the bottom of the uDig workbench. Enter in the EPSG code **42304** and press enter to re-project the map to the “NAD83/NRCan LCC Canada” CRS. Use the zoom tools to find a pleasant view.



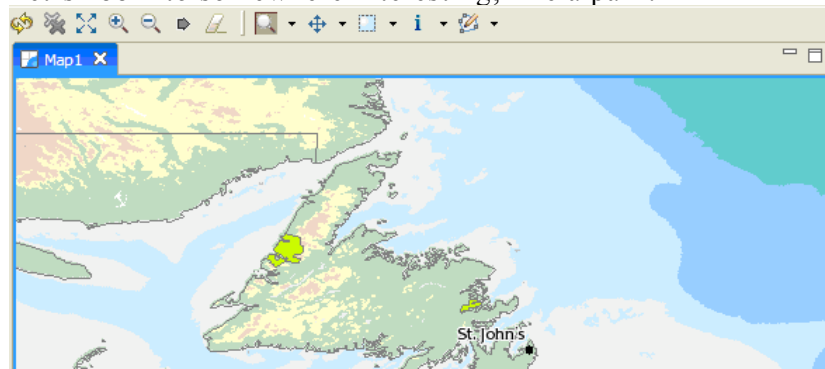
# 14 INFORMATION REQUEST

In this section, you will learn how to use the Information Tool.

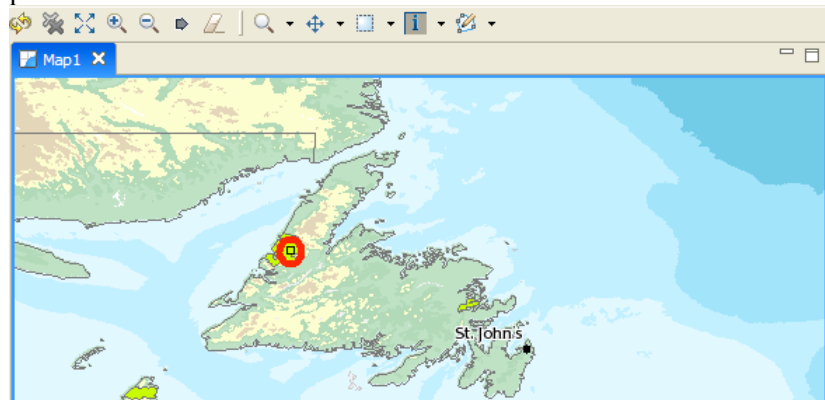
1. To start with let's open up our first map again, which was labeled **bathymetry**.



2. Let's **zoom** to somewhere interesting, like a park.



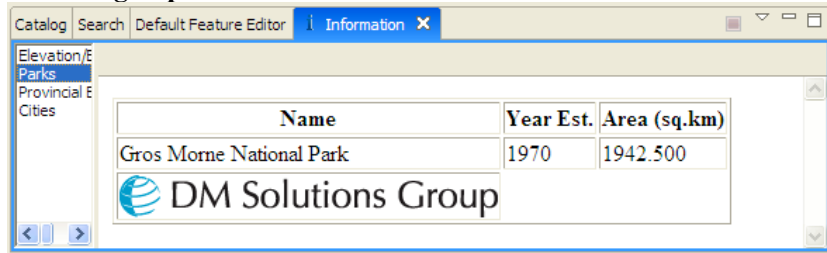
3. Select the **Info Tool** from the toolbar, and click on a nice green park.



*You can use the keyboard short-cut 'i' to choose the info tool*

4. Note how the **Information View** is brought into focus.

5. Select the layer name **Parks** in the left pane of the **Information View**. Information regarding the area you clicked is displayed in the **right pane**.



Not all Web Map Servers support the “GetFeatureInfo” operation; as such information may not be available for all layers. The application uses a normal browser to display HTML content; you can drag the view out of the workbench if you find you need more elbowroom.

## 15 FINISHED ALREADY?

If you finish early here are some challenges.

- There is more data available in the data directory - have a look !
- Try right-clicking on a Layer – there is plenty to do (try the operations menu).
- Search for information in your area.
- Is your organizations content available via search?
- Try out the navigation tools such as Zoom and Pan (the Navigation menu lets you go back to previous locations like a web browser).
- Advanced: Open the **Style Editor**, have a look at the **Advanced ( XML )** page and see what you make of it.

Perhaps you have an idea for the tool you always wanted?