



QGIS

LEARNING THE
KEYSTROKES TO BRING
YOUR CONCEPTS TO LIFE!

Lecture Summary...

- ▶ Discover the difference between GIS application tool
- ▶ Development of useful GIS data storage techniques and their importance
- ▶ Identify the applications of the QGIS Desktop versus Browser
- ▶ Introduction to the 'Geography of Keystrokes'
 - ▶ Layers,
 - ▶ Data frames,
 - ▶ Symbols
 - ▶ Labels
 - ▶ And much more

GIS software “The code behind the Keystrokes”

- ▶ Quantum GIS (QGIS) (*We WILL use this software this semester*)
 - ▶ Open-source GIS – [Freeware download](#)
 - ▶ [QGIS User guide v.-1.8](#)
 - ▶ Our ‘textbook’ = [A Gentle Introduction to GIS](#)
 - ▶ Helpful resources
 - ▶ [Additional videos, worksheets, and tutorials](#) (with sexy South African accents!)
- ▶ ESRI ArcGIS (*We will NOT use this software this semester*)
 - ▶ [What is GIS](#)
 - ▶ [ESRI Freeware = ArcExplorer](#)
 - ▶ [GIS Dictionary](#)

THINK
BEFORE
YOU PRINT

GIS application tools

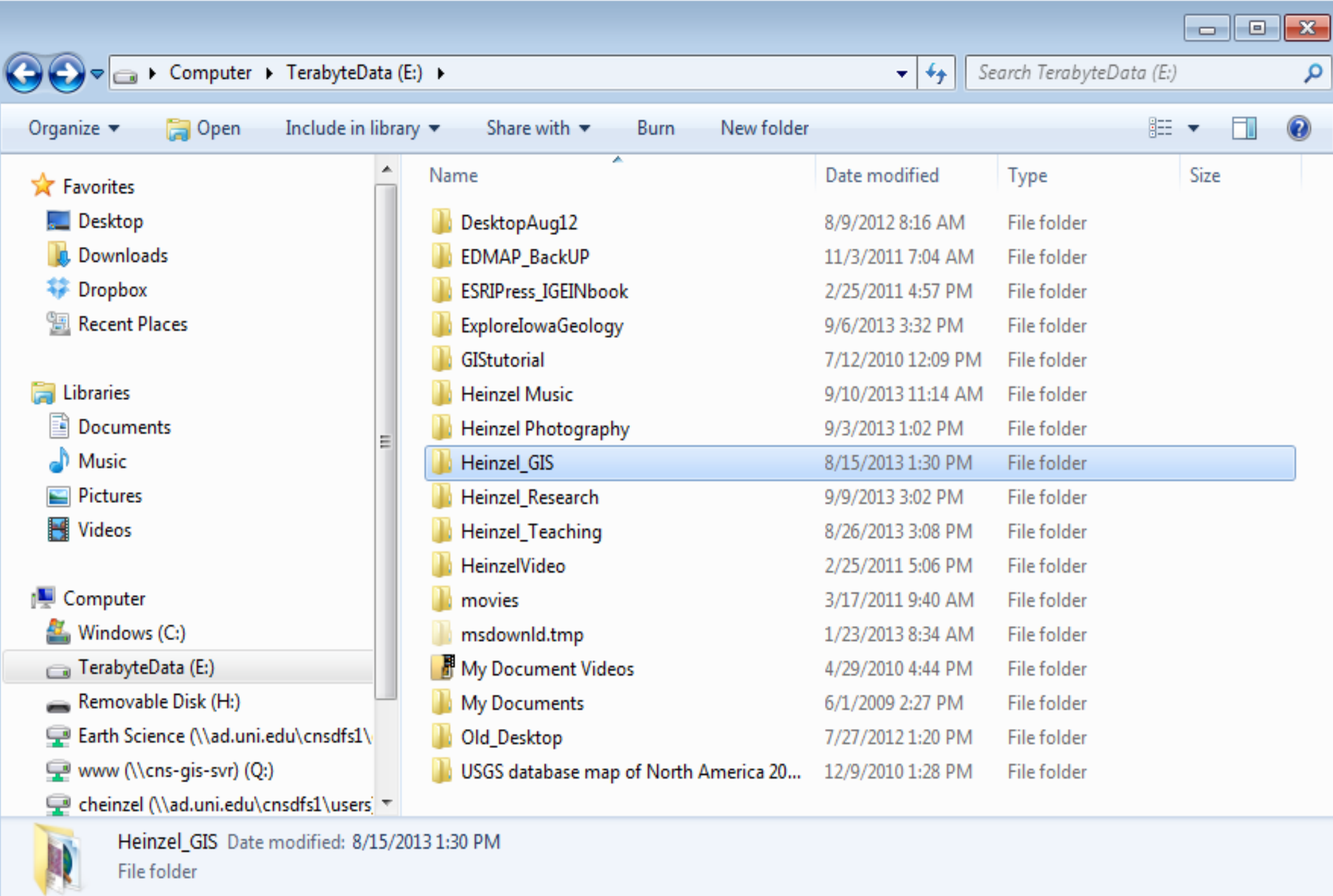
- ▶ QGIS Browser – Data Search and Management
 - ▶ Equivalent to Windows Explorer
- ▶ QGIS Desktop – Data manipulation (Developing your Maps!)

Downloading QGIS


















- ▶ **Windows, Macintosh**, Linux, Android...
- ▶ [Download link again...](#)
- ▶ Homework (part one) for week 3 is to download this software to your computer
 - ▶ Make sure you have administrative rights on your computer
 - ▶ Make friends with your school's digital technology technician

Homework (part 2) week three

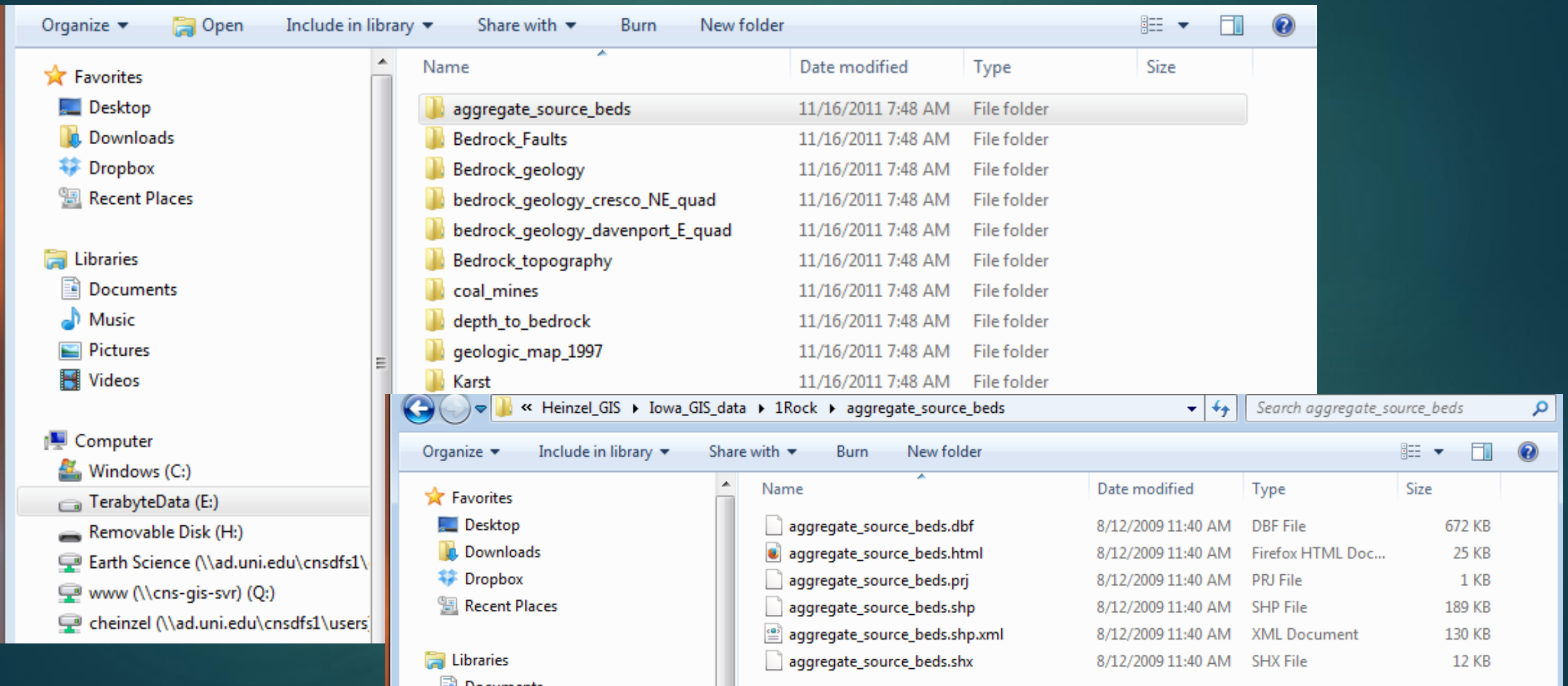
- ▶ Get ready to store GIS data on your computer...
- ▶ What type of GIS projects do you want to develop? OR What kind of GIS data do you think you might work with?
- ▶ Make a fold in your 'My Documents'
 - ▶ Last_name_GIS
 - ▶ eg. Heinzel_GIS
- ▶ Develop additional folders for specific data



Name	Date modified	Type	Size
DesktopAug12	8/9/2012 8:16 AM	File folder	
EDMAP_BackUP	11/3/2011 7:04 AM	File folder	
ESRIPress_IGEINbook	2/25/2011 4:57 PM	File folder	
ExploreIowaGeology	9/6/2013 3:32 PM	File folder	
GISutorial	7/12/2010 12:09 PM	File folder	
Heinzel Music	9/10/2013 11:14 AM	File folder	
Heinzel Photography	9/3/2013 1:02 PM	File folder	
Heinzel_GIS	8/15/2013 1:30 PM	File folder	
Heinzel_Research	9/9/2013 3:02 PM	File folder	
Heinzel_Teaching	8/26/2013 3:08 PM	File folder	
HeinzelVideo	2/25/2011 5:06 PM	File folder	
movies	3/17/2011 9:40 AM	File folder	
msdownld.tmp	1/23/2013 8:34 AM	File folder	
My Document Videos	4/29/2010 4:44 PM	File folder	
My Documents	6/1/2009 2:27 PM	File folder	
Old_Desktop	7/27/2012 1:20 PM	File folder	
USGS database map of North America 20...	12/9/2010 1:28 PM	File folder	

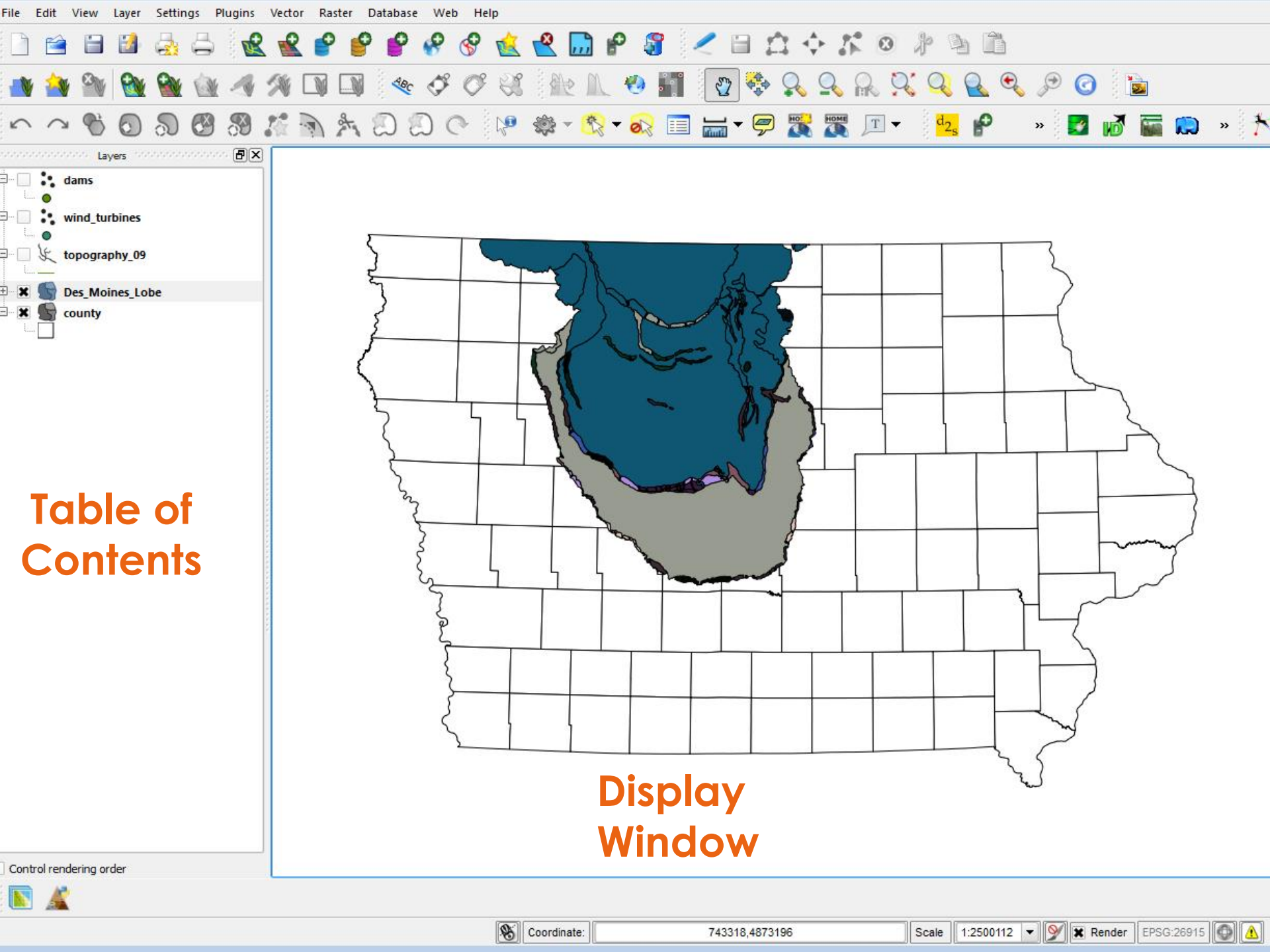
	Name	Date modified	Type	Size
★ Favorites				
 Desktop				
 Downloads				
 Dropbox				
 Recent Places				
 Libraries				
 Documents				
 Music				
 Pictures				
 Videos				
 Computer				
 Windows (C:)				
 TerabyteData (E:)				
 Removable Disk (H:)				
 Earth Science (\\ad.uni.edu\cnsdfs1\				
 www (\\cns-gis-svr) (Q:)				
 cheinzel (\\ad.uni.edu\cnsdfs1\users\				
 Network				
	1Aerial	11/16/2011 7:49 AM	File folder	
	1Environmental	11/16/2011 7:49 AM	File folder	
	1Landforms	5/11/2013 7:24 PM	File folder	
	1Political_Roads_Population	11/16/2011 7:49 AM	File folder	
	1Rock	11/16/2011 7:48 AM	File folder	
	1Soil	11/16/2011 7:48 AM	File folder	
	1Topography	11/16/2011 7:48 AM	File folder	
	1Water	11/16/2011 7:48 AM	File folder	
	1Zipped	11/16/2011 7:48 AM	File folder	
	2010_NAIP_airphotos_08	11/16/2011 7:48 AM	File folder	
	D_NewHartFarm	5/2/2013 2:28 PM	File folder	
	digitalShapefiles	11/16/2011 7:48 AM	File folder	
	EDMAP_BackUp_Aug2012	8/29/2012 4:01 PM	File folder	
	IOWA_LIDAR	11/16/2011 7:46 AM	File folder	
	Midwest_data	11/16/2011 7:45 AM	File folder	
	Places&Students	11/16/2011 7:45 AM	File folder	
	surficial_geology_08	11/16/2011 7:45 AM	File folder	
	TamaCounty	5/11/2013 7:25 PM	File folder	
	WaverlyFarmHouse	3/29/2013 10:52 AM	File folder	
	Working_Maps	11/16/2011 7:45 AM	File folder	

Importance of developing a data storage plan



QGIS Desktop...

- ▶ Displaying and working with data
 - ▶ Importing/deleting map layers
 - ▶ Editing
 - ▶ Querying
 - ▶ Analyzing
 - ▶ Graphing
 - ▶ Reporting



Menu &
Tool
Bars

QGIS
Desktop

Display
Window

Status Bar

Table of
Contents

Layers

- Layer
 - Represents georeferenced data
- Table of contents
 - Organizes the layers
- Map
 - Layers
 - Map elements (symbols, text, photos etc.)

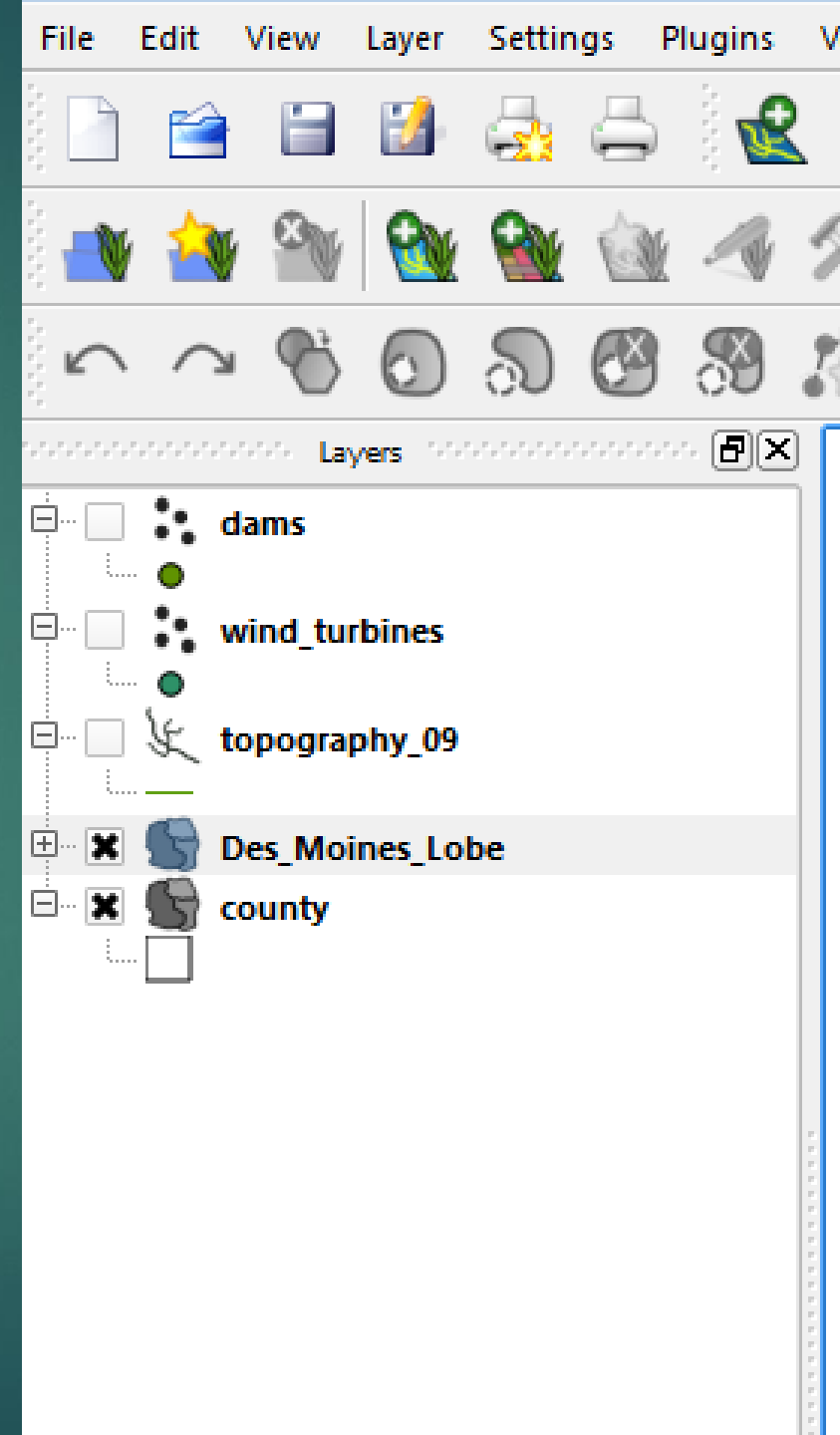
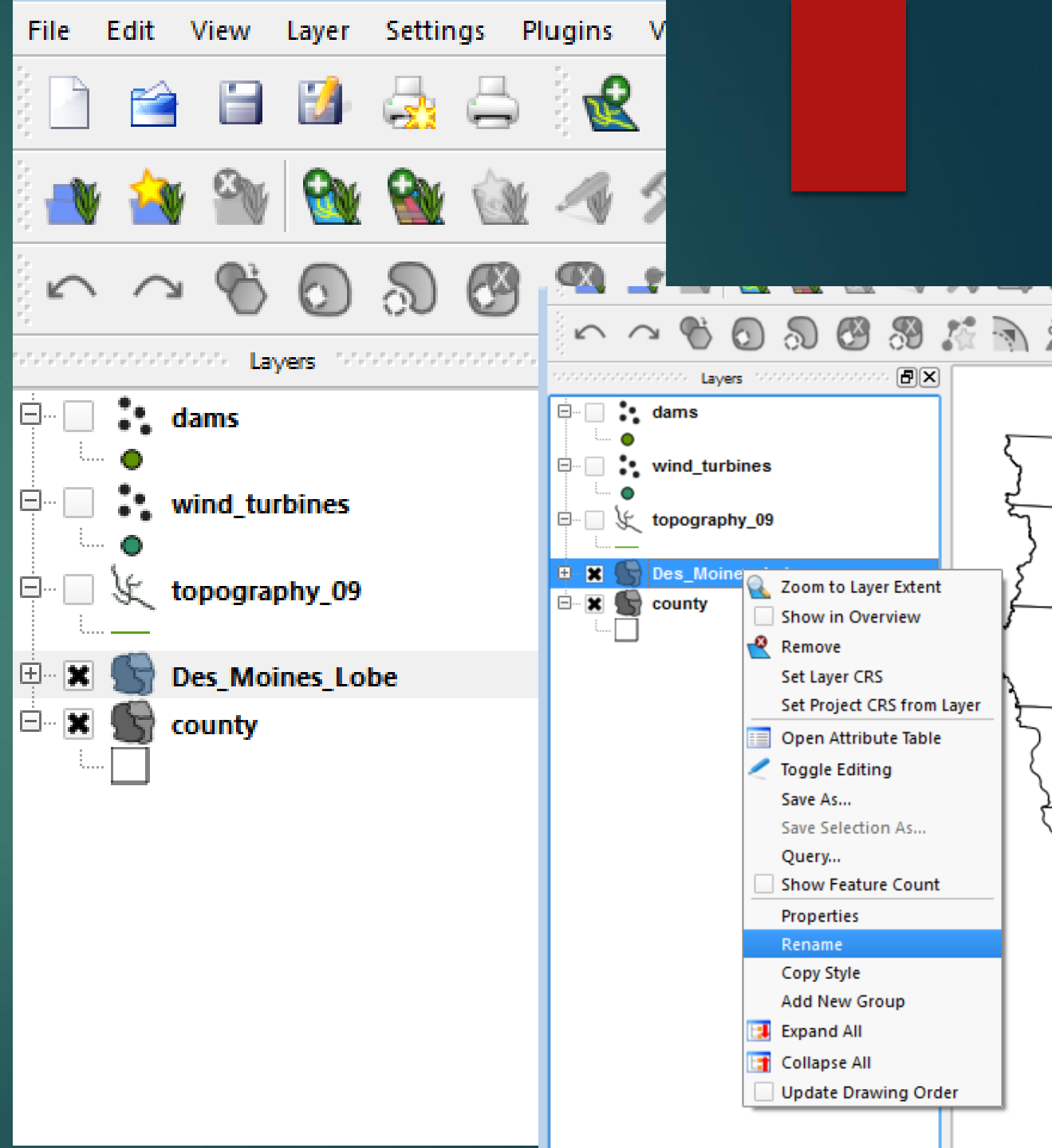


Table of Contents

- Drag layers up or down to change display order
- Rename Layers
- Remove Layers
- Via the 'Power of Right Click' (windows)

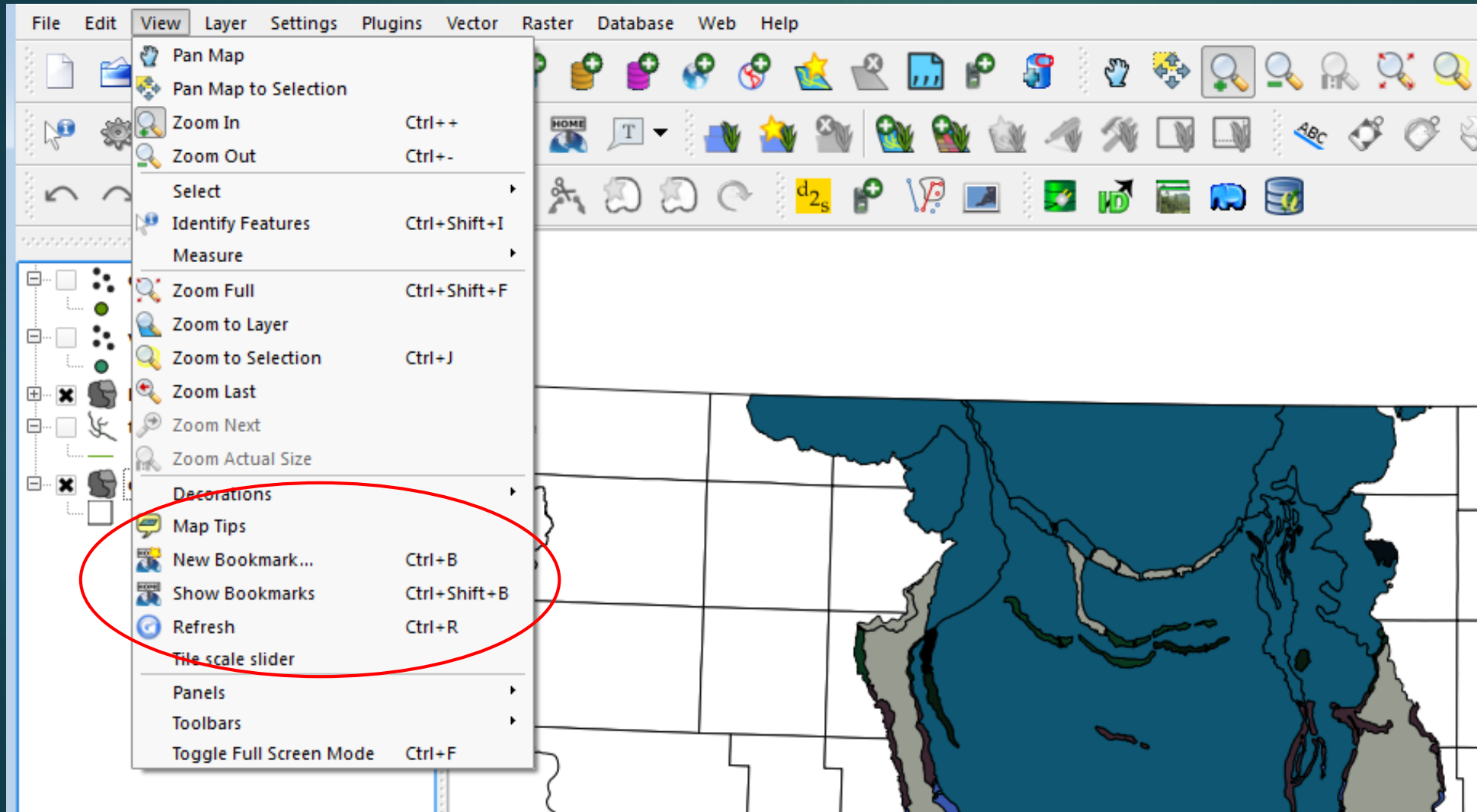


Navigating around your Map



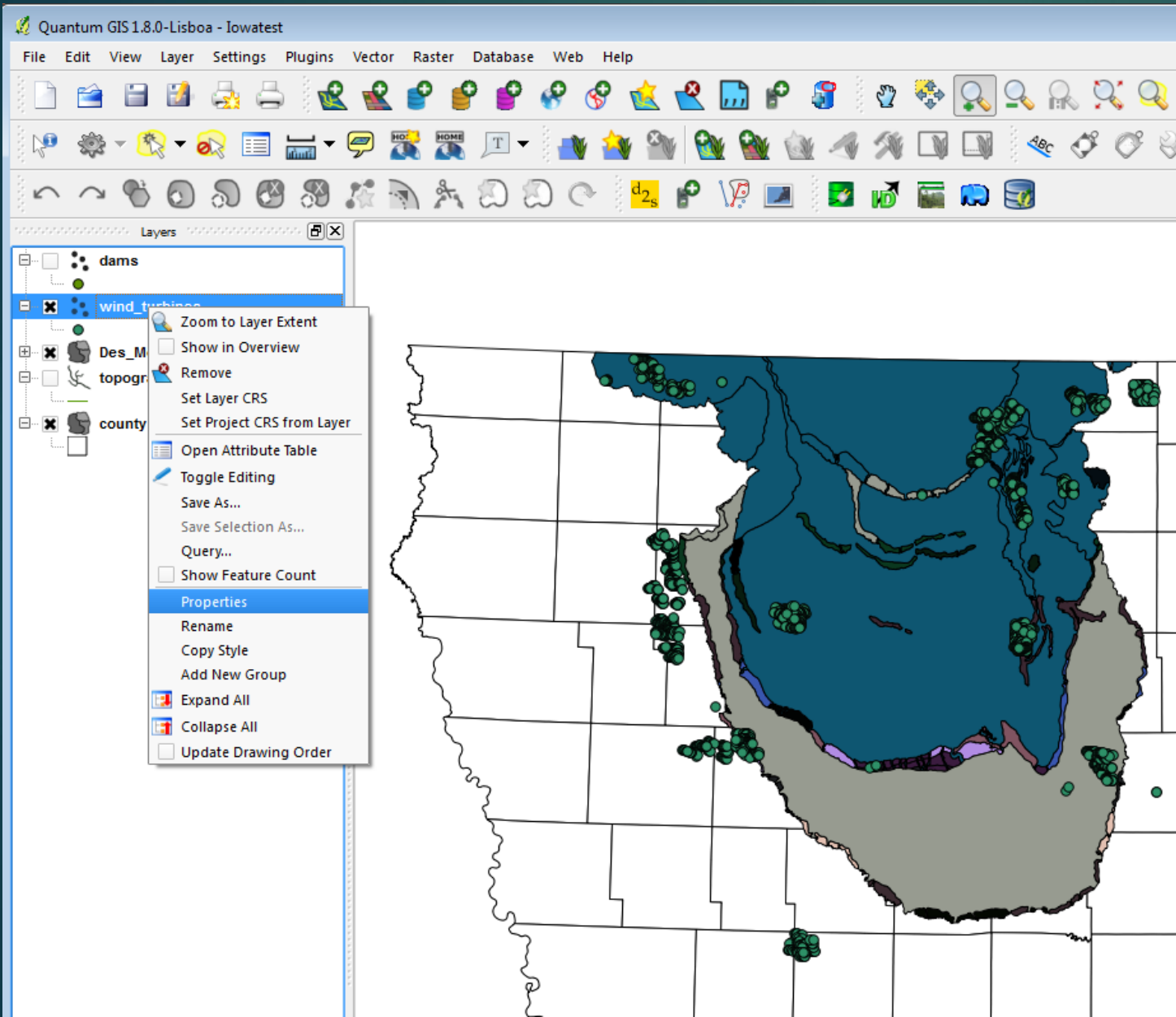
- ▶ Zoom in or out
- ▶ Pan
- ▶ Full extent
- ▶ Hold mouse over icon to identify!

Using bookmarks



- Set/bookmark a location's extent
- Return to it at anytime

Layer Properties



Changing Symbol properties

The image shows a 'Single Symbol' dialog box with the following components:

- Tabbed Interface:** The top of the dialog has tabs for 'Style' (selected), 'Labels', 'Fields', 'General', 'Metadata', 'Actions', 'Joins', and 'Diagrams'. Navigation arrows are on the right.
- Symbol Type:** A dropdown menu shows 'Single Symbol'.
- Old symbology:** A button in the top right corner.
- Visual Preview:** A square divided into four quadrants with a small purple dot in the center.
- Unit:** A dropdown menu set to 'Millimeter'.
- Size:** A numeric input field set to '2.00' with up/down arrows.
- Transparency:** A slider bar with a label 'Transparency 0%'.
- Rotation:** A numeric input field set to '0.0°' with up/down arrows.
- Color:** A label next to a 'Change' button that features a small purple square.
- Change...:** A button with a wrench icon.
- Advanced:** A dropdown menu.
- Save as style:** A button with a green plus icon.
- Saved styles:** A section with a 'Style manager...' button and a large empty rectangular box.
- Footer Buttons:** A row of buttons including 'Restore Default Style', 'Save As Default', 'Load Style ...', 'Save Style ...', 'OK', 'Cancel', 'Apply', and 'Help'.