

Geospatial Learning Pathways Presentation

Theme Manager

by

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Introduction

This is a Bureau of Land Management Geospatial Learning Pathways presentation. Theme Manager is presented by the Utah State Office. You will see an overview of the Theme Manager toolbar and software demonstration on how it helps to streamline the use of geographic data. Your presenter is Julie Casper of the Utah State Office.

Julie Casper

Hi. This is Julie Casper, and I am a geographer, and I work in the Utah State Office in the GIS section doing remote sensing and GIS.

What I'm going to present today for you is a new tool that we have called the **Theme Manager**. This is a tool that was developed by the National Park Service. And, it is used to enable you to easily navigate through the GIS data and be able to build a map.

What is Theme Manager: What is Theme Manager? It's a tool that provides easy access to all of the Utah's BLM corporate GIS thematic data. Each data category is called the theme. That includes common data that we all use such as land status, streams, roads - it could be resource data, it could be rivers, towns.

Benefits of Theme Manager: It organizes the data by intuitive categories that will help you as you go in to be able to select the data that you need without having to hunt all over the place in complicated directory structures. It allows you to browse and search for the data that you're trying to find.

And it also, a nice little benefit that it has, is it has metadata attached with it that allows you to also view that and find out how old the data is, where it came from. It's just a very easy tool that will allow you to add it directly onto your map that you're building in ArcMap.

Starting Theme Manager: The way to start this up in your ArcMap session. You'll go - up on the top - into your GUI, or your Graphical User Interface, and right-click with your mouse button, and you'll get the drop-down menu of all the programs that you can add. And it's just right there in that list of tools where I have it outlined in red. It's called the 'NPS Theme Manager'.

Starting Theme Manager Using ArcMap: Let's just go into ArcMap, and we'll show you how to do that. When you go into your session, and you don't have it, it will look like this. Just right-click with your mouse, go down the list to 'NPS Theme Manager', simply click it, and there it is on your toolbar. Then go over to the little Park Service arrowhead symbol. You left-click that to turn it on, and it will bring you up a menu of different data categories.

Data Theme Organization: This drop-down menu has it separated out - the data categories - so that they're logical. In other words, if you want to put land status on your map, you're going to go into this top category called Admin Ownership. Or if you're looking for, your recreation data, you have a layer of OHV, or you have some campground data - you're going to go down, and you're going to look in this folder called Recreation.

Data Categories:: Say, for example, you're looking over here at PhysioSoils, and you're thinking, "Well, what would be in there?". What you can do is this web address along the bottom, you can go to that, and it has a document there that will list all of these data categories and tell you what types of data you will find inside each of these folders.

www.utso.ut.bom.giv/EGIS/gis_data.html

Data Categories Expanded: You can click on these individual folders, and you'll get a drop-down menu on what is inside. So if you click on Admin Ownership, this drop-down list shows all of the files that are inside of that. So here is your Land Status - a commonly used one. You have your BLM Offices, which would be your point data. You have County Boundaries, District Boundaries, Field Office Boundaries. So as you go down, and you click on any of these folders, you will find the files that exist under that category.

You go into Utilities. These are the things you're looking at, you know - electricity, gas, different pipelines. You go under visual resources - you're looking at your different resource management. The point of all this is that they're logically categorized to make this easy. This is kind of a nice way so that it's a user-friendly experience.

If you are looking for a reference system - this is going to be your townships, your range, your 100K quad index lines, your 24K, seven-and-a-half minute topos - all that type of reference information you want on a base map would be under **Reference System**.

We also have **Imagery**. That's another common question that we do get. We have black and white. We have color, natural color - color infrared. We have it for different areas. We have indexes that will show where all that is. Up here in Hydrography, which is all the water-related - we'll have lakes, springs, streams.

Theme Manager Window Layout: One of the things about the way Theme Manager is organized - it's very logical. So what I want to do is to show you how this window is set up. The first thing we'll look at are these three tabs up here that we have circled. You have a 'Theme Lists', and it has a 'Favorites' tab and a 'Search'. It offers three different ways that you can look at the data.

Theme Lists: The first one, and the one we have been looking at that shows the data tree, is under the Theme Lists. This whole area that does show the data is called the 'Navigation Pane'. This is the way that you move through it to see what kind of data that we have. And it's that tree structure just like you have on your computers under Explorer, where you can go into the directories, and you can see which files are under those directories.

This bar down the middle is called the 'Tool Area'. And this is where there are different command buttons that will allow you to do some kind of nice little functions inside Theme Manager. You can add favorites just like you can do on the Internet. You can look at properties of different files. It just allows you to do individual queries on different files.

Down here on the bottom left is a 'Message Area', which will display information about a file that you have selected.

In the upper right, we have what we call a 'Metadata Style' selector. And when we get into metadata and talk about that, there are different style sheets that metadata comes in. And you can choose between about a dozen or so different style sheets.

This right-hand side is called the 'Metadata Pane'. And this will list all of the metadata that we have available about that particular file that you highlight over on this left side in your Navigation Pane. So on this example, where the Land Status has been highlighted, this will show all of the metadata associated with that layer, such as when it was collected, who collected it.

Then this button down on the bottom is called the 'View Metadata Button'. And it's just a toggle button. When you click it - it will open up this Metadata Pane. And if you don't want that there, if you're not looking at metadata, and you don't want it taking up space on your screen, you just click it, and it will completely shut that whole right side down so that all you're left with to view is just this left side of the screen with your data tree structure.

Back to those first three tabs. We have the 'Theme Lists', the 'Favorites', and the 'Search'. We've already looked at this a little bit with the Theme Lists. It has the complete listing of all the categories, subcategories, and the themes that are on the system that you can choose from to add to your ArcMap session.

Favorites: Your Favorites are similar to how you add a favorite on the Internet. This is for layers that you use often. And you can add them to your Favorites and just go to that each time so that you don't have to scroll down and reselect it. It's already at your Favorites. So let's go back to ArcMap, and I'll show you how that works.

Browsing Themes Using ArcMap: Say we want to add Land Status. I'll move this over to the right so you can see the map. All you have to do is just click on the layer that you want. Once you've clicked on it, you'll see this star light up over here.

Favorites: Once you click on the star, you'll get this little message that says 'Theme Added to Favorites'. You just click OK. And if you go up to this Favorites, and you'll look - you'll have Land Status added.

You work a lot with the county boundaries. You want to add that to your Favorites. You click on it. It's added to your Favorites. Make sure it is. You go back and check.

If you're working on a project that has a lot of maps you have to prepare, you can go down through your Theme Lists, and you can go in, and you want to add your rivers. You want to go in and add your roads. You have certain base data you want to add. You can actually go in and add these to your Favorites. And then, as you go in and build a map, all you have to do is go here, and then you've got all the layers that you'll need, all your base layers. And, basically, just click them - add them to your map. But that is how you add to your layers.

Open a Category: Once you bring up a layer, you double-click if you want to open a category, which is what we did when we hit Admin Ownership - double-clicked. It opened up all the files available under that folder.

Display a Category: If you want to look at the data - the metadata, which is the data related to it, all you do is just click on that one time, and it will bring up the data. So let's go back, again, to ArcMap and give that a try.

View Metadata Using ArcMap: So, we had County Boundaries still highlighted. It brought up the county boundary metadata. Say, we're looking to put up district boundaries. You click on that. It brings up district boundaries. That is how you get the different metadata. And you just click on it one time, and it shows you what that metadata for that file is.

Theme Symbols for Directories: You'll see next to the filenames these little diamond symbols. It's the theme symbol, and it tells you, basically, what each layer is. It tells you if it's a point file, if it's a line file, if it's a polygon file or just exactly what kind of a layer it is. It works the same way in ArcMap. So that's just a reference for you so that you know, as you're looking at that layer, exactly what that layer is.

If you want to add your data to the Favorites, again, you just click on that star that's in that toolbar that's in the middle of your screen.

Search: You can also do a search. You are adding to a base map, and you're doing a map on a certain topic, and you want to know which types of themes or layers are associated with that

particular topic. You can run a search. And it works the same way as the search does in ArcMap.

You want to click on that Search tab and bring that forward. Click on 'New Search'. You can either put in theme names - up in here. And you can have it where it has to match exactly what you put in, all the words, or you can have it put in any of those words, any file that contains any of the words you put in this window. It will actually tag and pull those out and let you know where the location of those files are.

You can also come down here where it has a 'Metadata Option'. And you can type in your same search criteria, and it will look in the associated metadata files. And if that word does exist, it will pull and tag that file for you and let you know where that one is. And then once you've done that, and you click on Search down at the bottom, the lower right-hand corner, it will run a search for you. So let's go into ArcMap and see how that works.

Search Using ArcMap: So what we'll do is we'll click on 'New Search'. Let's type in pipeline and see what we come with. So you come down here, and you click on Search, and it found five themes. If you notice up here it put down the five files - this is what it found. In here, it asks if you want to view your results as a report. And if you click on 'Yes', this is the report it will give you. And it tells you what the path name is and where those are found, and it will tell you what they are. So you can print this out if you want as a list. And it also tells you here - and what you can do, if you want, is add these to your session of ArcMap.

Theme Properties Button: Another tool that it has on the toolbar is the 'Properties' button. Just like the Properties buttons in ArcMap, if you click on that, and it's this middle button on your toolbar that looks like this, it will give you the properties of a file that you have selected. And it gives you the 'Layer File', the 'Metadata' and the 'Data Source', and it gives you the path of where that file is actually stored.

Preferences Button: And then the other button on the toolbar is the 'Preferences' icon. If you highlight a file and click on that, it will give you information on when it was updated. And what this does - you can actually tag the files to show you if any files have been updated within a certain amount of time. The default on Theme Manager is three months. So if you ever see, in your data structure, a file that's been highlighted in green, such as Land Status right here, you

will know, if you come into Preferences, that this has been updated within the past three months. And that can be helpful information, especially on a layer like Land Status that is constantly changing.

If three months is not a time limit that works for a data layer, and you want to know when it's been updated, more often than that, you have an option. If you come over in that Preferences window, you can change that, and you can actually tag files that have been updated within a day, within a month, even within six months. You have the option to change that time, but three months is the default. So the way it just normally runs - you can look at this right away if you bring up this data tree, and you'll know right away that Land Status has been updated fairly recently. So that's another nice feature that this program has.

What Is Metadata?: What is metadata? Data about the data. And it's your basic who, when, what, where, why? Who created it? When was it created? What was it created for? What projection does it have - and that can be really critical to know. If you have time-sensitive data, or if you are using something as a backdrop such as imagery, that can be very important to know because if data can be outdated, and you need something of a certain timeframe, you need to look at the metadata. If it's done at a different projection, and you need to convert it to a projection that you're working in, you need to look at the metadata. So it is important to look at. And that's a nice feature about this program is that it's just a click away. You can always look at the metadata right there along with the file.

Metadata Formats: Metadata comes in different formats. BLM typically uses two different ones, and one of them is the one shown here, which is called the 'FGDC Classic', and this is the one you'll probably see most often.

But if you want to look at other formats, up in that right-hand corner, you have an option to bring up different formats. The two that we actually do use most is this 'Classic' that you just saw, and then the one underneath it, the 'ESRI' version, is another one that we also use. And that's what this one looks like. So those are the two most-often used. Not all of the options are available in that pull-down menu.

Add Data to a Map: Adding data to your map - how do you do that? This is probably the most easy, convenient thing about Theme Manager. And, all it is a drag-and-drop. And you can use

any of the Theme Manager tabs that we looked at - the 'Theme Lists', the 'Favorites', or the 'Search'. And all you do is left-click, hold down the file, and just drag it right over into the Table of Contents on your ArcMap session.

For example, in this, where we have Land Status highlighted and circled, if you left-click this and drag it over into your Table of Contents on this map and then let go of your mouse button, it will automatically add that data to your map. So you can literally build your ArcMap in a matter of seconds, especially by adding those files to your Favorites, one-by-one dragging and dropping. Let's go back over to ArcMap, and we will try that.

Add Data to a Map Using ArcMap: We want to add Land Status, so we'll highlight that. And I'm going to put - I have my arrow - my cursor over the Land Status. I will left-click, and I'm going to hold that down, and I'm just going to drag this over into my Table of Contents, and you can tell it's there because that black line is there. Now I'm going to let go of my left mouse button, and it loads. And, as you can see, it loaded.

So let me just go over to the Favorites. And if you remember, we added counties. I can click on Counties, and I can just quickly put that one in, and there's our Counties. As you can see, it's an easy thing to just point, drag, click, drop. And that's how you can build your entire map very, very quickly.

Online Help: Another nice thing about Theme Manager is it has a very good online help. If you do need to get help on it, you go back up into your - on your toolbar along the top, back to your Theme Manager Toolbar. There is a right arrow - all you have to do is click on it. You'll get a drop-down menu that says "Theme Manager Help". You click on that, and it brings up this Help window.

The nice thing about this is it's got a drop-down menu that will take you through every functionality that Theme Manager has. It is very detailed. Anything you want to know, you will find inside of this help. It's very detailed and helpful. Let's just quickly go to ArcMap and take a look at that.

Online Help Using ArcMap: You go over here to the arrow. You click. You get the drop-down. Click on the Theme Manager Help, and there it is. You go over to this side. You've got your

Table of Contents, and under, say, 'Using Theme Manager', you just click on that. You get your drop-down menu, and you go into whatever it is you need to know, and it's that easy.

Why Use Theme Manager: Why use Theme Manager? Because it provides an easy access to all of the data with one simple tool. No more going through all the menu trees inside the computer system and trying to figure out where everything is stored. You don't have to remember all the complicated file path names anymore. It's just all listed under that as commonly used names.

Data can be searched and accessed very quickly and easily, as you saw. Metadata is very easy to access now. And the newly updated data can be tagged for easy identification. So if you are trying to make a map, and you want to know how current the land status is, it's easy to find out now.

Layers are easily added to your ArcMap for quick map creation. Themes are organized by intuitive data categories. And theme properties can be easily viewed.

Also, because the EGIS staff would like everyone to enjoy using GIS technology. It's a powerful tool. It's very helpful. It can help you. It can save you time by being able to print out maps and to use the data in your work. And it's also to make your data navigation a simple experience and, hopefully, one that you will use often.

That is it for Theme Manager. Thank you very much.

Questions?

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