

00:00 **Emily:** Ellen, can you let me know when you can see my screen?

00:08 **Ellen:** I can see it and I can hear it well!

00:10 **Emily:** Alright. And if you attended the first session, you'll notice I have less tabs open, so I'm winning. Again, my name is Emily Gentry. I am an ORISE Research Participant. Like Christine also mentioned, or maybe Ellen, I'm not really sure, but if you are joining us for the very first time, you skipped the previous session, welcome. We're very happy to have you here. If you are returning and you watched the first session, I just want to warn you that there's about five minutes where I'm going to cover some things that I covered in the first session so if you only want to half listen and check your email or something, that's totally fine. I'll give you a shout out and let you know when we're going to start covering new information.

01:03 **Emily:** So, the first thing is that this meeting is being recorded. It and the previous session will be posted within a week on our website. You can access them by going to the 'More Info' drop-down list and clicking 'Additional Resources'. This is where all of our presentations live so you watch other ones if you'd like. We're also going to collect all of the questions that we can't answer and maybe the ones that we can, actually, answer them in a document and post the document here as well. So that will be a great, kind of dual resource for you.

01:38 **Emily:** We have a new page called the WRR Updates page. This is where we're trying to at the end of every month, compile a list of all of the improvements we've made to WRRs and post them here. If you want to bookmark this page, that's a really great idea, and check in every so often to make sure that you're not missing out on anything really, really exciting.

02:02 **Emily:** Now I'm going to go ahead and jump...in the previous session I was working in Virginia, but I like to give all of the states love, so I'm going to work in Pennsylvania right now. Always a good reminder, even though we host a lot of data layers in WRRs, they don't always load, and so here you can see a disclaimer letting you know the RIBITs layer wasn't able to load, so you can click that.

02:27 **Emily:** We'll also get a disclaimer, which, I really just want to draw your attention to this blue text, which says, "*Please clear your cache if you are looking for updates*". So just a gentle reminder that if you don't clear your cache, you're not going to get access to the most up to date WRR you can. If you don't know how to clear your cache you can follow this link for more instructions. I think it breaks it down by browser. Or certainly you can ask us. We want to make sure you are getting access to the best version of this tool possible.

03:04 **Emily:** Two more things that are review. One is under the 'More' icon, we have a really great 'Tutorials' panel. I can't cover everything today. There are so many more topics and different ways to unlock additional potential in WRRs. You can find that by watching topical videos which have really great transcripts, timestamps, and an option to watch this picture-in-picture, so you can play a video and work in a different panel.

03:40 **Emily:** And then we have Fact Sheets. So, we have our comprehensive User Manual which works for all states and then smaller pdfs arranged by topic. All of them have written instructions, pictures, arrows, everything you could possibly want. Both of these are always being updated, particularly as we introduce new features or reports. But in case you go through and you're trying to find for something on

a topic and you can't, please reach out and let us know. I am happy to create other videos, other fact sheets for you, because if you have that question, other people definitely do.

04:20 **Emily:** The very last thing that is review. This search bar in the upper left-hand corner of the map, if you've heard me give presentations before, a lot of times I'll say that it will allow you to enter in the latitude and longitude coordinates, the street address, or the common name of a place and it will find your location on the map. And that's all true, but what I failed to specify in a lot of presentations is that you need to enter your coordinates longitude first and then latitude and you really need to make sure you enter the negative sign on your longitude value. Otherwise, it's not going to work, and it will really hinder you from doing anything else which is not what we want at all.

05:02 **Emily:** And with that, that ends our review or shared material from the previous session. We are now going to dive right into new material. So, if you were half-listening you can switch to full listening...if you want to. This is the time. For this presentation we're going to cover three general topics. One is attribute information and the attribute table. The second is adding data, and the third is the Select-by-Rectangle tool.

05:34 **Emily:** The first is attribute information and the attribute table. Attribute information for the sake of this discussion is any information that is tied to a feature within a data layer. So, I'm going to turn some data layers on, and if I click on a feature on the map, I'll get a pop-up. All of this is attribute information that is specifically tied to this mapped feature. There are times when you are working in a WRR or something else where you want to look at the attribute information for many features all at once, and so in that case you might be interested in looking at the attribute table.

06:20 **Emily:** There are three basic ways to access the attribute table in WRRs. The first through a data layer's drop-down menu. The second is manually and the third is via a pop-up. So, I'm going to show you all of those, and then I'm going to give you a major caveat for that. So, it will be exciting. A way to build the tension really.

06:46 **Emily:** So, the first way is through a data layer's drop-down menu. All data layers have an ellipsis or three small dots to the right of them. If you click on that ellipses, you'll get access to a drop-down menu which will give you access to additional features. One of them is 'View in Attribute Table'. So if I click that, I can see the attribute table for Urban Areas open. But I can also see that I have tables related to State Boundaries, MS4 Municipalities, and all of these [gestures to three tables] are related to this ORM data layer. So just by accessing the attribute table for one, I was actually able to access all of the attribute data for everything that was turned on at that point. So, yay for efficiency really.

07:36 **Emily:** If I've looked at this and I'm done with it, I can minimize this by clicking on this black box with a down arrow. It will hide my attribute table. And the really great thing about this, you'll notice now, is that at the bottom there is this black box with an upward facing arrow which if I click it, I can open that attribute table. So this is the manual way I was talking about when I said you could manually access an attribute table. I'm going to pop over to a new tab really quick. This is still Pennsylvania. Nothing has changed. I just opened a bunch of WRRs so I could show you. So, if I turn MS4 Municipalities and Urban Areas, you can see that black box that I was talking about, it exists all the time. I could just turn on data layers, open the attribute table and there I have it. It's all right there. I get the State Boundaries, Urban Areas and MS4 Municipalities. I'll just jump back really quick [to the previous tab].

08:46 **Emily:** The third way to access attribute information is by clicking on a feature on the map. So I get this pop-up. In the lower right-hand corner, there are the ellipses, or three small dots, and I have an option to 'View in Attribute Table'. So that will pull up my attribute table and difference here, when I'm accessing it through a pop-up is that I can only see the attribute information for that specific feature I clicked.

09:23 **Emily:** But I can actually be a little bit sneaky. I can turn this 'Filter by map extent' button off and what that's going to do is give me to access to all of the attribute information for the whole data layer. Which for here I can see is over 9000 features and for some of them this is Alaska, Charleston. I'm not completely interested in that. And so I'm going to turn 'Filter by map extent' back on. But rather than take me back to that singular feature that I clicked, it's going to give me all of the information that exists in my map extent and since Pennsylvania is centered, it's going to give me mostly what I'm interested in which is a little bit more than 2300 features this time. If you're willing to play with this 'Filter by map extent' button, you can get access to a lot of attribute information and you can really constrain it or expand it to meet your needs.

10:26 **Emily:** If you see a feature that you're interested in exploring further, all you need to do is double-click on that. It will take you right to that feature. Then if you're not interested anymore, again playing with that 'Filter by map extent' button really can do a lot.

10:49 **Emily:** So just a quick review. We said the three ways to access the attribute table are via a data layer's drop-down menu, by manually opening it, or through a pop-up. But I said that I was going to give you a really major caveat. And the caveat is that when I opened the attribute table via the drop-down menu or when I was in that other tab and opened it manually, when I opened it the very first time, it opened tables associated with all of the data layers I had turned on at the time. But that feature or anomaly we can maybe call it, only works the very first time you access the attribute table.

11:36 **Emily:** So, let's say I minimize this, and I turn on PA Service Areas. Now, if I manually open the attribute table, I don't have a PA Service Areas table. The only way I can access the table for PA Service Areas is by clicking on 'View in Attribute Table' or by clicking on a feature on the map. And that's not a big deal for most data layers.

12:07 **Emily:** But it does become a big deal for data layers like ORM, where if you click the drop-down menu, and I apologize this is going to be hard to see. But I have an option for 'Zoom to', 'Transparency' and 'Description'. You'll notice, I don't have an option to 'View in Attribute Table'. But you can see, if I open this again, that there is attribute information available.

12:34 **Emily:** In that case, if I didn't have this data layer turned on the very first time I accessed the attribute table, the only way I could access this information are by clicking on a feature on the map and going through the pop-up. That's the only way. Again, that's not a big deal except that...let's pop into this tab. We'll turn on ORM, and I'll click on a feature. I can click on 'View in Attribute Table' and this is going to give me the ORM Pending Individual Permit table. But if we jump back to this tab. I'm sorry that we're jumping back and forth between tabs. I find it helpful sometimes to demonstrate like this. We can see that there are actually three tables associated with ORM.

13:34 **Emily:** And so what this means is that if I'm in this tab and I want to access all of the ORM related information, I need to click on a feature within every single category in order to get the corresponding

table. Again, it's not the end of the world, it's just a little bit time consuming and I want to give you as much information as possible to make your work as efficient as you want it to be. And so that wraps up the attribute information, the attribute table. We can certainly talk about that more at the end or put all your questions in the chat.

14:17 **Emily:** The next thing that I want to talk about is adding data. I am going to go to the Add Data panel. It's under the 'More' icon. There are three basic ways to add data. If you've seen me give other presentations before, I talk about them. This is advanced, so I'm going to talk about them and I'm going to talk about some problems you might often encounter.

14:46 **Emily:** So let's talk about Search first. All WRRs are connected to at least one online data portal. Some states, I think Virginia, Maryland, and Delaware are connected to state-specific portals as well. You can click this drop-down arrow to see. But whatever portal you're searching, you can type text into the search bar, you can sort by type or relevance, or you can just scroll through. Let's say that I am looking for Encroachment Locations. And if I find one that I'm interested in, I can click 'Add'. Sometimes it takes a little bit of time to add. Ok, so the Add has changed to Remove. That's a great sign that the add has been successful. But I'm looking at my screen right now and I don't see any information, so I'm going to double check two things.

15:46 **Emily:** The first is, in the lower right-hand corner of this panel you'll see a 'Layers' link. And this link exists in the Search, the URL, and the File. And this link, if you click on it, will give you a list of all of the data layers you have added. I can see that the Encroachment Location layers has been added. If I decided that I wasn't interested in that layer, I could click the trash can and remove it. Or in Search, I could just click 'Remove'. But I don't have that option for URL or File so that remove option is really great there. So I can see it's added here [Search panel]. I can look in the Layers panel it's added there.

16:27 **Emily:** Let's go to our WRR Layer List. We're going to go to the Added Data Layers tab. It appears in the panel, but it's greyed out. And this is something that you might encounter in the Map Layers tab as well, where you get a layer and it's greyed out like this. What this is telling you is that the features in the map are inactive at your current map extent. So you're either going to need to zoom in or zoom out to activate them. Since we're zoomed out pretty far, I'm going to take a guess that we want to zoom in.

17:05 **Emily:** Sometimes if you zoom in, depending on how large your layer is, how much data is trying to be added, you might zoom and you might see your layer turn black and yet look at your map and still see no information. In that case, check in the lower right-hand corner of the map itself. Sometimes you'll see that little spinning wheel of death, I think is what people have called it. But that's letting you know that the layer is still processing, if you just give it a moment, it will eventually present you with your data. But here now, I can see that this [the layer] has turned black. I can see information on the map, so everything is good to go.

17:39 **Emily:** If we go back to 'Add Data', let's go to URL. I'm actually going to play with that ORM data that we were playing with before. I know that this is a permanently added data layer, but I do want to show you...sometimes you'll be working with map services that have multiple sub-layers and if you copy the URL for the master rest service and go back. I'm going to paste this into the text box and click 'Add'. You can see in the lower left-hand corner it says 'Adding'. Sometimes if you get an error, it will appear in grey text. Everything is just a little bit slow today.

18:39 **Emily:** Here we can see, like I mentioned, that little spinning circle of death. Let's hope it's going to add successfully. Here we can see the ORM data appear. And what's really great...I want to contrast this with [switches to Map Layers tab] here you can see ORM, if I were to turn this on, everything would appear at once. But here [switches to Added Data Layers tab], if I add it manually, I get access to a drop-down tree and I can play with the sub-layers individually. So I can turn certain things on and off. I have a little bit more control over the data than if it's listed in the Map Layers tab itself. And then that's also great, even if it's not a permanently added data layer, even if it's just a data layer that I'm exploring, adding it manually, gives you a lot of control over the sub-layers.

19:37 **Emily:** The other thing that I want to call out about this is that in the Map Layers tab, if I turn ORM on, by default we have all pop-ups enabled, so if I click on a feature, I will get additional information. But if I go to the Added Data Layers tab and click on a feature, nothing happens, and that's because when you manually add a data layer, those pop-ups aren't automatically enabled. You have to actually go in and enable pop-ups for each sub-layer. That way if you click on a feature, you will get that information. I'm going to turn both of those off.

20:23 **Emily:** Then we're going to go back to Add Data and go to File. So, there are two types of files that I like to add; I find very valuable. The first is the zipped shapefile. You may, if you're evaluating a permit or doing something else, receive a shapefile from someone. All you need to do to add that is click 'Browse'. Navigate to the location where your shapefile is stored on your computer and click 'Open'. Then it will appear on your map. If you look in the 'Layers' link, you can see it appears. If you go back to the Added Data Layers tab, you can see that it appears there as well.

21:10 **Emily:** The other type of files that I like to upload are CSV files. WRRs can map location information if it is a street address or latitude and longitude coordinates. There is sometimes a little bit of processing with the data before the WRR can read it. So if you're working with a street address, you'll want to make sure that the street address is in one column. If you're working with latitude and longitude, I got this information from ORM. You'll need to delete the 'Proj' in front of it. You'll want to make sure that the columns say latitude and longitude. The computer has an easier time reading that.

21:57 **Emily:** Then you'll also want to make sure, this is an Excel file. You'll need to save it as a CSV file. Once you do that, you can click browse, select the CSV file you've saved and click 'Open'. And all of this information appears on my map. I can click on any feature and I'll get all the information that was tied to that set of coordinates.

22:31 **Emily:** And that is the end of part two, which is adding data. I'm going to turn off this ORM data. I want to turn on one other layer and then we're going to hop into the last section which is the 'Select by Rectangle' tool. So we're going to go to the Location Details tool. This is a tool that we talked about in the first session. In the advanced, I'm hoping that you've worked with Location Details before, but this is a tool that allows you to define your area of interest on the map and then run a series of internal and external reports on that area.

23:15 **Emily:** Normally, when I give presentations, because we don't have a lot of time, I draw a simple rectangle. But today I want to talk about uploading shapefiles and this 'Select by Rectangle' tool. So the difference between uploading a shapefile here in this Location Details panel or uploading a shapefile in the Add Data panel, is that when I add a shapefile in the Add Data panel, I get the shapefile as an added

data layer which means that I can turn this on and off. I could adjust the transparency if I wanted to. I just get a lot of extra control over this information.

23:59 **Emily:** When I'm in Location Details and I upload a shapefile, I don't get that level of control. So, once it's on the map, it's on the map. I can't turn it off, even if it's covering something else up. I can't adjust the transparency to see what's going on beneath that polygon. So, best practice, I like to suggest, always upload a shapefile in the Add Data panel. And if you want to run a report on a shapefile you can use the 'Select by rectangle' tool.

24:31 **Emily:** What this tool does, is it allows you designate a data layer that you have turned on...and it does have to be turned on. So it allows you to designate a data layer and then it prompts you to draw a rectangle on the map. Any features that are in your designated layer, that intersect with the rectangle you've drawn will be selected and made a part of your area of interest. So, in order to do that you need to have your data layer turned on, which we do. We have our shapefile turned on. We also have this NHD catchment layer turned on. Then you need to select the 'Select by Rectangle' tool and expand the 'Choose Selectable Layer'. What's really, really awesome, is that when you manually add data layers, all of those layers are made available as possible designated layers, and they're always listed at the top of your list.

25:27 **Emily:** So I'm going to select this 'Potential Sites_PADemo' as my selectable layer. Then I'm going to draw a rectangle on the map. If my rectangle only intersects one of these polygons, then that polygon is going to be my area of interest. If I draw a rectangle and it intersects all three polygons, all three polygons are my Area of Interest even though they aren't adjacent to each other. And if I wanted to put a buffer. Let's say I did a buffer of 50 ft. That buffer is put around all three of those polygons. It doesn't go around the whole encompassing area.

26:19 **Emily:** The limiting factor for 'Select by Rectangle' is that it doesn't allow you to work with the NEPAAssist widget. So a lot of times I'll use 'Select by Rectangle' to run a Location Details Report and then I'll draw a rough polygon around some of these features and then run the NEPAAssist.

26:39 **Emily:** But then from here if I wanted to, I could run a location details report. We'll see if it works. Sometimes it takes a little bit of time. Even computers don't like mornings apparently. You'll see that it will survey all of the fields designated by the PA TAC team and it will tell you how many results are in these three features.

27:12 **Emily:** We have a little bit more time left, so I'm just going to show you, if you decide you'd like to run Location Details over something else, you can click 'Start Over'. That turns off my selectable layer and it clears my Area of Interest. I turned on the NHD catchments layer specifically because I think it works really well with the 'Select by Rectangle' tool. So if I select 'Select by Rectangle' again, I'm going to turn off that 'Potential Sites_PADemo' and I'm going to turn on the NHDPlus Catchments layer.

I don't know why this works the way it does, but you'll first see this NHDPlus_HR_NHDPlusCatchments' and you'll be tempted to turn this on and think, *I'm done. I turned on the data layer.* This actually isn't the correct data layer. You need to scroll down farther, and this is true for all states and select 'NHDPlusCatchments'. But if you can't remember the distinction you can turn on both of them and it's not going to hurt anything. But you do need to make sure that you have the 'NHDPlusCatchments' layer turned on.

28:27 **Emily:** And then from there, now I can draw a rectangle and maybe I want to try and get the catchments that all three of these polygons are located in. And that's really large so I might want to try again. There it's a little bit smaller. And then I can run the report on this specific area. I've tried to run Location Details Reports on a HUC 12 scale. I've also tried them on USGS Quad Maps. They do work, but it becomes such a large area that sometimes it works, sometimes the computer crashes, and sometimes even if it does work, you get so much information in the report that it can become kind of unwieldy. But I do really love how it works with the NHDPlusCatchments layer. So with that, I think I covered everything that I wanted to. I will stop talking and you can ask whatever questions you'd like.

29:39 **Ellen:** That was great Emily. Thank you so much. This is Ellen. I wanted to mention a couple of things. So some of you that have been on the WRR teams for a while might have noticed that we didn't really talk about the FindOps tool. You all know that one of the key purposes for the WRR is to collaboratively create those state-wide analyses that are the first layers in the WRR for wetland restoration, wetland preservation, riparian area restoration and preservation and one of those widgets is the FindOps tool. We talk about that tool all the time and I'm sure there are some videos at the website that cover that. So that's an important tool that we didn't cover today just because it has been covered so much.

30:30 **Emily:** And then the second thing that I wanted to mention before we open it up to chat, is that you saw Emily really dig into all of the great functions you can do at the WRR. As I was watching her work, I was thinking, you know, you all might want to have some very specific examples of how you would use this. And that's why we said earlier, Delaware is going to have some state-specific training where we're really going to dig into the layers, the basemaps, the tools that are at the Delaware WRR and give examples of how someone in Delaware might use that. We are happy to arrange that with all the other states. I think that it could be a really great follow-up to this great training that Emily's offered today. And with that, let's go ahead and open it up. Anyone have any questions? You can post it in the chat. I didn't actually see any as we went, so just giving everyone a chance to post any questions they might have.

31:41 **Unknown:** Ummm...the meeting chat is muted it says.

31:47 **Ellen:** Oh, I don't believe that I intended to do that, certainly. I have 'Allow Meeting Chat' is enabled, so...I don't know how that happened. We're having some gremlins.

32:16 **Tyler:** Looks like a couple of chats are coming through.

32:19 **Ellen:** Thank you, Tyler. I see that too. So it maybe...every once in a while I'll have a meeting where I'm not able to chat even though others are allowed to. I apologize for the person that maybe having trouble with that. It does look like some people are able to chat.

32:27 **Tyler:** Ellen it could be permissions from different agencies maybe.

32:44 **Ellen:** Yeah, I definitely see that several people are saying they are able to chat. So that's good. We're very happy to answer any questions if you wanted to email me as the meeting organizer, I'll share that with Emily and others, and we'll get you an answer for that. Actually, here's some great questions coming in. "How do we view metadata?" So, there's a couple ways to view metadata for us, maybe actually. So Emily did show how you can link to a service directory and that will show information about where that service is coming from and sometimes provides good information on the metadata. For

example, Emily, if you wouldn't mind scrolling to the very top. So she clicked on the link for one of the layers and it went to PASDA and so that service is being hosted by PASDA, and there's little bit of information on what that layer is and maybe where the data source came from. So that's a good first step. As far as more advanced metadata, I don't know that we have that right now, but maybe we can get that. I'm trying to think I need to get a little bit more details on that.

34:01 **Ellen:** Another question was about, "Could we demonstrate and use the NEPAssist tool?" We are having some trouble with EPA's servers this morning. I checked them in the last five minutes and they're still down so NEPAssist is a little bit hobbled right now. I think we might have a video that does demonstrate NEPAssist. Oh good, Emily's going to it now. So that would be another great tool if you wanted to see how NEPAssist works in the real world.

34:33 **Emily:** It's under Location Details. You can go to 'running NEPAssist'. You don't have to watch the whole thing because it is a long video. You can go right to 2:25. We also have a separate video on Location Details and the Select by Rectangle tool.

34:39 **Ellen:** Thank you, Emily. Those are wonderful. Emily and others have done those videos and we've got it bookmarked like Emily mentioned earlier. So you can go see the topic by name and then go right in the video to wherever it is that you're trying to see.

35:05 **Emily:** And we have it in the fact sheet as well, 'How to Use Location Details', and there's a section in the comprehensive User Manual as well. So, unfortunately, we can't demonstrate it because of technical issues, but we do have resources for you.

35:19 **Ellen:** Excellent. Another question I see coming in, "Are there layers in the WRR that show regional watersheds?" We do have layers. Emily, you might try to pull this up while I'm talking. So, we do provide access to the NHD watershed boundary datasets in the WRRs, all of them have those data layers. They're not true watersheds, but it does show you where the Susquehanna is and all that good stuff. If there is something more specific that you'd like to see in terms of regional watersheds, definitely reach out. This question came from somebody at PennDOT. So we've got a couple of people from PennDOT on the call and on the WRR team. You could go to Pennsylvania's homepage, get their names and just reach out to them if there's—again, if there are additional data layers you'd like to see in a WRR, that's fairly easy for us to do and if its useful to you, it's probably useful to others.

36:15 **Ellen:** We've got a comment. Jeff Lapp, who's really critical to the WRR. He's the Wetland's Branch Chief and he's been helping us get resources, both money and people in order to keep the WRR alive and he reminds us all that we're happy to give a presentation and tailor the WRR to work for you more. Thank you, Jeff. Did I miss any other questions? Great. We still have technically four more minutes. Christine, feel free to jump in if you'd like to say anything.

36:56 **Christine:** Thanks Ellen. I've been having internet issues, so I keep losing things.

37:02 **Ellen:** That's ok. And again, I just want to thank Emily. She's just been doing a wonderful job. Both working with MES behind the scenes to make the WRRs better, to improve the interface, to get better data layers, to ensure that the tools are working the way we hope, and she's been doing a super job at pulling these presentations together. We really appreciate Emily's expertise and time on this project. [Long pause] "Are you able to buffer linear features?"

37:41 **Emily:** Yeah, 100%.

37:43 **Ellen:** Yeah, that's great Emily. That's what I thought right away. So two things are inherent in this comment. "Are you able to buffer linear features? I.e., a shapefile of the utility alignment?" If you have a shapefile of a utility alignment that you'd like to look at, you definitely can upload that as a shapefile. But you can also draw features. Emily's going to do that now, where she's just literally, every time there's a vertex she plops down a left click, so she's just basically tracing and then boom there's a buffer. And you can set that if you want. Try a big buffer, Emily, like 500 feet? Very easy. I've been doing GIS for a while and when I started GIS doing this buffer would have taken you a couple of hours, so I'm always astounded, but there you go. There's your buffer. She did a 1,000-foot buffer. And when you run any of your reports whether that's NEPAassist or Location Details Report, it will be for that buffered area. So...thank you for that great question.

38:48 **Ellen:** We didn't talk too much about creating a shapefile because that's really a higher-level function that the WRR Interactive Map is not able to do. Maybe in the future someday. A lot of times you'll get a shapefile from an applicant because you two are working together to evaluate the permit area so if somebody sends you a shapefile, you can just zip it up and then you can add it as Emily showed earlier. Or maybe somebody in your agency or office might share a shapefile with you. So we just allow you it that once you have that shapefile with you, you can map it, but yes, I think taking a shapefile of different alignments even. you could have a single shapefile that showed five or six different alignments that you were thinking about. You can add that to the WRR and then you can really start exploring different basemaps. You could look at an aerial. If your state has it, you could look at color infrared. All kinds of great data layers, turning layers off and really use it to get a very quick sense of what's going on in that permit area.

39:59 **Ellen:** I think we are right at 11:15 which was our stopping point. So, thank you all for coming. Once again, shout out to Emily for a wonderful presentation. We are recording this, and we will have that uploaded fairly soon to the WRR, that is watershedresourcesregistry.org and you'll be able to see the video. And certainly, reach out to your state's teams if you'd like and anything that we can do to improve the WRR for you all is what we'd like to try to do. So thanks everybody. Have a great day!