USACE IWR

Moderator: Ellen Berggren
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Norb Schwartz: All right, we're going to get started. I'm Norb Schwartz. Welcome to another Sliver Jacket webinar. This session is being record and we will post this on the Sliver Jacket website, along with all of our other previous Silver Jacket webinars.   All right. You should be seeing, slide number - the intro slide on your computer. I have muted all of the phones.

If you would like to join the discussion or ask a question - join the discussion during or after, press star six. You're encouraged to use the chat box during the course of the presentation. As you have a question or you would like to chat, just pop it in and we'll address them afterwards. Please address the chat to everyone, not just the speaker, not just to myself. After the presentation, we're going to address the questions. So once again, I muted all the phones. If you'd like to ask a question or join press star six. I'll remind you after the presentation.

And, I have I requested one hour of continuing education credit to the Certified Floodplain Managers and they were nice enough to grant that. So after, if you participate in the entire session, and you're a certified floodplain manager, then you are welcome to send me an email with your request for one hour of continuing education credit.

And my email address is posted in the chat box if you pull it up. It's

Norbert.f.Schwartz@usace.army.mil. Ellen Berggren, the Deputy National Silver Jackets program manager, will introduce today's topic and the presenter. So Ellen, if you're set, I'll turn it over to you.

Ellen Berggren: Thank you, Norb. Can you hear me okay?

Norb Schwartz: Yes, I can.

Ellen Berggren: All right. Well, hello, and thank you everybody for joining us today to hear about the NOAA Office of Costal Management digital coast website. News this week of Hurricane Florence on the east coast and Oliva in the Pacific, highlight some of the coastal management challenges in our nation. Population density in coastal counties is significantly higher than other counties in the United States.

Combined with projected sea level rise increases and increased hurricane and storm intensity, managing the risk of coastal hazards can be daunting. The digital coast website provides some of the tools necessary to help identify and manage these risks. Available data sets range from economic data to satellite imagery. The site also contains visualization and predictive tools, and tools that can make data easier to find and use. Kristin Ransom, a coastal management specialist with the Baldwin Group at NOAA's Office for Coastal Management, will be walking us through the website.

Kristin is a site liaison with the coastal zone management programs in the Gulf of Mexico and supports the national estuarine research reserve systems coastal training programs. In this role, she works on a wide range of issues including coastal resilience, coastal planning, and public beach access. Kirstin, thank you so

much for spending the afternoon, or this hour with us and sharing your knowledge about digital coast. So if you are ready, we'll turn it over to you.

Kristin Ransom: Thank you so much, Ellen, and you covered actually about half of my presentation in your intro, so thank you. I love it. It gives me more time to play with some of the tools with you guys. So good afternoon everybody. My name is Kristin as Ellen said, and I'm with NOAA's Office for Coastal Management. The Office of Coastal Management, in case you're not familiar with us, we are housed within NOAA's National Ocean Service. And we're the office that's responsible for implementing the coastal zone management act.

Our mandate under the coastal zone management act is to assist the coastal states in managing the coast for, if long term protection in the development and responsible use of the nation's coastal resources. And, so the way that we do that is we bring science-based information to bear to our coastal partners in order to help them make those decisions. So I know some of you may not be focused on coastal areas or are actually in coastal areas at all, so I just wanted to give you a quick little tidbit about why the coast is so important.

If you look at this slide here, we have the shoreline counties in the United States make up less than 20% of the total land area. But homes, over 50% of the total US population. And, you know, when you're talking about a small area to manage and a lot of use conflicts that can arise with over half the population in the country wanting to do all kinds of awesome things in the coast, we get some use conflicts that coastal managers have to address.

And, on top of that, we are facing unprecedented coastal hazards and risk. So we are, we've got a lot to deal with, so we are trying very, very hard to help our partners make those decisions that they need to make. We also the coast is an economic

driver for the US. We generate along the coast, in 2013, the US coastal shoreline counties produced 54 million jobs and 7.6 trillion dollars in gross domestic product.

That's nationally, but, I mean, I work with. I am based down in the Gulf of Mexico, and I work with communities where their entire counties' economy is based on tourism and recreation or some piece of coastal economy. So it's incredibly important. So our partners are working with a ton of different factors coming at them all the time trying to make all of these great decisions. And when I talk about our partners, I just wanted to give you a little sense of who I'm talking about.

So we at the office of coastal management in our role and our mandate under the coastal management act work with what we call our keystone partners which are what we call the state coastal zone management programs. And, the national estuarine research reserve. So the state coastal management programs are state agency programs that implement the coastal zone management programs in their individual states. And the national estuarine research reserves are areas within coastal county or coastal states that have been set aside for research, education, and stewardship.

And these are estuarine areas that are very often pristine and under federal protection. So we also deal with a ton of other folks as our partners as well, which we're going to go into some of the partnerships with the digital coast. But, our partners, we work with cities and counties and non-profits and other federal agencies. So we've got a big audience. And, for those folks, we are, you know, looking at some of the barriers that they face when they're trying to make some of these decisions.

Our mandate is to enable decision making that allows for the protection and responsible development of the coast resources. So that's a really tight wire to walk. You know, you want to protect some things, develop others. And, you know, tons of conflicts and how do you make those decisions. And some of the reasons why they're unable to make these decisions as well as you possibly could or make it harder is the lack of coastal data. Data integration and accessibility. So when there is data, is it in a format that you can use, and can you get your hands on it.

Having to deal with all of the intergovernmental coordination that is required. When there are products that are developed for coastal management decision making, they're usually incredibly complicated and hard to use. And, you know, if you don't have a CIS master's degree, you're very often unable to use them. The lack of relevant training as well as the inability in both time and capacity to do both outreach and awareness.

So about 11 years ago, our office got together and said, well, what can we do to address some of these barriers. And this is where the digital coast came from. So the approach to digital coast was to bring our geospatial expertise and community, and the coastal management decisions makers together so that they could work together to actually develop useful tools to make coastal management decisions. And so you know our outcomes that we were hoping for from digital coasts is an outcome that is constituent driven.

A platform that actually enabled decisions to be made and a platform that actually gets used. We don't want to develop something and then have it sit on the website and no one actually uses it. So we wanted this place to be, you know, a place where you can get resources that will really help you get your job done. And so when we say constituent driven, we mean that we want the people using our tools, or the people that we intend to use our tools, to have a say in how

they're developed and what tools are developed. And the way that we achieve this is through our digital coast partnership. And so you'll see here are a list of our digital coast organizations. Many of which you are probably familiar with.

These organizations have representation on the digital coast partnership. And basically, they are the groups that are responsible for vetting everything that we do through digital coast. Digital coast, anything that gets developed. Anything that gets put on the website. The training resources. All of these ideas that we have through OCM are vetted through the digital coast partnership to ensure that they will be useful for their members. You're seeing here a bunch of national organizations. Our office is distributed regionally.

And very often, we are also on the ground working with the state chapters of many of these organizations as well. So you know, we are consistently interacting with our digital coast partnership and making sure that, you know, we're doing demos in places that need them and developing tools that are going to be useful. And so when I say we have tons of stuff, it's not just OCM resources. We rely on our partners to get all of this data in digital code. So you're seeing here a sample of the contributors to digital coast. We have a lot of federal folks, state folks; we have academic resources that are developed.

Non-governmental resources as well as private sector resources as well. So if it's cool, we'll take it and probably put it on digital coast. Okay. So I titled this presentation, "More Than Just Data". But, what that means is that digital coast is traditionally known for the data repository that it has. We have more than 110 terabytes of high resolution elevation data, land coverage data, as well as ortho imagery. 600 plus data sets that have image services, as all of that data is downloadable. So all of it is free, you don't have to pay for a piece of it,

and all of it you can download into your own GIS, your own programs and use them locally.

But, we also have web mapping services that allow you to pull a lot of that data in without having to download it yourself. Which makes data integration that much easier. And we also have 39 national level land cover and land cover change datasets. So that is a ton of data that we have available. And it's all free for you to use. We take the data that we have, both our data and partner data, and use it to make decision support tools that are tailored for our coastal managers.

So what you're seeing here is just a quick selection of some of the tools that we have. I'm going to show you a couple of others. But, these are tools that range from generating simple informational PDFs to tools that have high resolution visualization and analysis capabilities that are very often taking away the need for having a local GIS system and actually allow you to do a lot of that work online. We also do training. We have a cadre of high skilled trainers as well as instructional design experts that work to put together impactful training to increase capacity of coastal management community to engage in the issues that they're concerned with.

We have topical trainings, like our climate adaptation for coastal communities' training. And then we also do really interesting process trainings like such things like planning and facilitating collaborative meetings and strategic planning. And these trainings range in format from in person multiple day training to online courses, videos, and downloadable job aids. We call all of the digital training resources our digital coast academy. And as I mentioned, with the downloadable data, everything in the digital coast academy is free. Even the in-person training.

So we also at OCM have a strong focus on peer to peer learning. We have a strong network of coastal managers that we work with. And the best way for them to sort of decide if an approach is right for them is to actually hear about someone else who did it. So we spend a lot of time collecting stories from across our partner network. Develop a library of case studies that really show how folks did something and what the outcomes were. So we have over 120 stories highlighting activities that happened at various places across the country.

And, it's just a really great resources to actually see what the innovated approaches our partners are taking and to figure out, whether or not, one of those may be right for you. So we also have a topics page. And this is one of the newest additions to the digital coast. But, our topics page is a place where you can go to see all of the digital coast resources that are available around this specific topic. You know, I had that slide that showed you all of the data that we've got and all of the tools, the training, and it can be a little overwhelming to go on to the digital coast and just be like, I'm interested in flood risk.

So we created these topic pages to put the information you need about some of our most pressing topics as your fingertips. You know, these are, the slide here shows all of the topics that we have. And, you know, it's a great snap shot of the most pressing issues that our coastal management partners are dealing with right now. And, I hope that you'll actually see a connection to some of the work and issues that you're dealing with right now as well.

So if you, and we're going to take a look at a topics page in just a little bit, but you'll be able to see, that if you click on one of these topics, it will take to all of the resources and data that are available to address that particular topic.   The digital coast, as I mentioned, can be a place to go to get a single resource. And it's really useful for that. But ultimately, we want the digital coast to be working as a platform for enabling decision making.

We have resources at every point along that decision-making continuum. And all of our decision-making resources point back to one another allowing you to continue getting things that you need as you're moving through the process of making a decision. And, you'll see that as we walk through some of the tools. But, what you're seeing on this slide here, and I'm not going to walk all the way through it. But, what you'll see here is sort of the description of what you may be doing at the, every step along the way of making a decision and how digital coast can help you.

All right. So I have talked a ton about digital coast. And some of the resources that we have. But, I want to show them to you instead of just talking about them. So the first one that we're going to start with is a tool called Gulf Tree. And, as I mentioned before, we develop tools, but we also host tools from our partners as well. And this is an example of one of those. It's a tool developed by the northern Gulf of Mexico Sentinel Site Cooperative. And, this tool, and hopefully this will make you all laugh the way it did me. It's a tool for finding tools. Essentially.

They built this tool to help folks who were having a really hard time finding what decision support tools to use for particular topics. So I'm going to go ahead and pull this up and you should be seeing my browser pop up. And, what you're looking at here is the landing page for the resource on digital coast. You'll see up here at the top, where I was talking about. Oh, you actually probably are not seeing it. There you go.

Norb Schwartz: We don't - there we go. We see it now.

Kristin Ransom: Sorry about that guys. So you should be seeing here where it says about, and data, and tools, and training. These are all the sections that I just went through

in my presentation. That stays permanently on every single screen, so you can always get back to those things if you're looking for them. You'll see the geography that it pertains to. And this tool, unfortunately right now, is only in the Gulf of Mexico.

We're building on out in the West Coast. And there's some conversations about building them in other areas too. So stay tuned on this one. And you can see the time commitment. This is one of my favorite pieces of information on the digital coast landing page. It tells you how long it will take you to go through it. So you know, you can really get a sense of what you're getting into. And then it gives you an overview and some of the features. And then a big green launch button to actually get you into the tool. So we're going to do that. Click the launch button.

It's just letting us know that we're going to an external tool. And I'm going to try and get things - sorry folks. I'm out to (unintelligible). All right. So here, we have what we're calling the Gulf Tree. And so this is a decision support tool designed to help you identify the best climate tools for your needs. And so what we're going to do, is this has a really cool guided search function that lets you answer a bunch of questions and then figure out, it will spit out what tool might be useful for the question that you're trying to answer. So here, you're seeing 109 tool matches.

This is telling you, there are 109 tools in our database and right now all of your selections have matched you up with one. Say I'm interested in looking at flood hazard vulnerability. So I need a tool to identify my vulnerability. So I'm going to click that and then I'm going to click submit. And, so I'm interested in flooding, of course, but what kind of flooding am I interested it? But let's say, you know, I want a little bit about sea level rise as well as I'm dealing with some nuisance flooding.

And, I'm also really interested in not just where it's going to flood, but who is in the way of those flood waters. So I want to click social vulnerability as well. So I'm going to click submit. And, like I said, this is based in the Gulf of Mexico, so I'm just going to choose a quick little, the shoreline counties in Texas. I am incredibly busy. So I've got low level of effort that I'm willing to out into it. I want something that's going to be easy. And I'm also we have a balanced budget and have no more pennies to spend on fun tools. So I need it to be free as well.

All right, so you can see here that I have, instead of 109 tools now, I have six tools that match the criteria that I set. So I'm going to go take a peek at them. And, this tells you whether or not it's a visualization tool, whether it's a decision support tool, or whether it's say a model that you can download and run on your own. And you can see all kinds of neat tools. And it pops up a little screenshot of what it looks like. You see the NOAA sea level rise viewer here. Surging seas.

Risk finder and risk zone map. That's actually a tool form climate central that's one of our great partners. And, over here, you see the coastal flood exposure mapper. So I'm seeing a description that's easy to use and interactive and county level. And I'm like, that sound awesome. So I'm going to click on that and it gives you a nice little overview sheet. Very similar to what's on digital coast.

About, what this tool does and who it's for. What its strengths and limitations are, and any publications that people have used this tool in. And So I have this great button that says get tool. So I'm going to click on it. And, it takes you right back to our digital coast landing page for the coastal flood exposure mapper. So yes. I'm going to try and keep an eye on the chat box. I have a question that says is Gulf Tree only for the Gulf of Mexico? It is. But, as I mentioned, we are also looking at expanding it to other areas. So stay tuned.

All right. So we have now taken step one and decided, well, I'm going to go look and see if there's a tool that might help me with my questions. And now I'm going to go and actually try and map out something. So for this example, I am going to be someone in the city of Charleston who is looking at some flooding issues around a hospital. So I'm going to launch the coastal flood exposure mapper and hope that something in there has something that will help me as I'm trying to make this decision about how to protect the hospital from flooding.

So I am going to click start collecting map. So the coastal flood exposure mapper is a tool that is developed by our office. And it is based on a training that we developed called a road map for adapting the coastal risk. And it really is about helping you get discussions going about hazard vulnerability in an area. And it allows you to generate maps that actually allow you to highlight the topics that you're talking about. Before to jump into the tool, one thing I want to point is this button down here that says FAQ.

I'm going to click on it and that's going to go to a frequently asked questions document that we have developed for every single tool in digital coast that OCM has developed. And it answers all kinds of questions about the tool and the tool development. So we rely on this very heavily when we are trying to demo a lot of these tools. But, it answers questions about scale and boundaries and where the data comes from and how to get the data.

So if you are interested in a tool, I highly recommend you going over to the frequently asked questions page as well. But, we are going to go ahead and start working on the tool. And we have a disclaimer here that essentially says that the data and maps in here are, it's to show you the scale. We're not showing you what exactly is going to happen. And, we can't account for everything, so don't make any legal decisions based on this tool. Use it to plan.

So we're going to go ahead and accept that disclaimer. And so this is one of those tools that I mentioned is an incredibly powerful visualization tool. So that can be a little bit overwhelming when you're first jumping into it. So you can see here that we have a little bit of a reminder that, if you're a first time and you don't quite know where to get started, we've got a little bit of a nudge for you to start here at flood hazard. But, this tool will help you walk through the flood hazards that are present in your community. It will also show you societal exposure.

So who is in your community that's exposed to these flood hazards. What infrastructure is exposed as well as your ecosystem. And so it gives you a really good description underneath each one of these about why these are areas that are important to be mapped. And look at when you're planning to address coastal hazards. But, I'm a first-time user so I'm going to go on over here to the flood hazard. So what you're seeing pop here is the coastal flood exposure mapper.

I'm going to come over here to select the location, but you can also just zoom right on in. So I'm going to select, we're going down to Charleston. So I'm going to select Charleston County. You can see here that it's rendering, and we are going to go right on in to this little area right here. And, what you are looking at, this big crazy blob of yellow and red, is what we call our coastal flood hazard composite layer. And, this is a layer that combines all of the flood risk from these flood risk layers that we have over here.

So high tide flooding. These are your king tides and your nuisance flooding. Basically, low lying areas that flood very often during high tides. We also have included the FEMA flood zone here. Storm surge, so this is information from the national hurricane center as well as sea level rise inundation. And this is a layer that we have developed in our office. Which is used in the sea level rise viewer. So

the coastal flood hazard composite layer is actually a layer that combines all of that and tells you how at risk you are of all kinds of flooding. And so if you're looking at the legend here, the darker red colors, you are at risk of more types of flooding.

And, the areas that are in yellow are less flooding. If you wanted to look specifically at, let's say, we know that we're, Charleston is low lying. A ton of people know this. So I'm not going to looks specifically at flooding. I want to look at a really specific type of flooding, storm surge. I'm really worried about what's going to happen when say, the next Florence rolls through. Or, this Florence rolls through. So I have turned off the coastal flood hazard composite layer and have turned on the storm surge layer.

And, if you want a little but more information about what the storm surge layer is, you just click this little information button right here and it pops up a description of what the layer is. It tells you it's from the national hurricane center. It uses a model called slosh and it tells you how things are developed within slosh and it gives you a neat little connection to a video if you are not super familiar with storm surge, so you can click that. This goes back to digital coast and you can play that video about storm surge.

So this is what I mentioned when we referred back to tons of different things. It's built all throughout these tools. If you were to take a peek at the sea level rise one. It tells you about sea level rise the same way the storm surge one does. And then it says, if you're really interested in sea level rise data, why don't you go visit our sea level rise viewer which is another tool that we have. So again, connections all throughout. So but right now I'm just going to turn on that storm surge layer here.

And I'm going to turn to opacity down a little bit, so I can sort of see what I'm looking at. And we're looking at this census block area here. So I can see that, I'm going to turn our legend on. And, under storm surge scenarios we're looking at flooding from just a category one storm surge. So that's pretty low. You're going to get flooded pretty much every time a storm comes through at this elevation. So we know that this area is going to be a concern for us. But, what does that mean for the people here? So I'm going to come up here, and we're looking at our flood hazards.

And I'm going to drop down to societal exposure. And, what this allows you to do is actually looks at layers based on different types of societal exposure. So we've got population density turned on right now. And, you can again hit that information button and it tells you a little bit more about what those layers are. We also we have census block data on elderly population that's in the area.

The number of people who are employees that work near coastal flood zone areas, as well as the number of people that are in poverty. And so for this exercise, I want to take a look at the number of elderly in the area. So I'm going to toggle that on. And you see this layer come up and the legend shows you that the darker blue is 25% or more of the population is over 65. Or 65 and older. And you can see the lighter it goes, the less percentage of the population is that.

So when we were looking at our flood exposure a little bit earlier. That has not moved to right here. So right now, we're not looking at any flood layers, but I'm going to turn that storm surge layer back on, and it will put it right over where we were looking at before. Let me try and get the opacity back. Okay. So if we turn it off, we can see that this area here, this area here, we have a lot of folks in this area that are over 65. So these are some folks that we're going to be a little worried about being able to get out of the way of a storm surge scenario.

And, remember, we are looking at storm surge from just a category one hurricane. So those are some folks we want to worry about. And so we also can look at infrastructure exposure. So we can look at areas of development. So this will show you high intensity development. Low intensity, medium, and developed open space. It will also show you development patterns. And so this will tell you areas based on our land cover data, areas that have been converted from one type to another.

And it will also show you critical facilities. And so this is what we're going to work with today. And, what I wanted to look at, is this right here. We're going to scroll in a little bit more. And So I'm looking at this little hospital right here. Because, if you remember, all of this area right here, we were looking at populations that had a significant number of elderly folks. And, we're looking at an area that has really, really strong impacts from storm surge. And so actually, you know what. It's this top bullet I wanted to look at. So this hospital right here is likely going to be serving these folks here during a disaster or an emergency.

And so as we are looking at this, we're going to turn that storm surge layer back on. And sometimes the capacity goes a little wonky. So I apologize guys. I'll try and turn this - that's not going to work. I'll just flip this on and off. All right. So we can see that the hospital is also in the way of some pretty significant storm surge. So I am with the city of Charleston and I'm like, I'm looking at this. I've got some money to spend on some infrastructure improvements, and I am trying to go all right.

So I've got this hospital that's serving a vulnerable population that I want to make sure are taken care of but it's at risk for flooding as well, what do I do? And so this is where you can use these maps that we've developed. So we'll turn this back on. I really wish the capacity was working. But, you can actually save the map.

And so what it will do, as you're going through and generating all of these different maps for areas that you're concerned about, you can save them and then it just generates individual links as well as a place where you can print the maps out.

So if you are wanting to generate some discussion about options that you may develop based on your analysis of the vulnerabilities here. You can actually print those maps out and take them with you and say, help looks guys. I've got I did this work. I know, I've researched what the vulnerabilities are and here, I can show you. There are also tips for how to use those maps in your area. So it gives you tips on how to engage with stakeholders. If you're planning a meeting to talk about options, you know, who do you need to include in that meeting? And, do you need some help doing stakeholder engagement, because we've got ideas on that.

We've got discussion questions here. So a lot of really great resources for actually taking the maps that you generate and then taking them out into your communities to view some additional planning. If you go to resources here, we also have resources that you can access for conducting vulnerability assessments, talking about fold risks, and reducing flooding using natural infrastructure. And that directs you to our topics page. And then, also as I mentioned before, we have case studies where we have collected stories about how people have used these things and put them in a format that's really great to access for peer to peer sharing.

And so you'll see, these all go back to digital coast. But, we want to make sure that our resources that are in digital coast are served up to you in as many ways as possible so that you can access them as you're moving along that decision-making continuum. So we have done the analysis part. We've used gulf tree to find the tool and we've used the tool to sort of look at some of our

vulnerabilities. And, we know that we need to address this hospital. So what do we do next?

I am going to then take us over to, and, sorry. I'm flipping between screens here. So you are now going to be trying to figure out what the heck your strategy is going to be, right? You know you need to address this hospital. You know you need to do something, but you're not quite sure what that is. You're, you know, not as well versed in what all of the various strategies for adapting the coastal hazards actually are. Luckily for you, we have a topics page on that. And so I'm pulling that up now.

So switching to a new screen, so we're going to come over here to our adaptations strategies topics page. And what you'll see here is adaptations strategies for all kinds of things. We've got training under the getting started. So it really walks you through all of the different steps. We've got getting started. So you've got training on adaptation planning. You've got green infrastructure. A publication on adapting the climate change. You know, a quick reference on shoreline stabilization.

Green infrastructure practice and benefits. And so I am sitting here thinking about this hospital that I need to, you know help protect from storm surge and I am like, you know, I've heard some rumblings about this green infrastructure and low-impact development stuff. So I don't really know much about it, but I see that here and so I'm sort of curious. So I'm going to go ahead and view that green infrastructure practices and benefits, quick reference. And so this is part of that digital coast academy.

But, this just pulls up a quick reference that we've developed to talk a little bit about green infrastructure practices. All the different types of green infrastructure that exist. And, you know, sort of what scale they're at. What context you might

use them in, and some different types of examples. It will also show you
some of the different ways in which green infrastructure can be useful. So
water and storm water management. Cultural benefits. Protecting Indian
mounds, which is a project that we have going on right now.

So you're like, well this is neat. Maybe green infrastructure is the way that I want to go. But, I
don't know anything about green infrastructure. I know enough to maybe be
dangerous and recognize that this might be a useful strategy for me to take,
but I really need to know more. Luckily, we serve up all of the training
related to this topic. So I'm going to go ahead and click see related training.

And, it'll tell you everything that we have training wise that might be helpful for looking at green
infrastructure. And so if you hover over these little icons, it will tell you what
type of resource that is. So we've got a bunch of publications. Here's that
quick reference. So I really need someone who knows their stuff to come in
and talk to me about what green infrastructure is. So I'm going to scroll
down, and I see this classroom, instructor lead, introducing green
infrastructure for coastal resilience training, which I am super interested in.

So I'm going to click on that. And then this is going to take you to a course that we have. And
this is a classroom instructor lead course. So this means somebody comes in
for an entire day to give you a training about green infrastructure. We very
often offer continuing education credits for our trainings that we do in person.
And you can see from the course description what you'll be talking about.

You'll see that you're going to learn about green infrastructure terms and concepts, which is
awesome because that's what you're looking for. You'll also get a chance to
connect with local green infrastructure activities and experts. Which is really
great, because, you know, very often, if you get a training, like, you'll get
someone from Wisconsin trying to tell you how to implement a green

infrastructure project in South Carolina, which, very often, isn't that helpful. So you'll get that really great local perspective.

You get six hours of credits from the American Institute of Certified Planners. And then you can see, like, you're really jazzed about his training, right? So I sort of want to go to this. And you can see the upcoming offerings here. So you've got it happening at (unintelligible) reserve in Texas. And, if you're in South Carolina that's a little far. So I'm going to go check out the full training calendar to see if it's coming anywhere else any time soon. Which would be listed in that upcoming. But, you can also see that there are a ton of other trainings that are coming.

So if you're interested in all the different trainings that we have ordered, you can go to that calendar there. But, I'm going to pop back over to that green infrastructure training. And, while I'm doing that, I want to ask if the website is used at the university level to education water, resource, or planning students. And, yes, it is. We have a lot of folks using all of these resources at various academic levels. We have a…

Norb Schwartz: Kristin, that's really Norb Schwartz asking the question.

Kristin Ransom: Okay Norb, sorry. So we have been working on digital coast for about 11 years. We had our 10th anniversary last year. And, to date, we have about 120 tools included in the database.

All right, so nobody is doing green infrastructure anywhere near me. So I am going to bring green infrastructure training to myself. So I'm going to click this "host the course" button. And, what this does is allows you to request a training in your location. So you'll pop in your information.

And then, what will happen is one of our trainers. We have three trainers who deliver this course will get in touch with you and say, awesome, we're super excited that you want to host our training. Let's figure out where and when. Let's figure out what works best for everybody's schedules. And then, it's up to you to put the people in the seats for the training. We generally ask about 25 people per training. But, we'll come for less sometimes. But, 25 is sort of what we're looking for.

But outside of putting the 25 people in the seats and like, possibly doing refreshments, that's all you have to do for the training. There's not cost associated with the travel for the trainer to come to you. We provide the materials. And for this one, you would also want to help us identify some of the local speakers, but we handle all of the logistics of that one we know who the speakers are. So this is just a great resources.

I'm sure that a lot of you know that you could pay thousands of dollars for bringing in these types of courses, and every single in person training that we have is free. So I urge you to take a look at our catalogue and see if there is something that might be useful to you and bring it to you. Because, it, they're just such an amazing resource. So we've got our green infrastructure training requested. And So I'm sitting in the green infrastructure training.

And I learned about really neat stuff related to living shorelines and, you know, I'm sitting here in this course thinking, so I saw this example about how a living shoreline project actually helped protect from infrastructure in North Carolina. That's an example that we use in this training. Well, if you're sitting in here and you're going, well, that's super cool. I would really, really like to be able to do something like that.

But, I sort of want to see how that works in some areas. You would then go to one of our stories from the field. Which I am pulling up now. And this link here, so what you're looking at is what one of the stories looks like. So sharing green infrastructure solutions with residents and business owners in Ohio. Well, that sounds kind of interesting. That's some of the stuff I'll have to be working on because the hospital's a privately owned hospital so we've got to get them on board.

And we've got to get some of the business owners in the area okay with us actually installing something like this. And so you can see here, that the city of Toledo, Ohio, flooding is a common occurrence. So you see what their issues are. You see the process that they went through to actually get to the decision to use green infrastructure, and it shows you the impact. And you can actually access the resources that they used in that particular project. It gives you a link to all of the additional information.

And it just tells a really great story about how another community did something similar to what you're thinking about, so it might lessen sort of the barrier to actually getting to make that decision, right? If you can see that it happens in a place, then that makes it a lot easier to make that decision. Then you also see here, as I mentioned, literally everything connects back to other resources that we have available. So that is really it. That's sort of how I wanted to take you through some of the tools that we have available for making decisions.

And So I just wanted to show you the end and give you the link to digital coast. Just coast.noaa.gov. At digital coast. And if you have questions about anything that I talked about, or just in general after you've dug through digital coast, you can email coastalinfo@noaa.gov. That just goes to, that's our general email address and then they funnel the emails out to the most applicable

person. Or, if you don't want to send an email to a nameless, faceless email, you can email me directly.

You've got my email address there and I can direct you to, I can answer anything or if I can't answer it, which sometimes is the case, I can send it out to the person who is the best point of contact for you. If you're interested in sort of following up with what we're doing, you can find us on Facebook at NOAA digital coast. Or on Twitter at NOAAdigcoast. We do a lot of social media engagement there and we also post a lot of stories.

Some of the stories from the field and our impact stories from the states go up on our social media age, so you can get access to those pretty quickly. And, we do a lot of great little regionally focused stuff. We just recently partnered with the NOAA marine debris program to talk about the work that we've done together. So if you're curious about what digital coast is up to and what the office of coastal management is up to that's a great way to find it. So with that, I just wanted to stop. We've got about 10 minutes for questions, so I'd just love to open it up for any questions.

Norb Schwartz: Kristin, that was fascinating. Before we start the questions, so let me turn off the recording. Just hold on please.

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