The NYS Climate Impact Assessment: An Introduction for Municipal Officials
Tuesday, June 4, 2024, 1:00 pm – 2:20 pm

Hudson River Estuary Program
Conservation and Land Use Webinar Series

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Ingrid Haeckel (she/her) 00:04:29.560 --> 00:04:49.800
Good afternoon. My name is Ingrid Haeckel and I'm Manager of the DEC's Hudson River Estuary Program. Welcome to the conservation and land use webinar series. Today's webinar will provide an overview of the recently released New York Climate Impact Assessment and its major findings with an emphasis on ecosystems, rivers, and water resources

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Ingrid Haeckel (she/her) 00:04:50.160 --> 00:05:10.440
In the Hudson Valley and Catskills. We'll hear about and learn about the updated regional climate projections and reports and resources available in the assessment, and we'll also hear from Hudson River Estuary program staff about how we're helping municipalities and organizations to advance climate adaptation and

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Ingrid Haeckel (she/her) 00:05:10.520 --> 00:05:25.320
And resilience actions. We are very pleased to have Amanda Stevens of NYSERDA with us to present the assessment as well as two of our own staff. Christine Vanderlan and Neil Bettez, and I'll introduce them further in a moment.

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Ingrid Haeckel (she/her) 00:05:30.080 --> 00:05:50.080
So first, just some webinar details for those of you who may be new to Webex, if you're having difficulty with the audio connection through your computer, you can choose to switch audio by clicking on the three dots next to the red exit button at the bottom of the screen, and there you'll see options to call invite, by

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Ingrid Haeckel (she/her) 00:05:50.320 --> 00:05:52.120
phone or to receive a callback.

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Ingrid Haeckel (she/her) 00:05:54.840 --> 00:06:14.280
If you need any help, please reach out to us using the chat icon that's in the bottom right corner of the screen. And if you have questions for the speakers once we get started,

please use the Q and A function, and if it's not open already, you can find Q and A by clicking on the three dots next to chat in the bottom right corner.

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Ingrid Haeckel (she/her) 00:06:15.400 --> 00:06:34.040
Note that your phone lines are muted, the webinar is being recorded and we will notify you when the recording is available. It will be posted on the conservation and land use webinars web page, and we all will also be sharing the PDFs of slides presented in today's programs with people who've registered after the event.

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Ingrid Haeckel (she/her) 00:06:35.200 --> 00:06:52.360
At the end of the webinar, we kindly request your feedback through a short survey that will pop up and lastly for those of you seeking municipal training credit, you will receive an automatic email confirming attendance from Webex, received at the end of the program. It should arrive around two thirty p. M.

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Ingrid Haeckel (she/her) 00:06:55.480 --> 00:07:15.600
The Hudson River Estuary Program is a special program at the New York State Department of Environmental Conservation that helps people conserve, restore, and enjoy the Hudson River and its Valley. We work in the county's bordering the tidal Hudson from New York City Harbor to Troy to achieve many benefits including fish wildlife, and habitats.

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Ingrid Haeckel (she/her) 00:07:16.080 --> 00:07:33.520
Clean water, healthy streams, conserve natural areas in the watershed, climate adaptation, education, and access to the river, and you'll hear more about how our teams are working with communities to help deliver these benefits in the second half of the program.

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Ingrid Haeckel (she/her) 00:07:37.160 --> 00:07:55.640
Our next webinar will be on June twentieth and we'll continue on the theme of climate adaptation presenting work through the climate adaptive design studio and sharing a new CAD Hudson Valley regional lookbook based on CAD projects. The CAD

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Ingrid Haeckel (she/her) 00:07:55.640 --> 00:08:15.720
Studio is an academic design course at Cornell University that works in partnership with the Hudson River Estuary program and Hudson riverfront communities since twenty

fifteen, linking students and host communities to explore design ideas for vibrant climate- adapted waterfronts. The lookbook outlines the CAD studio process,

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Ingrid Haeckel (she/her) 00:08:16.360 --> 00:08:36.200
introduces resilient waterfront design principles, and shares adaptation resources, and it’s intended to support conversations about climate change, inspire action, and assist Hudson River communities in moving toward greater resilience. And this webinar will be presented by Josh Cerra of Cornell University

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Ingrid Haeckel (she/her) 00:08:36.800 --> 00:08:56.960
Department of Landscape Architecture and Liz LoGuidice of Resilience Communications and consulting. So with that, I'm very pleased to introduce our speakers, Amanda Stevens is a senior project manager at NYSERDA, in the environmental research program, and NYSERDA is New York State Energy Research and Development

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Ingrid Haeckel (she/her) 00:08:57.120 --> 00:09:17.320
Agency or authority excuse me, there she manages the program's climate change, impacts, and adaptation research projects. She spearheads New York's statewide climate change impacts assessment, which was released earlier this year and that we'll hear about, and she has been with NYSERDA since two thousand six and has a bachelor's degree in.

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Ingrid Haeckel (she/her) 00:09:17.560 --> 00:09:37.960
Geology from Hartwick college. Christine Vanderlan is a conservation and land use specialist with the Hudson River Estuary program through a partnership with Cornell University. She joined the Estuary program following eight years with the Columbia Land Conservancy, where she led the community planning and engagement program. Christine earned a master.

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Ingrid Haeckel (she/her) 00:09:38.240 --> 00:09:43.360
of science in biodiversity conservation and policy from the University at Albany.

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Ingrid Haeckel (she/her) 00:09:45.080 --> 00:10:05.520
And Neil Bettez, He just joined the Hudson River Estuary program staff a month ago as our new climate resilience program coordinator. Prior to this, he served as the town

supervisor in New Paltz for eight years and brings in-depth experience in local government, planning, and community engagement. Neil is an ecosystem

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Ingrid Haeckel (she/her) 00:10:05.680 --> 00:10:25.520
ecologist by training and has held positions as a post doctoral researcher and visiting scientists at the Cary Institute of Ecosystem Studies since two thousand nine. He earned a PhD from Cornell University and has conducted research on urban ecology and nitrogen cycling, and he's excited to join the program and

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Ingrid Haeckel (she/her) 00:10:26.080 --> 00:10:40.800
help bridge science and policy to advance climate adaptation and resilience work with Hudson Valley communities and partners, and we are thrilled to have him, so welcome Neil. Alright, Amanda, I'm going to stop sharing and.

21
Ingrid Haeckel (she/her) 00:10:42.600 --> 00:10:45.400
Can go ahead and put up your slides and thank you so much for joining us.

22
Amanda Stevens - NYSERDA she/her 00:10:46.600 --> 00:10:50.320
Thank you and thank you very much for, asking me to be here.

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Amanda Stevens - NYSERDA she/her 00:10:53.000 --> 00:10:54.040
The right thing shared here.

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Amanda Stevens - NYSERDA she/her 00:10:56.520 --> 00:11:05.080
I'm really excited to, to be here and to be talking with you all. Thank you all for taking the time to be here with us.

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Amanda Stevens - NYSERDA she/her 00:11:07.000 --> 00:11:07.600
So I'm going to.

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Amanda Stevens - NYSERDA she/her 00:11:09.120 --> 00:11:22.360
Start just talking about what the assessment is to give you a sense of what it what it entails, how it was developed. I'll spend quite a bit of time walking you through the website. There's a lot of information.

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Amanda Stevens - NYSERDA she/her 00:11:23.800 --> 00:11:32.560
And there's, a lot on the website, so I'll kind of walk you through where you can find the information that's there. And I'll just spend a little bit of time.

28
Amanda Stevens - NYSERDA she/her 00:11:33.880 --> 00:11:49.600
Highlighting some of the results. There's, there's a lot of results, obviously, so I'm not gonna, not gonna delve into everything, but I'll just give you some snippets of things that might be of interest to your regions, and direct you to where you can find more.

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Amanda Stevens - NYSERDA she/her 00:11:51.480 --> 00:12:11.400
So the assessment itself was really looking at how climate change is affecting and will affect everything about New York communities ecosystems, our infrastructure, in industries and economy. It was really, you know, it's focused on the science and the information that's out there.

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Amanda Stevens - NYSERDA she/her 00:12:12.280 --> 00:12:22.560
And it's looking at, again, how climate will change, how those changes will impact the state and how we can prepare and adapt for those changes. So it's not focused on

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Amanda Stevens - NYSERDA she/her 00:12:24.000 --> 00:12:34.680
greenhouse gas mitigation or reduction of emissions. Although we do mention that in places where it's, where it's relevant to what else we're talking about, but that's not the focus of the assessment.

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Amanda Stevens - NYSERDA she/her 00:12:36.800 --> 00:12:48.800
It also is not developing or recommending policy. This is not a policy document. It's not a plan. It's really just providing the scientific foundation for plans and policy.

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Amanda Stevens - NYSERDA she/her 00:12:50.480 --> 00:13:10.480
And for those of you who might be familiar with our previous assessment, which was called ClimAID, this will seem a little bit familiar to you. It's kind of all along the same, same veins as that was, but this of course includes a lot more, and updated information. And each of the chapters actually does include a little description.

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Amanda Stevens - NYSERDA she/her 00:13:11.240 --> 00:13:16.520

Of what's different since ClimAID, so you can kind of get a sense of what's different from what we did before.

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Amanda Stevens - NYSERDA she/her 00:13:19.160 --> 00:13:38.600
The goals of assessment are, again, to document how climate is changing and really to foster informed decisions. We want to present the information in ways that will help New Yorkers plan and adapt. And when I use the term decision maker, it.

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Amanda Stevens - NYSERDA she/her 00:13:38.680 --> 00:13:50.240
It's very broad in this sense, it could be anyone from an individual farmer who needs to understand what they need to do on their own farm. It could be a community who needs to understand how.

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Amanda Stevens - NYSERDA she/her 00:13:52.120 --> 00:14:08.760
Their broader community will be affected by climate change. It could be a state of authority or agency who's dealing with permits and regulations and needs to understand how to incorporate climate change into those things. So decision maker is a very broad term in this sense.

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Amanda Stevens - NYSERDA she/her 00:14:12.000 --> 00:14:30.480
We of course coordinated the assessment here at NYSERDA but it was really developed by a really large number of people. And it includes academic institutions but they weren't the the only folks involved. There were, we really wanted a diversity of perspectives on this. So we had.

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Amanda Stevens - NYSERDA she/her 00:14:31.320 --> 00:14:51.480
Science organizations, community organizations, industry, the government staff. We really wanted to make sure we got a lot of, different perspectives and information on this in actual development of the assessment. So to that end, we had eight technical workgroups, and I'll talk about those.

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Amanda Stevens - NYSERDA she/her 00:14:52.480 --> 00:15:11.640
The sectors in just a moment, but each of those was comprised of about eight to ten individuals. So there were about eighty people from sixty different organizations who were developing the technical chapters of the assessment. And in addition to those folks, we also had twenty to twenty five people.

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Amanda Stevens - NYSERDA she/her 00:15:12.200 --> 00:15:32.400
Per sector who were also advising those groups to give us, again, even more perspectives and and broader ideas. So there were a hundred and sixty, hundred and seventy additional people who were advising the work groups as well. And we'll be talking about the climate projections themselves Columbia University developed those.

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Amanda Stevens - NYSERDA she/her 00:15:35.280 --> 00:15:55.440
We really wanted to make sure this was credible and that people felt they could turn to it and trust it so we really kept that in mind as we organized and developed this. So certainly we had those climate science experts and that's why we also included the diversity of communities and perspectives that we had in there. Most folks were from.

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Amanda Stevens - NYSERDA she/her 00:15:55.720 --> 00:16:03.720
New York state, but we did have experts from other states that were relevant from indigenous nations and also Canada. There were a few folks from Canada as well.

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Amanda Stevens - NYSERDA she/her 00:16:05.280 --> 00:16:23.160
The technical report has been peer reviewed by experts in their fields and for anyone who's interested in more detail on where the all the information in the chapters came from, there are links in references to the primary sources for everything in, in those chapters.

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Amanda Stevens - NYSERDA she/her 00:16:26.840 --> 00:16:44.920
So what do we, what do we actually have that you can take a look at? So, we do have those projections, so they are downscaled climate projections of how the climate will change in the state across the state. And we did that for twelve different regions of the state, which I'll show you in a little while.

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Amanda Stevens - NYSERDA she/her 00:16:46.520 --> 00:17:06.040
The technical report, as I mentioned, was peer reviewed and those eight work groups that I mentioned were each focused on one of these sectors that you'll see on the slide here. One thing I will just quickly note is that we needed some way to organize all of this information so we did do these kind of eight chapters.

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Amanda Stevens - NYSERDA she/her 00:17:08.600 --> 00:17:28.400

But I do want everyone to understand that one of the things I've learned from doing this work over the number of years that I have been is that nothing is in silos and everything is connected. So yes, we have these sector chapters, but there are a lot of interconnections among these

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Amanda Stevens - NYSERDA she/her 00:17:29.360 --> 00:17:34.720
That are important to to understand. We do talk about those a little bit as much as we can within the chapters too.

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Amanda Stevens - NYSERDA she/her 00:17:36.320 --> 00:17:56.360
And in addition to the impacts that each of the chapters talks about, they also go into potential adaptation strategies. We have case studies for each chapter. There are also other communication materials that we've developed that we hope will be helpful in kind of communicating in simpler ways some of the information that we've developed.

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Amanda Stevens - NYSERDA she/her 00:17:58.600 --> 00:18:16.760
So this is what the website looks like, and you can get to everything from here. I'll just note quickly that it's kind of hard to see, but if you, even when you're on the website, but if you scroll down from this main page, you'll come to about ten summary findings from the assessment.

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Amanda Stevens - NYSERDA she/her 00:18:17.200 --> 00:18:37.440
And these were really just an attempt to come up with some overarching themes that were pulled from all of the sectors. So it's not focused, these aren't focused on a particular chapter or a particular sector. These were, these were themes that really came across in reading all of the chapters. So.

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Amanda Stevens - NYSERDA she/her 00:18:37.560 --> 00:18:40.640
So these give you kind of a high level overview of things to note.

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Amanda Stevens - NYSERDA she/her 00:18:44.600 --> 00:19:04.760
On the web page, probably the, the dropdown you'll use most is just explore the assessment piece and you can get to a lot of the different components from there. I'll focus first on the changing climate piece so you can get to that either from this dropdown or from the box on the right of the main page.

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Amanda Stevens - NYSERDA she/her 00:19:05.160 --> 00:19:10.880
And this is where we're really gonna get to the climate projections, how things are gonna change, what those variables are.

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Amanda Stevens - NYSERDA she/her 00:19:12.600 --> 00:19:15.360
And on that page, you'll have a summary of.

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Amanda Stevens - NYSERDA she/her 00:19:16.680 --> 00:19:37.040
Kind of the highlights again of how each of these variables will change, so we're talking things like temperature, precipitation, extreme events. So there are summaries of all of that information right here on the web page. If you want to get more, we do have the, the technical chapter for the climates climate that really gets into a lot more.

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Amanda Stevens - NYSERDA she/her 00:19:38.560 --> 00:19:45.800
About those changing conditions. And if you scroll down on that page, you can get to the actual.

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Amanda Stevens - NYSERDA she/her 00:19:47.440 --> 00:20:07.600
Data tables that have all the projections. So this is right now it's a little bit cumbersome cause it's just a PDF of a lot of data tables, we're working on getting these data into something more usable and onto like an open New York, where you'll be able to take the data and use it as you need it a little more easily.

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Amanda Stevens - NYSERDA she/her 00:20:07.920 --> 00:20:28.240
But for the moment, you can at least find, all of the numbers here. And if you're interested in even more, there's also a methodology report that you can see right here at the bottom, and that's where Columbia University really detailed their methodology so that's going into even, even even deeper into the details of how.

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Amanda Stevens - NYSERDA she/her 00:20:28.280 --> 00:20:30.680
How these projections were developed.

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Amanda Stevens - NYSERDA she/her 00:20:34.000 --> 00:20:37.520
You can explore the information from the chapters by sector.

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Amanda Stevens - NYSERDA she/her 00:20:39.800 --> 00:20:59.640
So these are those eight sectors that I mentioned. Each one of these will have a small landing page that just has a little brief description of what the chapter, the scope of the chapters were, what they, what each one looked at, each one has a summary, so these are highlights, kind of gives.

63
Amanda Stevens - NYSERDA she/her 00:20:59.640 --> 00:21:09.920
Gives you an overview of what's in the chapter. If you want to read more details of those chapters are there. Each of these technical chapters are.

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Amanda Stevens - NYSERDA she/her 00:21:12.600 --> 00:21:21.480
Between fifty and and a hundred pages depending on the sector. So there's a lot of information here, but the summaries are a good place to start.

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Amanda Stevens - NYSERDA she/her 00:21:24.720 --> 00:21:43.280
Each of those chapters, each sector came up with key findings and those were developed by the working groups. These were findings that, that they felt really rose to the top from all of the information that they gathered and wrote about in the chapters. These are findings that they felt they wanted to bring forward.

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Amanda Stevens - NYSERDA she/her 00:21:44.560 --> 00:22:02.880
So each chapter has those laid out very clearly, but the summary pages on the website also talk about those. So we have each of the findings with just a little bit of a, more plain language description of, of what we're talking about.

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Amanda Stevens - NYSERDA she/her 00:22:05.840 --> 00:22:09.760
Each sector, as I mentioned, had case studies. Each one has roughly five.

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Amanda Stevens - NYSERDA she/her 00:22:13.240 --> 00:22:33.320
We, we really wanted to find ways to make a lot of this information more relatable. Sometimes going through all of this detailed information is hard to kind of see how does that translate to the real world. So we tried to do that through some case studies. Some of them will focus on

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Amanda Stevens - NYSERDA she/her 00:22:34.680 --> 00:22:42.080

Impacts that a community or organization or individual has experienced already. Some will look at.

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Amanda Stevens - NYSERDA she/her 00:22:43.640 --> 00:22:52.920
How they may have started adapting to climate changes. Some of them may talk about both. So there's a lot of really interesting and good information.

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Amanda Stevens - NYSERDA she/her 00:22:54.400 --> 00:22:59.240
Kind of translating what's in the chapters into real world examples.

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Amanda Stevens - NYSERDA she/her 00:23:02.720 --> 00:23:20.760
And then one thing I'm excited about is, explore by region. This is something we were certainly not able to do with our last assessment. But it, it's again a way we hope will make the information more relatable and kind of bring it home to.

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Amanda Stevens - NYSERDA she/her 00:23:21.160 --> 00:23:41.440
Where people live. So for each of the sectors, this is just an example, the South Hudson, you can click there and get highlights of impacts to a particular region. Now these are not totally comprehensive, like it's not gonna talk about every single impact that the region going to experience. But.

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Amanda Stevens - NYSERDA she/her 00:23:41.560 --> 00:23:50.320
But it really tries to focus and pull out some of the, maybe there's an iconic industry or a location in the region.

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Amanda Stevens - NYSERDA she/her 00:23:52.240 --> 00:24:02.680
Maybe it's just something that's a really important economic driver for the region, and we talk about how, how climate change will impact those parts of each region.

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Amanda Stevens - NYSERDA she/her 00:24:06.600 --> 00:24:14.720
We did have equity and justice as a, as a key theme throughout the assessment. So right now we have.

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Amanda Stevens - NYSERDA she/her 00:24:16.120 --> 00:24:36.240

Sort of an overview of the issues on the website and you can get to that either from the dropdown or from this main page. And here we talk about, you know, kind of the bigger issues, how, what are these issues, how do they intersect with climate change in general? But then we also asked each chapter to make sure that.

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Amanda Stevens - NYSERDA she/her 00:24:36.640 --> 00:24:57.000
They talked about it as relevant to their sector. So each chapter and each summary page will talk about equity issues for their sector, and also has sections on indigenous communities and tribal nations and how climate change affects those communities in their sector as well.

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Amanda Stevens - NYSERDA she/her 00:24:58.400 --> 00:25:08.040
Right now we're also working on a couple of more products, one that's equity, more equity in general focused and one on tribal nations that.

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Amanda Stevens - NYSERDA she/her 00:25:10.160 --> 00:25:30.320
Will hopefully synthesize and summarize all of these kind of chapter specific impacts and bring them into one place so that if someone's interested in the impacts on indigenous peoples, they don't have to go through each chapter to find everything, but we're gonna try to bring that together in one place so we can just look at it all at.

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Amanda Stevens - NYSERDA she/her 00:25:30.440 --> 00:25:34.600
Once and then go to the chapter for more in depth information. So those are in process now.

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Amanda Stevens - NYSERDA she/her 00:25:38.960 --> 00:25:43.840
Other resources we have, there's a glossary right now to.

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Amanda Stevens - NYSERDA she/her 00:25:46.360 --> 00:25:47.680
Understand some of the potentially.

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Amanda Stevens - NYSERDA she/her 00:25:49.000 --> 00:26:08.520
Less less well known terms that are used throughout the assessment. We also have right now we have fact sheets, so these are, at the moment, the only things that are formatted specifically be specifically to be printed if you want to. So these are.

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Amanda Stevens - NYSERDA she/her 00:26:09.400 --> 00:26:29.320
Are formatted to be two paged fact sheets, one for each sector. There's obviously given the space, there's not a whole lot of info here, but it kind of gives gives the highlights what people's whistles so that they can then go to the website and get more information. We are hoping to develop something like this also for the regions.

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Amanda Stevens - NYSERDA she/her 00:26:29.960 --> 00:26:50.200
So we might have a regional handouts as well, but those are still in works. And there's also a figures gallery that will be coming very soon and this essentially just pulls all of the figures and graphics from across the assessment and across the chapters into one place. So if anybody wants to use them for presentations or anything like that.

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Amanda Stevens - NYSERDA she/her 00:26:50.640 --> 00:26:52.920
They can just go here and pull them out.

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Amanda Stevens - NYSERDA she/her 00:26:56.800 --> 00:27:15.320
So I'll talk a little bit about the results now, projections, first of all, so these are the twelve regions that the projections for which the typical projections were developed. They mostly align with the, with NOAA's climate regions for the state. There are a few little differences, but.

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Amanda Stevens - NYSERDA she/her 00:27:15.320 --> 00:27:35.520
But for the most part, they, they align pretty well with NOAAs. And, and for the projections we have all of the data available for each region, there are some data that are actually available at a higher resolution, so there's station data, so each of the dots on this map is a.

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Amanda Stevens - NYSERDA she/her 00:27:35.800 --> 00:27:38.400
Weather station and some of those we were able to.

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Amanda Stevens - NYSERDA she/her 00:27:40.280 --> 00:28:00.720
Have, the projections downscaled for each of those stations rather than just the big regions. And when we talk projections, we're talking things like changes in annual temperature, precipitation, extreme events like how many days over ninety will there be heat index, number of heat waves, things like that. We.

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Amanda Stevens - NYSERDA she/her 00:28:00.800 --> 00:28:07.680
We did add this time heating and cooling degree days, which is important in the energy industry. And of course sea level.

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Amanda Stevens - NYSERDA she/her 00:28:11.120 --> 00:28:29.320
So just some examples of what this looks like. This graph I believe is for the North Hudson region. And it's just showing a way to think about or look at how the annual average temperature will change. This is looking at two different emission scenarios, a high scenario.

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Amanda Stevens - NYSERDA she/her 00:28:29.640 --> 00:28:37.960
And a low or medium scenario. And it just kind of shows how the temperatures might differ depending on those emissions scenarios.

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Amanda Stevens - NYSERDA she/her 00:28:40.800 --> 00:28:53.680
It's another example of days over ninety. This is a really important one for this state, these you can see the the changes here, as you go out through the century at the different stations here.

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Amanda Stevens - NYSERDA she/her 00:28:55.520 --> 00:28:56.760
And one thing I, that is.

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Amanda Stevens - NYSERDA she/her 00:28:58.480 --> 00:29:18.720
That I feel is important, is that this kind of thing is gonna happen all across the state. Some, some regions are a little more used to high heat, not that it's, you know, it's still going to be an issue because it's going to be more of it in the future, but some are a little more ready for it than others, New York City.

98
Amanda Stevens - NYSERDA she/her 00:29:18.920 --> 00:29:38.440
For example, already experiences a lot of hot days so they are aware of how that impacts the city. But places like Lake Placed up in the Adirondacks, they're not necessarily as prepared for these high heat days because they haven't experienced them a lot in the past comparatively.

99
Amanda Stevens - NYSERDA she/her 00:29:39.400 --> 00:29:48.240

And they are going to be experiencing it in the future, so this kind of, this kind of high heat is going to be an issue all across the state.

100
Amanda Stevens - NYSERDA she/her 00:29:52.120 --> 00:30:02.680
Precipitation is another one, these are, these maps are showing just a couple of ways to look at how precipitation might change, but I think what I want to point out about precipitation is.

101
Amanda Stevens - NYSERDA she/her 00:30:04.680 --> 00:30:24.360
Yes, we're going to see a little bit more precipitation across the state, but I think the real story is in how that's going to fall. And sometimes that's a little hard to visualize, so we don't have, we don't have great graphics that are showing, precipitation and or how it's going to change. But.

102
Amanda Stevens - NYSERDA she/her 00:30:24.880 --> 00:30:45.240
You know, we've all experienced it in the past few years where we get these really heavy down pours with a lot of rain that cause a lot of damage and a lot of flooding, and we're gonna continue to see that and see more of it across the state. It's it's something that could be a little counterintuitive to some folks that we.

103
Amanda Stevens - NYSERDA she/her 00:30:45.240 --> 00:31:01.120
We might see these drought, we might see increases in drought as long as as well as increases in precipitation, but it's those, you know, kind of punctuated heavy downpours that are going to be the, the story here, I think.

104
Amanda Stevens - NYSERDA she/her 00:31:03.160 --> 00:31:19.200
And of course sea level, we did this for three different regions in the state, not wildly different, but they are different enough that we wanted to show them all. So we did it for Montaulk point on Long Island, the Battery, and the Troy Dam up here in Albany.

105
Amanda Stevens - NYSERDA she/her 00:31:22.880 --> 00:31:41.560
So just some highlights of the impacts we're seeing. Again, there's eight sectors with a whole lot of impacts in here, but I just pulled out a few that might be of interest to this group. So certainly on the ecosystem side of things, we're seeing might be.

106
Amanda Stevens - NYSERDA she/her 00:31:41.560 --> 00:32:01.840

Be seeing alterations in the riverine side of things, channel alterations, flood plain alterations that are affecting the vegetation, aquatic species, water level changes, snowfall changes are gonna change, runoff, timing of peak.

107
Amanda Stevens - NYSERDA she/her 00:32:02.120 --> 00:32:22.320
Peak flow periods, freezing changes, not only fewer days, but also you know we're gonna be seeing warmer spring temperatures, but not the end of late freezes, so kind of some of that affects particularly on the agriculture and ecosystem side.

108
Amanda Stevens - NYSERDA she/her 00:32:23.880 --> 00:32:42.640
Could have some big impacts there. So we're, you know, all of this is getting around to saying we're gonna have more flooding, changes in hydrology, agriculture is likely to be affected by this precipitation and flooding as well, urban watersheds as well as rural.

109
Amanda Stevens - NYSERDA she/her 00:32:45.560 --> 00:32:52.640
On the marine and coastal side of things, sea level rise is a is a big issue, of course. Changing the.

110
Amanda Stevens - NYSERDA she/her 00:32:53.920 --> 00:33:02.920
The quality of the ecosystems, extent of ecosystems, marsh migration, things like that, we're likely to see changes in

111
Amanda Stevens - NYSERDA she/her 00:33:06.040 --> 00:33:13.720
Harmful algal blooms, which can affect ecosystems and water quality. So lots of issues here as well.

112
Amanda Stevens - NYSERDA she/her 00:33:17.560 --> 00:33:30.800
On the, kind of focused a little bit more on water resources, again, we're seeing that sea level rise on the coast, not just causing flooding but also bringing the salt water further upstream and into the water table.

113
Amanda Stevens - NYSERDA she/her 00:33:32.400 --> 00:33:37.840
Higher temperatures are again potential for more harmful algal blooms.

114
Amanda Stevens - NYSERDA she/her 00:33:39.560 --> 00:33:59.760

Reduction in ice cover on lakes and reservoirs can have changes on water quality, and flooding, of course, brings all of the things that come with flooding, and on the water side, particularly for infrastructure, it could change or bring more challenges for water treatment facilities, anything that's

115
Amanda Stevens - NYSERDA she/her 00:34:01.400 --> 00:34:05.520
close to the rivers as well could be affected by sea level rise, too.

116
Amanda Stevens - NYSERDA she/her 00:34:08.560 --> 00:34:27.200
And that's just one aspect of water resources, but another is the water demand, and again getting back to those precipitation and temperature changes, and changing the patterns there, that could increase demand for water and competition for resources. If we're talking things like irrigation.

117
Amanda Stevens - NYSERDA she/her 00:34:29.240 --> 00:34:46.560
Those salt water boundaries again being pushed up, upstream, not only can affect ecosystems but also potentially freshwater use and withdrawals along those rivers, and then demand where water supplies are affected by sea level rise and also.

118
Amanda Stevens - NYSERDA she/her 00:34:47.840 --> 00:34:49.320
Potentially short term drought as well.

119
Amanda Stevens - NYSERDA she/her 00:34:52.760 --> 00:35:04.480
The quantity getting mentioned, just mentioned drought, so that's one thing there changes in water levels of stream flow, whether it's from temperatures or changes in precipitation patterns, we can see those.

120
Amanda Stevens - NYSERDA she/her 00:35:05.920 --> 00:35:26.120
Problems, particularly for water systems that are on public supplies that rely on reservoirs, or folks who are on wells and may have issues there with their, with their quality and quantity as well. Again sea level rise again, and that comes back in a lot of these

121
Amanda Stevens - NYSERDA she/her 00:35:27.200 --> 00:35:33.640
Categories, can change and compromise surface and ground water for things like drinking water.

122
Amanda Stevens - NYSERDA she/her 00:35:35.840 --> 00:35:38.840
And I did mention briefly on the infrastructure and operations.

123
Amanda Stevens - NYSERDA she/her 00:35:40.320 --> 00:36:00.480
Flooding, changes to how we need to, think about and operate water quality control, increases to cost of service, different treatment methods, so a lot of different implications here for water infrastructure. So those are just.

124
Amanda Stevens - NYSERDA she/her 00:36:00.840 --> 00:36:21.240
As I mentioned, just some highlights, there's a lot more information in details on the website and in the assessment. So I encourage you to go take a look, peruse, and if anyone ever has any questions, please reach out. There's also a contact form on the website if anyone wants.

125
Amanda Stevens - NYSERDA she/her 00:36:21.280 --> 00:36:28.320
To reach out that way, but definitely do encourage you to take a look, and hopefully we'll find the information useful.

126
Amanda Stevens - NYSERDA she/her 00:36:41.080 --> 00:36:41.720
Not sure who's next.

127
Ingrid Haeckel (she/her) 00:36:43.080 --> 00:36:44.960
Thank you so much, Amanda. That was.

128
Ingrid Haeckel (she/her) 00:36:46.280 --> 00:37:06.480
A wonderful overview. There are a lot of resources available through the website, so I echo the encouragement to take a look and, and explore the different levels of the reports and information, so we can take a few questions.

129
Ingrid Haeckel (she/her) 00:37:06.800 --> 00:37:26.680
Now for Amanda Stevens and then we'll have a presentation from Hudson River Estuary Program staff about some of our work and how it has been integrating information from previous the previous climate assessment climate, and, and other work we're doing on climate adaptation and resilience.

130
Ingrid Haeckel (she/her) 00:37:28.440 --> 00:37:47.640
Please use the Q and A function to enter questions. We have two questions here. So the first is for the projections developed by Columbia, do you know if they used more recently revised remaining carbon budget of around two hundred and fifty gigatons.

131
Ingrid Haeckel (she/her) 00:37:49.960 --> 00:37:53.600
Additionally, which climate scenarios did they use? Thanks.

132
Amanda Stevens - NYSERDA she/her 00:37:54.720 --> 00:37:56.800
Sure, I unfortunately am not sure if

133
Amanda Stevens - NYSERDA she/her 00:37:59.800 --> 00:38:03.600
they used this carbon budget, so I'm not sure.

134
Amanda Stevens - NYSERDA she/her 00:38:05.200 --> 00:38:07.920
But for the climate scenarios, we used

135
Amanda Stevens - NYSERDA she/her 00:38:09.720 --> 00:38:22.720
S.S.P. two four point five and five eight point five. So that's kind of the middle of the road emissions is the four point five and then the higher, high end emission scenario of eight point five.

136
Ingrid Haeckel (she/her) 00:38:24.760 --> 00:38:45.160
Thank you. The next question is, were estimations for wildfire incidents and local air quality impacted from wildfires in other areas such as Canada, projected by region, included in the assessment? It is available in the leading commercial physical climate risk tools and I would recommend adding it.

137
Ingrid Haeckel (she/her) 00:38:45.320 --> 00:38:46.880
In future impact assessments.

138
Amanda Stevens - NYSERDA she/her 00:38:48.440 --> 00:39:08.760

Thank you. We did not do the, this sort of work for the regions, but I, I agree that wildfire is something that is of, oh, great interest to a lot of folks, and I think this is something that's going to be high on our list of, next steps is really delving into.

139
Amanda Stevens - NYSERDA she/her 00:39:09.000 --> 00:39:11.520
Wildfire impacts on the state.

140
Ingrid Haeckel (she/her) 00:39:14.040 --> 00:39:14.120
Yeah.

141
Ingrid Haeckel (she/her) 00:39:16.120 --> 00:39:33.240
Awesome. Next question is, is there anything in there about how recurrence intervals are changing for mapped flood planes for incidents, for example, the one percent annual chance flood is now more like a ten percent annual chance event?

142
Amanda Stevens - NYSERDA she/her 00:39:33.880 --> 00:39:49.720
Yeah, these projections did not go into mapping of floodplains. So this was really just focused on the, the climate variables so that the precipitation for example and sea level rise that would affect floodplains. But we didn't actually map out the floodplains.

143
Amanda Stevens - NYSERDA she/her 00:39:51.440 --> 00:40:01.200
That could be something we do in the future. There are a lot of floodplain maps around for the future, but I think there's more that that could be done there.

144
Ingrid Haeckel (she/her) 00:40:04.400 --> 00:40:23.720
Thank you. Well, we will have some additional time for Q and A at the end of the program, so please continue to enter any questions you have and we'll get to them a little bit later on. So the next presentation will be by Christine Vanderlan and Neil.

145
Ingrid Haeckel (she/her) 00:40:23.880 --> 00:40:24.280
Bettez.

146
Christine Vanderlan (she, her) 00:40:33.400 --> 00:40:34.320
Great, thanks Ingrid.

147
Christine Vanderlan (she, her) 00:40:36.200 --> 00:40:37.840
So we're gonna turn now to.

148
Christine Vanderlan (she, her) 00:40:39.480 --> 00:40:41.120
Talking about local level.

149
Christine Vanderlan (she, her) 00:40:42.480 --> 00:41:02.600
initiatives to advance resilience and adaptation to climate change with a focus on the types of work that the Hudson River Estuary program is supporting through technical assistance, through funding, through partnerships, and so I'll be talking a bit about the kind of.

150
Christine Vanderlan (she, her) 00:41:02.840 --> 00:41:22.960
Work and efforts supported through the Conservation and Land Use team and Neil Bettez will be talking about work supported by the Climate Adaptation team. And, another way to think about kind of the progression in this presentation is the kinds of approaches I'll be talking about are gonna be broader based.

151
Christine Vanderlan (she, her) 00:41:24.720 --> 00:41:40.840
More about integrating climate change and planning for adaptation and resilience into the traditional local land use tools that municipalities use and Neil's going to be talking about some more targeted and focused efforts.

152
Christine Vanderlan (she, her) 00:41:43.840 --> 00:41:45.360
So within the Estuary program.

153
Christine Vanderlan (she, her) 00:41:48.400 --> 00:42:07.480
The conservation and Land Use team includes myself and Laura Heady, our conservation and land use program coordinator. We are part of the Estuary program and also work for Cornell University. So there's a partnership there. We are involved in
154
Christine Vanderlan (she, her) 00:42:08.160 --> 00:42:11.680
work beyond what I'll be touching on today here in this presentation.

155
Christine Vanderlan (she, her) 00:42:13.400 --> 00:42:28.880

And I encourage you to take a look at our website Conservation Planning in the Hudson River Estuary Watershed. Both to learn more about the whole extent of what we do, but also as a jumping off point for more information about the things I will touch on today.

156
Christine Vanderlan (she, her) 00:42:33.760 --> 00:42:53.560
So Amanda did a great job of introducing the climate impact assessment and what you can find there, and I felt like before we talk about the kinds of adaptation and resilience work going on in the Estuary watershed, that it would be great to just put up there some of the, the types of impact.

157
Christine Vanderlan (she, her) 00:42:53.800 --> 00:42:59.360
That are talked about in those regional assessments. So the watershed is shown on this map.

158
Christine Vanderlan (she, her) 00:43:01.760 --> 00:43:21.280
Includes parts of three regions that are talked about in the climate assessment. So the north Hudson, the South Hudson, the Catskills, those regional reports in the climate assessment will describe these kinds of impacts that are affecting things that are characteristic of this part of the state or these communities, or.

159
Christine Vanderlan (she, her) 00:43:21.720 --> 00:43:41.280
particularly important or otherwise kind of special to these regions. And just a tip, I think Amanda made a good point of this, but just to remind folks to look at those regional reports for kind of the summary information and highlights of these kinds of impacts, but also the chapters, you wanna really look at both to get the complete picture.

160
Christine Vanderlan (she, her) 00:43:46.480 --> 00:44:04.720
So when we're thinking about adaptation and resilience for communities in the Hudson River Estuary Watershed and actually throughout the state, the traditional land use planning and policy tools are all available to integrate climate information.

161
Christine Vanderlan (she, her) 00:44:05.360 --> 00:44:11.640
To think about impacts to your communities, and to make updates and changes to your plans and policies.

162
Christine Vanderlan (she, her) 00:44:13.880 --> 00:44:21.280

So your plans could include any of these types of plans, many communities have multiple of these plans, and as you seek to update those.

163
Christine Vanderlan (she, her) 00:44:23.440 --> 00:44:42.720
Exploring information in the climate impact assessment about how these resources or how these areas in your community may be impacted, how conditions may be changing, the basis for your planning and your goals and your vision in these plans may not hold in the future, and the climate impacts assessment can help you get a sense of how you may need to adjust.

164
Christine Vanderlan (she, her) 00:44:43.000 --> 00:44:59.640
And update these plans. And then of course your policies and your codes, your local laws, your site plan reviews, your environmental protections are all also available to you as tools to respond and adapt and build climate resiliency in your communities.

165
Christine Vanderlan (she, her) 00:45:05.520 --> 00:45:24.360
In our program, our conservation and land use team focus and our our background is really in thinking about and planning for the natural systems that provide our communities a whole array of benefits, these ecosystem services, include all of these that are mentioned.

166
Christine Vanderlan (she, her) 00:45:24.800 --> 00:45:44.720
Here on the slide. And if you just kind of glance through, you can see flood control, water quality and quantity temperature moderation, and others that are related to climate impacts and how resilient our communities will be to the kinds of changes that we're expected to see.

167
Christine Vanderlan (she, her) 00:45:47.720 --> 00:46:03.160
The intact natural areas of our communities, the large forests, for example, that are important to allowing water to recharge our aquifers and then supply our wells. These kinds of resources are, are fundamental to.

168
Christine Vanderlan (she, her) 00:46:05.560 --> 00:46:08.560
To the resilience and adaptation of our communities.

169
Christine Vanderlan (she, her) 00:46:10.160 --> 00:46:12.880

And it one thing to think about is the interaction between.

170
Christine Vanderlan (she, her) 00:46:17.720 --> 00:46:38.120
The biological diversity of our region, the intactness of these natural areas and systems and their ability to function and provide these ecosystem services. So natural areas, ecosystems that have a high biodiversity that are in good condition are going to be ones that withstand the.

171
Christine Vanderlan (she, her) 00:46:38.280 --> 00:46:58.560
Changes of climate change better over time and continue to provide these services to our communities. So I'm gonna touch on a couple of tools that communities have been using and that our program assists communities in using to bring this into their planning and enhance.

172
Christine Vanderlan (she, her) 00:46:59.400 --> 00:47:02.960
Not only climate adaptation and resilience, but also the.

173
Christine Vanderlan (she, her) 00:47:04.480 --> 00:47:09.600
Function of the, these ecosystems and the biological diversity in our region.

174
Christine Vanderlan (she, her) 00:47:13.560 --> 00:47:30.040
To just draw out some examples of natural areas and how they support resilience to climate change, I just put a few examples, certainly not a complete list here on the slide. I had touched on forests in more developed areas.

175
Christine Vanderlan (she, her) 00:47:31.960 --> 00:47:51.800
The natural features in our communities can be contributing to our resilience to climate change such as urban tree canopy, helping to reduce the impacts of extreme heat. And then of course the benefits of having intact natural systems in our coastal areas and our shore line areas.

176
Christine Vanderlan (she, her) 00:47:52.520 --> 00:48:10.960
As protection against storm surges and extreme potential flooding events, and of course wetlands throughout our landscape contribute to our resilience in the face of more extreme precipitation events. For the way that they can hold and slow and then slowly release potential floodwaters.

177
Christine Vanderlan (she, her) 00:48:13.760 --> 00:48:31.080
So for trying to better plan for, conserve, restore these areas in our communities and boost our resilience to climate change, some basic conservation principles can be integrated into your local planning. This can, these kinds of principles as.

178
Christine Vanderlan (she, her) 00:48:33.000 --> 00:48:49.440
Listed out on this slide can be brought into play at those the local, you know, site planning scale, but also more broadly looking across your whole community. And we have lots of examples of ways communities have, have been.

179
Christine Vanderlan (she, her) 00:48:50.720 --> 00:48:57.720
Carrying out and integrating these principles into their work. So if you're interested in, in pursuing that more, please reach out.

180
Christine Vanderlan (she, her) 00:49:01.160 --> 00:49:19.800
I mentioned I was gonna talk about a couple of basic tools that are sort of foundational. One is the natural resources inventory, and that's a special report that brings together maps and data and narrative describing your particular municipality, natural resources, their condition and.

181
Christine Vanderlan (she, her) 00:49:20.160 --> 00:49:40.600
And quality, and an example map from the city of Rensselaer’s natural resources inventory is shown on this slide, and while you can't read the words, just as an example, the purple shaded area and the top right of that map is an important network of streams along the Hudson River that are providing habitat for aquatic.

182
Christine Vanderlan (she, her) 00:49:40.760 --> 00:50:00.520
Species, that's important looking across the whole county. And then the green shaded areas are the riparian areas that are directly affecting streams that flow through the community and into the Hudson, so this gives you a sense of some of the kind of information that you can look at in a natural resources inventory, and then having this is a great foundation.

183
Christine Vanderlan (she, her) 00:50:01.160 --> 00:50:14.200

For considering your community's potential vulnerabilities to climate change and what areas you're relying on to help buffer and protect in the face of those changes.

184
Christine Vanderlan (she, her) 00:50:17.320 --> 00:50:35.400
Another example - we're seeing communities also really integrate climate change chapters, and descriptions and information from the climate assessment can be brought in, and this is just the web page of Dutchess County's newest online natural resources inventory where they have a whole section devoted to climate change.

185
Christine Vanderlan (she, her) 00:50:39.280 --> 00:50:59.080
The other fundamental tool I wanted to talk about is open space planning. This really offers a great opportunity for a community to look across its whole extent and even beyond its boundaries and understand the natural areas, the different kinds of open space such as those.

186
Christine Vanderlan (she, her) 00:50:59.480 --> 00:51:19.720
Listed here that are important for your community and for climate adaptation reasons, but also for other kinds of benefits that your community is deriving. Amanda mentioned how all of the sector reports tend to be interconnected, and when we look at open space in our communities, you know, there's many benefits we get from these.

187
Christine Vanderlan (she, her) 00:51:20.280 --> 00:51:29.400
So, an open space plan really gives you the ability to look at multiple values and benefits that, that you derive from these types of spaces.

188
Christine Vanderlan (she, her) 00:51:34.000 --> 00:51:54.360
And depending on your community, you may have, you know, a different combination of, of open spaces here. This list is just sort of, some of the potential types of open space you might be planning for. And the city of Kingston's open space vision map, I think does a nice idea or a nice example of how multiple

189
Christine Vanderlan (she, her) 00:51:54.680 --> 00:52:12.720
kinds of values, I think sometimes people have the idea that an open space plan is focused only on identifying places that should be acquired for new parks or preserves. But, it's much broader than that, so the city of Kingston's open space plan identifies goals for.

190
Christine Vanderlan (she, her) 00:52:15.080 --> 00:52:34.640
Areas that need shade trees and extent of a stream that needs restoration, an area of their community that doesn't have a park, and so they set a goal for a new park for a particular part of the city of Kingston, as well as looking at the habitats and areas where there's opportunity

191
Christine Vanderlan (she, her) 00:52:34.800 --> 00:52:37.240
To protect important habitats.

192
Christine Vanderlan (she, her) 00:52:40.600 --> 00:52:59.640
And I wanted to mention that the kinds of land use strategies and plans - both natural resource inventories and open space planning - within the context of the climate smart communities program, they earn points. Then also New York's kind of blueprint for how we're going to achieve our emission reduction goal.

193
Christine Vanderlan (she, her) 00:52:59.640 --> 00:53:05.680
Goals, that includes land use strategies as well. So that's the New York State climate scoping plan and.

194
Christine Vanderlan (she, her) 00:53:07.440 --> 00:53:17.560
We're focused here on resiliency and adaptation. That's focused on mitigation, but it's also talking about the role of these strategies in that context as well.

195
Christine Vanderlan (she, her) 00:53:20.760 --> 00:53:26.600
And our program, before turning it over to Neil, we really began with assessing this.

196
Christine Vanderlan (she, her) 00:53:28.640 --> 00:53:42.480
whole Estuary watershed region, and this wildlife and habitat conservation framework is a really foundational document for people seeking to understand the biodiversity of the region and understand the areas that are.

197
Christine Vanderlan (she, her) 00:53:43.800 --> 00:53:48.560
particularly important and appreciate the diversity of biodiversity. So

198

Christine Vanderlan (she, her) 00:53:50.840 --> 00:54:03.000
it came out about fifteen years ago, but it's still a really fantastic resource for understanding all of that, and being able to kind of bring that knowledge into your open space and natural resource conservation planning.

199
Christine Vanderlan (she, her) 00:54:05.080 --> 00:54:20.880
We offer guidance documents on policies and NRIs, the Hudson Valley natural resources Mapper is available for you to explore a whole array of data sets related to natural areas and natural systems.

200
Christine Vanderlan (she, her) 00:54:22.880 --> 00:54:38.840
And we also have developed some specialized data sets, so all of this you can explore through our website, Conservation Planning in the Hudson River Estuary watershed. And then also you can reach out to me. My role is an extension role, so I'm happy to speak with folks.

201
Christine Vanderlan (she, her) 00:54:42.280 --> 00:54:50.000
To discuss these opportunities, to discuss their interests and plans and help connect you with technical assistance and other supports.

202
Christine Vanderlan (she, her) 00:54:53.640 --> 00:55:02.040
And I'm gonna stop sharing. So we can relatively seamlessly turn it over to Neil. Thanks.

203
Neil Bettez 00:55:10.240 --> 00:55:14.560
Thank you. Can you see my screen? Yeah.

204
Neil Bettez 00:55:15.360 --> 00:55:15.640
Alright.

205
Neil Bettez 00:55:18.520 --> 00:55:37.480
So, thank you Christine and Ingrid, and so my name is Neil Bettez. I am the climate resilience program coordinator for the Estuay program. I'd also like to introduce to Jesenia Laureano, who is the climate adaptation planning specialist and just to let everyone know that we're in the process.

206
Neil Bettez 00:55:37.800 --> 00:55:41.600
Of trying to hire a climate adaptation outreach specialist.

207
Neil Bettez 00:55:49.240 --> 00:56:08.280
So as Ingrid said, the Hutson River Estuary program, our goal is to protect, revitalize, and help people enjoy the Hudson River. However, if we do not take climate adaptation into account, a lot of that will not be very productive going forward because we know the world is changing. And so.

208
Neil Bettez 00:56:10.080 --> 00:56:20.640
We're hoping to make sure that communities really take climate adaptation into account, and so I'm gonna be talking a little bit more about that today. And so the.

209
Neil Bettez 00:56:22.160 --> 00:56:25.080
The climate team is here to help communities adapt climate change.

210
Neil Bettez 00:56:26.560 --> 00:56:46.080
Adaptation is complicated. There’s financial limitations, knowledge gaps, consensus building either at the, the board level or at the community level, it's even more difficult in smaller communities and especially in disadvantaged communities. So one way that we address these challenges is to explore a range of pathways.

211
Neil Bettez 00:56:47.120 --> 00:57:07.120
Another is to highlight that there are opportunities to address other issues while adapting to climate change. You know, for example, planting trees or putting in green infrastructure doesn't just manage stormwater, but it reduces heat, improves air quality, controls noise, it even increases property values. And we also want to build a regional culture of

212
Neil Bettez 00:57:08.000 --> 00:57:24.840
adaptation since the effects of climate change are not happening locally. They, they are happening locally, but not just locally. So it's much more effective if we address things regionally and collaboratively, so it helps if municipalities are working with other municipalities.

213

Neil Bettez 00:57:26.600 --> 00:57:32.200
If you've been in elected officially you know that it really helps. And finally, we want to make sure that disadvantaged.

214
Neil Bettez 00:57:33.680 --> 00:57:40.000
And environmental justice communities are included because they're gonna be disproportionately impacted by environmental hazards and climate change.

215
Neil Bettez 00:57:42.400 --> 00:58:01.960
And so before I get too far into this, I just wanted to kind of put everything in contact in context, step back a little bit, and so there are a lot of programs right now and it gets very confusing to people especially with all the acronyms, right? So there's the clean energy community program, right? So that's.

216
Neil Bettez 00:58:02.400 --> 00:58:22.480
run by NYSERDAa and it's focused mainly on reducing carbon emissions. And so, if, if you were to, you can do high impact actions like put in LED street lights or participate in community choice aggregation. There's a very important programs, but they also are

217
Neil Bettez 00:58:22.920 --> 00:58:43.080
Kind of in parallel because New York State is trying to address this on many different levels. There's also the climate smart communities certification program. That's run by the Office of climate change in the DEC, and it recognizes communities as they accomplished different things. You can be bronze, silver, or gold certified climate smart community. And the reason I am

218
Neil Bettez 00:58:43.360 --> 00:58:55.520
Mentioning this is because you can earn points for climate smart communities with the Hudson Hudson River Estuary programs. You can also receive grants from the climate smart communities that will help you become much more resilient.

219
Neil Bettez 00:58:58.080 --> 00:59:07.000
With ecosystem based approaches or plans and things like that. So, remember these are separate programs, but the goal is that we all work together to get where we need to go.

220

Neil Bettez 00:59:09.040 --> 00:59:29.200
And so this is if you go to the climate smart community certification page, there are twelve different certification actions. One of which, number seven is “enhanced community resilience to climate change” there and there are twenty one different pledge elements or actions you can take. So, this is a whole list of.

221
Neil Bettez 00:59:30.040 --> 00:59:49.840
You know, if you kinda look at some of them, you can see that they're really related to what I'm going to be talking about today and what we're trying to do in the Hudson River Estuary program, so climate vulnerability assessment, climate adaptation plan, culverts and dams, repairing buffers, nature based shorelines, you can see that there's a.

222
Neil Bettez 00:59:49.960 --> 00:59:59.120
Lot of connections between the two of them, and so I'll just the first one I want to talk about is, the.

223
Neil Bettez 01:00:00.760 --> 01:00:21.200
The enhance, in number seven, “to enhance community resilience to climate change” and its pledge element seven action, to climate vulnerability assessment. So this involves identifying analyzing and prioritizing hazards and risks. These can affect part of the community or even just a single activity. It's important to include all aspects.

224
Neil Bettez 01:00:21.880 --> 01:00:41.600
The community especially the disadvantaged ones, like I said, because they're gonna be affected disproportionately. So, where there are extreme heat areas in, often in disadvantaged communities, they have fewer, fewer trees, and so they're gonna be even more impacted by this. So these are the things that you want to take into account because eventually you're gonna have to deal with it. And.

225
Neil Bettez 01:00:42.400 --> 01:00:44.440
It's always easier to deal with the problem before it happens.

226
Neil Bettez 01:00:47.760 --> 01:00:50.440
Oh, yes, there is no current gold, but they're working on that.

227
Neil Bettez 01:00:52.160 --> 01:00:59.080

So hopefully people are gonna go for the gold and so the next one is.

228
Neil Bettez 01:01:01.800 --> 01:01:21.320
Which the next one is the climate adaptation plan, and the goal of the adaptation plan is to address the vulnerabilities identified in the climate vulnerability assessment. And so these outline a vision and set priorities and strategies to improve your resilience. The plan is also going to help your community.

229
Neil Bettez 01:01:21.760 --> 01:01:31.840
Evolve and respond going forward as things become more variable. It's always nice to start with the plan. Yes, things are gonna change, but at least you have a plan and so.

230
Neil Bettez 01:01:34.840 --> 01:01:35.640
The other one, and.

231
Neil Bettez 01:01:37.480 --> 01:01:55.240
Christine talked about this is, it's actually number six. It's the, there it's the “implement climate smart land use.” This is for the climate smart communities as well. You, they help you get points for doing natural resources, inventories or open space plans.

232
Neil Bettez 01:01:58.680 --> 01:01:59.480
And so the.

233
Neil Bettez 01:02:03.080 --> 01:02:17.720
We've been doing a lot of these actions with a bunch of different partners in the Hudson Valley. We work with the Hudson Valley Regional Council on climate action or CAPI-adapt. They're in Dutchess, in Westchester counties. They partner with municipalities. They've been mostly working on.

234
Neil Bettez 01:02:19.000 --> 01:02:39.000
PE seven, the resilience actions, so vulnerability assessments, adaptation chapters for municipalities, climate action plans. We also work with five different Cornell Cooperative Extensions and six different counties. They've been mostly working on PE seven and pledge elements nine or resilient actions, so climate

235

Neil Bettez 01:02:39.560 --> 01:02:47.280
Change education, they also are doing culvert management plans, updating local policies, things like that. So.

236
Neil Bettez 01:02:49.120 --> 01:02:54.080
The other group we work with is the Hudson Valley Flood Resilient Network.

237
Neil Bettez 01:02:56.360 --> 01:03:03.880
They bring communities together for peer learning and coordinating local and regional efforts to manage current and future flood risks.

238
Neil Bettez 01:03:05.840 --> 01:03:25.920
And then Ingrid mentioned this, there's the, we also work with Cornell on and communities on climate adaptive design. So an example of this would be redesigning a waterfront to make it resilient to sea level rise. So I think this is Kingston's plan and you can see that they have projections from twenty twenty through twenty one hundred and the.

239
Neil Bettez 01:03:26.200 --> 01:03:46.120
Goal is to make the waterfront at least usable for part of that time and make it as resilient as possible because we want people to have access to the river. And so it's a three phase process. The first is inspiring change, you're a lot of community outreach, community meetings, making sure that the goals are.

240
Neil Bettez 01:03:46.720 --> 01:03:59.120
Aligned with what the community wants, the second phase is really advancing that and trying to get the plans and the estimates together. And then the third is implementing that climate adaptive design.

241
Neil Bettez 01:04:02.960 --> 01:04:09.480
Another project we work on is sustainable shorelines, so this is promoting strategies that preserve or enhance.

242
Neil Bettez 01:04:13.800 --> 01:04:34.000
shorelines with natural benefits, so you can see that this is from dockside park in Cold Spring a picture from two thousand thirteen, it was updated, now it isn't, here's a picture

from twenty twenty three, ten years later. It's much more resilient, it's nature based approach, that's gonna be much more flexible going forward with extreme events and sea

243
Neil Bettez 01:04:34.240 --> 01:04:34.800
level rise.

244
Neil Bettez 01:04:40.360 --> 01:04:59.440
Another is the Trees for tribs program, which provides trees for planting along tributaries of the Hudson River, and so by planting trees along the tributaries, you improve water quality, you increase flood protection, helps with erosion control, improves wildlife habitat, and so we know that we're gonna have

245
Neil Bettez 01:05:00.560 --> 01:05:05.440
More extreme events, more heat events, sea level rise and.

246
Neil Bettez 01:05:07.840 --> 01:05:27.160
Makes a lot more sense to plant a free tree now from us than to try to deal with that problem in fifty years, right? So we joke around, “when's the best time to plant a tree? Well, twenty years ago.” And so start thinking about how you can take actions now that are gonna have a a real a much bigger impact in twenty, thirty, forty fifty years,

247
Neil Bettez 01:05:28.600 --> 01:05:30.560
And it's gonna save you a lot of money in the future.

248
Neil Bettez 01:05:34.280 --> 01:05:42.200
We also work on moving barriers and reconnecting streams to improve stream connectivity and reduces local flood hazards.

249
Neil Bettez 01:05:47.640 --> 01:06:07.440
The, if you go to our website, a lot of what I talked about today, there's a page there that talks about climate adaptive communities in the Hudson Valley and the assistance that we provide. You can see there's a bunch of them, the, the CAD studios climate smart communities, climate resiliency. We can provide a link to this.

250

Neil Bettez 01:06:07.600 --> 01:06:27.960
If you can't find it later on, but I wanted to talk to today specifically about, we have a link in there to grants that we provide. And so, if you go there, you'll see that we have several grant opportunities right now, we'll be awarding about seven hundred and fifty thousand, well, seven hundred and fifty thousand.

251
Neil Bettez 01:06:28.760 --> 01:06:47.440
For a local stewardship and planning, which includes vulnerability assessments at adaptation plans, natural resources inventories, open space plans, as well as like watershed based stewardship and planning, including road-stream crossing inventories. And so those are due July seventeenth at three p m. And it's a different.

252
Neil Bettez 01:06:49.240 --> 01:07:07.840
Grant portal than it was with the consolidated funding applications so just plan ahead for that. And the other one I wanted to talk about is the grants that are available through the climate smart communities grant program. This is round eight. They're offering twenty two point five million.

253
Neil Bettez 01:07:09.080 --> 01:07:22.360
Available for municipalities to address greenhouse gases. There are, three different categories, there's implementation and then there's certification and implementation is there are two subcategories. There's the greenhouse gas mitigation.

254
Neil Bettez 01:07:24.520 --> 01:07:44.080
That's not as related to what we're doing, but there's the climate adaptation. So you can reduce your risks- infrastructure, natural resources, things like that, and then the certification, that's a lot of what I talked about today. So if you're not already working with one of the organizations I mentioned, you could write a grant with them or us.

255
Neil Bettez 01:07:44.360 --> 01:07:48.440
And you could do some of these, projects that we talked about. So.

256
Neil Bettez 01:07:52.920 --> 01:08:12.600
And finally, the climate adaptive design, I wanted to make sure everyone was aware of that. Ingrid mentioned it, but we can also provide a link - that webinar is coming up on Thursday June twentieth at one o'clock, and so you can register for that and learn about the climate adaptive design process. And then.

257
Neil Bettez 01:08:13.240 --> 01:08:18.880
Finally, here's our contact information and we can answer questions.

258
Neil Bettez 01:08:22.640 --> 01:08:23.279
Now I need to.

259
Ingrid Haeckel (she/her) 01:08:23.960 --> 01:08:34.480
Thank you, Neil and Christine. So we have plenty of time for additional question and answer. Thanks so much for the presentation, and I think it really highlighted how

260
Ingrid Haeckel (she/her) 01:08:35.960 --> 01:08:56.240
Hudson River Estuary Program's work to advance adaptation and resilient efforts in the Hudson Valley is not just limited to the climate team. It really spans all parts of our program and we're seeking an integrated approach to this challenge. So we have a few questions that have come in.

261
Ingrid Haeckel (she/her) 01:08:56.560 --> 01:09:00.359
I want to remind folks you can use the Q and A function to submit questions.

262
Ingrid Haeckel (she/her) 01:09:02.600 --> 01:09:21.759
There was a quick question related to climate smart communities that came in, whether certifications are self scored or are points that are validated and certified. So I guess I could answer that quickly by sharing that the

263
Ingrid Haeckel (she/her) 01:09:22.720 --> 01:09:30.839
Submissions are reviewed by staff from the office of climate change and in some cases by other partners in the agency.

264
Ingrid Haeckel (she/her) 01:09:32.920 --> 01:09:40.440
And so that it's not self scored or validated. There, there is a validation process that occurs.

265
Ingrid Haeckel (she/her) 01:09:44.720 --> 01:10:02.800

So there's a question going back to Amanda's presentation and again a reminder if, if there are additional questions about the climate impacts assessment, please share them. And this is, how is New York State using the results of the climate impact assessment and developing policy or permits?

266
Ingrid Haeckel (she/her) 01:10:03.000 --> 01:10:11.520
For example, are there updates for storm water sizing criteria? Have the state agencies and various departments been briefed on these findings to incorporate the work?

267
Amanda Stevens - NYSERDA she/her 01:10:13.880 --> 01:10:33.720
Yeah, thank you. So, we have definitely briefed a number of agencies and will continue to do so, there are a number of agency state agency staff who are actually involved with the development of the assessment, either as a workgroup member or as an advisor, so.

268
Amanda Stevens - NYSERDA she/her 01:10:35.920 --> 01:10:41.560
We anticipate and hope that those folks will take the information back as well to where they work.

269
Amanda Stevens - NYSERDA she/her 01:10:43.520 --> 01:11:02.560
So I, I can't say for sure or for certain yet, which, which agencies and which programs are incorporating the information, but the idea that's the hope that they will be doing that. We will continue to engage with them to help as we can. The one thing I will mention is that there is a.

270
Amanda Stevens - NYSERDA she/her 01:11:04.440 --> 01:11:24.280
The extreme heat action plan that will be released hopefully sometime this summer, that does use the assessment as, kind of the foundation for the work. So it is working into, into policies and plans. And hopefully will continue.

271
Amanda Stevens - NYSERDA she/her 01:11:26.720 --> 01:11:26.800
Thanks.

272
Ingrid Haeckel (she/her) 01:11:29.800 --> 01:11:33.200
Yeah, thank you. So there's another question about.

273
Ingrid Haeckel (she/her) 01:11:35.480 --> 01:11:47.920
Well, first quickly, Neil, whether you could put up the contact information slide again for folks who may wish to write down those email addresses, we will also share the contact information

274
Ingrid Haeckel (she/her) 01:11:49.320 --> 01:11:57.760
in addition to all the links we put in the chat in a follow up email next week along with the link to the recording for this webinar.

275
Ingrid Haeckel (she/her) 01:11:59.960 --> 01:12:05.040
There's a question about whether Estuary program staff can assist a municipality in writing a grant application.

276
Ingrid Haeckel (she/her) 01:12:06.640 --> 01:12:20.000
And unfortunately we cannot, we can help answer some basic questions about project eligibility, though. So, if you, you do have questions, feel free to reach out and we'll answer.

277
Ingrid Haeckel (she/her) 01:12:21.400 --> 01:12:32.480
What we are able to during this RFA period. But we aren't able during the RFA period to advise on projects specifics and developing the project.

278
Ingrid Haeckel (she/her) 01:12:34.920 --> 01:12:54.360
We have another question from the Village of Rhinebeck, the Cornell cooperative extension did a culverts and dams inventory of Rhinebeck but it didn't really cover the village. We're having a lot of issues with flooding in the village and storm water management. What would you recommend we pursue? Should we ask CCE to do a study with the village or apply for this

279
Ingrid Haeckel (she/her) 01:12:54.680 --> 01:12:58.880
Grant, the Estuary grant with the July seventeenth deadline?

280
Ingrid Haeckel (she/her) 01:13:02.320 --> 01:13:03.080
Neil, do you wanna.

281
Ingrid Haeckel (she/her) 01:13:05.440 --> 01:13:08.560
Share any thoughts on that? I can also chime in. Okay.

282
Neil Bettez 01:13:08.680 --> 01:13:28.520
I mean if you could try to get a grant in by the seventeenth, it always is nice to have a plan. That's gonna be the best way that you can get money later on, I think, just based on my experience, it's nice to have a plan and have think about, and even if you don't get the, the grant awarded to you, it's always good to kind of

283
Neil Bettez 01:13:29.720 --> 01:13:38.640
start thinking about it and figuring out what you want to do, so I I would say it's always good to apply for a grant if you can.

284
Neil Bettez 01:13:40.600 --> 01:13:53.680
But you probably also have some of the same issues with your hazard mitigation plan with the county, so you probably already trying to deal with these things. So why not try to get a, see if you if you can get a grant right now.

285
Ingrid Haeckel (she/her) 01:13:58.680 --> 01:13:59.000
Thanks.

286
Ingrid Haeckel (she/her) 01:14:00.600 --> 01:14:20.360
Yeah, the, you know, and it also it doesn't hurt to reach out I would say to CCE, to the resiliency partnership about your interest in that work as well as, you know, I would, I will put our colleague Jim Katz's email in the chat. Jim leads our work on Culvert.

287
Ingrid Haeckel (she/her) 01:14:21.000 --> 01:14:26.040
Assessment and mitigation and he could help advise you on next steps.

288
Ingrid Haeckel (she/her) 01:14:44.000 --> 01:14:48.480
So one other, thing, you know, if there are other questions, please.

289
Ingrid Haeckel (she/her) 01:14:49.920 --> 01:15:03.800

Feel free to ask them now. We'll, we'll hang on the line for another minute or two to see if there are other questions. I will say related to the climate impacts assessment that in the past our climate team put together

290
Ingrid Haeckel (she/her) 01:15:06.120 --> 01:15:19.320
Shorter regional climate summary reports and kind of a generic template that could be incorporated to a municipality's' vulnerability assessment or climate adaptation plan or a.

291
Ingrid Haeckel (she/her) 01:15:21.160 --> 01:15:36.320
Natural resources inventory or or other plans, and we're working on updating that right now to incorporate the latest projections in the new assessment. And so we'll also can update you on when that's available through the website.

292
Christine Vanderlan (she, her) 01:15:42.200 --> 01:15:44.800
I have a question for Amanda. If she has

293
Christine Vanderlan (she, her) 01:15:46.040 --> 01:15:46.320
a moment.

294
Christine Vanderlan (she, her) 01:15:48.600 --> 01:16:03.200
You had mentioned about works that you are wanting to do, that there'd be something more forthcoming, a couple of things you mentioned the equity related report pulling that stuff into one place, and then it sounded like there was another.

295
Christine Vanderlan (she, her) 01:16:05.360 --> 01:16:21.880
The air quality-wildfire related, so to stay up to date on what's coming and isn't there on the website yet, how do people stay up to date on that? Can they sign up for an email to get, you know, updates? Should they just check the website periodically? Is there a different place to look for what's new?

296
Amanda Stevens - NYSERDA she/her 01:16:22.520 --> 01:16:29.440
That's very good question, and probably something we should do a little more thinking about. So we do have a

297

Amanda Stevens - NYSERDA she/her 01:16:31.040 --> 01:16:43.440
I don't even know if you'd call it a newsletter, but there is a, something like that that you could sign up for on the website. And we certainly don't send out a lot, but when they're, when there is new information.

298
Amanda Stevens - NYSERDA she/her 01:16:44.960 --> 01:17:05.120
Available, things like that, they will, it will be going out to that, to that email list so you could certainly sign up for that. I think it's a good point that you raised that there's, there's a lot that we would like to do with the website that we didn't have time and resources to do right now. So I think I think.

299
Amanda Stevens - NYSERDA she/her 01:17:05.400 --> 01:17:25.400
Things like this, like a coming soon or something like that, could be helpful. The, the wildfire stuff is a, is a research idea and so right now there's a where we're starting to have some breathing room to sit down and, and kind of go through all the research recommendations that came out of the.

300
Amanda Stevens - NYSERDA she/her 01:17:27.320 --> 01:17:46.120
Kind of the assessment as well as some other priority research needs that other organizations have noted. And try to really sift through that and see what makes sense for, for NYSERDA to fund, what may or may not fit within our peer purview to do. So that sort of.

301
Amanda Stevens - NYSERDA she/her 01:17:47.640 --> 01:17:59.200
Not yet something I could even say is for sure coming, but it's it's likely that wildfire, for example, would be a, one of the higher priority research items we might look into.

302
Amanda Stevens - NYSERDA she/her 01:18:00.600 --> 01:18:16.680
But yes as far as the, on the research side of things, we don't have a really good way of, letting folks know of what we're working on, and that's kind of NYSERDA-wide, I think, not just the assessment. But I would say this, the, the list serve would be a, a good place to start.

303
Christine Vanderlan (she, her) 01:18:20.920 --> 01:18:24.800
It looks like Jesenia posted a link for signing up for that in the chat.

304

Christine Vanderlan (she, her) 01:18:26.120 --> 01:18:26.760
Thanks, Jesenia.

305
Ingrid Haeckel (she/her) 01:18:33.880 --> 01:18:54.160
Amanda I was also curious, you know, I know that DEC is in the process of updating the state's sea level rise projections in relation to the new assessment, and was curious if, folks are interested in that process, do you want to

306
Ingrid Haeckel (she/her) 01:18:54.520 --> 01:18:55.400
Share anything or

307
Ingrid Haeckel (she/her) 01:18:57.520 --> 01:18:57.880
Websites

308
Ingrid Haeckel (she/her) 01:19:00.000 --> 01:19:14.120
for looking at those sea level rise projections. Because I know we realized some of the, some of the sites that we've been using over years are kind of reaching the end of their, their lifespan and there are a lot of different tools out there. That's a frequent.

309
Ingrid Haeckel (she/her) 01:19:16.200 --> 01:19:19.160
Frequently asked question, I would say we run into.

310
Amanda Stevens - NYSERDA she/her 01:19:19.800 --> 01:19:23.560
Yeah, that's a that's a good question. For the DEC

311
Amanda Stevens - NYSERDA she/her 01:19:25.000 --> 01:19:45.040
Projections, I will see if I can find that link, excuse me, and drop that in the chat or if not send it, send it to you later to provide. But they do have the Community Risk and Resiliency Act site, which is where they keep folks updated on, on what they're doing for sea level rise, regulations, and other things.

312
Amanda Stevens - NYSERDA she/her 01:19:46.440 --> 01:20:00.160
So all I know about that is that they, that has gone out for public comment and I think they are in the process right now of responding to those public comments. So I don't have a good timeline on.

313
Amanda Stevens - NYSERDA she/her 01:20:01.440 --> 01:20:21.680
When they will be releasing those new projections, but they are in process. And as far as mapping tools, there are a lot out there for sure, and there are a number of them, a couple of them that we supported in the past, really should still be useful because the way that many of them are set up

314
Amanda Stevens - NYSERDA she/her 01:20:21.960 --> 01:20:28.800
are based on, simply the amount of sea level rise. So it's not saying

315
Amanda Stevens - NYSERDA she/her 01:20:30.240 --> 01:20:44.800
In fifty years, this is what it will look like we're saying with, you know, twelve inches of sea level, this is what it will look like. So you can still use a lot of those maps that are out there, because they're not necessarily tied to a time frame.

316
Ingrid Haeckel (she/her) 01:20:49.440 --> 01:20:55.120
Thank you. I just put the Cara website into the chat.

317
Amanda Stevens - NYSERDA she/her 01:20:55.840 --> 01:20:56.040
Thanks.

318
Ingrid Haeckel (she/her) 01:21:05.400 --> 01:21:07.040
I'm not seeing any further questions.

319
Ingrid Haeckel (she/her) 01:21:10.800 --> 01:21:29.000
There is one that just came in. Okay, question of that this person understands there was a DEC, there was DEC research in the Susquehenna Watershed looking at future peak flow increases, will the results of this research be integrated into the state's guidelines?

320
Ingrid Haeckel (she/her) 01:21:31.400 --> 01:21:33.440
Sure if you're familiar with that study or.

321
Amanda Stevens - NYSERDA she/her 01:21:34.840 --> 01:21:45.680

I’m somewhat familiar with the study, but I don't know a lot about it and I, I can't speak for DEC whether they're gonna be integrating or how they will be using results.

322
Ingrid Haeckel (she/her) 01:21:54.680 --> 01:22:14.880
Thank you so much, Amanda, for your presentation and to Christine and Neil as well. We will be sharing the link to the recording as well as to the slides you presented with everyone who registered and, oh sorry, there's one more question, coming in, so I'll bring it up now.

323
Ingrid Haeckel (she/her) 01:22:17.720 --> 01:22:19.280
I, so this is a question.

324
Ingrid Haeckel (she/her) 01:22:21.960 --> 01:22:38.240
About climate action planning Institute, CAPI, which Neil touched on, that CAPI is finishing up support for city operations climate action plans. Do you know if there's support for or projects for community level plans? Like municipal level plans? And.

325
Ingrid Haeckel (she/her) 01:22:39.560 --> 01:22:44.000
So those climate action plans are focused on greenhouse gas mitigate emission mitigation.

326
Ingrid Haeckel (she/her) 01:22:45.960 --> 01:22:52.280
And and Neil talked about vulnerability assessments and adaptation plans, which are focused on the adaptation side of things.

327
Ingrid Haeckel (she/her) 01:22:53.840 --> 01:23:03.520
I would assume there's funding through for the DEC climate smart communities grants could support municipal level climate action plans.

328
Neil Bettez 01:23:06.360 --> 01:23:12.880
Yeah, in the the their June thirtieth is the deadline for those grants. So if you're not already working with Kathy.

329
Neil Bettez 01:23:14.680 --> 01:23:17.360
And you're interested in doing these, look at the.

330
Neil Bettez 01:23:19.800 --> 01:23:28.760
The office of climate change website for when that's due, June thirtieth or thirty-first I think I said, and there's money for those plans.

331
Ingrid Haeckel (she/her) 01:23:31.960 --> 01:23:36.360
Okay, well, yeah, we'll include the the link to those programs in the follow up as well.

332
Ingrid Haeckel (she/her) 01:23:39.640 --> 01:23:41.040
Right, well thank you everyone and.

333
Ingrid Haeckel (she/her) 01:23:43.000 --> 01:23:44.000
I hope you have a great afternoon.

334
Ingrid Haeckel (she/her) 01:23:45.520 --> 01:23:54.560
Thanks again for listening and for to all our presenters. And again, we appreciate your feedback in the survey that will pop up after the webinar.

335
Ingrid Haeckel (she/her) 01:23:57.720 --> 01:23:58.000
Take care.

336
Amanda Stevens - NYSERDA she/her 01:23:58.400 --> 01:23:58.920
Thanks everyone.

337
Neil Bettez 01:24:01.480 --> 01:24:01.640
Thank you.