NOAA Nav-cast Transcript
Nautical Chart Cancellation Process, Timelines, Strategic Approach
Capt. E.J. Van Den Ameele, Julia Powell, and Colby Harmon
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Julia Powell (00:00:03):

Hi, everyone. I'd like to welcome you to today's webinar on the nautical chart, cancellation process timelines and strategic approach. My name is Julia Powell and I'm the chief of the Navigation Services. And in terms of introductory, I'd like to point out this webinar will be recorded and the slides will be made available soon after on the OCS website. This is, meant to be an interactive webinar. So if you have a question, please use the Q&A function within the chat window, and we will have someone moderate the questions after the presentation. I'd like to introduce you to the following speakers who will be helping out with this webinar and presenting this important information. Captain EJ, Van Den Ameele, who's the chief of the Marine Chart Division Colby Harmon is a project manager and senior cartographer for the raster sunset process and myself, Julia Powell. Over to you EJ.

CAPT EJ Van Den Ameele (00:01:02):

Thank you, Julia and good afternoon, everybody, or good morning, depending on your location again on Captain EJ Van Den Ameele with NOAA and as chief of the Marine Chart Division, I oversee the production of all of our electronic paper and raster nautical charts. We have a staff of about 80 cartographers that annually analyze up to 20,000 pieces of new information that, could potentially go on our charts for updates. And then we process those, apply it to the chart, or at least weekly updates of those charts. So we're the, we're the production shop for notice that was nautical charts. Next slide, please.

CAPT EJ Van Den Ameele (00:01:36):

When we talk about nautical chart cancellation of our paper and raster products there, it really means there is a full suite of products and services that will be discontinued along with that cancellation process, including our print on demand, paper, nautical charts, our full-size PDF nautical charts that you can download from our website, the booklet chart PDFs, which are also available, and the NOAA raster navigational charts or RNC products that you can download from our site as well. There are a couple of services that are associated with that as well. There is the raster nautical chart tile service and the seamless raster chart services. Those are essentially a layer web map services that you can use in certain types of applications or GIS products or things like that. And then on our own website, we have the online RNC view, which uses those, tile services as well as background. And those will be discontinued. We are expecting in the later this fall, probably in the month of October. Next slide please.

CAPT EJ Van Den Ameele (00:02:39):

So this, this slide is the schedule of the chart cancellation process or timeline. We first announced that we were going to sunset our raster or paper charts in November of 2019. And shortly after that, we had a federal register notice where we solicited feedback and input from the public and from our customers all throughout this process. We've also had other, methods of getting input from the, from the public and from the community through various means, including what we call ASSIST, which you can find on the NOAA Office of Coast Survey website. And we continue to welcome and, and solicit and use your input and feedback as part of this process. And then we, we had been working for the last several years

on the NOAA custom chart, 1.0, and we recently released that version 1.0 last month. And I'll talk more to that later in the presentation.

CAPT EJ Van Den Ameele (00:03:31):

As many people may be aware back in February, we announced the cancellation of the first chart as part of this process, the Lake Tahoe chart, Chart 18665. And we canceled one chart at that time as a test of the process, there are quite a number of internal systems, as well as notification that tools, which Colby we'll talk about later in the, in the presentation. And, and we wanted to make sure we kind of knew everything that had to be done as part of the process before we started systematically canceling additional charts. So that was, that was Lake Tahoe again, back in February. And so really up until this point, everything we have done has been the preparation part of it. And right now is really, we're just kicking off the execution part of it, where between now and January, 2025, we will continue to announce the cancellations six months ahead of time and six months after the announcement of any given chart, go ahead and cancel, cancel those charts.

CAPT EJ Van Den Ameele (00:04:25):

Next slide, please.

CAPT EJ Van Den Ameele (00:04:28):

So a little bit about the reasoning for why NOAA is doing this. And, I think this graph on the right here sums it up fairly well over the last decade or so, plus we have seen the use and sales of our electronic nautical charts, or ENCs skyrocket by, by almost sevenfold. And during that same time period, sales of paper charts have decreased by more than half. It takes the same level of effort for NOAA to maintain both of those products suites and, and given those figures and sales and the increased use of electronic and decreased use of raster or paper. We just find it, unsustainable to continue to maintain two products suites that take the same amount of resources and effort to maintain. And instead we want to going forward focus those resources on making the electronic product even better at, you know, as good as it could be and even better than it currently is. So next slide.

CAPT EJ Van Den Ameele (00:05:26):

So as part of that, focus on improving the electronic nautical chart, we're undergoing a process of what we're calling ENC rescheming. On the left, you can see what our current suite of electronic charts looked like that they get on the borders and outlines of the current coverage of those charts. And really when we built out those charts to begin with, they really mostly mimicked the borders of the paper product, because we use the raster. I use the term raster and paper interchangeably because we print the paper product from the raster file itself. I'm so sorry if it is a little bit of confusing, bouncing back, back and forth between those two terms. But when we built those, ENCs out to begin with, we, we based them essentially on the raster products or the borders and the data and scales were essentially the same. But since we're getting rid of those, we don't really have a requirement to do that any longer.

CAPT EJ Van Den Ameele (00:06:15):

And we're going through this rescheming effort where we're building out new ENCs on a kind of a grid pattern, which you can see on the right hand side there. And we feel that that will, one for us make them easier to maintain, but two for the user make them a better product because you'll have more seamless transitions between scale bands or from one ENC to the next ENC, which can sometimes be awkward when, jumped from one scale to another. And hopefully as you, as you know, if a user zooms

in and out or moves from one area to another area to be a more seamless and better performance in your navigation system.

CAPT EJ Van Den Ameele (00:06:47):

Next slide please.

CAPT EJ Van Den Ameele (00:06:50):

So there are currently some impact to the, to our existing suite of raster charts that are still in production that we want everyone to be aware of. And the big one is that we have this continued application of routine data to, to those charts. We do have continued application of, we call it what we call CRIT, which is really critical corrections in DTONs, which are dangerous navigation to those charts. So anything that potentially impacts the safety of navigation, like a change to a navigational aid or a newly discovered wreck or obstruction that a vessel can strike. We continue to update that information on our raster or paper charts, but other sort of routine information like maybe new, deeper bottom depths or, or a shoreline change that doesn't impact the safety of navigation or no longer apply to the charts. And so what that means is that these charts, raster and paper charts will be getting more and more out of sync with our ENCs. And if that, if a chart becomes so far out of sync, that it becomes a concern, and we don't think anybody should be use that, that will be a trigger for canceling that particular chart.

CAPT EJ Van Den Ameele (00:07:47):

Next slide, please.

CAPT EJ Van Den Ameele (00:07:52):

Some of the considerations of where, and when we cancel individual charts, this isn't necessarily a check all these boxes, but this, these are the factors that we're looking into. Again, if we have the larger scale reschemed ENC coverage that I just showed you, that may be a factor for canceling charts as they get more and more out of date. And then again, that speaks to that second bullet, where if there's lots of large amounts of new depth or shoreline or other types of information, that's compiled to the electronic product, that's not on the raster paper. We'll use that as a reason to consider canceling a chart. Similarly, if there's a large number of local notice to mariner corrections issued for that chart, rather than spending a lot of time, applying that information to a chart that will ultimately be canceled, we may look to move that up in the cancellation schedule. Some charts that have very low volumes of sales or downloads perhaps, will be early considerations for cancellations, and some cancellations may be grouped together by

CAPT EJ Van Den Ameele (00:08:47):

Next slide, please.

CAPT EJ Van Den Ameele (00:08:51):

I want to point out, we made a decision to cancel certain smaller scale charts last, and these are they're called general charts. They're of scales of 1:200,000 to 1:400,000. And we have coast-wide coverage of all of these. And we've gotten feedback that for the time being for the next several years, users would still like some sort of a backup product, so to speak, to your electronic system that you could still have on a chart table on a, in your pilot house, if you want it to just have a much larger format than, than the

screen on your navigation system to kind of have a general overview of the area in which you're sailing or operating. So we will keep these to the very end. Next slide, please,

CAPT EJ Van Den Ameele (00:09:33):

And with that, I will hand it over to Mr. Colby Harmon, who will talk about the specific process of how NOAA will be notifying the public of pending chart cancellations and what type of information you can expect to receive. So thanks Colby.

Colby Harmon (00:09:45):

Thank you. Captain. Next slide please. So I want to go over some of the typical steps that take place when we put a chart, when we select the chart for cancellation, and the first step is to designate that chart as a last edition. So this is a kicks off a six month process that starts with, NOAA applying what we call a last edition note that I'll show you in a second. And this is the actual timeframe that was used for the Lake Tahoe chart. That note was applied on February 25th. Typically on a Thursday is when our new data comes out and then the following Tuesday the Coast Guard puts out a local notice to mariner that indicates that that chart is the last edition status, and also, makes, makes it known that that last edition note is on the chart. So he's six months or 26 weeks later, that chart is canceled on the date, indicated in the note. And then the following Tuesday that the Coast Guard puts out a local notice indicating that that chart is canceled. Next slide, please.

Colby Harmon (00:10:54):

So here is what the note looks like. This is the Lake Tahoe chart. It says, this is the last edition of this chart, and it will be canceled on, and it gives that specific date that the chart will be canceled on next slide. In addition to that, there's a document called the dates of latest additions. That's on the NOAA Coast Survey website, and it shows the dates as the name implies the dates or the editions and the edition number of all the charts that we were currently publishing. When a chart goes into a last edition status, an “L” will appear on the left side. And as you see in this box next to the chart number, and then in the far right column, the cancellation date column will indicate the date in which that chart will be canceled. Additionally, as charts are canceled, the listing for that chart will move to the bottom of the dates of latest edition document.

Colby Harmon (00:11:50):

So that'll be a cumulative list, which will ultimately have over a thousand charts listed as the charts that have been canceled. So if you have any question as to whether your chart is, has been canceled, you can go to the DOLE since to see it in that list, or whether it's in the last edition status. Next slide please. So there's two. In addition to the PDF version, there's also an HTML web-based edition of the same information presented in a slightly different manner. This, you can see chart 18665, Lake Tahoe. And it indicates that it's the last edition and the cancellation date. And similarly, there'll be a cumulative list of canceled charts at the end of this HTML or the web based document. Next please.

Colby Harmon (00:12:42):

So when the Coast Guard publishes, the local notice to mariner, you'll have an indication of the chart cancellation in two sections. Right now, all Coast Guard districts are publishing. This notice in section one of the local notice to mariner, whether a chart is in being canceled in their district or not. And if you could just one more click here to provide some of the animation. So there's four paragraphs in this, section one, one list that the document, the, actual products that are being canceled, that the Captain

just, listed also, there's a link to the DOLE that I just discussed. If you want to look to see the status of charts and the third paragraph, there's a link at the end with additional information about the raster chart sunset program. And finally, there's a link to the NOAA custom chart that the Captain mentioned, and we'll discuss a little more, later on next slide.

Colby Harmon (00:13:48):

In addition to section one, there's a section for a chart corrections segment that typically lists all the changes you have in charts, and that you need to apply as a hand corrections to published charts. And, when a chart goes into last edition status, there'll be an add notice. You'll see here in the lower left of chart, and it tells you the text or the notice as the note that has been added to the chart. One similar to the one I just showed you for Lake Tahoe. And also there's a last edition, status change where it says no new editions of this chart will be polished. It will be canceled, and it gives the dates. And it also advises that comparable at larger scale electronic navigational chart data is available. And there's also a list of a link to the DOLE here. It's interesting that when we canceled the Lake Tahoe chart at the same time or a wreck had been identified, and that was added to the chart. So that just goes to demonstrate that this is still an active chart and over the next 26 weeks, when the chart goes into last edition status, it will be maintained with a local notice to mariners. Next slide.

Colby Harmon (00:15:04):

So that's all for the, how, how will the public is made aware of last edition charts and given that six month's notice of charts being canceled in the future, and Captain Van Den Ameele will tell you now about some more chart product improvements.

CAPT EJ Van Den Ameele (00:15:24):

Great. Thank you, Colby. Next slide please.

CAPT EJ Van Den Ameele (00:15:25):

This is an example of where we've reschemed with larger scale electronic nautical chart coverage. And what you're seeing here is all of the US part of Lake Superior where we formally or previously had a paper charts at 1:120,000 scale. And all of these new ENCs are either at 1:80,000 or 1:40,000 scale as well. So, this is the type of example where we're considering doing chart cancellations on a regional basis where we can say for this particular region, we have better coverage in the reschemed grid format for our ENCs. Next slide, please.

CAPT EJ Van Den Ameele (00:16:06):

As far as the rescheming goes that I mentioned earlier, this is where we are. We've really been doing this just about a little bit over a year now, maybe a year and a half, and we're working our way around the, around the United States in certain regions. So in these images, green are the ENC cells that have already been completed, a yellow are ones in final quality checks. Not too many of those you can see on these images. Red are the ones we're currently working on. So working on the Great Lakes and some parts of Florida, Mississippi River and Long Island Sound the coast of Long Island right now is where we're focusing our efforts. And we expect to be completed with this process within the next five or six years or so. So, nothing has shown in the Pacific because we haven't started any work there yet. Next slide, please.

CAPT EJ Van Den Ameele (00:16:51):

Also, as I mentioned over several years, we've been working on what we call the NOAA custom chart product, and we released our version 1.0 on March 31st. That's when we took the prototype label off of the application. And for the folks that may not be aware of what this is, this is a, a tool that's on the Coast Survey homepage, where you can, you can find it there. If you want to take a look at it and you can go in and specify kind of the boundary of the chart that you want, the scale of the chart that you want. And then you can download a PDF of that chart that that is made based on the ENC data of course, of the corresponding region. So if you want to we're always happy to have feedback as we're trying to make this a tool as good as it possibly can be.

CAPT EJ Van Den Ameele (00:17:30):

And on the site itself, there is a button will take you to our site where you can provide us with feedback on what you think could be better about it, or what you like about it. So some of the improvements that were in the version 1.0, or that, you have the option now for the familiar NOAA's symbols for buoys and other features like wrecks and rocks, and the other aids to navigation that we have a better portrayal of chart notes. Although that's something that we continue to work on and continue to improve, because right now, because we don't know the size and scale of any given chart that a user might create, we have to put those chart notes on the second, second page, or in the PDF document that you download that we have put warnings on for automation, that's essentially a warning that says that this chart was created automatically from ENC data and was not necessarily quality checked by a NOAA cartographer, although certainly that underlying corresponding data was. And a note for now that this does not meet carriage requirements for regulated vessels who have carries requirements under the CFR code of federal regulations, and we continue to make improvements to the user interface

CAPT EJ Van Den Ameele (00:18:31):

Next slide, please.

CAPT EJ Van Den Ameele (00:18:37):

Some upcoming plans and improvements we're considering for the NOAA custom chart is we're adding additional paper sizes, by, by requests or having a little, the compass roses are still a little quirky if you will, in some cases. So we're working on improving the generation of a compass rose on the product. We're adding additional symbology and labeling improvements. We're in discussions with our print on demand vendors to come up with a business model of how they might be able to use the NOAA custom chart tool or a user might be able to use the NOAA custom chart tool to create a chart that can then be printed out by our print on demand agents. We're working on the ability to create user accounts and save custom charts. So if you go in and you'd make a chart and you really like it, and you need to want to update it again in six months, you don't have to go in and go through all that work again, you can log in and then recreate the chart that you created last time you were in the application.

CAPT EJ Van Den Ameele (00:19:28):

Now we're looking at fixed areas of interest as well, perhaps either for us or our print and demand agents are looking for that. That's sort of similar to the ability to save custom charts where you can go in and make your own chart, or you may be able to choose from already created charts that you just recreate yourself. And we're considering an API that perhaps our POD agents or other websites could blink to, to be able to embed it within their own website. So that, you know, for example, a POD agent,

you go to their website instead of the NOAA website, and then you create your custom chart and then you can order it from them and have them print it out and send it to you.

CAPT EJ Van Den Ameele (00:20:02):

Next slide please.

CAPT EJ Van Den Ameele (00:20:08):

So I did mention the shutdown of the raster services, the, the RNC tile service and the raster seamless service by October of this year. And then sometime shortly after that, within the next few years will be the shutdown of the online raster nautical chart viewer. And we're really, we have similar services available that use the vector data. In other words, they use the electronic nautical chart data, and we're encouraging navigation system in third-party data providers that use the raster services to, to go to the ENC vector data services. And there was more information about those on the Coast Survey website. Next slide, please. So that I will hand it back over to Julia to talk about some other impacts of the raster and paper charts sunset process.

Julia Powell (00:20:57):

Thank you, EJ. Next slide please.

Julia Powell (00:21:01):

So, what are the impacts with both the ENC rescheming, but also the sunset of the paper charts really require changes to how we did references within the Coast Pilot. So the Coast Pilot, traditionally cross-reference information to the ENC and the traditional chart number. But as I mentioned that the rescheming of the future of the paper chart really required a closer look at how referencing was done. And so we made the decision to try and make the Coast Pilot product agnostic, and focusing more on waterway names rather than on product references. So next slide. So beginning with Lake Superior, which is one of our fully reschemed areas we've transitioned away. So you can see the before where it said Grand Portage Bay would refer to these three ENCSs and two specific paper chart numbers, and now it just refers to Grand Portage Bay, the Pigeon Point and the Canadian border. Part of our long term goal with referencing the Coast Pilot information is also to put some underlying geospatial information in conjunction with a project that the US Coast Guard is doing for waterways harmonization. So it's more about using your Coast Pilot to navigate named waterways versus based on specific chart products. Next slide please.

Julia Powell (00:22:25):

So the other thing I want to talk to you about is ways to engage. We have several different ways that you, as the stakeholder can engage with us. We have our regional navigation managers, which are a series of 10 navigation managers strategically placed around the United States to engage directly with our stakeholders. So you can reach out to them they're available on our website, but I'd also like to go to the next slide. And I think that the real specific way to best engage is through ASSIST and ASSIST is our, our online tool where you can inquire report an error to products or have questions and comments. And we have, we pride ourselves on a fairly quick turnaround time and either, you know, getting back to you, right, with the answer, or going back to our individual divisions to research and provide you with the correct answer.

Julia Powell (00:23:21):

Next Slide.

Julia Powell (00:23:24):

Lastly, I'd like to talk about, you know, this is the first in a series of two webinars that we are putting on. So May 20th at 1:00 PM and we'll, we'll do another push with email and social media is that we're going to actually have an in-depth webinar on the NOAA custom chart application. So what EJ had talked about in terms of, you know, the uses we'll have a demonstration and sort of the applicability of how that tool, how that application will work, and that will allow the opportunity for users to ask questions specifically to that application. So next slide, please. So I'd like to open it up to a question and answer period, please remember to use the question function within the webinar tools. I see we have a few questions coming in and so I'm going to turn it over to Geoff. Who's going to help moderate the questions for us.

Geoff DiPre (00:24:27):

Thank you. And, to all three of you, fantastic presentation, and thank you for the great information. As Ms. Powell just stated, if you do have questions, please submit them to the question tab that you could find on your dashboard. The first question that we received is for Captain Van Den Ameele. In a graph that you presented, which shows the increase of ENC sales and usage, out of curiosity, can you explain the reduction of ENC sales and usage in 2017?

CAPT EJ Van Den Ameele (00:25:01):

Yeah. Thank you for that. And I see that questions from Denis Haines. Hi Denis. I think your best guess is the same as my best guess, to be honest, I haven't researched shows that dip is, but that was around the time we did switch to IC-ENC. So that probably is a good explanation for that. So I realize I'll have to dig into that cause I'm curious about it myself.

Geoff DiPre (00:25:22):

Thank you for Mr. Harmon, how has the reaction been to the announcement of the sunsetting process? Have you received feedback and how are you handling any reluctancies from users and those that are wanting to maintain paper charts instead of adopting to ENCs?

Colby Harmon

Right. So as the Captain indicated, we published the notice in the federal register November, 2019. And that's when we first started getting, specific questions and comments about the raster sunset program. And, as you might imagine, there was several people that were concerned about having a paper chart backup on their, on their vessel. And that's part of the reason why we created this NOAA custom chart application to be able to provide that service for people. I think over time, there was a much more reluctance to embrace the sunset of the raster chart program. But over time, I think people are realizing that just as, other media have moved to an electronic format, it's time for NOAA custom chart and NOAA charts to do the same. So I'd say overall, there's a gaining acceptance of the use of electronic charts.

CAPT EJ Van Den Ameele (00:26:55):

I might, I might just add that, that we do recognize that for certain reasons there, you know, the desire for paper may never go away or maybe not for a long time. And as Colby mentioned, that's the intent of

the NOAA custom chart tool is and why we want to just continually make it better and develop it to be as good as it can be. So that's why we, your feedback to us is critical on that tool.

Geoff DiPre (00:27:17):

And speaking of feedback, we do have that we've had one or two comments saying that they've already used the custom chart function, and think that it's a great tool. A follow up question. And, Ms. Powell, you mentioned the May 20th webinar, but are there any demonstrations or guiding documents online to show first time users, how to use the custom chart tool?

Colby Harmon (00:27:44):

Oh, there is a new link. If you go to the Coast Survey website now underneath the link that goes to the NOAA customer chart, there's a link for a brand new user guide. We did have a two page quick start guide, but now this provides about 15 or 16 pages of more detailed instruction on how all the different settings work. So that's available now, it's in the future, there'll be a link directly within the application and the documentation tab. That'll link to the, the user guide as well, but that's, that'll be a few weeks or a month off.

CAPT EJ Van Den Ameele (00:28:24):

And I'll also add that the NOAA custom chart site does also have a video posted there that can walk you through the video is created on the based on the prototype. So it may look and feel a little different from the current, look of the application, but the, the guidance given in the video is still mostly valid. So there's, there's that help as well on the NOAA custom chart site.

Geoff DiPre (00:28:45):

Thank you. I have two questions here regarding future possible futures for ENCs. The questions are, will future ENCs include relevant land topography. In fact that they create wind and sea conditions that can be critical to navigation safety, and will future ENCs account for climate change features such as rising sea levels and their impact on coastal navigation.

CAPT EJ Van Den Ameele (00:29:14):

Yeah, I can, I can take that one. So on the first one we have just undertaken a project and within the last couple of months to start to include topography and roads on our electronic nautical charts. So look for that in the future. I don't have a time at the moment, as I said, we're just getting started on it, but we do have plans to include those on future ENCs. And then certainly just in our overall effort to keep our charts up to date as possible, any impacts to you know, whether it's sea level change or changes to shoreline or any other things that might be a result of, you know, of climate change or any other factors will be up-to-date as best as we can, as we strive to keep our ENCs up-to-date in general with all of the new pieces of data and information that we get.

Julia Powell (00:29:57):

And I'd also like to add in terms of the rising sea levels and impact on coastal navigation is we're also undertaking a program called Precision Marine Navigation that is working to supply additional data sets that will work in conjunction with your ENC and high resolution bathymetry with, we're also planning on issuing that will give you a good picture of the water level forecast specifically for navigational areas up to 48 to 72 hours. And we're expecting that to come online within the next two to three years, at least in terms of initial operating capabilities.

Geoff DiPre (00:30:40):

Thank you. And I'd just like to apologize if the construction sounds in the background are coming through my apologies for that. But moving on one question that you mentioned that you were considering an API and to that end, what is an API, if you could explain that and will it be possible to have public access to the WMS server or the map server that is used by the custom chart tool?

CAPT EJ Van Den Ameele (00:31:15):

So on the first question, apologies for the acronyms, you know, as we work in government, we live with acronyms every day and sometimes just can't fight the resistance to use them, even though we try really hard sometimes. So an API is application programming interface, and that's basically it's a, a technology whereby information contained on one website and, you know, say in the form of an application like the NOAA custom chart tool can be represented or embedded in another website or something like that, iPhone app or, or something of that nature. So while we would still run the engine of the NOAA custom chart tool, the user interface would be maybe somewhere else. Like I mentioned, like other print on demand vendors, websites. So rather than in that example, going to the NOAA website, creating chart, downloading it and sending it over to someone else to print it, you would go to their website, they would have the user interface on their website for you to create your custom chart. But the engine of that would be, would be running on a, on a NOAA server, a NOAA computer and the API or the application programming interface is kind of the technology that enables that to happen. And the second question again, please.

Geoff DiPre (00:32:21):

The second part of that question was will there be public access to the WMS server or the map server that is used by the custom chart tool?

CAPT EJ Van Den Ameele (00:32:33):

That is a good question. I believe there, there will be, I think there already is. And we'll take that for as a suggestion and look into that. Thank you.

Geoff DiPre (00:32:40):

Great. In the frame of POD, when will agents be able to provide US Coast Guard approved custom POD charts?

CAPT EJ Van Den Ameele

That is a good question for which we don't have an answer. We are looking into what it would take to make a carriage compliant, NOAA custom chart. And we've started that process by really writing up the specific requirements of what makes a chart itself meet, meet regulation for carriage requirements. And we hope to strive to get there with the NOAA custom chart, but I don't have a particular date or certainly not going to make that a guarantee at this point that we can do that, but it's what we, what we are working for and what we hope for in the, in the sometime distant future.

Julia Powell (00:33:24):

And then I'd like to also add, we are working with our current POD vendor network on a way forward to what we call POD in terms of how a chart produced from that custom chart application. Once it meets

the specifications that Captain Van Den Ameele spoke about how that can be, you know, certified in terms of carriage for backup type arrangements.

Geoff DiPre (00:33:55):

And in the same vein speaking of US Coast Guard approved chart, how will the requirements of vetting companies or customers those that are involved with the transport of petroleum a paper chart use in plotting be able to be satisfied without Coast Guard approved?

Colby Harmon

Well, I would just note the US Coast Guard NAVIC that came out a couple of 2016. I believe that it enabled regulated vessels to use ENCs in lieu of paper charts. The Coast Guard is also presently working on a preliminary steps that will result in new regulations related to the use of electronic navigational charts. So right now regulated vessels are, can use either ENCs or paper charts.

Geoff DiPre

And there is a similar question, which I think you were kind of alluding to this with the push to ENC navigation, what is the Coast Guard's policy for the chart system on a non-SOLAS ship? Do they require ECDIS or an ENS, and where is the regulation shared if you know?

Colby Harmon

So right now the Coast Guard does not require an ECDIS. In fact, the NAVIC doesn't specify particular system requirements. There is a list and we can provide this later. There's a link to the NAVIC on the NOAA website. So for non-regulated non-SOLAS or for regulated non-SOLAS vessels operating in domestic waters there is there there's a general requirement that they can use ENCs with an appropriate display, but it doesn't get very specific the new regulations that they are developing, maybe, have more specificity but that's a year or so in a way, at least I think.

CAPT EJ Van Den Ameele (00:36:18):

Okay, good. NAVIC I think its notice of vessel inspections, circular. It's just a rule, essentially, a rule change that the Coast Guard publishes.

Geoff DiPre (00:36:34):

Great. So kind of turning over to ENC is a couple of questions here. Do we know how the local notice to mariners will handle the critical corrections applied to ENCs?

Colby Harmon (00:36:50):

Well, the ENC notices don't really apply to ENCs at all, because all those changes are incorporated in the data themselves. So there's updated files that are associated with the ENCs that are released with the main ENC document or beta so notices local notices that apply to paper charts. The same data appears on the ENCs, but notices don't apply as they do to, you know, to direct someone to make a change in the ENC data it's already there.

Geoff DiPre (00:37:36):

Okay. Thank you for the custom charts. Sorry, I just lost my place. I apologize. Going to a different question. Will the light list use the same agnostic scheme of using waterway names instead of chart numbers as is being done with the Coast Pilots?

Julia Powell (00:38:06):

Yeah. I don't want to speak for the future plans of the US Coast Guard, which maintains the US light list, but we are working closely together with the US Coast Guard in terms of how we do this waterways, harmonization and moving with named waterways. So what we're doing with the Coast Pilot has the buy-in of the Coast Guard. But I have noted that there are several participants from the US Coast Guard, which is from the sector. That's responsible for that, the overall direction of the US light list. And so I think they'll, they'll take note of this question.

Colby Harmon (00:38:47):

I can, I can add a little more to that, that, that the harm, the waterway harmonization project, that's going to develop a standard set of names and of locations or areas defined particular waterways. Many of those names I've been told come directly out of the light list that already references particular waterways and they, they are similarly will, as the charts are canceled, we'll remove those chart references from the light list. What the notice is I know obviously the light list will be maintained regardless of the existence of charts or not.

Geoff DiPre (00:39:41):

Speaking of kind of references and chart listing, what will happen to the chart number one for reference to all the other charts.

Colby Harmon (00:39:50):

So, that's a very good question. I'm the editor of the chart number one. So it's something I've thought about for a while. Obviously as chart as a paper charts are canceled, there'll be a point where that particular reference to those charts may go away. The chart one US chart one is one of the few national chart ones that actually show paper chart and electronic chart or ECDIS symbology at the same time. So we'll maintain that for the electronic chart reference as we move forward with a NOAA custom chart is obviously a standard set of symbology. That'll be used for that right now. It's kind of a hybrid of NOAA customer chart or our NOAA, traditional symbology and other what we call INT symbology that's specified by the International Hydrographic Organization. But there'll be a time where a new edition of a US chart, one will likely show the symbology used on the NOAA custom chart output as well as a symbology used on ECDIS systems to display ENC data.

Geoff DiPre (00:41:08):

Is there any plan to provide navigation software that can be applied to the ENC? As far as this attendee knows right now, only third party vendors provide these applications.

CAPT EJ Van Den Ameele (00:41:23):

Right. And NOAA, as the federal government certainly doesn't have plans to develop a navigation software that we use ENC data. If I understand the question correctly. You know, we leave that to private industry to develop those, but we do, we, we will have viewers on our webpage, if you wanted to go in and just kind of navigate your way around ENC data, you know, on our website that is of that is currently available and will continue to be available.

Geoff DiPre (00:41:54):

All right. How will this process affect chart plotting for testing for master or mate licenses?

CAPT EJ Van Den Ameele (00:42:04):

So we are in, in dialogues with the US Coast Guard about that question, and we expect that there will be a, it will be a function of the NOAA custom chart in the future, both create the training charts that are currently used for, for maritime instruction, as well as the for the piloting exams. You know, those, those kinds of blank charts where everything between the shorelines or, you know, see where the shoreline is blank for, for pilot testing purposes. So we are working with the Coast Guard and how to fulfill those requirements in the future as we, as we sunset the traditional paper charts.

Geoff DiPre (00:42:41):

Great. Thank you. I believe this question is in reference to the rescheming plans in areas that are still in planning phase, such as Alaska do the raster charts, and ENCs still can contain all the same information and if not, how does the user know? And I'll add another question that asks kind of looking beyond our borders. Is there any interaction or partnership with Canada on these types of processes?

CAPT EJ Van Den Ameele

So, yeah, so that gets aware that there is a lot of sort of routine type of data that's not critical to navigation necessarily, or what it, isn't a danger to navigation. I should say, that is being applied to the ENC that is not being applied to the raster. So there is the potential for those to get, to get more and more out of date. And again, if we feel that a raster chart is too far out of date, or is in too much disagreement with the corresponding ENC, then that will be the criteria for canceling that chart, because we don't want, obviously out of date products on the street that, you know, impact navigation in some way.

CAPT EJ Van Den Ameele (00:43:47):

And yes, we are cooperating with Canada, particularly on the re scheming effort as it, as it impacts the boundary of Mexico, as well as a matter of fact for other border as well, because as many folks may know, you can have overlapping ENC coverage between between nations, but at the same scale band or usage bands, I, where have to coordinate very closely with our, where we have international borders on, on those efforts.

Colby Harmon

Okay. Just to reemphasize, if I understand the concern from the question is the data on the electronic navigational chart will be more up-to-date than the paper chart and have a greater fidelity of data, especially related to hydrographic routine hydrographic surveys and shoreline surveys. And I'll note that as rescheme and we move towards this new grid layout for our electronic navigational charts, these, we are often increasing the scale and level of detail and the coverage that would be greater than what's available on the paper charts now.

Geoff DiPre (00:45:01):

In a similar vein, just in terms of what's included in an ENC and how up-to-date it is one attendee asks if an aid to navigation's position in the light list is correct. Is the position on the ENC chart also always correct?

CAPT EJ Van Den Ameele (00:45:19):

Yes. The US Coast Guard is the source of information for all aids to navigation depicted on our ENCs and charts so if the Coast Guard makes a change to the position of an aid to navigation, we will get that information pretty much right away. And then that can be applied, you know, on a rapid basis to the ENC it applies to, and then be part of our weekly Thursday distribution of new ENCs. So again, the Coast Guard is the source of the positions for all aids to navigation depicted on our charts.

Geoff DiPre (00:45:55):

Thank you. There are a couple of questions here where there might be some confusion as to the custom chart tool. The questions we're asking are the new custom ENCs too complicated. Will I still be able to just download ENCs to use with our computer on the tug and will POD providers be able to sell ENCs if you could clarify what that custom chart tool is actually doing that would.

CAPT EJ Van Den Ameele

Sure. So do you have to, the question that the ENCs our ENCs will continue to be freely available on our website for download and should work. This is just the same way that they currently do. They'll just be in a different scheme and have different borders and than what you currently see. And in addition to being able to download our ENCs for free, we also have a number of certified value added resellers that basically provide a subscription service to users if they want to go about it that way.

CAPT EJ Van Den Ameele (00:46:51):

And in obtaining up-to-date ENC. So the way that works is, you know, you subscribe and for a fee, you know, on a regular basis, they'll provide you with all of the updated ENCs that you need. So say for example, that typically sale a common route, and, you know, as part of a, say, a tug and barge company, and you want to be able to, you know, just, you don't have the staff or the resources to go through and, you know, every week or on a, on a routine basis, download those for yourself, distribute them to your fleet. And we have these via value added resellers or VARs that will do that for you. So we don't have print on demand vendors that will, are providing the electronic product, but we do have these value resellers and a list of those resellers is on the Coast Survey website, because that is an option for how and how you can obtain or up-to-date ENCs on a report basis.

Geoff DiPre (00:47:42):

Thank you. One attendee asked is it true that the cancellation of printed charts is not linked at all to the rescheming effort? Or is there any connection there?

CAPT EJ Van Den Ameele (00:47:57):

There's no direct connection. In other words, when we rescheme an area, that's not going to necessarily trigger the cancellation of any charts, but it, but it could. And we may use that as a reason particular, where we think we have much better, more detailed coverage, as Colby mentioned, and in an area. And again, that goes back to the example of Lake Superior that I saw since we do have really good, reschemed, more higher level of detail, ENC coverage. We may look at an area like that to consider

cancellation sooner rather than later, just because we have much better data and better information available on the ENCs than we had at the, at the smaller scale, less resolution paper and raster product. So they're not directly, they're not directly linked, but one could drive the other.

Geoff DiPre (00:48:40):

Thank you. One attendee mentioned that the reluctance to stop using raster chart is the reduction of local names of points and some smaller islands where the replacement of raster charts aim to include all local names that are on the raster charts. So will these be included on the ENCs and a second question, will there be anything equivalent to the source diagram for each ENC area?

CAPT EJ Van Den Ameele (00:49:08):

Yeah. So thanks. Thanks for asking that on the first with the names. Yes, we do strive to include all of those geographic names, both on the ENC product, and then the corresponding, any corresponding NOAA custom chart that would be created from the ENC data. And very recently we realized sometimes the placement of those labels on the custom chart can be a little, a little tricky. And we've recently made a, I think, some significant improvements to how we're presenting and locating those labels on the NOAA custom chart. And we continue to work on that to make that even better. And what we're including with the NOAA custom chart instead of the source diagram is, is what we're calling that CATZOC diagram. Again, another, another acronym that stands for a zone of confidence or category of zone of confidence. And that tells you basically how good the data is.

CAPT EJ Van Den Ameele (00:49:55):

So there's there's category A, which is, you know, full bottom coverage with sounding, you know, multi-beam sonar for surveys that are capable of detecting all the objects on the sea floor. So that's that's category A and then it goes down from there to B, C and D to a, where B might be a, it's a good, accurate survey, but it didn't have necessarily full bottle coverage with sonar. And then, and that the quality of data is, is a little still good, but a little bit lower. So we're replacing the source diagram that tells you specifically the year and where the survey came from versus what the quality of the data is. Those are currently included in ENCs and have been as long as the ENCS have been around and how we plan to include that diagram along with the notes page in the NOAA custom chart product.

Geoff DiPre (00:50:45):

Great. One attendee asks about permanent navigation warnings before they become notice to mariner and for temporary navigation warnings, how are they included in ENCs?

CAPT EJ Van Den Ameele (00:51:04):

Well, we have certain, certain notes that appear on all of our paper charts currently, and those will all appear on the NOAA custom chart product as well. And they are also embedded in the, in the ENCs. So those will be part of the notes page that I mentioned earlier, and those are various types of rules, regulations, environmental regulations, navigation regulations, things of things of that nature temporary navigation warnings. We, I don't think we generally include on our charts, but those are usually included in the local notice to mariners. And that would generally be the primary source for those sorts of temporary types of navigation warnings.

Geoff DiPre (00:51:44):

Great. When using ENCs, will it be necessary to do updates at regular intervals, similar to paper charts?

CAPT EJ Van Den Ameele (00:51:56):

So our ENCs as mentioned are distributed weekly, they're uploaded on Thursday. So generally, usually around Thursday afternoon into Friday morning, or when any weekly update are, are updated or posted available to the public. And those would include all of the chart corrections or dangers or issues that have been distributed through any given local notice to mariners. And so our website does contain the list of latest editions that including in the document that Colby mentioned. And so if there has been an update to particular ENC, because there was a local notice to mariners that applied to that ENC, that information would be available on our website as well.

Colby Harmon

We have it in a way to determine what, what ENC's have been updated most recently, but it also points out one of the advantages of having a subscription service is that that sort of information is taken care of for you. If you use a subscription service for a value-add and a provider ENC data.

Julia Powell (00:53:00):

And I'd also, I saw there's a couple of questions. I'd also like to point out. There are a lot of the sub SOLAS navigation systems or ECS is and portable pilot units. They actually, because NOAA data is available for free and we offer fairly robust metadata. They actually write scripts against our servers and they automatically update as we provide new data available. So a lot of times it's like, would you like to check if NOAA has more updated data click? Yes. And then it downloads the latest information. So a lot of equipment manufacturers actually have that already built in the subscription services that we talk about with the value added resellers. Those tend to be more for SOLAS class shipping that are that, that require encrypted services. And because it has it's it's, you can't redistribute your data. So that type of value added reseller, which we run it's a little bit complicated, but we have a value added reseller network that's run by our regional ENC coordinating center that offer subscription services with different types of models, such as pay as you sail.

Julia Powell (00:54:18):

Where, you, you only buy the data that you need for, for where you are in the world. And those are more for sort of worldwide models for navigation versus more US-based navigation, so slightly, slightly different. And I see there's a lot of questions about how to become a value added reseller is we don't, we don't actually, because we have our data available for free and we have tools for systems to automatically download it. We don't actually manage our third party value added reseller network. That's managed through our cooperative agreements with the regional ENC coordinator.

Geoff DiPre (00:55:01):

Thank you, Ms. Powell. And just one last time, just for everyone's information because there was a question where again, can users find the info for the resellers to get updated at ENC.

CAPT EJ Van Den Ameele (00:55:19):

So the name of the regional coordinator that Julia mentioned is IC-ENC, which is the international center for ENCS. And they're the ones that manage all of those as well as other nations' value added resellers. So I don't have the exact web address off the top of my head, but I think if you were to put that in the search engine, IC-ENC about medical charts, you would be able to find them. And that has all the

information about our current resellers about, I think also probably information about how to become one, if you were interested,

Julia Powell (00:55:49):

It's also linked on our website to get there. If you go there, the, the listing of POD agents are there's information about ENC redistribution and it talks about the value added resellers and links to IC-ENC.

Geoff DIPre (00:56:09):

All right. And with just a few minutes left before the hour is over two questions here regarding ENC numbering, one will ENC numbering still be an eight characters where the third reflects scale and band, and what is the conversation, or what is the decision on providing via ENCs the same chart numbers that are being offered now as paper charts?

Julia Powell (00:56:36):

So I can handle the first part and then I'll let EJ handle the second part. So under S-57, we are required to have a character as there's a very specific way of doing the first three characters under the new iteration of the ENC product specification, which is S-101, which will come online starting in 2023, 2024. That has a lot more flexibility in terms of naming conventions with more, more characters to play with. So I'll turn it over to EJ for the second part of that question.

CAPT EJ Van Den Ameele (00:57:12):

Well, I think, I think Julie provided the answer with your response as well, because we're locked into that international standard of that eight digit or eight character chart names that doesn't lend itself. The first two have to be US because that's the name of the provider. The second one that's what's mentioned is the scale band, the way we generally do it is that the, the fourth and fifth are the state that the chart is primarily in. And then it's a sequential number. So obviously that format doesn't lend itself to a matching the traditional chart numbers that everyone's used to seeing on the paper charts. But yeah, so I think that's the, that's the answer that question in the future, as we transitioned to more flexible names, we'll probably be about the same time that we've this most of our traditional charts. So we probably wouldn't consider it that time.

Colby Harmon (00:57:57):

The other factor is as, as we noted the shapes of the legacy ENCs if you will follow the footprint. So the paper charts they were made from, but now as we change the scale to usually a larger scale and as gridded out format the relationship between the ENC data and the paper charts that it was originally created from, it gets further and further apart, and you can't really easily make the connection between the two.

Geoff DiPre (00:58:35):

All right. Well, I think we have time for one last question. On ENC updates, is there a plan to be able to see what the changes are when an updated ENC comes aboard? So will users be able to know exactly what has changed when there is an update to the ENC?

CAPT EJ Van Den Ameele (00:58:55):

We have had that request in the past, and it's something we're looking into and considering right now. So we realize that would be a valuable application. And I think the technology is getting better and better to the point where that wouldn't be such a hard thing to do. Julia.

Julia Powell (00:59:09):

Yeah. So, so we recognized that was a deficiency within the S-57 standard and, and the way you can tell updates is it does signal it'll show the changes when we saw an ECDIS and orange, but if you're doing a large, significant of geometry changes, it doesn't actually give a fair amount of information. But as I talked about in S-101 that fixes that problem, and it has, it has a field called update information that allows the hydrographic office to say, we changed all this hydro, but here's the specific things that the hydro affected other without showing all the underlying different types of geometry changes. So it is a known problem within the industry.

Geoff DiPre (00:59:57):

Okay. And with that we are at the end of today's webinar. I'd like to once again, just thank all three of you for fantastic presentations. Thank you to the attendees for the great questions. And again, to all three of you for your very detailed answers. Just a reminder that on May 20th, there will be another webinar regarding the NOAA custom chart tool. And I will turn it over if any of the three of you have any concluding remarks before we finish up.

Julia Powell (01:00:32):

No, I just want to thank everybody for this webinar to allow us to present our future plans. And again, encourage you to attend the webinar on NOAA custom chart tool, and we'll strive to make the slides and this recording, at least the minimum of the slides of the webinar available on our website. If not both the recording and also apologize in advance, we had a lot of questions come in that we weren't able to get to. So we'll try and capture the questions and do our best we can to potentially follow up with the individual askers. EJ.

CAPT EJ Van Den Ameele (01:01:10):

So again, just that go. Thank you. Thank you very much, everybody for attending and for your great questions. And it was a pleasure giving the presentation today and answering your questions.

Geoff DiPre (01:01:28):

All right? Thank you everyone. And have a great rest of your day.