Colby Harmon ([00:00:05](https://www.rev.com/transcript-editor/shared/TNLgX2KTc5gcXF5maNKDyfzf07VGooMdRNU-2JS31G7FChgbN40O73pnGQq8JB-mGZjEXJajwteFis0m1d9CITFwj1w?loadFrom=DocumentDeeplink&ts=5.25)):

Hello and welcome to the NOAA Custom Chart version 2.0 webinar. This is a third webinar that NOAA's Office of Coast Survey has presented to keep you informed about the ongoing development of NOAA custom chart application. The others took place in January, 2020 and April, 2021. I'm Colby Harmon here with Christie Ence. We're both part of the Coast Survey's Marine Chart Division staff. Christie is chief of the Division's Chart Standards Group and also manages the development of the NOAA custom chart application. Christie and their team have made great strides in simplifying the user interface, improving the symbol and color palette used to make the custom chart look more like traditional paper nautical charts, adding more paper size options, and most notably, the addition of a personal chart catalog. This allows users to store and share their own custom chart designs so that they may easily be updated with the latest ENC data at any time. Hi, Christie.

Christie Ence ([00:01:18](https://www.rev.com/transcript-editor/shared/W4n1SVD1-H6Mh8s38Ki6jbmla8i1WOVMjgmyvlnHNE1tQovvf8EWhhiJ90sjGWkqQIfoyn4ODmubVuZMqJ-D9kGU3sE?loadFrom=DocumentDeeplink&ts=78.18)):

Hi Colby.

Harmon ([00:01:23](https://www.rev.com/transcript-editor/shared/P4bz1fLx1OIEl9LoHGkOaY1v7OJcsnOnVuzePEMjyaI4kuPvdPT8nz8oTIH4R9G_Xh9cEky-s9lh1leA2HkE9sCtTdI?loadFrom=DocumentDeeplink&ts=83.04)):

Can you tell us a little bit about the questions?

Ence ([00:01:27](https://www.rev.com/transcript-editor/shared/bly1QdERw5dXF-MniGKtNqqzOwOvXP0g6W6ZOD0WB7BQKTiT3esMl9Xvuyb7_S80IkCwNn8RytiNwtnqmGJCSRXn7Ro?loadFrom=DocumentDeeplink&ts=87.72)):

Oh, yes, Colby. Thank you. The go-To Webinar has the ability to ask questions during the presentation. Feel free to put in your questions during the presentation and the demonstration. However, we will answer the questions at the very end. There is also a possibility to use the chat window, however, we will not be monitoring that, so do not use the chat window to ask your questions. Thank you.

Harmon ([00:02:04](https://www.rev.com/transcript-editor/shared/OmlEt0X5CuSUABjPt07t-EZ8dYL2XRSyjh45SuN-0TkeQLj3YAeiax5HoFmNjNLAGr2Xs4Qf0dSu-mjGJHpKKa2kM_0?loadFrom=DocumentDeeplink&ts=124.89)):

So this webinar is also being recorded and it'll be available at the nauticalcharts.noa.gov | About|NavCast website in about a week or so. Before we get to the demonstration, I'll introduce five NOAA custom chart control panels, which Christie will explain more in detail during the demo. I'll also discuss the nautical chart and ENC intended uses and usage bands and how to use them to select the best data and more best scale for your custom chart. The safety contour will also be discussed and how it and other settings are used to apply shading to shallow water areas. Then Christie will run the demo including an explanation of the new personal chart catalog feature, and after the demo, we'll highlight upcoming nautical chart enhancements, paper sizes, and user's guides, and how to provide additional feedback about the NOAA custom chart. Then we'll have wrap up with questions at the end.

([00:03:22](https://www.rev.com/transcript-editor/shared/yGNvLuI7rQREkGuoW3ULLJ91qUYsSSm8nAQJe8hvKIlwAJkdtfqMrWUtpG9GbQoX2W4cd70fer1aPJGo8XcQOpQ4EMs?loadFrom=DocumentDeeplink&ts=202.78)):

So the application settings and other features are organized into five control panels, each of which can be accessed through a separate icon displayed above or at the side of the map window. The help documentation panel provides links to user guides and other information. The feedback panel provides a link to the NOAA Coast Survey ASSIST form that can be used to submit questions or comments about any Coast Survey product or service. I'll talk a bit about more on these two panels at the end of the webinar. The middle panels are used to subsequently to sequentially set up and output your custom chart. Christie will show you how these work during the demo. The layer settings panel is used to review and select the ENC data for your chart. The chart settings panel is where the size, scale, orientation, and location of the chart are established. And the export functions panel is used to export, save and catalog your chart.

([00:04:30](https://www.rev.com/transcript-editor/shared/AXmKj0VAl6PXJmQkPdm5EgaQsZWHCz4cGKciEB3VAsbQWj0HLb0LVpNFZYa1pDWm1CnrVlwrPBRgihrWrVFxmkAiiFo?loadFrom=DocumentDeeplink&ts=270.31)):

The intended uses check boxes in the layer settings panel control two separate functions of the custom chart application. First, it shows where NOAA electronic navigational chart or ENC data exists, and second controls what ENC data actually gets used to create the custom chart. Since ENCs are the source of data used to create custom charts, it's important to know the scale of the ENC data and the area which you are making a chart. When the data extents setting is in this default on position, red rectangles are displayed in the applications map window. These show the extent and scale of the available ENC to reduce some clutter. You can uncheck the all data sets box and check just the boxes for the intended uses that are needed for the chart.

([00:05:24](https://www.rev.com/transcript-editor/shared/bcBc1rDHlMP5fhmuye1bDW6BoJPU5aY56djsai4S6B4OSWSswB62ovDMnmuWCa3JhI7vg9ejK63iXuijJUGT65q0uaI?loadFrom=DocumentDeeplink&ts=324.97)):

Traditional paper charts and ENCs are categorized into six intended uses or usage bands. Overview in general charts cover large areas at a small scale and are useful for voyage and route planning. Harbor and berthing charts show small area in great detail and are useful for getting underway or for the final part of your voyage. Coastal and approach charts are in the middle. NOAA is rescheming its entire ENC product suite so that ENC cells in each usage band will be compiled in just one of two scales in each usage band. This effort is expected to be completed in 2026, however, ENCs currently fallen to over 100 scales and there are significant overlaps of scales across usage bands. For example, the Band four approach usage band has ENCs and several scales that range from one to 40,000 to one to 135,000. The Band Five Harbor Usage Band has ENCs and scales that range from one to 5,000 up to one to 50,000.

([00:06:38](https://www.rev.com/transcript-editor/shared/TQ6U1N9VBdb5mTgb59PVVt8X2nyLDg1ecYidgFuv2YHgTwc_66LdZZ0EBLKqhf8UKwECSDArocW0E0rSKoOF9TYKAwA?loadFrom=DocumentDeeplink&ts=398.37)):

Thus both Band four and Band five each have ENCs in the one to 40,000 scale. Let's say we want to make a large scale chart of the channel between Mobile Bay and Perdido Bay. To start, we may want to see human and then uncheck the all data sets box and check the box for one of the larger scale usage bands. Here's about where we might wanna make a chart. If we check the harbor intended usage box, we can see rectangles showing where ENCs exist in the scales from one to 10,000 to one of 40,000. Mobile Bay in the west is covered pretty well with 140,000 scale data as shown by these red boxes here. But the east side of the chart isn't. If the Band five Harbor intended usage box in remains checked when the chart is created, this is what the custom chart would look like. This illustrates the second function of the intended uses check boxes that is controlling what ENC data actually gets used to create the the custom chart. This chart only contains data from the band five harbor ENCs. You'll also notice that the extent of the data shown is not rectangular.

([00:08:02](https://www.rev.com/transcript-editor/shared/1sL8z1WgiJkEmDTU6rEp8-2Lf6CS1kSUQUisCBg78E8DXMm42d2w-KxltXFcIBgK-GuETNW4T9rTrqBms0-PFBqiODE?loadFrom=DocumentDeeplink&ts=482.15)):

The red rectangles displayed in the application map window show the minimum bounding rectangles for each ENC, not the actual extent of ENCs. That is each rectangle is as smallest box in which each ENC footprint can fit. This can lead to some surprising results as we've just seen on the previous slide. Here you can see the actual extent of the one 40,000 ENC shown in the buff color within the red minimum bounding rectangle. This is a pretty extreme case. These other two ENCs are more typical and their actual extends fill most of their prospective minimum bounding rectangles. Nevertheless, you should keep in mind that the red boxes represent ENCs minimum bounding rectangles and not the actual extent of the ENC cells. This is a limitation of the underlying platform in which the NOAA custom chart application has been built. If we check the approach intended usage box the minimum bounding rectangles for ECS and scales from one to 40,000 to one to 80,000 are displayed, and the approach Band four, the east half of the chart has one to 40,000 scale ENC coverage, but there is only one to 80,000 scale ENC coverage in the western half.

([00:09:25](https://www.rev.com/transcript-editor/shared/uzTx4XYpM_2h9Z0dyz2oH1sPlTcZCJxf5SYHmcQQ8QiT5iDbrMPAt8u_EKXuymUJgr2Do1eKq-AQZeJeGpe5VEhEVeM?loadFrom=DocumentDeeplink&ts=565.05)):

If the approach band four intended useage box remains checked when the chart is created, this is what the chart would look like. The east side of the chart has been filled with one to 40,000 scale ENC data that we noticed on the previous slide. However the chart only contains data from the approach scale band fours and noticed the lack of detail here in Mobile Bay because it's taken only from the one to 80,000 scale coverage in Band four. While reviewing the scales of available ENC coverage in an area that you want to make a chart in is useful, you may decide that it would be best to adjust the position of your chart or change the scale or create a custom chart with a different scale to, to the best advantage of the available ENC data After re reviewing your individual band coverage, however, it's important to, oops, sorry.

([00:10:29](https://www.rev.com/transcript-editor/shared/5aqMzYw__e2xpGfKe2LmDhQ8qHVHnBBLYlK8jerpSwckrA7InGs0-AoZkLNoON2X76loZPlY-vYpOEqpW83LpzoxLww?loadFrom=DocumentDeeplink&ts=629.49)):

Get back there. Here we go. After you review the individual band coverage, it's important to recheck the all dataset box to ensure that the custom chart application includes all appropriate ENC data on your chart. With the all dataset box checked, the more detailed data here in Mobile Bay is, is visible. This was taken from both the Band five and Band four one to 40,000 scale coverage. The issue of irregularly shaped ENCc and ENCs in the same scale being found in multiple usage bands will continue for a few more years. Here you can see the Band four ENCs in the Lower Gulf Great Lakes with scales that span from one to 60,000 to one to 120,000. And the ENC footprints are based on the original paper charts that they were digitized from.

([00:11:28](https://www.rev.com/transcript-editor/shared/2P6OJjYj4oU6Nzw7OowaYjT_6X3RP6krm_fHLJn8aqAYyeGUVjzuBelZEOgP-j1fG1LzoEGdwv9n9HClc93Mk5vJ8iU?loadFrom=DocumentDeeplink&ts=688.83)):

NOAA is making progress in creating a regular grid of reschemed NCS in just 12 scales. Two for each of the different scale bands. For example, this newly reschemed ENC coverage of Band four coverage is now available in Lake Superior. This type of re scheme coverage will be available in all ENC scale bands in all US waters by the end of 2026. Before we get to the demo, we want to spend just a couple more minutes explaining the safety depth value that is entered in the chart settings control panel and how it affects the portrayal of the safety contour and the shallow water tints.

([00:12:11](https://www.rev.com/transcript-editor/shared/fIjeqbm8IEFQigLj6_8cecwKW8kxWDr0waMaXnhnn6bda_Ti4HwO5Gx3l7TIKmZLKWS-9NRGjYh0BTMTjCr1PHUhZMU?loadFrom=DocumentDeeplink&ts=731.2)):

The safety depth is a value that is employed in ECDIS navigation systems used by large commercial ships and also by the NOAA custom chart application to apply a thick gray line to what is called the safety contour. The safety depth is also one of three depth values that is used to apply different shades of blue tint in shallow water. The safety depth is typically the vessel's draft that is the distance between the water line and the lowest part of the vessel, plus the safety factor determined by the mariner. When a user enters a safety depth, the NOAA custom chart application looks for a contour within the ENC data that has the same value. If there is a match, that contour becomes a safety contour. If there isn't a match, the next deeper depth contour becomes a safety contour. Water at or deeper than the water, than the safety contour is considered safe for that particular vessel for which the safety depth setting was applied.

([00:13:16](https://www.rev.com/transcript-editor/shared/ocbjpIcRcJ5u5nehrd-I65QhsXuVGdHpDEUn6FGBu42m1NvTtvThTku321rxGNR70MJWyZy06bG8pmywp8v18VuzCOE?loadFrom=DocumentDeeplink&ts=796.27)):

There are also shallow and deep water values that can be entered in the chart settings control panel. The default values in the chart settings control panel will display depths and feet, and the shallow safety and deep water values are set through five, 11 and 17 feet respectively. These values will usually depict shallow water shade tints, similar to those on traditional NOAA paper nautical charts. The darkest shade of blue covers depth areas from the shoreline to the shallow value, in this case, five feet or to the next deepest depth contour at that contour is not available. The next lighter shade of blue covers depth areas from the shallow depth value to the safety depth contour. In this case, five to 11 feet. You can see the darker, thick gray line used to depict the safety contour here at the 11 foot line. The lightest of shade of blue covers depth areas from the safety depth contour to the deep depth value in this case, 11 to 17 feet. The fourth shade used when four depth zones are being depicted, is white, used for all water deeper than the deep depth value.

([00:14:38](https://www.rev.com/transcript-editor/shared/0S2RrBEafo5r5rpKdxCW-KN3ilxBAsve5GNnGoW4UPP-G6OLm2zpyLiVwujPjK3tWKZmT7xAgDH-xrk4_WNtdU_ctM8?loadFrom=DocumentDeeplink&ts=878.11)):

When the option for only two depth zones is selected. The darkest shade of blue covers depth areas from the shoreline to the safety depth contour. In this case, zero to 11. This is the, this is the only blue tint used for two shades, and white is used for the water deeper than the safety depth contour in this case, 11 feet. The blue shading of shallow water works the same when meters are selected as the depth units. When depth units setting is changed from feet to meters. The depth displayed in the applications map window and on the chart change, but the shallow safety and deep value shown in the chart settings control panel do not change. A similar display can be obtained by using a shallow safety and depth values that are set to one, three and five meters. Regardless of the deep depth units being used, the general rule is to enter a value equal to or just shallower than the depth contour that you want the blue tint to apply to.

([00:15:49](https://www.rev.com/transcript-editor/shared/aAcxtErY1pQ5dRB3yTR1AzWvYaxYsnrdA-LMvmm8zN4gMuAAhdHcl-CR1QlYnV2DuveiuGpS9evGPRBJsunttWKwc-Q?loadFrom=DocumentDeeplink&ts=949.91)):

For example, you can see here for the meters entries, one, three and five meter values have applied a blue tint to the 1.8, 3.6, and 5.4 meter contours. If you're familiar with the NOAA paper charts, you might wonder why we're showing five, 11 and 17 foot contours, not the more traditional six, 12 and 18 foot contours. This has to do with rounding rules that are applied when converting and storing and reconverting depth units. For example, depths are stored in ENCs in meters. When data was originally digitized from the paper charts, 18 foot feet was converted to 5.4 meters. The depths are only stored in tenths of meters, and then a remainder is truncated. As you can see here in the yellow highlight. When the metric values are retrieved from the NOAA custom chart application, the same metric value 5.4 is used. However, if depth units and feet are selected for NOAA custom chart, the 5.4 meters must be reconverted back to feet. And this generally, although not necessarily results in a value one foot less that is 17 feet instead of 18 feet. Thanks for your patience. We want it to present this information as a background before Christie started the demo. Take it away, Christie.

Ence ([00:17:34](https://www.rev.com/transcript-editor/shared/GGF0O-_Mg6RjS0Xl1ceSIfvV7voiWAKtU5lI-aCZCGAbCWWJm8YqKboyYQUeKgsBBRpEiI23SqUSx4f2lDxBFyefmRI?loadFrom=DocumentDeeplink&ts=1054.37)):

Thanks, Colby. Hello everyone. My name is Christie Ence and I will demonstrate the new and improved NOAA custom chart version 2 this afternoon. If you have any questions, please type them in the questions panel at any time during this presentation, we will answer your questions at the end of the presentation. First off, to get to the NOAA custom chart website, you can do a search on your internet browser or you can navigate to the Office of Coast Survey website under general use charts. The NOAA custom chart is the first link, so you can see here, I'm gonna click that. Okay.

([00:18:21](https://www.rev.com/transcript-editor/shared/ZVWpDSZT7d5IJVuf-mFiEq3F6NTYGbQVFLpwbvfW171b9DdNNKPbLmOuRtv8RRhTvI7iqPgFzySk1iccEkmwEBW-EU0?loadFrom=DocumentDeeplink&ts=1101.54)):

The NOAA custom chart tool is a web application designed to use the most current NOAA electronic navigational chart data to portray it in a way suitable for printing on paper. This application has undergone many improvements over the past few years with version 2.0. We have revamped the user interface to make creating custom charts more straightforward. In addition, we have added functionality to allow users to save their chart parameters for easy reprinting when chart data is updated. So let's get started. Let's first look at the web map itself. The upper left corner of the map display, there are several buttons with a search bar, and you can see here, here's my, here's the cursor here.

([00:19:15](https://www.rev.com/transcript-editor/shared/qXBpjphFZmxe8SMmyDHTHstWWESWd_LUUsqs-HIfiHfaY4wF1CC8mvd36BBA9NAxxO0Jb1MYLZff-lJf9YJDKHzhylk?loadFrom=DocumentDeeplink&ts=1155.51)):

There's a plus and minus button to control the zoom levels. So for example, you can manually zoom in or you can use your mouse wheel to zoom in as well. Zoom out for a second to show you. You'll notice when I move my cursor on the web map, it turns into a small hand. This means I can pan around on the screen by clicking my left mouse button and dragging the map. So you can see here, that's how you navigate. If you are using a tablet or something that has touch controls you would use your finger as your mouse cursor. The home icon resets the web map to the initial scale and extent. So you can see that right here. It's the default extent it zooms back out.

([00:20:17](https://www.rev.com/transcript-editor/shared/bJgIt9S3Wuweku1SWwnrirrMvRoNiNwURI-U3g6Ub902bXmob_DsIpXPeyAG7L5aHzaZ0FgVsFpnRIqvnGxSOUzZm-0?loadFrom=DocumentDeeplink&ts=1217.97)):

The my location icon, which is indicated by a circle with crosshairs will zoom and center to the map to my location. If locations services are enabled, I will click on this. However, I will get a message saying, this site has been blocked from accessing your location, because I cannot do that right now. But if you do have location services turned on on your device, you can use the my location functionality. If you know the address of the place that you want to map or the geographic position, you can enter that in the find address or place the search button. So if you would, for example, I'm going to type in Galveston Bay, and what I will do is I will choose the second option. Now you can see it zooms in and puts a blue pin and a popup indicating the area. To get closer, you can use your mouse wheel or use the plus button to zoom in.

([00:21:47](https://www.rev.com/transcript-editor/shared/grXXK80V5LLwmZwA-yCwaiHHfPdblrWjWGSruxLvBfZQ4OcG7DDIqbcOmdiMnF7bw73595MBw38tYLNXsOGuVGPwKnc?loadFrom=DocumentDeeplink&ts=1307.86)):

Give it one moment. And there is Galveston Bay. If you no longer want to use the find my location button, you can, you can close using the, the close button here on the popup, or you can use the clear search in the search bar. So you can see here, I'm gonna zoom out one click at this scale. There's limited information. Actually, I'm gonna zoom out just a little bit more. Okay. let's see. I'm lost where I am here. Okay. At this scale there is limited information, but I can still demonstrate the last button we see in the upper left corner. This button is the lowercase I which is the identify button. You can see that right here. This tool lets you query the electronic chart S-57 encoding of objects. Although it may not necessarily be useful for everyday use, on occasion, it would be useful to see information about certain features.

([00:23:07](https://www.rev.com/transcript-editor/shared/CM99MXD8UYf3y863sf_Ftfs4W_hHe7AgSHNn-Fueh6gDL3qEHW_Vhes9DQ9ZBU8Mc0b57IIDgv747GpE6OVNjZIsNik?loadFrom=DocumentDeeplink&ts=1387.27)):

I'll investigate this radio station that is just east of Houston. I activate the identify tool by clicking on the button, which I already have. The button turns a lighter gray to indicate that it is active. I then click on the feature, an identify results popup will open with a list of features that touch where I clicked the popup includes de Noah ENC cell number, as well as various other S-57 encoding information. The first object is a radio tower that is encoded as a landmark. A click on the right pointing arrow in the popup header right here.

([00:23:57](https://www.rev.com/transcript-editor/shared/KGvT_KQbBSwyCdhmhngyJ2oszgk-MLgv1aa80-xNy0Hq8AH7LcLyLEQscqV1zqkUI3KbhCsoPjV85XAtVPepv_EScDU?loadFrom=DocumentDeeplink&ts=1437.56)):

This data point is the radio broadcast station associated with the tower. It's call sign is KXYZ, and it is an AM radio station with a signal frequency of 1,320 kilowatts. To disable the identified tool, simply click on the icon once again. It's important to note that the tool will not disable automatically. So please be aware that if you activate the identify button, you must also manually disable it. It will not cause problems with the application if it is left on, but you will see unwanted pop-ups when you click until it is turned off.

([00:24:44](https://www.rev.com/transcript-editor/shared/E9PE88tufSpiOQlTwp7fniOotXp8Kwd4anTJO1Sg0qIjSznGSd1vLdmVF6j2foYDOUgNvBAvqQK1OR5vrx6OoLT9bFc?loadFrom=DocumentDeeplink&ts=1484.87)):

Now let's move on to the lower left corner. So in the lower left-hand corner of the web map window, you can see the running coordinates display. Below the running coordinates display is the scale bar. So the running coordinates show the latitude and longitude of the cursor as you move it. You can change the display format by clicking the up arrow to the right of the display. You have a choice of either degrees, minutes, and seconds, which is the default, decimal degrees or degrees and decimal minutes. Going to leave this alone. In addition to running coordinates, you can also click on a point on the map to copy a coordinate. When you click the little crosshair to the left of the running coordinates display, the icon will turn light blue. Let's do that right now.

([00:25:46](https://www.rev.com/transcript-editor/shared/-9mT4u8wRCaddZykedHTvaQ2xxHhASMpa1Ir1ecMvkHZf6l3Mi07XAOEfve-gBQ7-SQr3baCoebvPXOzqg0ktScmavs?loadFrom=DocumentDeeplink&ts=1546.22)):

It will say, here, click the map to get coordinates. So let's get the coordinates of this radio station here. So when I click on the screen, I get a green marker symbol. And then in the lower left, you'll see that I have the coordinates of that mouse click. I can copy those coordinates and paste them somewhere else. We can do that here. I will show you, I'll see or copy and then paste it into another window. This can be useful if you need to report an issue with the NOAA custom chart or any, any NOAA product or service. To disable the coordinate collector, you can click on the crosshairs once more, and it goes back to the running coordinates display.

([00:26:56](https://www.rev.com/transcript-editor/shared/A26E5_eZxRE1K8E1Q8mV3LwCrdQt-WXtlBY71Dsqs0ffNKb68Ydg9Z-a59nJQgk2hiHW3kuuEYt_aku5CaNZwVcB0Fc?loadFrom=DocumentDeeplink&ts=1616.82)):

So let's move on to the control panels to the left. In version 2.0, we have updated the icons across the top of the control panel window. The symbols now graphically depict the purpose of the control panel. The icon for the active panel is always highlighted in green. Let's start with the second panel, which is layer settings. I can get my mouse over there. Okay. The layer settings panel will help you investigate the chart data available in the area, as Colby has described in his part of the presentation, the red rectangles show the approximate data extents or the minimum bounding rectangles of each NOAA ENC chart product. Be careful. Non rectangular cells also appear to be rectangles, and you may see some unusual results, as Colby described in his part of the presentation.

([00:28:06](https://www.rev.com/transcript-editor/shared/Ipv1QQ2pXtFndays2pNBa1qMEdZErld0mPV5hg5YjjnnxFt0XRs76gKFE_wJ29Ct0VMG30YeK0mbSrV5hDHRMWyiyuo?loadFrom=DocumentDeeplink&ts=1686.21)):

In the layer settings panel, you have the ability to turn on and off the rectangles by clicking on the data extents dropdown menu layer. They are defaulted to on. If you wish to turn them off, you can simply choose off and those rectangles will go away. The data extents text dropdown will allow you to control what type of label is associated with these minimum bounding rectangles. So you have the default, which is scale, because that is the most common usage of these rectangles. Most of the time you're looking at this information because you want to find out what the scale of the data is for your area. However, if you're familiar with your chart products if you set the window to chart the label to chart, it'll show the NOAA ENC chart number.

([00:29:20](https://www.rev.com/transcript-editor/shared/e3FQMAihVuCkdKsbG0kHJ586LZ0Kg4d2s3EIKx7t39d0-2D62vJYujUUvWFCh6fbiv8UgqafXTrSpgfWiRXutmLdJdA?loadFrom=DocumentDeeplink&ts=1760.01)):

It is also possible to show both or turn them off entirely, but for right now, I'm going to set it back to scale. As Colby mentioned, there are six scale band ranges for NOAA electronic charts. The overview charts show very generalized information over a very large area, whereas berthing charts are very, show very large detail in a very small area. The intended usage uses control is a series of check boxes that allow users to filter data by its intended use. The default setting is all settings, all data sets. This will show you all of the data available as you zoom into the web map. The intended uses are organized from the smallest scale to the largest scale.

([00:30:23](https://www.rev.com/transcript-editor/shared/4sdGbWM5XXlxOpg22XmQirECkNysndKsi-9w5NyZTvXsMr_yebV9oDaTVKKVmHELIRIk4d_-z1ZZif_u1XnS3KYx3aQ?loadFrom=DocumentDeeplink&ts=1823.11)):

So I am going to see that there are, and we're going to be working with the Galveston Bay area. So I can see here that there are charts that are one to 10,000 scale, one to 20,000 scale one to 80,000 scale, one to 40,000 scale, and the pan around, zoom out a little. So let's turn off all data sets for a moment and select the harbor intended usage band. So you can see, okay, a second. All right, there we go. It looks like all of the data disappeared, but that is because we are zoomed out beyond where the harbor scale data is displayed. If I zoom in a few levels, I can see the data start to draw.

([00:31:27](https://www.rev.com/transcript-editor/shared/Wbzr7VnMpZIo_ETqynQWdIZPk9811RBj16iMYokW3HYRMVJ0I654n1RknNakWMaKsPo844sJDJtMtKdAuc2WXAlyWhQ?loadFrom=DocumentDeeplink&ts=1887.94)):

You can see here it starts with the 20,000. If I continue to zoom in, you have 10,000 scale data. Let's zoom back out. You can see extending from Galveston Bay. There are these two 40,000 scale that are along the outlying bays surrounding Galveston Bay. These are small craft charts and I can tell that because it's a fairly large scale chart and it covers an enormous area, and that's how I have an idea that that might be a small craft chart. You can also tell that this area is under rescheming. You can see that there are a series of one to 10,000 and 1 to 20,000 scale cells that are rectangular in shape. So whenever you see a series of tiled charts like this, generally that that's that those are reschemed charts.

([00:32:41](https://www.rev.com/transcript-editor/shared/_Zzej9BBfv_CIUG9Ey2l6DV7oBJFw2wnvFSy7xJLgIJjm_YvVsAiNK_GS9H8PzaEUirzBspM-sLg47kGH2BecrzT0l8?loadFrom=DocumentDeeplink&ts=1961.93)):

Okay, so let's turn the harbor off and turn approach on. So you can see here there are also one 80,000 scale charts in the area. Once again, the data isn't drawing because it's zoomed out past for the data is displayed. So let's zoom into Trinity Bay. You can see the edges of the chart data where the gold land tint disappears. And you see the underlying base map. You can also see a lot of clutter. This is where the honors SCAMIN toggle can be useful. The term SCAMIN is an abbreviation for scale minimum. If a feature has a minimum scale less than the active scale band, enabling Honor SCAMIN toggle will hide those features. Let's try it here.

([00:33:52](https://www.rev.com/transcript-editor/shared/6N3FhbXkuYRaJEz6G9chJ2DDijU07VB0pdlQX2-QTlMoAX6N9StNB4zmBid_HrF757rMZMY96WF322MuE2CSFEvUE5M?loadFrom=DocumentDeeplink&ts=2032.46)):

As you can see, the soundings depth contours, urban areas and marsh areas and compass rose disappeared, dangerous to navigation and aids to navigation do not disappear because they are critical features. I am going to disable Honor SCAMIN, because that is the default. Next is the compass rose toggle. This toggle controls the compass rose in how the compass rose information is shown. The default, which is on draws the traditional compass rose. The inner rose is rotated to point to magnetic north. Let me zoom that in a little bit so you can see a little bit better. And the label is updated to reflect the magnetic declination and annual change for today. That's something to keep in mind. So these values right here that you see are for today.

([00:34:57](https://www.rev.com/transcript-editor/shared/k1iCp_gMwJIgNPUHBIe2qk8-2hNDFUKVFLniLEn-4cBkFKaGw9uI3KbhfD6S2xi-zvqGrG2eQwfzvlG9GRUNQk3dkD4?loadFrom=DocumentDeeplink&ts=2097.89)):

If I disable the compass rose toggle, the traditional compass rose is replaced by the electronic chart symbol. Notice the variation is different. That is because the value encoded on the ENC feature is static, whereas the compass rose drawn in the application is updated daily. This information was actually collected on the electronic charts in 2021. Now that I've covered the controls in the layer settings panel, let's choose an area to chart. Let's say I want to create a large scale chart in the upper Galveston Bay area. So let's move over there.

([00:35:53](https://www.rev.com/transcript-editor/shared/X4rcWPQLpaccf2gWWntW25lT-iykFjtv-Z5n4S50tXVGMNud4BrfatoF4h3MCFyEZLBPSDZVQ61nhAUhHhxkJ8ZRJXo?loadFrom=DocumentDeeplink&ts=2153.88)):

I'll turn on the harbor scale data instead of the approach. Once again, let's look at the area of Peggy Lake at this right around this area. One thing to note before moving on to the step of creating a chart extent, it is best to always enable all data sets before proceeding. So I will do that. I know that we have data at one to 10,000 scale, so that is what I will use. Now we're ready to move on to the chart settings panel. This panel controls the parameters of your custom chart. I don't plan on making changes to the depth units or the depth zone colors, but let me demonstrate how it would, how it would be affected when I'm defining the chart. So I'm going to zoom in over here. There's a lot of interesting hydrographic data here. So looking in the second box, the soundings, of course, default to feet. You can change them to meters or fathoms. You can also change your settings from two to four depth zones. And then as we had covered earlier, the depth zone shades are five, 11, and 17.

([00:37:37](https://www.rev.com/transcript-editor/shared/IHhvmiWf81g6gwHn6HQt199pONUhsLrN7qoa3Se312osZSL80pFhWoP9dhqlHYbaSmXu4vv71i1Govcym1FZNPtDYIY?loadFrom=DocumentDeeplink&ts=2257.35)):

So, let me show you really quick how the difference between four and two look. So you can see here the blue goes all the way to the safety contour, which is currently 11 feet. And zoom back out and set that back to four. All right I'm making sure I'm not missing anything. Okay, so let's make this chart. So in version 2.0, you can name your chart in the chart settings panel. This is a new feature before you had to create your chart. And then you could only name your chart in the export queue. So let's name our chart. So this is the Upper Galveston Bay chart. We, we looked at the current ENC data. So we know that the data in the area is one to 10,000. You, you don't necessarily have to have it set exactly to 10,000, but you have to keep in mind, you have to have a scale that is close to the compilation scale of the data. Otherwise, you're going to get poor results. So let's stick to one of 10,000.

([00:39:15](https://www.rev.com/transcript-editor/shared/89VhldQIB402XNpnQNudNV_Ulc-amsoXHa9rkiWFjCD69bUF6un-ysK9GzqBuxyQ6zCi23XTqyqwiuTEA5n3LPonLRI?loadFrom=DocumentDeeplink&ts=2355.76)):

 Let's see, what else do I have here? So in version 2.0, we also added the 36 by 48 inch sheet for plotter use from customer's request. So let's use that. And then we're going to keep the page orientation to portrait. So let's create you push the create new chart button to generate your new chart. So I'm gonna click on an area, and as you can see, the button now turns green to alert you that the application is working. You can see once the chart extent is added you can you can see that the button is turns back to the teal green color.

([00:40:17](https://www.rev.com/transcript-editor/shared/Ijp9acl9Bi-ZkIoTgx6EnyDq_8tt5lEkHigZqlxilEe-cQowxqSE9mOY_shlfJ5Xc9cLZUJbRI0D20A_n_LxJysxbC8?loadFrom=DocumentDeeplink&ts=2417.92)):

 If you're not satisfied with the placement of your chart, and normally what you want to do is you wanna place your chart in roughly the same scale and page size as you want, and then you refine its position. So to refine the position of the chart, you click move chart, and you can see that the chart becomes a little bit more opaque. So you click on this, and this, it works the same if you have one or multiple charts, you can, you can select which chart that you want to move. And if you select the chart, you will know that it is selected because it is a more opaque green. So let's refine the position of this chart. Let's see. I want to make sure that I'm not cutting off any information and it has a normal break. So let's try right there.

([00:41:19](https://www.rev.com/transcript-editor/shared/6ihEmfbXEiU0UFJJcsKbn9nwgYZcXuxX9zCanMT_W4wKb2jbfFdEyJ-Z1qtnx_G6RHeUxT9RUuHPh1DUtDcbHx0Lers?loadFrom=DocumentDeeplink&ts=2479)):

And it takes a moment because whenever you move a chart, it has to recalculate for the new position that you move the chart to. So here's the chart, and then we can move on to the next panel, which is the export functions panel. The export functions panel will allow you to do several things. It'll allow you to export your charts and create PDFs. It'll let you delete your selected charts. If, for example you don't like the output and you want to start over, you can delete a chart here. Or there's now a third option. You can add your selected charts to the chart catalog, and you can see those buttons are down here, but they are gray. And the reason why is because you can't do any of those functions unless something is selected.

([00:42:28](https://www.rev.com/transcript-editor/shared/Hhr4zcoY3K_ZiNzlHS40YPh2iDf5IBBzSL5-OijzJRC99ozsHf12fysz4uFcIF2Vr16hHeucPGRt724bOn_cSk0Wkbc?loadFrom=DocumentDeeplink&ts=2548.7)):

So click select and you see the map window centers on the selected chart and it flashes. So we're gonna click export selected charts, and you can see it turns green for a second to acknowledge that it is now exporting, the application will show you a progress bar, and it usually takes about one minute to three minutes to export. Okay, so when the export is done, a green open button will appear next to the product instead of this progress bar. One thing to keep in mind this demonstration is being done using Google Chrome, and if you are using a different web browser or a different operating system, your controls might vary slightly. One thing to talk about is often if you have a popup blocker set for your browser sometimes that will prevent the new custom chart tab, which with the, with the new custom chart PDF from opening.

([00:43:56](https://www.rev.com/transcript-editor/shared/hFOGEeYvpxf8hrXxHVZpiG5EF8xNJ0PBm8siYEb7wWEYCnMMzDJRgn7H8x8Rs05XTE_Loa5PSueoeHlmVpzGtxEB_k8?loadFrom=DocumentDeeplink&ts=2636.24)):

So if you use this application a lot and it and it won't open a new tab check your popup blocker. You may need to add the NOAA custom chart URL to your exceptions list. Another thing that might happen is if you're working with an Apple product and you have iOS a lot of these buttons, there are the same buttons in the Apple environment as in Windows. So there's a little, little bit of variation depending on what environment you're working in. So this is still downloading, but I have already created this chart product, and here is the pdf.

([00:44:45](https://www.rev.com/transcript-editor/shared/HX2-FQxCqRtcQQ5fhVqWL25ThlauWhgbgW7z4UZX0PtkHj_jA2wREfNmKC-UzjgKdgAcark3QOAsX8yejpSkUpNqJBE?loadFrom=DocumentDeeplink&ts=2685.33)):

So I'm going to zoom in to talk about some of the symbology that we have some improvements that we've made to the symbology. So if you've been following the development of the NOAA custom chart, we originally started out with basic electronic chart symbol biology, otherwise known as S-52. Starting with version one, we were able to customize point symbols. So we of course, started changing the points to paper chart symbols and we prioritized the aids to navigation. So your buoys and your beacons. We incrementally replaced more and more S-52 symbols with NOAA paper chart symbols. In version 2.0, we upgraded to ARC server 10.91, which allowed us to customize lines and areas. The first features we targeted were features that really would make the output look like a paper chart.

([00:45:47](https://www.rev.com/transcript-editor/shared/kMDSAgygkTwPSCp1ZdIqQkg324KEqOfFRPXyIvHLiKxp2_9CSZB2XCz7HCuFeMxu_c9Af0ehVFsI_suIQAbotXIlaMA?loadFrom=DocumentDeeplink&ts=2747.22)):

So some of the symbols that we targeted were shorelines where we changed the gray shoreline to black, and we adjusted the line weights to depict whether or not the shoreline is natural or manmade. And much like a traditional paper chart we changed the mark symbols to the film, familiar light green tint with the dash black limits, we changed the maintained chart limits. Let me zoom in somewhere where you can see this more clearly. We changed the maintained channel limits to the familiar black dashed line, and we also got rid gray dotted pattern fill. The low water line. We, we also made that the traditional familiar black dotted line. And you will see that there are zero depth contour limits. The labels that, that follow the, the low water line, we will be removing them as soon as we can start customizing the text.

([00:47:09](https://www.rev.com/transcript-editor/shared/hice5GNgThxpRCofmJvCJiI2-PsAKKyVELXGk_VE4yWrekrKZefAOB7xzb2QohSPZBerH9PzdgXOZmv6-ET0_RUF4zs?loadFrom=DocumentDeeplink&ts=2829.12)):

So moving on to the next page. The all NOAA custom chart products will contain a zone of confidence diagram showing the quality of the hydrographic data on the chart. The diagram conforms to the international standard where the diagram is one 10th of the scale of the original chart. Let me zoom out a little bit here. All right. The chart includes information about different CATZOCs, which is short for category of zone of confidence. The darkest colors indicate the highest level of confidence in the data. If you see white on a ZOC diagram, it means either the area is unsurveyed or unassessed. The next page is, are the chart notes. As we started canceling our paper chart suite, I've let an effort to ensure we audit all of our paper chart notes, move them into the NOAA custom charts notes geodatabase. Notes are categorized as either global, which follow on all charts, regional, which be vary according to the area, or local notes. Global notes are placed on all notes pages first, and you can see that here. Let's see. There are regional notes. An example of that is the note A, which varies depending on the region that you're in. And then there's local notes which are last. And an example of that would be the the San Jacinto River aids note, which is here, and then NOAA Weather broadcast note.

([00:49:12](https://www.rev.com/transcript-editor/shared/eqWJjJRe4QqSpbpsq8H1q6ZTYtmvS_Q49rKn7MG-ynQqZ8M21Po7IABS2eEEuZzcCUh1TjnMk8HVY0tne-5qT5YmLOw?loadFrom=DocumentDeeplink&ts=2952.58)):

Now. Now back to the application. You can see the, the chart exported in three minutes and 47 seconds. You normally would click the open button just with the left click. If you have difficulties with pop-up blockers or other complications, you also may right click and you can control how the file is either downloaded or opened manually. So now I will add this chart to my personal chart catalog. Right now, I don't have an active catalog but I will add one that I created earlier. So, to do this, there's a button at the top of the export functions tab called Open Chart catalog viewer, and I open that and it's blank right now because there are no chart catalogs attached. So what I will do is open the existing chart catalog, and I will navigate, and I have a folder for personal chart catalogs here called Houston Ship Channel. Click open, and then it loads a series of charts.

([00:50:40](https://www.rev.com/transcript-editor/shared/IaEtktpAcA8pz_IpSjoZU-R-645tvuPIj_K0d4edSBIZFRzGMFHtk1mCpMm5XC2CKId2uqptlREcTgNePE574HF6b7g?loadFrom=DocumentDeeplink&ts=3040.67)):

Now, in this chart catalog view, you have the option of doing several things. You can, you can see there is a long list. There could be a longer list to choose from, so it might become unwieldy. So there are ways that you can filter the data. So for example, I'm only interested in, say anything with the name Bayou in it. So I can type in Bayou and it will filter the list to show me only the information that I want. Another way of managing your data is you can use each of the columns to sort. So for example, I'm thinking I really want a well, they're all one to 10,000. So let's say I want the letter size because for some reason I can't, my plotter is not working or something. So I can only do letter size plots.

([00:51:44](https://www.rev.com/transcript-editor/shared/Tb9es4UElFe7XFr9YHlzs0IgxvO8UINk7S-K9KEdzj1y8XhwDitBlDe_8FQdqP_-2LHtsn5C3M1atWULjImINKN16Zs?loadFrom=DocumentDeeplink&ts=3104.72)):

So here's the letter size sheet, and I identified that I can also do that here in the search button. But there are filters that allow you to sort your data any way that you wish, even by date. So if you created a chart on a certain date, and you can, you can find it that way. You can also delete something if you do not wish to keep it. For example, Syms Bayou, I don't want that anymore. I click the delete button, it queries and says, do you, are you sure you really want delete this? Click okay, it deletes Now that I did that, but that has not been saved to my geodatabase, if over to my geojson file to, to commit any changes, I must click create, save chart catalog to save those changes. Let's add a couple charts to, I'm, I'm adding only three right now.

([00:52:56](https://www.rev.com/transcript-editor/shared/FUlQUd_eo3V4sXP3LlxzNTC4egJaDhS0rybmlsnneZtDp7uoB2NYF8p-nG82HNn48cA2KD-BnyGsPUE-LeyO1G9bnNA?loadFrom=DocumentDeeplink&ts=3176.72)):

We have a limit to only be able to add five charts at a time. We're considering maybe taking that out. However, you must keep in mind the more charts that you add to the chart queue, the longer it will take. So let's, let's stick to three right now. So I've selected three charts using the check boxes. That's all the way over to the left hand side of the table. Now click add selected charts. Now this button is staying green until all charts are added to the print queue. So it takes a couple minutes because the application is taking the scale, the page size and the orientation, and it's recalculating that rectangle.

([00:53:53](https://www.rev.com/transcript-editor/shared/ZHeL5UPR_U3ENW_TXy3I9s2H4vj1CnZMOhWsiiixpu0p9xsXmveZxfon2Ac4Bkbtd694Gq6e-fE_CUn1iJ7yafhnvgI?loadFrom=DocumentDeeplink&ts=3233.34)):

So you can see there's three charts that I added. Now the green, the button goes teal again. So that's how you know it's still working. Now, one thing that you will see, if I click away from this chart, catalog viewer, it disappears. You can always open it again using the open chart catalog viewer. The reason why that happens is because it is a modal window and you can't do anything in the application while it's open. So if you're clicking outside that window, that's because it needs to close before you can do anything. So you have three charts. Let's say I, I wanted to add this new upper Galveston Bay chart to that list. It's selected, so I can add selected charts to chart catalog, and it pops up. And any new chart will always be at the top of your table.

([00:54:56](https://www.rev.com/transcript-editor/shared/XCH5Dog02S7HrBo9TlRfXbKsAWBbGmVpdzy5nZ5NWl5-oyMO-5p0HKaHEWA3A_kGDtM0Xot1S5FJps3n4Q7_4PVRDMM?loadFrom=DocumentDeeplink&ts=3296.82)):

I'm gonna uncheck these so you can, so you can see that. So it's already, it's already in my print queue, so there's no point of adding it back in. So now that I've added my chart and I've deleted the chart that I don't want I can create and save my chart catalog and I can go back to the place that I was before. I can always choose to overwrite this. I am in favor of doing multiple versions just in case there's something that you accidentally delete. And then here I saved the new geojson file with my new chart, and I believe that concludes the demonstration. And I will hand this back off to Colby.

Harmon ([00:56:13](https://www.rev.com/transcript-editor/shared/CVE4FB1pAhF4X4JjPDRklZdy3FFiGcAEEphiJNYn26V8T0w70mpqu6O5Z0HNmjury3gV3u5FnoqyJ69L5zJEw1j_G2Q?loadFrom=DocumentDeeplink&ts=3373.46)):

Okay, thank you, Christie. Here we go. So Christie, you wanna talk a little bit about the upcoming NOAA custom chart improvements.

Ence ([00:56:33](https://www.rev.com/transcript-editor/shared/n8PSaXPKIFo08oIcYGZmvuaRlhLofyh7VKACFDM20rGMJrfVcSbX3z2aoPuT_jcXSvo1S8JzcwX3bb52FDyD79I3Wkk?loadFrom=DocumentDeeplink&ts=3393.1)):

Thanks, Colby. Yes the NOAA custom chart is still evolving. In no way did we think that we are done yet. So these are, this list actually provides a bulleted summary of what we plan on doing in the future. So one of the first items that we want to address is the way the application show shows Compass Rose information. Right now we know that the data points are driving the Compass roses, and sometimes if you have a custom chart that falls outside of where one of those points is, it doesn't work. You don't see in Compass Rose sometimes you see multiple compass roses or they're cut off, and we know that that's not ideal. So we are working with Esri to improve that way of showing Compass Rose information.

([00:57:41](https://www.rev.com/transcript-editor/shared/BAS5_F_QLwiRckHFPyGcb-OebrNMkgnp2MJOm0vBt9M44LtEr1HeNZn4RL_LYakat_kd-r8A_0Q7TTuNEh2lcxTpxn8?loadFrom=DocumentDeeplink&ts=3461.89)):

So in a future version of the NOAA custom chart, we plan to have user defined compass roses, where you can add one or more compass roses to your custom chart and hopefully eventually save that as a parameter of the chart so you don't ever have to recreate those. Other updates additional symbol and labeling improvements. I touched upon that we are still working on the symbology and labeling. One of the highest priorities we have right now is aids to navigation labels. We know that they're lacking in the display. So we are working to make those labels conform to NOAA specifications as closely as possible. In addition to data to navigation, we're working on labeling regulated areas and other CFR linked features to improve the quality of the chart.

([00:58:56](https://www.rev.com/transcript-editor/shared/yPx5h6Rdq1Hotuduxf8KCn_UVIimuTKC9mvpBVebXAdr1TmstniL2hOTg828n5emF8B4SPA2oBD2IY0FTumoIpQS5m0?loadFrom=DocumentDeeplink&ts=3536.71)):

Other symbology that we're working on range lines, recommended routes and courses, pipeline symbols, cable symbols, pipeline in areas, pipeline and cable areas. Eventually what the plan is to visit every single feature in the NOAA custom chart and then try to make a paper chart equivalent symbol or label. However, it's a huge undertaking and it has to be done incrementally. So we will make changes as we go along. Another exciting thing that we're doing is we're working internally with our folks that, that manage the weekly chart updates website. And they are revamping that site and they are working to make it work with the NOAA custom chart. If you can visualize the weekly chart update site will export well, first of all, we'll take the geojsons that you create in the NOAA custom chart, ingest them, tell you if there are any updates on your custom chart, and then I'm hoping we'll be able to export that information and, and be able to print the charts in the custom chart.

([01:00:35](https://www.rev.com/transcript-editor/shared/xIKwxQ7bD5gIWxLZ1x4ScQ70m3m3ANB8gSggrfEKU8aDCLXjtD3KZkhF7OGIkc83cr3Oo2xgr4dkQ1eHbedkEe1Kg1E?loadFrom=DocumentDeeplink&ts=3635.66)):

 So that's exciting. An additional other thing that we do know that the heights and the vertical clearances for overhead obstructions, if you change the units from feet to meters, meters to feet well, all of the heights and clearances are still in meters no matter what your setting is. We know that and we're working to, to resolve that issue.

([01:01:10](https://www.rev.com/transcript-editor/shared/_GwRz3omJmOFG0jASMJYRtiutlp04c9N6y5IJt6Pa9jQXPTJGbFmiZp6tOe1NgvxszWCbaf0BbZmFNExcnPREWu3k7w?loadFrom=DocumentDeeplink&ts=3670.76)):

Thanks, Colby. I think that's all I have to say about that. Oh, okay. And paper sizes. One of the thing that I wanted to discuss was we are adding paper sizes for user's needs. One of the most notable changes that we've made for version 2.0 is the addition of the 36 by 48 inch plotter size. That's really to, in reduce the amount of paper necessary for printing charts. So and we've also, in the, in the previous editions have added page sizes like the legal size in case you want to have an eight and a half by 11 size sheet with additional notes. That's pretty much what the legal size does. And that's really all that I have to say about that.

Harmon ([01:02:10](https://www.rev.com/transcript-editor/shared/IHNuGDBgQAEfKnA_kBPGD_NB8PapXVRU7dR7M4iRzpwc2J135xXojaeY_LOk9Ok9tHngzd4L65WT-MbGt5mIN693Nms?loadFrom=DocumentDeeplink&ts=3730.85)):

Okay, thanks. Thanks, Christie. Another note on scale, there's a six inch scale bar that's printed on every NOAA custom chart. And this is something that you can use to confirm that the chart is actually being printed at the correct scale. Now, if you don't have a six inch ruler handy, you can pull a dollar bill out and the standard line is just four millimeters longer than a dollar bill. And in fact, if you line it up from the edge to the margin of the green printed area, that's almost exactly six inches. So you can see that if this dollar bill fits on this line correctly, then that particular chart has been printed correctly to scale.

([01:03:03](https://www.rev.com/transcript-editor/shared/gHcJi_9kEeZquAl44nFKWrjJLKcSHno1Zs-j7iDxoAmUyy0vlgP_Tj6m4MKx_I2iigzhQd4nSFR6v4pPbejlYWSrzEs?loadFrom=DocumentDeeplink&ts=3783.3)):

 We talked earlier about the first and last panel. I just wanted to highlight again, the help documentation panel and what's in there. There's a four page quick start guide highlights all the things you need to do to make a chart. There's also a more detailed 14 page user guide, provides much more information about data and tips about how to get the best charts. And there's also a video tutorial, and there's also the 130 page US Chart 1 that contains all the charts symbology of all US charts, NOAA charts, and the National Geospatial Intelligence Agency charts and early versions of the NOAA custom chart application output charts exclusively with symbology used on ECDIS chart display, the electronic chart display and information systems, or ECDIS navigation systems, which you can see on the far right column here. However, each new version of the NOAA custom chart application is migrated closer and closer to the more familiar symbology used on traditional paper charts. And as you can see here on the NOAA column. So as we move forward, if you look at the US Chart No. 1, you'll see more and more of these symbol shown in the center of the pages reflected in the NOAA custom chart.

([01:04:35](https://www.rev.com/transcript-editor/shared/HYzpFTl07kHDAFz2X1CN1ggF31f6B7zsttOLsHsigX8XrmXHq-FPInFVxRFMRSwc7fGtRd6_0AMlDQ0Es4mE02UaX68?loadFrom=DocumentDeeplink&ts=3875.01)):

 Also that last feedback panel has a link to the ASSIST form. And you can use this to ask a question, make a suggestion, report and error, not only about the NOAA custom chart, but any product or service that the NOAA Coast Survey has to offer. We suggest that if you do that a little context of what you're doing, what application are you using what product you're looking at where it is it was very helpful. And if you can provide a screenshot or a PDF of the data that you're having trouble with, that's also very helpful in us being able to understand how to answer your question. So that leads us to questions. Well, Christie's been talking, I've been reviewing some of these, so I'm just gonna pull them up, read some off. The first couple have to do with are we gonna provide a recording? Yes. This webinar is being recorded, and sometime in a near future you'll get an email with a link to where you can retrieve that recording. There's a question about what resolution is the custom chart? Does it vary with paper size? Wanna take that Christie.

Ence ([01:06:18](https://www.rev.com/transcript-editor/shared/SBEK84LOQme5SvMq77VGGRsHLADj43Mtj-qHgvZRShMKSRLbPlc2ku_9zIurB8opPPwHd54635jCNqUI6QSR-rpnM24?loadFrom=DocumentDeeplink&ts=3978.19)):

Well, the NOAA custom chart PDF is actually in vector format. So there really is no specific resolution associated with it. So that's really what the answer is.

Harmon ([01:06:39](https://www.rev.com/transcript-editor/shared/nLCMa-k6sEj4EPnWamBNe2UQ-1TfymvnHjHX-8yCaIPYepTDrtGlVPIjXbZUUv3JO30CP7OPps55K27c3n6xbcgmb6E?loadFrom=DocumentDeeplink&ts=3999.58)):

Yeah, I'd say it's, it's equal. It's equal the quality of the, you know, old lithographic printing really that's, you're not gonna see any sort of pixilation or anything like that with the charts. There's a question about what happens when you're creating a custom chart using two paper charts where there isn't a continuity between the two for scale. I would just say if there's a wide difference between areas that you want to chart with, a custom chart is probably best to make two different charts rather than try to span, you know, an area with one to 20,000 and 1 to one hundred thousand scale data, cuz you just, it's just gonna, you're gonna see that break in the chart. So it's better create two, two separate charts if that's the circumstance here under anything else? Any comment? You wanna pass this up? Just a comment. This is awesome. Thank you. The tool will be very handy for my website. Is there an option to print larger than 36 inches wide? So let's go back to those paper sizes. The answer is yes, the pain of you, there's a 36 wide limit on these plotter rolls, but you can go out to 48 inches or even 56 inches. So you can't go past 36 inches in two dimensions, but you certainly can in one of the dimensions.

([01:08:43](https://www.rev.com/transcript-editor/shared/uvx253gQCxyVLjcevMRUMHlUF6vxlzClnuVi7y8oQ9EKtgluFvi6Uqhp_ThvU44rLq7CoT7qABLNVJ0eA-thXJNxpWI?loadFrom=DocumentDeeplink&ts=4123.44)):

Okay.

Ence ([01:08:45](https://www.rev.com/transcript-editor/shared/5spMSUeJ1aYNNp1wZdfqOByt2TAlBySy70vOG_5NvHVEOjdwTs7ZnI-JmhPooG7z3s3NW4t2Llmskqy3tlOl6FNQ6Oc?loadFrom=DocumentDeeplink&ts=4125.5)):

I was actually going to add we are considering adding a 42 inch option for the plotters. Okay. As well.

Harmon ([01:09:04](https://www.rev.com/transcript-editor/shared/Y9QFtr3Y8jc1T0buL_d9m51lQYl4CUglooPnBWMdytU6aXGOSs7Aryv4AfBD1T4MAlzCVfgbR2IBZ-pJz65FtRwQzyc?loadFrom=DocumentDeeplink&ts=4144.1)):

Just trying to sort through these folks. Bear with me. Is there an app available for downloading? No, there's no separate app. The NOAA custom chart is entirely internet based. So that's a constraint we have. There's, there's a couple questions about printing traditional charts locating traditional charts or RNC footprints based on Noah chart numbers. And I'm gonna show you a couple more slides to explain a little bit about how that's difficult.

([01:09:51](https://www.rev.com/transcript-editor/shared/936uLKRpMm928yJvVxHJid1HA1BDN7qiED5zf2kXGULQyc6QyzdTr7Eths0VBwZVyKhiUUKCk2OJx7ZN9PxIHOEtwVE?loadFrom=DocumentDeeplink&ts=4191.35)):

Also there's a question about insets. There's no capacity to build insets in the NOAA custom chart. The best you can do is to create a separate chart over that area of larger scale in the inset data. So you'd end up with two different charts. There's no capacity to build insets within a NOAA custom chart. And there's a question about release dates. How do you determine that? I'll show you that when, when I look at another pdf in a moment. Let me just go through a couple things quick to, to get some of these questions outta the way.

([01:10:53](https://www.rev.com/transcript-editor/shared/J1tgm38owGhU1SGL1qQ4PubuyVFQ3cIGofiDZ--aWxnjxq7tphEKeZR6P2CGAnFns-UXFZuBy9N5yxiZEaiAspeV0Qw?loadFrom=DocumentDeeplink&ts=4253.18)):

So just a little tutorial on the mechanics of scale, paper size and area covered. The changing is it the scale or paper size will change the area covered by the map. If it's a smaller scale, you'll be able to cover a larger area. If it's a larger scale, you, you can only cover a smaller area and then that can also be influenced by the size of paper you have, obviously. For example, here's chart 14963 in Lake Superior. It's a it has one by the way, 5,000 scale inset. But the point I want to make here is it fits here. It's 120,000 scale chart in Lake Superior and previous Lake Superior ENC coverage was based on the traditional paper chart footprints all at 120,000 scale. However, this area has all been reschemed and all the data now is either one to 80,000 or one to 40,000 scale, a larger scale data. So, oops, here to the bust outta here. Oh, sorry. What happens when you do things on the fly? All right,

([01:12:42](https://www.rev.com/transcript-editor/shared/YwQ_9u1ahdyhT7idc-W7zPcHZ_YyKQ7AOLh2l2pZBW0HVkq8PXThbVTgOWl_IHREjzqdJn-Ix7gpVcrl5PvDZL8SHTM?loadFrom=DocumentDeeplink&ts=4362.48)):

So the traditional paper chart was about three feet by four feet, 120,000 scale. However, if you wanted to create a chart using the current reschemed, ENC 80,000 scale data over the same area, you'd need a chart nearly six feet wide and four and a half feet high. So this is one of the reasons why it's not practical to, to have the application indicate where traditional legacy chart footprints fall, because you really don't, you really depending on the scales that have been implemented, and almost always the reschemed ENC data is a larger scale than the traditional legacy charts. You end up with the same problem and you, what you would end up having to do is create two portrait sized panels at 80,000 that would fit a normal paper size rather than try to squeeze all that data into the same footprint, which you really can't. So I just wanted to highlight that. Getting back to some of the other questions here. Are you considering the possibility of allowing printing S-52 symbol symbology chart? You wanna take that one, Christie?

Ence ([01:14:13](https://www.rev.com/transcript-editor/shared/7OL9W6v3unCFr2Fi8hqjKIN5CaNMOB1pHRH3TEmwwESsmrX1q0F5luEG50FYq6TH4CuwvI2SuUqm3Vlucq2LDeEhgLE?loadFrom=DocumentDeeplink&ts=4453.69)):

I can. Well, eventually the roadmap includes an option for users to choose either NOAA symbology, international symbol, international paper symbology, or international S-52 symbology. I think that's really what we hope to do in the future once all of the symbology mapping has been completed.

Harmon ([01:14:51](https://www.rev.com/transcript-editor/shared/D6n5K0-ETqaKEwkfSj3dTcbmE8yF1EZ6LputZvnMZqQFC39FP_Z_GXGUVs80cJwPdvxW59PiTn-kf88kiHX6vmZydu4?loadFrom=DocumentDeeplink&ts=4491.64)):

Okay. has there been any consideration for the way to interface user custom chart catalog with a new version of the weekly chart update site so that you can identify if there have been updates to your specific chart of interest within a date range that can be printed out?

Ence ([01:15:22](https://www.rev.com/transcript-editor/shared/hQDpdfrcq0NbBRwFApQuTZYyQ0tSaTdJXXK0NQn6U3vx6YUtM2oPGVM2D4DHZOJ0BvNakxBVnwigMd_Yqu00oriGfmM?loadFrom=DocumentDeeplink&ts=4522.87)):

I can answer

Harmon ([01:15:23](https://www.rev.com/transcript-editor/shared/buEy4a2qe_dOhD8sSw-i4hUqIjx7TlIrx1JCNub6BXbJ0jrbW6JUK-FthoRi5gnrZDYtgajqcv3PgqAaZluwNAhp9GY?loadFrom=DocumentDeeplink&ts=4523.38)):

That. Yeah, go ahead.

Ence ([01:15:25](https://www.rev.com/transcript-editor/shared/A1enJQKqnkvTkmR2aciKxvPNd6KslwXN57d1PzO8HgeLX6UQPjB2IvAhzqhKl3tjjY8pCArzHO2CoPD_U1hmyqB7bfo?loadFrom=DocumentDeeplink&ts=4525.21)):

I said the answer is yes. I, I actually managed to mention this towards the end where we're hoping that the weekly chart updates site and the no custom chart will work together to allow you to identify what custom charts have updates on them, and then export that information, import it back into NOAA custom chart and have, have an additional column for whether or not something is updated or not. I think that'll be really useful if we can make it all work out.

Harmon ([01:16:12](https://www.rev.com/transcript-editor/shared/LU37yI6Ae2pvTvuqBuwIP98P21IZhiwZoB_e81ke6zi2kkyIuRsXRZxpiWc1NzpLsu8K6bFf-fpvdAiyXojsmUxbYUg?loadFrom=DocumentDeeplink&ts=4572.34)):

Okay. Here's a question about do the custom charts meet US Coast Guard carry requirements? It's technically a question for the US Coast Guard, and we always refer those types of questions to US Coast Guard and we can provide a website for you to ask those specific questions. Traditional NOAA nautical charts printed by certified print on demand vendors do meet carriage requirements for Coast Guard regulated vessels. And recent policy changes by the Coast Guard have said that you can use ENCs in lieu of paper charts. There's still some development going on with the NOAA custom chart that makes it useful for situational awareness and other uses. But there is, depending on where you are, what you're doing and what the chart is that may or may not meet specific requirements for the Coast Guard. So I would say if you have a question about a specific area or a specific chart, it's best to ask them and we can provide the link to them to, to ask those questions.

([01:17:43](https://www.rev.com/transcript-editor/shared/P_NLIsChrr3PQeMTcd81oNMljEvCyyIjfq9i9y1UEx-Us-QA-c4NvtSv8VBMpnxCEzh-uItfDTa3xHLIHYBj_c-C6es?loadFrom=DocumentDeeplink&ts=4663.73)):

Do you, do you need an account? No, you can just go to the NOAA custom chart website, go to the Coast Survey website and click on the NOAA custom chart link and open it up and start using it. And we use the original NOAA custom charts on our NOAA numbers, on our custom charts. While you're free to name it whatever you want to, but like I said, it, it's in many, many cases, if not most cases, the footprint of that chart would be different based on the scale that's available. I know if you had exactly, if you go to

([01:18:41](https://www.rev.com/transcript-editor/shared/yyEi6TCvIS3tJzCoykDoBndMAimnNd4cgBZZDRZxz4-HcTodVO-mHJIbIRFY1KD1HmaRzxbimZefluPeLRljuqewWjA?loadFrom=DocumentDeeplink&ts=4721.9)):

Like Tahoe, for example, the ENC data there is exactly the same as a traditional paper chart. That chart has been canceled. Then you can make a NOAA custom chart at exactly the same scale and exactly the same paper size. Cause it has not been reschemed to a different size. And in that case, if you wanted to use that number, you could, but there's no, and there's no practical government reason for that chart number to be used. There's US Coast Guard nor NOAA provides Notice to Mariners against NOAA custom charts or any other charts that have been canceled. So the numbers, once the chart's been canceled are meaningless in that regard.

Speaker 1 ([01:19:36](https://www.rev.com/transcript-editor/shared/Zwxeyb95ofor2LbNbaWrXxOMVfTMTCql2_RVoKbQroKApdD1cudeaNvxBq_XPA5zXLXboTW3dm3KcqYgBqrAdWABSFo?loadFrom=DocumentDeeplink&ts=4776.29)):

No custom chart symbology is improved. Is the same symbology being applied to the NOAA chart display service? Yes. In fact, it's identical. There may be short delay in implementing one over the other, but they're, they're very closely linked. So if you're using a live or rest service of the NOAA custom chart display service, you'll see the same symbol that you do on NOAA custom charts. Are the PDF files geospatially formatted PDF files? Yes, they are. They're geospatially referenced. However, we do not recommend using these in electronic chart displays systems because there's a lot of underlying data that is not really available at, that you would have on an electronic chart that, that, that you would have in an, in ENC, for example. Are NOAA EN C charts more up to date than NOAA custom charts? Well, no, because the, they're, they're pulling in real time. The ENC data that's the most available data up on our website to make these charts. The charts that Christie made today for are from today's ENC data was downloaded or uploaded to our website last Thursday night. So the data is identical at the time the NOAA custom chart is created.

Ence ([01:21:17](https://www.rev.com/transcript-editor/shared/unyBBvWwnEd5v0kRdMemATKV_K-blFH7PkLVZp_SKTxZ75BrH0sAoKsxweEOiGoNRcOtFHjixgfVF-kCMl96ARGuayw?loadFrom=DocumentDeeplink&ts=4877.34)):

Right. And just to add to that the NOAA custom chart pulls from the current ENCs every Thursday night at 11:00 PM So NOAA releases their ENCs Thursday afternoon, I believe. So the NOAA custom chart comes up right behind and, and, and repopulates that information with the newest data. If NOAA goes to a more rigorous release schedule as it's been talked about NOAA custom chart will keep a pace with that. So if it's a daily release, then we'll have to pull the data daily and we plan to do so if we need to.

Harmon ([01:22:10](https://www.rev.com/transcript-editor/shared/dg9Rnpkew9loisxlHIPWd0ieOj7WcKN5Txwu9mQrRUGlny0tZaePTXybQOmD2f2Ekh1RQVag9uv68An2k4qLubenL7c?loadFrom=DocumentDeeplink&ts=4930.98)):

Okay. is it, can the, can you change the size of the chart in a Vector program like Illustrator or Corel Draw? Christie, I'm not sure why you would wanna do that, but you probably can. Right?

Ence ([01:22:33](https://www.rev.com/transcript-editor/shared/eKXPxFHOqRGKJnnH5lu8jqAhIXgYVdRsBOGBi-qdkWuJJnjCVM-7gSSnnLdqMr9BlsHWBX4jQzjBlSZ5KVv0RqjCPMU?loadFrom=DocumentDeeplink&ts=4953.27)):

You can. It's really difficult to work with an Illustrator. I can attest to that. It opens up every individual item as a separate item all on one layer and grouped many, many, many times. So it's very difficult to work with. You can open them though. It will let you

Harmon ([01:23:09](https://www.rev.com/transcript-editor/shared/oeIthG82_okhz2EKBWYlLdlZNmfLmqgxgAix1wlSiWhjw2Nxa9YpuxY4EBZ41Z6xRQcZStAV1J9FVlg18CRIlMJO2Zc?loadFrom=DocumentDeeplink&ts=4989.64)):

Just trying to make sure we haven't missed anything or asked anything twice here. Could you say that the ENC update feature could be used as an LNM feature? This is from one of the POD vendors. I would say ENCs are updated in an entirely different process that does not involve local notice to Mariners. So I think, I think we need a larger discussion to get to the bottom of what, what that question really means. Cuz notice to Mariners are only applied for paper charts. I did wanna get, but I would say we after the fact. I think we will go through these and make sure we've captured all the nuance of these questions and maybe summarize 'em. There's only a dozen or so here. But I wanted to get to another aspect of the the demonstration here. And that is Christie emailed a copy of her chart catalog to me, and lemme just close this.

([01:25:22](https://www.rev.com/transcript-editor/shared/8-0VBhyasaFw7g7yycNyJQrsdUk8KT-C7CumI9-pnyNuttBhS0D5fG6aLEDAIHcxRVic96KZvvUpxoZfbyl3p-W6Eu4?loadFrom=DocumentDeeplink&ts=5122.9)):

 So I'm just, just to you know, Christie is in a greater Washington area today, and I'm in New England. So through the magic of email just full disclosure, she, did this before the demo starch started. She created a similar chart catalog and emailed it to me, but she did not email me the PDF that I'm about to show you in a minute. So it's because she sent me the catalog. I'm able to recreate the same chart from her. So what I do is go to the NOAA custom chart application, click on the export functions, the open chart catalog viewer, open existing chart catalogs, and this is the personal chart catalog, geojson file that she emailed to me earlier today. So I'm opening that. Here we go. And just to illustrate, if you select all here and try to move them all in back from the catalog into the NOAA custom chart application all at once, it'll tell you we can only do five at a time, as Christie said. So I know I'm looking for the upper Galveston Bay chart. This is the one that she built for, for you in real time. So we're gonna move just that one over. And you can see if this is the, as Christie said before, if the green, if the buttons are highlighted and there's bright green, it means they're working. And you can tell that after it goes back to the other color, it's finished. So I can click on this and what'll happen, it'll zoom to that particular chart

([01:27:29](https://www.rev.com/transcript-editor/shared/RUus6O5mA9Wy89giXjrwqAZN7s4h8cirx5YZeuFcdnjHzGQMVZbCDornAfyGNwLjiPK9y5JbuGpo6cLagai5JRbE3CY?loadFrom=DocumentDeeplink&ts=5249.36)):

And I can hit export. And just as Christie did before it starts exporting that chart. And to save time

([01:27:41](https://www.rev.com/transcript-editor/shared/6dDk_nwCxPa0jzD3JV5j8U2pDMvRwXokeREyhRgQ72j0Piw9xTvEu4XurztkUmQZcvDYdJQ9ygbwloz0-sIGWaoB-54?loadFrom=DocumentDeeplink&ts=5261.51)):

Also earlier in the day, I produced this chart in two or three minutes. And you can tell this is exactly the same chart that Christie sent me. So if you have a chart where you and someone you know operate in a similar area, you can share charts. You can actually use, you know, again, zoom in and show your you don't have to create a whole chart necessarily, but you can use the chart catalog to zoom in and show them a particular area that you're interested in just to discuss a particular area that's whether it's gonna be used as a chart or not. Someone asked about the date. And if you look down here on the lower left corner, oops, what's happening, sorry, lower left corner, it tells you the generation date, April 18th, 2023, tells you the paper size. I think we can find that bar. Here's a size bar I was telling you about earlier. So unlike this CATZOC diagram that tells you the information about the individual hydrographic surveys, there's no similar capacity to show which parts of the nautical chart were made by which ENCs and what the relative dates are for each of those. But you can rest assure that all the data on a chart produced on this date is has been updated within the last week if new information has been applied to that ENC. So

([01:29:48](https://www.rev.com/transcript-editor/shared/iY-rv5Lwoo8ovvsfdGwuR6fZgL_l_hc8LcvpPLBH-sy_zC4u-VUUVhWlYpmts_v1lb44C3LpeAyx3LaxmR9evdbrtus?loadFrom=DocumentDeeplink&ts=5388.57)):

That's all I think we have.

Ence ([01:29:55](https://www.rev.com/transcript-editor/shared/RBGfRcsYNDWft666NzR_YCd5kTZyDrqfoJarqqaTmUGAs6WyKeU-zS-SUv1JjEaPBIrKBeDvLklED6kCIYa5M4vvgew?loadFrom=DocumentDeeplink&ts=5395.5)):

We do have a couple additional questions and comments. We will address those offline since we are out of time.

Speaker 1 ([01:30:04](https://www.rev.com/transcript-editor/shared/2_iRPvtZZvIvZVAR2sUqF-Ma2yr3X5PWTASucODUKbu700DPZcH8NwHVZJ7Acf3YoyzDGt4LP_EyKHjMO653XFvAzqE?loadFrom=DocumentDeeplink&ts=5404.43)):

Okay. All right. Well, I know that's a lot of information to plow through and we hope you, if you, as you have time to digest that and have an additional questions, go to the Coast Survey ASSIST form. We'll send you a link to that also and keep asking those questions and making those recommendations. Many of the improvements that you've seen over the last couple years have come from users suggestions about how things should work or be organized or et cetera. So thanks for attending.