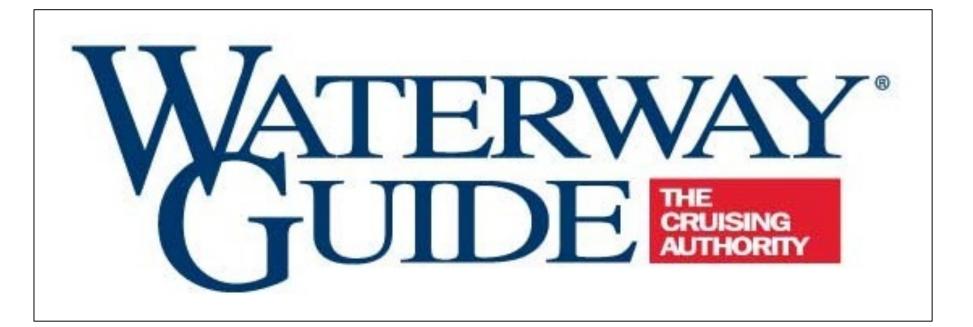
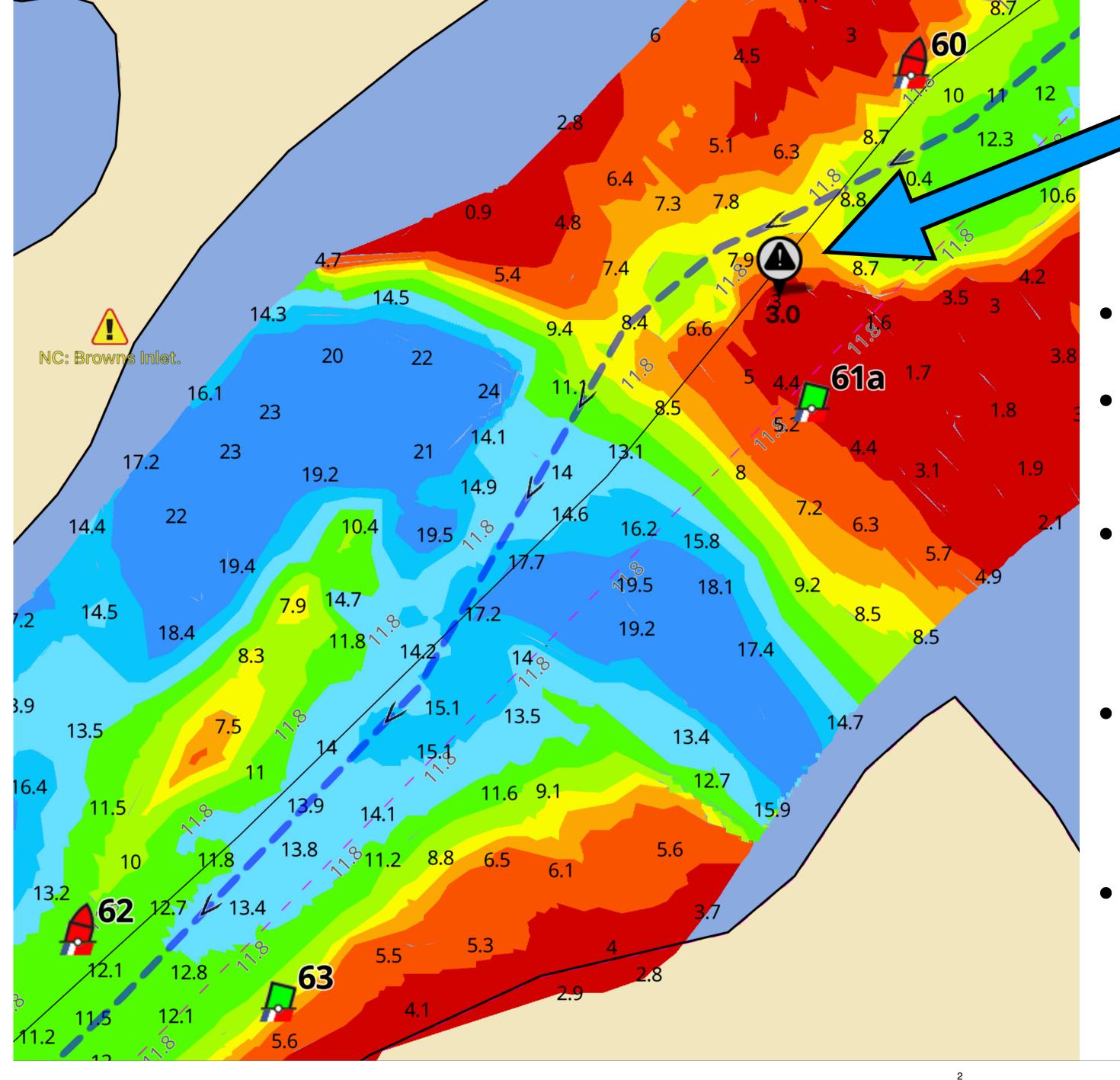
# Using Aqua Map for ICW Navigation





by Bob423 2/10/2024



### 3.0 MLLW

## Why use Aqua Map, why not Navionics or Garmin?

- Look at Browns Inlet on the ICW
- USACE survey of 8/7/2023 as shown in Aqua Map.
- 8 powerboats were known to have plowed through here, requiring prop repairs ~ \$2500 minimum
- Buoys did not direct boaters away from shoal (actually, did the opposite, just look at G61A)
- Only Aqua Map with USACE surveys showed the shoal (not Navionics, not Garmin chartplotters)

#### **How about NOAA charts?**

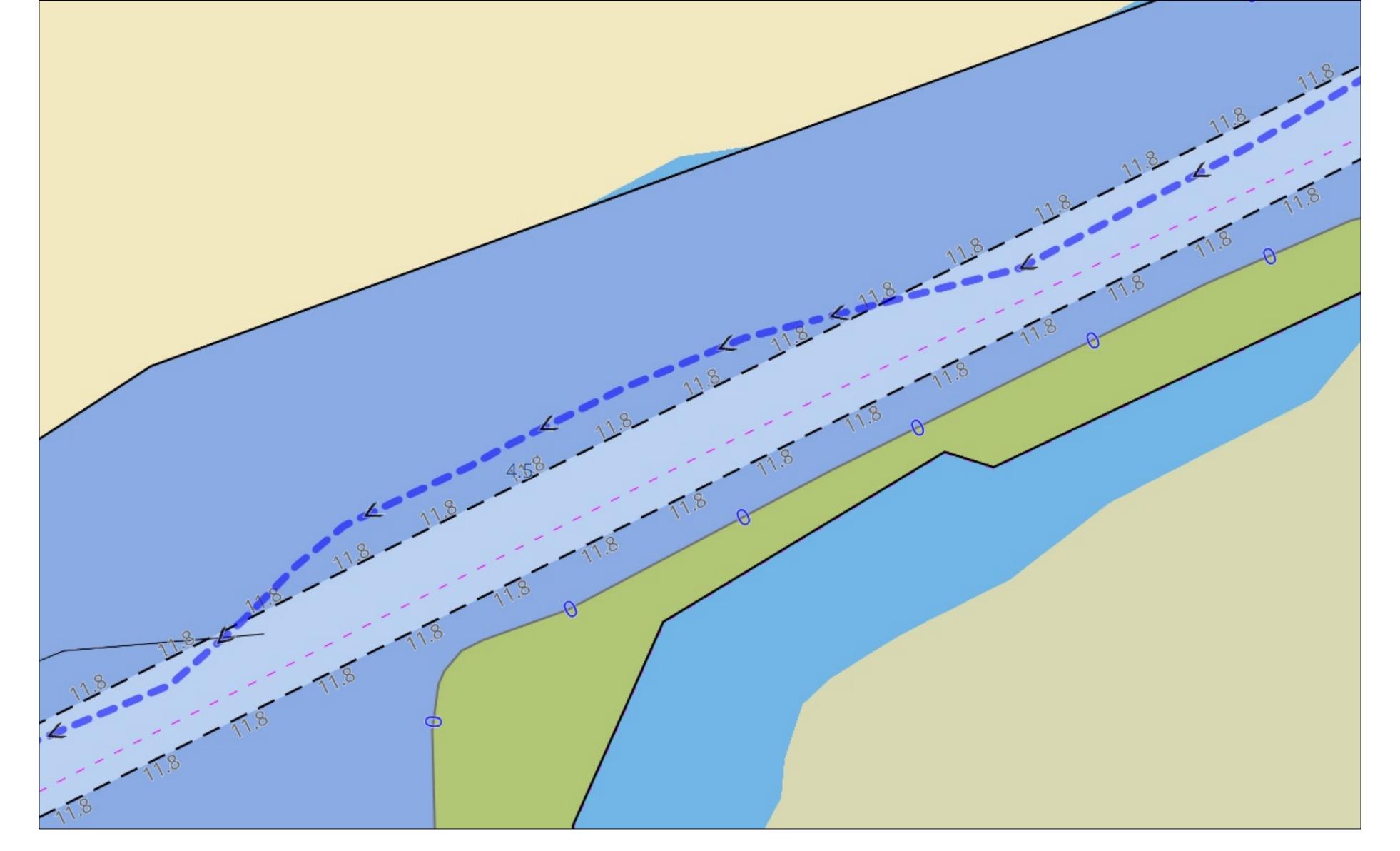
- Let's look at the NOAA chart but with the 3.0 MLLW spot marked
- Note that neither the NOAA chart nor the ATONs direct you away from the shoal area

# 11 ft Feet 9

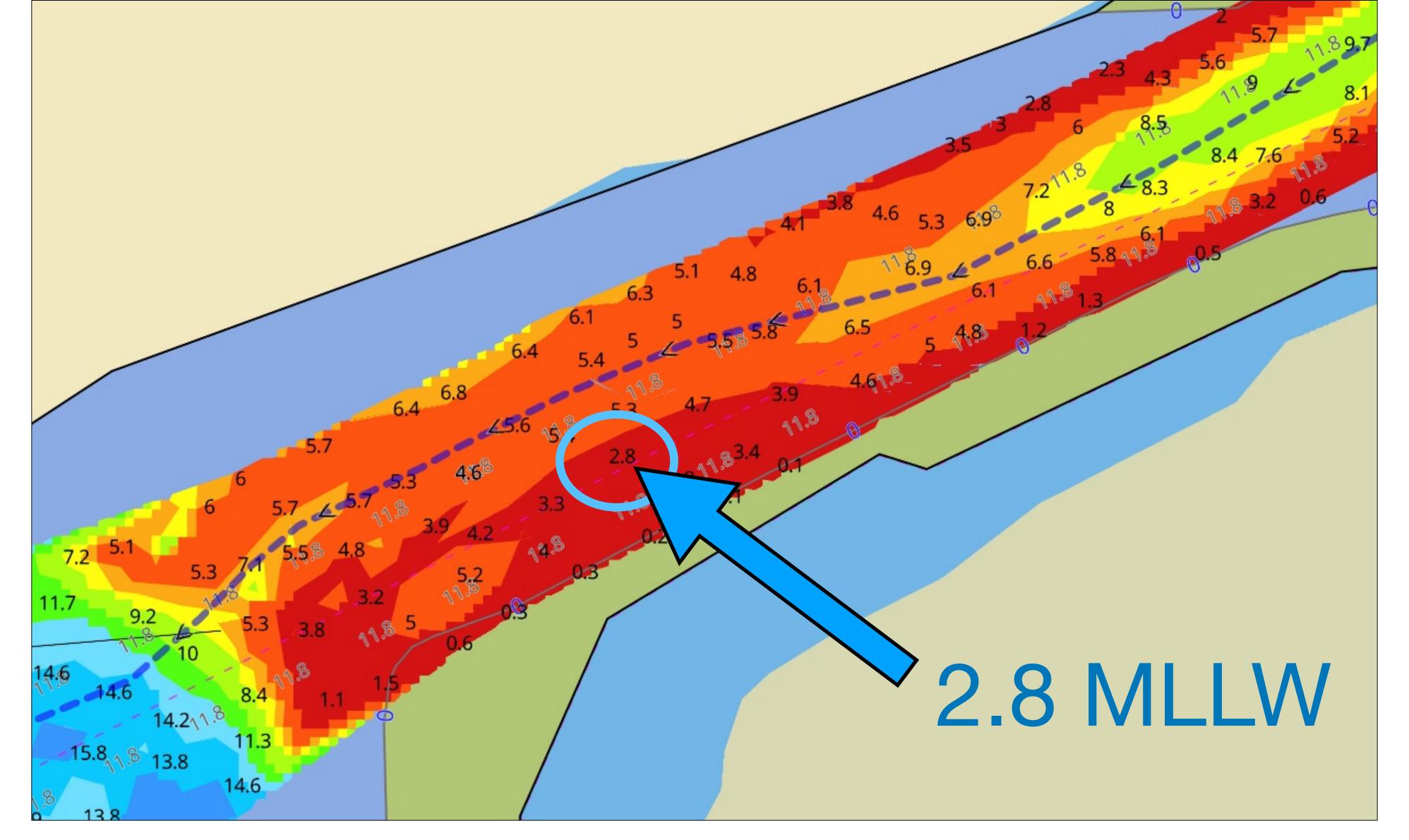
# Navionics SonarChart of Browns Inlet

- Fishing Ranges option used to color code depths
- SonarChart updated as of 9/16/2023 (time of 8 powerboat groundings)
- The marker shows the 3.0 MLLW spot
- SonarChart shows 11 MLLW

SonarChart does not respond to rapidly shoaling areas



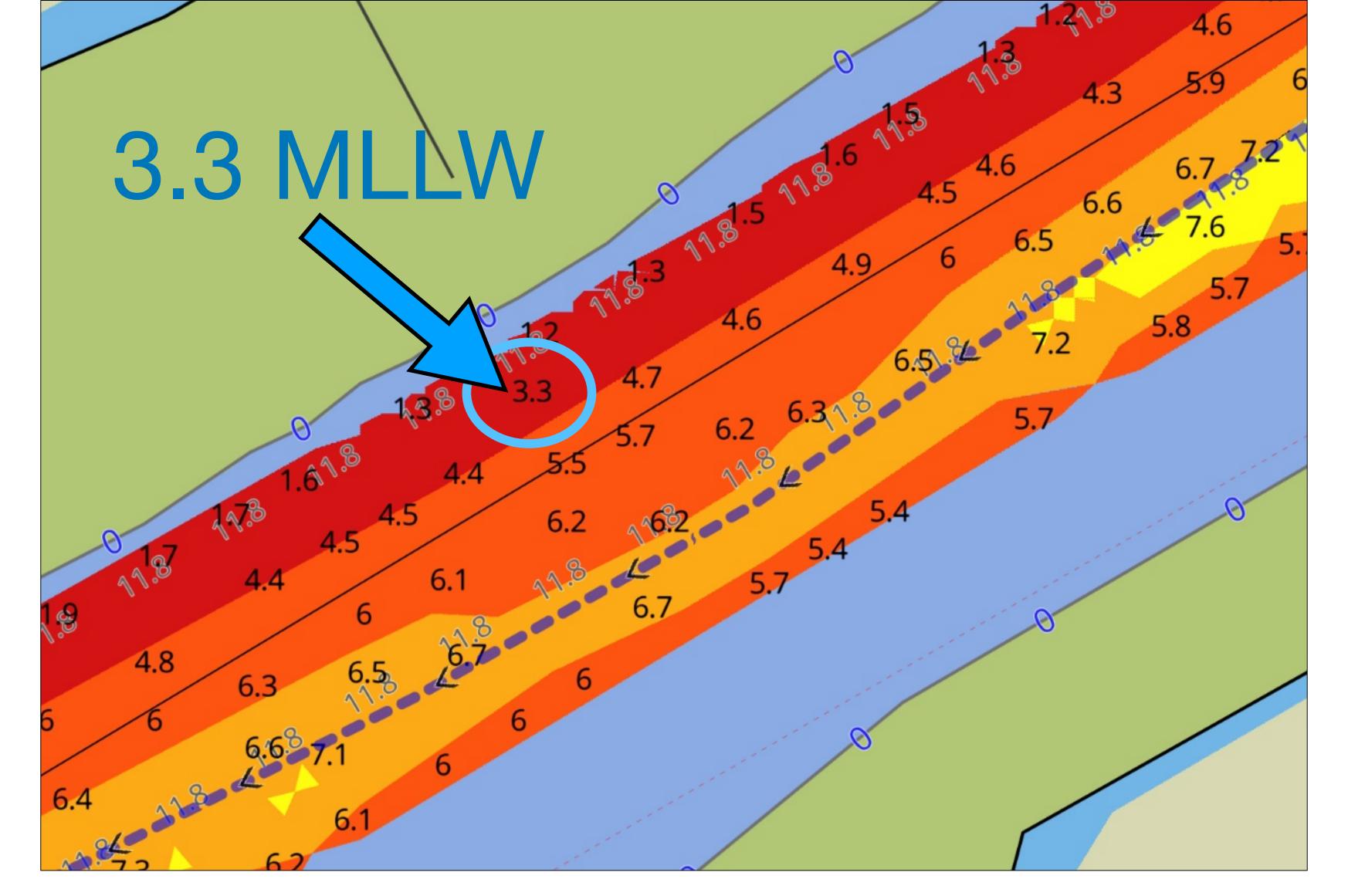
- Isle of Palms, SC at MM 460 as shown on NOAA charts
- Bob423 track for deepest water is the blue dotted line



- The Army Corps of Engineers (USACE) survey as only shown in Aqua Map app
- Which chart would you want to see as you approach this shoal area?



McClellanville, SC at MM 431 as shown on NOAA charts

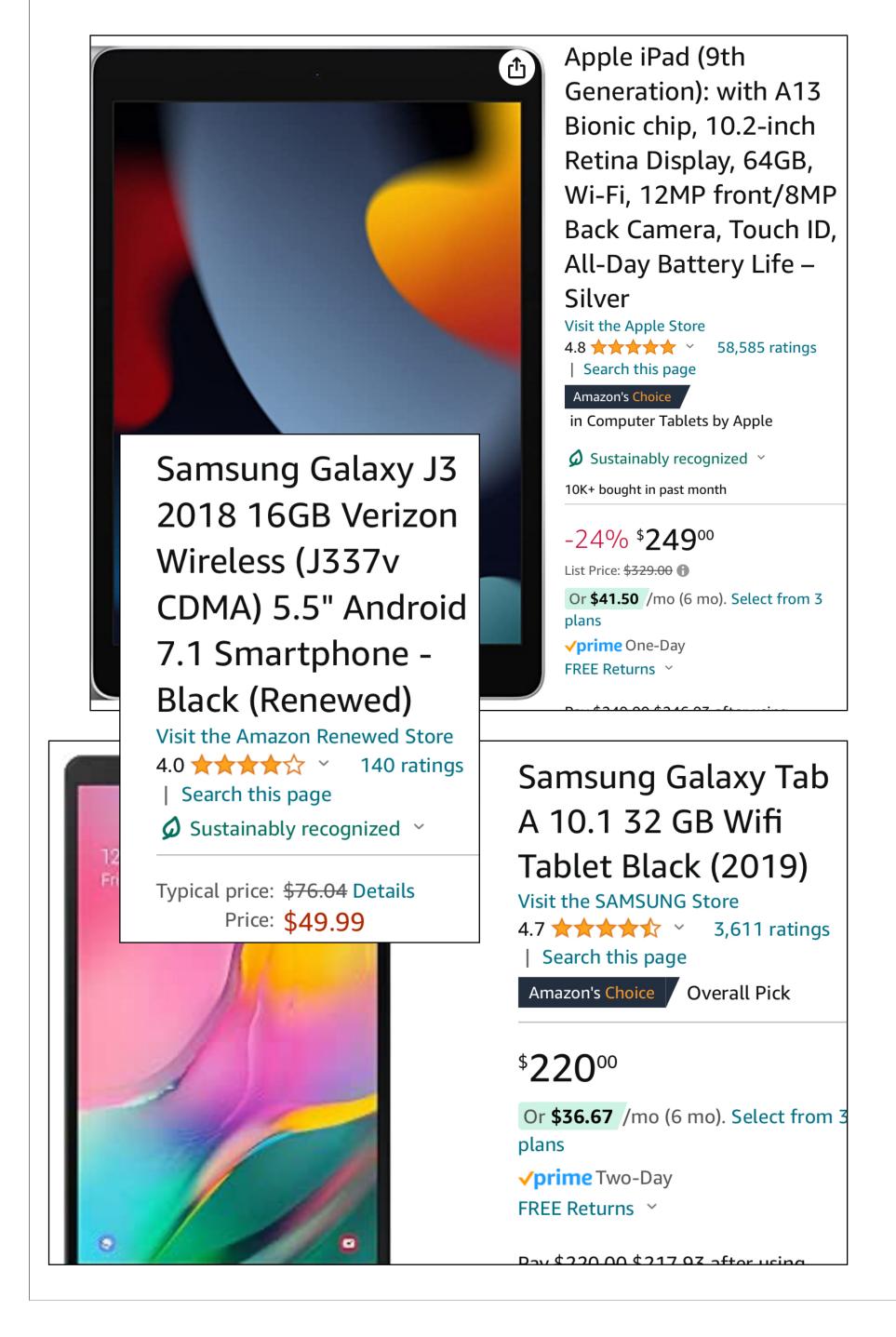


- USACE survey as shown in Aqua Map with the Bob423 track as the blue dotted line
- Which chart would you want to see as you approach this shoal area?

#### **Aqua Map Features Beyond USACE Surveys**

- Aqua Map updates their charts weekly from the weekly NOAA updates, you're never out of date.
- ATONs and LNM announcements are updated weekly, accessible through Aqua Map.
- Activate a track to get ETAs to bridges and marinas automatically.
- Anchor watch with link to iPhone that shows iPad screen on boat
- NOAA's most advanced models, HRRR wind, currents, and waves overlays on chart
- Waterway Guide and Active Captain icons
- Tides and Currents
- Creation, importing, and exporting of routes and tracks
- Auto syncing of Bob423 tracks for the ICW
- Auto upload of Aqua Map tracks to NOAA's Crowd Sourced Bathymetry

All features cannot be covered in one seminar - but we'll hit the highlights and get you going!



#### Let's get started: Which Device to Use?

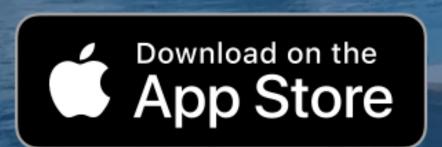
- I've used Aqua Map on iPhone, Android phone, Android tablet, and iPad - they all work
- Android devices all have GPS, only the cellular models of Apple devices have GPS.
- Apple cellular devices have a known problem with GPS "cutting out" at slow speeds. A Bluetooth GPS or WiFi gateway with GPS solves the problem.
- Devices I've tested that work well with Aqua Map
  - All models of <u>iPads</u> and iPhones with <u>Bluetooth</u> GPS
  - Samsung Tab A 10.1 tablet
  - Samsung J3 Orbit phone

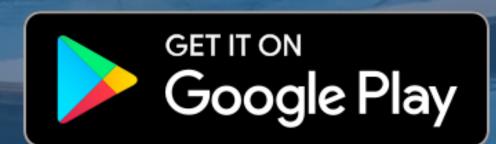


# Your next marine GPS navigation system

A full functioning chartplotter in the palm of your hand

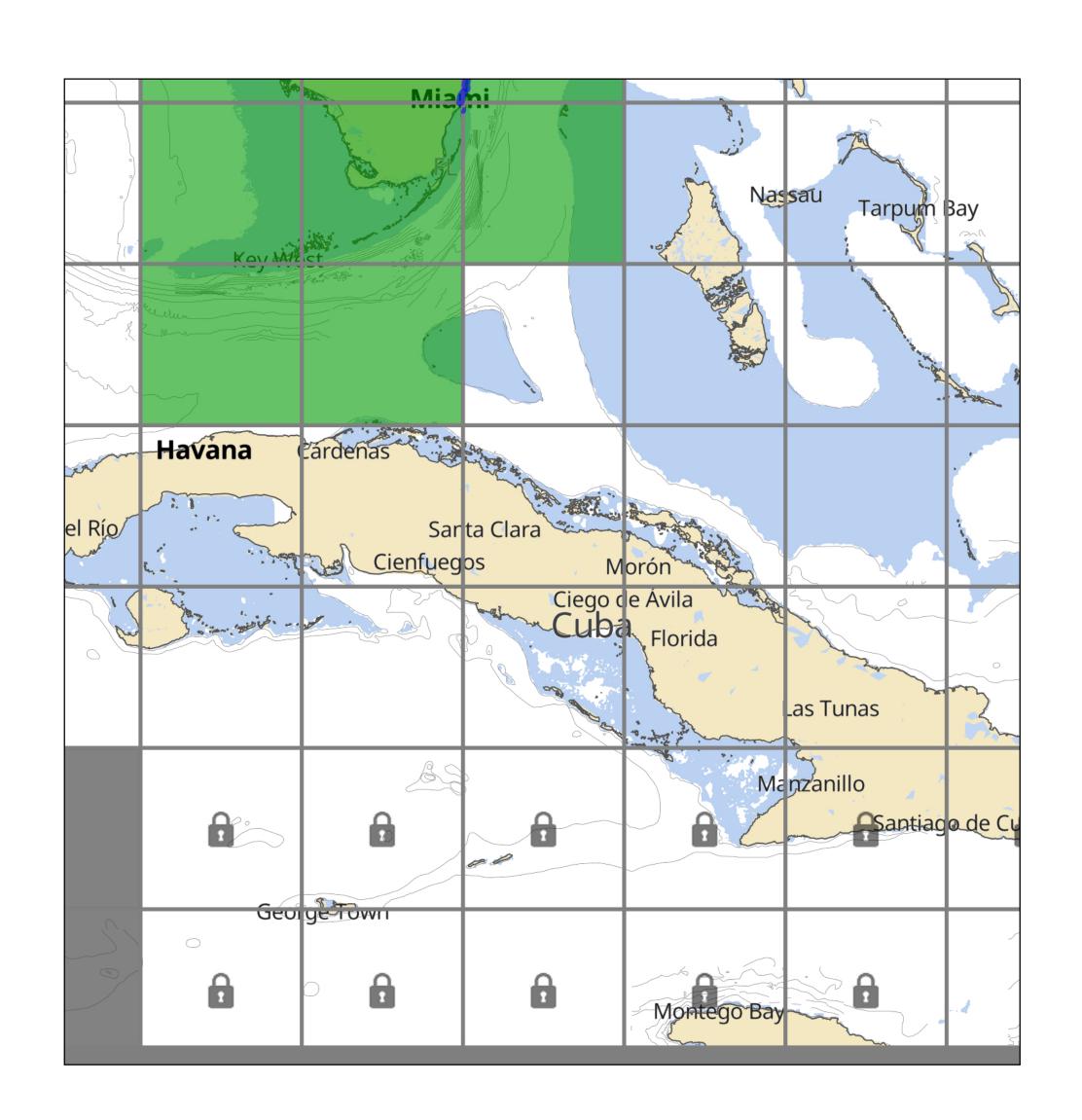
Start your 14-day free trial





#### **Download Aqua Map**

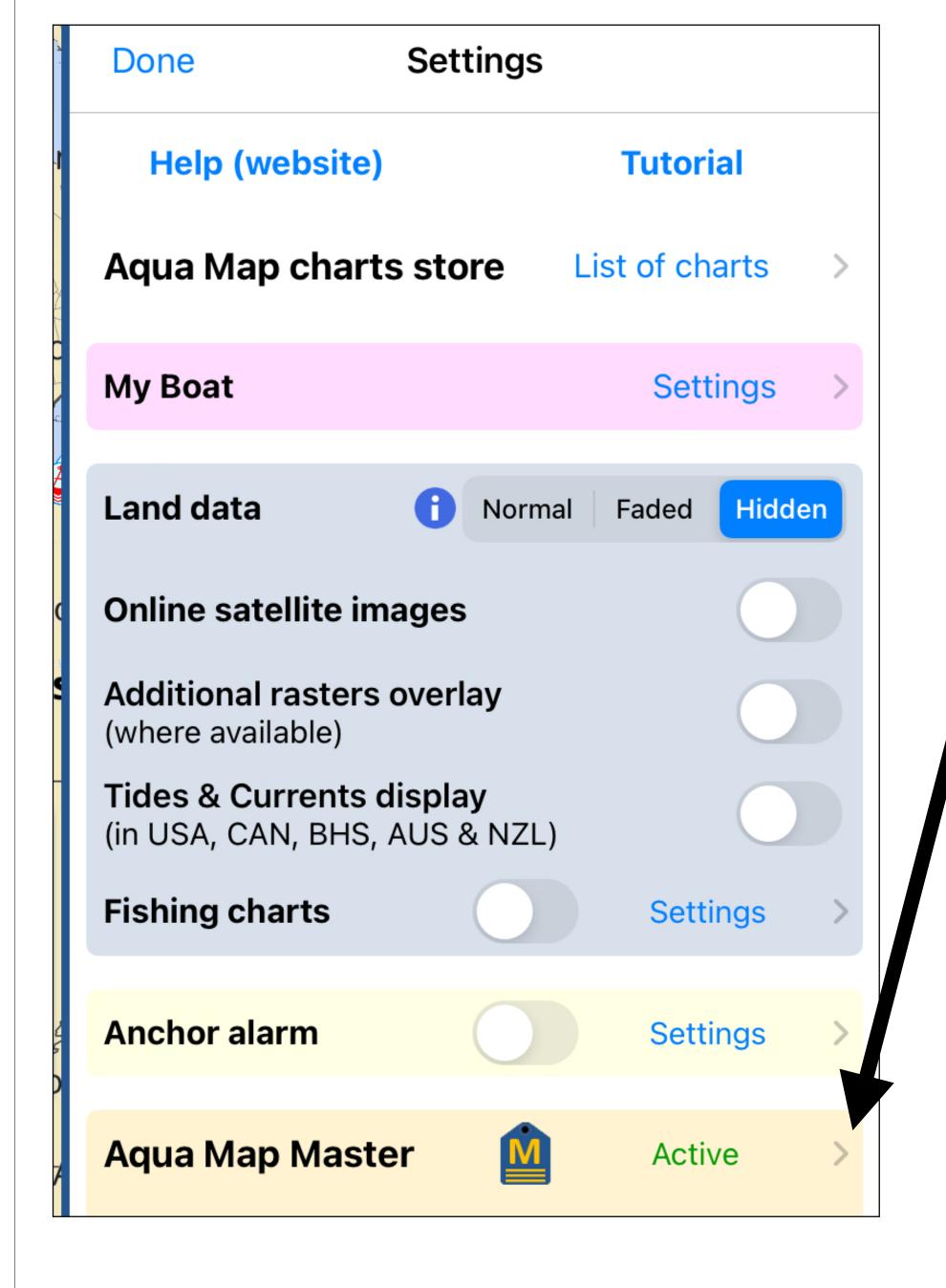
- For Apple devices, use the Apple Store
- For Android devices, use the Google Play site
- See the <u>Aqua Map</u> site for links or tap image on the left



#### **Purchase Charts**

Tap the button located at the bottom left of the screen. This action will open a grid displaying selectable tiles. Tap a chart tile.

- Purchase desired charts, yearly or one-time buy.
- Choose the specific chart tiles you wish to download with a tap.
   Selected areas will turn blue.
- Press the "Start" button to start download.
- After downloading, you can zoom-in and see chart detail.



#### Purchase Aqua Map Master subscription

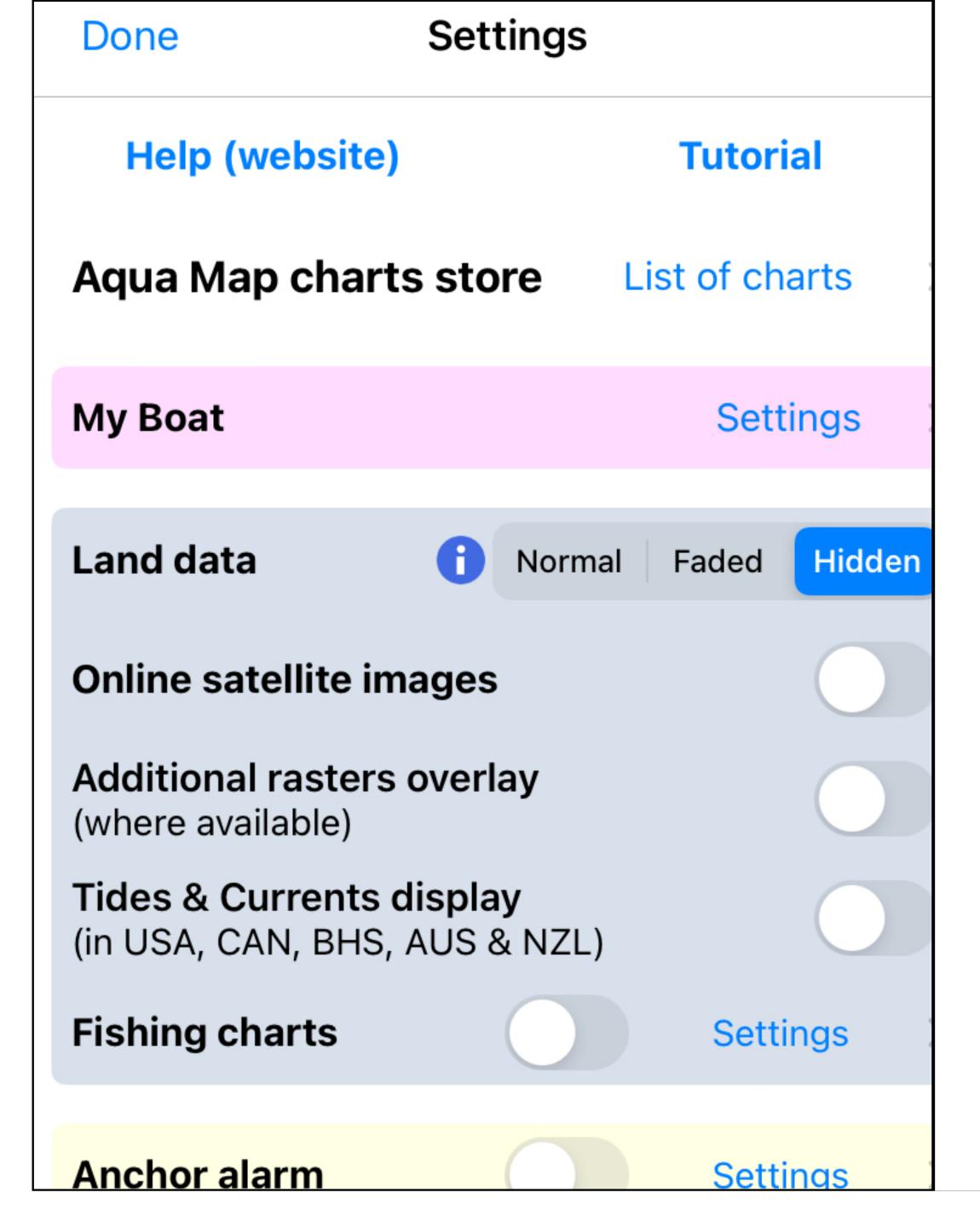
- Tap on to bring up Settings
- Tap on Aqua Map Master and enroll
  - USACE surveys, updated weekly.
  - Route Explorer for auto ETAs to bridges, marinas, and anchorages.
  - Marine HRRR forecasts.
  - Coast Guard ATON and LNM updates.
  - AIS and NMEA connections with gateway
  - Anchor Link (send iPad screen to iPhone!)

You now have a fully functional chartplotter for the shallows of the ICW!

Tap so Aqua Map Find routes, Indian River tracks, markers, follows boat 0.9 tide stations, MM Record a track and more 0.9 Take a photo tied If you're to GPS location connected to NMEA, depth, wind speed and 3.9 GatoRuler direction will be 25^ displayed along the edge Weather forecasts GPS signal strength of wind, waves, and currents SOG, COG, MM **Display OFF 32** 4.9 2.9 GPS .... Chart inventory **Settings** COG: 878.2

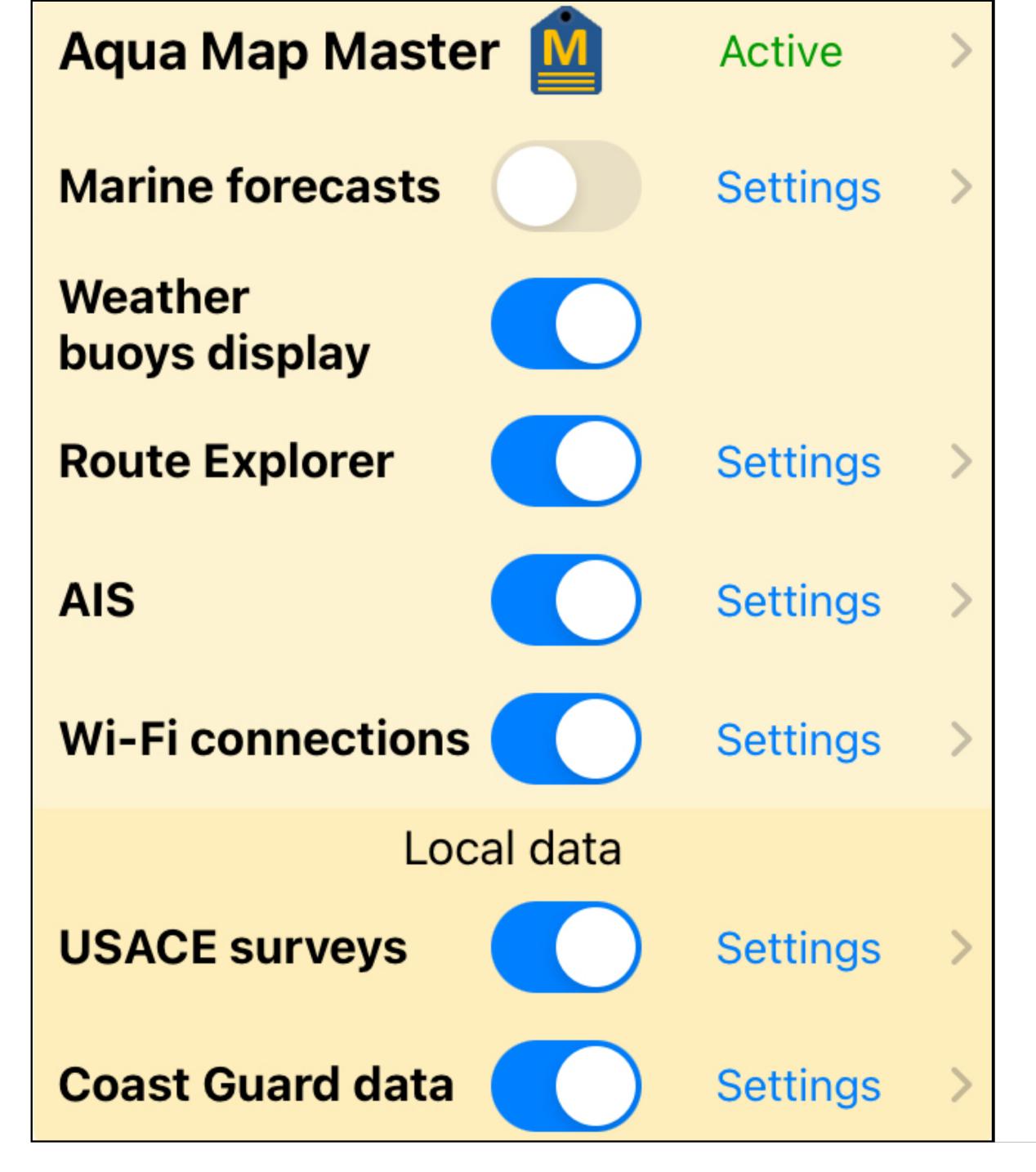
#### Aqua Map Home Screen

What do all those icons along the edge mean?



#### Let's Choose Our Settings

- There are Help and Tutorials available with a tap.
- Aqua Map charts store. You may purchase more charts, especially <u>Bahama Explorer</u> charts in both raster and digital versions.
- My Boat allows you to set your boat name for sharing along with fuel consumption and speed for route planning.
- Land data can be set to "Normal" to show roads
- You can enable Online satellite images which places a slider on the main screen.
- Additional raster overlays for showing Bahamas Explorer charts in both raster and digital formats.
- Tides & Currents display can be turned on or off, useful for a less cluttered display if not needed.
- Fishing charts are for specialized areas.
- Anchor Alarm with many options in settings.



- Aqua Map Master enrollment.
- Marine Forecasts can be enabled with options on how to display forecast overlays.
- Weather buoys display shows NOAA buoys with real-time wind speed and wave heights.
- Route Explorer with many option on display of Explorer info including cheapest fuel on a route.
- AIS displays locations of ships with AIS if you have a receiver installed.
- Wi-Fi connections interfaces to a WiFi gateway if installed, with options on what to display.
- USACE surveys can be selected with options on age of surveys to be shown and fading of older surveys if desired.
- Coast Guard data shows LNM listings of all ATONs including damaged or off-station buoys.





Access

**Live Sharing** 



Settings

**ActiveCaptain** 



Settings

**Waterway Guide** 

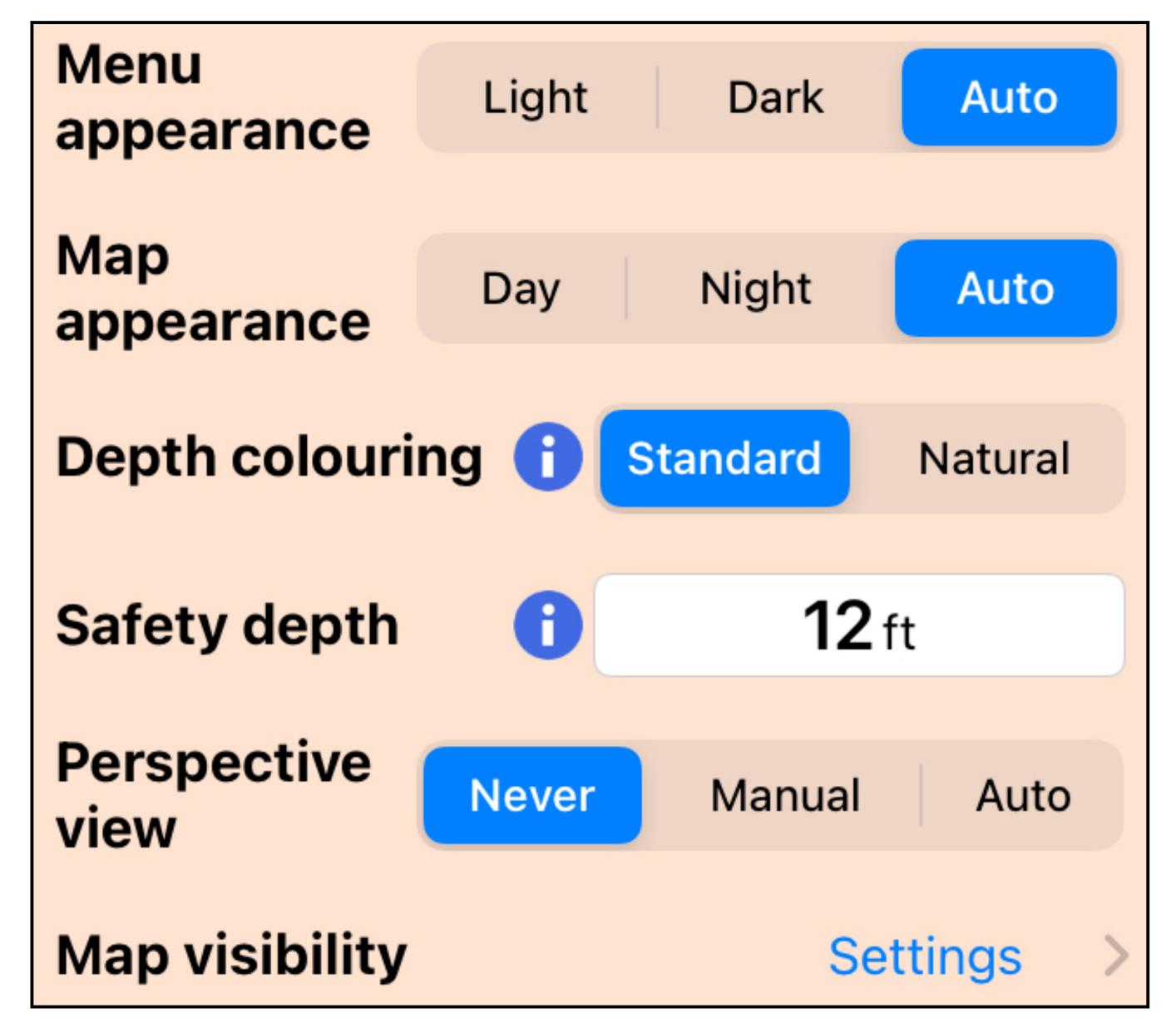


Settings

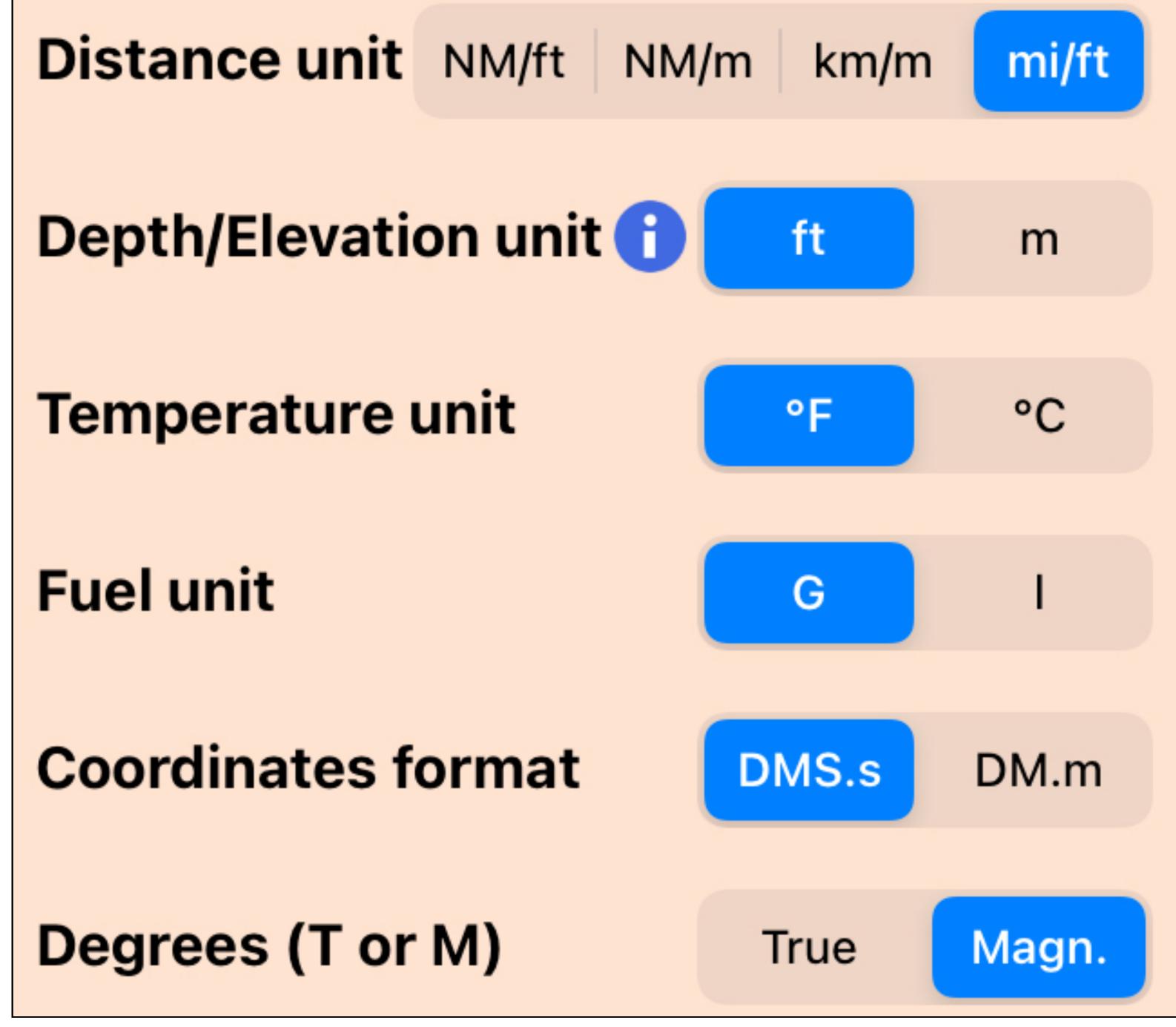
Crowdsourced bathymetry

Settings

- GEC Account sign-up allows you to share the Aqua Map app across five devices. All tracks, routes, and markers saved in any of your devices are available to all devices
- Live Sharing allows you to share your location with everyone or just friends. Great for a flotilla.
- Waterway Guide icons with options for icon size and labels.
- Active Captain icons with the same options.
- Crowdsourced bathymetry
   sends your location to NOAA's
   Bathymetry database but only if
   you allow it in Settings.



- Menu appearance selects Light (normal) or a dark view.
- Map appearance can be set to Day or Night to save night vision.
- Depth colouring gives you a choice of chart colors. Pick the one you like.
- Safety Depth sets the depth the chart shows a blue background instead of white. Blue indicates shallower water.
- Perspective view allows a chart view as if you were hovering overhead and looking forward.
- Map visibility is a collection of 16 options affecting the display of items on the chart. Adjust to your liking.



- **Distance units**, nautical miles, meters, feet, or statue miles.
- Depth/Elevation unit, feet or meters.
- Temperature unit, Fahrenheit or Celsius.
- Fuel unit, gallons or liters.
- Coordinates format
  - 30° MM' SS.SS"
  - 30° MM.MMM'
- Degrees (T or M) for true or magnetic.

#### **Automatic updates**

Settings

Downloaded maps: 2 GB



Allow iOS to delete maps in case of low available space



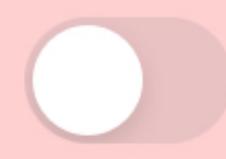
#### Sound effects



**UI** animation effects



**Buttons Auto-Hide** 



Disable Auto-Lock (the device will never Lock)



- Automatic updates can be set to
  - Never
  - WiFi only
  - Always (WiFi or cellular)
- Downloaded maps: shows storage used by charts.
- Allow iOS to delete maps in case of low available space if your device is low on memory.
- Sound effects for chart actions.
- Ul animation effects for chart actions.
- Buttons Auto-Hide allows buttons to fade out for more chart area to be shown while navigating.
- Disable Auto-Lock (the device will never lock), the screen stays on. 20

#### Restore purchases

Disclaimer and Acknowledgement

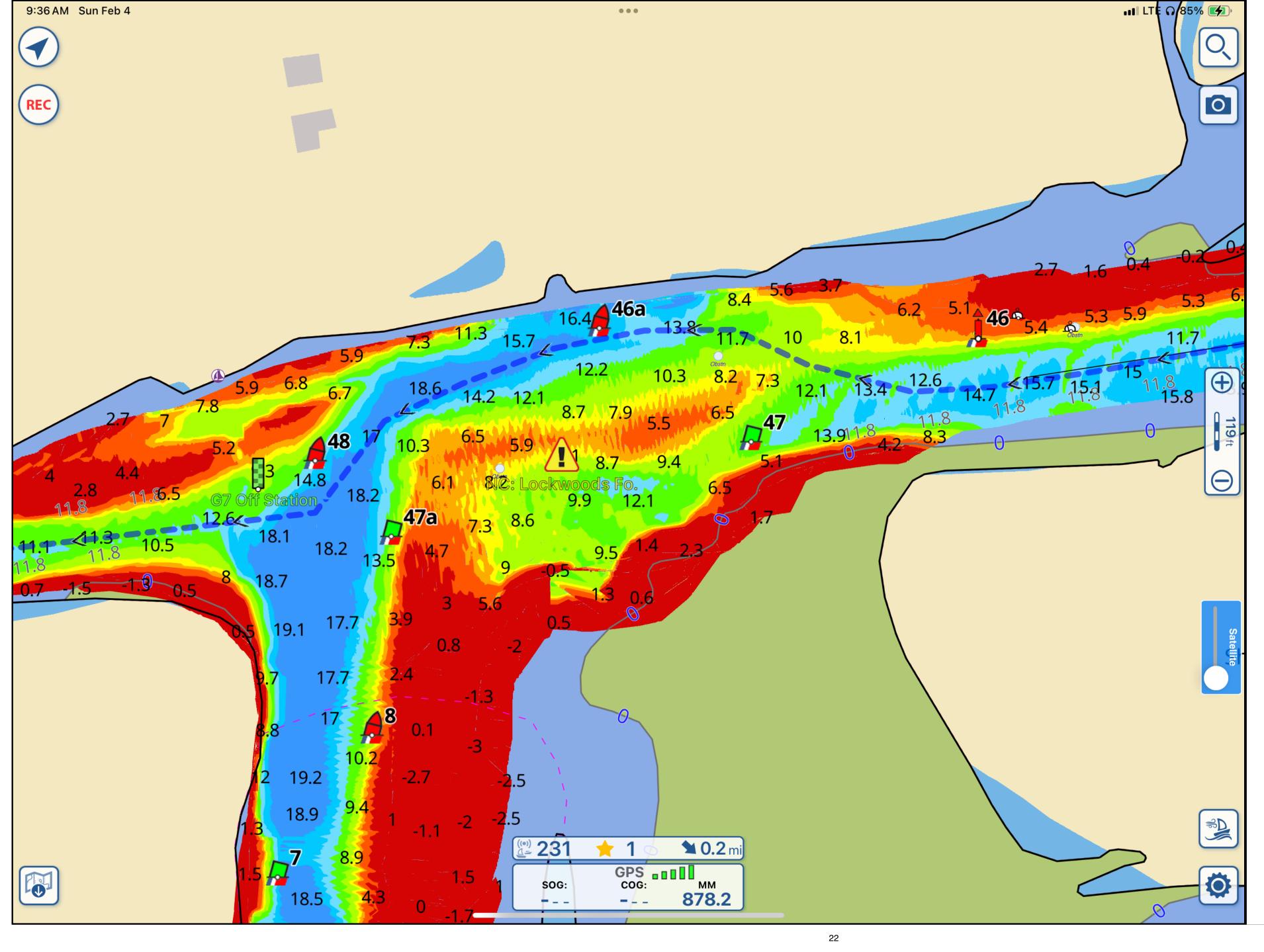
Terms and conditions

Privacy Policy

Aqua Map - Mobile chartplotter 37.2 (Build 149) - Copyright (c) 2013-2023 GEC srl. All rights reserved.



- Restore purchases in case of a purchase problem.
- Disclaimer and Acknowledgements etc.
- Aqua map details
  - Aqua Map version and build number.
  - Email icon with a tap is used to tell Aqua Map of a problem. It's good to use because it automatically attaches app status and device data.

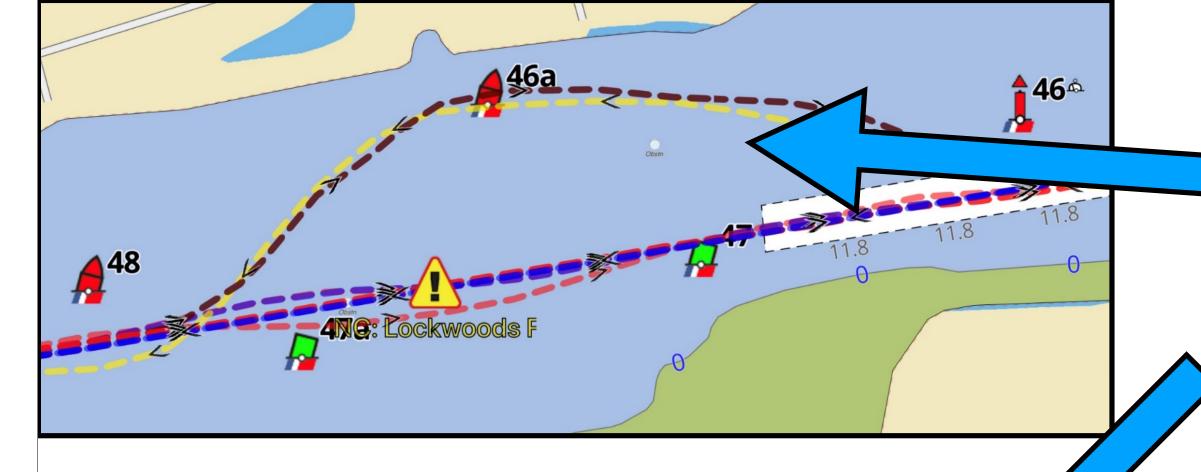


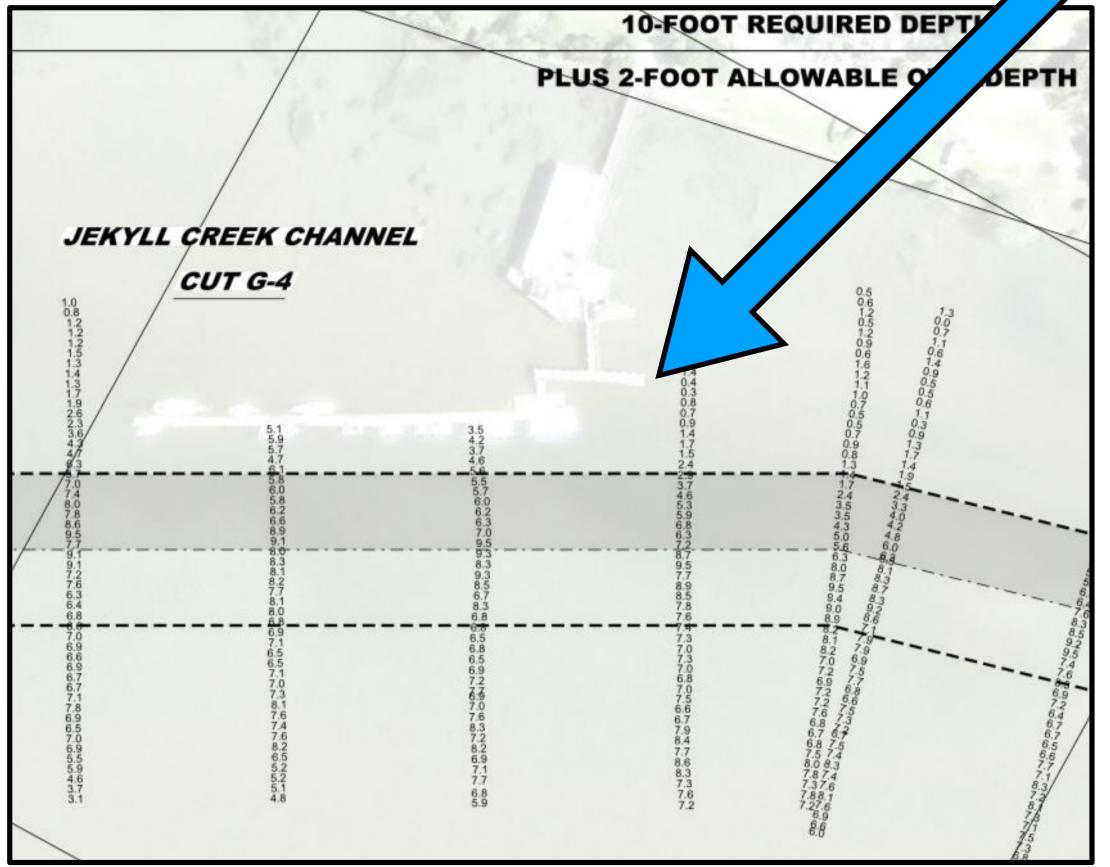
#### All Set to Go

- Charts are loaded
- Aqua Map Master subscribed
- USACE surveys visible
- GPS tracking on

But wait, what about Bob423 tracks?

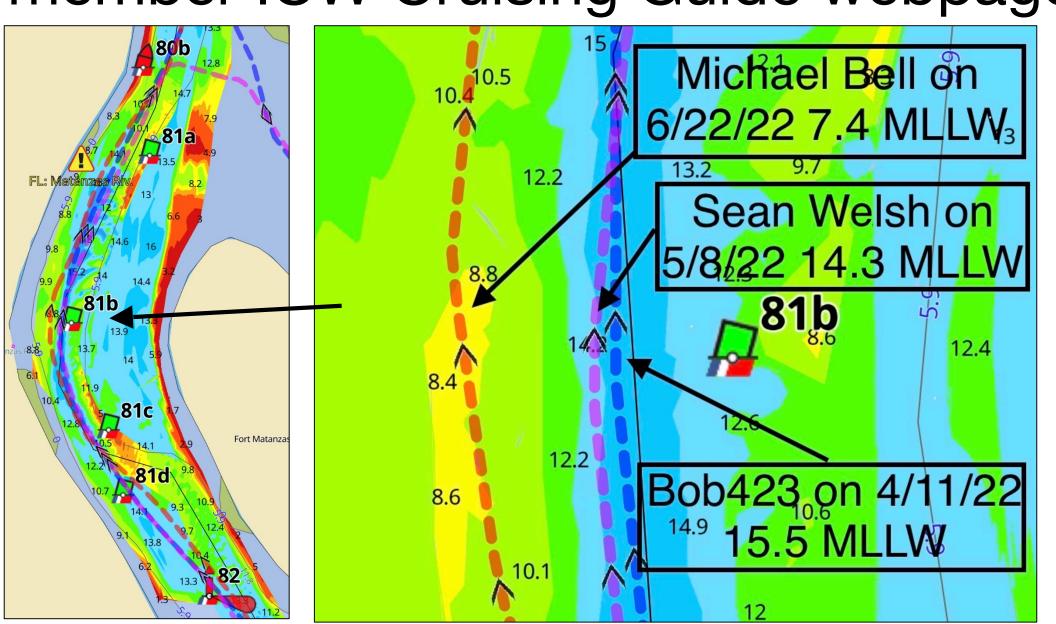
(blue dotted line)





#### What are Bob423 tracks based on?

- Bob423 trips on the ICW
- USACE survey updates
- Dredging contracts. Dredging may not be down the center of the channel.
- Bob423 Surveyors send tracks with embedded depths.
- Verified shoaling from my 21,000 member ICW Cruising Guide webpage



#### Bob423 ICW Tracks and Routes

How to Download Tracks and Routes 2022 ICW Cruising Guide Hyperlinks Waterway Guide Alerts (hazards) List **GPX Routes** Home Burgees How to Record and Share Tracks Bob423 Long Tracks Track Splitter Videos Spiral Bound Guide Wine How to Sync B423 1 Crowd Sourced Bathymetry CSB to GPX Converter **USACE** Requested Surveys Aqua Map Tips Cruising Links Guide Updates

#### Bob423 Long Tracks

1/31/2024 UPDATE: Bob423 Savannah to Titusville 013124 adjusted to avoid shoaling extending toward R86 (MM 796). Many other minor changes were also made to better center the track in the best water.

I've also included a package of 18 side trips that start adjacent to the blue-dotted Bob423 ICW track and show the way to marinas and anchorages that I use. The side trip tracks are in red to avoid confusion with the blue Bob423 ICW Track. All GPX files have been tested to load properly and display with Aqua Map and Navionics. Garmin Active Captain will load the files but won't display the entire length sometimes, use Track Splitter to cut them into smaller segments for Garmin products.

NOTE: I have not yet achieved infallibility (although it is one of my goals). The tracks are as good as I can make them but the ICW is always changing due to shoaling, dredging, barges pushing mud around (into channels), high winds pushing water out, and a number of other factors. As always, the captain takes full and sole responsibility for his vessel in using these files. Always use the latest file for a day's run.

Before following Bob 423 tracks, please see link: Rules of the Road

To understand what goes into forming and updating a Bob423 track see: Basis for Bob423 Tracks

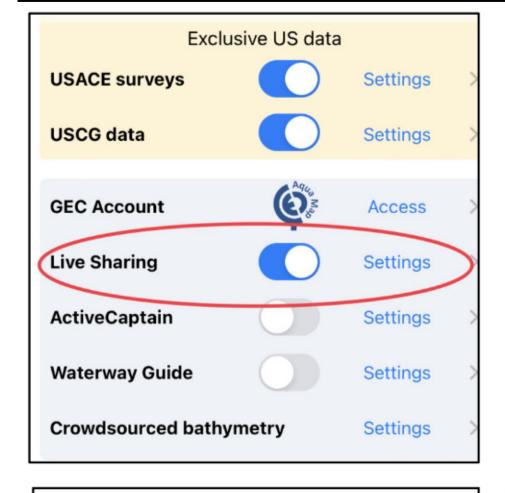
- 1 Norfolk, VA to Southport, NC, adjusted for shoaling at Mason Inlet B423 Norfolk to Southport 011224
- 2 Southport, NC to Savannah, GA Loockwoods Folly now has the shore route due to shoaling in the straight through channel B423 Southport to Savannah 120223
- 3 Savannah, GA to Titusville, FL update to avoid shoaling at Nassau River B423 Savannah to Titusville 013124
- 4 Titusville, FL to Miami, FL, The ICW crossing at Jupiter Inlet las been dredged. The new track goes through the deepest section.

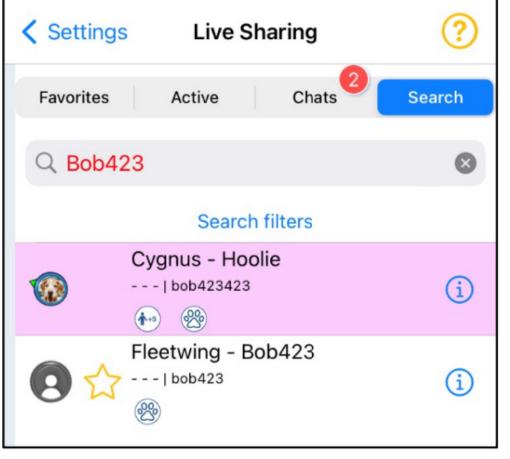
  B423 Titusville to Miami 012824

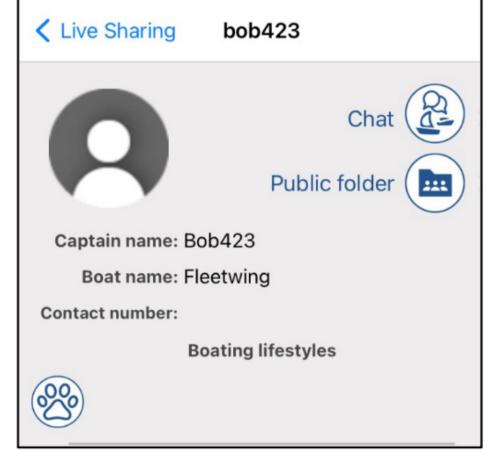
## Download Bob423 Tracks

- Use Chrome browser and go to bobicw.blogspot.com
- Tap on "Bob423 Long Tracks"
- Load tracks 1 4 with
- taps, see "How to Download Tracks and Routes" for details.
- Last 6 digits is date of track, MMDDYY

Always use the latest track!

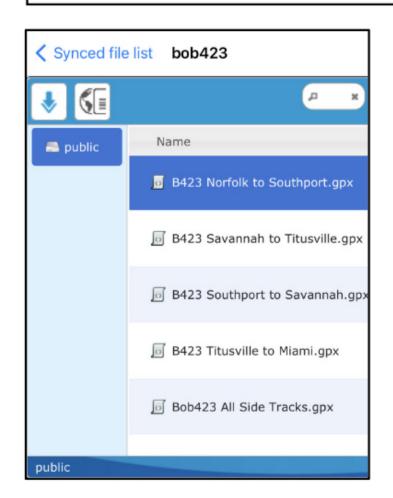






1 – Tap on Settings -> Live Sharing and turn on (dot to right), then tap on Settings at the right 2 – Search on Bob423 and tap on Fleetwing – Bob423

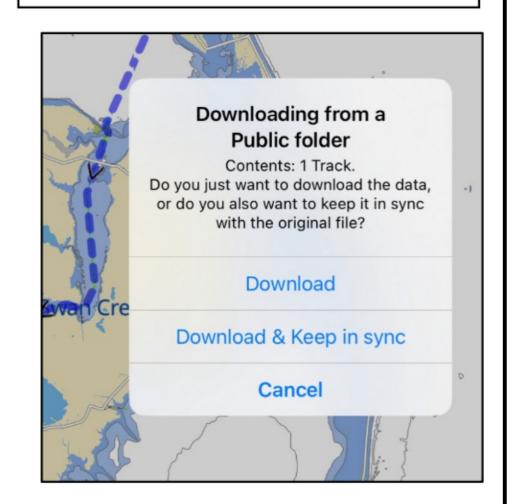
3 – Tap on Public folder



4 – Tap on the Bob423 track you want and then tap on the down arrow at top left to download



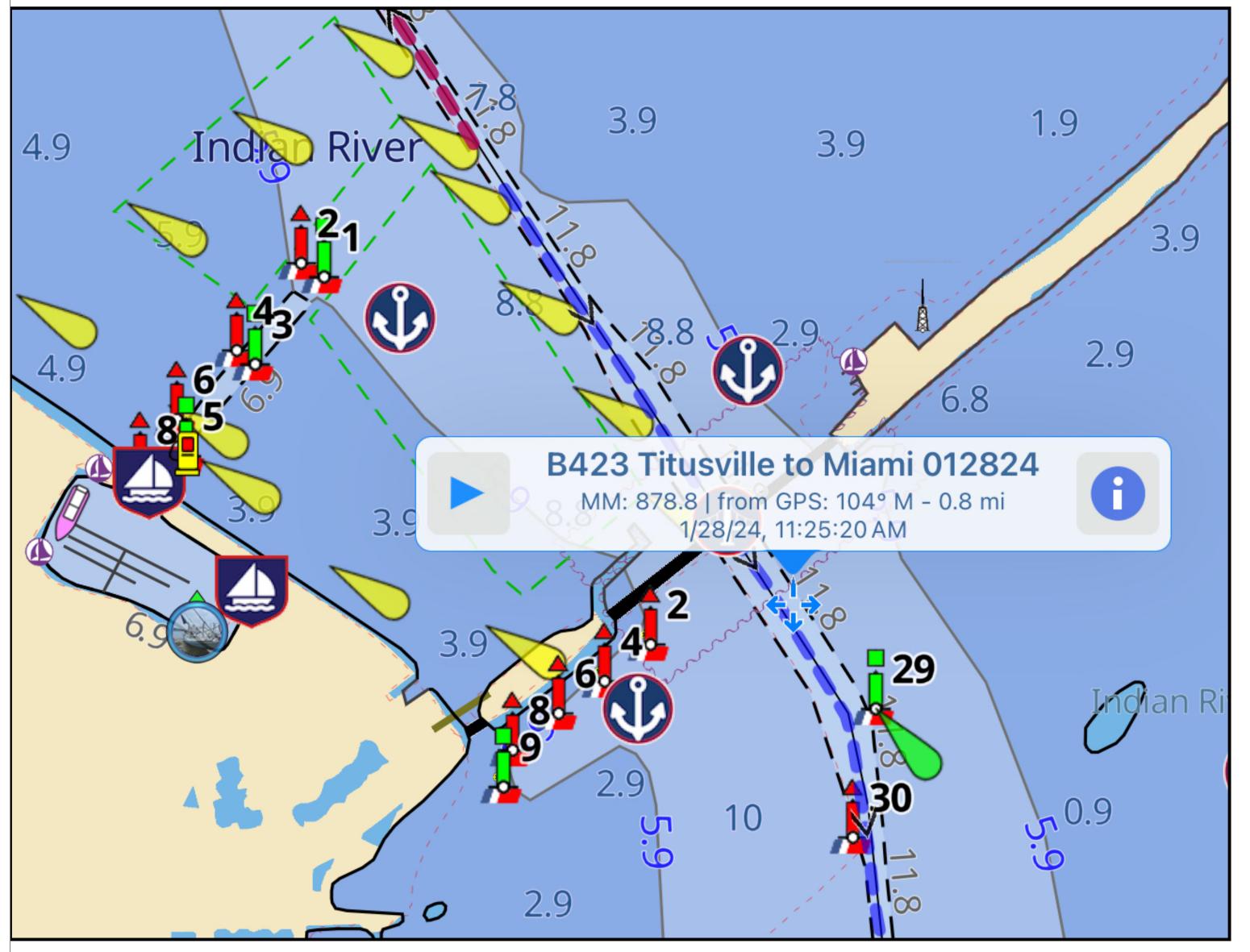
5 – When you select the Bob423 track you want, a track overview is shown at the bottom.



6 – You get the choice of either just downloading the track or download and also keep in sync when a revision is issued by Roh423

#### **Bob423 Auto Sync**

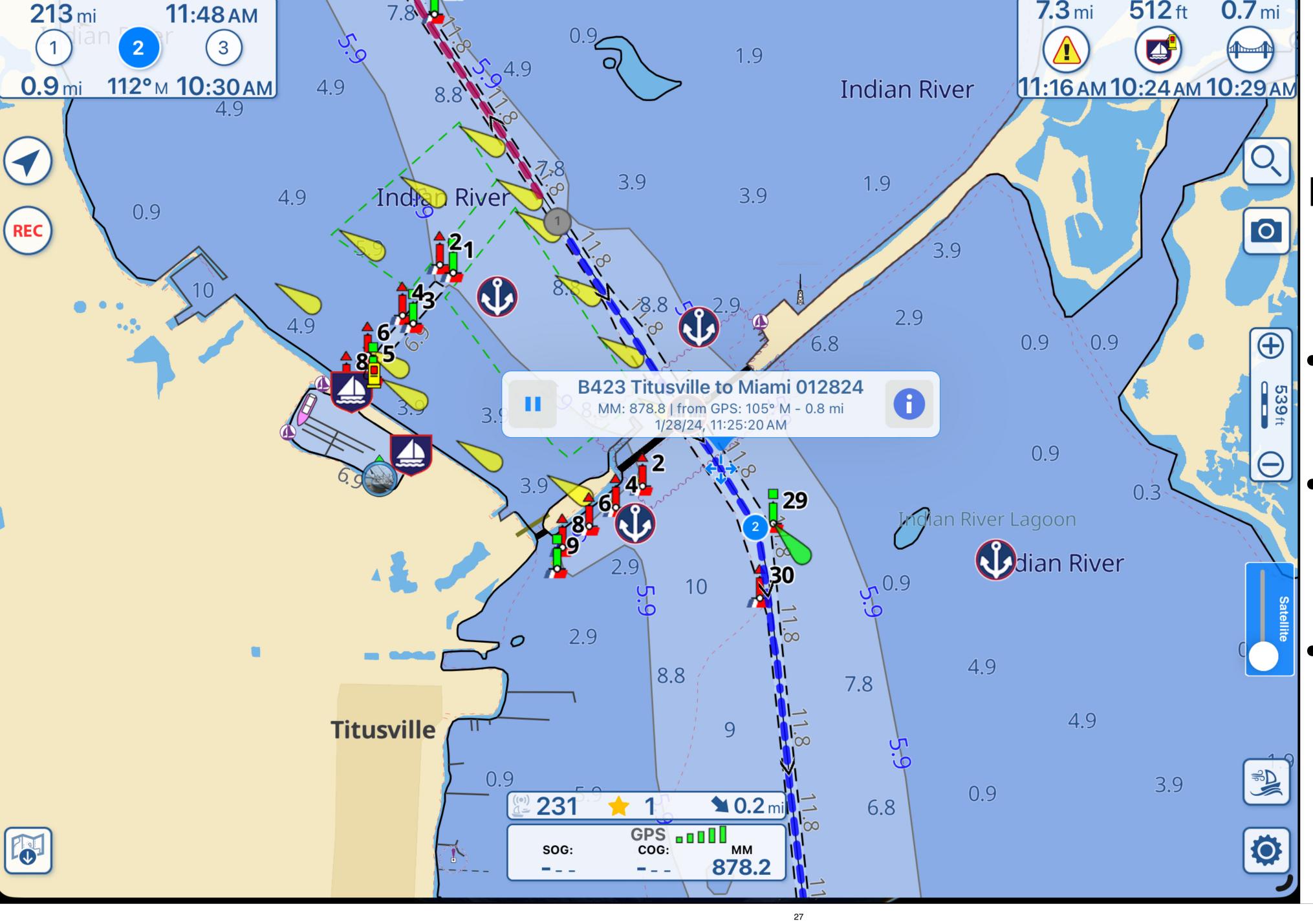
- Updated tracks are announced on the ICW Cruising Guide Facebook page.
- Once noted, the updated track can be downloaded to Aqua Map (manually delete old track).
- A better way is to enable auto sync of Bob423 Tracks.
- The steps shown on the left need to be repeated for each of the four tracks.
- Once completed, all updates are automatic with the new tracks replacing the old tracks.
- Tap here for more details or tap on "How to Sync Bob423 Tracks" on the download page. 25



### Use Route Explorer to Follow Tracks

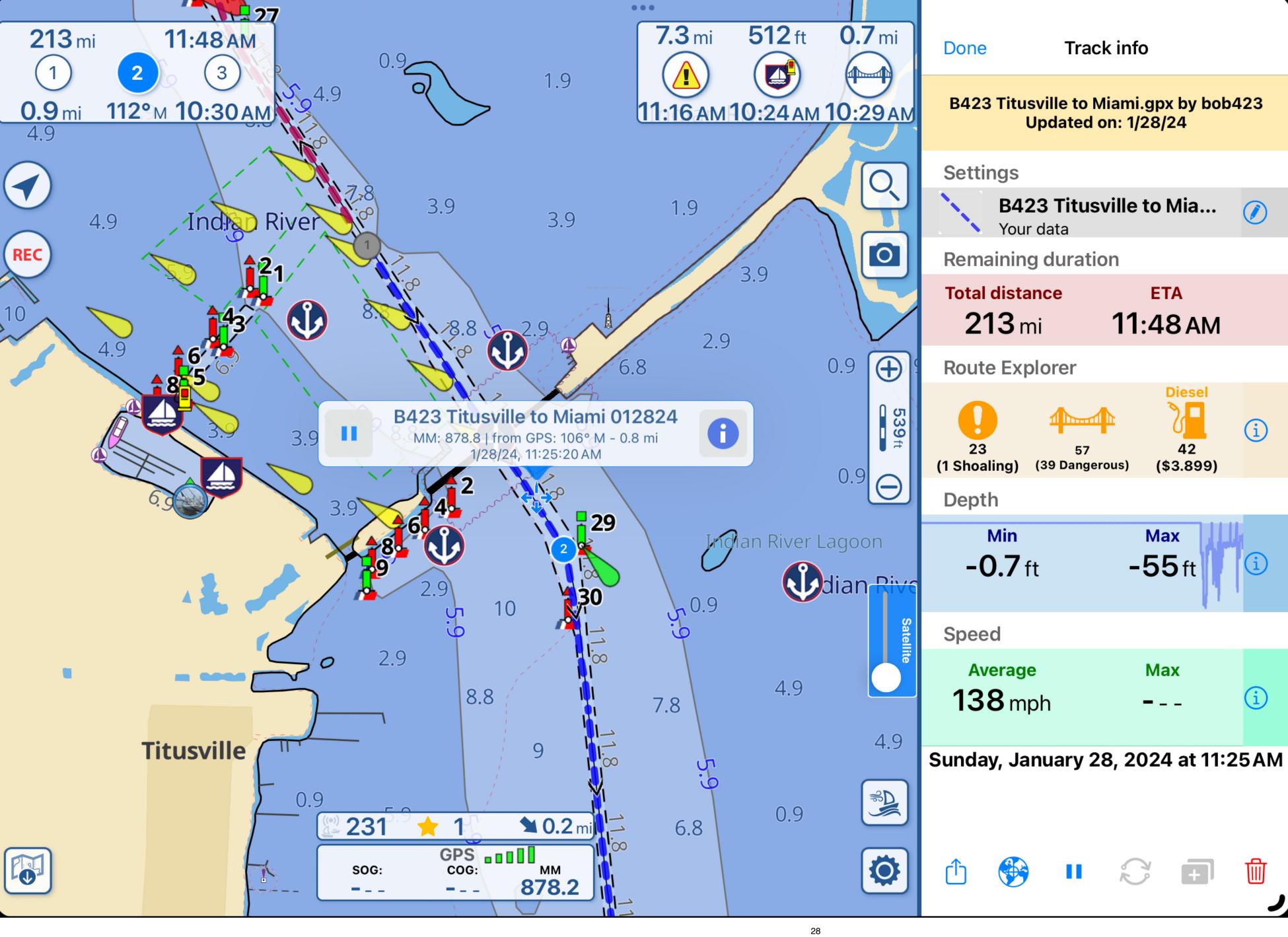
- Route Explorer can be activated for both routes and tracks with a tap on the track which brings up a text box - in this example for a Bob423 track but works for any track or route.
- Note the direction of the track. If it's the way you want to go, just tap on the blue triangle >.
- If you want to go in the opposite direction, then the track must be reversed with a tap on the followed by a tap on the reverse icon ; in the right pane and then the blue triangle >.

• 26



# Route Explorer with Bob423 Tracks

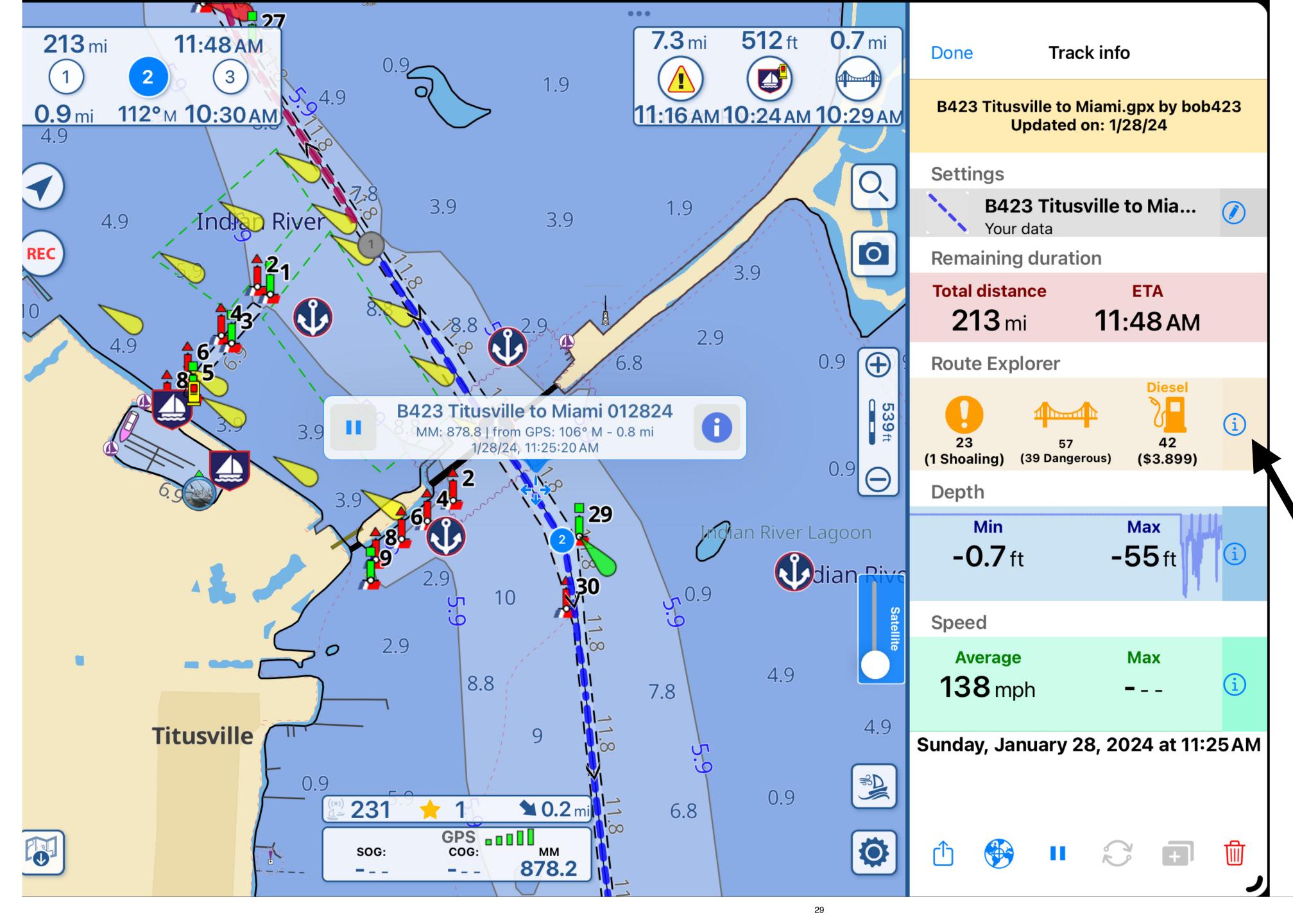
- Tap on track again
- Double bars shows track is activated
- Tap on in blue circle



#### Track info

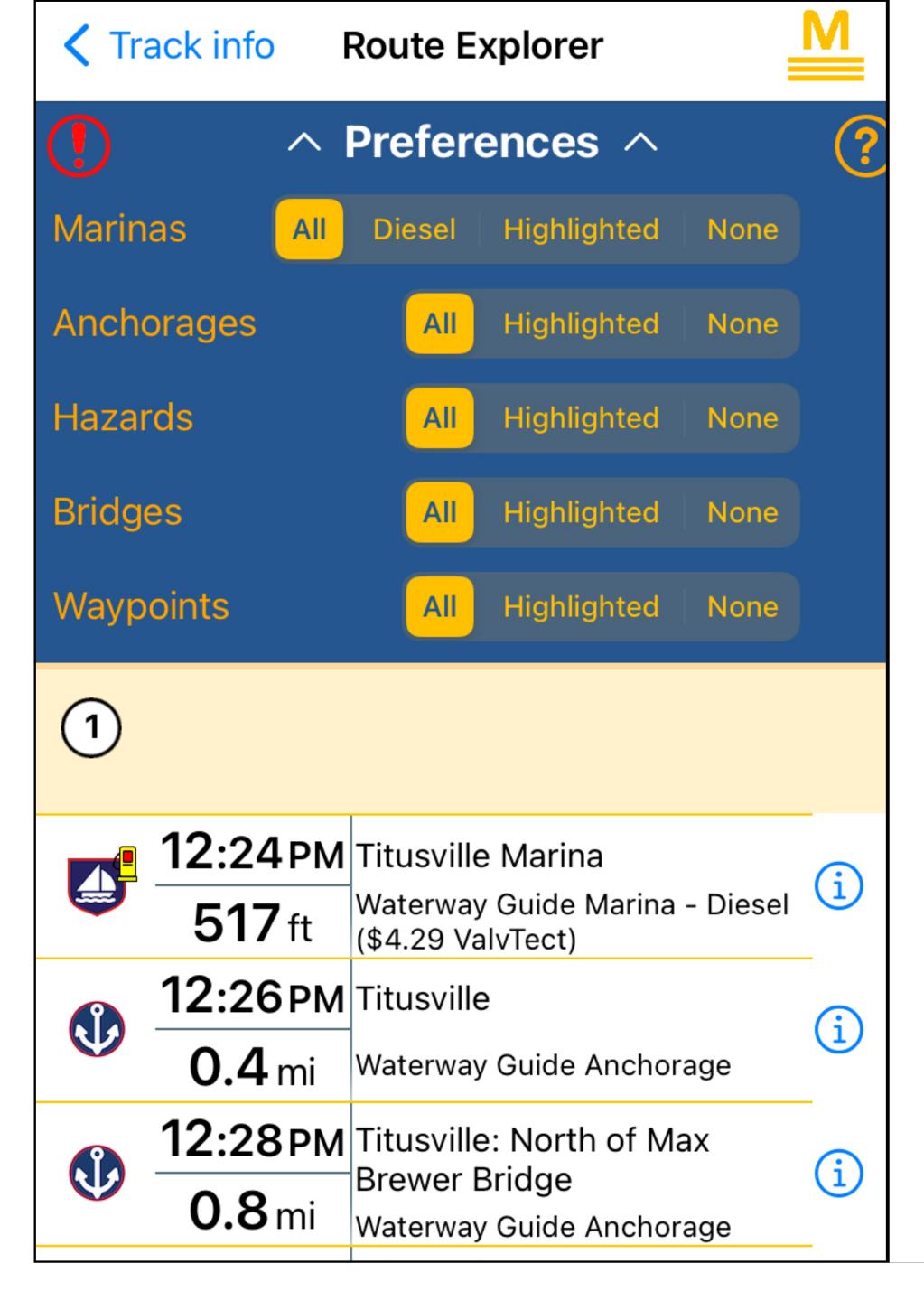
- Total distance and ETA to end of track shown using boat speed in Settings
- 23 shoaling alerts
- 57 bridges total, 39 lift bridges
- 42 fueling stops

Interesting, but I'm not going that far toda<del>y</del>8



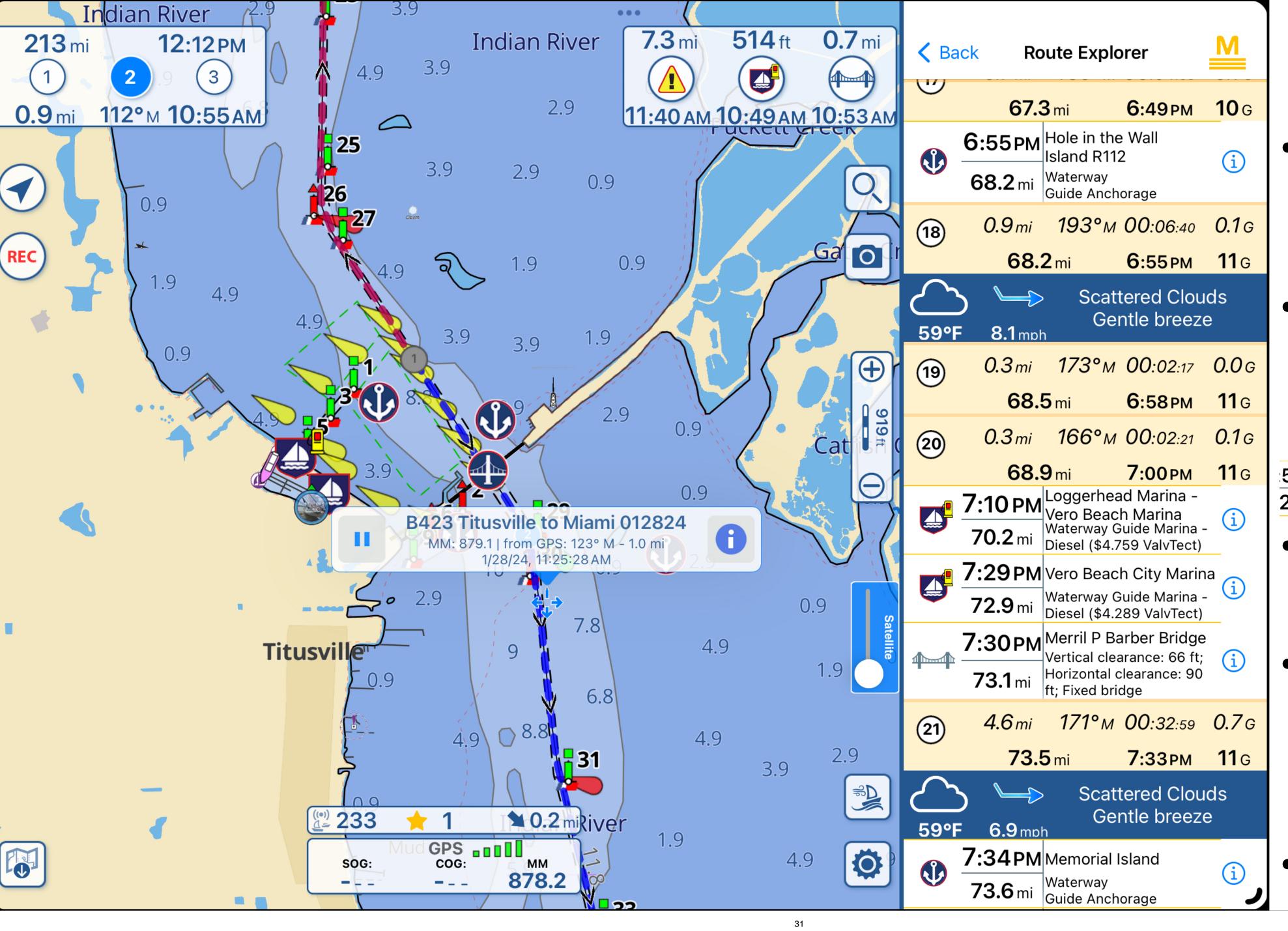
# Choose Destination In Route Explorer

- Tap on the finithe text box
- The pane on the right appears
- Tap on the in the Route Explorer box (in orange to show all POIs



#### **Route Explorer Display Options**

- You can choose which POIs to display:
  - All
  - Highlighted only
  - None
- The purpose is to allow you to declutter the POI list to your liking.
- Waterway Guide and Active Captain POIs will only display if activated in Settings.
- I only use Waterway Guide POIs since only they are monitored for accuracy and completeness before posting.
- In the examples to follow, I have all POIs set to "All"



## Route Explorer Destination

- Scroll down until you reach your destination
- I chose Vero
  Beach City
  Marina, slide it
  to the left

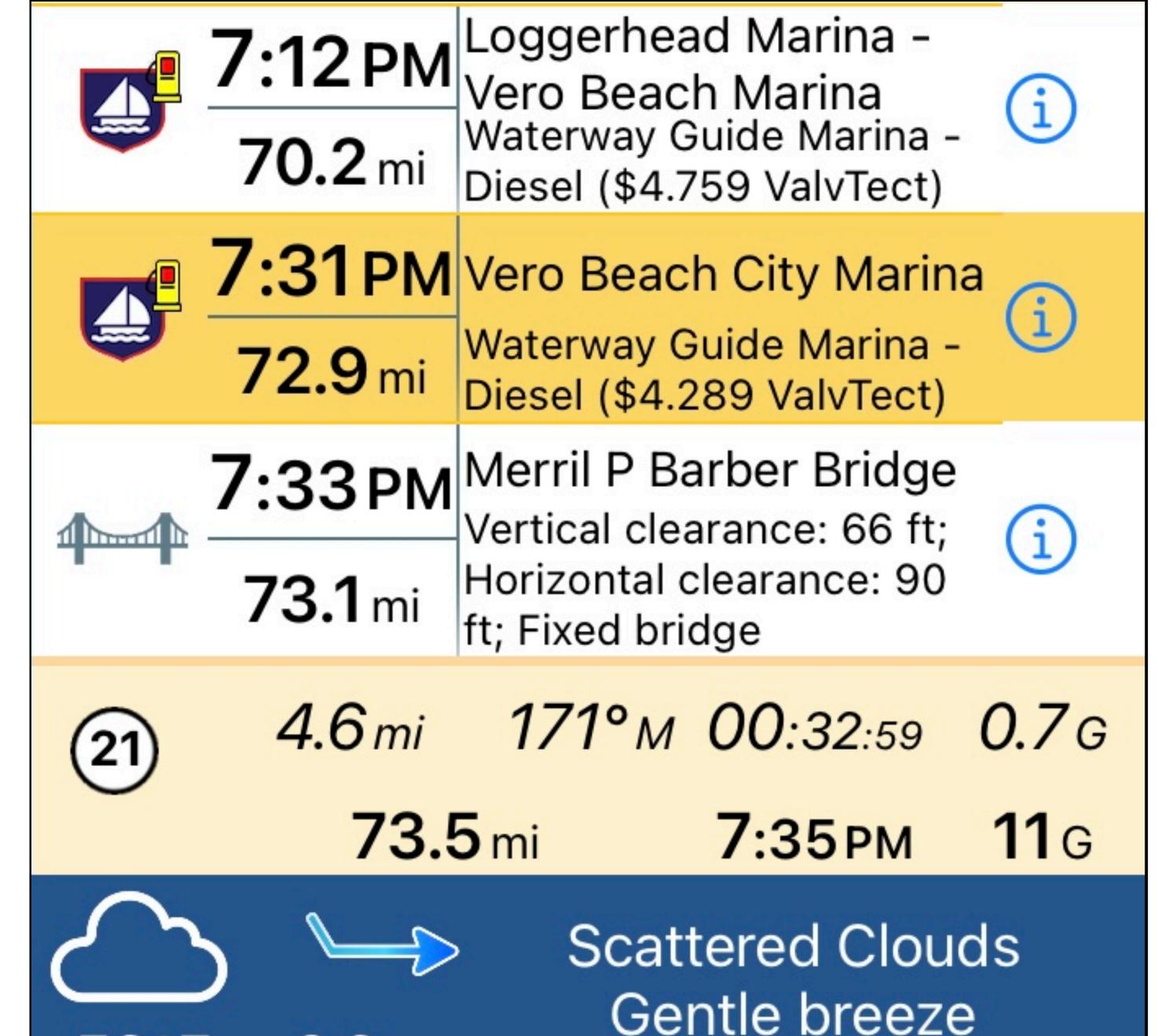


- Tap on "Highlight"
- Note the weather prediction for my arrival time
- Tap on "Back"31

#### **72.9** mi **7:12**PM **7.3** mi **518** ft **0.7** mi **213** mi **11:55** AM **Vero Beach City Marina** 3 1.9 11:23 АМ 10:32 АМ 10:36 АМ 112°м 10:38 AM 4.9 Indian River 3.9 1.9 Indian River 3.9 4.9 0.9 REC 0 2.9 0.9 0.9 539ft 0.9 29 an River Lagoon dian River 0.9 10 2.9 4.9 8.8 7.8 4.9 **Titusville** 0.9 3.9 0.9 **10.2** mi 232 6.8 GPS cog: мм 878.2 SOG: 32

# Route Explorer Destination Display

- Your chosen destination is at top, center with distance and ETA updated at updated at your current speed
- You could choose an anchorage or bridge, any POI.

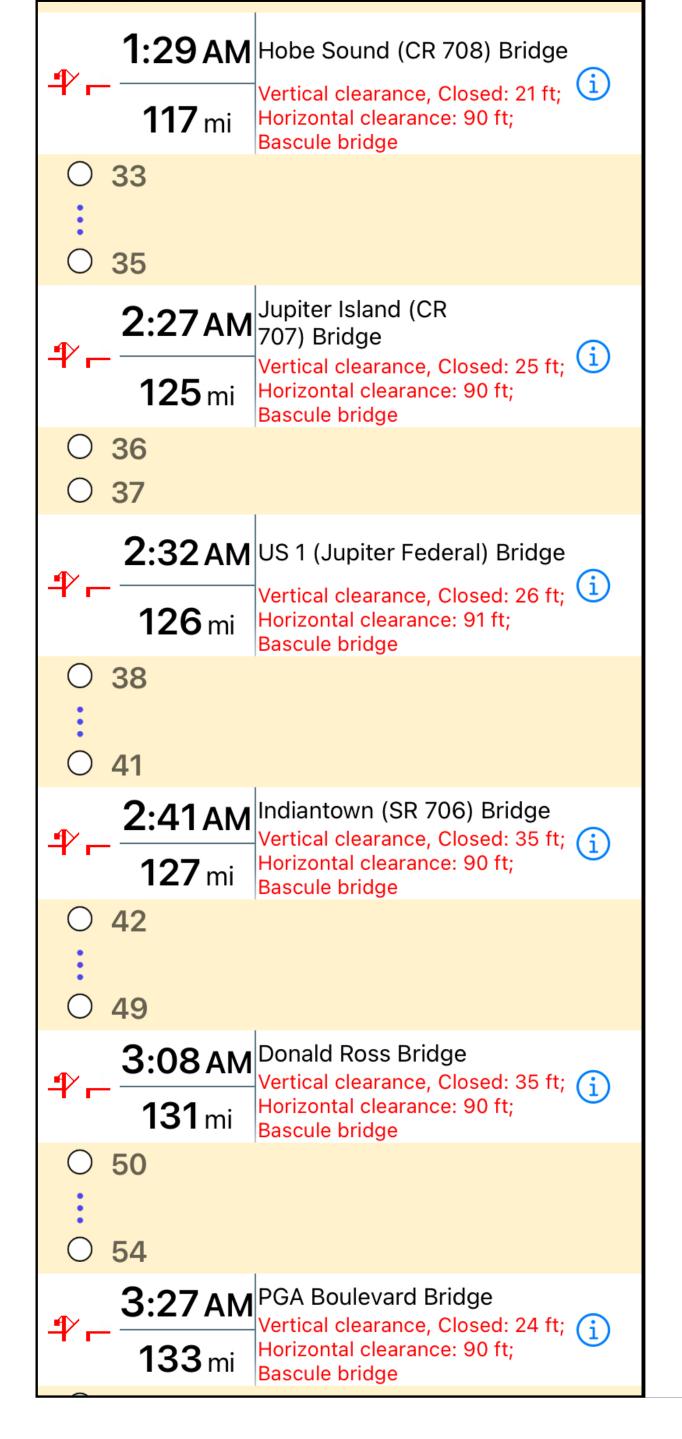


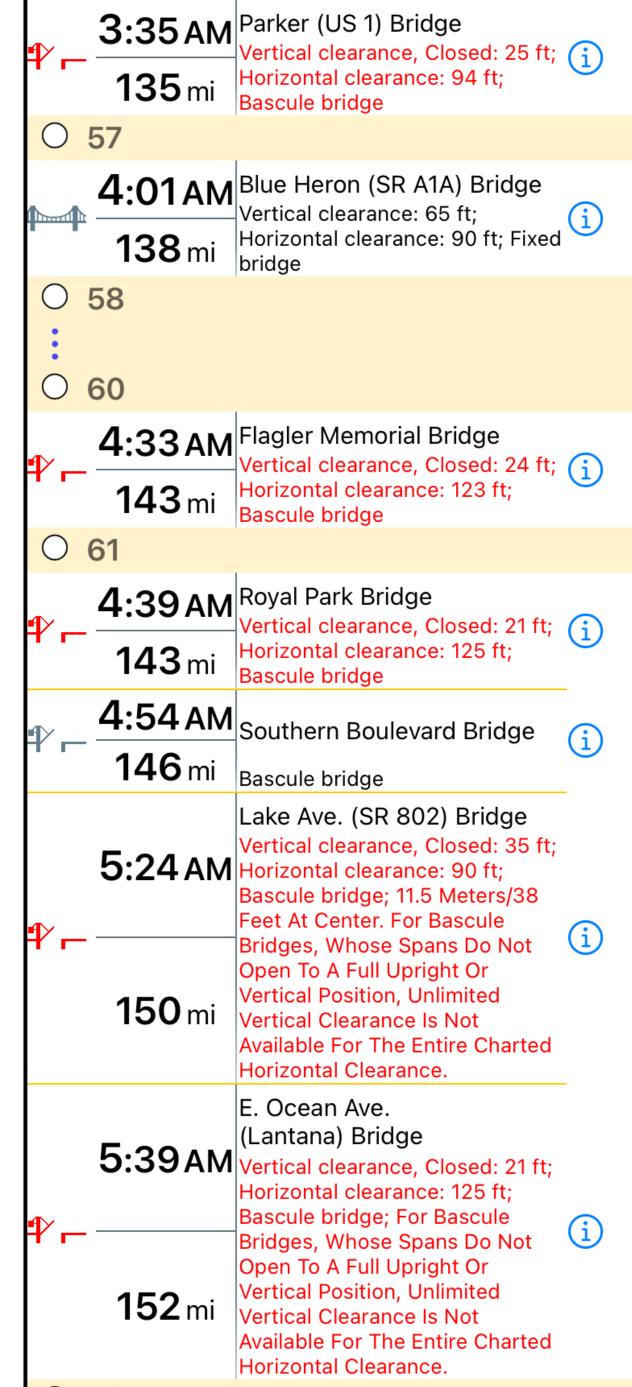
59°F

6.9 mph

#### **Route Explorer Fuel**

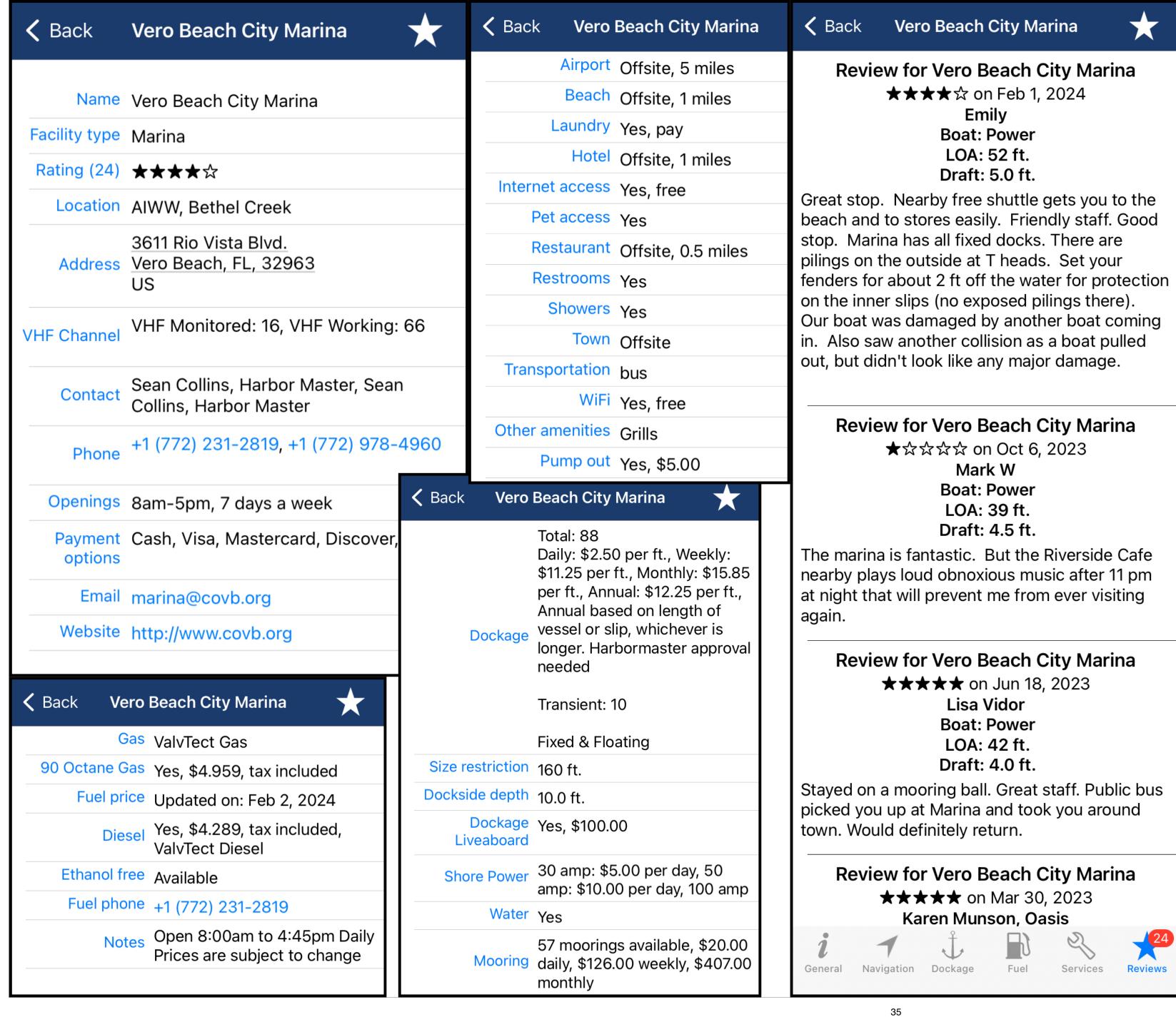
- Scroll the list of POIs to find more info
- In the example, if you need fuel, you don't want to stop at Loggerhead Marina at \$4.759/ gal vs stopping at Vero Beach City Marina at 4.289/gal
- Fuel prices are updated regularly by Waterway Guide editors.
- The nearby bridge has a clearance of 66 ft, no worries there
- The weather forecast is for scattered clouds and gentle breezes upon arrival





#### **Route Explorer Bridges**

- One of the most used feature of Route Explorer is in the timing of lift bridges
- Since the ETA to each bridge is automatically updated with your present boat speed - the calculations are done for you.
- It's a godsend for running the gauntlet of lift bridges to Miami

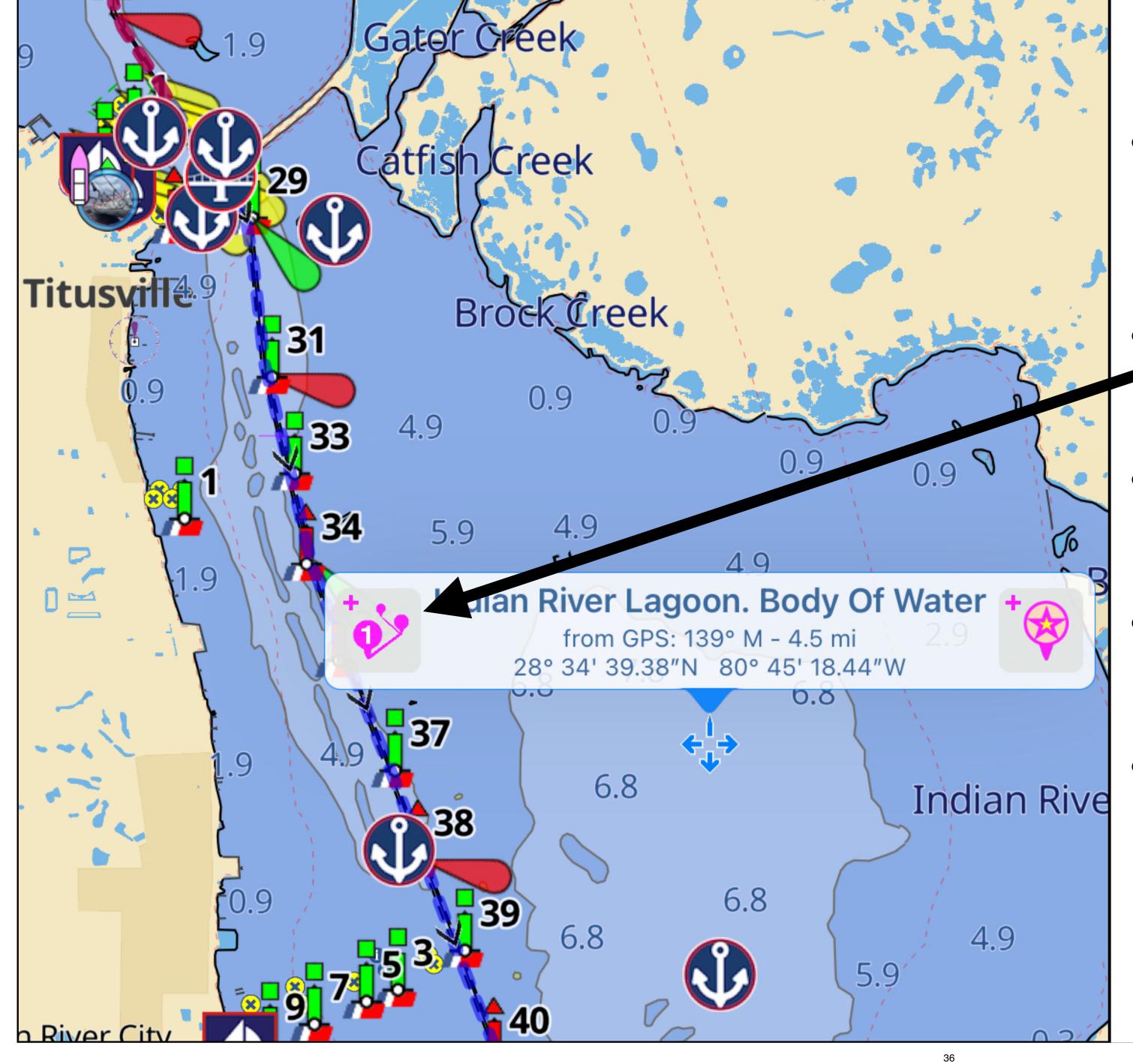




#### **Route Explorer Waterway Guide**

A wealth of information is available with a tap on the next to a Waterway Guide icon, stored in Aqua Map, no internet needed.

- Phone number
- Dockage prices
- Website URL
- Fuel price
- Pump out & cost
- Approach depth
- Reviews



#### **How to Make Your Own Routes**

- It's easy in Aqua Map, just tap on the screen anywhere to start a route.
- Tap on to form the first waypoint.
- Tap anywhere on the chart for the next waypoint, and so on.
- Waypoints can be moved, added, and the route saved
- The best way to learn is to watch my video on forming routes

https://youtu.be/cFalbJV2Qz8

#### What have we learned?

#### How to:

- Display USACE surveys
- Set up Aqua Map the way you want and start using for ICW navigation.
- Import tracks and routes, including Bob423 Tracks
- Enable auto sync for Bob423 tracks
- Use Route Explorer to find ETAs to bridges and other POIs
- Make your own routes

#### What have we not learned?

Aqua Map is incredibly feature rich. The full capability of the app cannot be covered in one seminar. For example, the use of:

- A sophisticated anchor watch is included, complete with mirroring of your iPad screen on the boat to your iPhone on shore. See what you boat is doing in real-time as you dine.
- Weather overlays of wind, currents, and waves using NOAA's most advanced models.
- Sophisticated Tide and Currents displays with a one tap search to find closest tide station
- AIS display with time and distance of closest approach with alarms.
- Auto connection to WiFi from a gateway for depth, wind direction and speed.
- Embedding of depths in a recorded track for future reference and sending to NOAA's Crowd Sourced Bathymetry worldwide database if you give permission.

And much more! All could be covered in an Aqua Map manual TBD.

#### Further references for the ICW Cruiser

- 2023 ICW Cruising Guide by Bob423 available in four formats
  - 300 page 8.5 x 11 paperback or hardback from Amazon
  - Kindle version from Amazon
  - <u>Digital version from Waterway Guide</u> (better formatted than Kindle)
- Waterway Guide books from Amazon, bookstores, and marinas.
- Atlantic ICW Chartbook Norfolk to Miami, 300 pages of charts from Amazon.
- 2024 ICW Chartbook Norfolk to Key West, including St Lucie to Ft Meyers and major Altantic inlets, 400 pages of chart from Amazon.

I hope you enjoyed the seminar. Please leave suggestions for improvements with my Messenger address on Facebook.

Bob423 (additional links in QR Code)

