

navico

C-MAP Genesis

Presentation for IHO Crowdsourced Bathymetry
Working Group 9 Meeting (CSBWG/9)
30 June – 02 July 2020



LOWRANCE

SIMRAD

B&G

C-MAP

C-MAP is a Navico brand

Navico is a leading producer of marine electronics; its brands (Lowrance, Simrad, B&G, and C-MAP) operate in navigation, fishfinding equipment and trolling motors, and value-added applications for the marine industry.

Founded in 1985, C-MAP provides worldwide cartography products and services for all types of leisure boaters, from fishermen and sailing enthusiasts to powerboat owners. C-MAP also provides products and services to the commercial marine sector that focuses on information sharing and analyses to improve performance and efficiency helping reduce cost and passage times.

LOWRANCE

FISHING

SIMRAD

RECREATIONAL

B&G

SAILING

C-MAP

CARTOGRAPHY

SIMRAD

COMMERCIAL

What is C-MAP Genesis?

- A free mapping program that allows Navico customers to create custom, high-definition bathymetric maps from sonar data recorded with their chartplotter/fishfinder.
- Sonar logs are uploaded to a cloud-based C-MAP database, where they are processed and combined with data from a community of boaters and anglers to create contour maps.
- The resulting maps can be viewed on the web ("Social Map"), downloaded and used in any Navico chartplotter/fishfinder.



How it works – STEP 1: Record Sonar Data

The user inserts an SD Card in a Navico chartplotter/fishfinder and starts recording the data acquired by the echo sounder.

A sonar log is created, including all the depth, bottom hardness and vegetation data collected by the sonar.

Data is timestamped and georeferenced using the device GPS.



How it works – STEP 2: Upload Sonar Logs

The user uploads data to C-MAP:

- Wi-Fi enabled devices can automatically upload sonar logs to the C-MAP Genesis cloud when the unit connects to Wi-Fi.
- Alternatively, the user can remove the SD Card from the device, insert it into a PC and upload the data through the C-MAP Genesis Web interface.

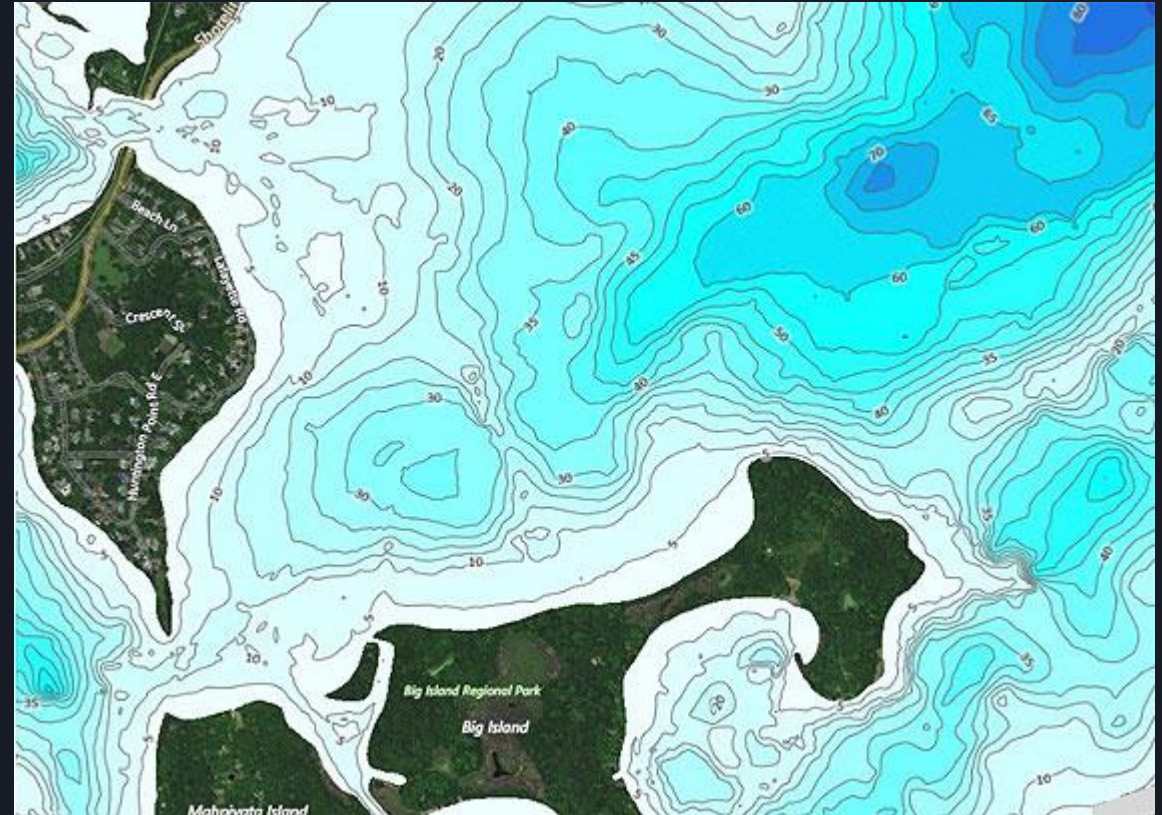


How it works – STEP 3: Map Creation and Download

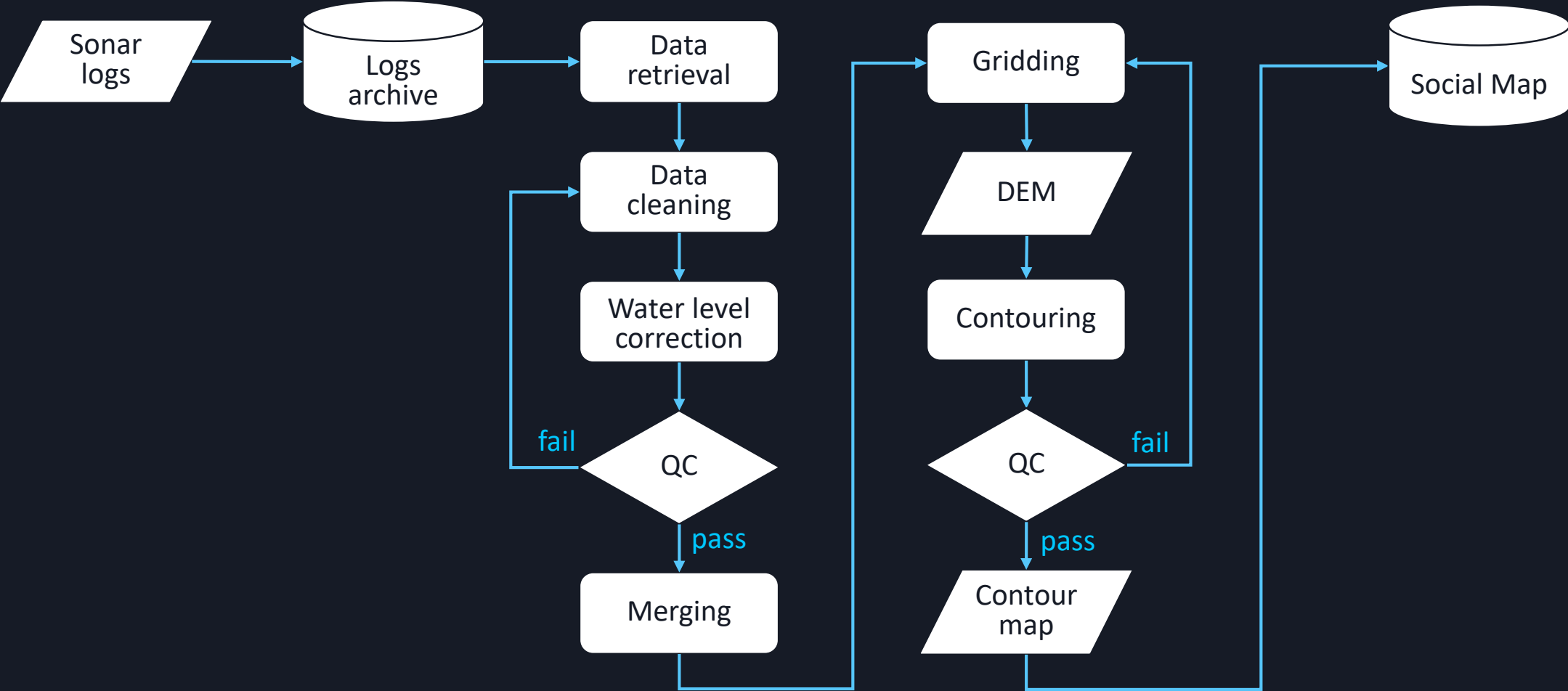
Sonar logs from Genesis users are merged and processed by the C-MAP servers and checked by a QC team to create high-resolution contour maps (up to 1-foot contours).

In coastal waters, depths are reduced to MLLW using data from the closest tide stations. In inland waterbodies, sonar logs are corrected taking into account pool levels and reduced to a common sounding datum.

Users can see the resulting map on the C-MAP Genesis Website (“Social Map”), download them on SD cards and use them in their chartplotter/fishfinder. Genesis maps include **topologically correct depth areas** and support custom depth shading.



C-MAP Genesis workflow



C-MAP Genesis highlights

- **No dedicated equipment needed** – uses the echo sounder embedded in the chartplotter/fishfinder to collect and record data
- **Free** for all users of Navico chartplotters/fishfinders
 - *paid subscription available if user wishes to keep data private and/or for additional features e.g. vegetation map, bottom hardness map*
- **Collaborative program (social map)** that increases users' engagement
- **Quick turnaround time** from sonar log upload to availability of Genesis map
- **Iterative process that increases coverage and detail over time** as new logs are uploaded

Better Maps. Better Fishing.

C-MAP Genesis empowers you to create high-definition custom fishing maps and download free Social Map charts of your favorite waterbodies.

Get Started. It's Free.

See the Maps



Accuracy makes all the difference.



According to one published report, the maps available in the "vast majority of electronic cartography" are based on historical data from governmental agencies – **data often 50 years old or more!**

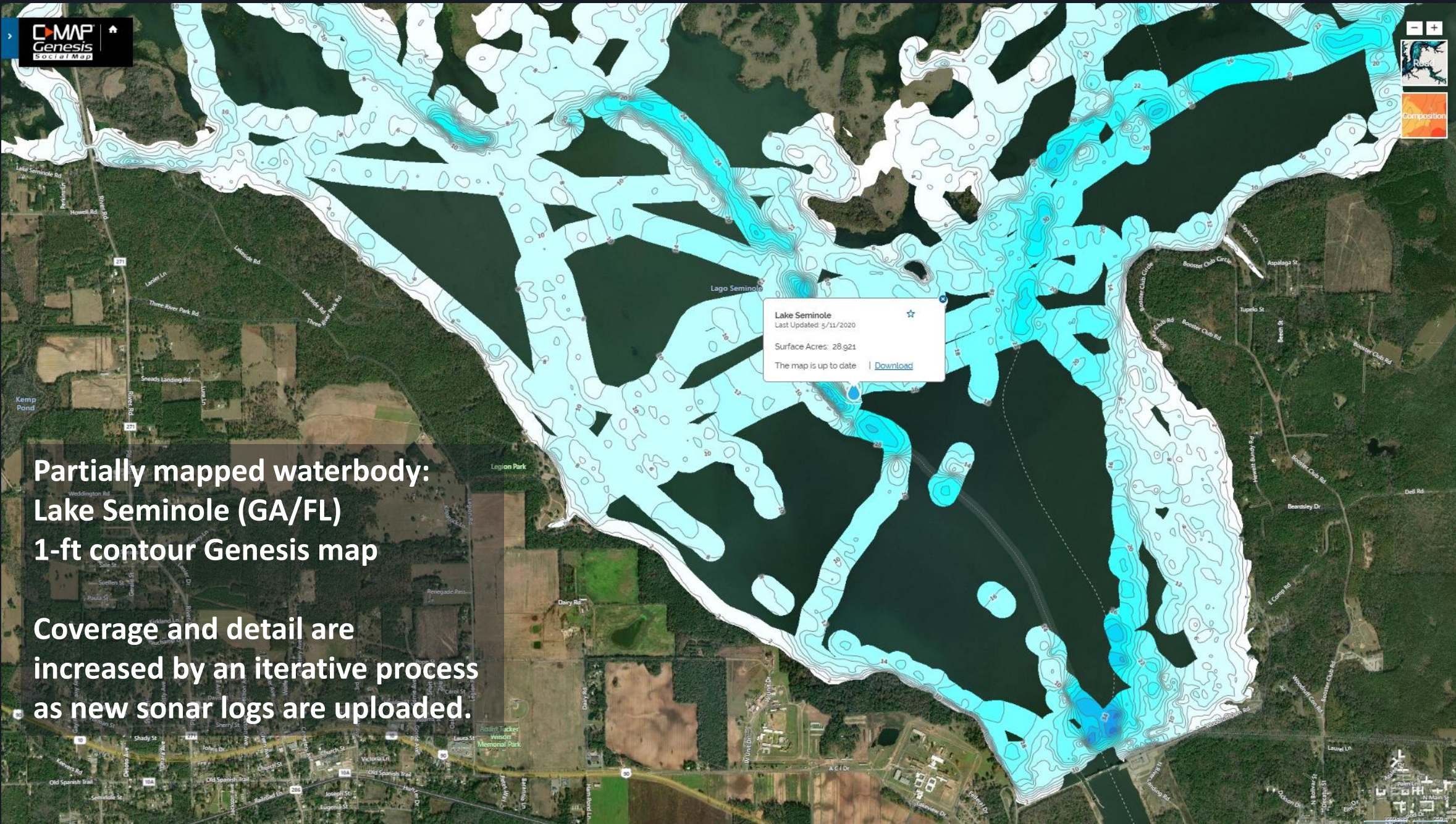
To get "1-foot contours" for maps of such lakes, companies run a computer program to estimate depths between government-drawn contours lines and then just fill in the blanks. That's why you often see structure on your sonar screen where your map shows nothing.

C-MAP Genesis allows you to record your own sonar data, upload that to our cloud-based database and start seeing detail that **isn't available anywhere else.**



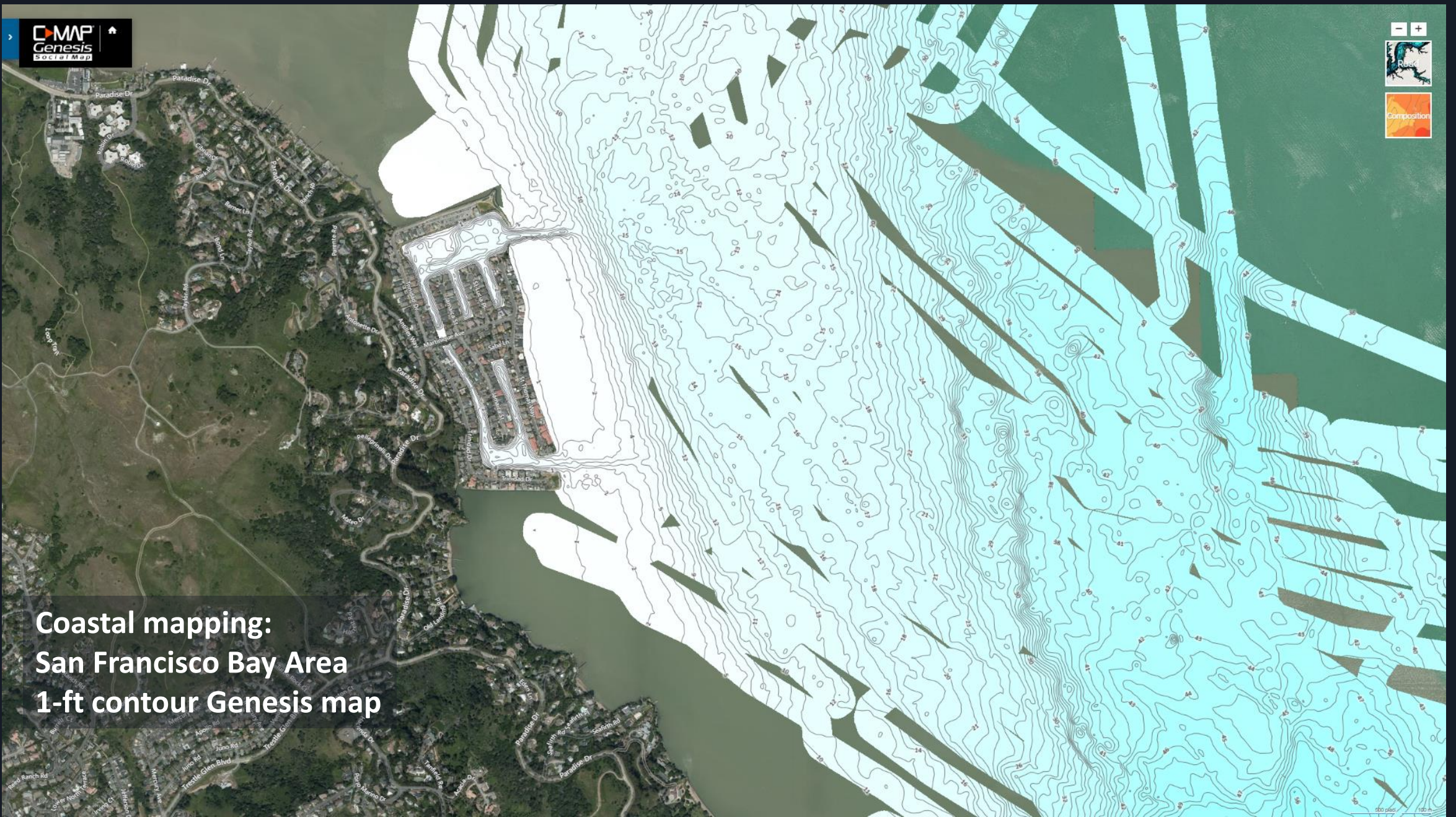
Completely mapped waterbody: Hartwell Lake (GA/SC) 1-ft contour Genesis map

Hartwell Lake
Last Updated: 4/20/2020
Surface Acres: 55,652
The map is up to date. [Download](#)

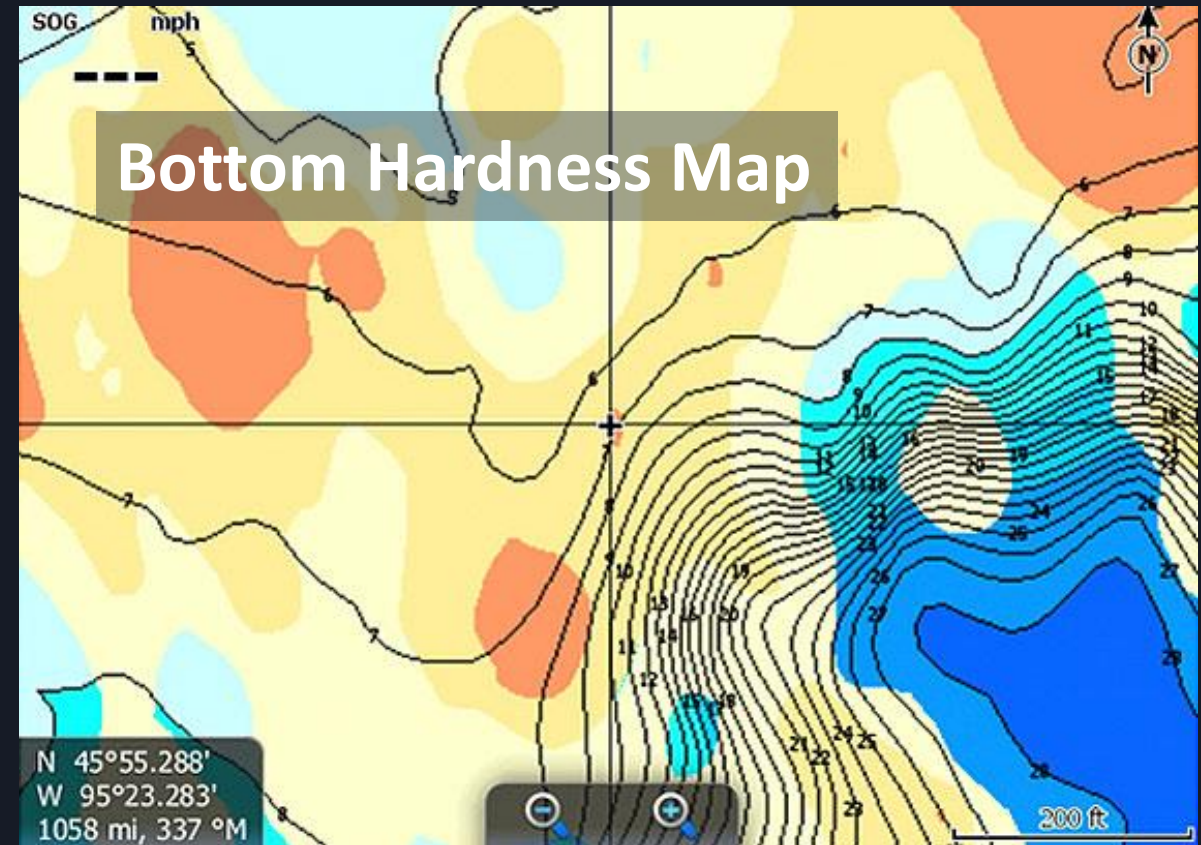
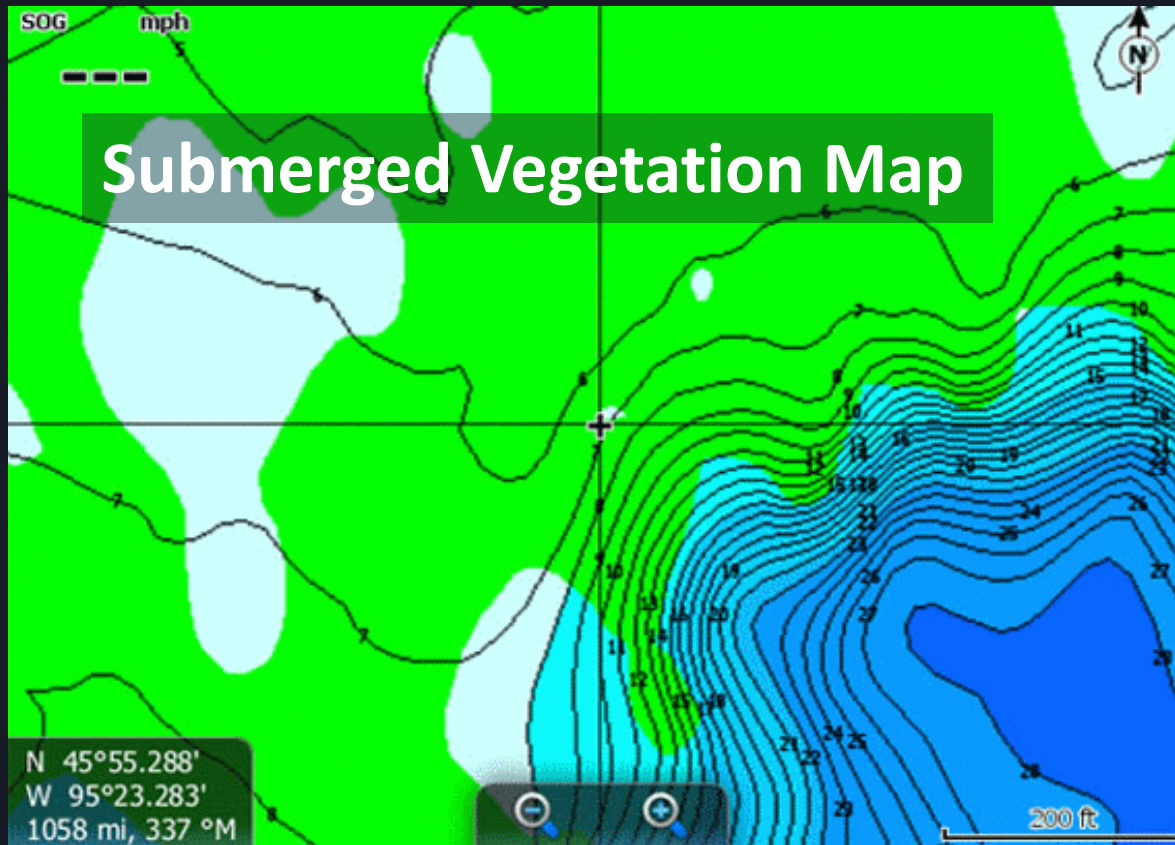


Partially mapped waterbody:
Lake Seminole (GA/FL)
1-ft contour Genesis map

Coverage and detail are
increased by an iterative process
as new sonar logs are uploaded.



Additional Features



BioBase



- In parallel with Genesis, C-MAP operates **BioBase**, a sister mapping platform for water and fisheries resource assessment.
- BioBase combines sonar logs from Genesis users, satellite data and big data analysis techniques to create vegetation biovolume heat maps and bottom hardness maps.
- Navico is planning to make this data available to researchers for conservation efforts through the BioBase Data Portal, as part of the Company's commitment to environmental sustainability.
- For more information: **biobasemaps.com**



C-MAP Genesis Facts & Figures

- Launched in November 2012
- Social Map available since 2014
- 24,590 active waterbodies in 72 Countries
- Global coverage: 22,000,000 acres (89,031 sq. Km).
- Stats for 2019:
 - New Coverage: 1,964,668 acres (7,951 sq. Km)
 - Total Social Map Uploaders: 4,441
 - Total Social Map Downloaders: 14,972
 - 92,076 map downloads
 - Top downloads by Country: 32% USA, 20% Sweden
 - Top coverage by Country: 30% Sweden, 26% USA



What's Next: C-MAP Genesis++

- Increase user engagement:
 - Define "survey lots" (1-2 hrs. of data recording) on major/important waterbodies nearing completion
 - Create a **reward system** for users completing required lots
- Extend crowdsourcing to more data types (points of interest, nav aids, shoals, etc.)