System Overview
&
Technical Capabilities

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Diver6 System Components

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What Is Diver6?

Diver6 is a Diver and Dive Operations mobile support system. This ADVISORY system allows dive masters to monitor and accurately track divers beneath the surface for greater situational awareness.

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Features

- Tracking and monitoring divers in water up to 1000m & 100m depth
- Providing Situational Awareness (SA) on divers in the water
- Logging a diver's aqua-spatial information for analysis
- Diver Recall and Assist features
- 2D and 3D views of divers in the water
- Customizable diver alarm conditions
- Intuitive touch screen application for quick dive plan setup, operation, tracking and monitoring
- Round-robin updates approximately 3 seconds per diver

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Why Acoustic Modems?

- Underwater Acoustic Modems use sound to transfer information through the water.
- Sound (Acoustic Energy), especially at Low Frequencies, can travel significant distances through water. (1500 meters per second)
- They are NOT LTE, or 4G, or 3G
- Bi-Directional Half Duplex – Only one direction at a time
- Serial data is passed into the modem, processed, converted to acoustic energy, and broadcast into the water.
- A receiving modem collects this acoustic signal, processes it, and passes it out through a serial link.

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Components: Topside Modem

- Acoustic Range - 1km radius horizontal, 1km vertical
- Range Resolution - ±50mm (dependent on VOS accuracy)
- Angular Resolution - ±1°
- Velocity-of-Sound Range - 1300 m/s to 1700 m/s
- Beacon Velocity - Active Doppler compensation, up to 15kts (28kph)
- Communications- Broadband spread spectrum encoding, 24-32kHz (C-Band), 100 baud. Multi-tiered Acoustic Protocol Stack.
- Packet Addressing - 15 unique beacon identifiers, and broadcast to all capability.
- Transmit Sound Pressure Level - ~172dB re 1uPa @ 1m
- Power Consumption- Less than 10W when transmitting, approx 0.5W when idle
- Integrated Sensors - Pressure, Temperature, 9-DOF, Supply Voltage Monitor
- Indicators - Red/Green visual status LED

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Tablet

- COTS Tablet
- Meets or exceeds MIL-STD-810G Certified and IP65 rating
- Dust Proof and Fully Submersible Operating Temps: -4°F to 95°F (-20°C to 35°C)
- Submeter GPS
- Touch Screen and Stylus
- 10.5 inch screen

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Topside Battery Unit

- Topside Battery Unit
  - BA 5590 Military Battery
- NiMH battery chemistry
- Wireless or wired data connection from the Topside Modem to the Tablet
- Bluetooth Class 1 (up to 100m distance)

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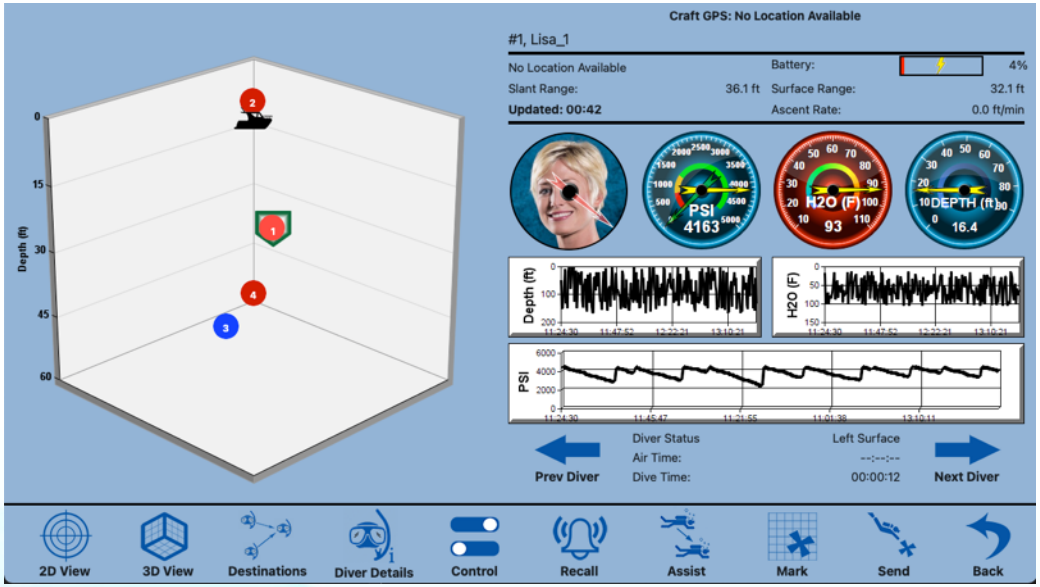
Diver6 Software



- Intuitive, simple interface
- Touch screen, large icons
- Multiple views of diver information
- Global and Diver Alarms
- Windows, Mac, Linux ready

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Software Features

- **Diver Vitals** – Air Pressure, Water Temperature
- **Diver Location** – Range, Bearing, Depth, GPS
- **Diver Recall** – Recall Diver to the surface with directional information
- **Diver Assist** – Direct a diver to assist another diver with directional information
- **Diver Send** – Direct a diver to a specific GPS location
- **Diver Distress** – Diver transmits a message to surface requesting assistance.
- **Return Home** – Diver asks for directions to surface vessel.

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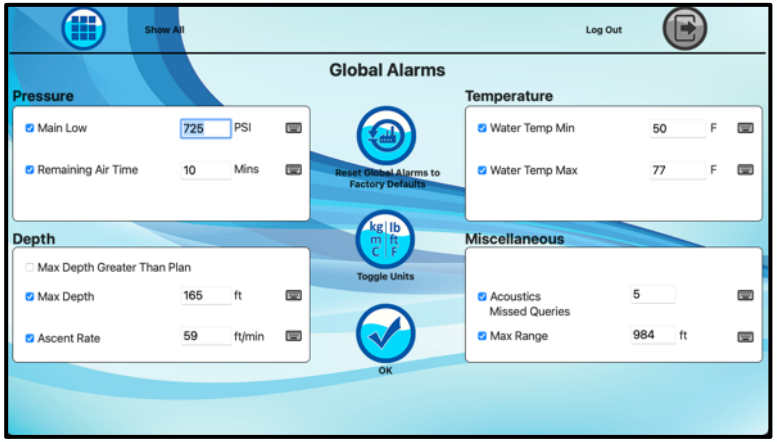
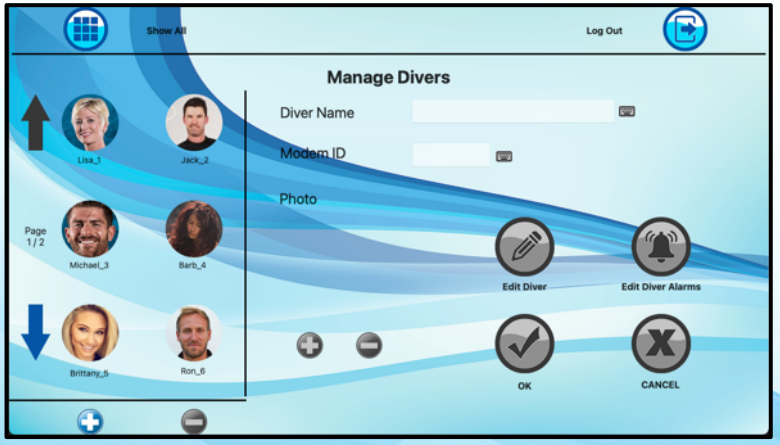
Software Features





- Logging – Diver data, produces dive records and reports, compiled for post-mission analysis
- Export Data – GPX, CSV, RAW
- Broadcasting
- Alarms to notify supervisors
- Electronic Decompression Tables
- Divers and Supervisors profile database

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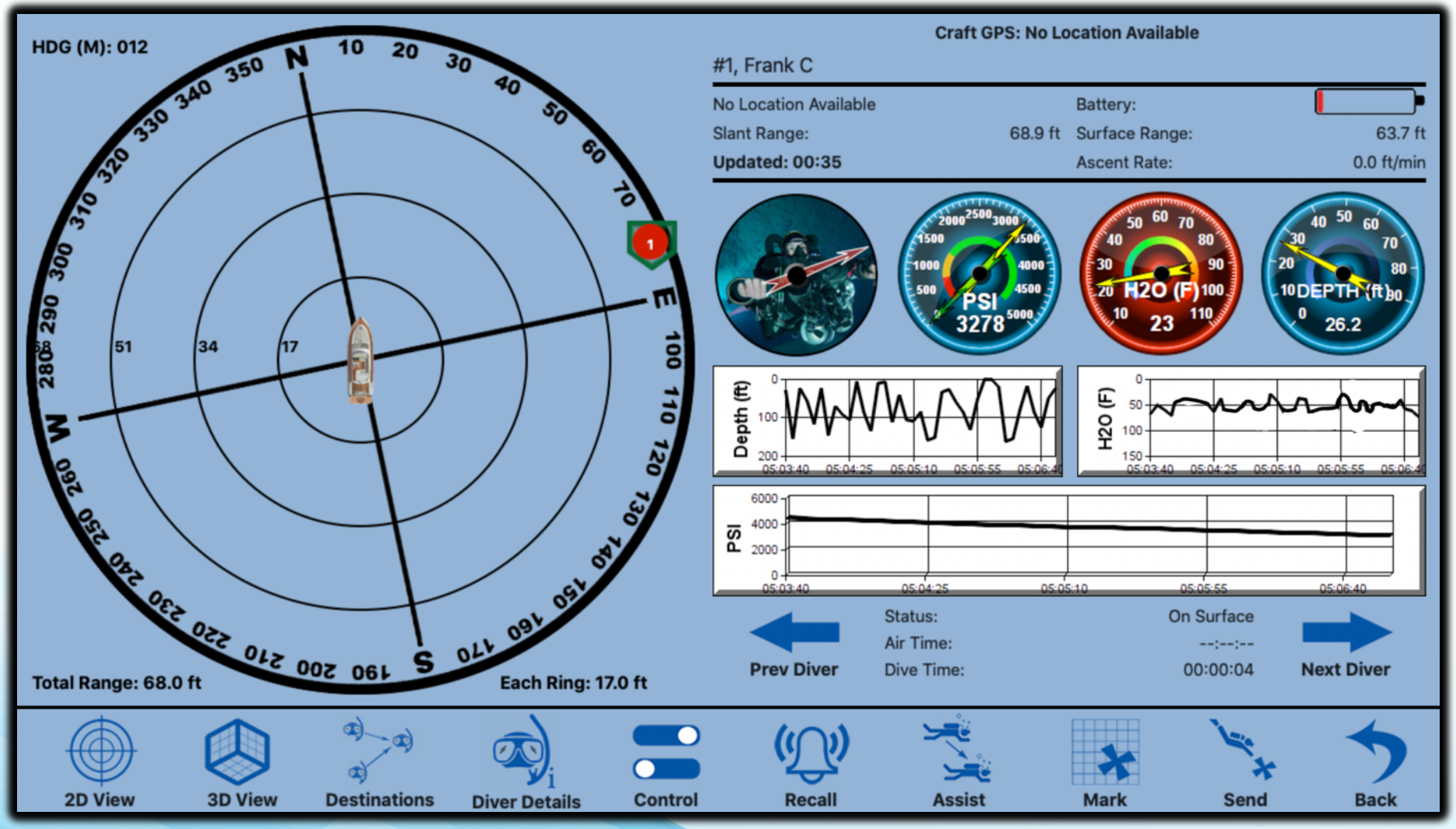

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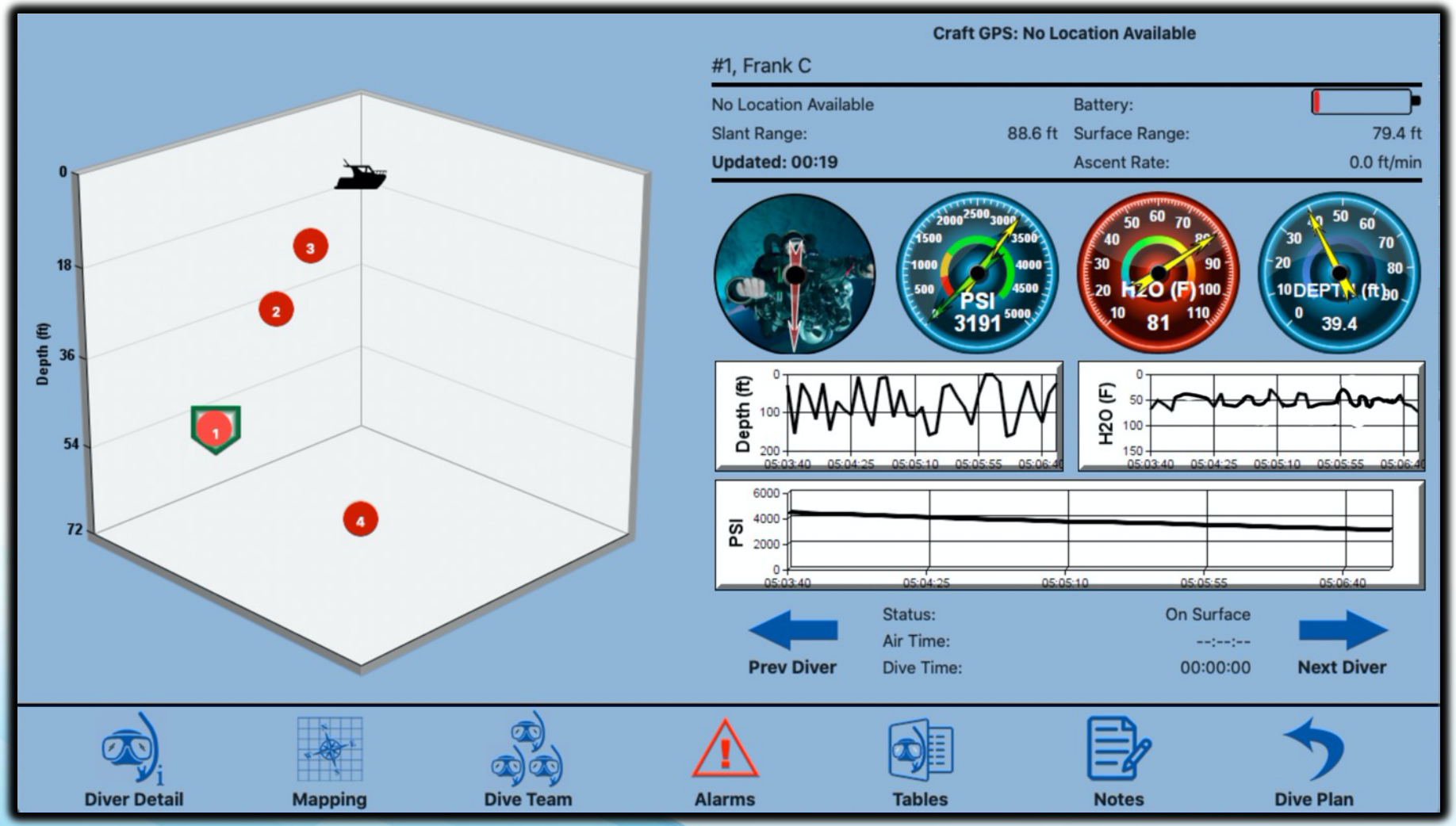

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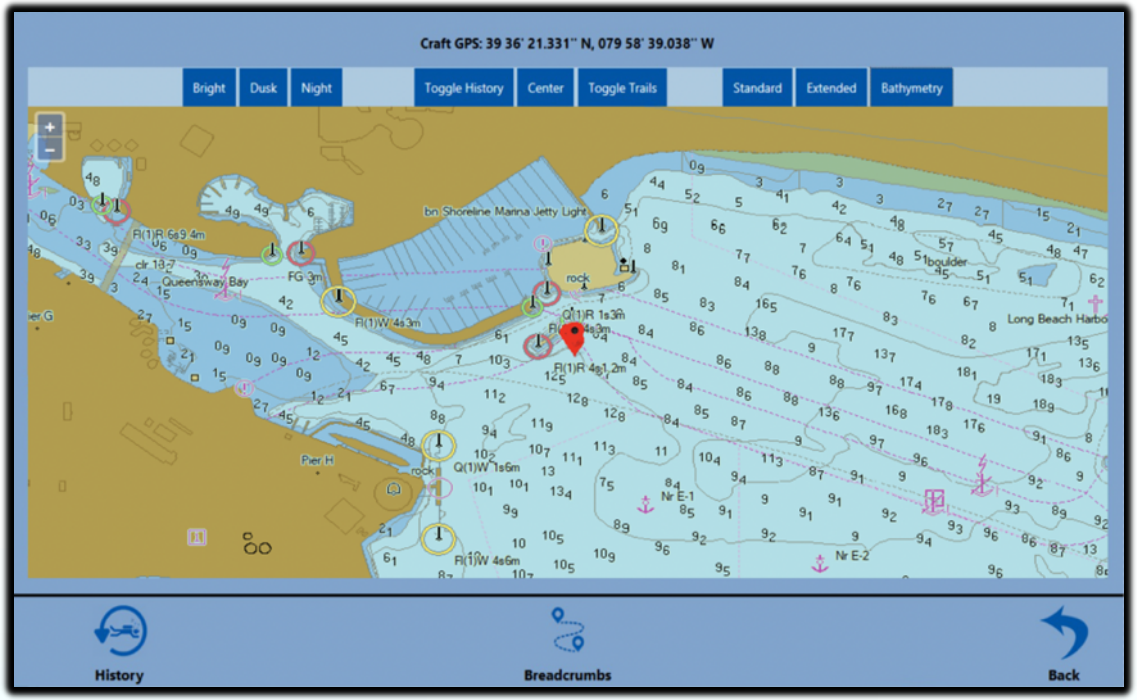
CHART VIEW

- Support for NOAA ENC Charts
- INTL S-63 charts
- Layers of Detail
- Brightness Option
- On Tablet Chart Server
- **NO INTERNET CONNECTION NEEDED.**
- Pop-up diver and surface vessel details



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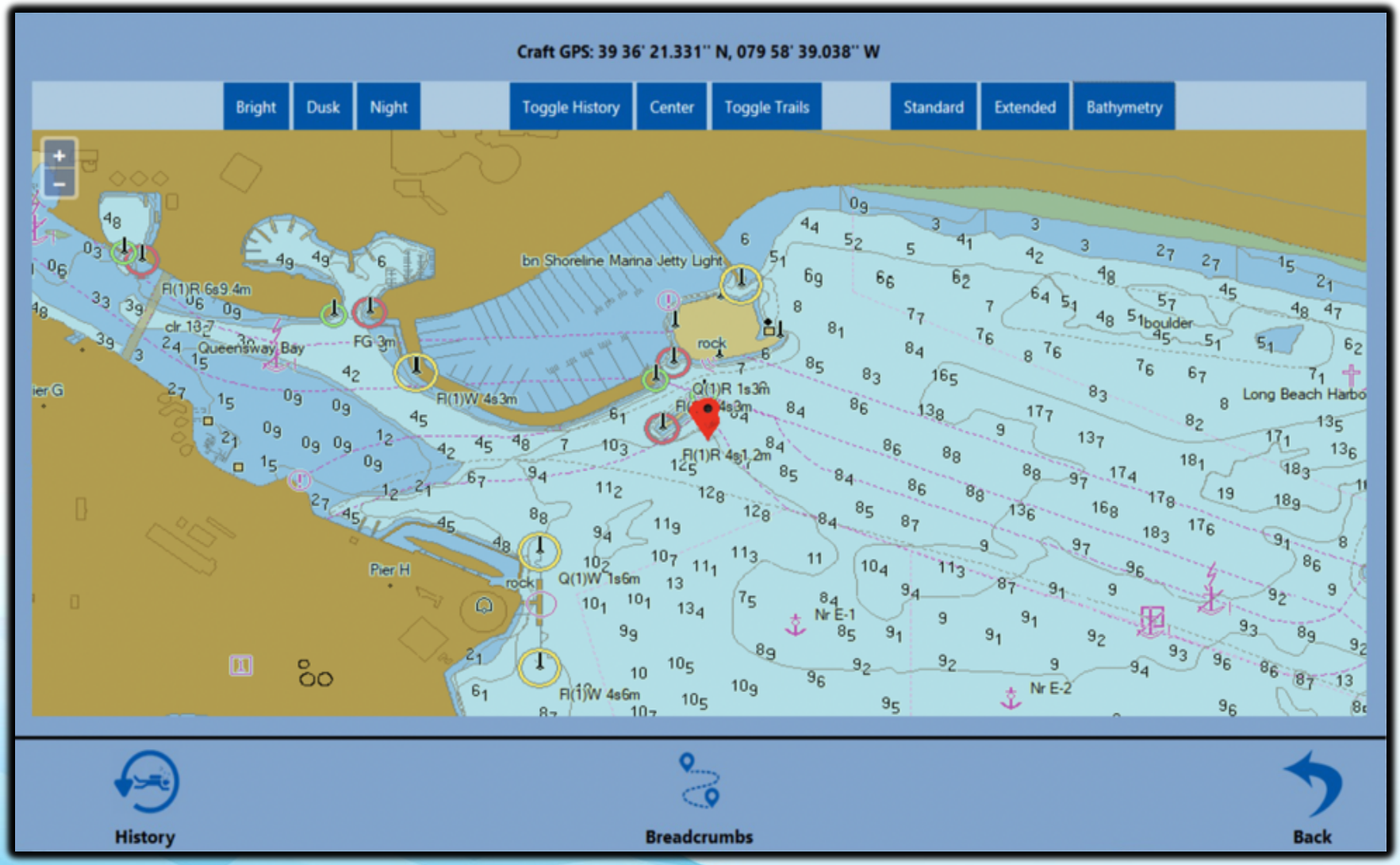

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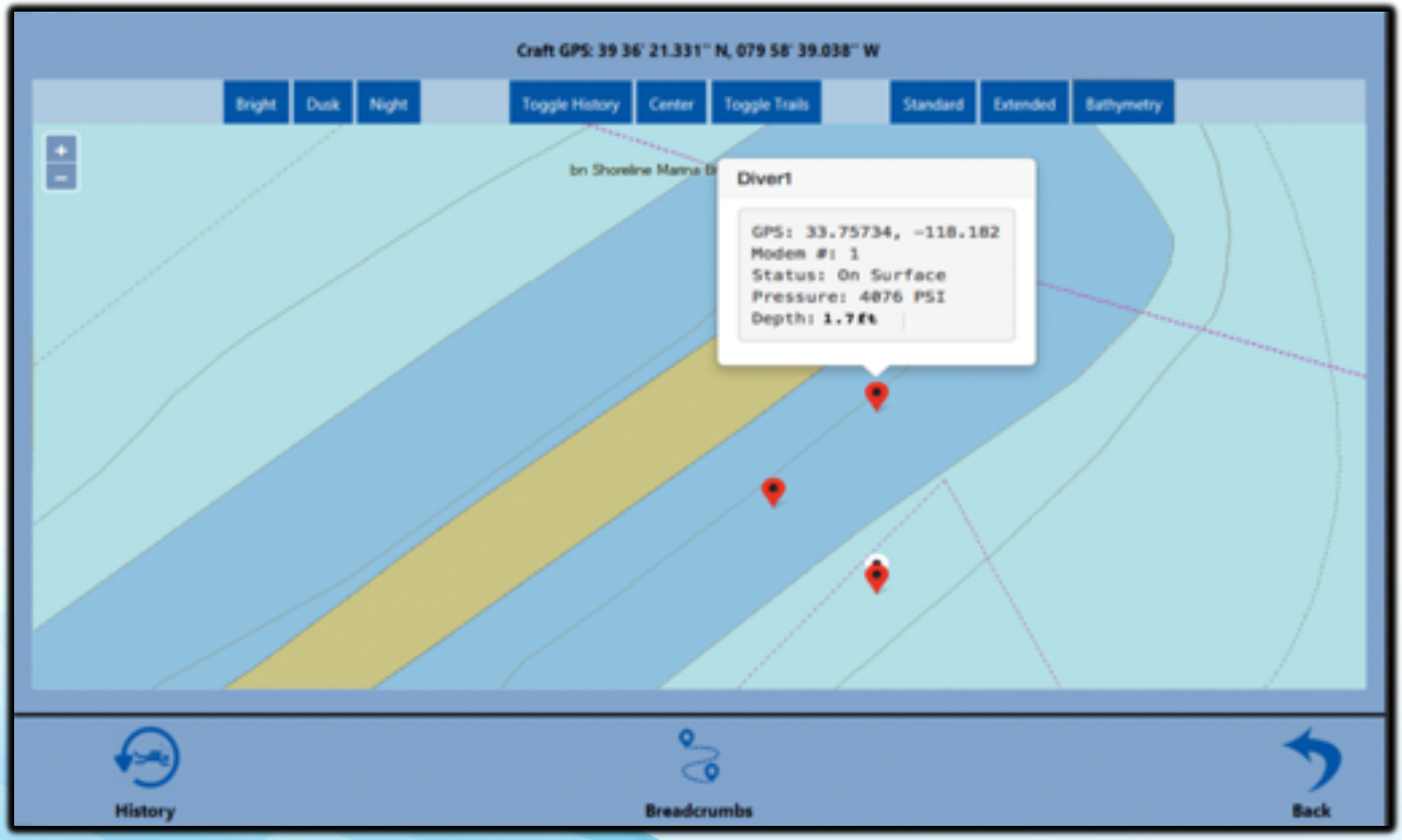

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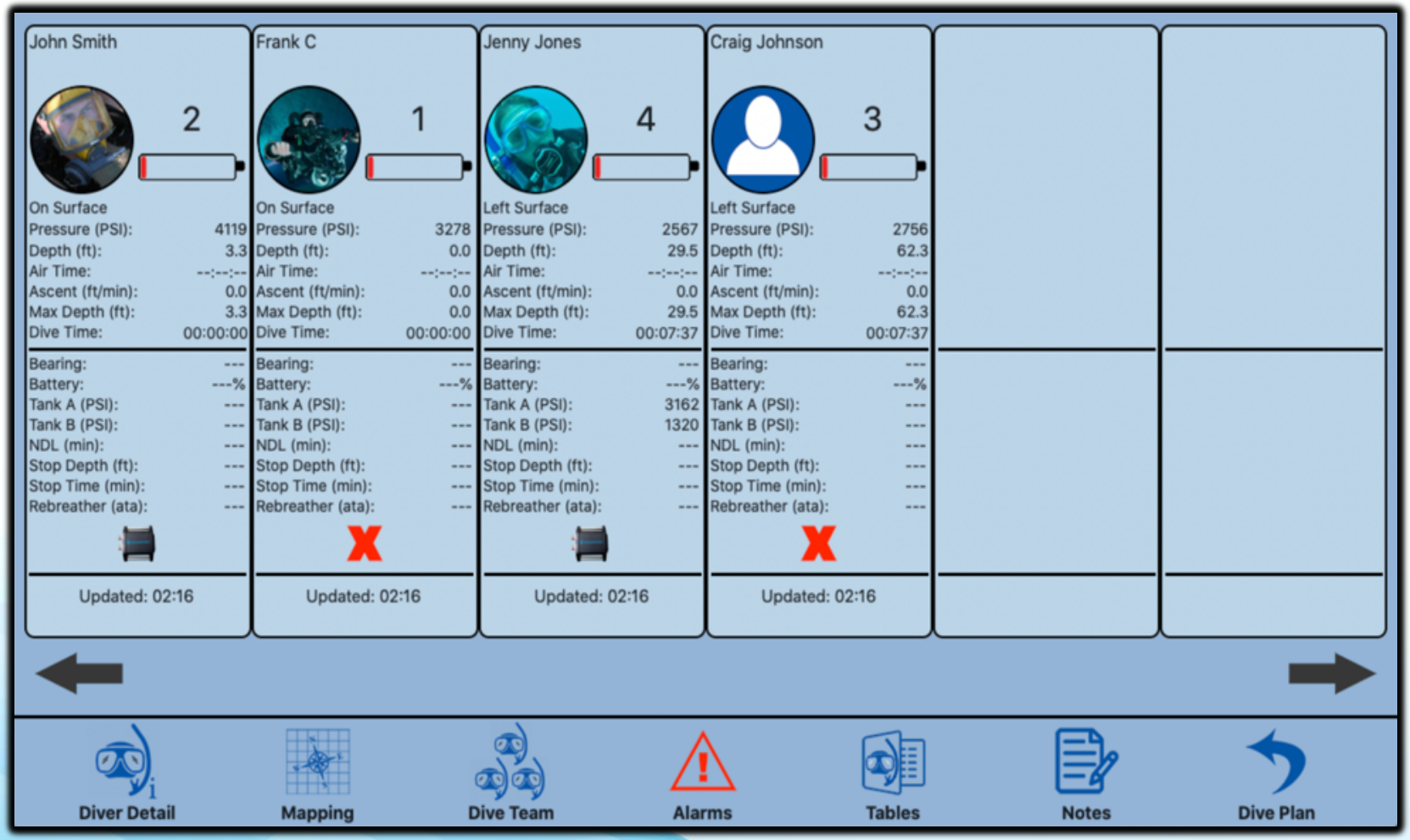

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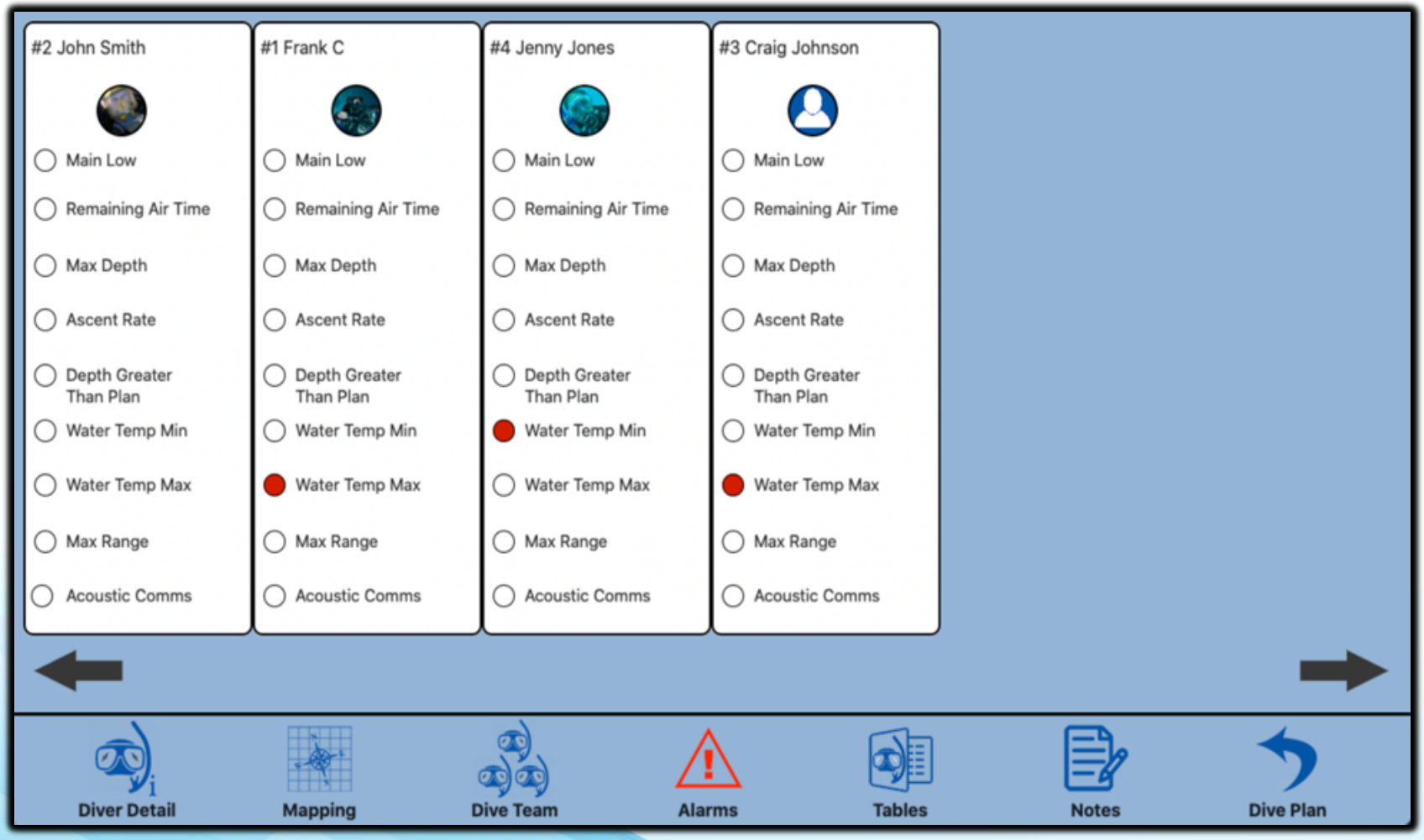

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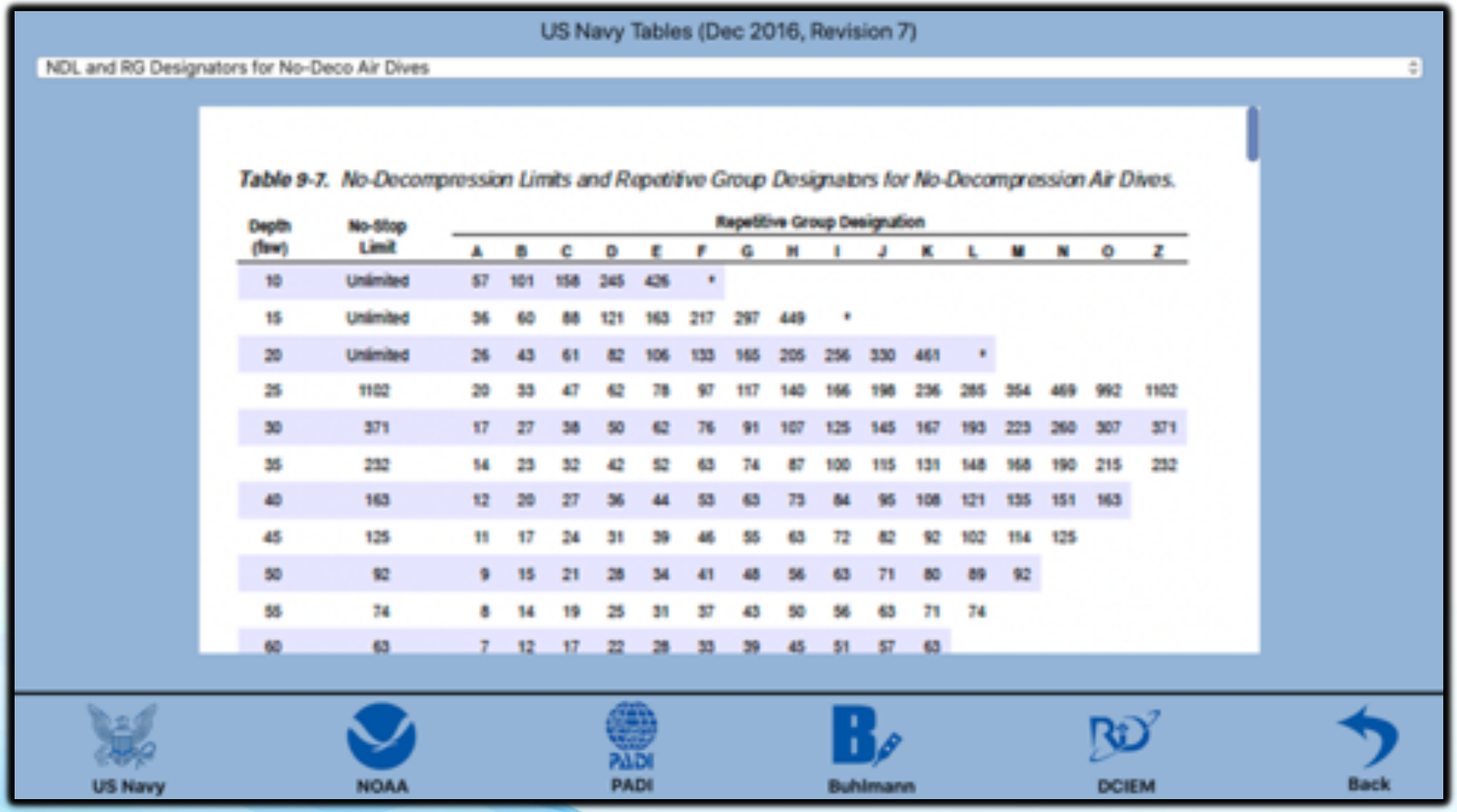

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Dive Record

de fazio

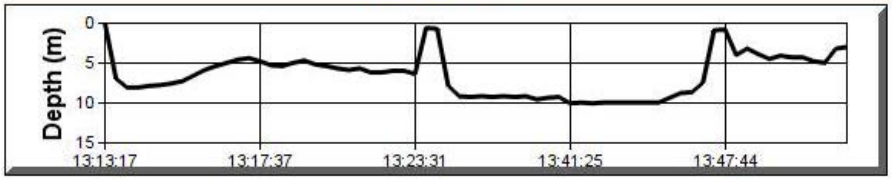
Wednesday, May 24, 2017

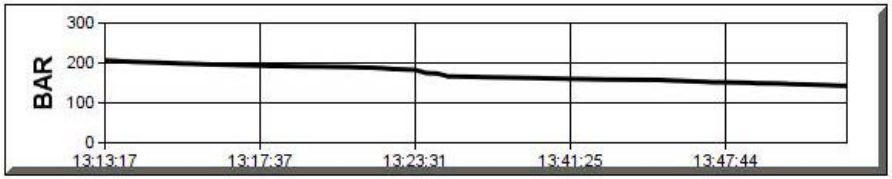
Dive Details

Dive Name	test 1	Dive Time	00:28:09
Location	le grazie	Start Pressure	207 BAR, 2999 PSI
Description	3 diver	End Pressure	141 BAR, 2045 PSI
		Max Depth	10.0 m, 33.0 ft
		Temp Min	N/A
		Temp Max	20.0 C, 68.0 F

Left Surface	13:14:16,13:38:48,13:49:32
Reached Surface	13:29:06,13:47:25,13:54:14

Dive Profile





Divemaster	12:48 PM Rigo

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USDA FSA, DigitalGlobe, GeoEye, Microsoft
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SHEARWATER

- Shearwater Research Integration
- PETREL, NERD & Pressure Sensors
- DiveCAN® interface
- Provide navigation information
- Receive and Send Communication (Recall, Assist, Send, Distress)

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- Diver6 / Shearwater Firmware Options
  - Shearwater + Diver6
    - Fully functional Shearwater product with Diver6 navigation tools
  - Diver6 - Aid to Navigation (ATN)
    - A navigation tool for specific Diver6 functions

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Questions?

For More Information
www.diver6.com

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