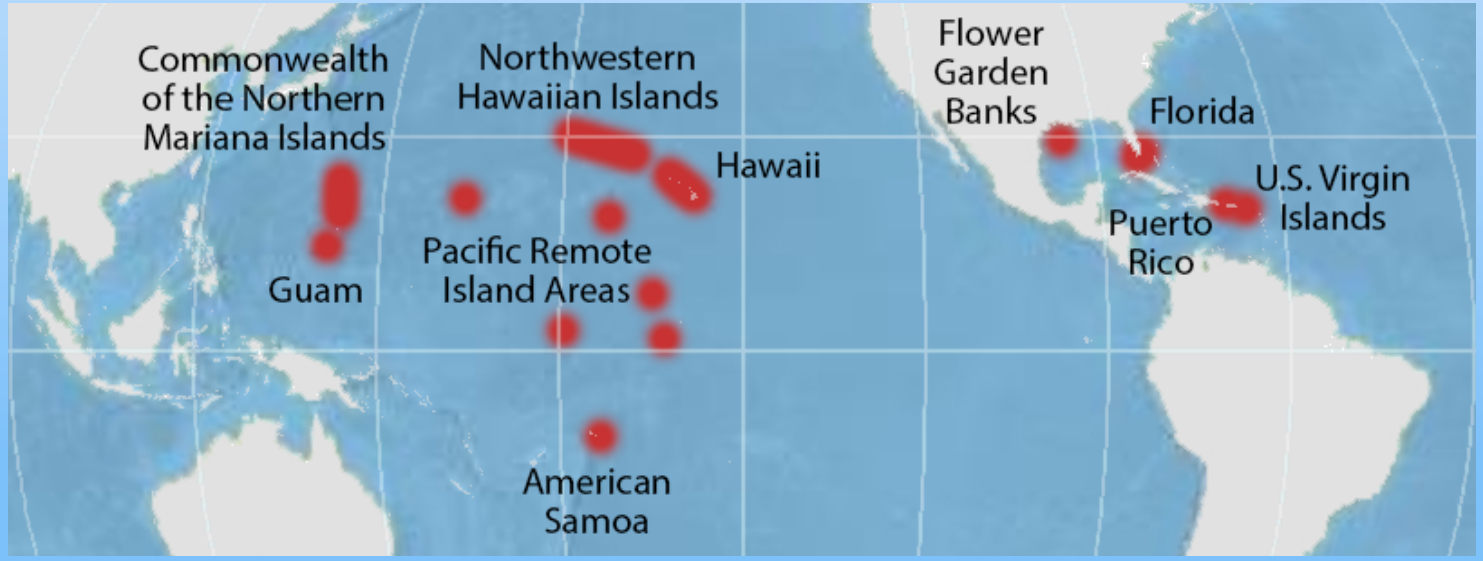
# Planning and Coordinating Field Work with Esri's Dashboard and Collector Apps

NATIONAL CENTERS FOR **COASTAL OCEAN SCIENCE**
National Ocean Service

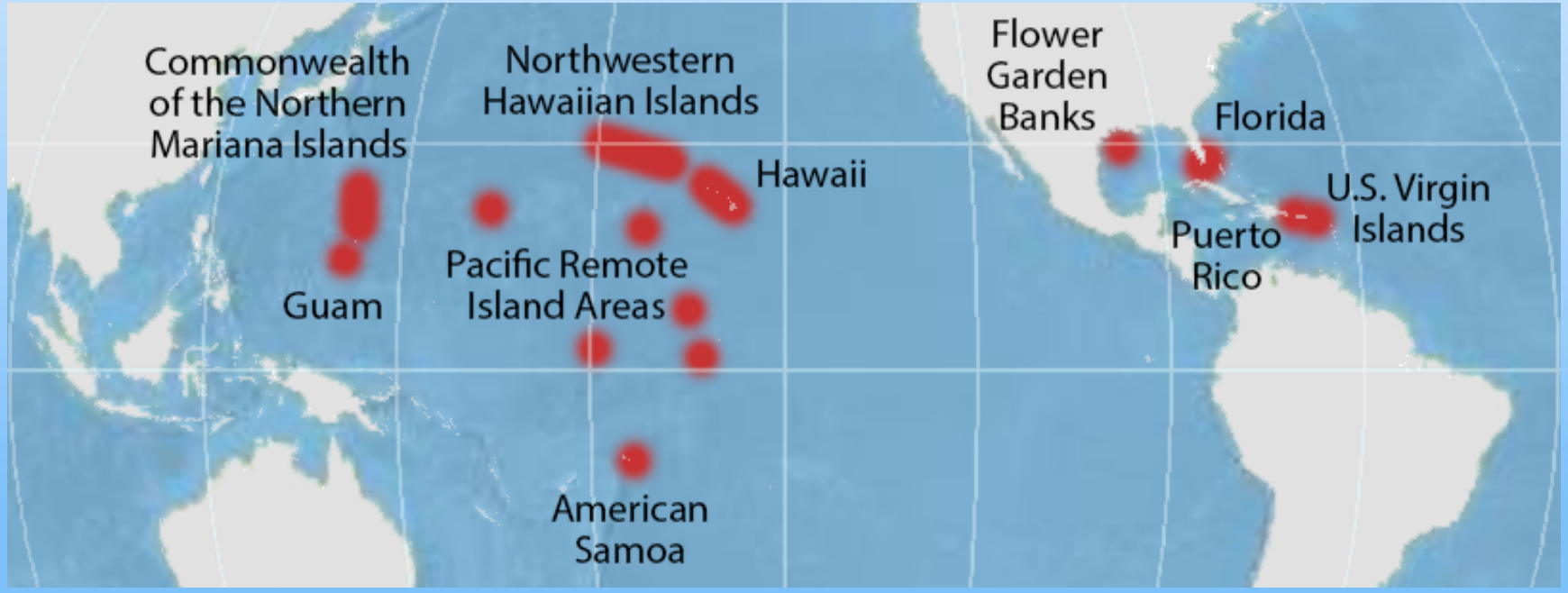
# National Coral Reef Monitoring Program

NCRMP conducts nationally coordinated, sustained, and consistent coastal ocean observations to develop biological, climate, and socioeconomic status and trends indicators for priority U.S. coral reef areas



# National Coral Reef Monitoring Program

Coordinating coastal ocean observations of priority U.S. coral reef areas



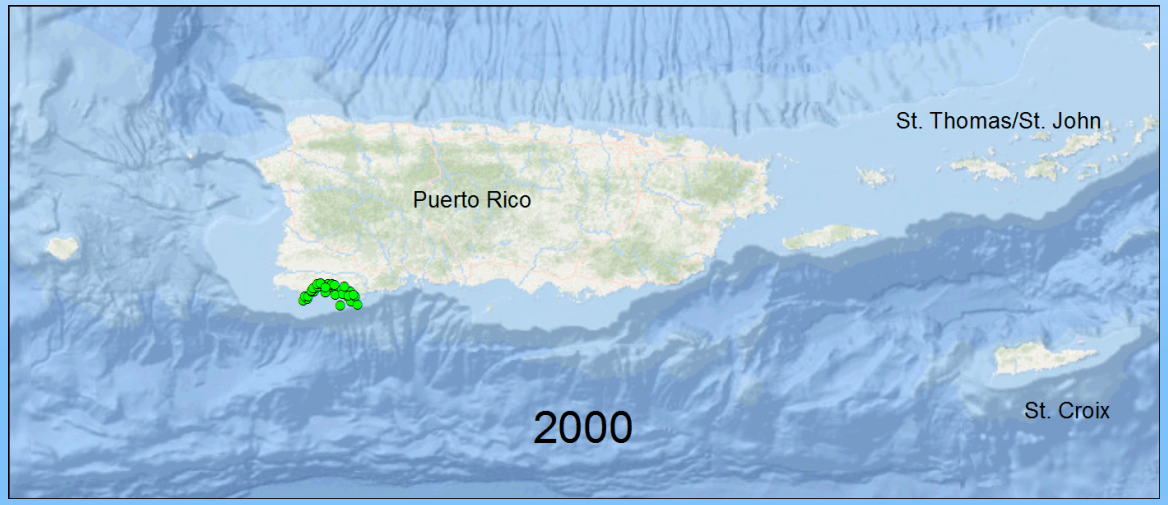
# National Coral Reef Monitoring Program

NCRMP provides a steady flow of scientific information required to track the health of coral reefs. This monitoring plan consists of a broad, overarching framework within which scientific research is conducted to achieve coral reef conservation. The four primary goals of NCRMP are:

- Monitor the status and trends of coral reef ecosystems (including human communities),
- Monitor and assess climate-related threats to coral reefs,
- Provide a consistent flow of data and information to communities in coral reef jurisdictions, and
- Foster partnerships to expand the scope and scale of coral reef monitoring.

# National Coral Reef Monitoring Program

- NCCOS and NMFS/SEFSC
- Biennial fish and benthic surveys
- Grid based stratified random design
- Hardbottom habitats to 30 m
- Fish and coral independent survey design



# Current methodology

## Mission pre-planning

- Select sites
- Determine collection method at each site
- Determine depth at each site
- Create overview map for coordinator
- Create master site table
- Create organization chart for each boat

**VIRG-STTJ-0700-1500** W in 'Survey' column indicates water sample is to be collected.

| Station | Latitude | Longitude | Habitat | Depth | Target | Survey | Date | Time | Fish Diver | LPI Diver | Demo Diver | Demo 2 Diver | AUX Diver | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E1 | 18.2212 | -64.6779 | HARD | 90 | 1 | F_L_D | | | | | | | | |
| E2 | 18.225 | -64.6656 | HARD | 98 | 1 | F_L | | | | | | | | |
| E3 | 18.23 | -64.6614 | HARD | 81 | 1 | W F_L_D | | | | | | | | |
| E4a | 18.1872 | -64.7404 | HARD | 95 | alt | | | | | | | | | |
| E5a | 18.2033 | -64.7165 | HARD | 98 | alt | | | | | | | | | |
| J6 | 18.32 | -64.6954 | Agg Reef | 49 | 1 | W F_L_D | | | | | | | | |
| J7 | 18.3209 | -64.6519 | Agg Reef | 95 | 1 | F_L_D | | | | | | | | |
| J8 | 18.3375 | -64.6601 | Agg Reef | 54 | 1 | W F_L_D | | | | | | | | |
| J9 | 18.3577 | -64.823 | Agg Reef | 48 | 1 | W F_L | | | | | | | | |
| J10 | 18.3405 | -64.8252 | HARD | 81 | 1 | W F_L_D | | | | | | | | |
| J11 | 18.3459 | -64.8324 | HARD | 57 | 1 | W F_L_D | | | | | | | | |
| J12 | 18.3472 | -64.8333 | HARD | 62 | 1 | F_L | | | | | | | | |
| J13 | 18.3612 | -64.8311 | HARD | 85 | 1 | F_L_D | | | | | | | | |
| J14 | 18.3612 | -64.8306 | HARD | 84 | 1 | W F_L | | | | | | | | |
| J15 | 18.3116 | -64.6769 | Patch Reef | 97 | 1 | F_L_D | | | | | | | | |
| J16 | 18.3291 | -64.6917 | Patch Reef | 82 | 1 | W F_L | | | | | | | | |
| J17 | 18.3295 | -64.6941 | Patch Reef | 81 | 1 | F_L_D | | | | | | | | |
| J18 | 18.348 | -64.6526 | Patch Reef | 76 | 1 | F_L_D | | | | | | | | |

E-Edge, J-St. John Open, M-Midshelf reef area Open, MJ-Monument (VICR) St. John, MM-Monument (VICR) midshelf reef area, P-Park (VIIS), S-Sail Rock, ST-STEER, T-St. Thomas Open

# Current methodology

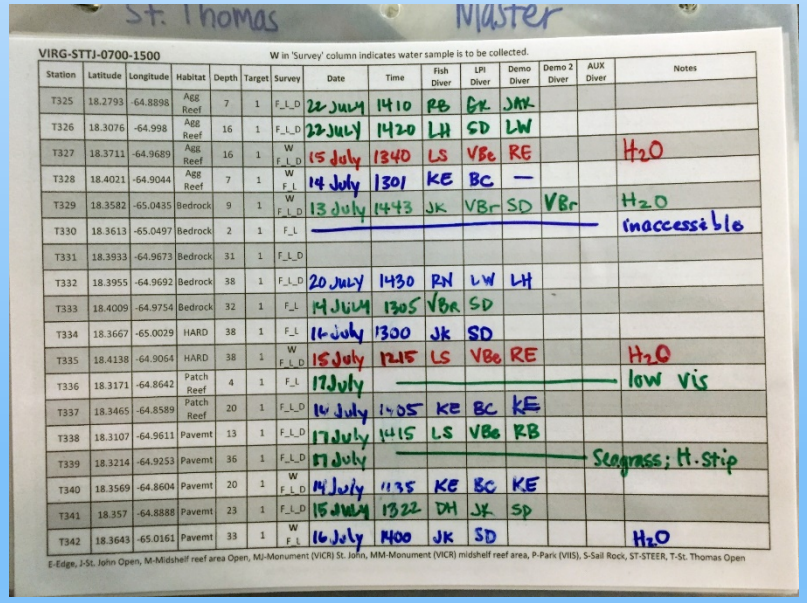
## Mission

### Coordinator

- Identify sites and assign to boats
- Copy data to master spreadsheet
- Mark off sites on map


### Boat

- Record date, time, divers
- Record dive status



St. Thomas Master

VIRG-STTJ-0700-1500 W in 'Survey' column indicates water sample is to be collected.

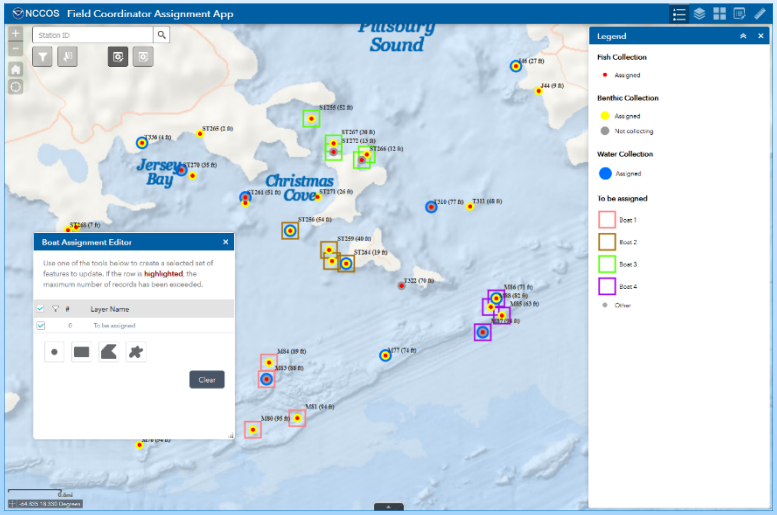
| Station | Latitude | Longitude | Habitat | Depth | Target | Survey | Date | Time | Fish Diver | LPI Diver | Demo Diver | Demo 2 Diver | AUX Diver | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T325 | 18.2793 | -64.8898 | Agg Reef | 7 | 1 | F_L_D | 22 JULY | 1410 | RB | GK | JAK | | | |
| T326 | 18.3076 | -64.998 | Agg Reef | 16 | 1 | F_L_D | 22 JULY | 1420 | LH | SD | LW | | | |
| T327 | 18.3711 | -64.9689 | Agg Reef | 16 | 1 | W F_L_D | 15 July | 1340 | LS | VBe | RE | | | $H_2O$ |
| T328 | 18.4021 | -64.9044 | Agg Reef | 7 | 1 | W F_L | 14 July | 1301 | KE | BC | — | | | |
| T329 | 18.3582 | -65.0435 | Bedrock | 9 | 1 | W F_L_D | 13 July | 1443 | JK | VBr | SD | VBr | | $H_2O$ |
| T330 | 18.3613 | -65.0497 | Bedrock | 2 | 1 | F_L | | | | | | | | inaccessible |
| T331 | 18.3933 | -64.9673 | Bedrock | 31 | 1 | F_L_D | | | | | | | | |
| T332 | 18.3955 | -64.9692 | Bedrock | 38 | 1 | F_L_D | 20 JULY | 1430 | RN | LW | LH | | | |
| T333 | 18.4009 | -64.9754 | Bedrock | 32 | 1 | F_L | 14 JULY | 1305 | VBR | SD | | | | |
| T334 | 18.3667 | -65.0029 | HARD | 38 | 1 | F_L | 16 July | 1300 | JK | SD | | | | |
| T335 | 18.4138 | -64.9064 | HARD | 38 | 1 | W F_L_D | 15 July | 1215 | LS | VBe | RE | | | $H_2O$ |
| T336 | 18.3171 | -64.8642 | Patch Reef | 4 | 1 | F_L | 17July | | | | | | | low vis |
| T337 | 18.3465 | -64.8589 | Patch Reef | 20 | 1 | F_L_D | 14 July | 1405 | KE | BC | KE | | | |
| T338 | 18.3107 | -64.9611 | Pavemt | 13 | 1 | F_L_D | 17July | 1415 | LS | VBe | RB | | | |
| T339 | 18.3214 | -64.9253 | Pavemt | 36 | 1 | F_L_D | 17 July | | | | | | | Seagrass; H.Stip |
| T340 | 18.3569 | -64.8604 | Pavemt | 20 | 1 | W F_L_D | 14 July | 1135 | KE | BC | KE | | | |
| T341 | 18.357 | -64.8888 | Pavemt | 23 | 1 | F_L_D | 15 JULY | 1322 | DH | JK | SD | | | |
| T342 | 18.3643 | -65.0161 | Pavemt | 33 | 1 | W F_L | 16 July | 1400 | JK | SD | | | | $H_2O$ |

E-Edge, J-St. John Open, M-Midshelf reef area Open, MJ-Monument (VICR) St. John, MM-Monument (VICR) midshelf reef area, P-Park (VIIS), S-Sail Rock, ST-STEER, T-St. Thomas Open

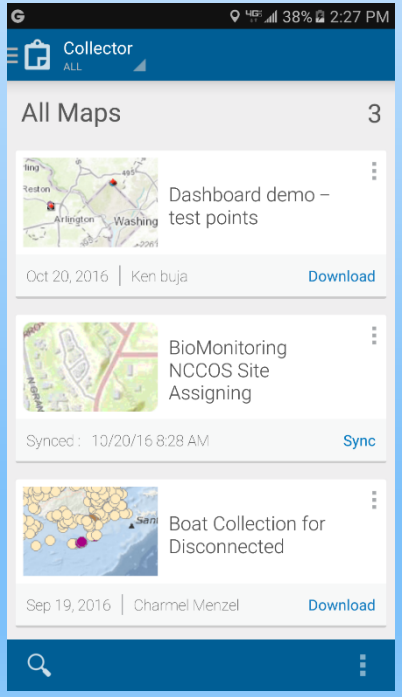
# New methodology

Esri tools to assign, collect, and view

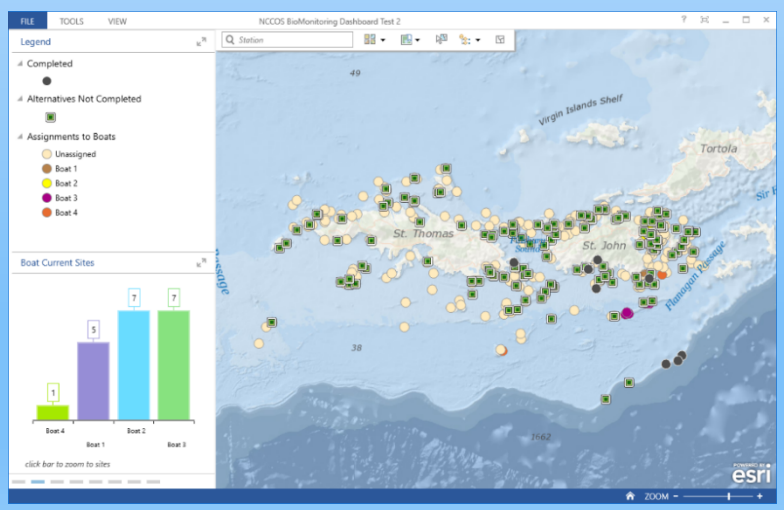
Assignment




Collector




Dashboard

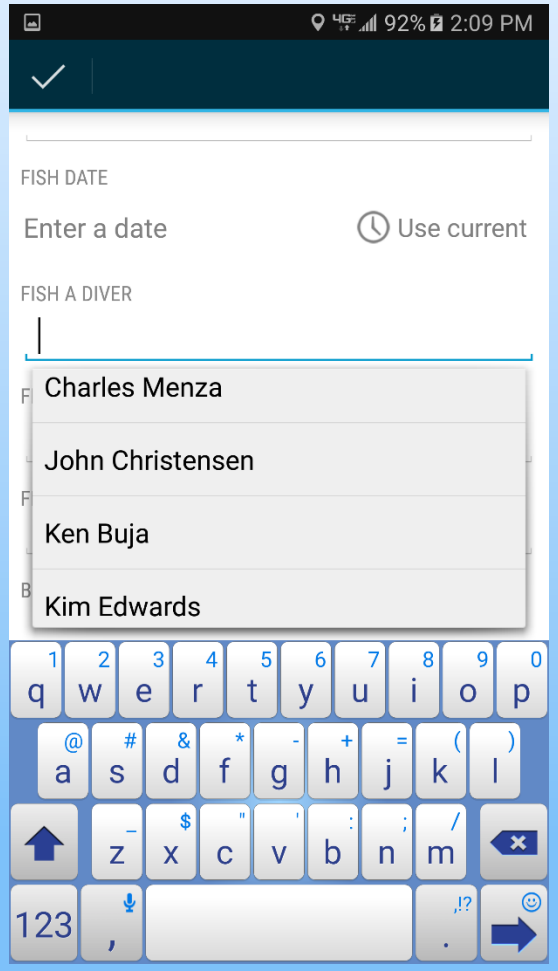


# New methodology

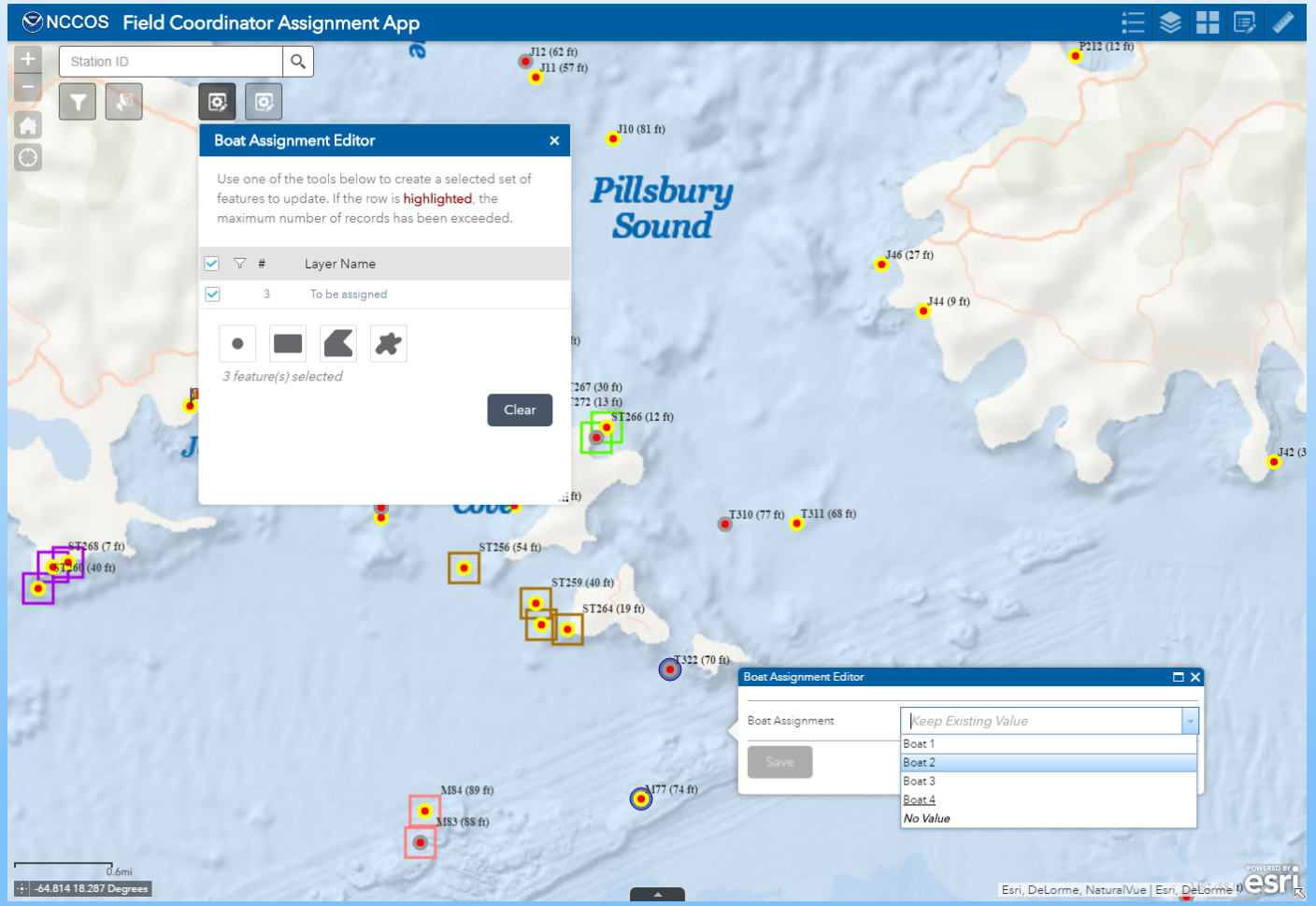
Assignment App

Dashboard

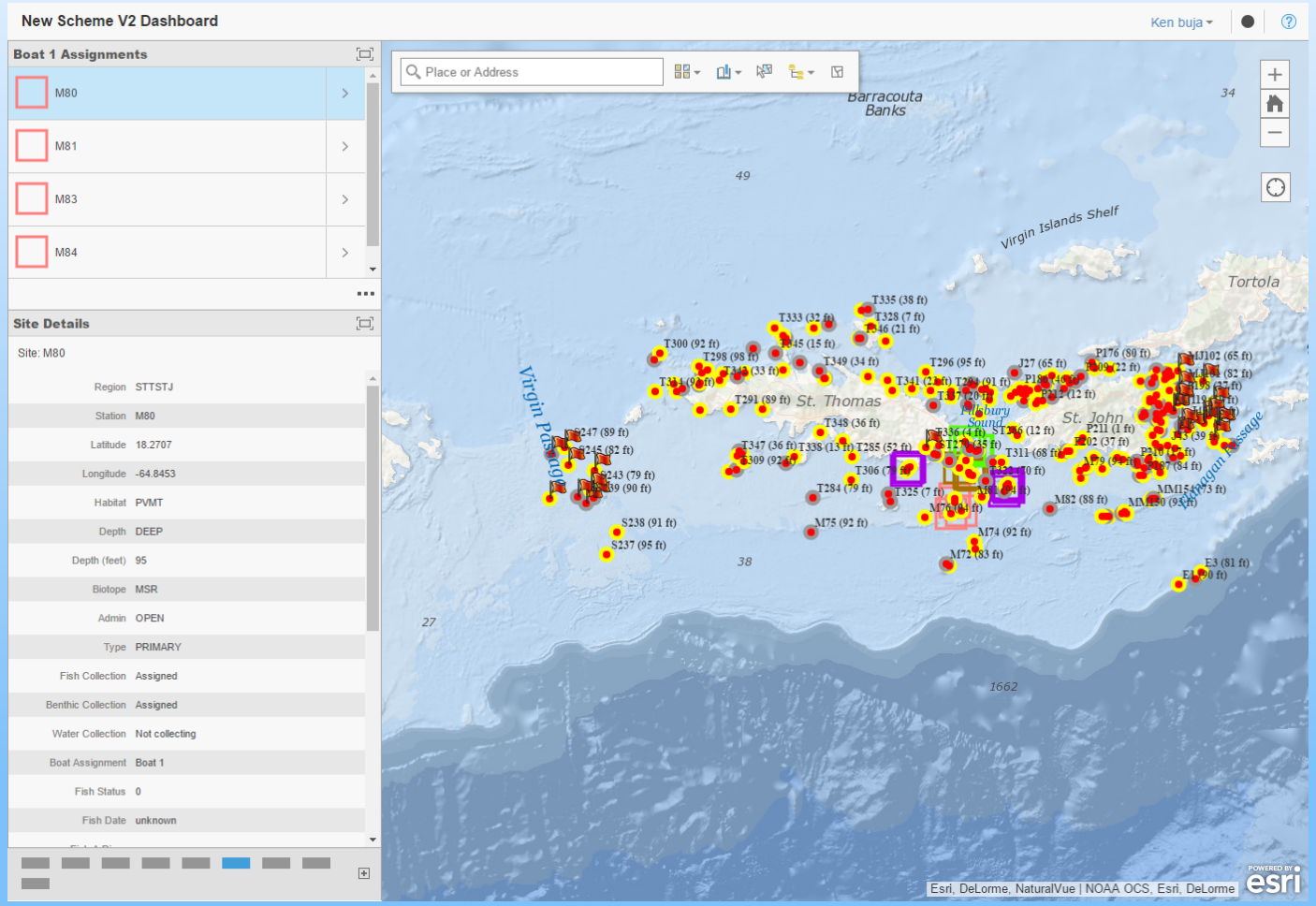
# New methodology



# New methodology



# New methodology



# Next steps

## Collector

- Customize actions
- Use related tables to record lat/long of multiple dives

## Assignment

- Customize Web Mapping App

# Next steps

## Testing

- Local testing
- Field testing
  1. NCRMP training (May)
  2. St. Croix USVI (June)

# More information

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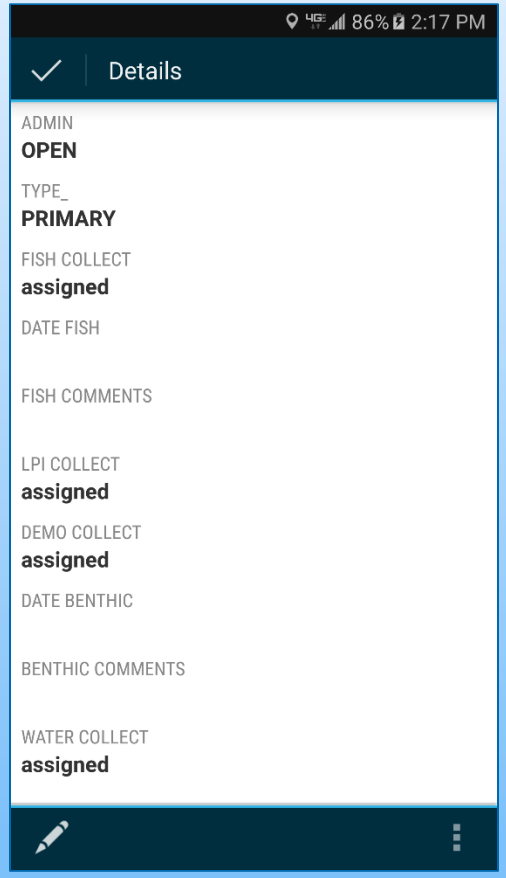
https://coastalscience.noaa.gov/projects/detail?key=180

# Collector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Details
ADMIN
OPEN
TYPE_
PRIMARY
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FISH COMMENTS
LPI COLLECT
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DEMO COLLECT
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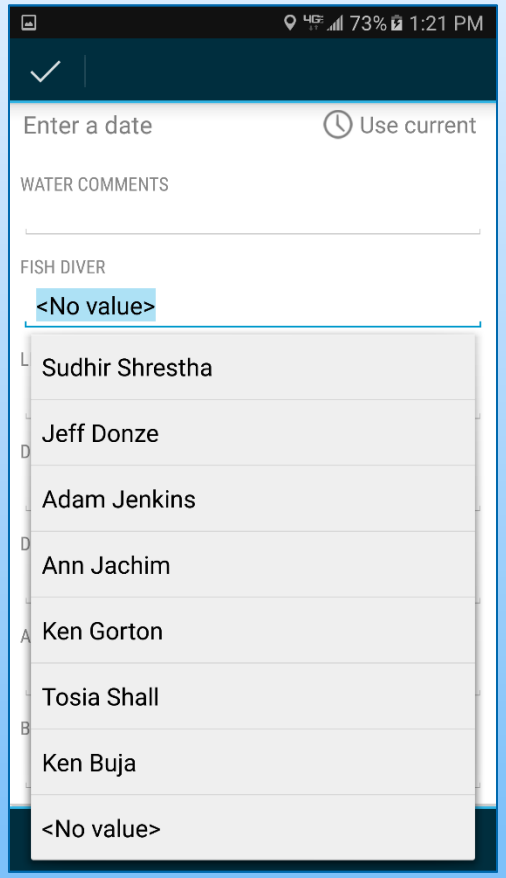
DATE BENTHIC
BENTHIC COMMENTS
WATER COLLECT
assigned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Jeff Donze
Adam Jenkins
Ann Jachim
Ken Gorton
Tosia Shall
Ken Buja
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