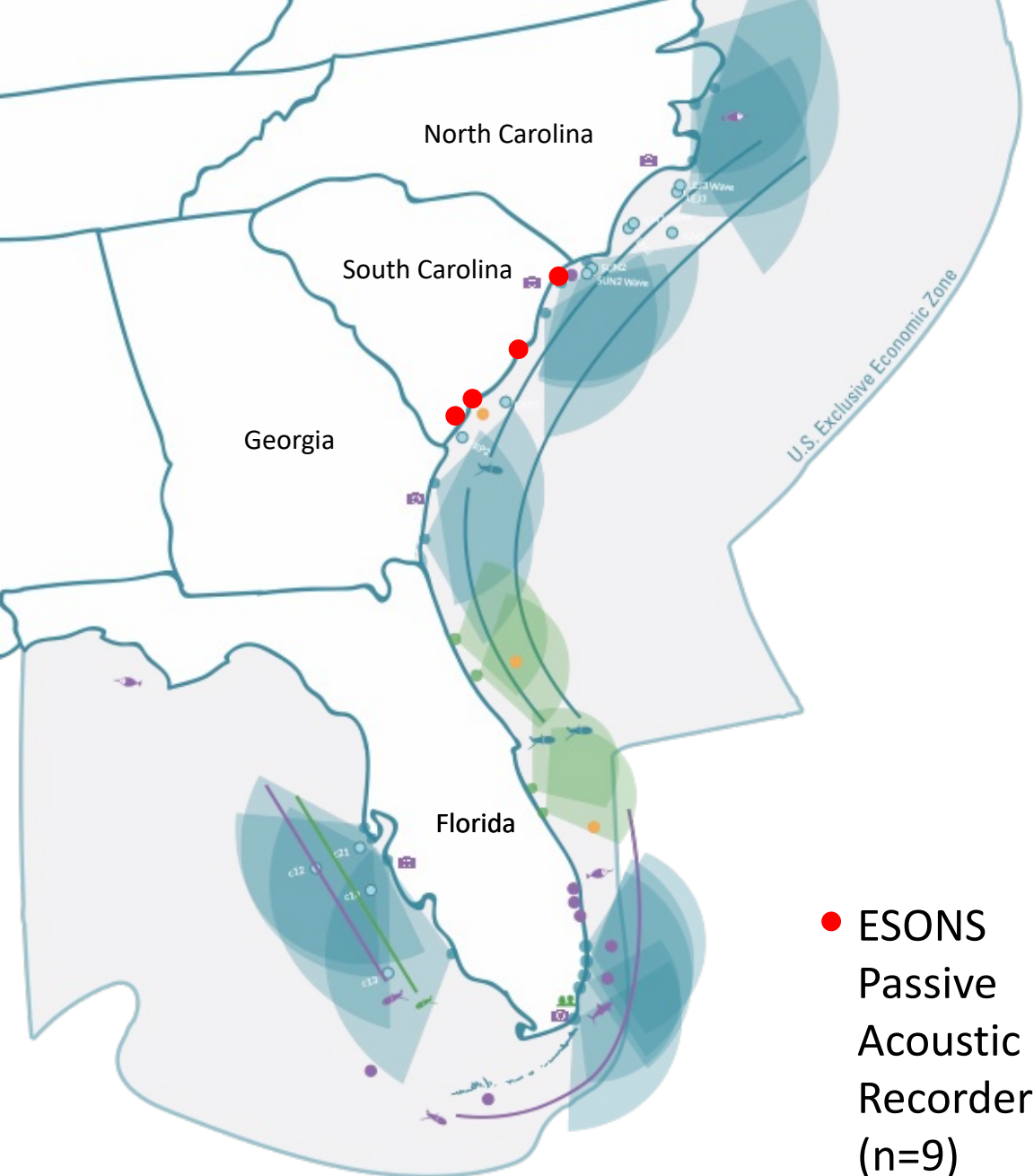


Estuarine Soundscape Observatory Network in South Carolina (ESONS)

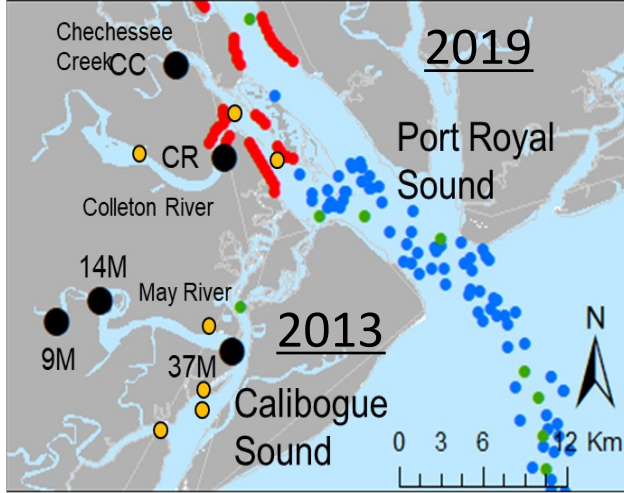
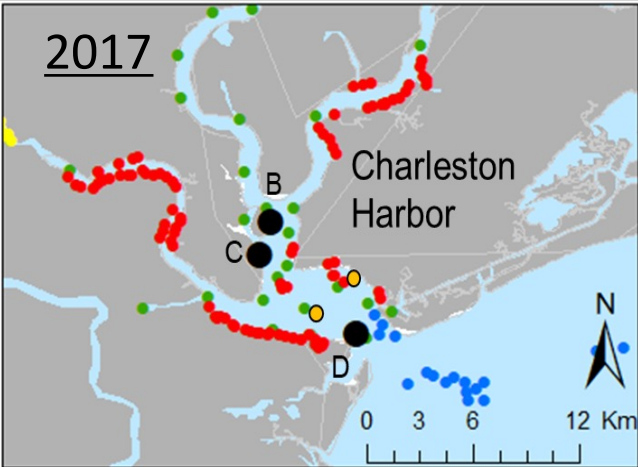
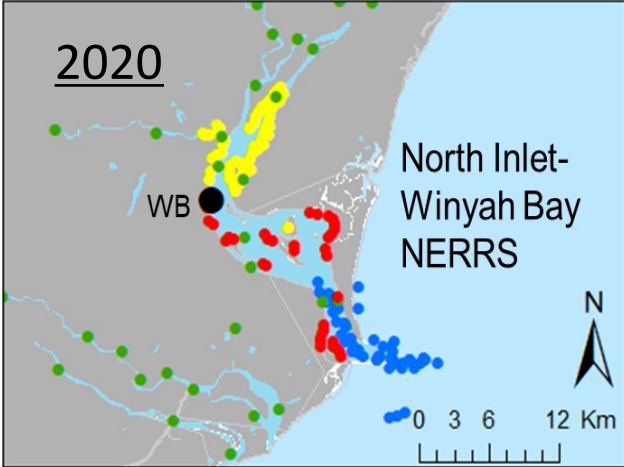


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Overview of the Project



● ESON recorders

● Longline

● Electrofishing

● Trammel net

● Estuarine Trawl Surveys

● Acoustic Telemetry Network

SCDNR
Surveys



- Sound pressure levels of various bandwidths
- Snapping shrimp acoustic behavior
- Courtship sounds and spawning potential of soniferous fish
- Marine mammal vocalizations
- Anthropogenic noise
- Water temp, depth

Accomplishments

- Serviced all nine recorders; lost data from 14M station in May River from 8/4/22 – 9/28/22.
- Entered endpoints and metadata from 2/20/13 to 6/16/21 into RW with some data/stations to 9/28/22.
- *PRSF* and *Inside Carolina* videos; new funding from PRSF and UNCW/MARAD.
- Publication in *PLOS ONE* on the Charleston Harbor soundscape that was highlighted by their press team.



“Fish and bottlenose dolphins react differently to life in noisy shipping corridor of Charleston Harbor Estuary, with fish calls and choruses decreasing with anthropogenic noise, and dolphins ramping up vocalizations”. *PLOS ONE* press release

Transue L, Monczak A, Tribble C, Marian A, Fair P, Ballenger J, Balmer B, Montie EW. (2023). The biological and anthropogenic soundscape of an urbanized port – the Charleston Harbor Estuary, South Carolina, USA. *PLoS ONE* 18(4): e0283848. <https://doi.org/10.1371/journal.pone.0283848>

Challenges and Looking Ahead

- Challenges
 - Manual review of acoustic files can be time consuming and labor intensive
 - Working on proposal with Conservation Metrics for AI approaches
- Objectives for year 3
 - Continue servicing recorders
 - Complete soundscape endpoints through 2023
 - Incorporate data into RW
 - Understand bottlenose dolphin vocalizations and relationships to sightings and prey in Charleston Harbor

