SECOORA
Southeast Coastal Ocean Observing Regional Association

SC HF Radar Operations

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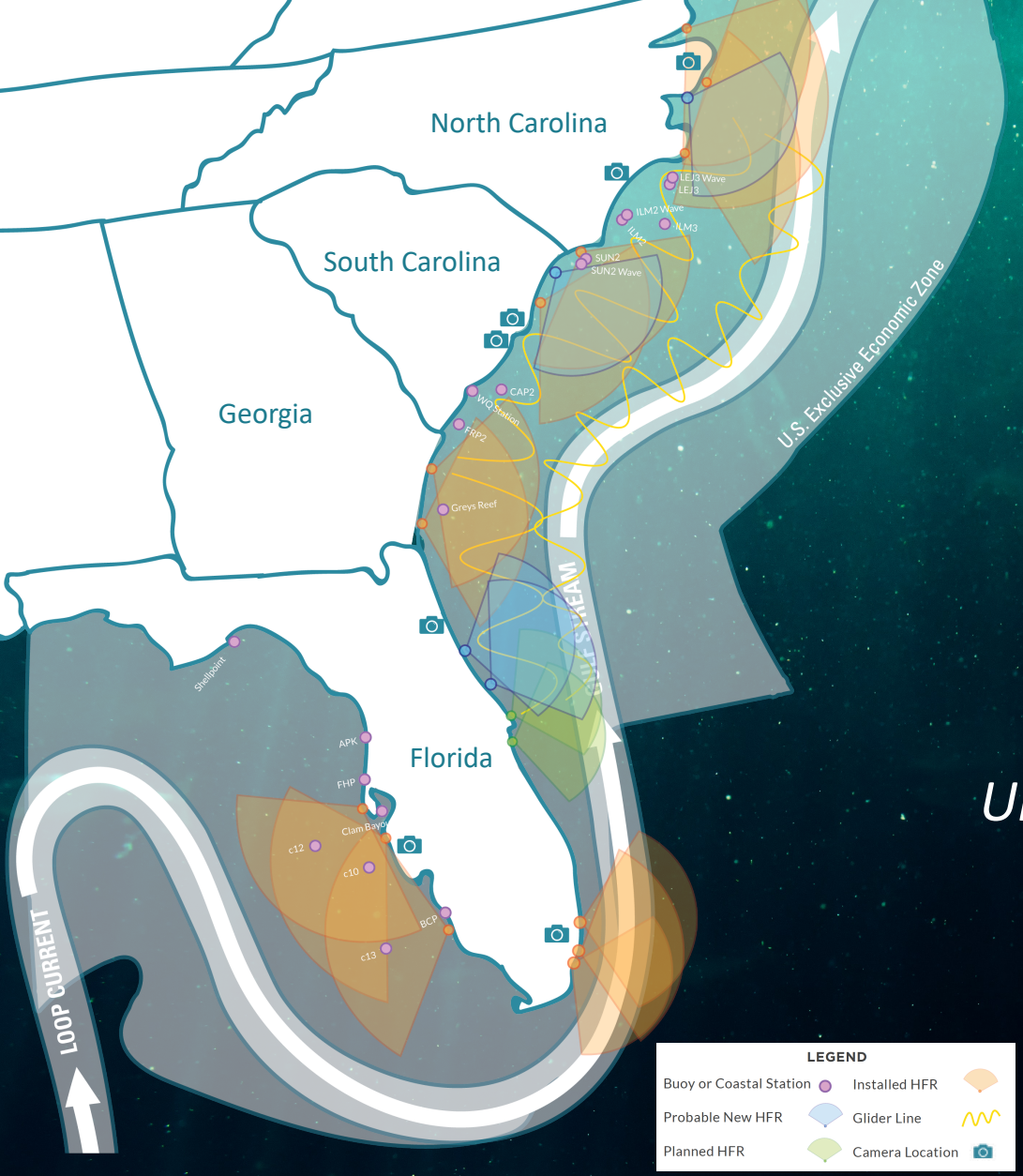


SECOORA Annual Meeting
www.secoora.org/2019-annual-meeting

In-Situ YOUR EYES IN THE FIELD

IOOS Integrated Ocean Observing System

YSI

CODAR OCEAN SENSORS

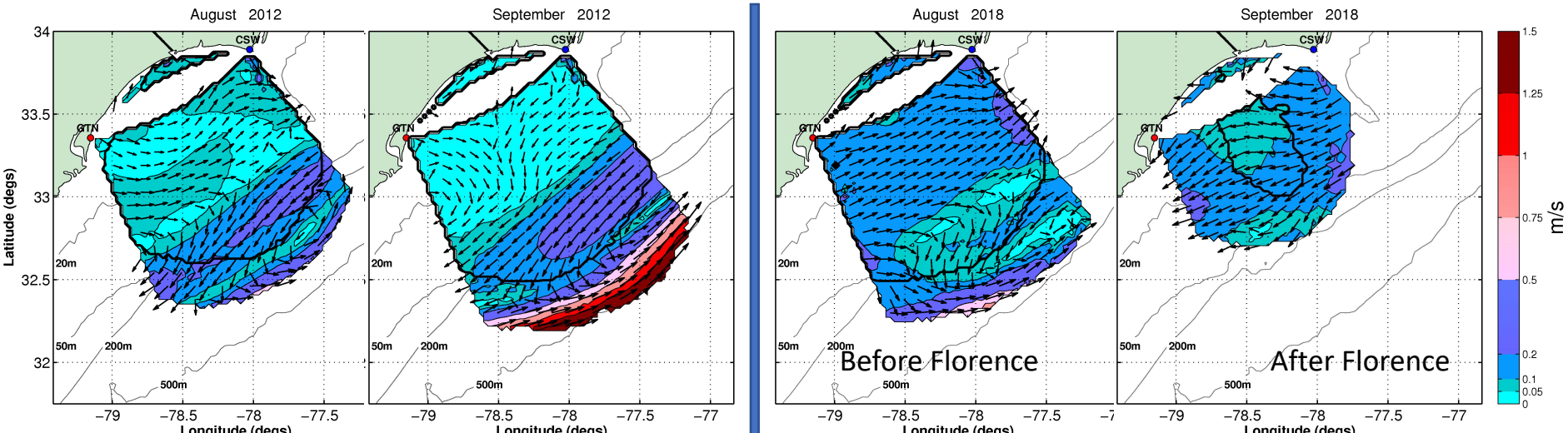
Objective and Approach

Objective

- Operate and Maintain University of South Carolina IOOS Priority High Frequency Radars in SECOORA

SECOORA Focus Area

- Ocean Surface Circulation
  - Marine Operations
  - Coastal Hazards
  - Ecosystems: Water Quality and Living Marine Resources
  - Climate Variability
- IOOS / NWS / US Coast-Guard

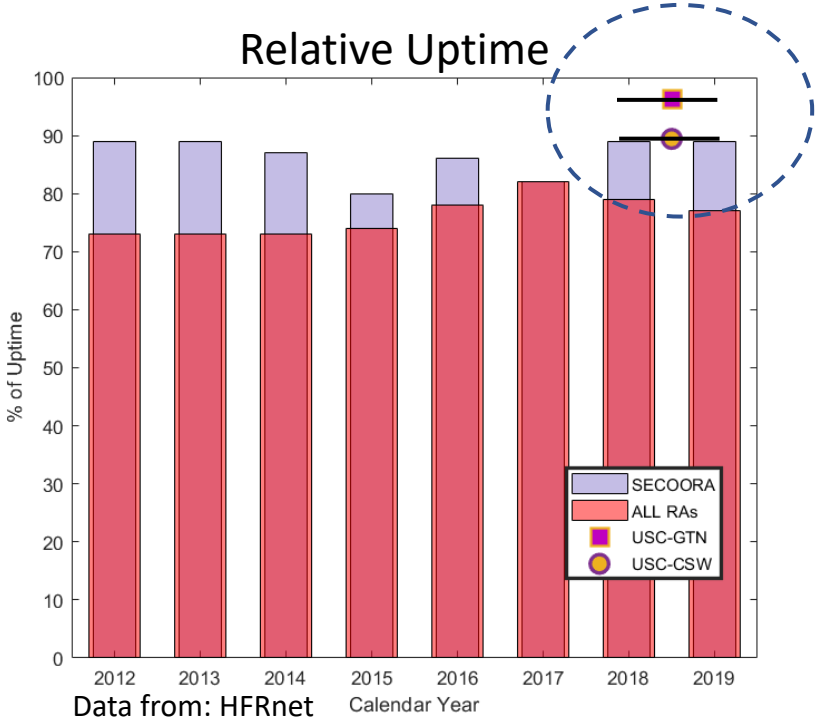


Accomplishments

- Very high operational uptime (May 2018 - May 2019)
- Short latency in data delivery (~0.5 hrs)

GTN	Median	Avg	StdDev
Latency (hr)	0.56	0.81	1.63
Range (km)	132.0	138.9	50.9
Solutions #	3060.0	3215.4	1410.0

CSW	Median	Avg	StdDev
Latency (hr)	0.55	0.82	1.56
Range (km)	141.0	149.2	47.2
Solutions #	3563.5	3615.0	1386.2



- Climatology (since 2012)
- Development of a wave inversion method

Impact

- SC HF Radars cover an important area (Charleston Gyre) of the SAB (an under-covered area of the SE US).
- Loss of the GTN / CSW stations will enlarge the HF Radar coverage hole in the SE US from mid-NC to mid-GA reducing IOOS's impact at national level.
- Building human capacity in HF Radars (2 Graduate Students)
- Potential extension of HF radars for wave measurements.
  - ***Publication:*** *Alattabi, Z., D. Cahl, and G. Voulgaris, 2019: Swell and Wind Wave Inversion Using a Single Very High Frequency (VHF) Radar. J. Atmos. Oceanic Technol., https://doi.org/10.1175/JTECH-D-18-0166.1*
  - ***Open Source Code:*** *Cahl, D., Voulgaris G., and Alattabi, Z., 2019: Wave Radar Inversion Code (WaveRIC) V1.0.1 (Version V1.0.1). Zenodo. http://doi.org/10.5281/zenodo.2643696*