

Surface currents offshore of North Carolina

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Objective and Approach

Objective

- Map surface currents off North Carolina
- Maximize uptime and coverage

Approach

- Operate high-frequency radar along NC coast
- Leverage collaborations to improve operations; work with:
 - Army Corps (DUCK)
 - National Park Service (HATY and CORE)
 - MARACOOS
 - NC Dept. of Transportation (PEACH installations at coastal airports)
 - John Hopkins University
 - PEACH team (SkIO/UGA, NCSU, WHOI, CSI)

Accomplishments

- QC'ed radials now being supplied to national network in near real-time
- Supported installation of 4 additional HFR systems along Outer Banks by NSFfunded PEACH project
- Developed totals product that utilizes all 7 NC HFR (+1 in southern VA)
- Coverage now includes much of Raleigh Bay shelf region





Impact

- Consistent coverage along NC coast since (before) SECOORA began
- Only sustained (year+) depiction of Gulf Stream and shelf surface currents in the area
- Scientists, USCG (SAROPS) and fisherman are presently primary uses
- Close to publishing technique for and analyses of Gulf Stream position variability
- Long-term record of Gulf Stream and shelf flows contributes to documenting baseline and anomalous conditions, key to detecting ocean changes