Using Remote Sensing Methods to Identify Patterns of Mortality in North Carolina Intertidal Oyster Reefs

BACKGROUND

- **Protecting and restoring oyster reefs**. Oysters provide many essential benefits to the system, but global oyster habitat has declined by 85%.
- **Hurricanes** can diminish oyster populations and prevent their recovery.
- Evaluating hurricane impacts can require **costly and time-intensive** field surveys
- **High-quality aerial imagery is becoming more accessible and may present an effective, low-cost solution to the problem!**

METHODS

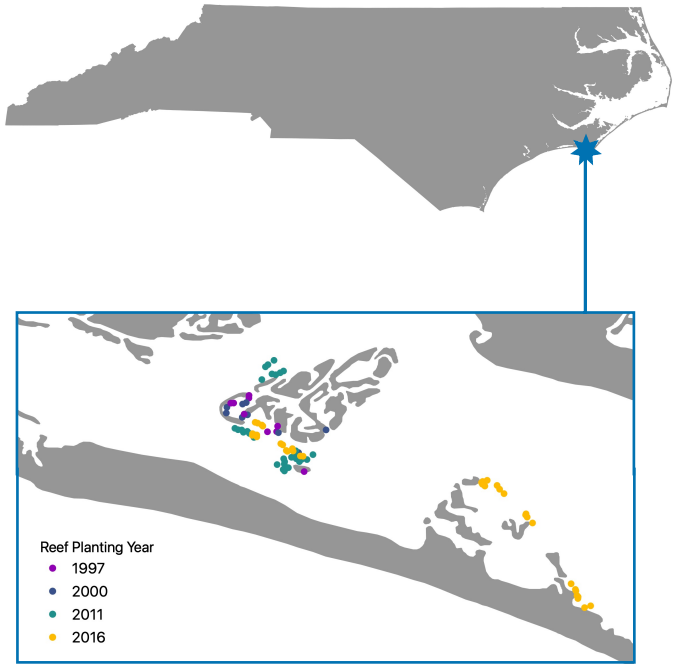
87 constructed and protected intertidal oyster reefs in Back Sound, North Carolina

1. Marked each site as present or absent for each year from initial planting to present by analyzing aerial imagery
   - Google Earth Pro, NC OneMap, Carteret County GIS
2. Overlayed years of hurricanes affecting the area
   - Those which made landfall in surrounding counties (Onslow, Carteret, Hyde, and Dare counties)
   - Additional hurricanes which were particularly destructive to the area

LOOKING AHEAD

- Imagery has become more consistent in terms of availability and clarity in recent study years
- Imagery inconsistencies should be checked with field surveys
  - Field survey completed in the summer of 2020 will be used to confirm recent imagery
- Further investigation into storm data necessary to elucidate relationships with reef mortality
  - Overlay hurricane path data on reef location points

Free, publicly-accessible **aerial imagery** can be used to identify **oyster mortality** events



Karli Meckler
kmeckler@live.unc.edu
@karlimeckler (Twitter)