



Environmental Research Projects Status Update

Lee Bundrick, MS, MPA
Land Preservation Coordinator
Kiawah Conservancy

Kiawah Conservancy Research Projects

Town of Kiawah Island - FY 2019-2020

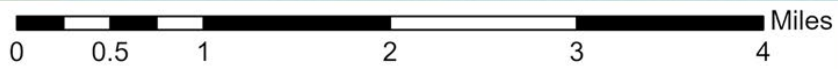
Groundwater Table Study

Begin investigating groundwater table depth and groundwater salinity on Kiawah Island and establish a long-term monitoring effort. Cooperative effort with Dr. Tim Callahan, Chair, College of Charleston's Geology Department.

Marsh Vulnerability Study

Investigate changes in marsh vegetated shoreline position over time, investigate natural features in the marsh, and catalog built infrastructure affecting marshlands. Cooperative effort with Dr. Norm Levine, Director, College of Charleston's Santee Cooper GIS and Lowcountry Hazards Lab.

- Installed Wells
- Future / Potential Wells
- ▭ KiawahRegions



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



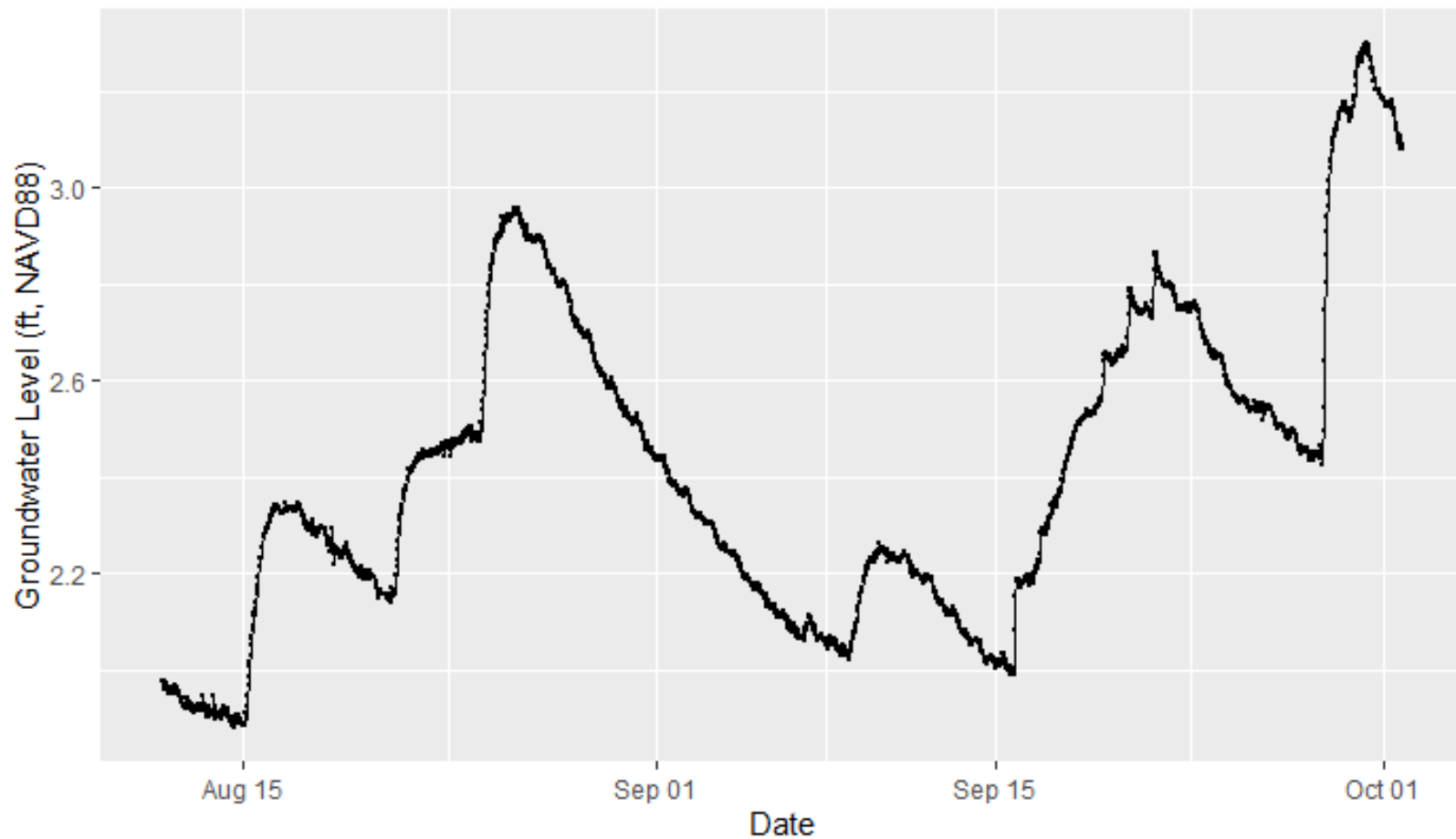


**Solinst Levelogger
Edge 3001 LTC
and WLT models**



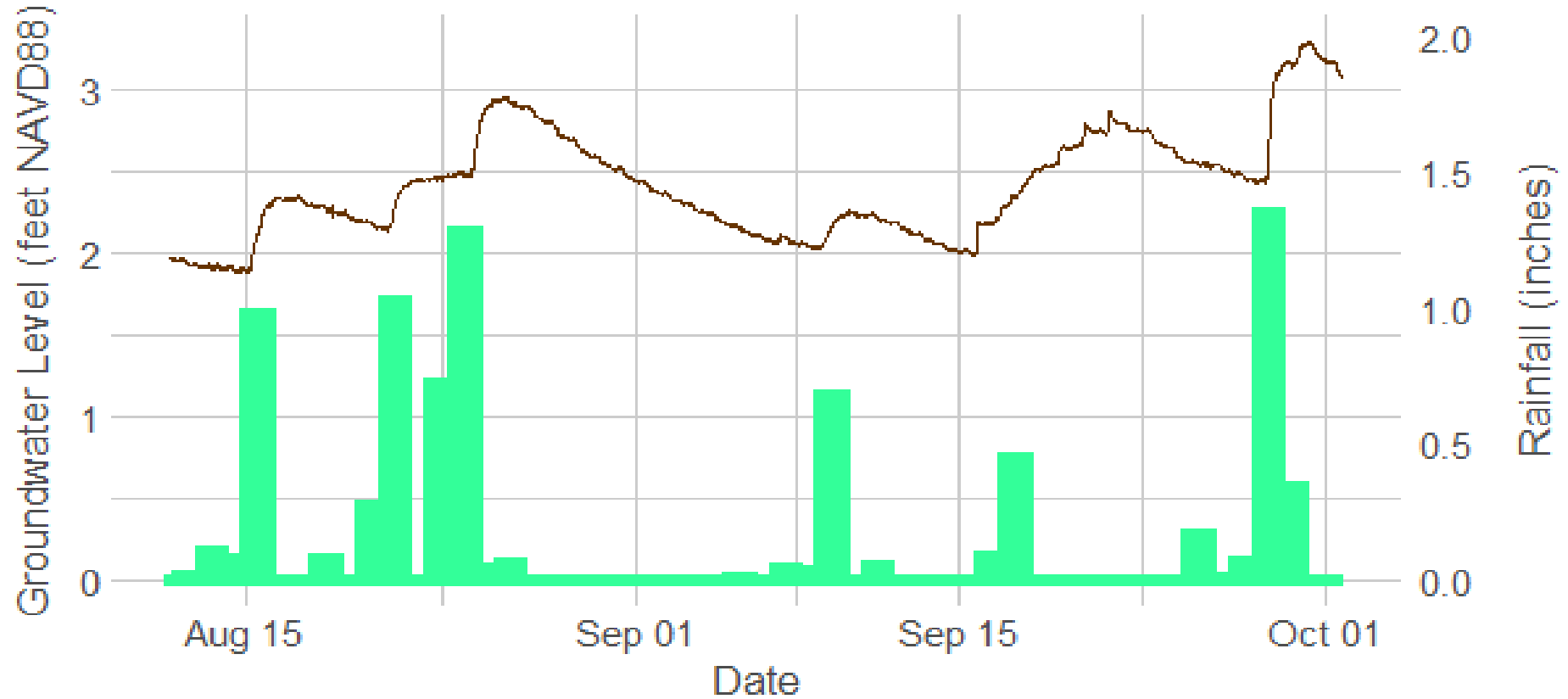
Solinst 107 TLC

Rhetts Bluff Groundwater Fluctuations

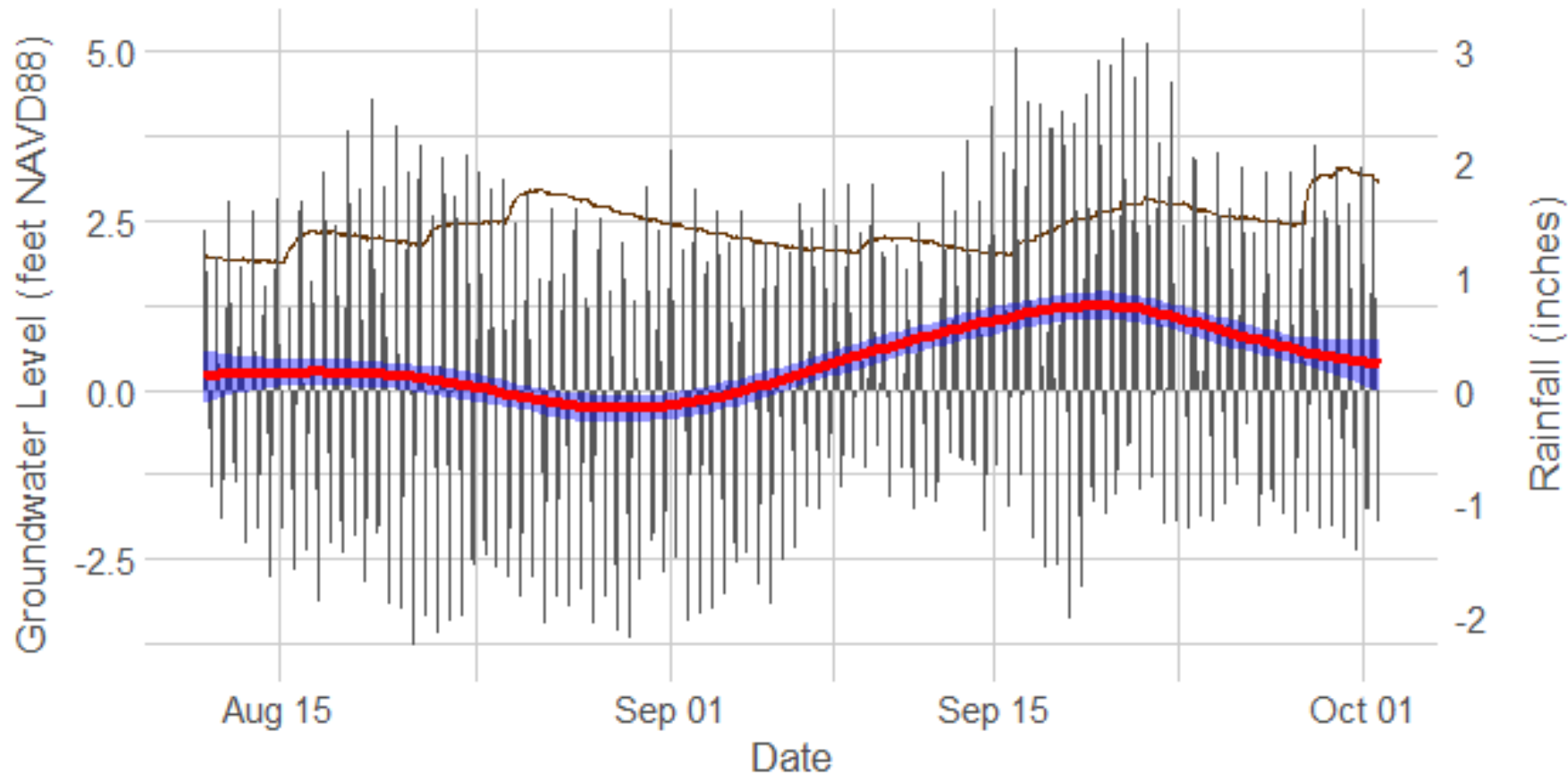


Created Using ggplot2 data visualization package (Wickham, 2016) in R Studio (2020)

Rhetts Bluff GWT and Rainfall Trends



Rhetts Bluff GWT and Sea Level Trends



Created Using ggplot2 data visualization package (Wickham, 2016) in R Studio (2020)

Marsh Vulnerability Study





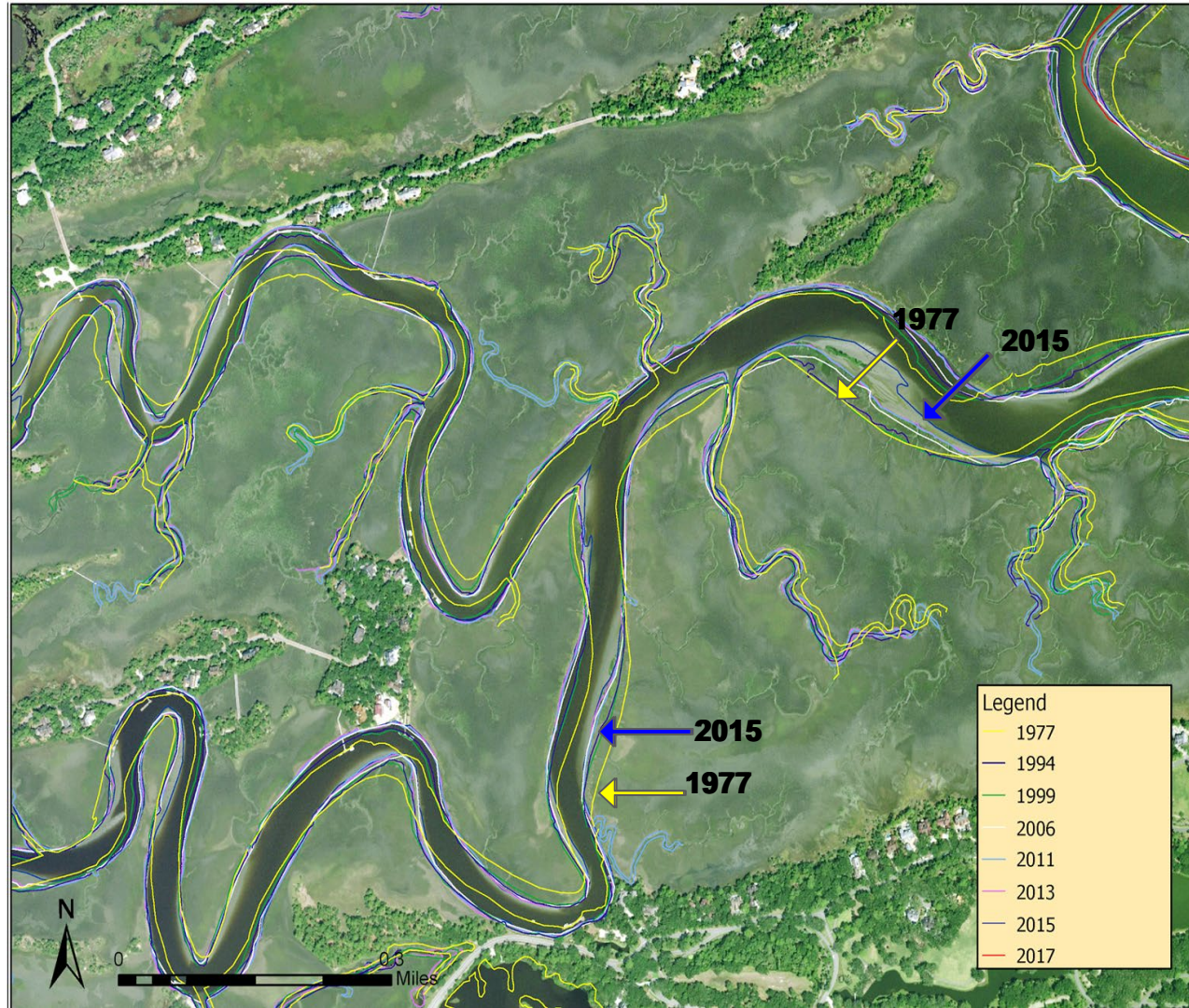
Legend

- 1977
- 1994
- 1999
- 2006
- 2011
- 2013
- 2015
- 2017

Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

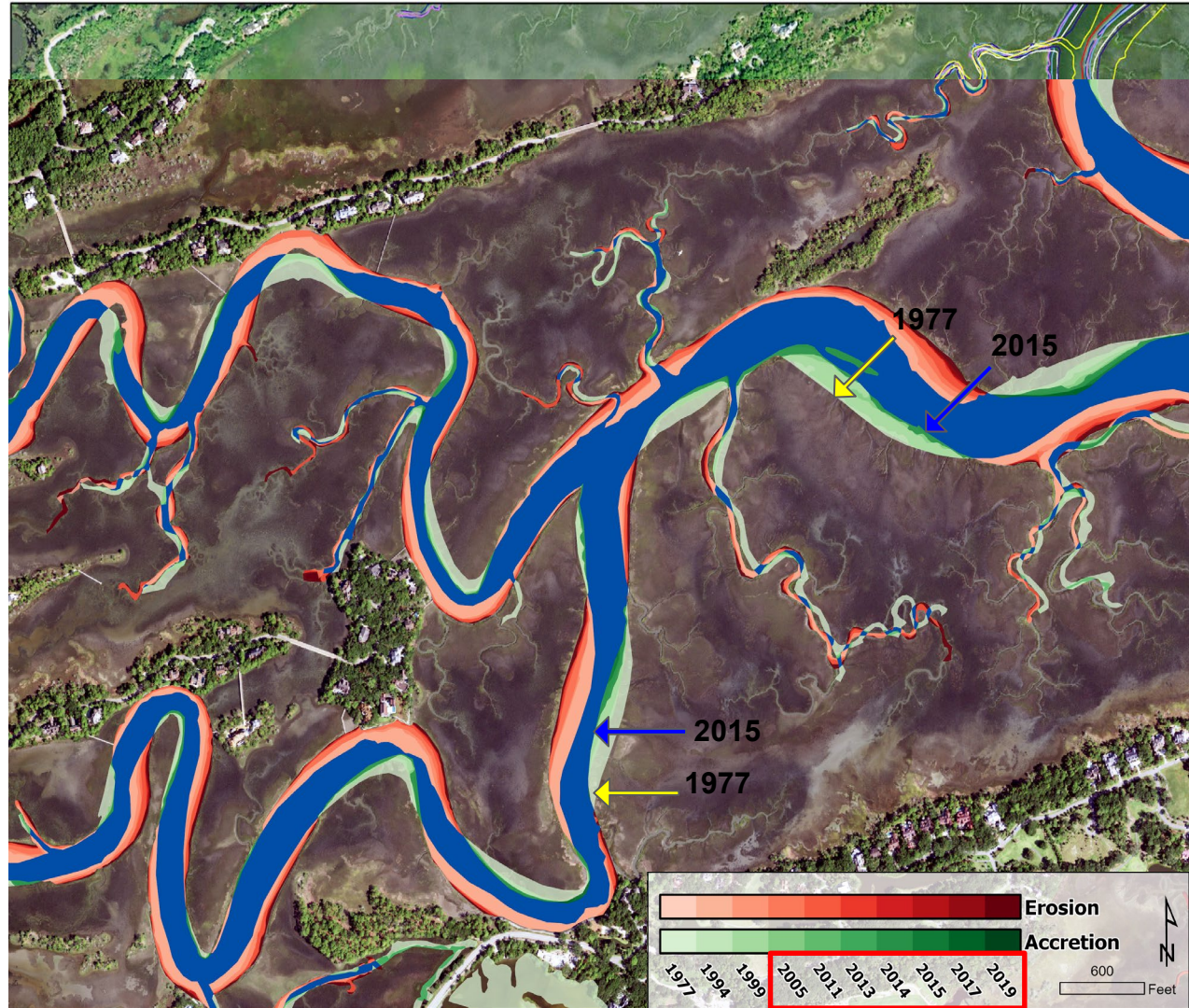
Confluence of Bass Creek and Cinder Creek

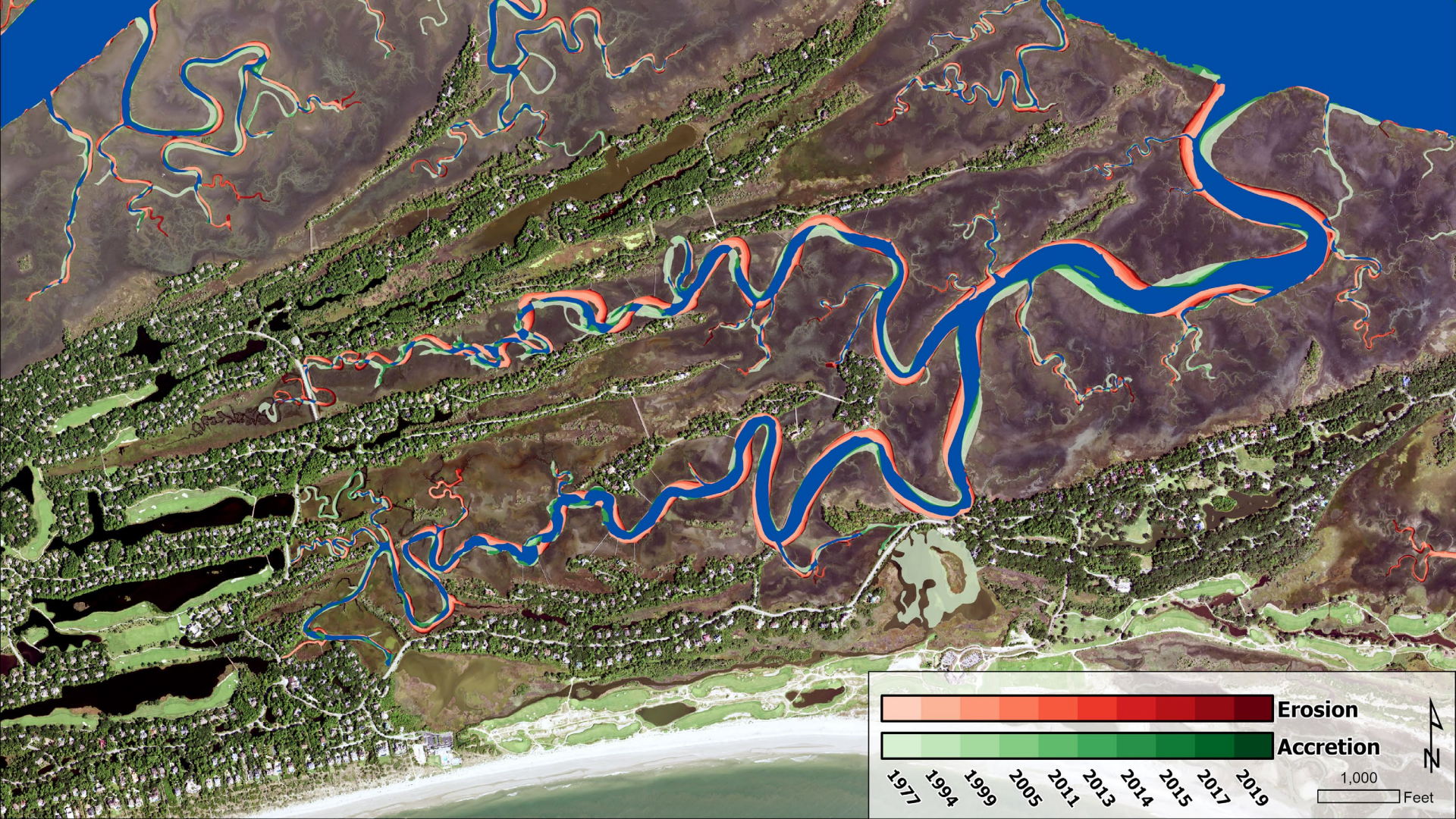
*North of Ocean Park
South of the Preserve*



Confluence of Bass Creek and Cinder Creek

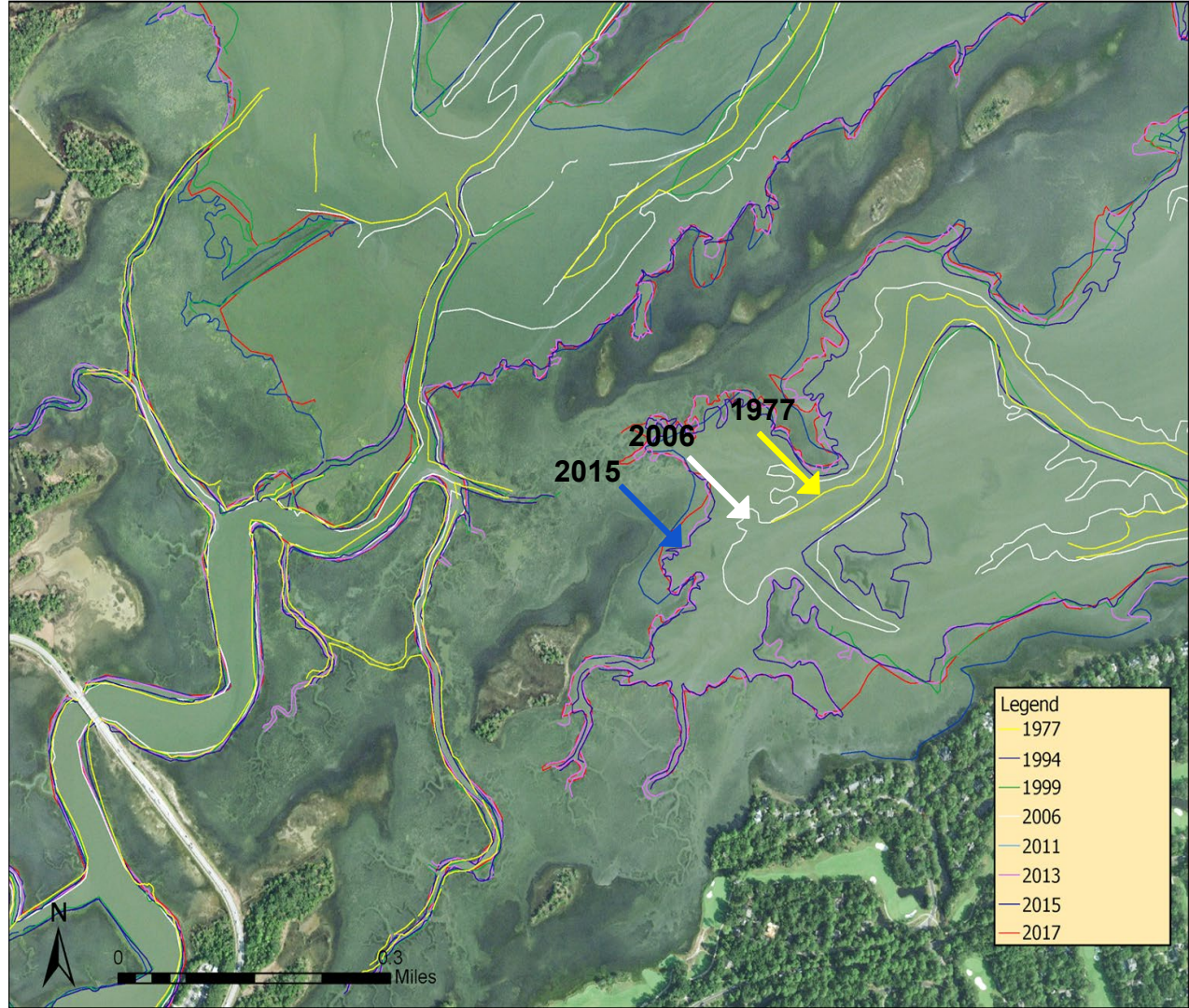
*North of Ocean Park
South of the Preserve*





Kiawah West End Marsh

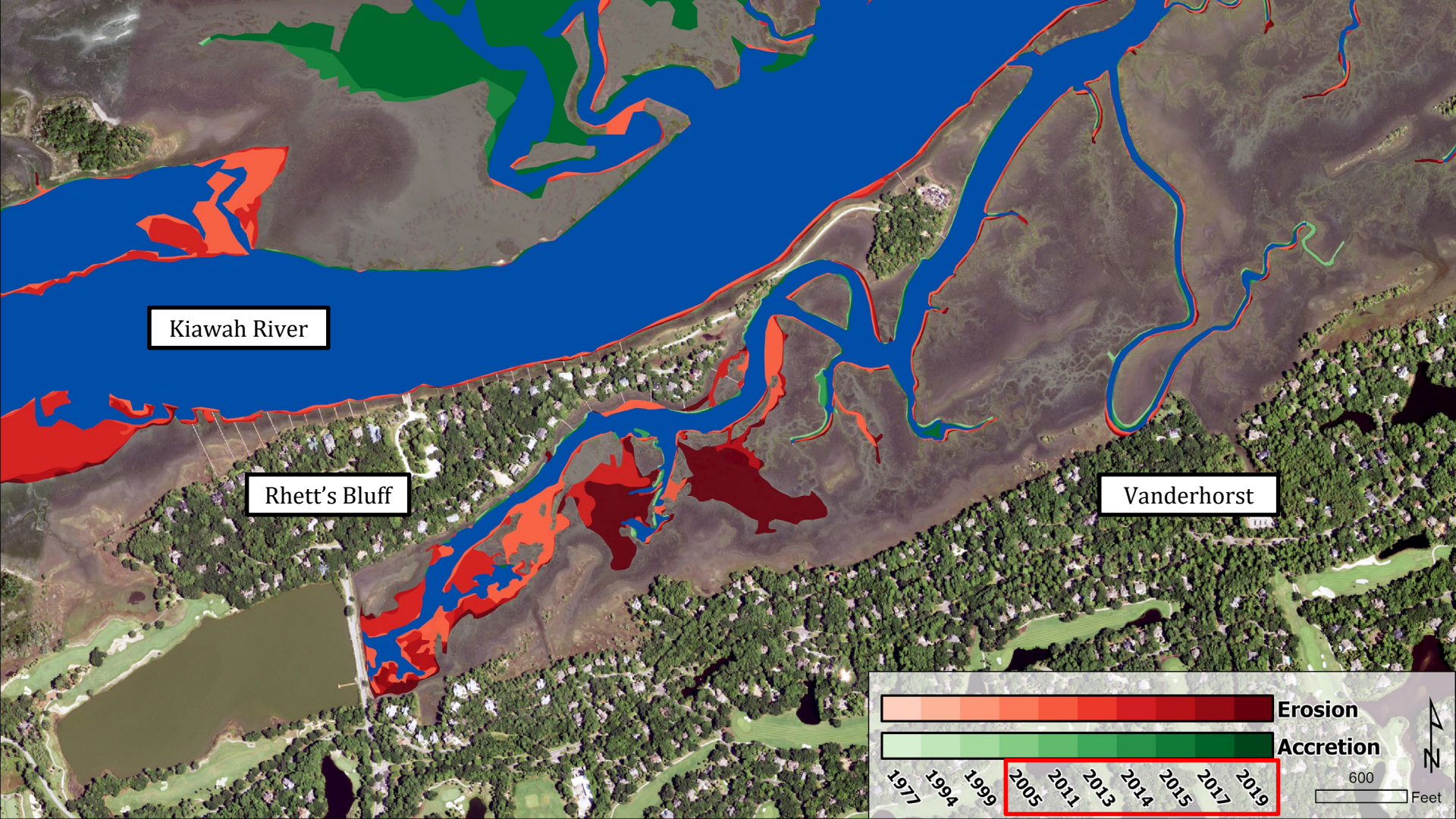
East of Kiawah River Bridge



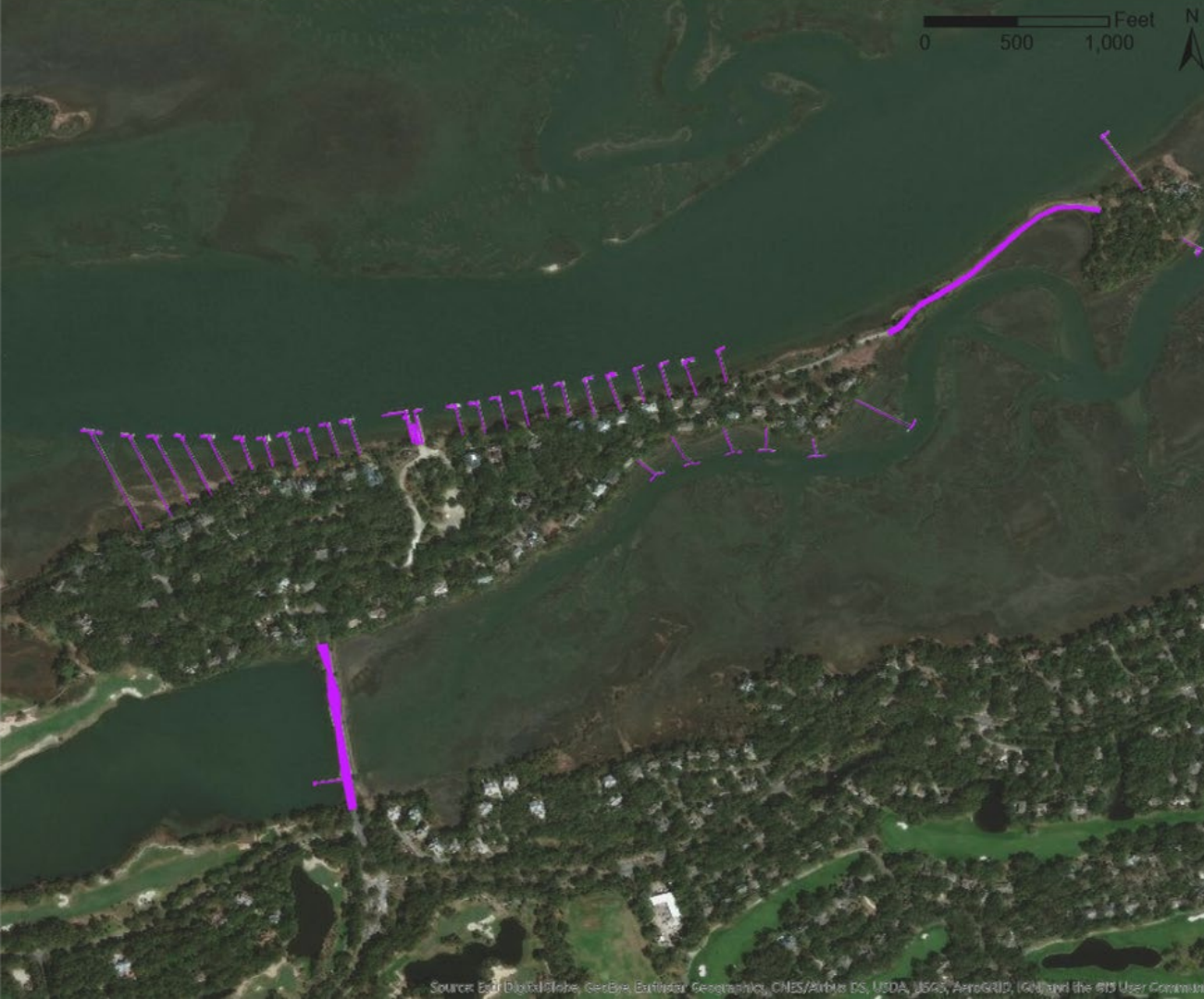
Kiawah West End Marsh

East of Kiawah River Bridge









Marsh Infrastructure

Rhett's Bluff
SCDHEC-OCRM

Marsh Infrastructure

College of Charleston

