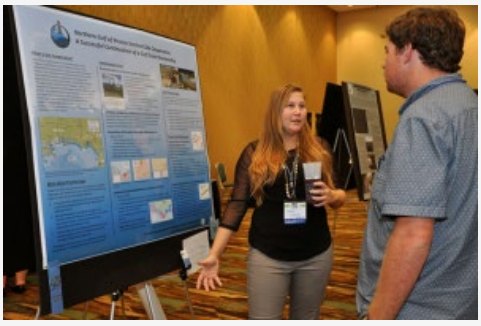
# Inventory of Continuously Operating Reference Stations in the Northern Gulf

The Northern Gulf of Mexico Sentinel Site Cooperative (NGOM SSC) brings together diverse partners to link regional and local resource managers, scientists, and community leaders with coastal data and research products that facilitateadaptation to sea level rise and coastal flooding. One way the NGOM SSC builds these connections is by improving what we know about the current elevation observing infrastructure across the Gulf region. This information is essential in the northern Gulf area, which is vulnerable to high rates of sea level rise and flooding. The NGOM SSC, Gulf Team, and the Northern Gulf Institute (NGI) awarded Casey Fulford an internship to inventory continuously operating reference stations (CORS) and to start identifying gaps in this infrastructure for sea-level rise observing in the Gulf region. CORS help to improve the accuracy of Global Positioning System (GPS) data.



Casey Fulford shares her research at the 2016 Bays and Bayous Symposium. Credit: Mississippi-Alabama Sea Grant

Fulford inventoried CORS across the five U.S. Gulf of Mexico states, bringing together different organizations and networks to understand current coverage. She worked closely with a project team that guided and defined the scope of the inventory. Over the summer, Fulford contacted and obtained information from network operators across the five states to locate individual CORS stations and different CORS networks. Fulford worked with 20 networks and identified 864 stations. Organizing the locations of stations from the 20 networks into one complete dataset yields a high-resolution snapshot of CORS coverage through the Gulf region. This helps inventory users understand the extent and quality of CORS data available in the Gulf, and begin assessing available CORS data for specific sea level rise related research projects and questions. The Gulf Coastal Plains and Ozarks Landscape Conservation Cooperative, an NGOM SSC partner, hosts this data set on their **Conservation Planning Atlas**.

Fulford experienced diverse and exciting opportunities during her internship. Thanks to additional funds from NOAA Office for Coastal Management, she attended multiple symposia and participated in visits to NERRs across the northern Gulf, networking to grow the project team and to expand end-user awareness of project products. She attended trainings, such as Planning and Facilitating Collaborative Meetings, to enhance her skills as a beneficial part of the NGOM SSC team. She presented her project to different groups, marketed the value of the project, and built lasting connections that continue past the end of the internship.

After the initial internship, Fulford was awarded a second internship directly through the NGOM SSC. She plans to build on the CORS inventory by analyzing where additional infrastructure would be beneficial. Fulford will assess existing CORS locations in relation to other existing observing infrastructure and look for data gaps where land is sinking. This will inform strategic installations of CORS in the future to improve understanding of sea level rise and related processes. Once completed, Fulford wishes to further her education and return to school for a master's degree.

For more information, please visit: **www.ngomssc.org**