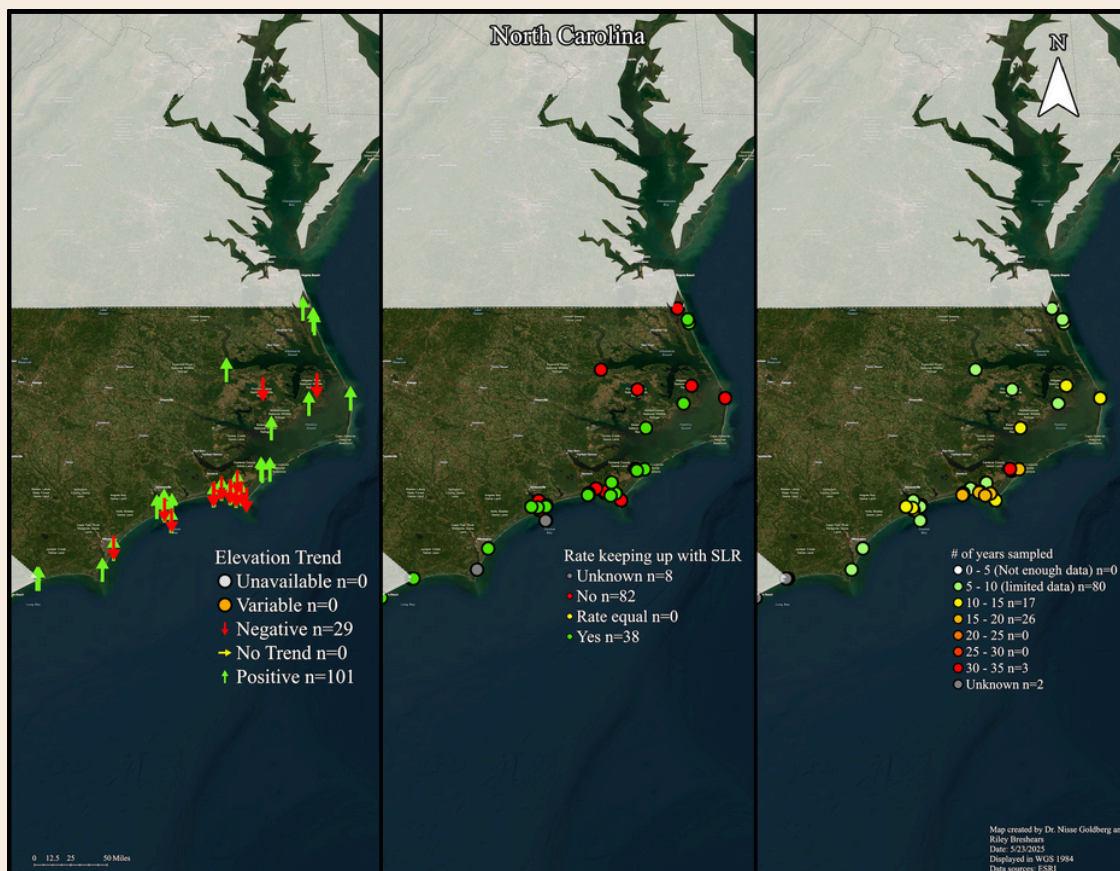
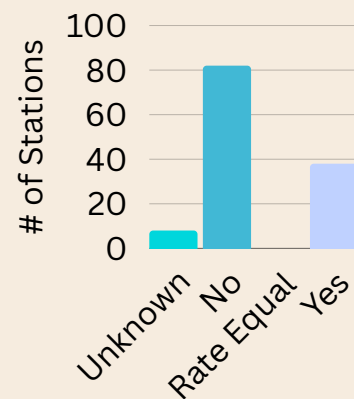


Elevation Trend Results

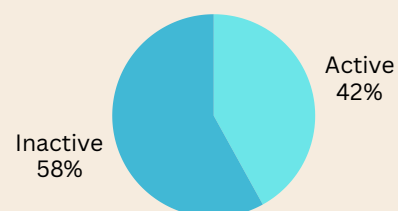
In North Carolina, **most SET monitoring stations (101 in total) show that elevation is increasing over time, which is due, in part, to accretion, where layers of sediment and decaying plant material contribute to the increase in elevation. At 29 SET stations, elevation is decreasing** due to subsidence, which can happen for reasons which may be a function of soil compacting over time. Even where increasing trends in elevation are recorded, **only 38 stations are gaining at a rate fast enough to keep up with predicted rates of sea-level rise (SLR), while 82 stations are not keeping up with SLR.** Most stations (43) have 10–20 years of data, which is not enough time to document long-term elevation trends using the SET methodology.



Are the Active SET Stations Keeping Up with Sea-Level Rise?



SET Station Status in North Carolina n=143



In summary, many of the SET-monitored marshes are naturally building up via accretion, while others are at risk of being submerged due to subsidence and/or SLR outpacing elevation increases, putting these areas at greater risk of flooding, erosion, and habitat loss. Continued SET monitoring is critical to understand the vulnerability of our marshes due to SLR and other drivers such as changes in sediment supply, land use practices, extreme weather events, and human interventions that impact these valuable ecosystems.

Ongoing research, public awareness, and proactive management are essential to guide effective responses. If we support natural processes that help marshes build elevation and allow rivers to deliver sediment, and we take steps to address factors that contribute to SLR, we can improve the chances of these important ecosystems continuing to protect our coastlines and providing other essential services such as carbon sequestration, water filtration, and habitat for wildlife. For questions about the data or more information, visit [SECOORA's Surface Elevation Table Community of Practice](#) or contact ngoldbe@ju.edu.