

Abstract for SCEC

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Community Wastewater Treatment Resilience Assessment

With the rising threat of climate change and cascading impacts from infrastructure failure there is a growing need to strengthen community resilience. Theoretical and practical resilience frameworks are available, but they vary in aim and scope; there is no standard tool to assess resilience. This research expands on the resilience matrix (RM) application methods of previous research completed by the United States Army Corps of Engineers (USACE) and Clemson University. That work focused on drinking water treatment systems and developed a few dozen specific indicators, or metrics, to quantify resilience. This research adds wastewater infrastructure with the aim of identifying vulnerabilities and strengths through resilience metrics specific to the wastewater domain. A resilience assessment tool will be developed and applied to several wastewater treatment systems in the upstate of South Carolina. This case study will provide important insight into the strengths and weaknesses of wastewater treatment systems related to their capacity to treat their community's wastewater.