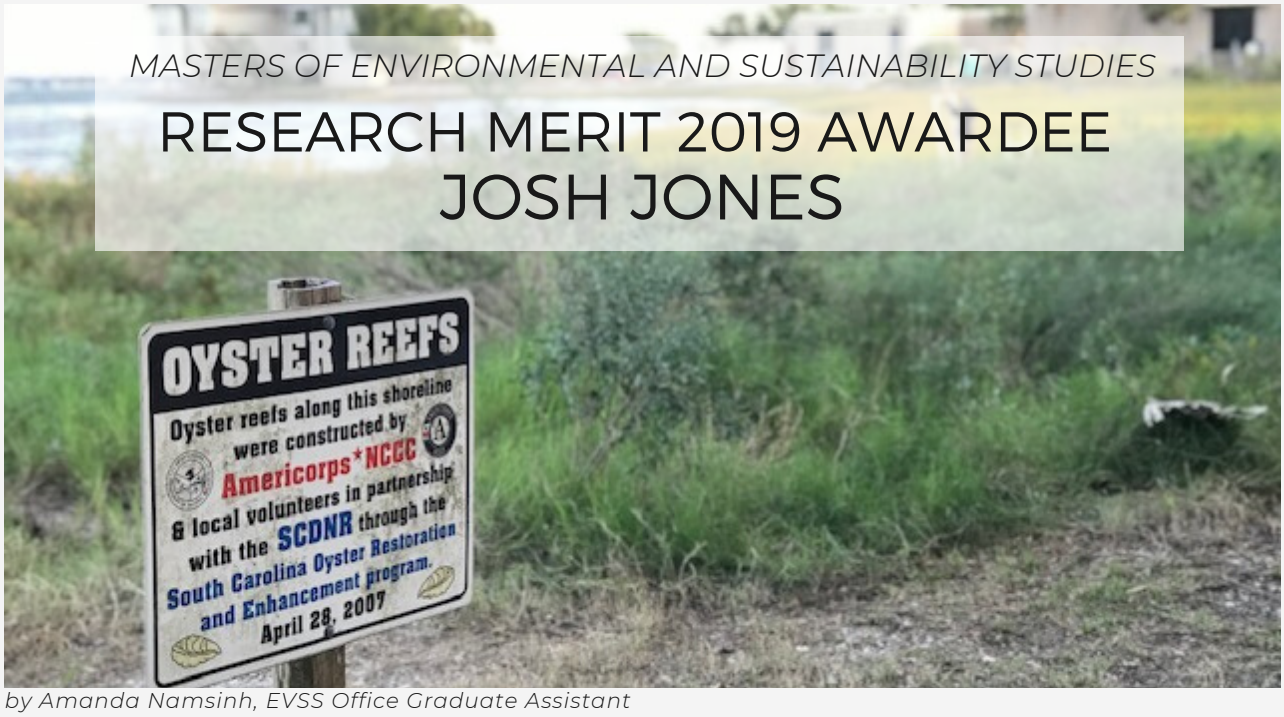
MASTERS OF ENVIRONMENTAL AND SUSTAINABILITY STUDIES

RESEARCH MERIT 2019 AWARDEE JOSH JONES



by Amanda Namsinh, EVSS Office Graduate Assistant
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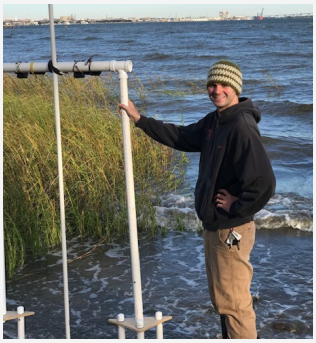
The Research Merit Award is a research grant of $13,000 that the Environmental and Sustainability Studies (EVSS) Masters Program uniquely offers their graduate students. This competitive grant is awarded to two students and their research advisor every academic year. Josh Jones and his advisor, Dr. Scott Harris, were granted the 2019 Research Merit Award to study the impacts of constructed oyster reefs on wave action of the Charleston area. His master's thesis research utilizes a stereoscopic video imaging technique, which utilizes two cameras positioned to simultaneously record and produce a 3-D like video. These cameras will be set up at three oyster reef locations at Fort Johnson, Port Royal Maritime Center, and Coosaw Cut. His research findings will contribute to the understanding of how living shorelines, specifically oyster reefs, affect wave action and will further refine this natural resource management practice.



Pictured: Josh Jones and his experimental set up.

Living shorelines are a method of natural resource management that protect and stabilize coasts from erosion, while also offering ecosystem services, like improving water quality through oyster reefs. Increased wave action during storm events threatens coastal infrastructure and exacerbates coastal erosion. As opposed to hard engineering efforts like cement seawalls or wooden groins, living shorelines can be made of natural, living things like oyster beds, marsh grass, or coral.

South Carolina Department of Natural Resources (SC DNR) has been implementing this practice along the SC coast, including Charleston. South Carolina's oyster populations struggle due to lack of optimal habitat. For new oyster reefs to be established, they need a hard substrate to attach to—which is lacking on the SC coast. SC DNR has been building suitable substrates out of recycled oysters shells through the South Carolina Oyster Recycling and Enhancement Program (SCORE) The SCORE program offers drop off sites for citizens to donate their shucked shells, However, shells are a finite resource and have been hard to come by. An alternate substrate that SC DNR has been experimenting with is cement-covered recycled wire mesh from old crab pots. Once an optimal foundation for a reef is established, juvenile oysters colonize to develop into an adult colony that will provide ecosystem services, like water filtration, habitat, wave attenuation, and providing a food source.

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