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Comparing Vegetation Cover in the Santee Experimental Forest, South Carolina (USA), Before and After Hurricane Hugo: 1989-2011

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COMPARING VEGETATION COVER IN THE SANTEE EXPERIMENTAL FOREST, SOUTH CAROLINA (USA), BEFORE AND AFTER HURRICANE HUGO: 1989-2011

by

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Under the Direction of Lawrence Kiage

ABSTRACT

Hurricane Hugo struck the coast of South Carolina on September 21, 1989 as a category 4 hurricane on the Saffir-Simpson Scale. Landsat Thematic mapper was utilized to determine the extent of damage experienced at the Santee Experimental Forest (SEF) (a part of Francis Marion National Forest) in South Carolina. Normalized Difference Vegetation Index (NDVI) and the change detection techniques were used to determine initial forest damage and to monitor the recovery over a 22-year period following Hurricane Hugo. According to the results from the NDVI analysis the SEF made a full recovery after a 10-year period. The remote sensing techniques used were effective in identifying the damage as well as the recovery.

INDEX WORDS: Hurricane damage, Normalized Difference Vegetation Index, Change detection, Hurricane Hugo, Coastal Plain Forest recovery

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Abstract

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