

# Utilizing Satellite and UAS Imagery to Document Land Cover Trends Impacting Water Quality, Wildlife Habitats and Archeology of the Ocmulgee River Corridor

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**Reference:** McDowell RJ, CA Pruitt, RA Bahn (eds.), *Proceedings of the 2015 Georgia Water Resources Conference*, April 28-29, 2015, University of Georgia, Athens.

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**Abstract.** The NASA DEVELOP Ocmulgee River Water Resources and Ecological Forecasting team partnered with the Georgia Department of Natural Resources (GA DNR) to conduct a project focused on conserving the Ocmulgee River corridor. The corridor is home to unique species such as Atlantic sturgeon, short nosed sturgeon, black bear, and millions of migratory birds. It also holds a rich archaeological record of Native American settlement. Over the years, this area has experienced increasing urbanization pressure. The goal of this project was to analyze land cover trends over the past 15 years using National Land Cover Dataset (NLCD) classifications and Landsat 8 images to predict future changes within the Ocmulgee River watersheds. With this goal in mind, a current land cover map was created and the team performed a time-series analysis. Threatened and endangered species habitats and hydrologic characteristics were overlaid with the classification maps to identify areas of concern. Using the results of this project, GA DNR decision makers will be able to predict the impacts of environmental change on water quality and prioritize water resource management along the Ocmulgee River.