

GATOREYE UNMANNED FLYING LABORATORY

A McIntire-Stennis supported project since 2017

The GatorEye Unmanned Flying Laboratory is a key element of the University of Florida, School of Forest Resource and Conservation (SFRC), Spatial Ecology and Conservation (SPEC) Lab's McIntire-Stennis project developing a *Multi-Platform Multi-Sensor Framework for Monitoring Forest Productivity, Chemistry And Water Stress*.

Threats to forests, nationally and internationally, are numerous, scaling from individual leaves to entire counties. They can have easily identifiable outcomes, such as degradation from hurricanes or tornadoes, or be more subtle and difficult to detect, such as water stress or leaf discoloration from insect pathogens.

Today, the volume and types of data available to locate, map and diagnosis impacts is unprecedented. For example, we now have access to daily global high-res satellite images, continental networks of tower bioclimatic data, aircraft, and now drones with advanced sensor suites.

Overall, our program, initiated in 2017, seeks to develop a framework to integrate this multitude of new geospatial data sources to efficiently identify, map and monitor our forests - now and into the future.



About McIntire-Stennis

The McIntire-Stennis program, a unique federal-state partnership, cultivates and delivers forestry and natural resource innovations for a better future. By advancing research and education that increases the understanding of emerging challenges and fosters the development of relevant solutions, the McIntire-Stennis program has ensured healthy resilient forests and communities and an exceptional natural resources workforce since 1962.



COLLABORATION

Projects include collaborators, e.g., USFS, from over 20 institutions across the Americas.



IMPACT

SFRC's SPEC Lab has led the development of the GatorEye UFL, which combines a lidar (lasers), hyperspectral, and visual sensors to collect unprecedented volumes of data measuring forest dynamics and health, and in the process is pushing the frontier of ecological remote sensing data fusion and analysis.



7+ Countries

The GatorEye is actively collecting data in Peru, Brazil, Panama, Costa Rica, Mexico, USA, and throughout the Caribbean.



Over \$2 Million in Funded Grants

The system has been incorporated into over \$2,000,000 in funded proposals.