

**Archbold—University of Florida Range Cattle Research & Education Center, LTAR,
south-central Florida**

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The Archbold—UF RCREC sites (www.maerc.org; rcrec-ona.ifas.ufl.edu) have a >70-year history of research, conservation, and education programs focused on enhancing agricultural production and preserving natural resources associated with subtropical humid grassland and shrub landscapes in Florida. Interdisciplinary research at the Archbold—UF RCREC address the complex functioning of agricultural and natural lands within the region. Educational programs provide science-based information that supports decision-making strategies to maintain the sustainability of agroecosystems in this region. Climate is characterized by subtropical conditions with an average annual precipitation of ~ 1650 mm (> 65% occurring from June to October) and average minimum and maximum daily temperatures ranging from 16.9 to 28.2° C.

The Archbold—UF RCREC consists of three research sites dispersed across agricultural and conservation lands throughout south central Florida, totaling nearly 9,000 ha. Land use includes ~ 6,500-ha sown and semi-native pastures and native rangelands, and ~2,500-ha of globally-threatened Florida scrub ecosystem of the Lake Wales Ridge. The sites are strategically located in an ecologically-sensitive region, including the headwaters of the Everglades. Encompassing 3 working ranches with 4,800 cattle, they serve as living laboratories to understand the impacts of agriculture on water and soil resources, and biodiversity. From the production perspective, sites reside in the heart of Florida's grazing lands, with nearly 80% of Florida's cow-calf production found within 240 km, as well as surrounding lands dedicated to citrus and row crops. Additionally, because of the strong educational and outreach components of the Archbold—UF RCREC mission there is a close relationship with a diverse clientele. Archbold—UF RCREC works closely with ranchers, conservationists, and policy makers. Research-based information is disseminated widely to rural and urban stakeholders. Partners include federal, state and local government agencies, trade organizations (e.g., Florida Cattlemen's Association) conservation groups (e.g. The Nature Conservancy) and other academic institutions.

Principle research emphases of the Archbold—UF RCREC related to the LTAR network are:

1. Evaluating the relationships among land use and management, agricultural production, and regulating and supporting ecosystem services (e.g., biodiversity) in a changing climate.
2. Evaluating nutrient dynamics, water quality, and hydrologic regimens in relation to land use and management across multiple scales.
3. Understanding the role of grazing and other land management practices on soil carbon sequestration and greenhouse gas net balance, to inform climate change mitigation and adaptation.
4. Assessing the effectiveness of conservation and restoration programs such as the USDA Wetland Reserve Program and the USDA Wildlife Habitat Improvement Program.
5. Providing education and outreach to diverse clientele