Fruit & Vegetable Supply Chains
Climate Adaptation & Mitigation Opportunities

A multi-disciplinary, multi-institutional team co-led by the University of Florida and ILSI Research Foundation

Crop Modeling
The University of Florida, Washington State University, and the University of Illinois at Urbana-Champaign are determining current and future climate and water availability impacts on yield and quality of selected crops.

Economic Modeling
The International Food Policy Research Institute and World Agricultural Economic and Environmental Services are extrapolating current and future prices and production costs of selected crops.

Life-Cycle Assessment (LCA) Modeling
The University of Arkansas is examining current and potential future fruit and vegetable value chains to identify and evaluate cost-effective adaptation and mitigation opportunities.

Stakeholders & Extension
The ILSI Research Foundation, University of Florida, and Washington State University are engaging with stakeholders and decision makers to ensure models reflect realistic practices and provide actionable information.
Enhancing the productivity, resilience, and sustainability of domestic fruit and vegetable systems

**Objectives**
- Identify and test climate adaptation and mitigation intervention strategies that can be applied to enhance sustainability and resilience of fruit and vegetable supply chains in the United States.
- Provide actionable strategies that contribute to a nutritious, reliable, affordable, and environmentally sound food supply.

**Desired Impact**
- Supply decision makers, growers, and other stakeholders in fruit and vegetable supply chains with science-based evidence to adapt to climate change and mitigate environmental footprints (greenhouse gas emissions, land, and water).
- Sustainably deliver the nutritional value associated with greater consumption of fruits and vegetables, which is central to improving diets and combatting obesity in the United States.

**Modeling Workflow**

- **Crop Models**
  - Needs: H₂O, N, P
  - Yield
  - Scale: Crop Reporting District

- **Hydrology Model**
  - H₂O Availability

- **Domestic Economic Model**
  - Acres Profitability

- **International Economic Model**
  - C and H₂O Footprints (for crop production)

- **Land Use Change**
- **Mitigation Scenarios**
- **Domestic Fruit and Vegetable Production and Prices**
- **Life Cycle Assessment (LCA) Model**