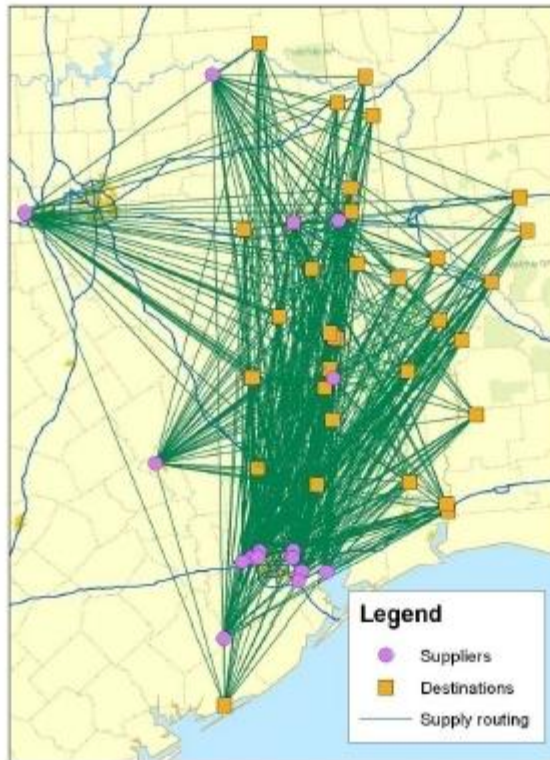# National Biorefinery Siting Model

Project Overview

Goal: To develop a biomass supply chain optimization model for the United States

☐ Develop an integrated model of the biomass supply chain from field/forest to final product distribution

☐ Integrate optimization routines for determining the configuration with maximum profit

☐ Deliver results that inform policies and enable detailed analysis of resource supply and sustainable use.

National Biorefinery Siting Model

Feedstock Assessment

Completed Resource Datasets

Bioenergy Resources

- Agricultural crop residues (corn stover, wheat straw)
- Tallow and yellow grease
- Orchard and vineyard trimmings
- Forest thinnings slash, mill waste, and pulp wood
- Energy crops (switchgrass, mixed grass, big bluestem)
- Corn and select oilseeds
  (soy and canola)
- Municipal Solid Waste

National Biorefinery Siting Model

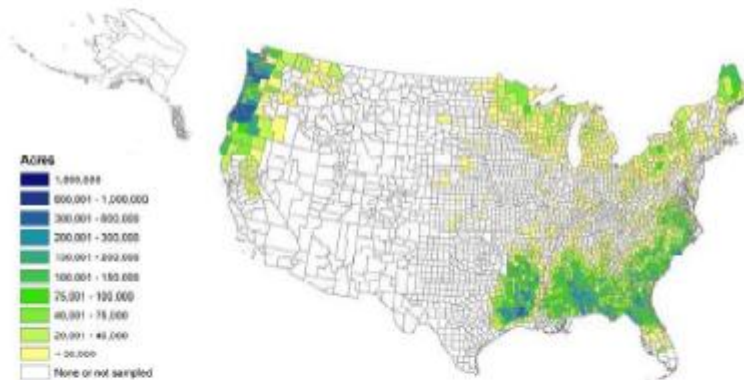## Spatial Optimization

Biomass Supply Chain
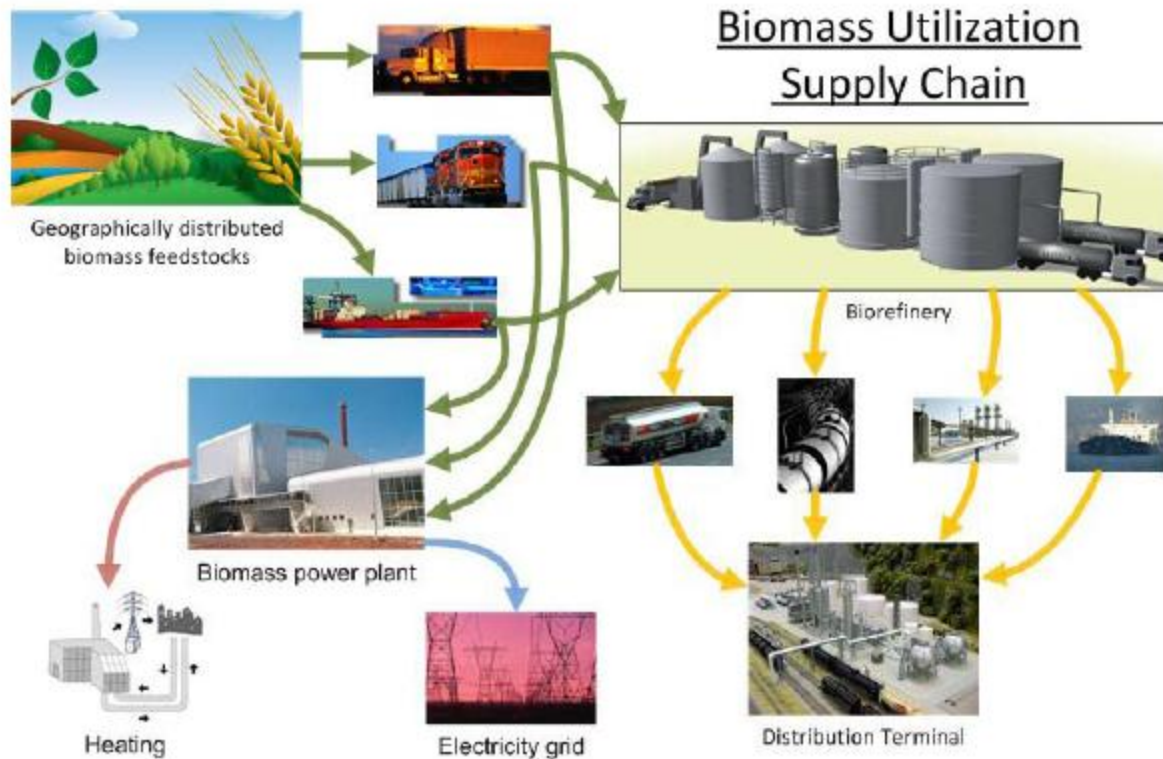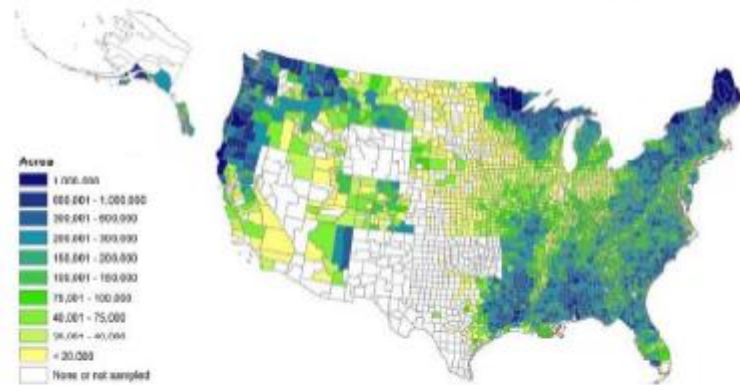
National Biorefinery Siting Model

Sample Results

Legislative Definitions of Biomass

Area of Timberland Qualifying Under the 2007 Energy Act

Area of Timberland Qualifying Under the 2008 Farm Bill

National Biorefinery Siting Model

Spatial Optimization

Lignocellulosic biofuel production
at $4.00/gge

Biorefineries
Feedstock production
Tons of feedstock
13.5 - 52,768
52,769 - 113,103
113,103 - 196,939
196,939 - 338,585
338,585 - 611,050