# BioFuels Atlas

Kristi Moriarty

NREL

May 12, 2011

# Introduction

- **BioFuels Atlas is a first-pass visualization tool that allows users to explore the potential of biomass-to-biofuels conversions at different locations and scales**

- **Tool highlights areas for biofuels production and infrastructure deployment**

- **Launched September 2010**

- **Over 10,500 site visits since launch**

- **Funded by DOE Biomass Program**

# Approach

- **Web-based platform**
  - OpenCarto-NREL developed this platform for multiple geospatial tools of shared code, updates, maintenance, and consistent functionality
  - Seven tools share the platform reducing development, maintenance, and updating costs (a potential 7:1 return for every dollar invested)
- **Data Layers**
  - Consistent and reliable data sources: DOE, EPA, USDA
  - Crop residues, methane, secondary mill and urban residues were calculated based on logical assumptions and methodologies
- **Analysis**
  - Biofuels potential based on user selected feedstocks and collection radius
  - Calculation based on feedstock chemistry (EERE Biomass Composition and Property Database) and yield (70% of EERE Theoretical Ethanol Yield Calculator)
  - User can change inputs and recalculate potential biofuels yields
- **State Summary View & Tables-**Traditional & Bioenergy data included

# Screen Shots-Initial Screen
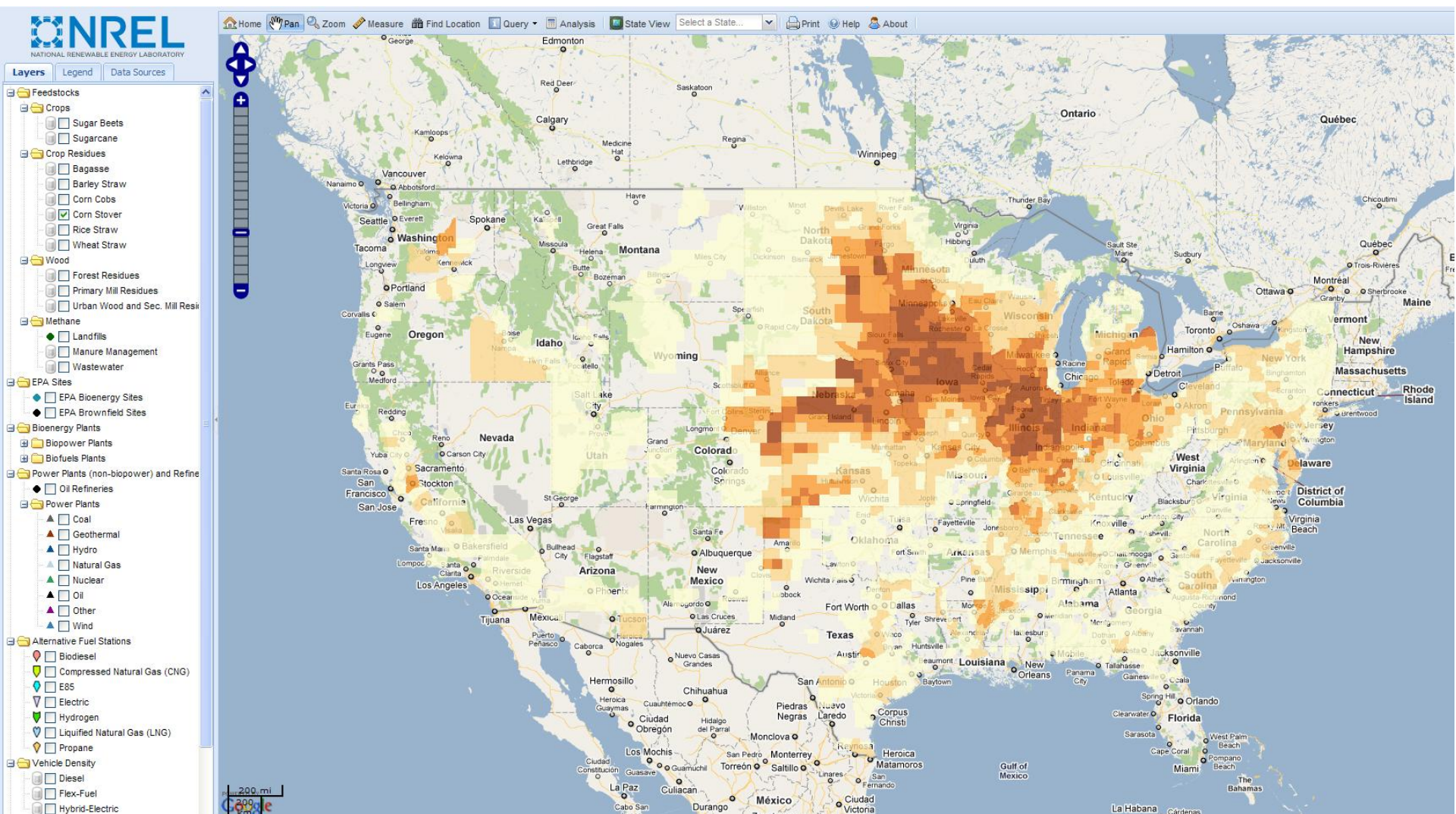
# Query Functionality



Regional Query- blue highlights counties in region selected

Tabs for each data layer queried

Detailed data for each data layer; including infrastructure info; can download to excel

# Analysis Functionality



**Potential biofuels production from selected feedstocks**

**User selects feedstocks for analysis**

**User enter radius**

**Tool sums each feedstock total for each county in radius**

**Input assumptions; user can change and re-calculate**

# State View-Functionality



**Download state tables and data sources**

**Summary of state fossil fuel use & infrastructure**

**Summary of state bioenergy production, use & infrastructure**

**Summary totals for each feedstock and biofuels potential**