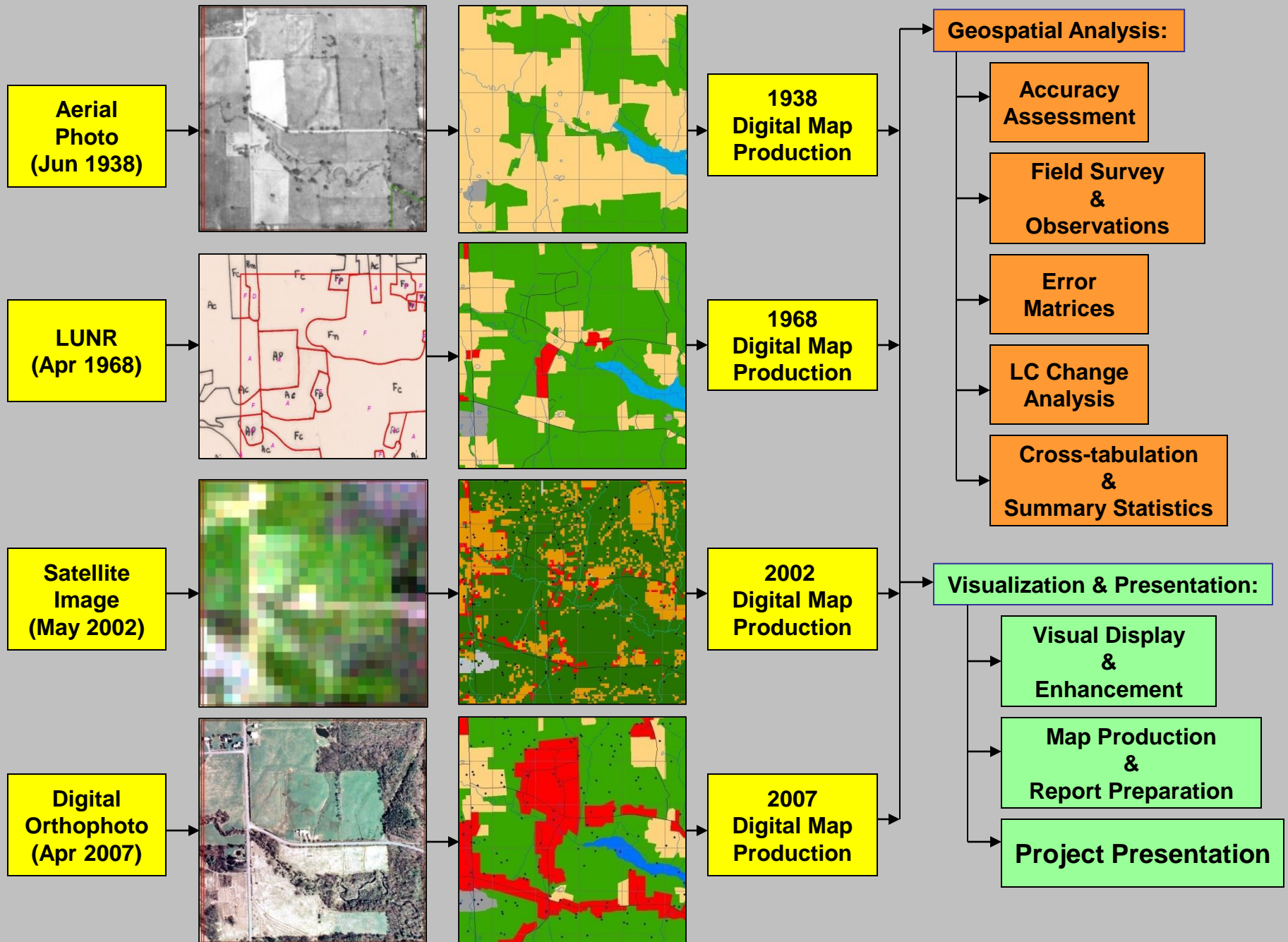


Steve DeGloria

Professor of Resource Inventory & Analysis
Director, IRIS
Department of Crop and Soil Sciences

- **Teaching (70%):**
 - CSS 4110/CEE 4110 Environmental Information Science (**spring 2011 > fall 2012**)
 - CSS 4200 Geographic Information Systems (**fall 2011 > spring 2012**)
 - CSS 4650 Global Positioning System (**spring**)
 - CSS 6200/NTRES 6200 Spatial Modeling & Analysis (**spring**)
- **Research (30%):**
 - **Reflectance spectroscopy for estimating soil properties (continuing; Neafsey)**
 - **New initiative: USFWS NWI Plus (pending)**
 - **Soil potassium supplying power from soil geographic databases (poster)**
 - **Tools and Incentives for C, N, and Greenhouse Gas Accounting and Management in Corn Cropping Systems (pending; Wolfe et al.)**

CSS 4110 Project: Land Cover Change Assessment (1938 – 2007)



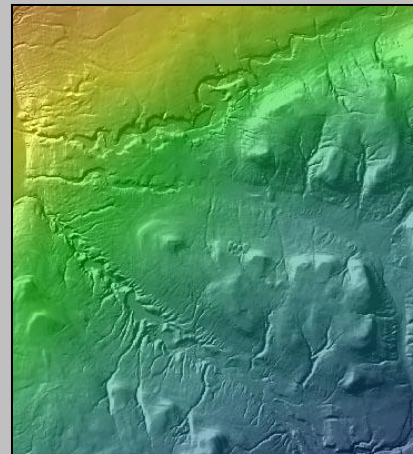
**CSS 4200:
Agro-Ecological Zoning and Site Suitability Assessment
for Biofuel Crop Production**

Global Properties:



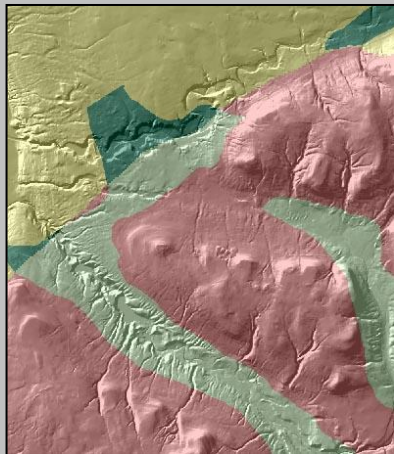
Soil Drainage

+



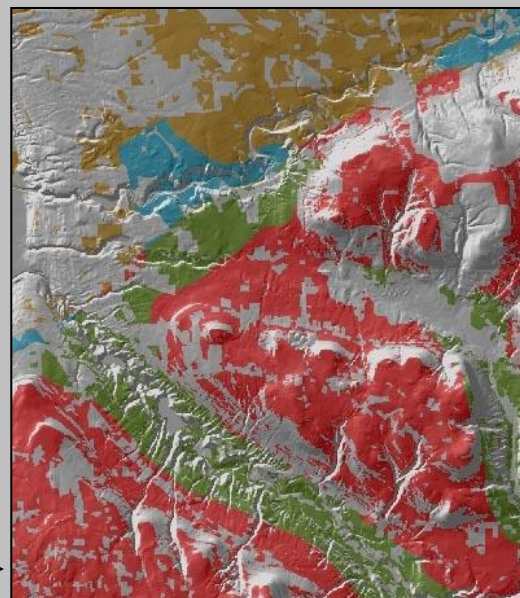
GDD50

→



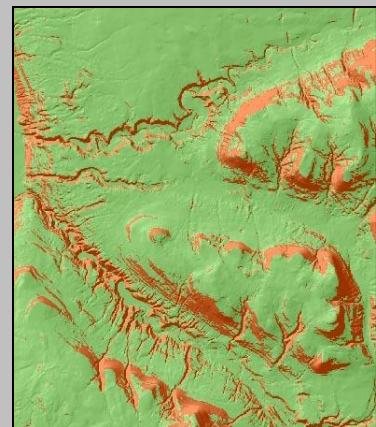
= AEZ

→



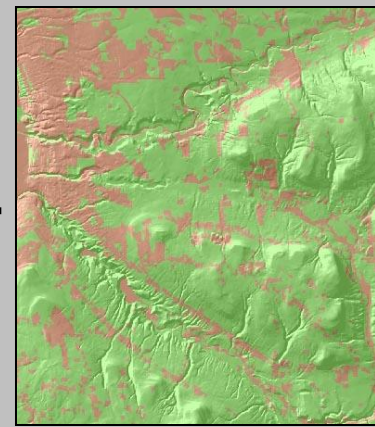
AEZ Biosuitability

Local Constraints:



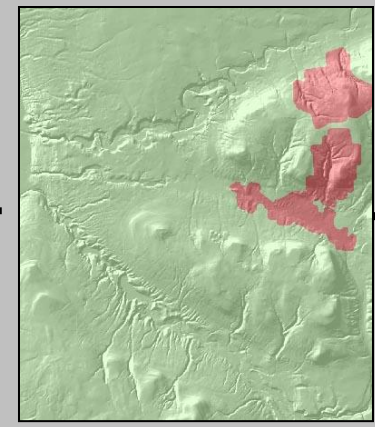
Slope Gradient

+



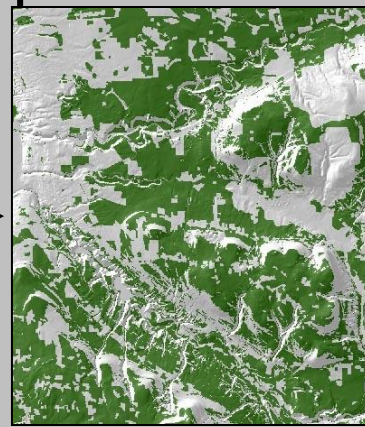
Land Cover

+



Unique Natural Areas

→



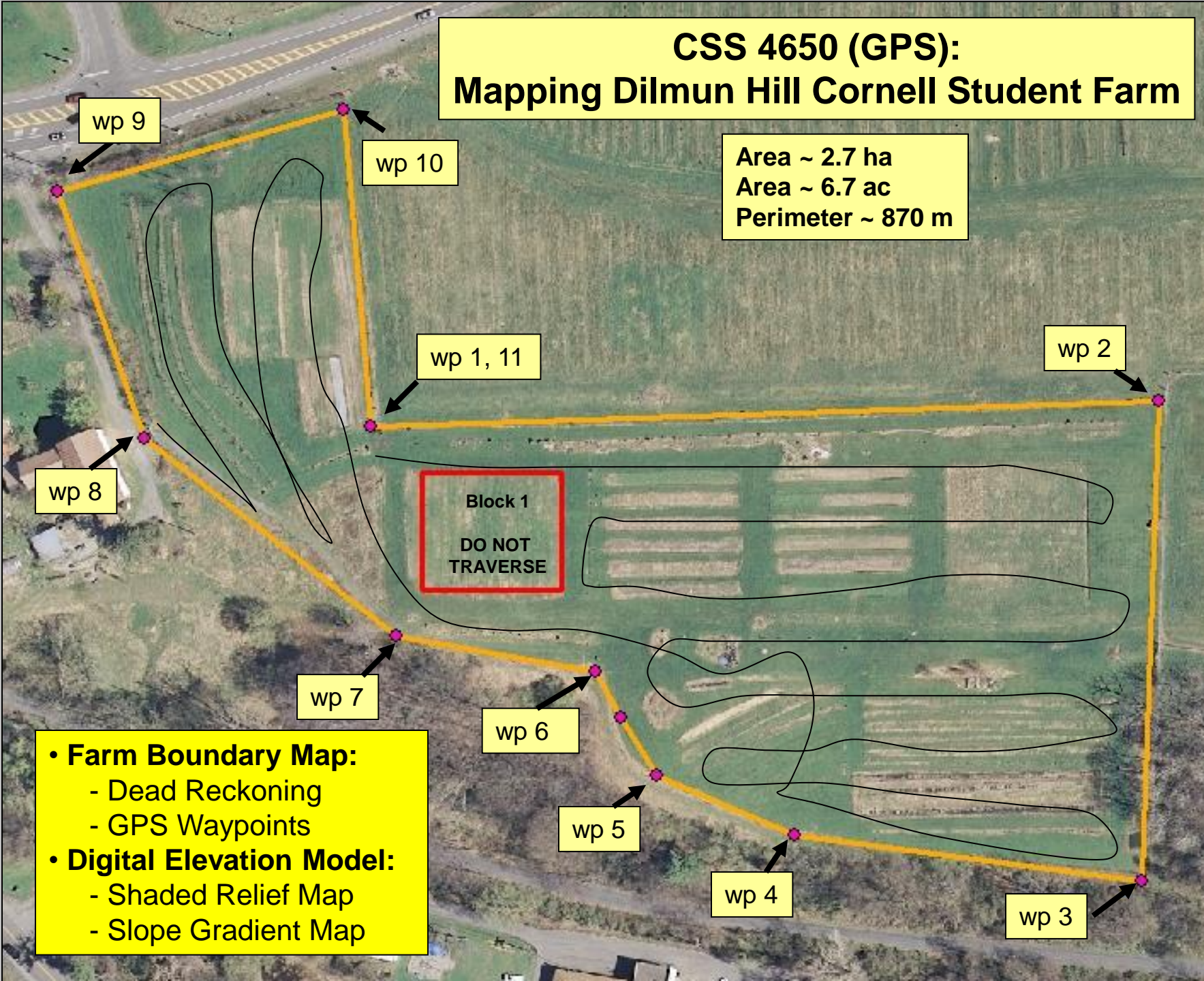
= Biosuitability

CSS 4650 (GPS): Mapping Dilmun Hill Cornell Student Farm

Area ~ 2.7 ha
Area ~ 6.7 ac
Perimeter ~ 870 m

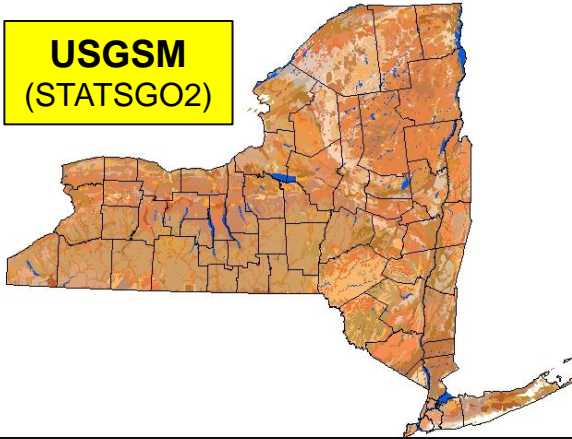
Block 1
DO NOT
TRAVERSE

- **Farm Boundary Map:**
 - Dead Reckoning
 - GPS Waypoints
- **Digital Elevation Model:**
 - Shaded Relief Map
 - Slope Gradient Map



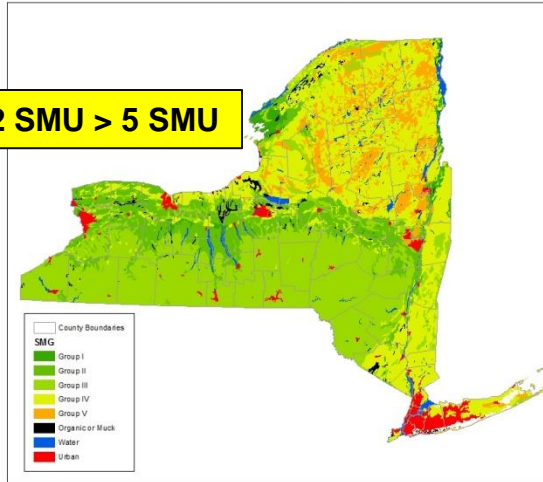
Soil Potassium Supplying Power from Soil Geographic Databases

**USGSM
(STATSGO2)**



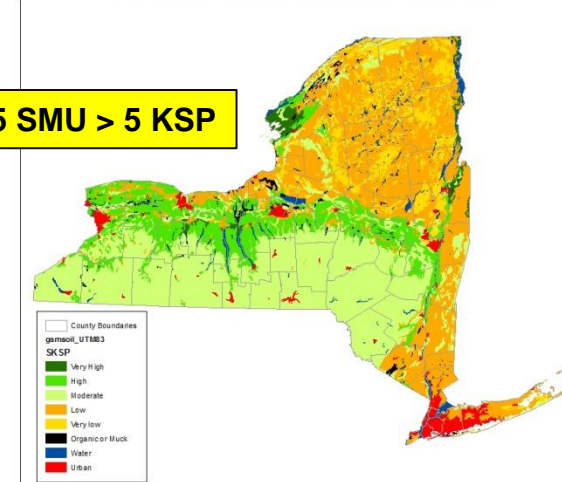
Soil Management Groups (SMG)

172 SMU > 5 SMU



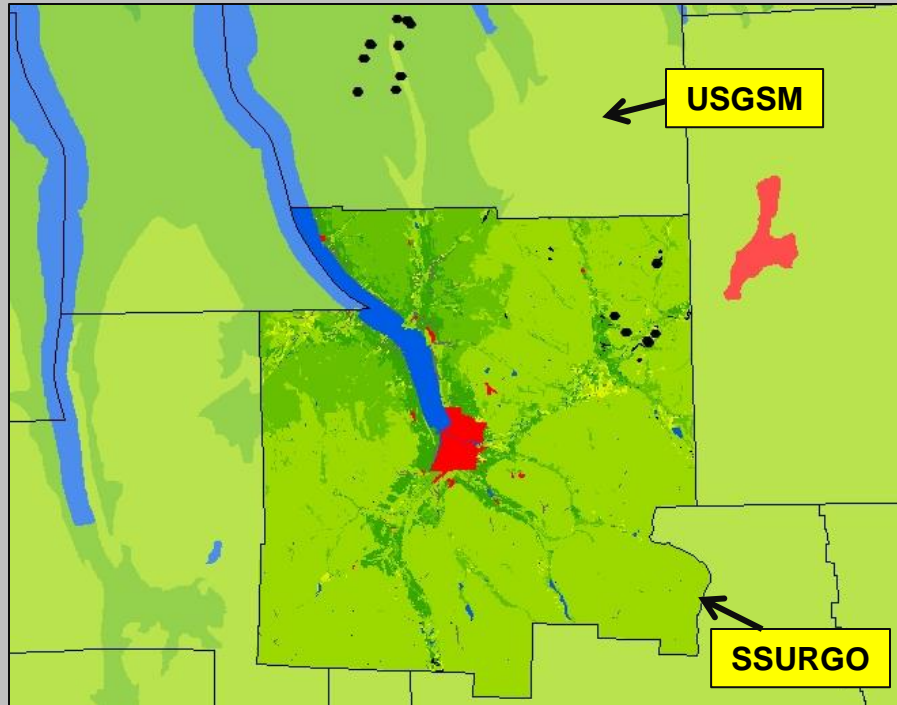
Soil Potassium Supplying Power (SKSP)

5 SMU > 5 KSP



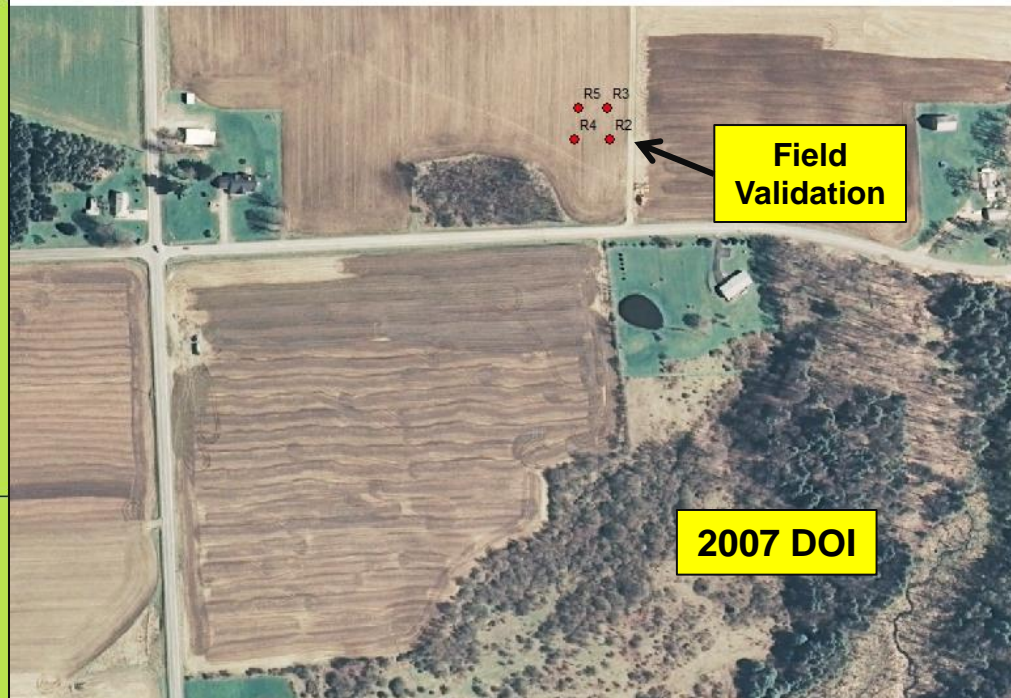
USGSM

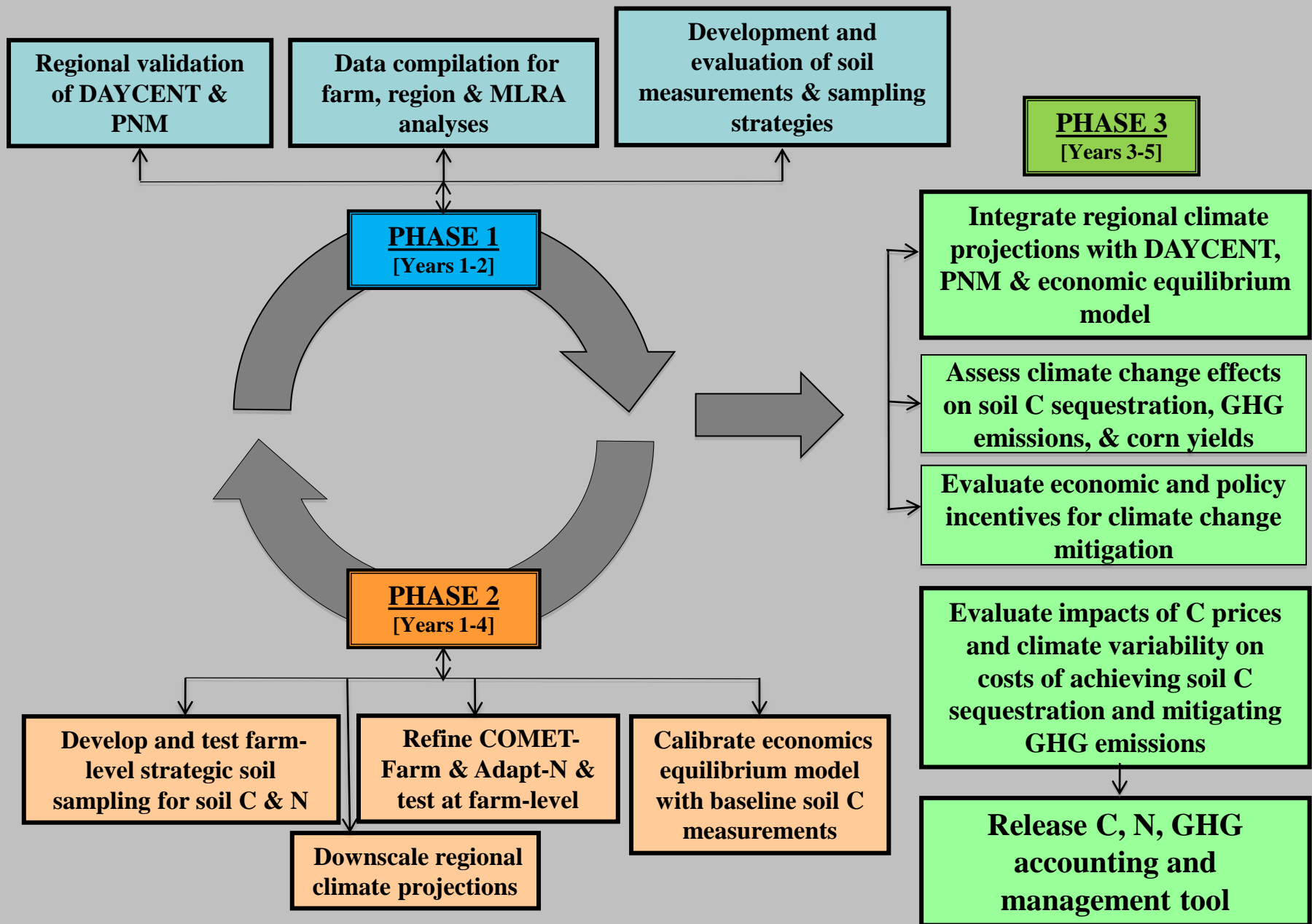
SSURGO



**Field
Validation**

2007 DOI





New Tools and Incentives for Carbon, Nitrogen, and Greenhouse Gas Accounting and Management in Corn Cropping Systems (Pending)