




Using GIS Technology for Economic Development

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Greenfield

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GIS for ED

Not just about what
the technology can
do.....

But more about what
you can do with the
technology!



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❖ Old way – BEFORE GIS

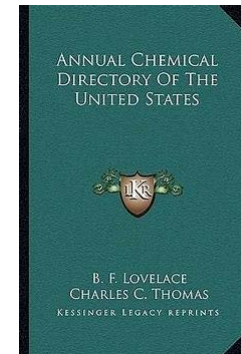
❖ Maps

- ❖ Courthouse – Register of Deeds office
- ❖ Print copies
- ❖ Draw on them to create/combine data layers



❖ Business info

- ❖ Yellow pages
- ❖ Chamber lists
- ❖ Trade association directories



❖ Analysis of a large area was extremely time-consuming



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✿ Today

- ✿ County GIS website

 - ✿ Static info to view

- ✿ GIS desktop and cloud access

 - ✿ Interactive applications

 - ✿ Create a database to search and sort

 - ✿ Add specific data for any project

 - ✿ Proprietary data

 - ✿ Large area comparisons

- ✿ Not all states promote open access to info as well as NC



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✿ ED uses

✿ For comparative analysis /
decision- making

✿ Engineering uses

✿ For planning / design



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ED uses

Marketing

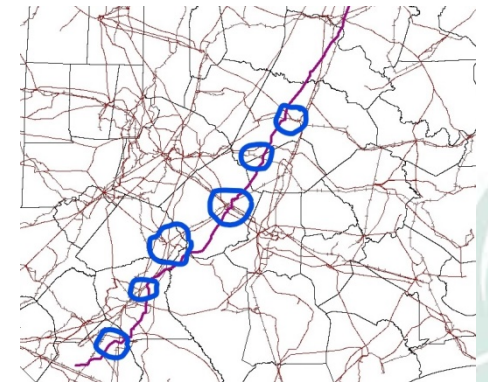
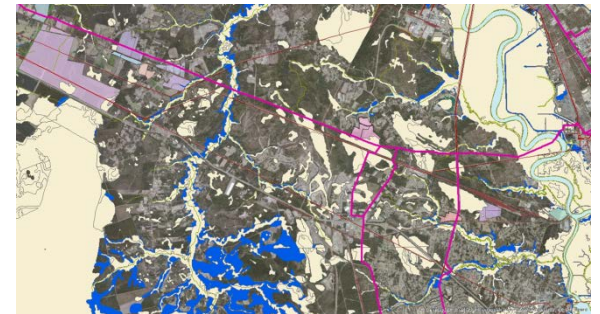
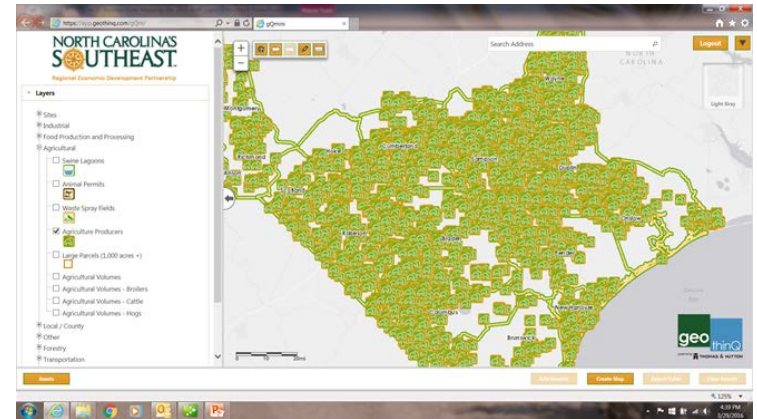
- Visual and geographic representation of asset clusters / infrastructure
 - To sell new business
 - To help grow existing business
 - To show off your available sites
- Customer access to data

Product development

- Identify and evaluate multiple sites
- With multiple layers of information

Large area analysis

- Compare and evaluate info from more than one county / source



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✦ Recent Greenfield projects



✦ NCSE / NC Biotech biomass asset inventory

✦ Project partner Thomas & Hutton



✦ NCRR potential sites

✦ Project partner Benchmark Planning

✦ Transylvania best industrial park site



✦ CMCOCG land use analysis/cluster development

✦ Project partner Benchmark Planning

✦ Project Rock site search



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✿ NCRR potential sites

✿ To identify, catalog and evaluate all potential industrial rail sites in the State of NC

✿ All rail lines

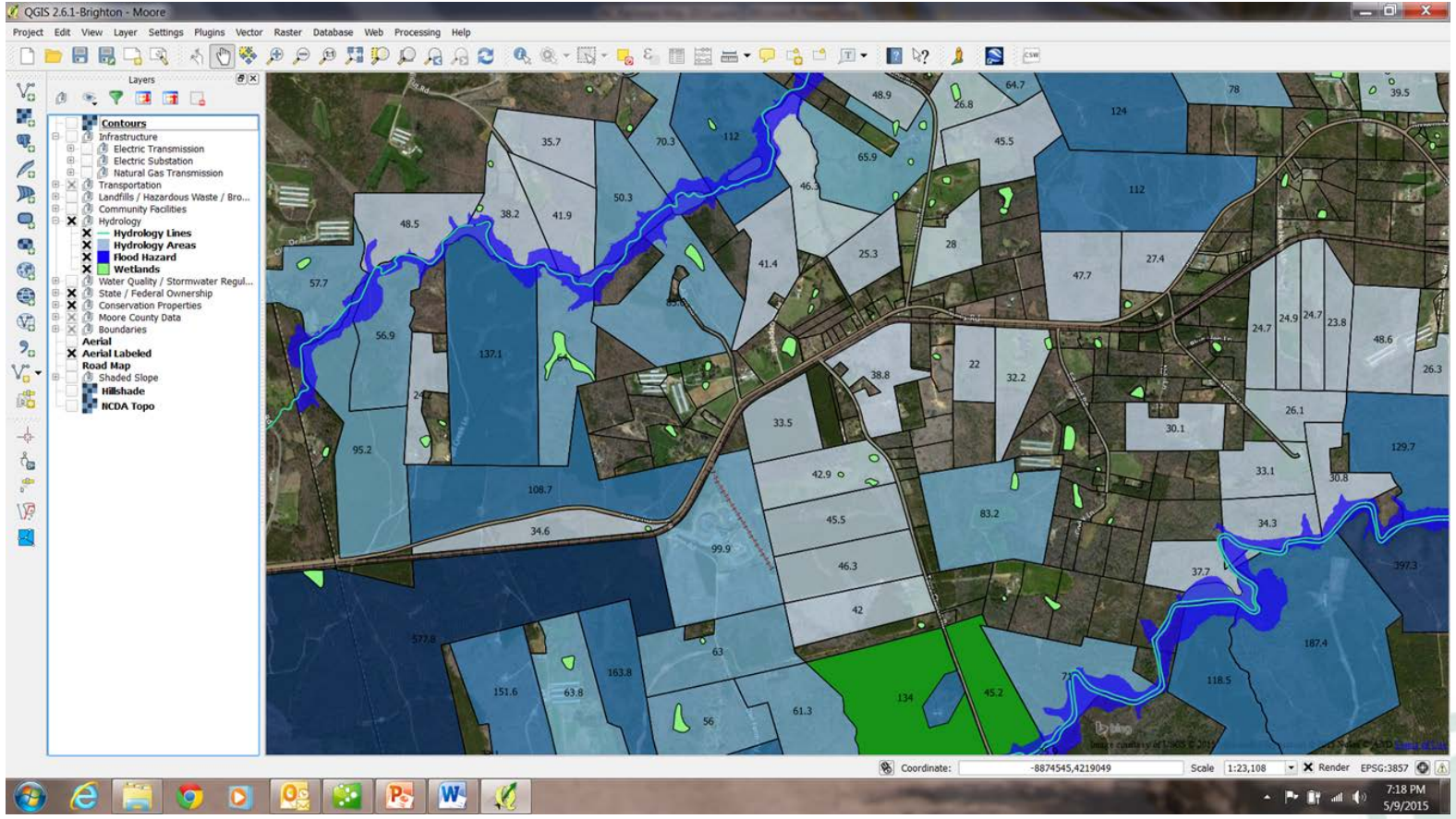
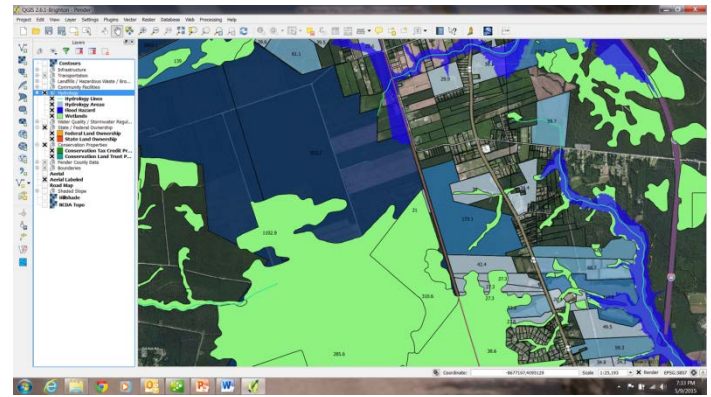
✿ 88 counties

✿ 6809 sq mi



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ID layers



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✿ Almost 3000 site areas identified

575 sites over 500 ac



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✿ Automated evaluation

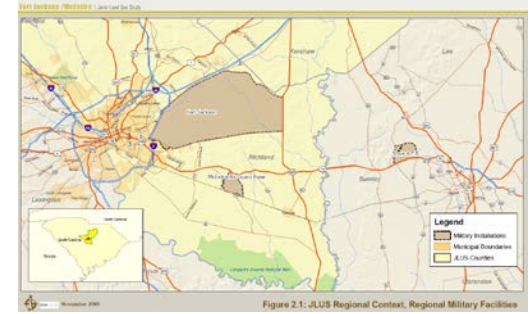
✿ Search and sort based on site selection criteria for most rail projects

✿ 172 sites on 5 lists of “best” sites for

- ✿ Best interstate
- ✿ Best 4 lane
- ✿ Best major river
- ✿ Best gas
- ✿ Best electric



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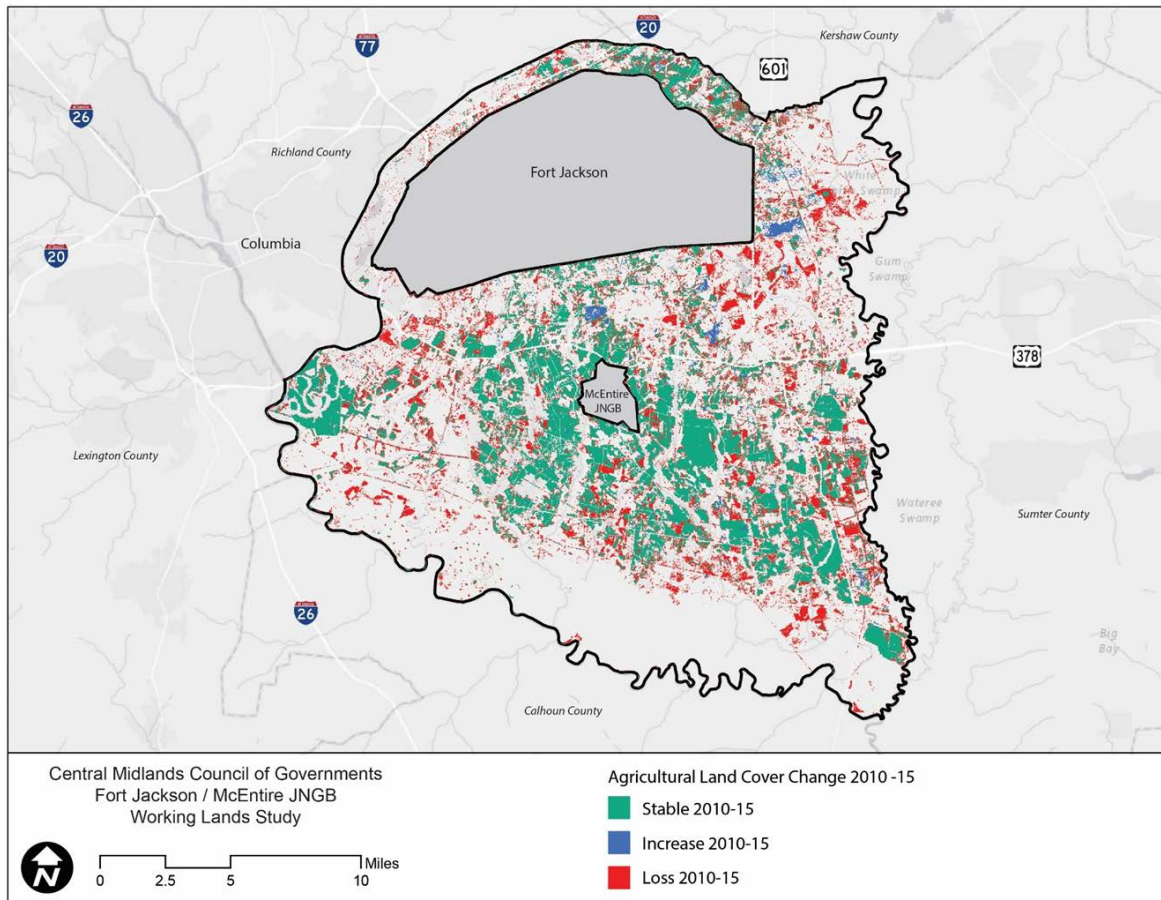
✿ Central Midlands Council of Governments Working Lands Study

- ✿ Recommend strategies to use agriculture to buffer military lands around Forts Jackson and McEntire, (Columbia, SC)
- ✿ They wanted to grow the local food economy
- ✿ Based on our analysis of land types, existing cluster assets and the marketplace, we recommended that a better use was growing the wood products cluster



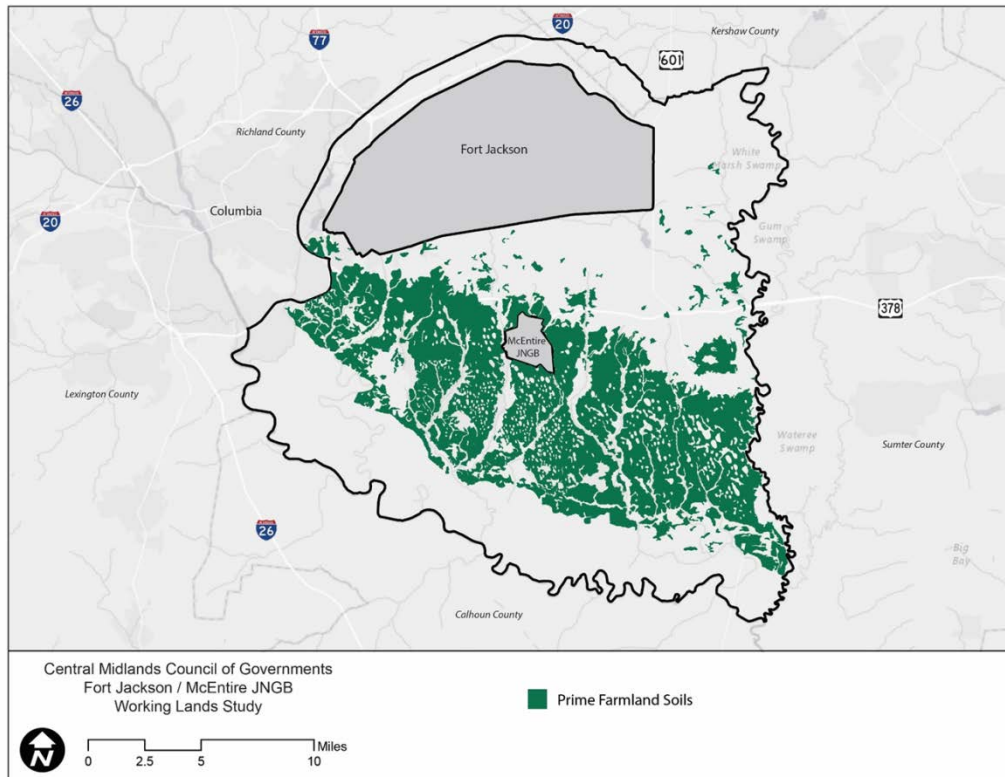
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✿ Encroaching development risk for military operations



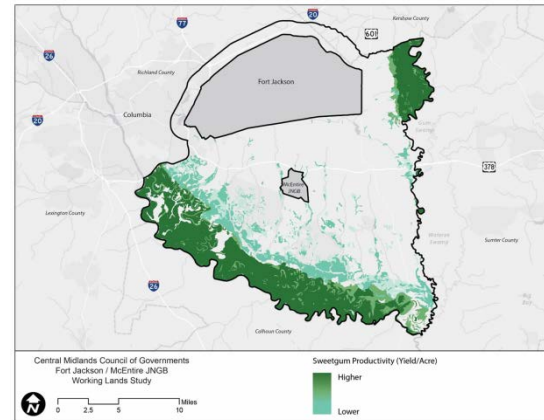
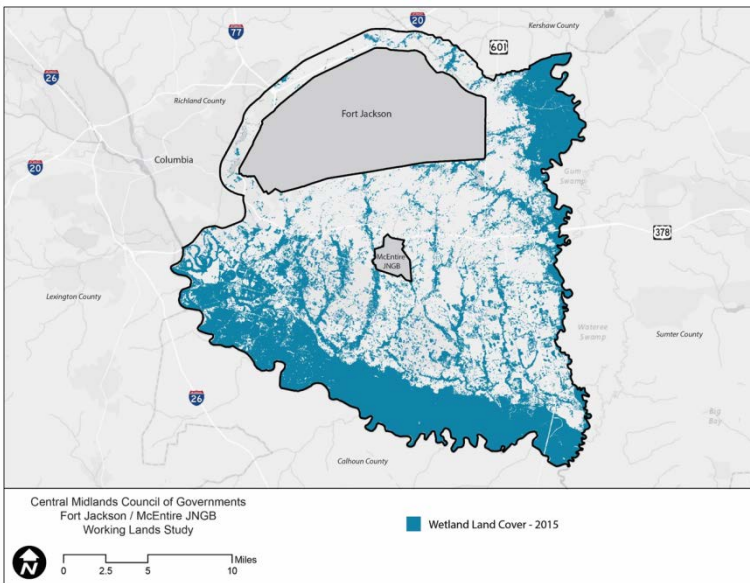
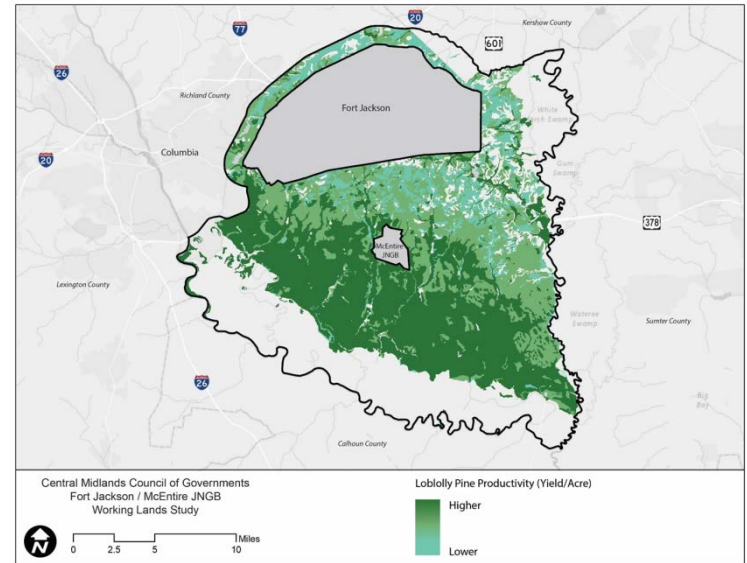
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- ✿ Prime farmland soils not located in the direct buffer areas around Ft Jackson



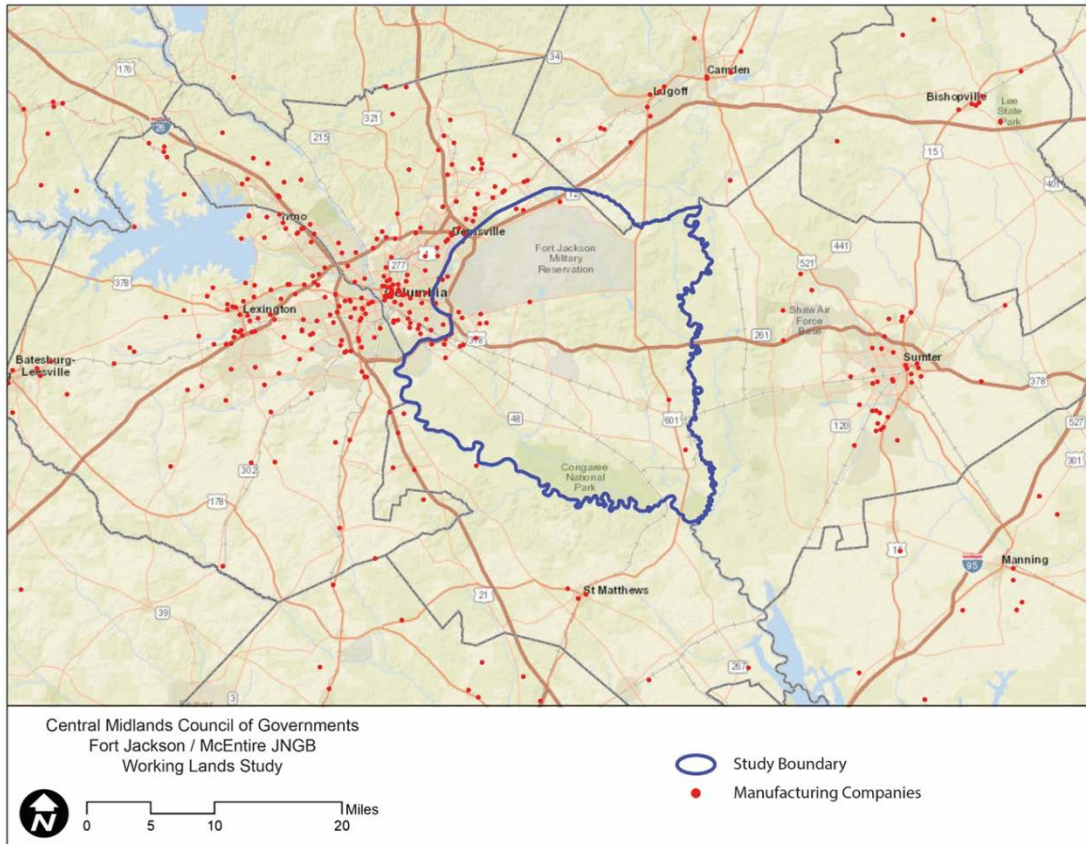
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- Land more well-suited for
 - Timber production
 - Conservation



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✿ Manufacturing facilities that use agricultural inputs



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🌿 Project Rock

🌿 Translate site selection criteria into searchable data layers - examples

🌿 Physical issues – capital costs

- 🌿 Parcels – ownership / tax value
- 🌿 Infrastructure – rail access
- 🌿 Wetlands / topo
- 🌿 Brownfield sites

🌿 Business issues – operating costs

- 🌿 City limits (additional tax jurisdictions)
- 🌿 Proximity to customers, port, highway

🌿 Risk issues – local opposition, regulatory hurdles

- 🌿 Distance from schools, hospitals, residential areas
- 🌿 Air non-attainment areas



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✦ Limitations – data not perfect

- ✦ Final decisions still need “eyes on”
 - ✦ Data can sometimes be wrong or deceiving

✦ Dates on data layers

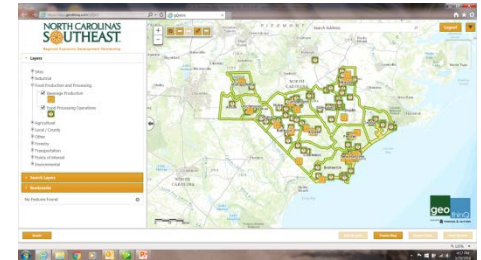
- ✦ Lat / long positions of companies not always precise
 - ✦ Can be mailing address, not physical address



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❖ NCSE Biorenewable and Biotechnology Asset Inventory (NC Biotechnology Center)

- ❖ Identify and catalogue Region's assets
- ❖ Create interactive application
- ❖ Analyze alignment of assets and industry sectors
- ❖ Create marketing strategies to target emerging technologies and companies



- ❖ Ultimately.... to facilitate industrial biotechnology company recruitment, existing industry expansion, and new company development



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❖ NCSE Biomass App

❖ 8000+ entities grouped into search layers

❖ Input assets

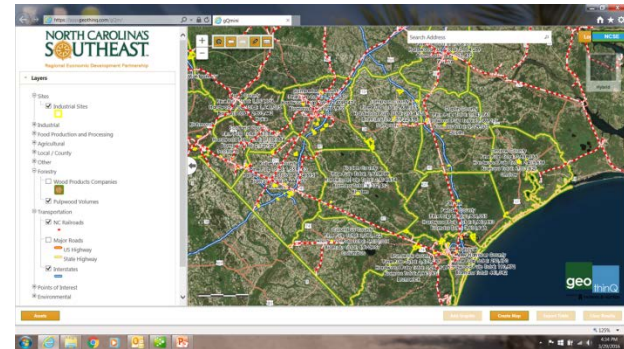
❖ User assets

❖ Support assets

❖ Other layers

❖ Transportation

❖ Infrastructure



❖ Designed as user-friendly, visual representation of data

❖ Can be searched, downloaded, and used in many ways

❖ Analyzed strengths, unique offerings

❖ For marketing key messages

❖ To design marketing program recommendations



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❖ NCSE Biomass App examples

- ❖ Biomass power plant siting - demo

- ❖ Biogas facility siting

 - ❖ Swine lagoons, waste treatment plants

 - ❖ Food processors, natural textiles

 - ❖ 50 mile radius around most dense cluster

 - ❖ Natural gas lines

 - ❖ Competitors

- ❖ Poultry processing plant siting

 - ❖ Agriculture volumes (poultry)

 - ❖ Competitors

 - ❖ 1000 ac parcels

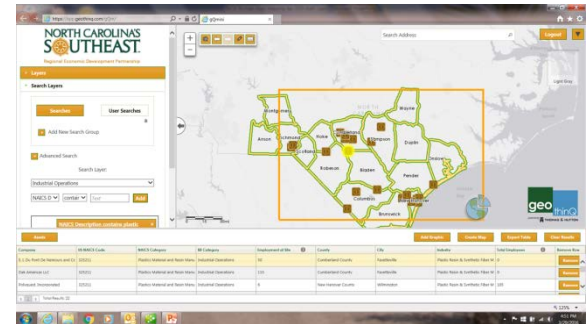
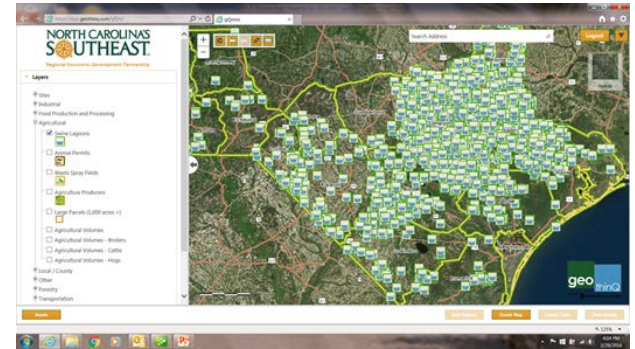
- ❖ Existing waste hauler

 - ❖ Restaurants and convenience stores

- ❖ Plastics recycler

 - ❖ Existing producers

 - ❖ Transportation infrastructure



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Questions ??



“All labor that uplifts humanity has dignity and importance, and should be undertaken with painstaking excellence.”

Martin Luther King, Jr.

*Vision without action is a daydream.
Action without vision is a nightmare.*

Japanese Proverb

