



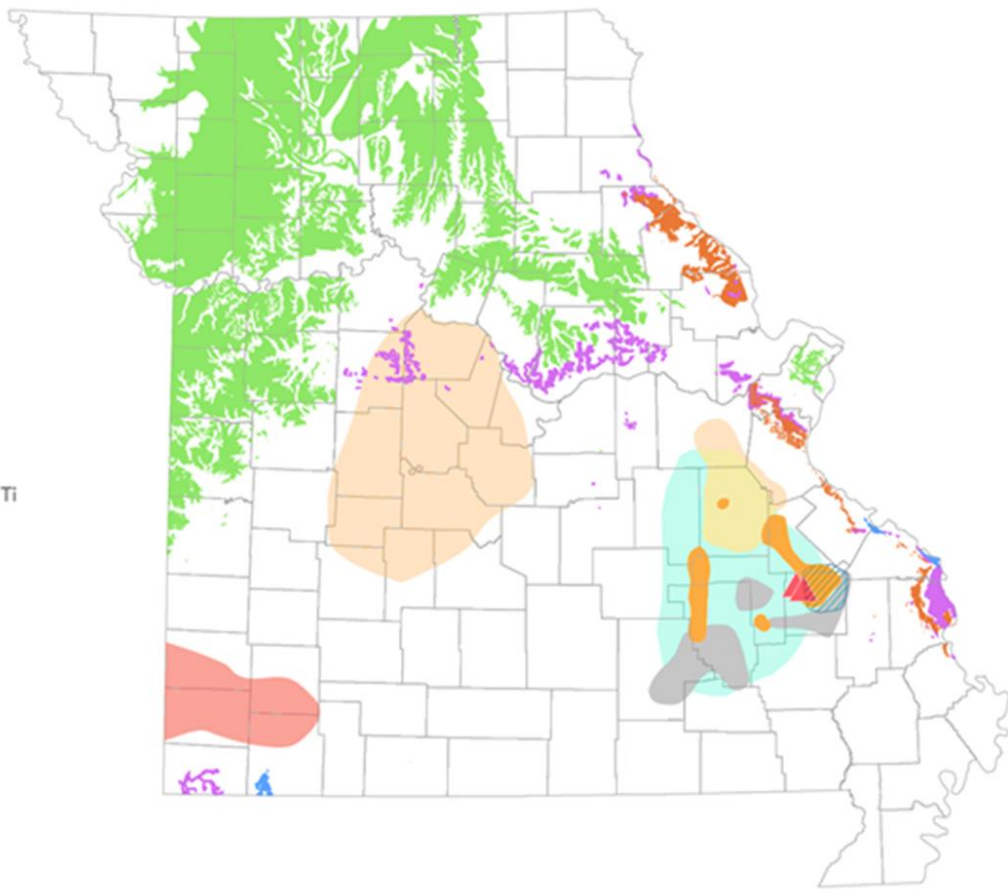
Critical Mineral Resources and Missouri

Midwest Environmental Compliance Conference
2022

Critical Mineral Resource Potential in Missouri

Legend

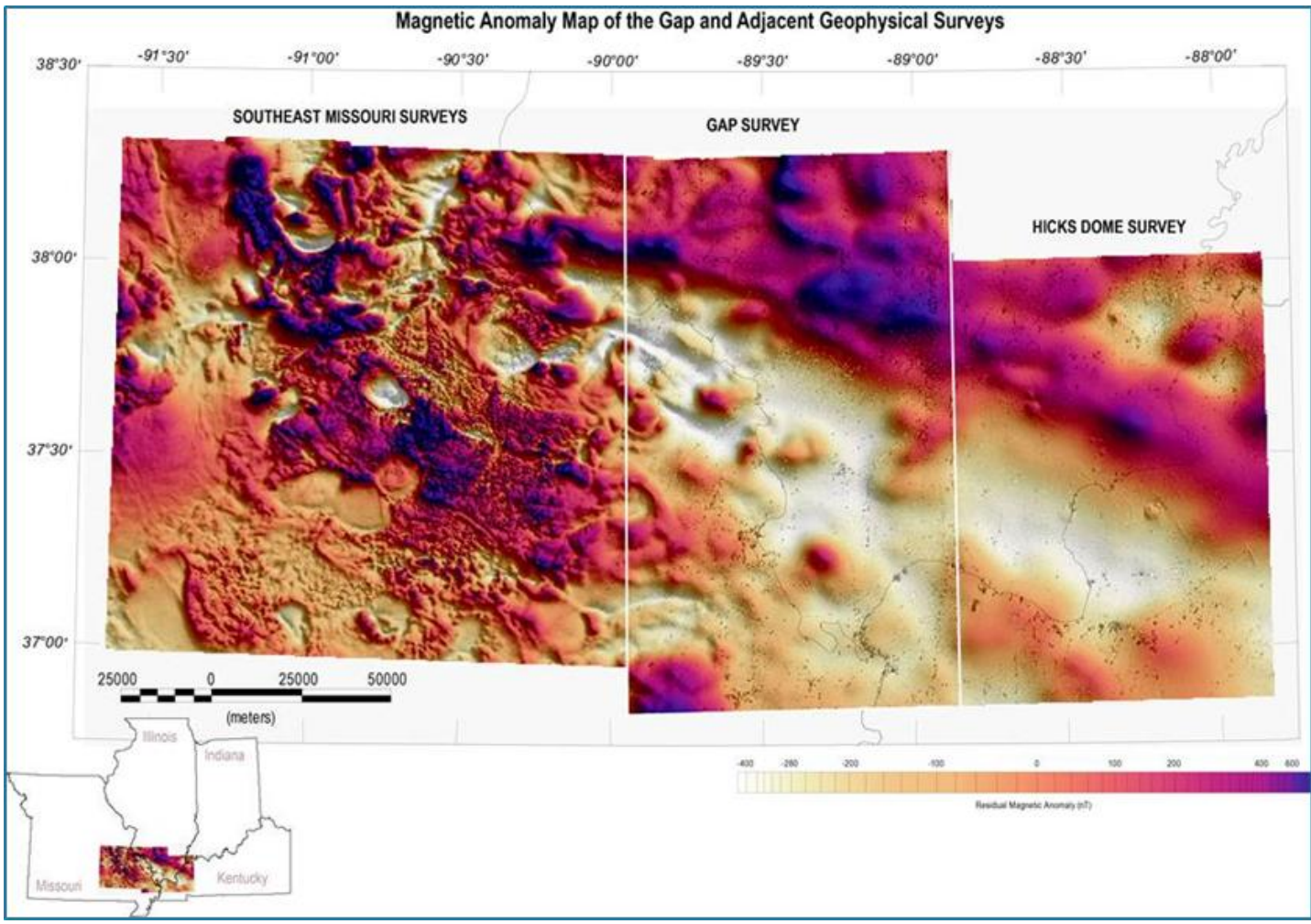
- ▲ Tungsten
- ▨ Copper-lead ± Zn, Co, Ni
- Lead-zinc ± Cu, Ag, Co
- Manganese ± Co
- Barite with Pb ± Zn, Sr
- Iron ± REE, Co, Bi, Sn, Re, Te, Ti
- Zinc-lead ± Ga, Ge, In
- REE Phosphorite Potential**
 - Pennsylvanian
 - Upper Mississippian
 - Upper Devonian
 - Upper Ordovician



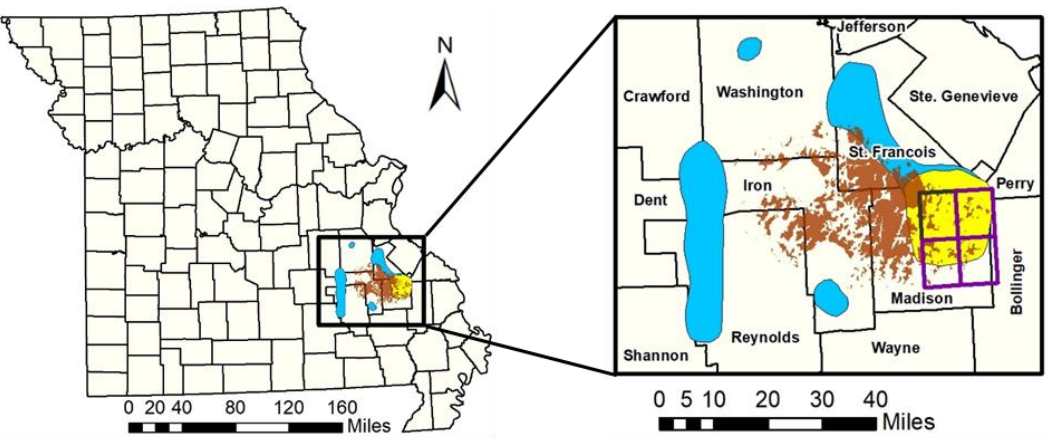
USGS Earth Mapping Resources Initiative (Earth MRI)

- Partnership between USGS/AASG
- Improve knowledge of the geologic framework in U.S. for critical mineral resources
- Decrease reliance on foreign sources of minerals
- “3-legged stool” approach of geophysics, geologic mapping, and geochemistry
- Phased mineral system focus area approach
- Next up: mine waste inventory and characterization

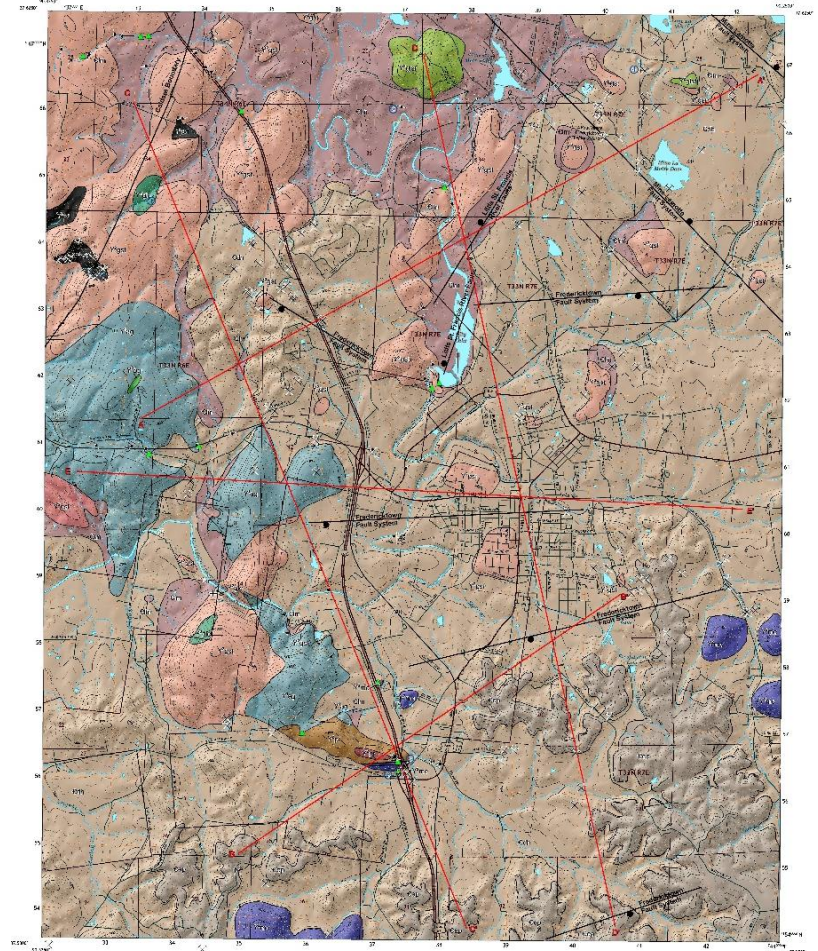
Earth MRI - Geophysics



Earth MRI –Geologic Mapping



- New bedrock mapping
- Fredericktown 7.5' quadrangle
- St. Francois Mountains
- Fredericktown-Mine LaMotte Subdistrict
- Southeast Missouri Lead District
- County



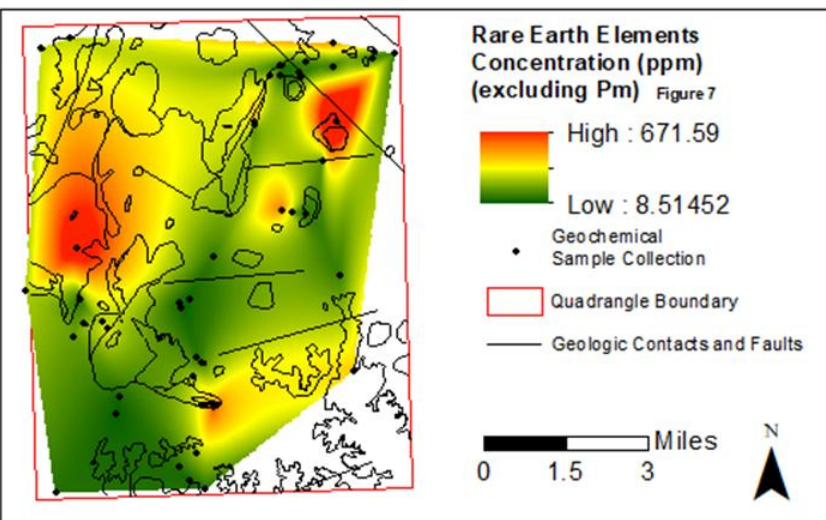
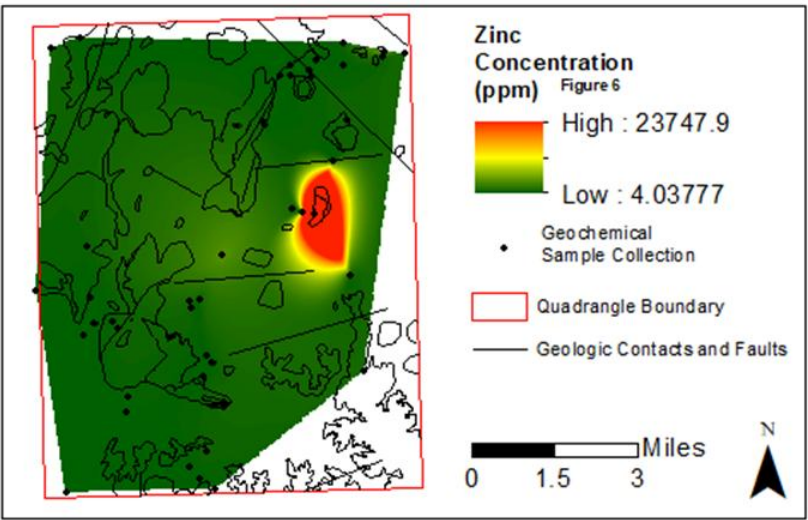
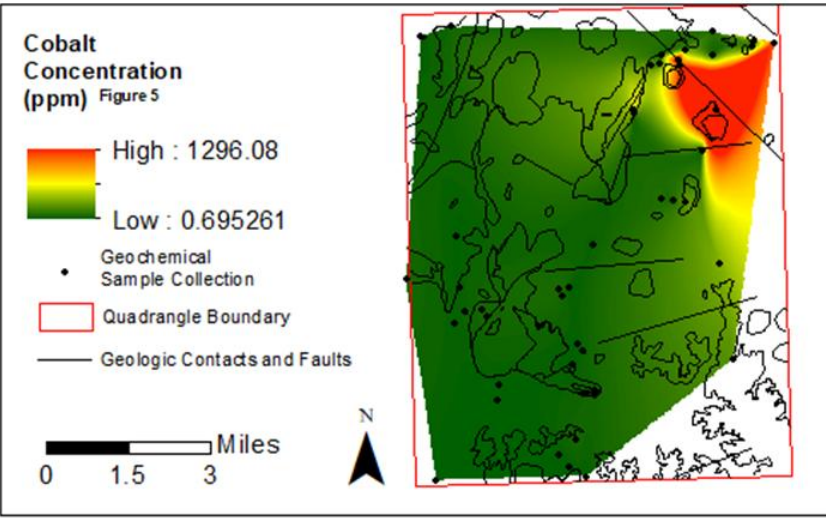
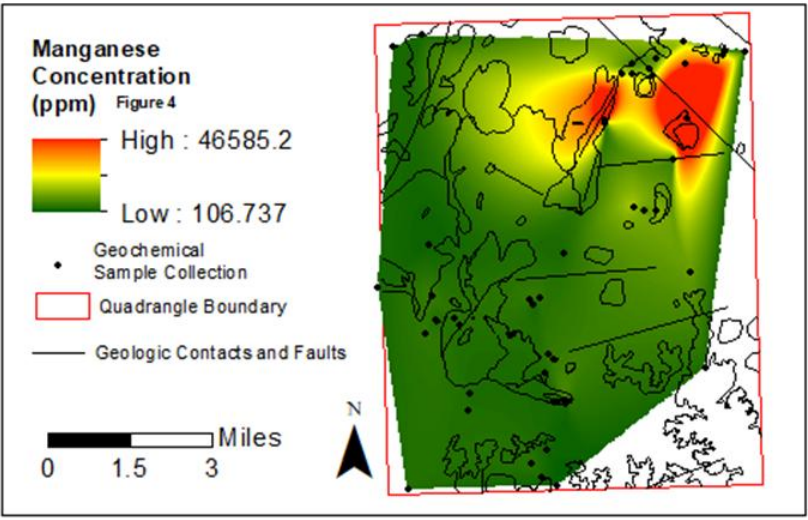
SCALE 1:24,000

MISSOURI DEPARTMENT OF NATURAL RESOURCES

FREDECKTOWN, MO

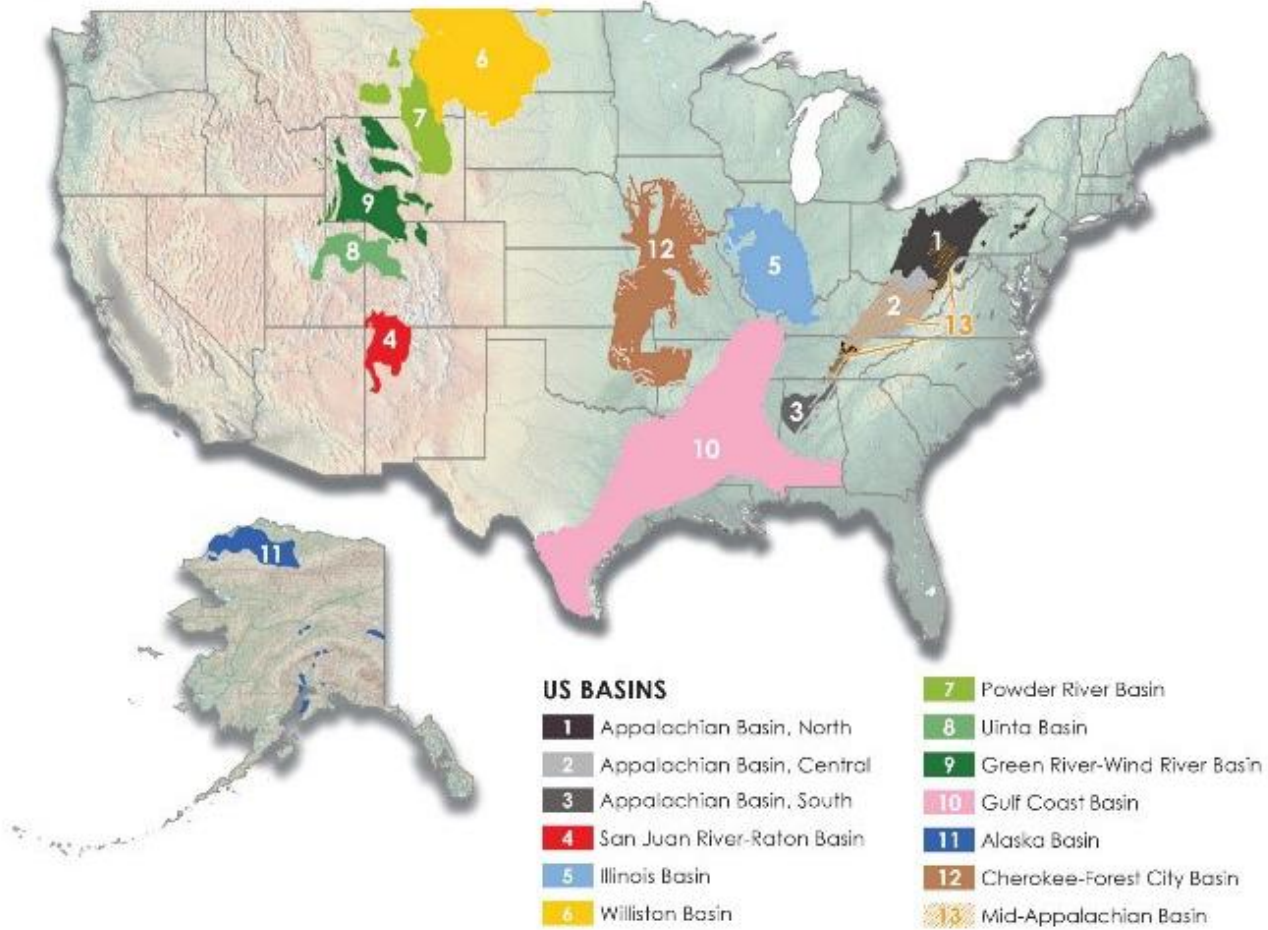
2017

Earth MRI – Geochemistry



Dept. of Energy - Carbon Ore, Rare Earth, and Critical Mineral Initiative (CORE-CM)

CORE-CM INITIATIVE





U.S. DEPARTMENT OF
ENERGY

Fossil Energy and
Carbon Management



I ILLINOIS

Illinois State Geological Survey
PRAIRIE RESEARCH INSTITUTE



Thank you!

Amber Steele

Amber.Steele@dnr.mo.gov