

What is the USGS Earth MRI Program?

The Earth Mapping Resources Initiative (Earth MRI) is a collaboration between the US Geological Survey and the Association of American State Geologists. Its goals are:

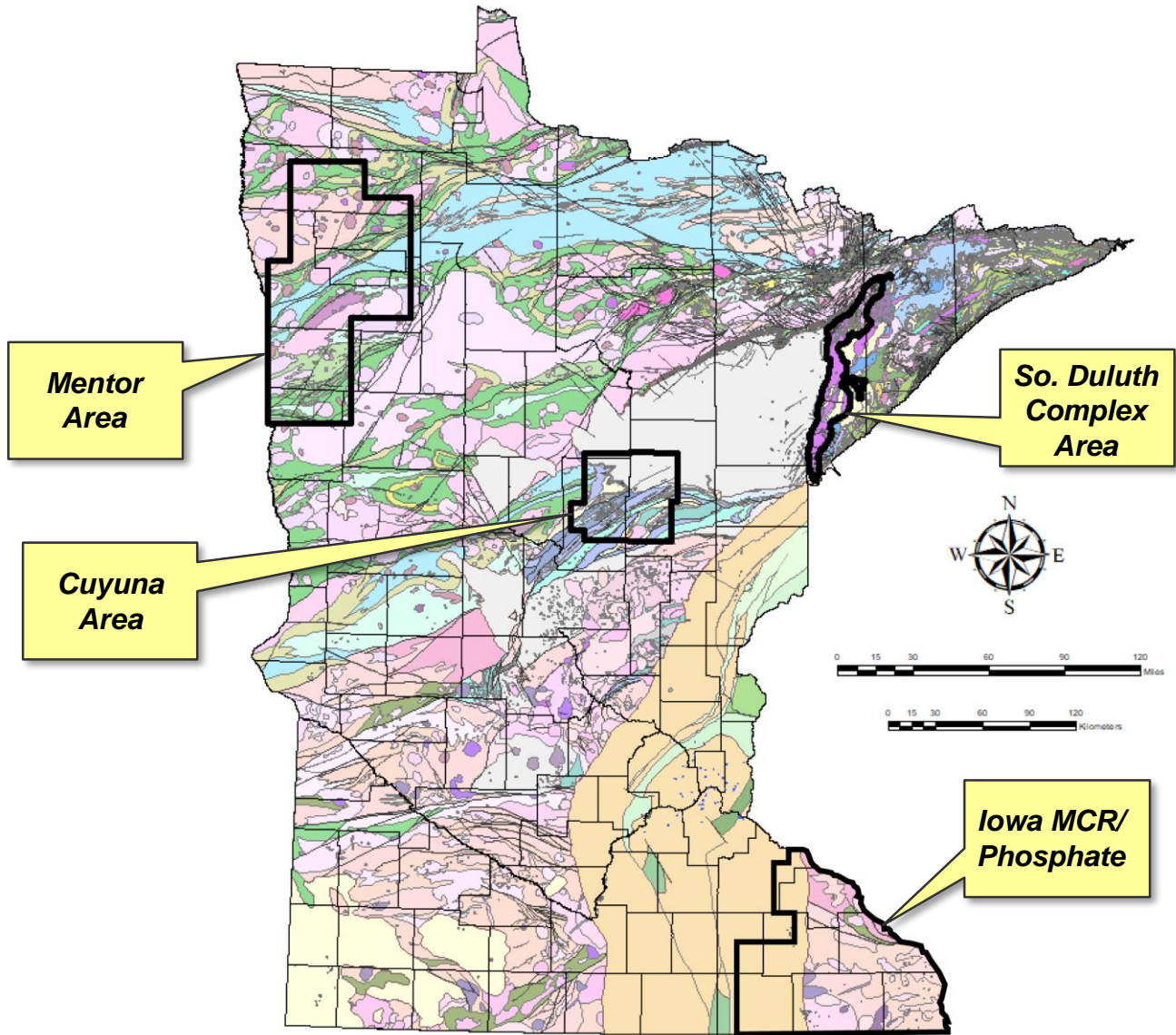
- Improve knowledge of the geological framework of the US
- Identify areas in the US that have potential to contain undiscovered critical mineral* resources

**“a non-fuel mineral or mineral material essential to the economic and national security of the United States, which has a supply chain that is vulnerable to disruption, and that serves an essential function in the manufacturing of a product, the absence of which would have significant consequences for the US economy or national security.”*

(82 FR 60835, 12/26/2017)

The Minnesota Earth MRI collaboration involves the Minnesota Geological Survey, the Minnesota Department of Natural Resources, and the Natural Resources Research Institute

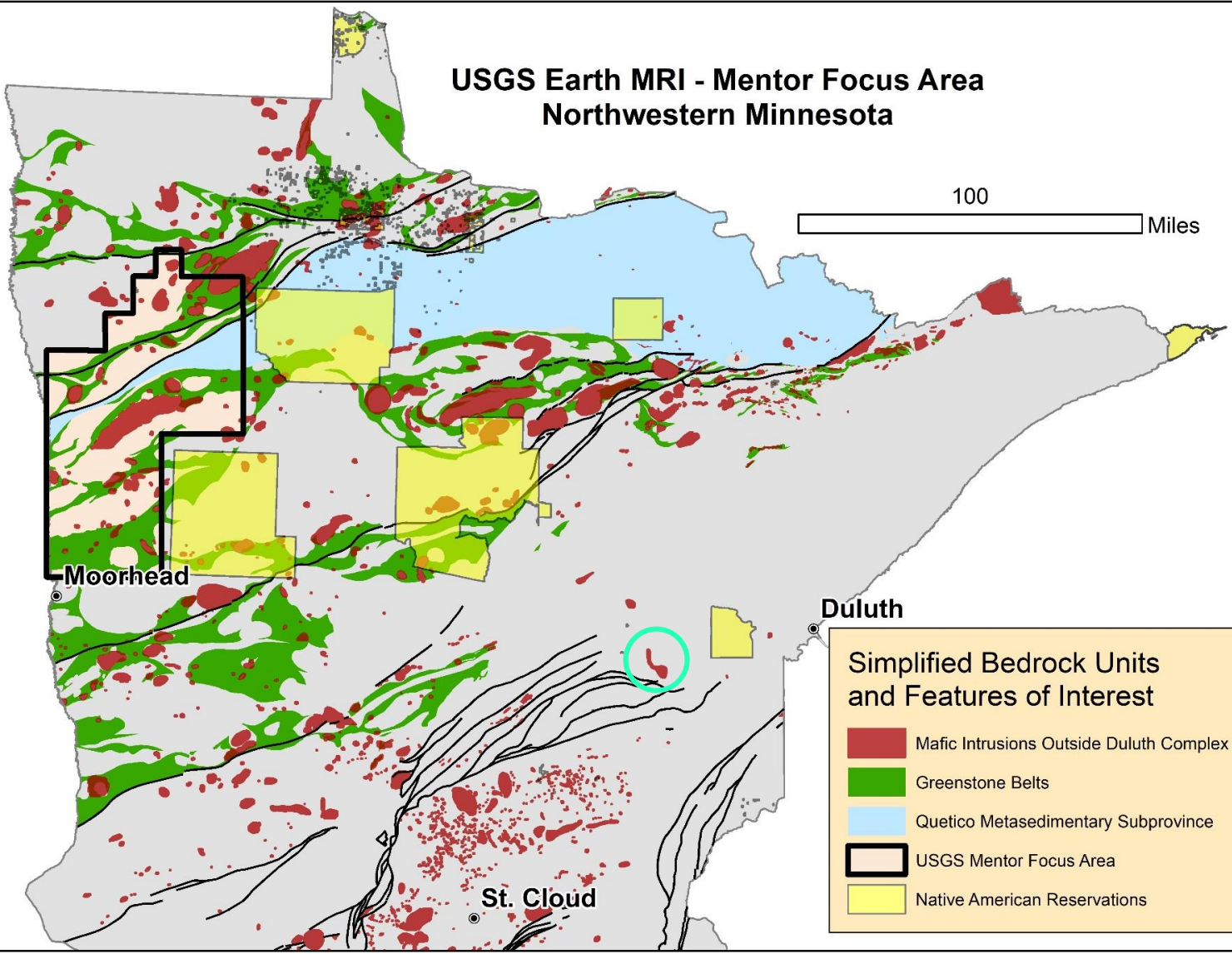
Minnesota Earth MRI Focus Area Descriptions



Focus Area	Critical Metals Potential
<i>Mentor</i>	<i>C, Co, Cs, Cu, Fe, Li, Mg, Mn, Ni, PGM, REE, Sn, Ta, Ti, V</i>
<i>Cuyuna</i>	<i>Co, Cu, Fe, Mn, Ni, PGM</i>
<i>Southern Duluth Complex</i>	<i>C, Co, Cu, Fe, Mg, Mn, Ni, PGM, Ti, V</i>
<i>Iowa MCR/Phosphate</i>	<i>Co, Cu, Ni, Nb, PGM, REE, Sc, Ti, U, V, Phosphate</i>

USGS Earth MRI - Mentor Focus Area Northwestern Minnesota

100 Miles



Simplified Bedrock Units and Features of Interest

- Mafic Intrusions Outside Duluth Complex
- Greenstone Belts
- Quetico Metasedimentary Subprovince
- USGS Mentor Focus Area
- Native American Reservations