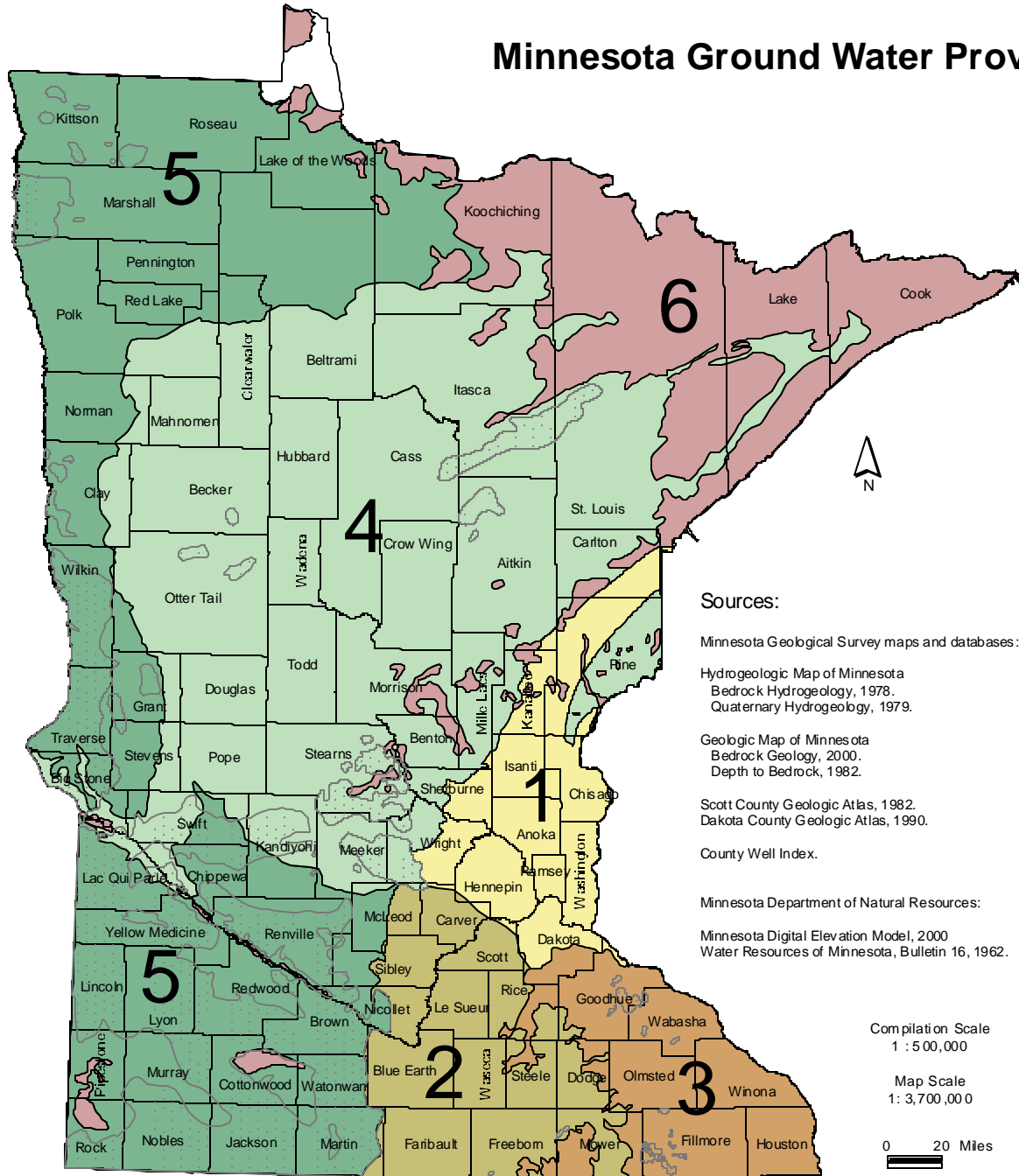


Minnesota Ground Water Provinces



Province Characteristics

- 1 Metro Province**
Sand aquifers in generally thick (greater than 100 feet) sandy and clayey glacial drift overlying Precambrian sandstone and Paleozoic sandstone, limestone, and dolostone aquifers.
- 2 South-Central Province**
Thick clayey glacial drift with limited extent sand aquifers overlying Paleozoic sandstone, limestone, and dolostone aquifers
- 3 Southeastern Province**
Thin (less than 100 feet) clayey glacial drift overlying Paleozoic sandstone, limestone, and dolostone aquifers. Karst characteristics are common in limestone and dolostone bedrock.
- 4 Central Province**
Sand aquifers in generally thick sandy and clayey glacial drift overlying Precambrian and Cretaceous bedrock. Fractured and weathered Precambrian bedrock is used locally as a water source. The Biwabik Formation, an iron ore deposit found in Itasca and St. Louis counties, can have good aquifer properties.
- 5 Western Province**
Clayey glacial drift overlying Cretaceous and Precambrian bedrock. Glacial drift and Cretaceous bedrock contain limited extent sand and sandstone aquifers, respectively.
- 6 Arrowhead Province**
Precambrian rocks are exposed at the surface or drift overlying Precambrian rocks is very thin (less than 30 feet). Ground water typically found locally in faults and fractures. Areas with similar aquifer characteristics exist in Provinces 4 and 5.
- Cretaceous Bedrock**
Sandstone layers that are interbedded with thick layers of shale are used locally as water sources. Occurs beneath glacial drift but above older bedrock.

Sources:

- Minnesota Geological Survey maps and databases:
- Hydrogeologic Map of Minnesota Bedrock Hydrogeology, 1978.
- Quaternary Hydrogeology, 1979.
- Geologic Map of Minnesota Bedrock Geology, 2000.
- Depth to Bedrock, 1982.
- Scott County Geologic Atlas, 1982.
- Dakota County Geologic Atlas, 1990.
- County Well Index.
- Minnesota Department of Natural Resources:
- Minnesota Digital Elevation Model, 2000
- Water Resources of Minnesota, Bulletin 16, 1962.

Compilation Scale
1 : 500,000

Map Scale
1 : 3,700,000

0 20 Miles



Minnesota DNR Waters
Helping people ensure the future of our water resources

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