

Geology of the Precambrian Surface of Iowa and surrounding area

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LEGEND

(ages given in millions of years - Ma)

PROTEROZOIC (2500 - 530 Ma)

GRENVILLE INTERVAL (1350-1000 Ma)

- Mks Keweenaw Clastic Sedimentary Rocks
- Mkur Keweenaw Upper Red Clastic Group
- Mklr Keweenaw Lower Red Clastic Group
- Mkv Keweenaw Volcanic / Plutonic Rocks
- Mkt Keweenaw Thor Volcanic Group
- Mkp Northeast Iowa Plutonic Complex
- Mko Osborne Mafic Complex

SOUTHERN GRANITE / RHYOLITE INTERVAL (1380 - 1310 Ma)

- Mp2 Granitic plutons

EASTERN GRANITE / RHYOLITE INTERVAL (1500 - 1430 Ma)

- Mgr Rhyolite and granitic plutons
- Mp Granitic plutons
- Mq Quimby granite (1433 ± 6 Ma)
- Mgi Green Island Plutonic Group (1485 ± 10 Ma)
- Msn Spencer Norite
- Msg Spencer Granite (1373 ± 7 Ma)
- Mcia Central Iowa Arch Granites

Mazatzal Orogenic Belt (1650-1620 Ma)

- Eg3 granitic plutons dominant
- Egn3 gneiss dominant

BARABOO INTERVAL (1700 - 1500 Ma)

- Eq quartzite dominant
- Ep3 Baraboo Quartzite
- Ep3 Sioux Quartzite
- Ep3 Cedar Rapids Quartzite
- Ep3 Washington County Quartzite

CENTRAL PLAINS INTERVAL (1800-1700 Ma)

- ##### Yavapai Orogenic Belt
- Egn1 orogenic gneiss and granite
 - Eqq Camp Quest Gneiss (2065 ± 10 Ma)
- ##### post-orogenic granitic plutons
- Ep2 post-orogenic granitic plutons
 - Ehk Hull Keratophyre (1782 ± 4 Ma)

PENOKEAN INTERVAL (2100-1800 Ma)

- Ep late-stage granitic plutons
- Eh Harris Granite (1804 ± 17 Ma)
- Ehw Hawarden Granite

Trans-Hudson Orogenic Belt

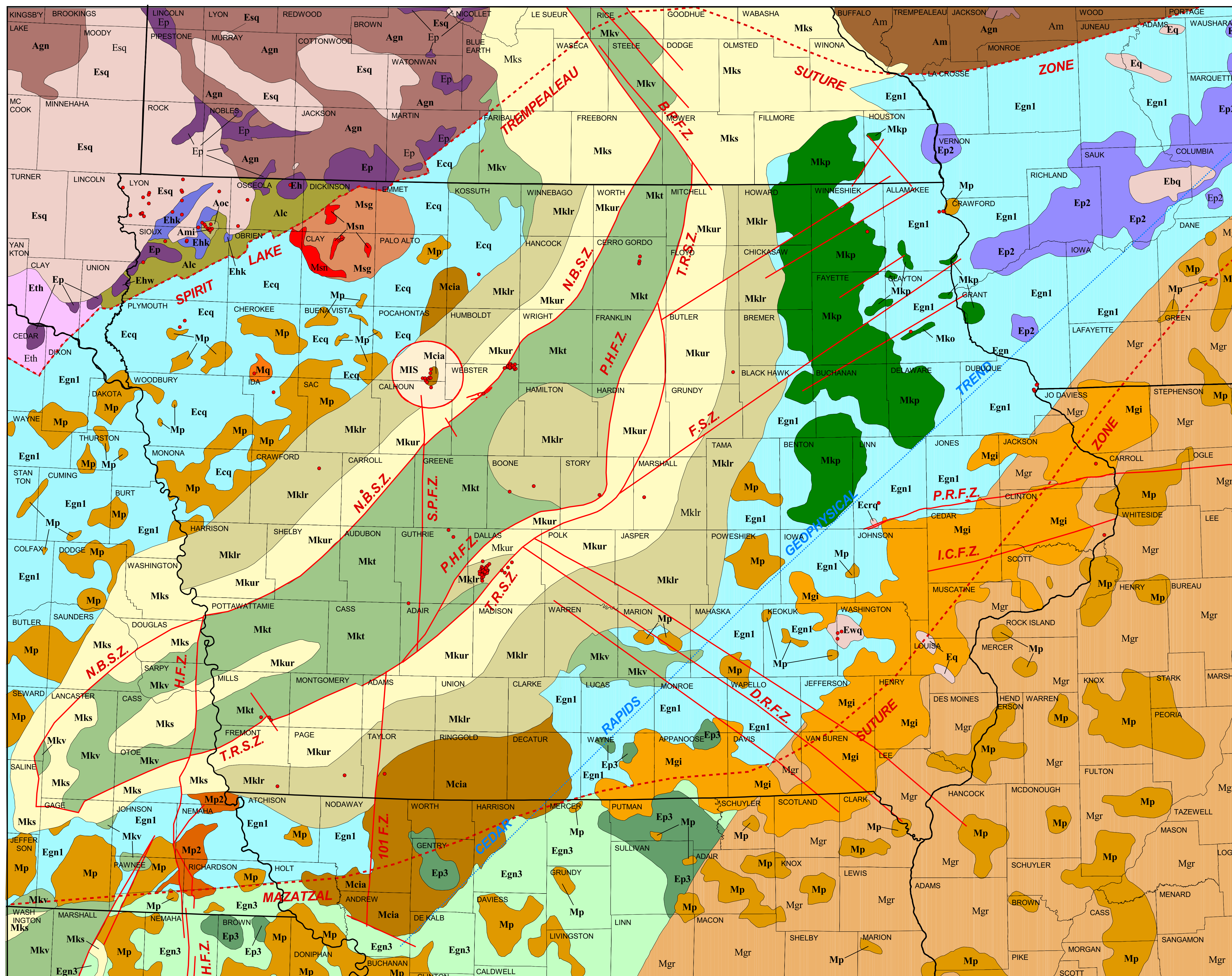
- Eth Granite and gneiss dominant

ARCHEAN (>2500 Ma)

- Alc Lyon County Gneiss (2523 ± 5 Ma)
- Ami Matlock Banded Iron Formation
- Aoc Otter Creek Mafic Complex (2890 ± 90 Ma)
- Agn Early to Middle Archean gneiss and migmatite terrane
- Am Marshfield exotic terrane

- MIS Late Cretaceous (73.8 ± 3 Ma) Manson Impact Structure

- known or inferred faults
- - - Proterozoic sutures
- ... geophysical trend
- well penetrating Precambrian rocks



key to mapped faults and structural zones

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| 101 F.Z. 101 Fault Zone | I.C.F.Z. Iowa City-Clinton Fault Zone |
| B.P.F.Z. Belle Plaine Fault Zone | N.B.F.Z. Northern Boundary Fault Zone |
| D.R.F.Z. Des Moines River Fault Zone | P.H.F.Z. Pery-Hampton Fault Zone |
| F.S.Z. Fayette Structural Zone | P.R.F.Z. Plum River Fault Zone |
| H.F.Z. Humboldt Fault Zone | S.P.F.Z. Sheeder Prairie Fault Zone |
| | T.R.S.Z. Thurman-Redfield Structural Zone |

