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# Typical Iowa Soils

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## A. General Information

There are three major types of soils in Iowa:

1. **Loess:** A fine-grained, unstratified accumulation of clay and silt deposited by wind (37.5%).
2. **Glacial Till:** Unstratified soil deposited by a glacier; consists of clay, silt, sand, gravel, and boulders (28.5%).
3. **Alluvium:** Clay, silt, sand, or gravel carried by running streams and deposited where streams slow down (20.1%).

Other types of soils, occurring in smaller amounts in Iowa, are:

- Sand and gravel (4.5%)
- Paleosols (4.0%)
- Bedrock (2.7%)
- Fine sand (1.4%)

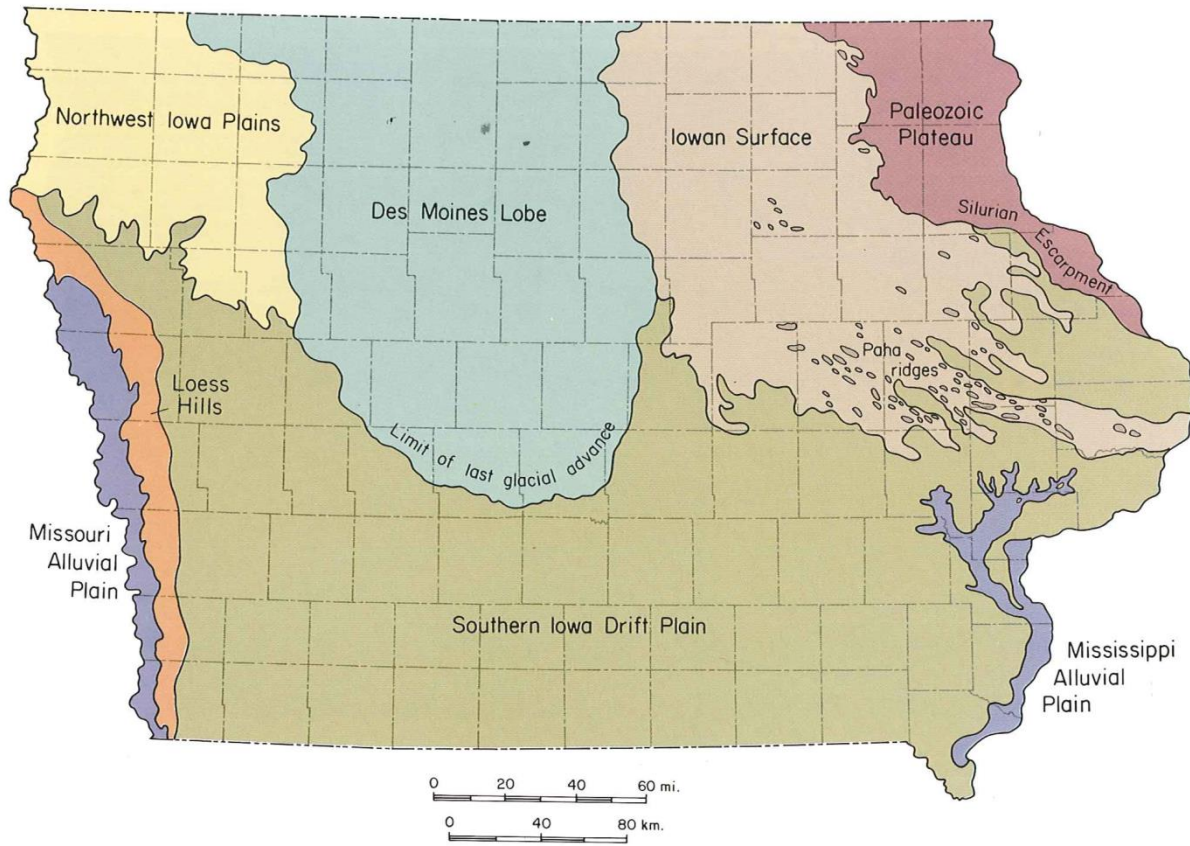
## B. Iowa Geology

The Iowa landscape consists mainly of seven topographic regions (see Figure 6A-3.01).

- Des Moines Lobe
- Loess Hills
- Southern Iowa Drift Plain
- Iowan Surface
- Northwest Iowa Plains
- Paleozoic Plateau
- Alluvial Plains

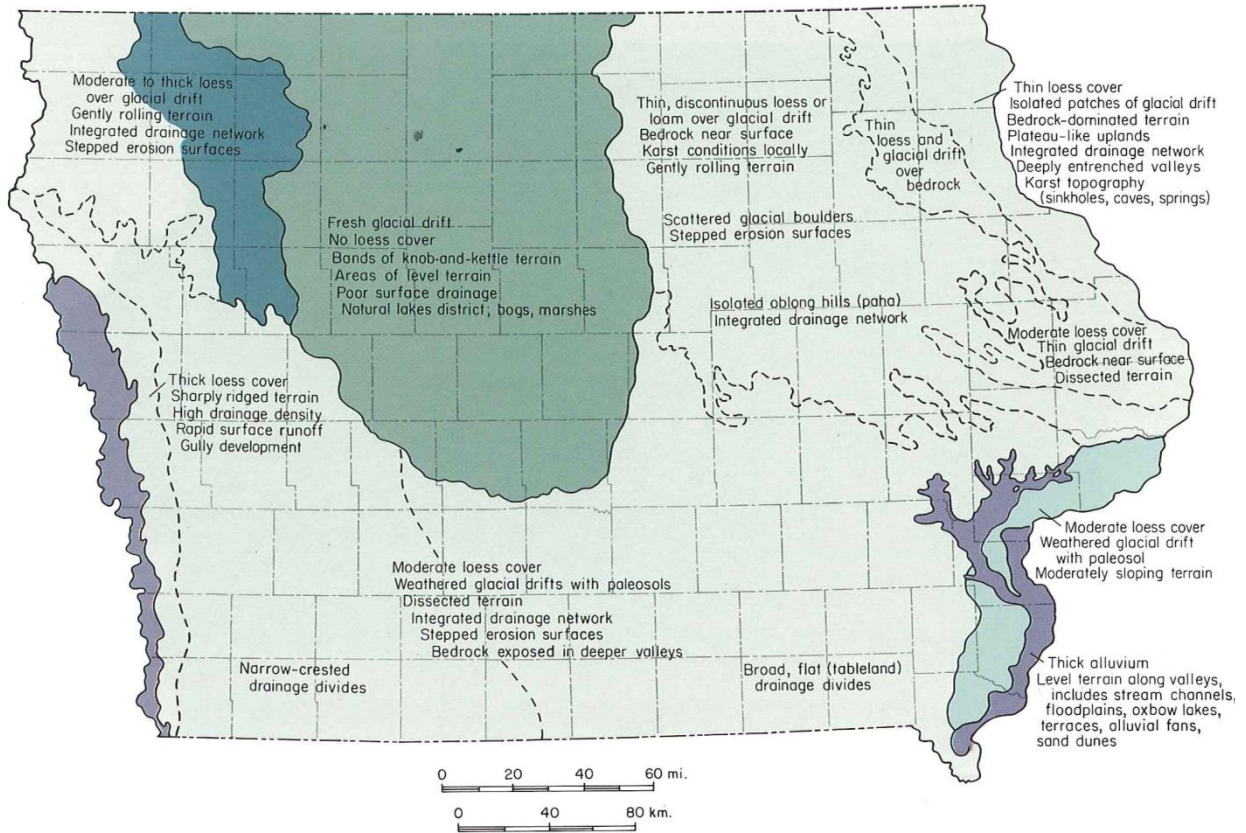
The soils in the Des Moines Lobe, Southern Iowa Drift Plain, Iowan Surface, Northwest Iowa Plains, and Paleozoic Plateau originated from glacial action at different periods in geologic time. The northwestern and southern parts of the state consist of glacial till covered by loess. The engineering properties of glacial till change as the age of glacial action changes. Loess soil engineering properties depend mainly on clay content. Figures 6A-3.01, 6A-3.02, and 6A-3.03 show the landform regions, the landform materials and terrain characteristics, and soil permeability.

Figure 6A-3.01: Landform Regions of Iowa



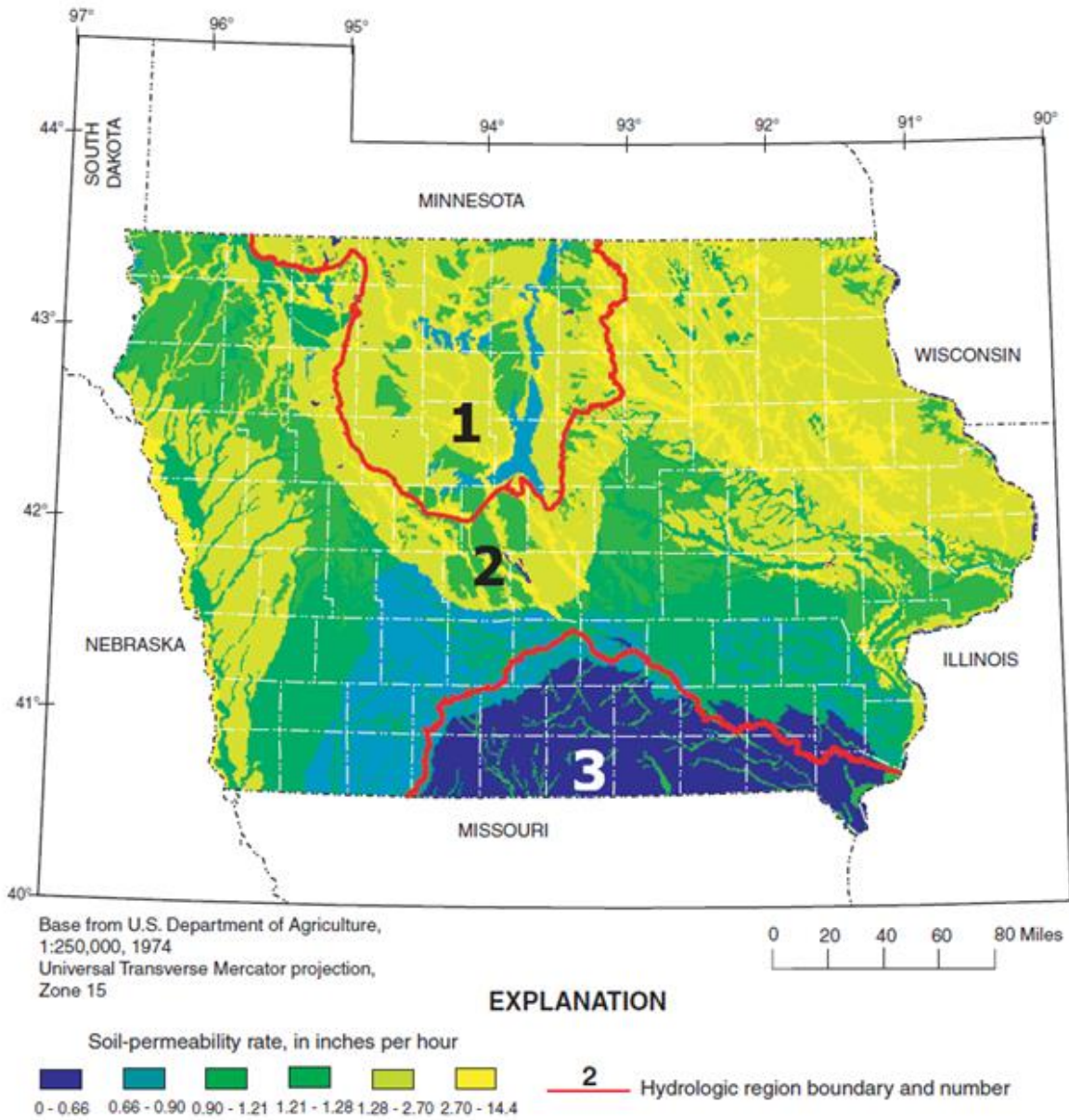
Source: Prior 1991

Figure 6A-3.02: Landform Materials and Terrain Characteristics of Iowa



Source: Prior 1991

Figure 6A-3.03: Soil Permeability Rates and Hydrologic Regions in Iowa



Source: Eash 2001

### C. References

Eash, D.A. *Techniques for Estimating Flood-Frequencies Discharges for Streams in Iowa*. Iowa City, Iowa: Iowa Department of Transportation and the Iowa Highway Research Board. 2001.

Prior, J.C. *Landforms of Iowa*. Iowa City, Iowa: Department of Natural Resources, University of Iowa Press. 1991.