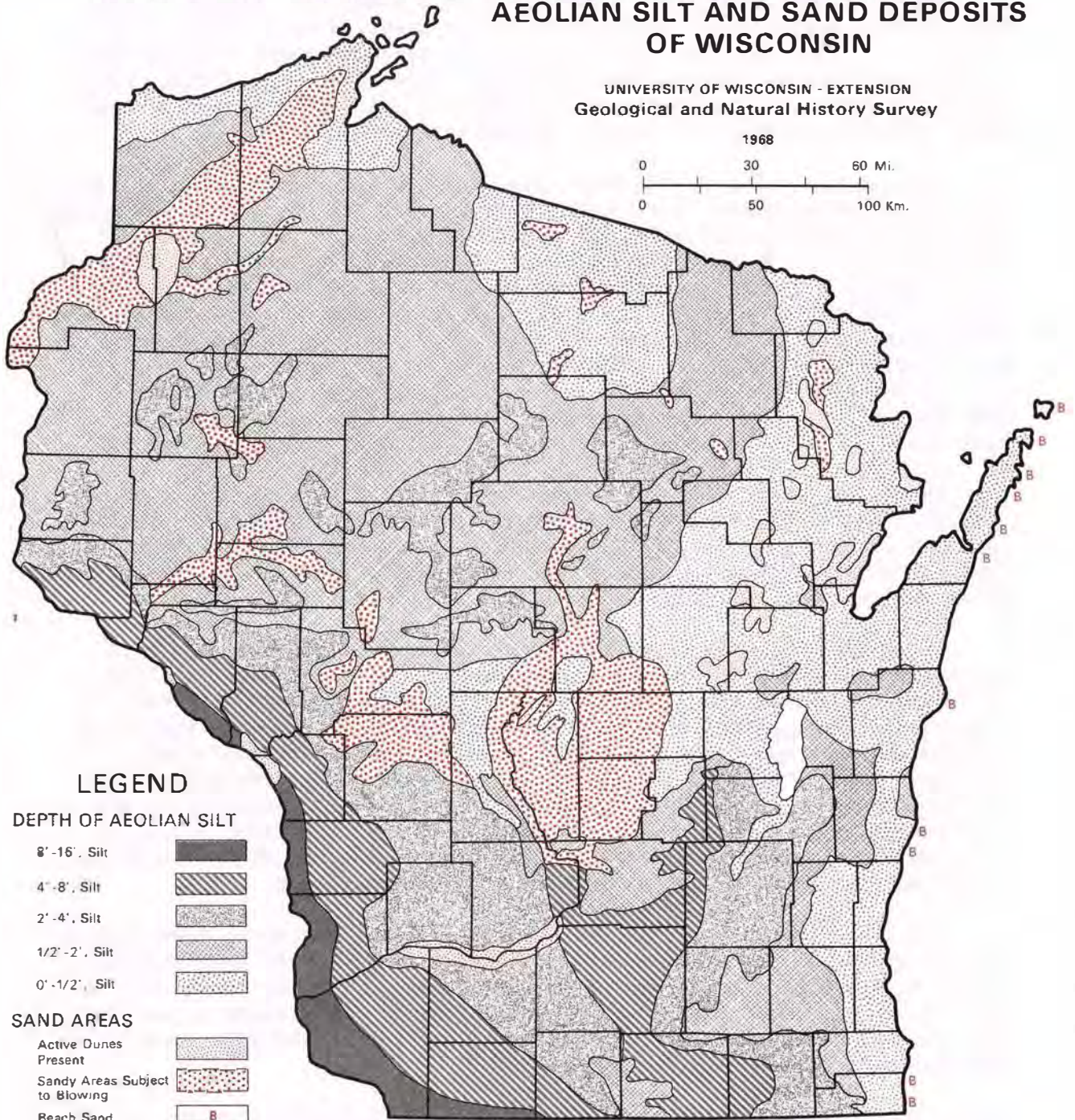
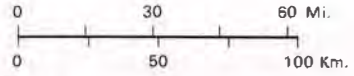


AEOLIAN SILT AND SAND DEPOSITS OF WISCONSIN






UNIVERSITY OF WISCONSIN - EXTENSION
Geological and Natural History Survey

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


LEGEND

DEPTH OF AEOLIAN SILT

- 8' - 16', Silt 
- 4' - 8', Silt 
- 2' - 4', Silt 
- 1/2' - 2', Silt 
- 0' - 1/2', Silt 

SAND AREAS

- Active Dunes Present 
- Sandy Areas Subject to Blowing 
- Beach Sand 

Compiled by Francis D. Hole

INTERPRETATION OF WIND-BLOWN (AEOLIAN) DEPOSITS OF WISCONSIN

When a farmer cultivates a dry field on a windy day, clouds of soil blow up from behind the cultivator and drift away. Wind erosion can form hollows or "blow-outs" on sandy soils and accumulate ridges of sand along fences and thickets. Finer flour-like soil particles, called silt, blow greater distances. If farmers did not have to till the soil for agricultural purposes, wind erosion would now be rare in Wisconsin.

But man has not been the sole agent influencing wind erosion of sand and silt. The movement of soil particles by wind has been going on through the ages and dust storms must have been more common in the distant past. This is shown by the fact that the soils over about two-thirds of Wisconsin are developed at least in part from a blanket of wind-laid silt called loess. From place to place this silty covering rests on a great variety of materials including bedrock, red clay, blue clay, limestone gravels, acid sand, yellowish glacial deposits and stony gray glacial deposits. Some of the silt even blew up on the quartzite bedrock of Rib Mountain, near Wausau, on the Baraboo Range near Baraboo, and the Blue Hills near Rice Lake.

We may well ask where the wind-blown silt came from thousands of years ago, when there were no farmers cultivating the soil. What kind of disturbance exposed vast quantities of silt to strong winds? This is a question that has provoked much discussion among geologists, and even today some details remain to be clarified.

We do know that the loess deposits are intimately associated with events that occurred during the latter part of the Pleistocene or "Ice Age". At times when the streams were swollen with glacial meltwater they deposited large quantities of silt on their flood plains; when the floods receded the silt was picked up by the wind and redeposited on adjacent uplands. Fresh glacial deposits, not yet stabilized by vegetation, also served as sources of silt. The thick deposits of loess adjacent to the Mississippi River indicate that its flood plain was one major source of silt, moreover as these deposits thin in a northeasterly direction we may infer that the transporting winds blew from the southwest.

The loess deposits contain many different minerals which give rise to fertile soils, in fact most of the silt loams in Wisconsin have developed since the close of the Ice Age on this wind-laid silt. Although rain water has leached the loess of its original lime content to a depth of several feet, a good reserve of fertility is still present in the silt loam soils and they respond well to good management.

Note: Beach sands also occur along the shore of Lake Superior but are not shown on this map.