

INDEX TO INTERNATIONAL MAP OF THE WORLD 1:1,000,000 TOPOGRAPHIC SERIES
Showing location of the Quaternary Geologic Survey. Map of the Minneapolis 4° x 6° Quadrangle in red (U.S. Geological Survey, Miscellaneous Investigations Series, Map I-1420 (NL-15)) and other published maps in the Quaternary Geologic Atlas of the United States in yellow.

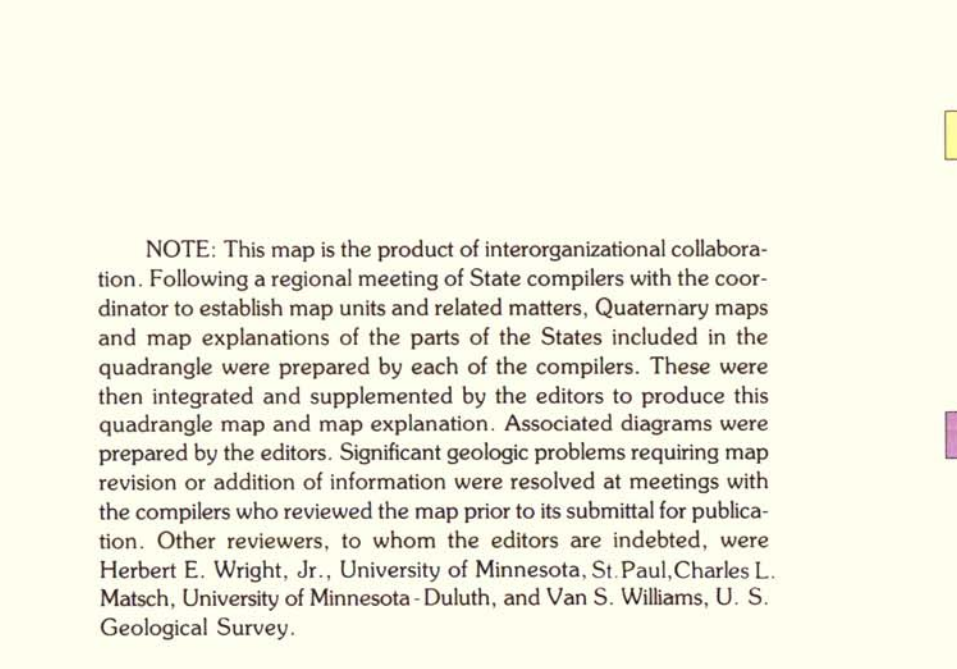
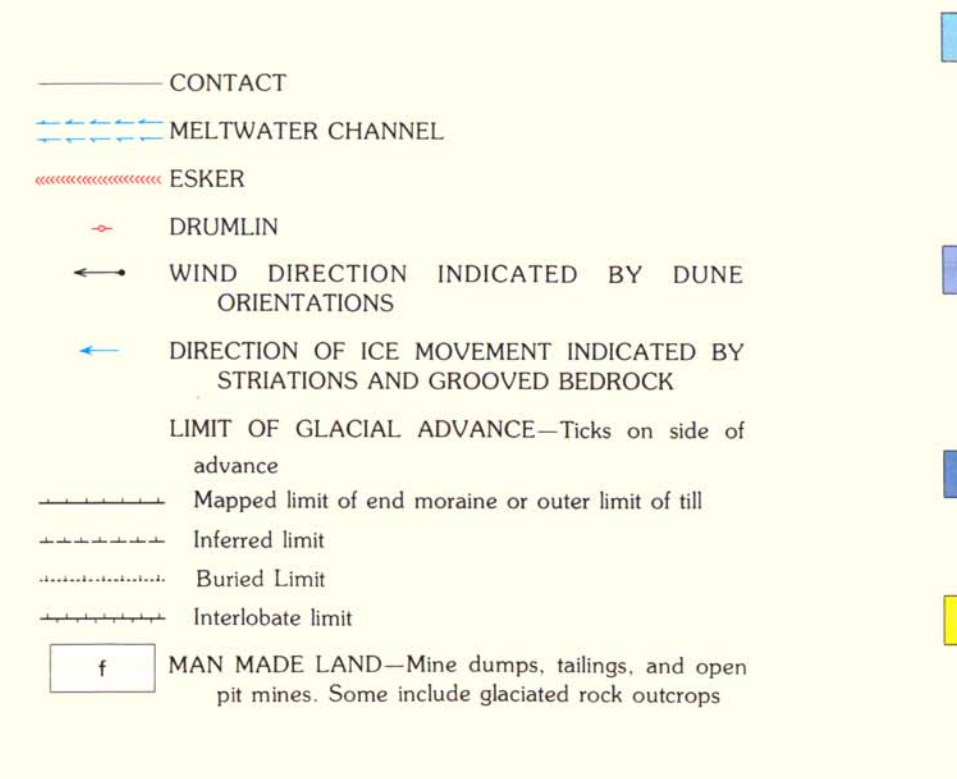
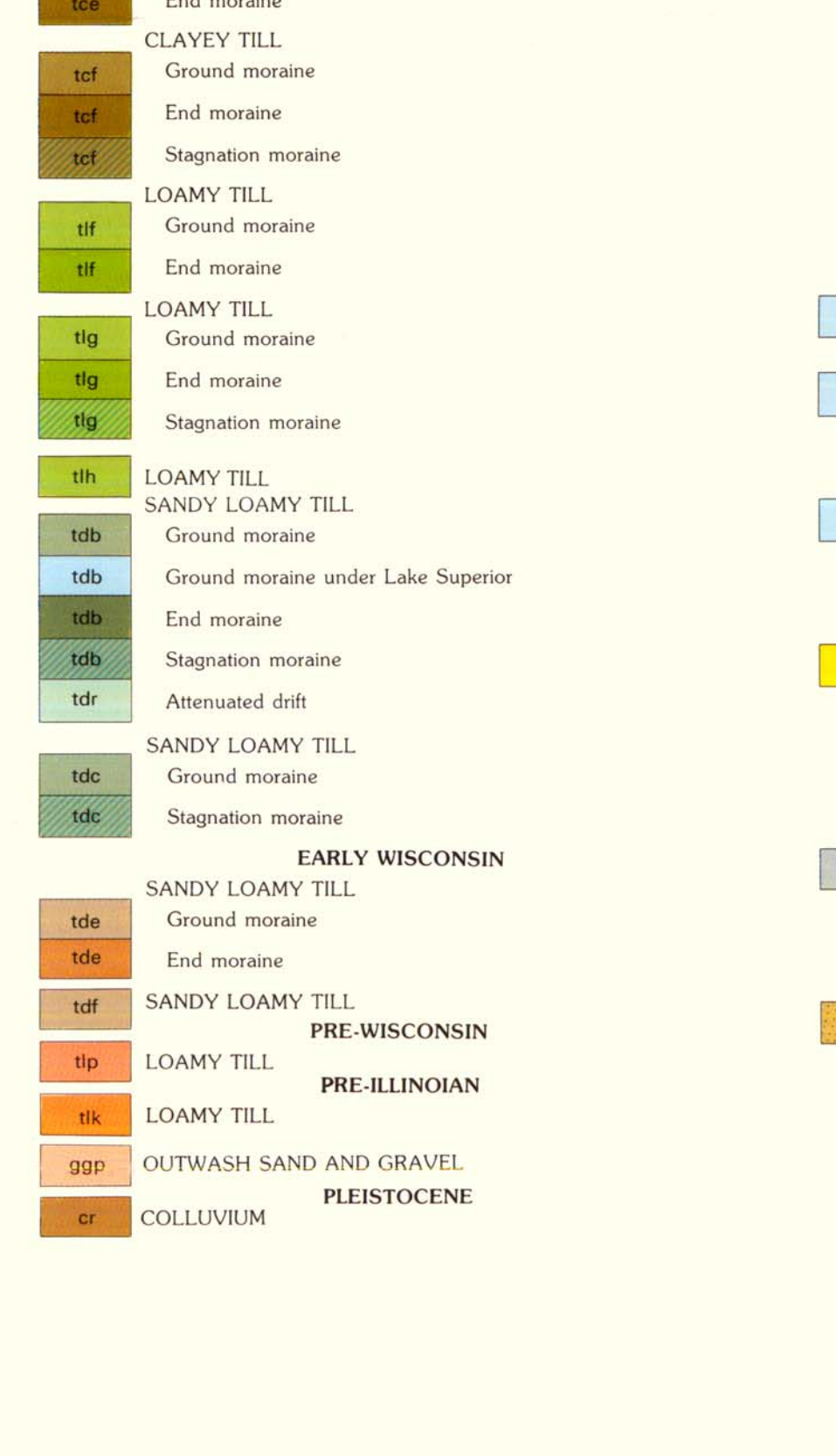
LOESS DISTRIBUTION AND THICKNESS, IN METERS
EXPLANATION
0-0.25 m. each
0.25-0.75 m. patchy
0.75-1.5 m.
1.5-2.5 m.
2.5-5.0 m.

TENTATIVE RELATIONSHIPS OF LATE WISCONSIN GLACIAL LOBES, SUBLOBES, AND PHASES IN THE MINNEAPOLIS QUADRANGLE
Numbers indicate relative ages of surface tills in respective lobes and sublobes (oldest to youngest) in this quadrangle. Relative ages in part are interpreted from relationships in adjacent quadrangles. Hatchures indicate inferred advance lines. Arrows indicate generalized ice flow.

AREAS OF RESPONSIBILITY
(1) MINNESOTA GEOLOGICAL SURVEY
(2) DEPARTMENT OF GEOLOGY AND GEOPHYSICS, UNIVERSITY OF WISCONSIN-MADISON
(3) WISCONSIN GEOLOGICAL AND NATURAL HISTORY SURVEY
(4) DEPARTMENT OF GEOGRAPHY, UNIVERSITY OF WISCONSIN-MADISON
(5) DEPARTMENT OF GEOGRAPHY, UNIVERSITY OF WISCONSIN-EAU CLAIRE
(6) DEPARTMENT OF GEOLOGICAL SCIENCES, UNIVERSITY OF MICHIGAN

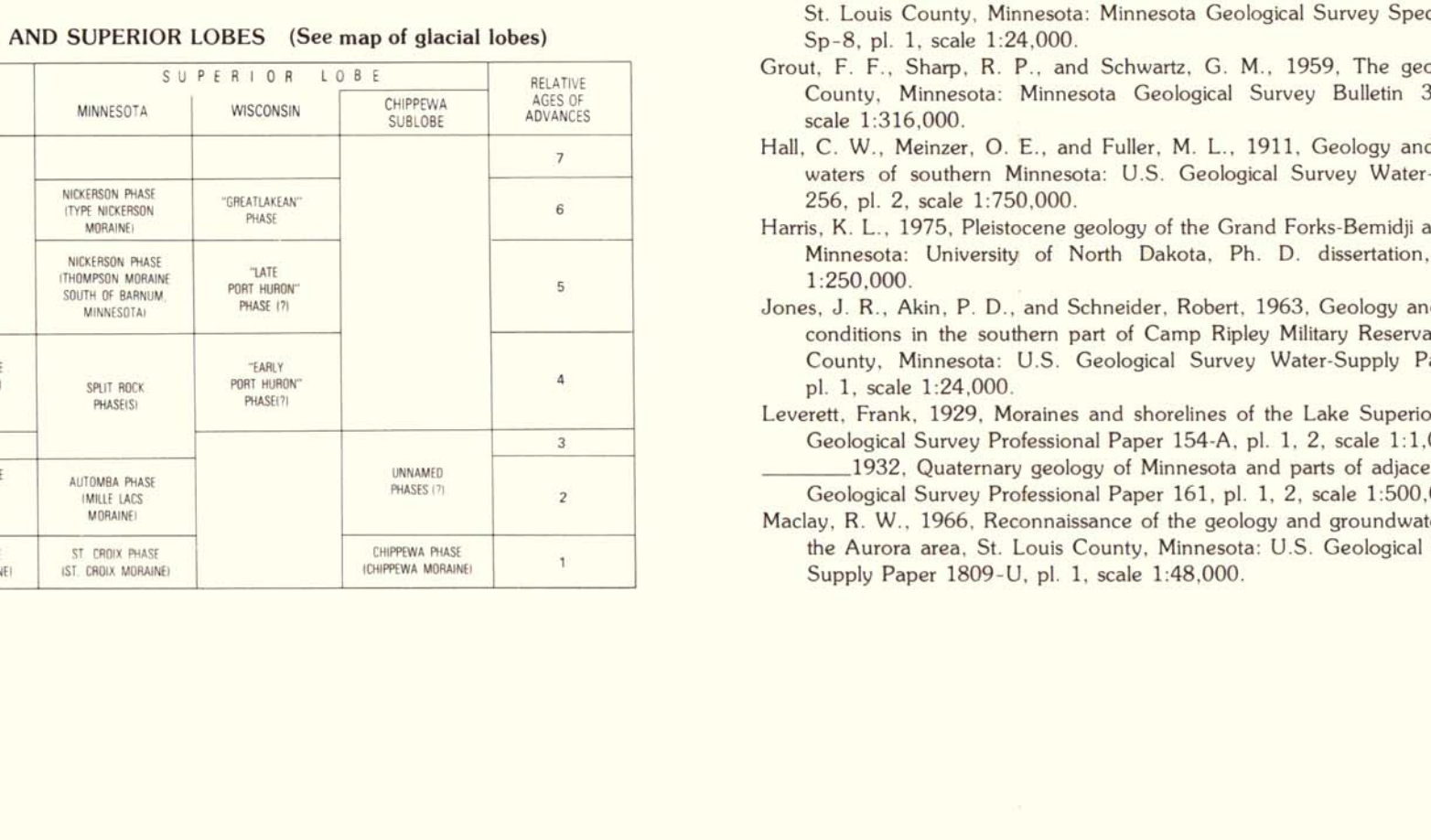
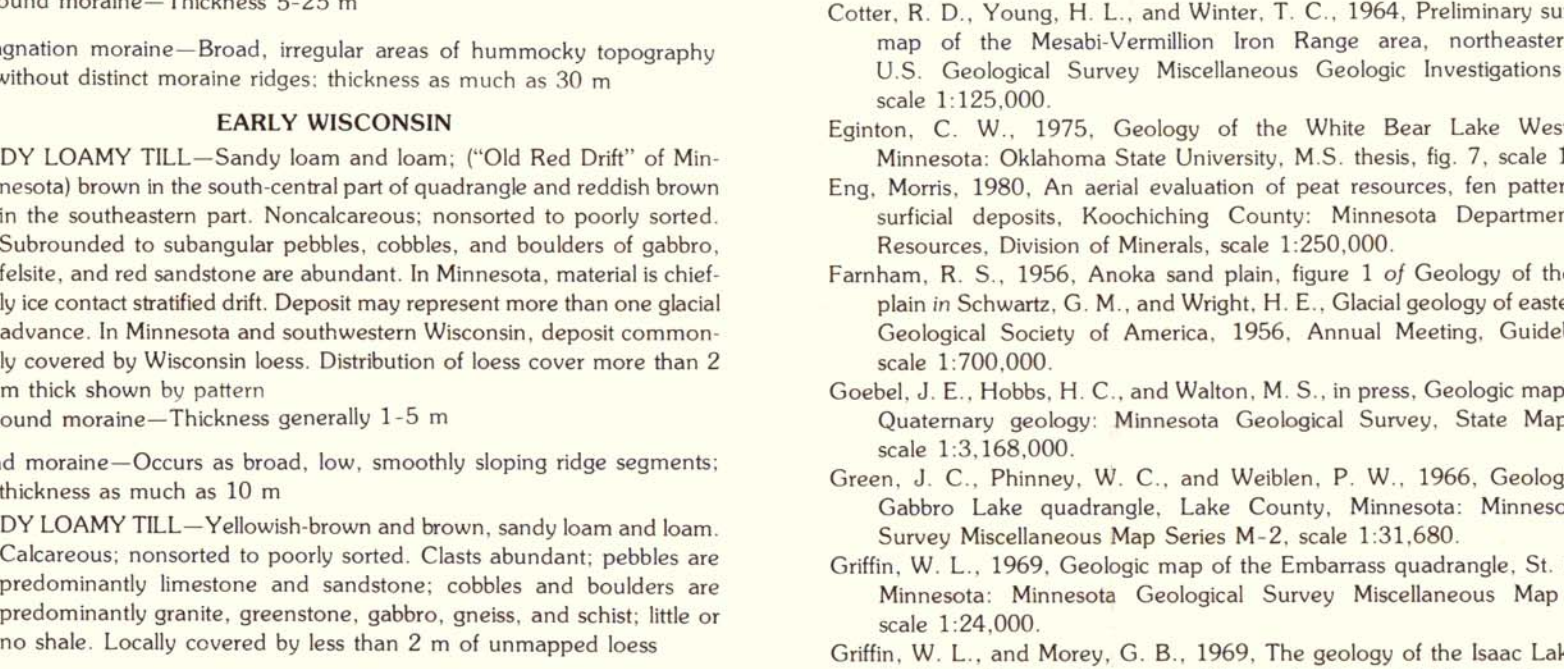
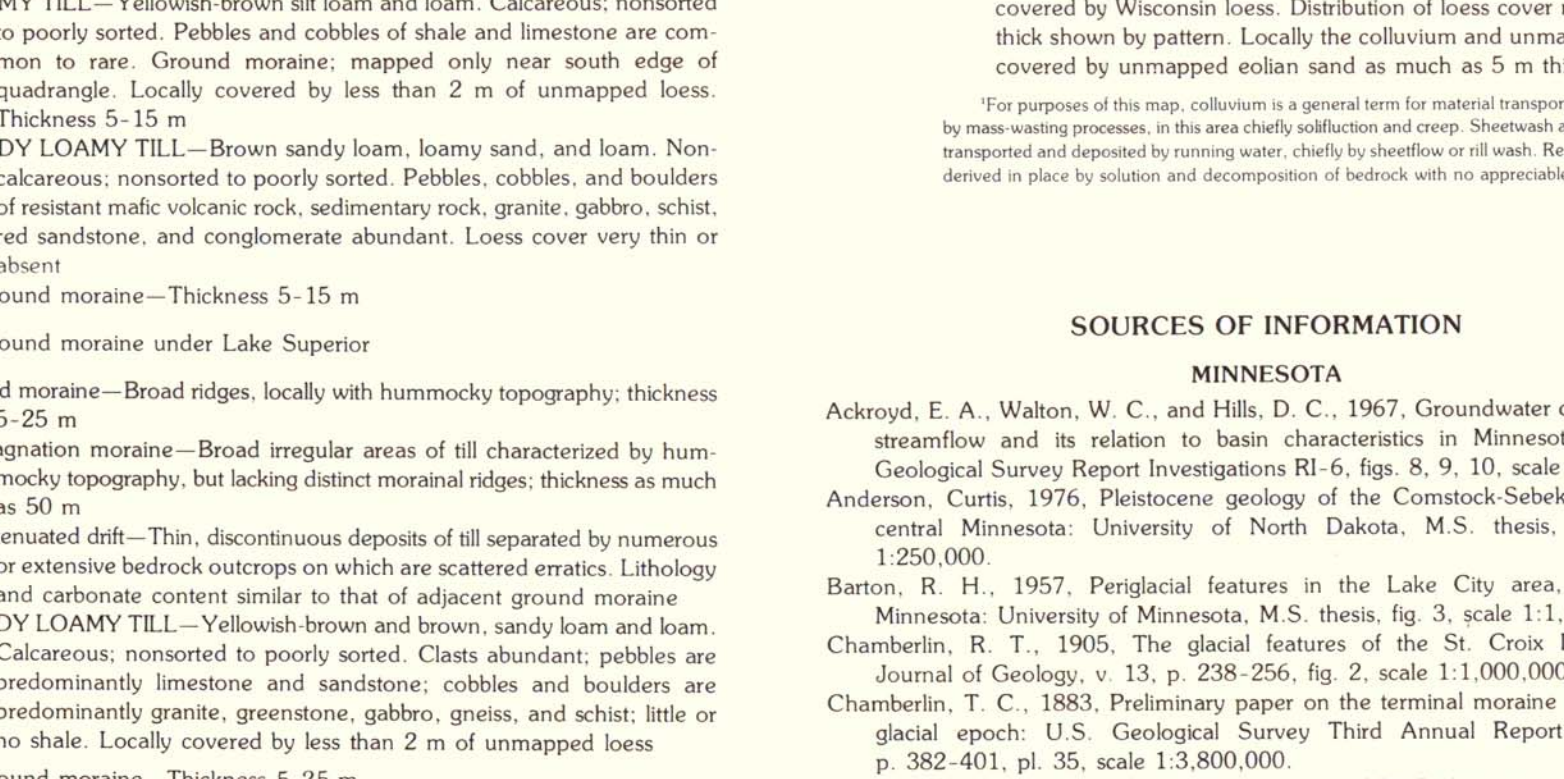
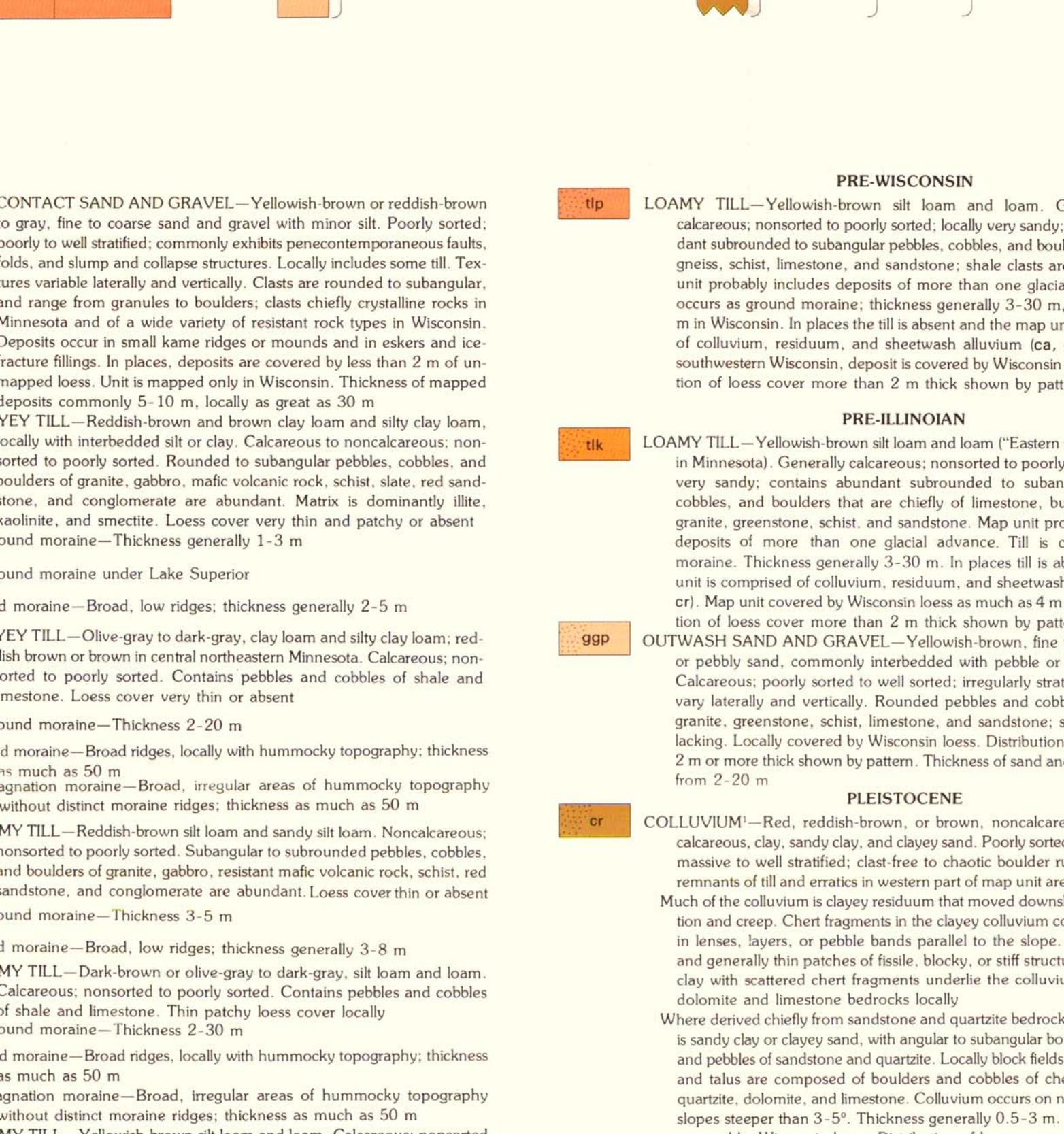
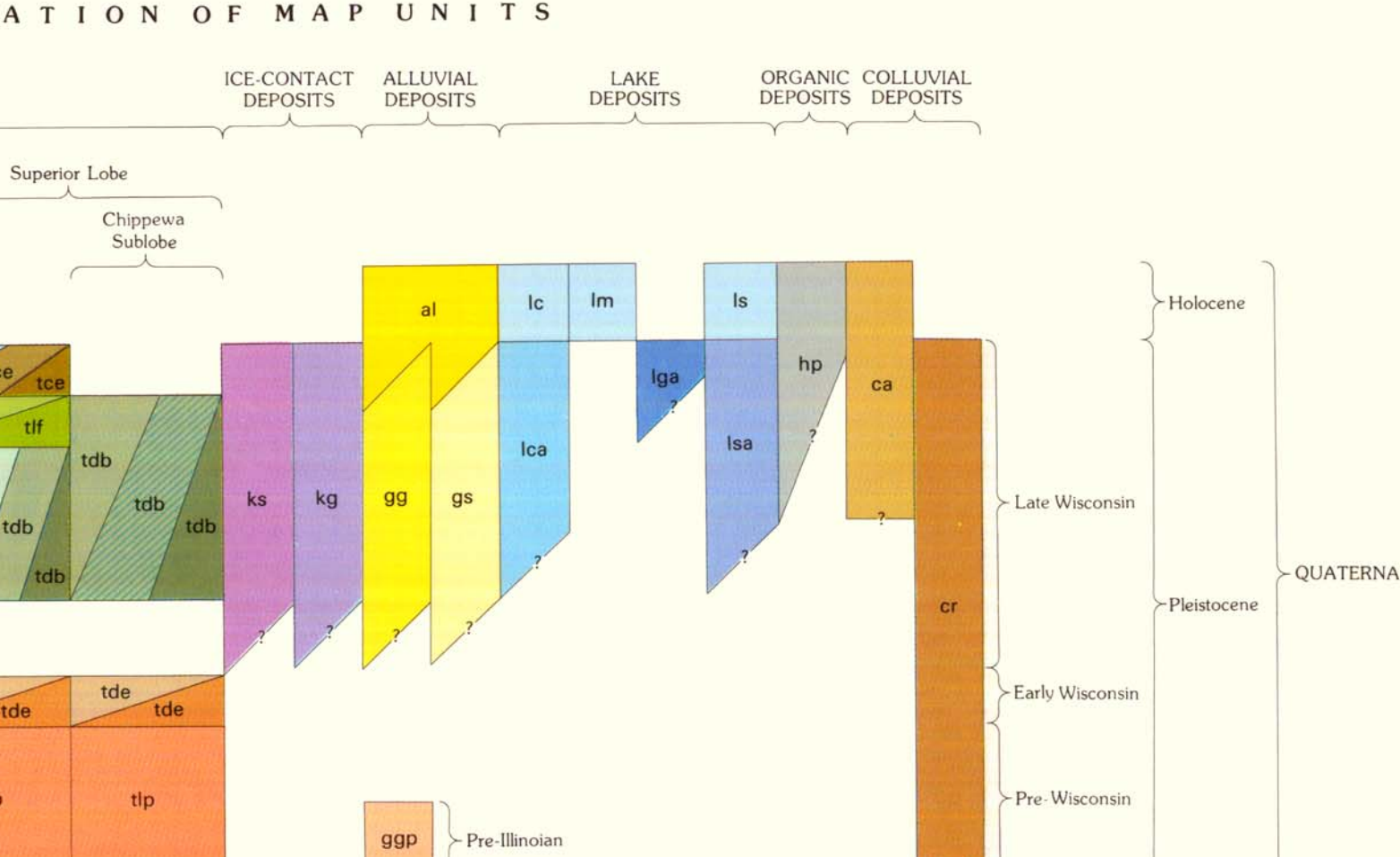
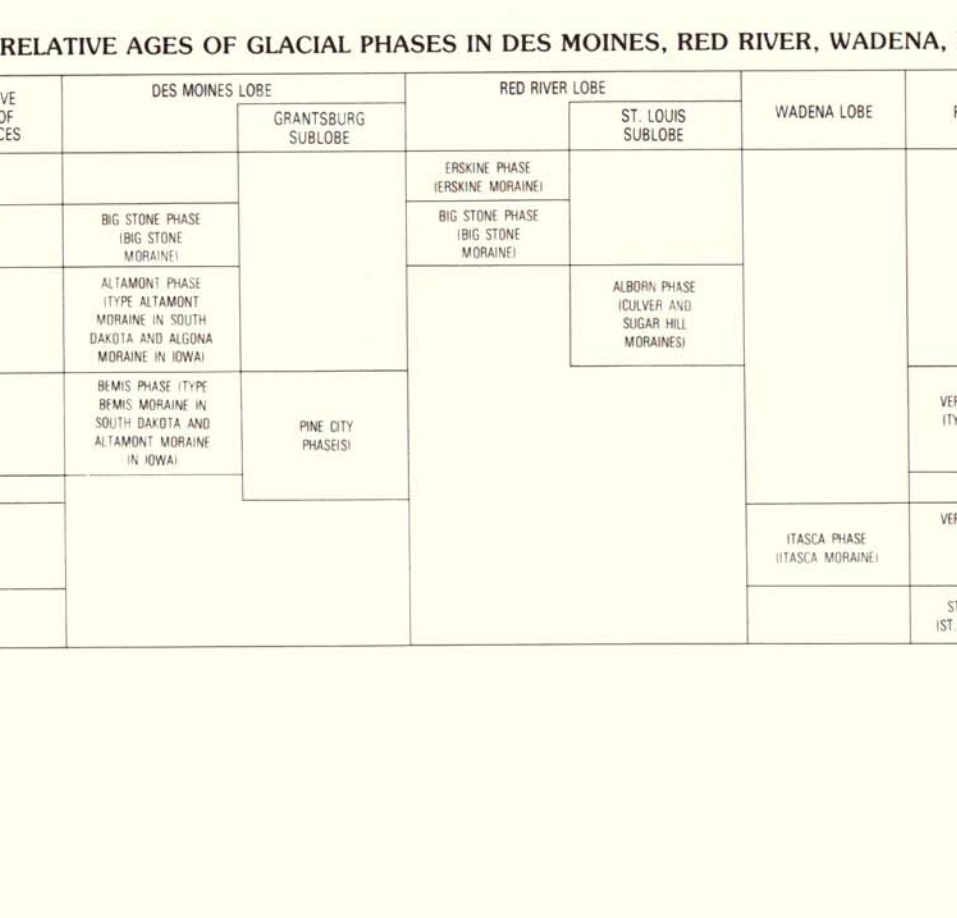
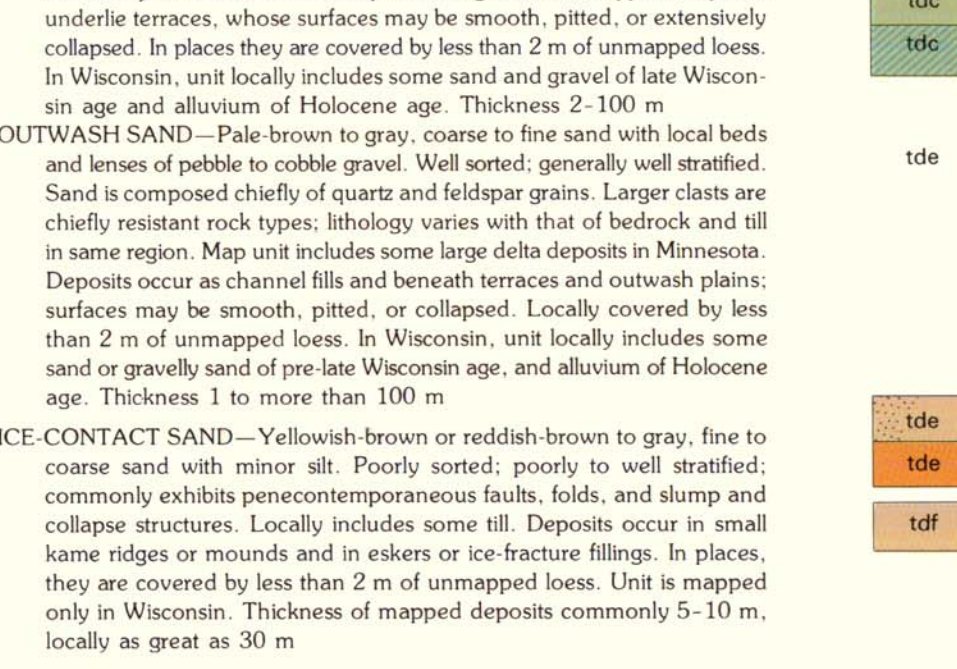
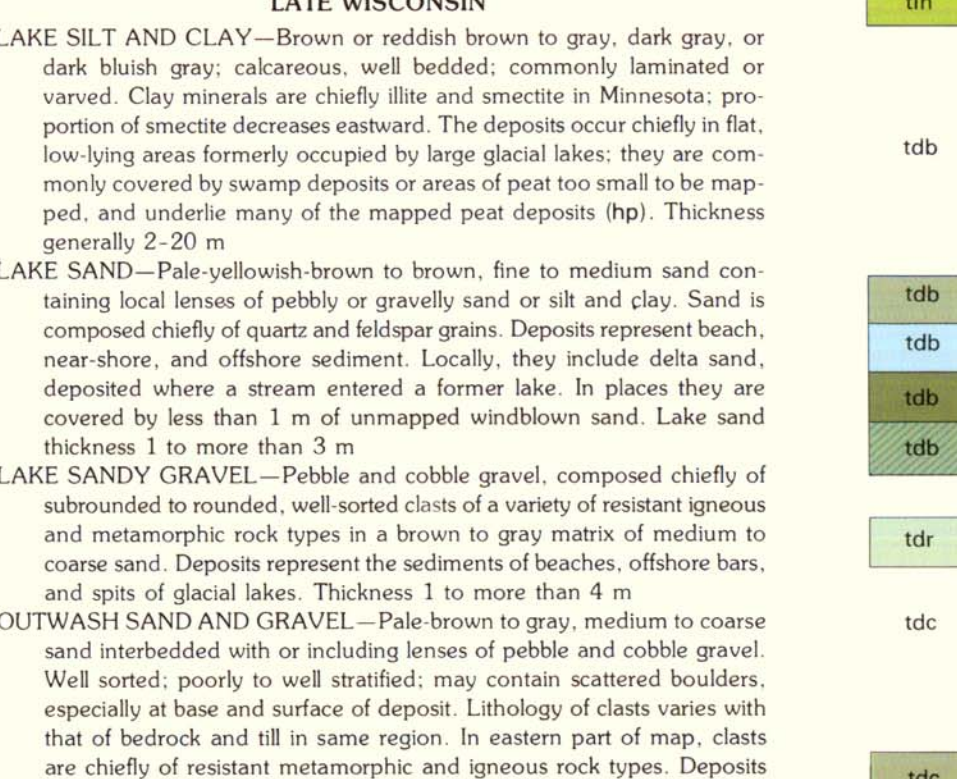
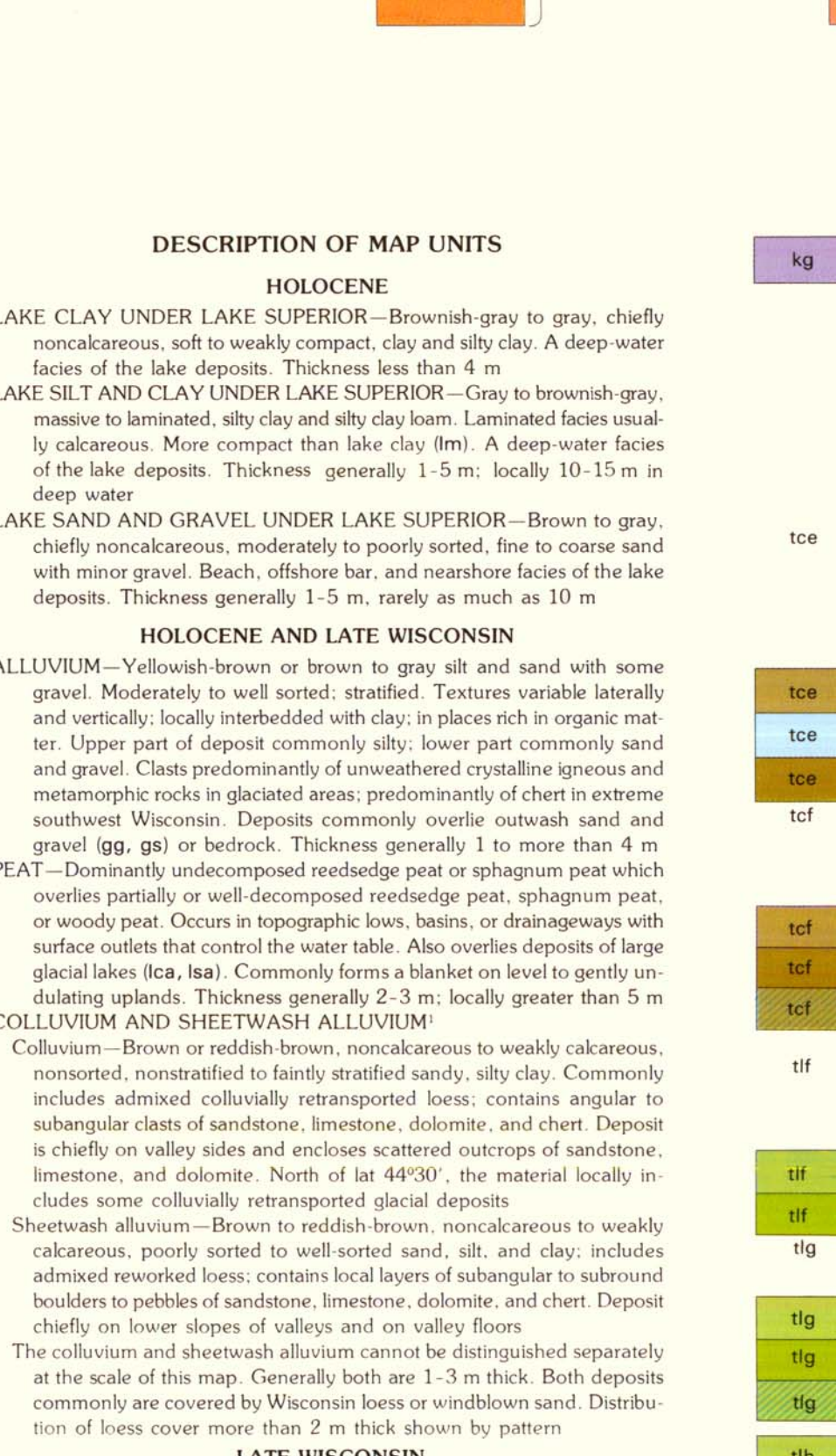
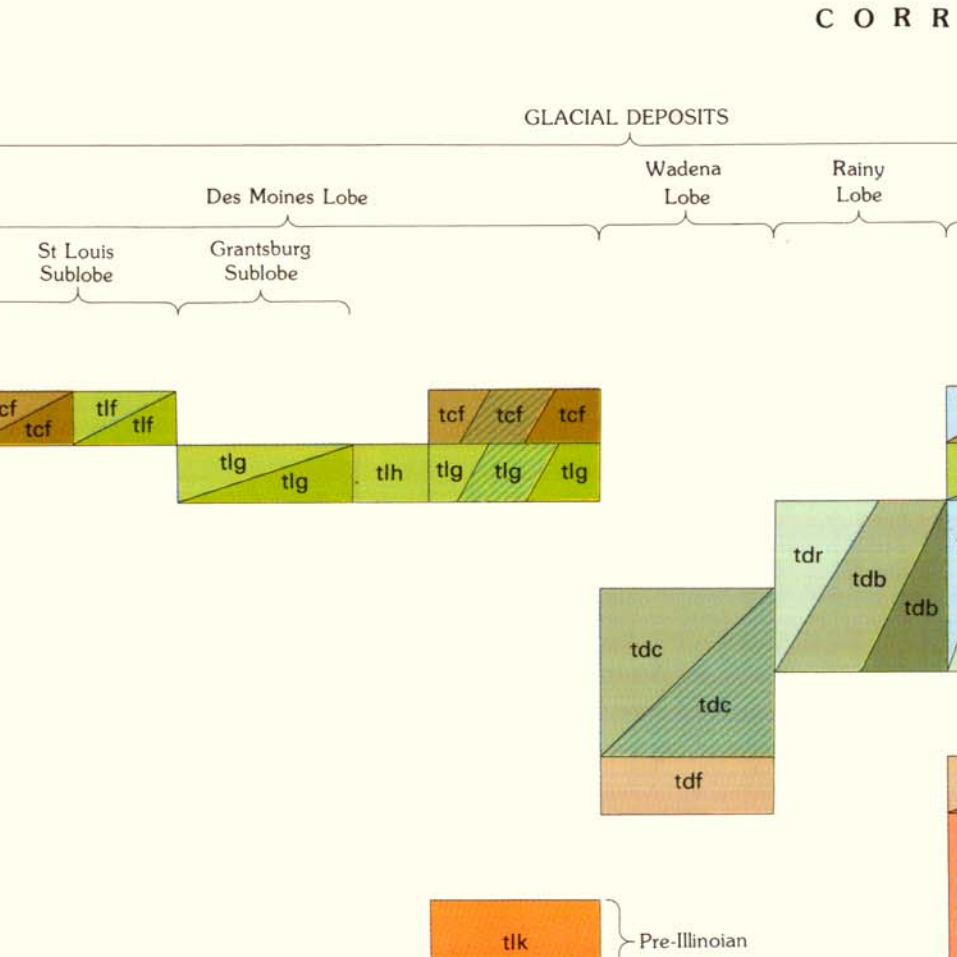
QUATERNARY GEOLOGIC MAP OF THE MINNEAPOLIS 4° x 6° QUADRANGLE, UNITED STATES

State compilations by
Joseph E. Goebel, David M. Mickelson, William R. Farrand, Lee Clayton, James C. Knox, Adam Cahow, Howard C. Hobbs and Matt S. Walton, Jr.
Edited and integrated by
Gerald M. Richmond and David S. Fullerton



RELATIVE AGES OF GLACIAL PHASES IN DES MOINES, RED RIVER, WADENA, RAINY, AND SUPERIOR LOBES (See map of glacial lobes)

RELATIVE ADVANCE	DES MOINES LOBE	RED RIVER LOBE	LOUIS SUBLOBE	WADENA LOBE	RAINY LOBE	MINNESOTA SUBLOBE	SUPERIOR LOBE	TULLY SUBLOBE	RELATIVE ADVANCE
1	DES MOINES (1)	DES MOINES (1)	DES MOINES (1)	DES MOINES (1)	DES MOINES (1)	DES MOINES (1)	DES MOINES (1)	DES MOINES (1)	DES MOINES (1)
2	DES MOINES (2)	DES MOINES (2)	DES MOINES (2)	DES MOINES (2)	DES MOINES (2)	DES MOINES (2)	DES MOINES (2)	DES MOINES (2)	DES MOINES (2)
3	DES MOINES (3)	DES MOINES (3)	DES MOINES (3)	DES MOINES (3)	DES MOINES (3)	DES MOINES (3)	DES MOINES (3)	DES MOINES (3)	DES MOINES (3)
4	DES MOINES (4)	DES MOINES (4)	DES MOINES (4)	DES MOINES (4)	DES MOINES (4)	DES MOINES (4)	DES MOINES (4)	DES MOINES (4)	DES MOINES (4)
5	DES MOINES (5)	DES MOINES (5)	DES MOINES (5)	DES MOINES (5)	DES MOINES (5)	DES MOINES (5)	DES MOINES (5)	DES MOINES (5)	DES MOINES (5)
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7	DES MOINES (7)	DES MOINES (7)	DES MOINES (7)	DES MOINES (7)	DES MOINES (7)	DES MOINES (7)	DES MOINES (7)	DES MOINES (7)	DES MOINES (7)
8	DES MOINES (8)	DES MOINES (8)	DES MOINES (8)	DES MOINES (8)	DES MOINES (8)	DES MOINES (8)	DES MOINES (8)	DES MOINES (8)	DES MOINES (8)
9	DES MOINES (9)	DES MOINES (9)	DES MOINES (9)	DES MOINES (9)	DES MOINES (9)	DES MOINES (9)	DES MOINES (9)	DES MOINES (9)	DES MOINES (9)
10	DES MOINES (10)	DES MOINES (10)	DES MOINES (10)	DES MOINES (10)	DES MOINES (10)	DES MOINES (10)	DES MOINES (10)	DES MOINES (10)	DES MOINES (10)



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