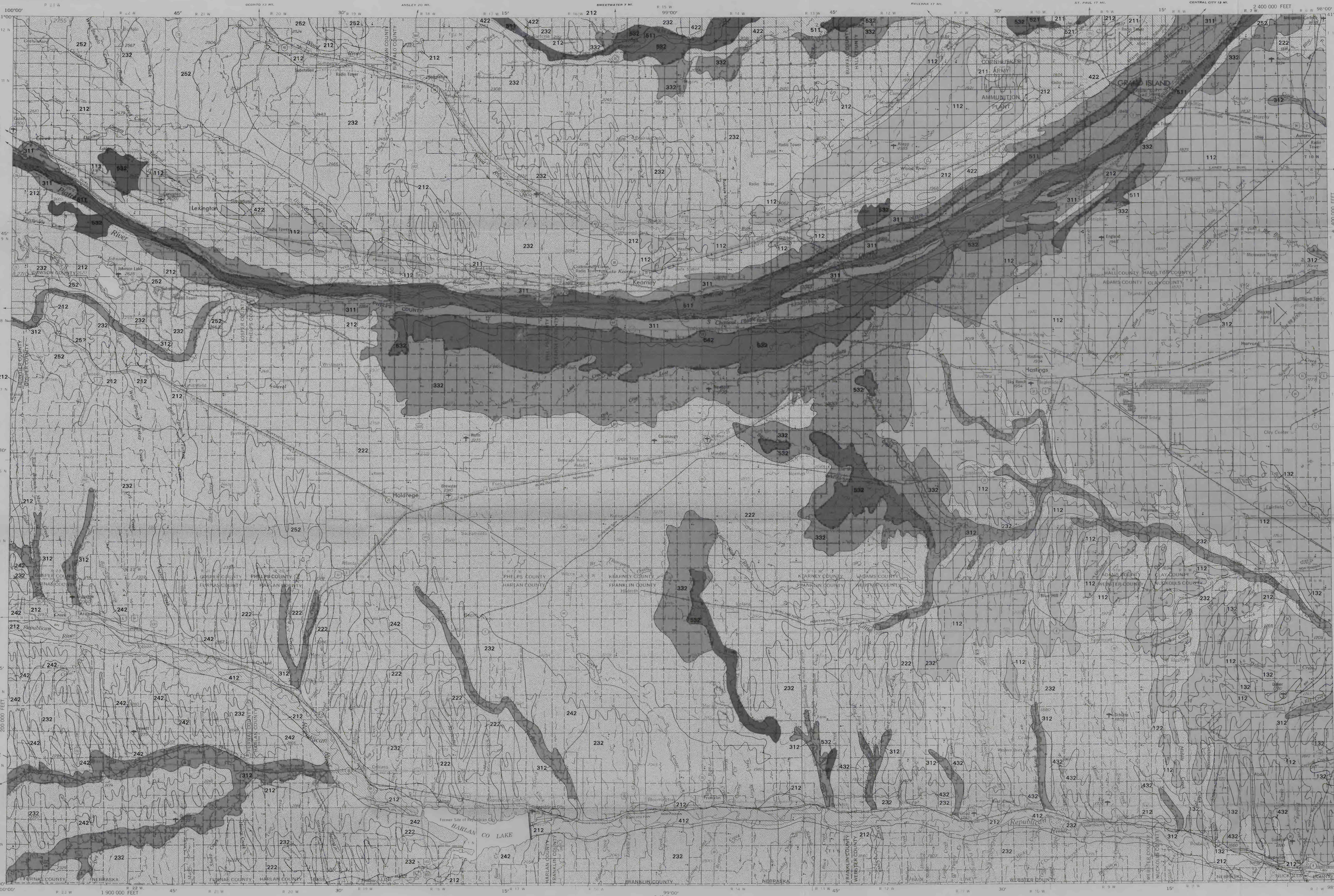
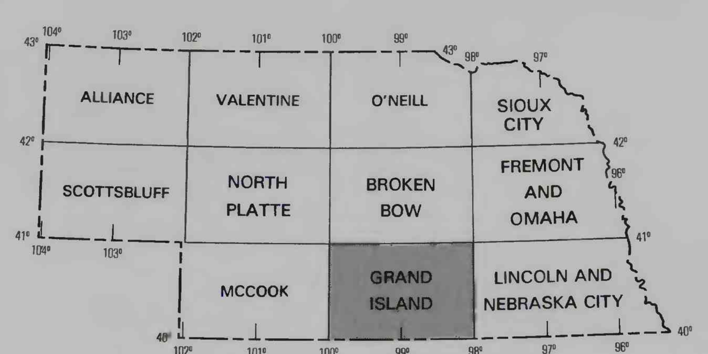


SCALE 1:250 000

5 0 5 10 15 20 25 MILES

5 0 5 10 15 20 25 KILOMETERS

1983 MAGNETIC DECLINATION FROM TRUE NORTH VARIES FROM 9° EASTERLY FOR THE CENTER OF THE WEST EDGE TO 7½° EASTERLY FOR THE CENTER OF THE EAST SIDE



INDEX MAP OF NEBRASKA SHOWING AREA OF PLATE (SHADED)

HYDROLOGIC SOIL GROUPS IN THE GRAND ISLAND QUADRANGLE, NEBRASKA

Map based on "General Soil Map of Grand Island area, Nebraska," U.S. Department of Agriculture Soil Conservation Service and Conservation and Survey Division, University of Nebraska-Lincoln, (1978–82). Hydrologic characteristics derived from soil-properties data (U.S. Department of Agriculture Soil Conservation Service, 1978).

DESCRIPTIONS OF THE SOIL GROUPS

112 Silty clays to silty clay loams with (a) permeabilities less than 1.0 inch per hour, (b) nearly level to gentle slopes (maximum slopes 2 to 5 percent), and (c) depths to seasonal high water table exceeding 6 feet. These soils are characteristic of the uplands and high terraces of the central and east-central areas of the State and are represented by the Belfore-Moody and Crete-Hastings associations.

132 Clays to silty clay loams with (a) permeabilities less than 1.0 inch per hour, (b) nearly level to moderately steep slopes (maximum slopes 10 to 20 percent), and (c) depths to seasonal high water table exceeding 6 feet. These soils are characteristic of uplands in the eastern areas of the State and are represented by the Hastings-Geary and Sharpsburg-Pawnee-Burchard associations.

211 Silty clay loams to silt loams with (a) permeabilities from 1.0 to 2.0 inches per hour, (b) nearly level to very gentle slopes (maximum slopes 1 to 3 percent), and (c) depths to seasonal high water table less than 6 feet. These soils occur on low terraces and flood plains and are represented by the Zook-Leshara-Wann and Kennebec-Nodaway-Zook associations.

212 Silty clay loams to silt loams with (a) permeabilities from 1.0 to 2.0 inches per hour, (b) nearly level to very gentle slopes (maximum slopes 1 to 3 percent), and (c) depths to seasonal high water table exceeding 6 feet. These soils are present on well-drained terraces and uplands in the central part of the State and are represented by the Hord-Hall and Holdrege-Hall associations.

222 Silty clay loams to silt loams with (a) permeabilities from 1.0 to 2.0 inches per hour, (b) nearly level to strong slopes (maximum slopes 3 to 10 percent), and (c) depths to seasonal high water table exceeding 6 feet. These soils are widely distributed throughout the State and are represented by the Holdrege and Keith-Alliance-Rosebud associations.

232 Silty clay loams to loams with (a) permeabilities from 1.0 to 2.0 inches per hour, (b) very gentle to moderately steep slopes (maximum slopes 10 to 20 percent), and (c) depths to seasonal high water table exceeding 6 feet. These soils are widely distributed and significant within the State and are represented by the Holdrege-Coly-Uly and Ulysses-Keith-Colby associations.

242 Silty clay loams to loams with (a) permeabilities from 1.0 to 2.0 inches per hour, (b) gentle to steep slopes (maximum slopes 20 to 30 percent), and (c) depths to seasonal high water table exceeding 6 feet. These soils are widely distributed within the State and are represented by the Coly-Uly-Holdrege and Monona-Ida associations.

252 Silty clay loams to loams with (a) permeabilities from 1.0 to 2.0 inches per hour, (b) gentle to very steep slopes (maximum slopes that exceed 30 percent), and (c) depths to seasonal high water table exceeding 6 feet. These soils are common in central and southwestern portions of the State and are represented by the Colby-Ulysses and Coly-Uly associations.

311 Silt loams to fine sandy loams with (a) permeabilities from 2.0 to 5.0 inches per hour, (b) nearly level to very gentle slopes (maximum slopes 1 to 3 percent), and (c) depths to seasonal high water table less than 6 feet. These soils are present in the Platte and Missouri River flood plains and are represented by the Gibbon-Wann and Lawet-Wann-Lex associations.

312 Silt loams to fine sandy loams with (a) permeabilities from 1.5 to 5.0 inches per hour, (b) nearly level to very gentle slopes (maximum slopes 2 to 5 percent), and (c) depths to seasonal high water table exceeding 6 feet. These soils are found in many parts of the State on well-drained bottomlands and terraces and differ from those in group 212 because of slightly higher permeabilities and lower topographic position. The Haverson-Tripp-Glenberg and Hobbs-Hord-Cozad are representative associations.

332 Silt loams to fine sandy loams with (a) permeabilities from 2.0 to 5.0 inches per hour, (b) nearly level to moderately steep slopes (maximum slopes 10 to 20 percent), and (c) depths to seasonal high water table exceeding 6 feet. These soils are common in transitional areas between the sandhills and silty uplands and are represented by the Kenesaw-Hersh and Oglala-Jayem associations.

412 Fine sandy loams to fine sands with (a) permeabilities from 5.0 to 10.0 inches per hour, (b) nearly level to very gentle slopes (maximum slopes 1 to 3 percent), and (c) depths to seasonal high water table exceeding 6 feet. These soils are on flood plains, differing from the 411 soils only in the depths to water table, and are represented by the Cass-Inavale and Glenberg-Bankard-Yockey associations.

422 Fine sandy loams to fine sands with (a) permeabilities from 5.0 to 10 inches per hour, (b) nearly level to strong slopes (maximum slopes 10 to 30 percent), and (c) depths to seasonal high water table exceeding 6 feet. These soils occur on uplands, terraces, and footslopes in transitional areas between sandy and silty soils and are represented by the Bazile-Paka-Thurman and Jayem-Sarben-Valent associations.

432 Fine sandy loams to fine sands with (a) permeabilities from 5.0 to 10.0 inches per hour, (b) nearly level to steep slopes (maximum slopes 10 to 20 percent), and (c) depths to seasonal high water table exceeding 6 feet. These soils occur on uplands and high terraces in transitional areas between sandy and silty soils and are represented by the Thurman-Boelus-Nora and Moody-Thurman associations.

511 Fine sandy loams to fine sands with (a) permeabilities exceeding 10.0 inches per hour, (b) nearly level to very gentle slopes (maximum slopes 1 to 3 percent), and (c) shallow water tables with depths to seasonal high water table less than 6 feet. These soils are on flood plains and in Sand Hills valleys and are represented by the Gothenburg-Platte and Loup-Elsmere-Dunday associations.

521 Loamy fine sands to fine sands with (a) permeabilities exceeding 10 inches per hour, (b) nearly level to strong slopes (maximum slopes 3 to 10 percent), and (c) shallow water tables with depths to seasonal high water table less than 6 feet. These soils occupy extensive subirrigated valleys within the Sand Hills region and are represented by the Els-Valentine-Ipage and Elsmere-Dailey associations.

532 Loamy fine sands to fine sands with (a) permeabilities exceeding 10.0 inches per hour, (b) nearly level to steep slopes (maximum slopes 10 to 20 percent), and (c) depths to seasonal high water table exceeding 6 feet. These soils are represented by the Jansen-Meadin and Valentine-Hersh associations.

542 Loamy fine sands to fine sands with (a) permeabilities exceeding 10.0 inches per hour, (b) nearly level to very steep slopes (maximum slopes 20 to 30 percent), and (c) depths to seasonal high water table exceeding 6 feet. These soils are principally found in the Sand Hills uplands and are represented by the Valentine-Tassel and Valentine-Simeon associations.

HYDROLOGIC CHARACTERISTICS OF THE SOIL GROUPS

Soil group	Average permeability of 60-inch soil profile (inches per hour)	Average permeability of least permeable horizon (inches per hour)	Average available water capacity (inches per inch)	Average maximum soil slope (percent)	Depth to seasonal high water table (feet)
112	.76	.41	.19	5	>6
132	.72	.46	.18	14	>6
211	1.52	.73	.19	2	<6
212	1.23	1.14	.20	3	>6
222	1.23	1.09	.20	5	>6
232	1.28	1.21	.19	15	>6
242	1.37	1.31	.20	23	>6
252	1.31	1.27	.21	48	>6
311	3.61	.93	.16	2	<6
312	1.73	1.36	.18	3	>6
332	3.29	2.93	.18	12	>6
412	7.52	3.05	.12	2	>6
422	6.85	4.15	.13	8	>6
432	6.56	2.94	.14	13	>6
511	12.90	3.99	.09	3	<6
521	12.86	10.53	.07	8	<6
532	12.46	5.21	.09	14	>6
542	12.20	7.57	.08	27	>6