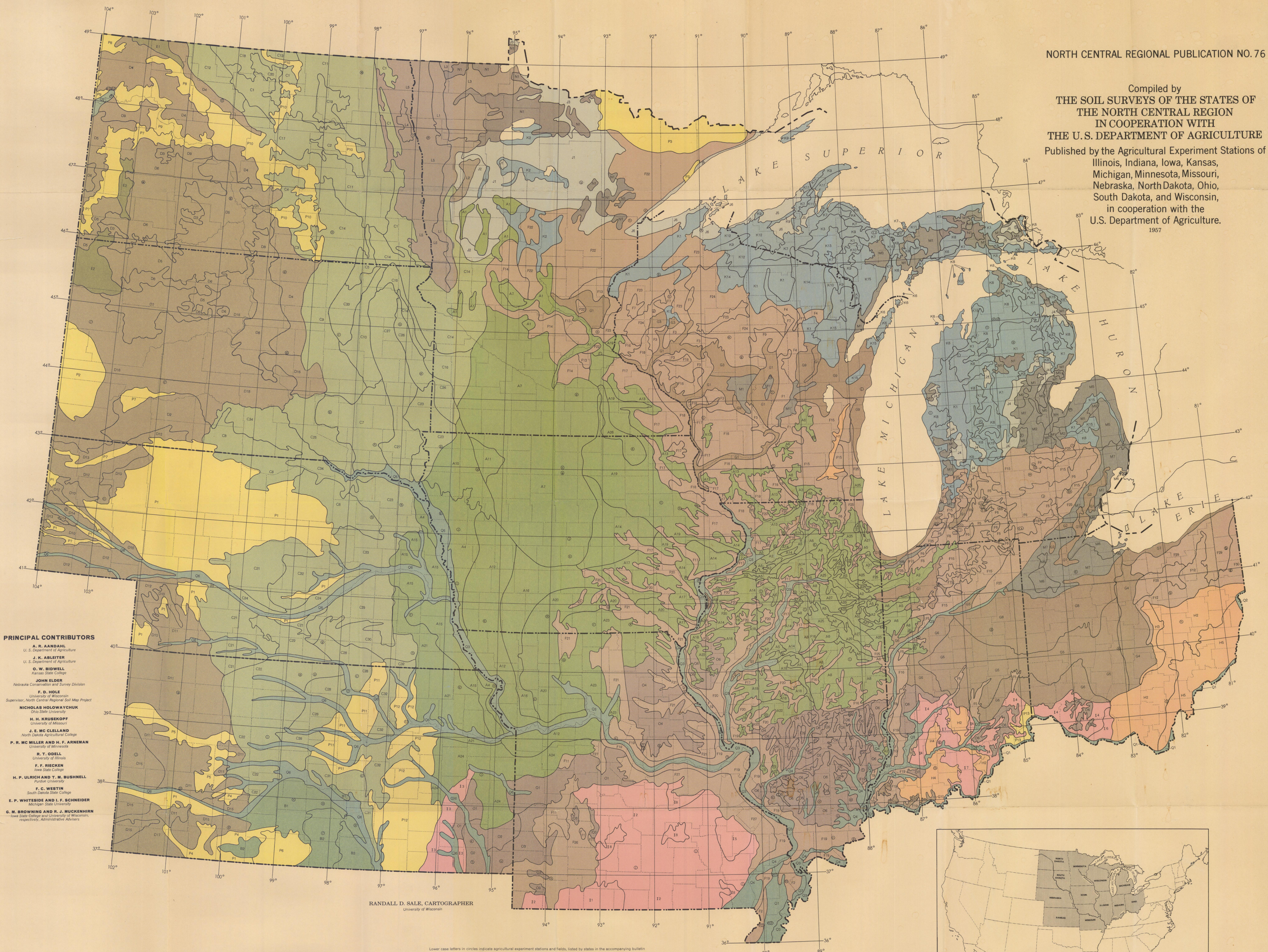


MAJOR SOILS OF THE NORTH CENTRAL REGION, U.S.A.

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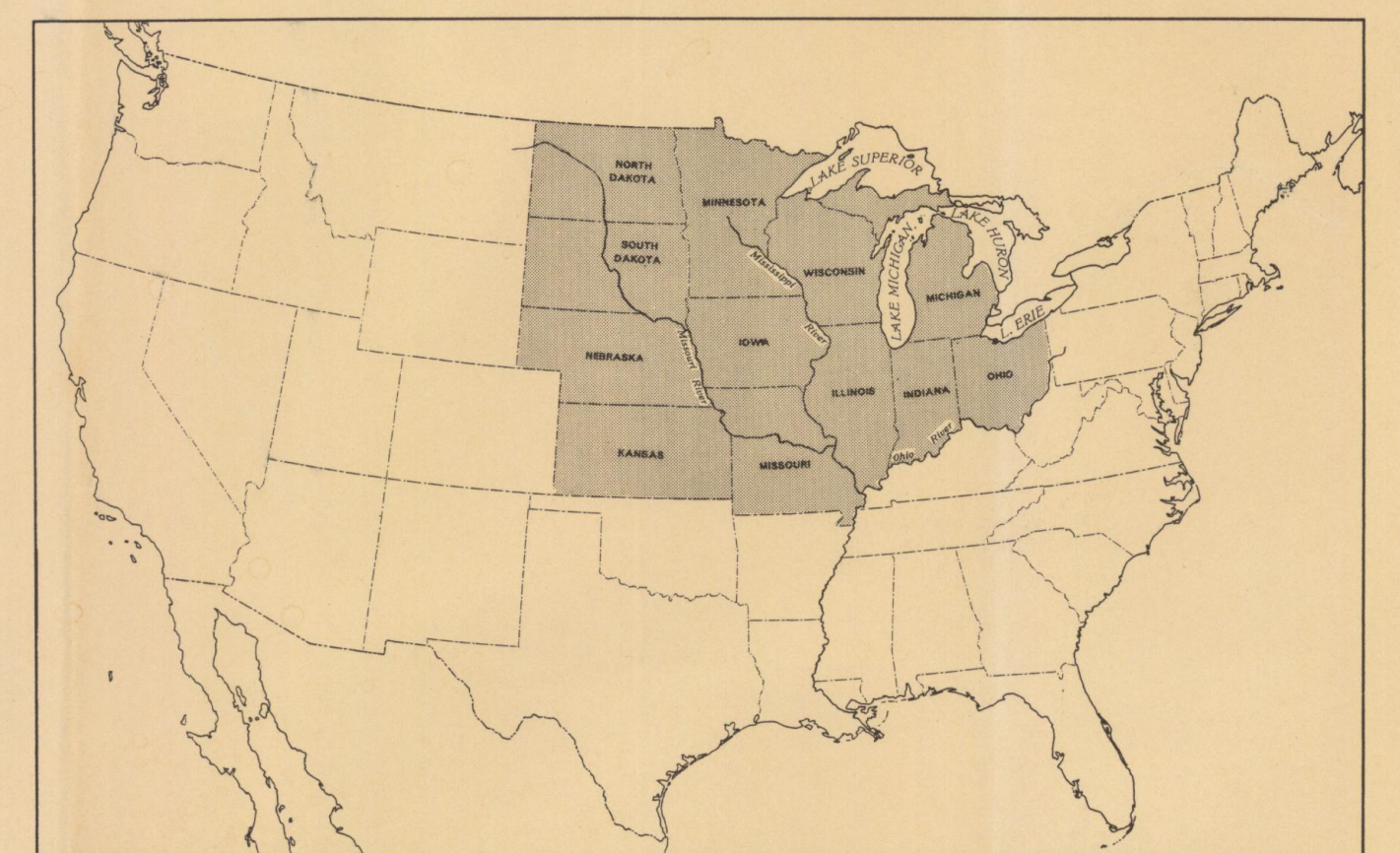
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Lower case letters in circles indicate agricultural experiment stations and fields, listed by states in the accompanying bulletin

0 100 200 300 400
SCALE IN MILES
Scale 1:2,500,000



SOIL ASSOCIATION LEGEND

DARK COLORED SOILS DEVELOPED UNDER PRAIRIE VEGETATION

- A. BRUNIZEM AND HUMIC-GLEY**
- A1 Wadena-Hubbard A2 Onarga-Maume-Morocco A3 Warsaw-Ringwood-Plano A4 Monona-Ide-Hamburg
A5 Brenston-Marinton-Rensselaer A6 Saybrook-Parr-Drummer A7 Clarion-Nicollet-Webster A8 Flanagan-Drummer-Sidell
A9 Fort Byron-Joy A10 Galva-Pringhar-Sac A11 Pringhar-Marco-Sac A12 Marshall-Knox
A13 Tama-Downs-Odenville A14 Tama-Muscatine-Salis A15 Sharpsburg-Marshall-Burchard A16 Shelby-Sharpsburg
A17 Mahaska-Tanier A18 Bolivar-Ipsa-Ilwaco A19 Keyton-Floyd-Clyde A20 Shelby-Grundy-Haig
A21 Pawnee-Grundy-Burchard A22 Harrison-Herrick-Virden A23 Shelby-Seymour-Edina A24 Summit-Woodson-Labelle
A25 Elliott-Ashum A26 Boyd-Hamill A27 Swygert-Bryce-Clarence
- B. REDDISH PRAIRIE**
- B1 Platt-Albion-Derby B2 Grant-Albion-Vernon B3 Idara-Renfrow-Kipson
- C. CHERNOZEM**
- C1 Lovell-Ulen C2 Lovell-Gardena-Fordville C3 Fordville-Sioux C4 Fordville-Lovell
C5 Hecla-Ulen C6 Thurman-Moody C7 Bonilla-Cavour C8 Holt-Valentine
C9 Houdick-Bonilla C10 Basile-Houdick C11 Axtell-Hamlet-Barnes C12 Bonilla-Hamlet
C13 Bottineau C14 Barnes-Basile C15 Barnes-Basile C16 Arco-Hendricks
C17 Barnes-Gardena-Lovell C18 Westhope-Overly C19 Bearden-Barnes C20 Overly-Gardena
C21 Holdrege-Colby C22 Hastings-Holdrege C23 Moody-Crofton C24 Hall-Wood River
C25 Reliance C26 Kranzburg-Vienna C27 Poinsett-Sinal C28 Crete-Hastings-Nuckolls
C29 Hastings-Crete C30 Crete-Butter C31 Crete-Goessel C32 Crete-Hastings-Kipp
C33 Beeth-Aberdeen C34 Boyd-Hamill
- D. CHESTNUT AND BROWN**
- D1 Lihen D2 Rosebud-Keote-Epping D3 Vebar D4 Williams-Zahl
D5 Bavinville-Morton D6 Morton-Bavinville D7 Morton-Fisher-Rhodes D8 Agar-Williams
D9 Williams-Morton D10 Anselmo-Keith-Rosebud D11 Keith-Colby D12 Keith-Rosebud-Canyon
D13 Keith-Rhode D14 Tripp-Bridgport D15 Richfield-Colby D16 Richer-Agar
D17 Dahman-Richfield-Mankar D18 Pierre-Promise-Lisnas
- E. SOLONETZ AND CHESTNUT**
- E1 Noonan-Williams E2 Rhodes-Morton

LIGHT COLORED SOILS DEVELOPED UNDER FOREST VEGETATION

- F. GRAY-BROWN PODZOLIC**
- F1 Coloma-Plainfield F2 Dexter F3 Hixton-Boone F4 Kenman-Omega
F5 Fox-Dalmen-Waraw F6 Fox-Melroy-Solids F7 Antigo-Onamia F8 Tracy-Dor-Kalamazoo
F9 Marquette-Bloomfield F10 Princeton-Bloomfield F11 Boone-Bellier F12 Wooster-Castfield-Massillon
F13 Hayden-Bluffton F14 Lester-Hayden F15 Miami-Dodge-Conover F16 Birkbeck-Pecatonica-Russell
F17 Fayette-Seaton F18 Fayette-Dubuque-steep rocky land F19 Menfro-Alford-Hosmer F20 Clinton-Lindley-Alma
F21 Lindley-Weller-Gara F22 Milaca-Hibbing F23 Milaca-Santiago F24 Almena-Spencer-Freer
F25 St. Clair-Blount-Pewamo F26 Baxter-Eaton-Nixa F27 Union-Walden F28 Rittman-Wadsworth-Trumbull
F29 Mahoning-Trumbull-Ellsworth F30 Venango-Mahoning
- G. GRAY-BROWN PODZOLIC AND HUMIC-GLEY**
- G1 Plainfield-Granby-Zimmerman G2 Berrien-Wauson-Coloma G3 Hixton-Arland-Vesper G4 Alexandria-Benington-Marengo
G5 Miami-Crosby-Brookston G6 Russell-Fincastle-Brookston G7 Painesville-Cananda-Loran G8 Blount-Pewamo-Morley
G9 Keweenaw-Oakleaf-Poygan G10 Montgomery-McGury
- H. GRAY-BROWN PODZOLIC AND LITHOSOL**
- H1 Casco-Rodman-Fox H2 Muskingum-Keene-Wallston H3 Hanover-Muskingum H4 Muskingum-Keene-Zanesville
- I. GRAY-BROWN PODZOLIC AND RED-YELLOW PODZOLIC**
- I1 Claraville-Taney I2 Claraville-Oark I3 Darrell-Stephenville I4 Cincinnati-Rosemoor-Fairmount
I5 Axtell-Tiltit-Hagerstown I6 Bratton-Maddox I7 Frederick-Cinder-Pembroke I8 Lebanon-Hanceville
- J. GRAY WOODED**
- J1 Nebish-Rockwood J2 Waukon-Barnes J3 Taylor-Grygle-peat J4 Nester-Kawka-Sekir
J5 Walton-Onton-Bohemian J6 Ontonagon-Pickford-Berling J7 Taylor-Grygle-peat J8 Nester-Kawka-Sekir
- K. PODZOL AND BROWN PODZOLIC**
- K1 Rubicon-Vilas-Graveling K2 Menasha K3 Beraga-Champion-rock knobs K4 Vilas-Munising-rock knobs
K5 Onate-Waika K6 Longrie-St. Ignace-Moran K7 Marquette-Munising-Hawatha K8 Montcalm-Kalkaska-Emmet
K9 Goodman-Gogebic-rock knobs K10 Gogebic-Tremont-Hawatha K11 Munising-Keweenaw-Stanley K12 Wakefield-Gogebic
K13 Iron River K14 Goodman-Iron River K15 Onaway-Emmet-Guagh

DARK COLORED SOILS WITH RESTRICTED DRAINAGE

- L. HUMIC-GLEY AND CaCO_3 (LIME) SOLONCHAK**
- L1 Ulen-Tanberg-Sioux L2 McIntosh-Winger L3 Rockbury-Kithorn-peat L4 Saline-Bearden
L5 Fargo-Bearden
- M. HUMIC-GLEY AND LOW HUMIC-GLEY**
- M1 Roscommon-Au Gres-peat M2 Brevort-Iso-Sims M3 Angelica-Brimley-peat M4 Warner-Essence-marsh
M5 Sims-Kawka-Sekir M6 Toledo-Colwood-Fulton M7 Hoyville-Nappanee-Wauseon M8 Paulding
- N. ORGANIC**
- N1 Peat and muck

SOILS WITH DENSE CLAYEY SUBSOIL

- O. PLANOSOL**
- O1 Oswego O2 Parsons O3 Cherokee-Parsons O4 Putnam-Cowden
O5 Hoytston-Clare O6 Blufford-Vigo-Clement O7 Robinson-Ottwell

IMMATURE AND SHALLOW SOILS ON STEEP SLOPES

- P. REGOSOL, LITHOSOL, RENDZINA**
- P1 Valentine P2 Rough mountainous land P3 Rocky and stony land P4 Canyon-Mankar
P5 Canyon-Colby P6 Vernon-Quinton-Albion P7 Badlands and rough broken land P8 Zahl
P9 Bainville-Zahl P10 Base P11 Heaville-Lancaster P12 Sogn-Florence
P13 Fairmount-Switzerland

SOILS OF STREAM BOTTOMLANDS

- Q. ALLUVIAL**
- Q1 Hannington-Wheeling Q2 Hannington-Wheeling Q3 Hannington-Wheeling Q4 Hannington-Wheeling
Q5 Hannington-Wheeling Q6 Hannington-Wheeling Q7 Hannington-Wheeling Q8 Hannington-Wheeling
Q9 Hannington-Wheeling Q10 Hannington-Wheeling Q11 Hannington-Wheeling Q12 Hannington-Wheeling