GENERAL SOIL MAP OF TEXAS

2008

BUREAU OF ECONOMIC GEOLOGY
SCOTT W. TINKER, DIRECTOR
JOHN A. AND KATHERINE G. JACKSON SCHOOL OF GEOSCIENCES
THE UNIVERSITY OF TEXAS AT AUSTIN
University Station, Box X
Austin, Texas 78713-8924
(512) 471-1534

This publication was co-funded by the Jackson School of Geosciences.

Natural Resources Conservation Service
For more detailed soil information go to:
http://websoilsurvey.nrcs.usda.gov

This map was originally produced by the USDA - NRCS MO9 Soil Survey Office; Temple, TX, September 20, 2006.

Soil lines are generalized from the NRCS STATSGO database 2004 NAD 83, USA Albers Equal Area Conic USGS.

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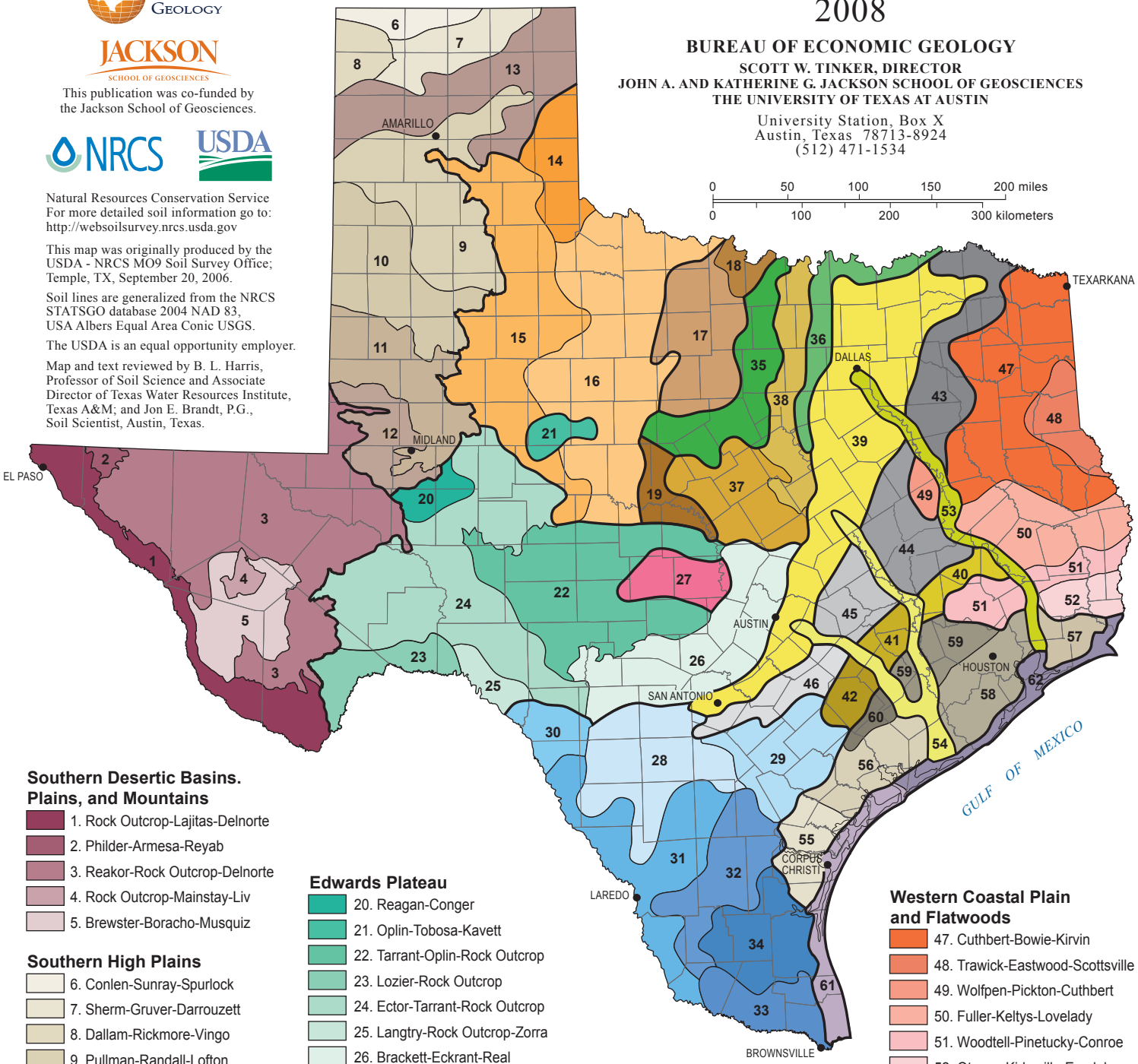
Map and text reviewed by B. L. Harris, Professor of Soil Science and Associate Director of Texas Water Resources Institute, Texas A&M; and Jon E. Brandt, P.G., Soil Scientist, Austin, Texas.



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- 3. Reakor-Rock Outcrop-Delnorte
- 4. Rock Outcrop-Mainstay-Liv
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- 7. Sherm-Gruver-Darrouzett
- 8. Dallam-Rickmore-Vingo
- 9. Pullman-Randall-Lofton
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- 23. Lozier-Rock Outcrop
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General Soil Map of Texas

Soil, a natural body composed of minerals, organic matter, liquids, and gases, occurs on Earth's surface and supports plant growth. Soils form in environments ranging from desert landscapes to coastal grassflats permanently covered by water up to 2.5 m deep. Soil formation is related to five factors: parent material, climate, topography, living organisms, and time. The soil under your feet determines land use, kinds of crops grown, need for fertilizers, and erosion potential. The state of Texas is divided into 15 major land resource areas, each of which is a grouping of similar soils, vegetation, climate, and topography.

Southern Desertic Basins, Plains, and Mountains soils formed in an area of linear mountain ranges and broad desert basins bordered by sloping alluvial fans and piedmont slopes known as the Basin and Range. Shallow soils, including Brewster, Lajitas, and Mainstay soils, formed on mountainous terrain in igneous bedrock. Soils that are shallow to a root-restrictive layer of cemented caliche ($CaCO_3$) occur in gravelly sediments weathered from igneous sources, such as Delnorte and Boracho soils, and from limestone sources, such as Philder soils. Very deep soils formed in basin sediments from limestone, such as Armesa and Reyab soils, and from mixed sources, such as Reakor soils. Liv soils, moderately deep to igneous bedrock, formed in gravelly igneous sediments. Very deep, loamy Musquiz soils occur on broad plains.

Southern High Plains soils formed on a nearly level plain on an elevated plateau, commonly bordered by moderately steep escarpments on west and east margins. Numerous playa basins dot the plains. The area is characterized by deep, well-developed soils, with clay increasing in subsoil horizons and accumulations of calcium carbonate. Sherm, Darrouzett, Pullman, Lofton, and Randall soils have clayey subsoil horizons and shrink-swell properties. Acuff, Olton, and Gruver are loamy soils having dark surface horizons (higher organic matter), whereas Amarillo, Dallam, Rickmore, and Vingo are loamy soils having less organic matter. Patricia, Brownfield, Jalmar, and Triomas soils have sandy surface horizons. Nutivoli and Penwell are sandy, less-developed soils. Conlen, Sunray, Spurlock, and Veal soils are calcareous throughout, and Mobeetie and Berda soils are loamy and occur along flanking escarpments.

Central Rolling Red Plains soils formed on an erosional surface characterized by rolling plains having ancient stream terraces associated with stream dissection. Soils (mostly red) formed in gently dipping Triassic and Permian sedimentary deposits and alluvium weathered from outcropping bedrock. Miles, Delwin, and Springer are well-developed soils having sandy surface horizons. Woodward and Vernon soils are moderately deep to sandstone and mudstone bedrock, respectively. Loamy Tillman and Hollister soils are very deep with shrink-swell properties.

Texas North Central Prairies soils formed on a dissected plateau with narrow, steep-sided valleys carved by generally southeastward flowing streams. Soil parent materials are primarily sedimentary rocks of Pennsylvanian age. Bonti, Bluegrove, Callahan, Stoneburg, and Throck soils, moderately deep to sandstone, siltstone, or claystone, occur on gently sloping to steep, broad ridges and plains. Deep Truce soils and very deep Anocon soils formed on similar landscapes. Very deep Kirkland soils formed in clayey alluvium over siltstone or claystone.

Edwards Plateau soils formed on mesas and plateaus of erosion-resistant limestone containing deeply incised canyons, limestone ridges and hills, and gently sloping valley floors. Tarrant, Lozier, Ector, Langtry, Brackett, Eckrant, and Real soils are shallow to limestone and differ in texture, mineralogy, or organic matter content. Conger, Kavett, Oplin, and Zorra soils have a root-restrictive layer of cemented caliche ($CaCO_3$) over limestone bedrock. Very deep soils occurring on broad plateaus and in alluvial-fan and valley-fill sediments include loamy, calcareous Reagan soils. Clayey Tobosa soils occur on alluvial plains, broad uplands, and depressions.

Texas Central Basin soils formed on an erosional surface of outcropping Precambrian igneous and metamorphic rocks and sedimentary rocks of Cambrian and Cretaceous age. The landscape is dominated by hills of granite, gneiss, and schist that are incised by southeastward-flowing rivers. Shallow Keese soils formed over granite and gneiss on gently sloping to steep hillslopes. Moderately deep Ligon soils formed in schist and gneiss on gently sloping, broad, convex ridges

Rio Grande Plain soils formed on a broad coastal plain consisting of sediments of Tertiary and Quaternary age. The southern extent of this nearly level plain is within the ancestral valley cut by the Rio Grande. The coastal-plain landscape is dissected by generally southeastward flowing streams. Weesatche, Duval, Sarnosa, Hidalgo, Brennan, Pernitas, Uvalde, Pryor, Elindio, and McAllen soils are deep and very deep, well-developed, loamy soils that occur on nearly level to moderately sloping plains and broad ridges. Olmos, Delmita, and Randado soils, shallow to a root-restrictive layer of cemented caliche ($CaCO_3$), formed in gravelly Pleistocene sediments. Langtry soils are shallow, Montell and Catarina soils are clayey sodium-affected soils, and Maverick soils are clayey and moderately deep to weathered shale bedrock. Falfurrias, Sarita, and Nueces soils are very deep, sandy soils on the sand-sheet prairie that covers the southeast parts of the South Texas Coastal Plain.

Cross Timbers soils formed on a rolling landscape with low to moderate relief dissected by numerous narrow streams. Outcropping sandstones, shales, and limestones of Cretaceous age cover the landscape, and unconsolidated sands and gravels fill the rivers and streams. Duffau, Gasil, and Windthorst soils are deep, highly weathered soils that formed in interbedded sandstone and shale. These soils formed on convex uplands and are very susceptible to erosion. Chaney, Crosstell, and Callisburg soils have clayey subsoils and are deep to claystone or shale.

Grand Prairie soils formed on gently rolling to hilly, dissected limestone plateaus and in adjacent, gently sloping valleys. Steep slopes border valleys along major streams, and most soils formed in flat-lying limestones and calcareous shales of Cretaceous age. Shallow soils—including Aledo, Brackett, Purves, and Real—occur on hills and ridges and differ in texture, mineralogy, and organic matter content. Moderately deep Bolar soils occur on similar landscapes. Clayey Sanger soils, which formed in shale parent materials, have shrink-swell properties.

Texas Blackland Prairie soils formed on a nearly level to gently rolling plain, dissected by generally southeastward flowing streams—a landscape that developed on outcrops of calcareous shales of Cretaceous age. The Austin Chalk (Balcones Escarpment) borders the Blackland Prairie to the west. The shale parent materials have produced a significant extent of clayey soils having high shrink-swell properties, including Houston Black, Heiden, Frelsburg, Bleiblerville, and Latium soils. Loamy soils on similar landscape positions, which formed in interbedded sandstone and shale, include Hallettsville, Crockett, Wilson, and Carbengle.

Texas Claypan Area soils formed on nearly level to sloping plains dissected by perennial streams and their tributaries. Large floodplains and stream terraces are associated with meandering river systems. Over most of the area, soils have well-developed, clayey, subsoil horizons with sandy and loamy surface textures. Woodtell, Edge, Crockett, and Straber soils occur on interstream divides and ridges, and Tabor soils are on stream terraces. Padina and Silstid soils have sandy surface layers more than 20 inches thick.

Western Coastal Plain and Flatwoods soils formed on nearly level to steep, coastal-plain uplands that are intricately dissected by streams. Parent materials are alluvial and marine sediments of Tertiary age. Pineywoods soils are mostly highly weathered, acidic soils that support pine-hardwood vegetation. Cuthbert, Bowie, Kirvin, Eastwood, Scottsville, Woodtell, and Pinetucky are deep soils that occur on interstream divides and low ridges. Trawick soils formed in glauconitic sediments. Conroe, Pickton, Lovelady, and Wolfpen soils have sandy surface layers more than 20 inches thick, and Fuller and Keltys soils are loamy and deep to mudstone. Flatwood soils are highly weathered and acidic and support pine-hardwood vegetation characterized by loblolly pine. The very deep Otanya, Kirbyville, and Evadale soils occur on low-relief uplands and flat plains.

Flood plains soils formed in alluvium on flood plains, the nearly level plains that border a stream and that are subject to inundation under river flood-stage conditions. Tinn, Trinity, Kaufman, Pledger, and Brazoria soils have clayey textures and high shrink-swell properties. Loamy Norwood soils have an irregular distribution of organic matter with soil depth.

Gulf Coast Prairie soils formed in alluvial and marine sediments of (primarily) Quaternary age that were deposited under fluctuating sea-level conditions. The area is characterized by low local relief and dissection by rivers that flow to the Gulf of Mexico. Victoria, Laewest, Edroy, Beaumont, League, and Lake Charles soils are well-developed, clayey soils with high shrink-swell properties. Orelia, Dacosta, Edna, Labelle, Gessner, Bernard, Katy, Telferner, Wockley, Cieno, and Nada soils have loamy surface textures and loamy and clayey subsoil horizons, and they differ primarily on drainage class and mineralogy.

Gulf Coast Saline Prairies soils formed in Quaternary sediments on nearly level coastal lowland plains, including coastal marshes, tidal flats, and barrier islands. Clayey, saline soils include Barrada, Harris, Surfside, and Francitas. Sandy Mustang and Daggerhill soils occur on dune landforms on barrier-island landscapes.

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