Summary Table: Characteristics of Ecoregions of Nebraska and Kansas

25. WESTERN HIGH PLAINS

Level IV Ecoregion		Physiography		Geology	Soil			Climate			Potential Natural Vegetation	Land Use and Land Cover
	Area (square miles)		Elevation/ Local Relief (feet)	Surficial Material and Bedrock	Order (Great Group)	Common Soil Series	Temperature / Moisture Regimes	Precipitation Mean annual (inches)	Frost Free Mean annual (days)	Mean Temperature January min/max; July min/max, (°F)		
25a. Pine Ridge Escarpment	1135	Alternating ridges and valleys with entrenched channels. Elevations increasing from northeast to southeast. Rock outcrops.	3400-5200 / 200-1000	Sandy residuum, Miocene, Oligocene, and Eocene sandstone, and claystone (Arikaree Formation and White River Group).	Entisols (Torriorthents), Mollisols (Argiustolls, Haplustolls)	Canyon, Alliance, Rosebud, Tasssel, Busher, Bridget, Oglala, Rock Outcrops	Mesic/ Aridic, Ustic	14-16	130-140	10/36; 58/90	Ponderosa pine woodlands with Rocky Mountain juniper, western snowberry, skunkbush sumac, choke cherry, and Arkansas rose. Mixedgrass prairie: little bluestem, western wheatgrass, prairie sandreed, needle-and-thread, blue grama, and threadleaf sedge.	Cattle grazing and wildlife habitat, with limited agriculture and logging. Grassland and scattered Ponderosa pine woodland.
25b. Rolling Sand Plains	2661	Sandy undulating plains with small scattered areas of active sand dunes. Few perennial streams.	2500-3500 / 10-100	Eolian sand sheets and dunes over Miocene sandstone (Ogallala Formation).	Entisols (Torripsamments, Ustorthents, Ustipsamments), Mollisols (Argiustolls, Haplustolls), Alfisols (Haplustalfs)	NE: Valent, Woodly, Jayem, Sarben KS: Manter, Santana, Optima, Eva, Vona	Mesic/ Aridic, Ustic	16-21	140-180	14/44; 63/94	Sandsage prairie: sand sagebrush, sand bluestem, prairie sandreed, and little bluestem. This community type sometimes is called "sandsage steppe" due to the presence of a dominant shrub, however, sandsage prairie is the name most frequently used in the plains.	Predominantly rangeland with irrigated agriculture.
25c. Moderate Relief Rangeland	3084	Irregular plains with moderate slope. Intermittent streams, with a few large perennial streams. Historically, perennial streams fed by isolated springs may have been more abundant, but water consumption for agriculture and the lowering of the water table have reduced flow and dried up springs and many streams.	2900-4000 / 50-200	Loess-mantled uplands. Sandy, gravely and loamy colluvium. Miocene sandstone (Ogallala Formation).	Mollisols (Argiustolls, Haplustolls), Entisols (Ustorthents)	Kuma, Keith, Colby, Ulysses	Mesic/ Aridic, Ustic	16-20	150-160	14/42; 62/94	Combination of shortgrass and mixedgrass prairies, with mostly mixedgrass prairie in the north. Shortgrass prairie (blue grama and buffalograss) dominates on upland sites, giving way to mixedgrass prairie (little bluestem, side-oats grama) on slopes, more mesic sites along rivers and streams, and also on sites overlain by thicker loess deposits. In the south, largely on Cretaceous chalks, a unique association called the chalkflat prairie, which is a mixedgrass prairie.	Rangeland and some small areas of dryland farming with major crops of winter wheat and grain sorghum.
25d. Flat to Rolling Cropland	17882	Flat to rolling plains. Few streams, mostly intermittent.	2700-5100 / 5-150	Loess-mantled uplands with alluvial deposits. Northern area: Sandstone and siltstone (Ogallala Formation) with thin loess mantle. Also some Brule Formation (White River Group).	Mollisols (Argiustolls, Haplustolls), Entisols (Ustorthents)	NE: Alliance, Rosebud, Kuma, Santana, Keith KS: Richfield, Ulysses, Colby, Manter	Mesic/ Aridic, Ustic	15-20	130-180	14/46; 62/96	Mixedgrass prairie in the north: needle-and-thread, blue grama, threadleaf sedge, prairie sandreed, and western wheatgrass. Shortgrass prairie to the south: blue-grama, buffalograss, and scattered, isolated sites with alkali sacaton, western wheatgrass, and 'inland' saltgrass.	Dryland cropland with large areas of irrigated agriculture. Major crops include winter wheat, with corn, grain sorghum, and sugar beets grown under irrigation.
25e. Rolling Cropland and Range	765	Nearly level to rolling plains. Few streams, mostly intermittent.	2700-3500 / 10-100	Eolian deposits; thin mantle of loess, loessial alluvium, and colluvium.	Alfisols (Haplustalfs)	Dalhart, Vona	Mesic/ Aridic, Ustic	16-20	170-185	20/47; 66/96	Shortgrass prairie in loess-mantled areas with sandsage prairie in areas with coarse-textured soils.	Irrigated and dryland cropland, and rangeland with a significant amount of bare ground. Major crops include winter wheat, grain sorghum, alfalfa, and corn.
25f. Scotts Bluff and Wildcat Hills	1367	Bluffs, escarpments, and steep valley side slopes. Rock outcrops.	3700-5200 / 150-1000	Sandy residuum. Miocene and Oligocene sandstones (Ogallala and Arikaree Formations, and upper White River Group).	Entisols (Torriorthents), Mollisols (Haplustolls, Argiustolls),	Tassel, Busher, Rosebud, Canyon	Mesic/ Aridic, Ustic	14-18	125-130	12/38; 58/90	Mixedgrass prairie: needle-and-thread, blue grama, and threadleaf sedge, with Ponderosa pine woodlands on ridge tops and side slopes.	Rangeland and wildlife habitat.
25g. Sandy and Silty Tablelands	1674	Tablelands with areas of moderate relief. Some areas of isolated sand dunes, and canyons along stream valleys.	3900-4800 / 100-300	Sandy residuum. Miocene sandstone and siltstone (Ogallala and Arikaree Formations).	Mollisols (Haplustolls), Entisols (Ustorthents, Torriorthents)	Busher, Sarben, Tassel	Mesic/ Aridic, Ustic	14-17	120-130	10/36; 58/90	Mixedgrass prairie: blue grama, little bluestem, threadleaf sedge, and needle-and-thread. Some scattered Sand Hills prairie, sand reed and little bluestem.	Rangeland with limited agriculture.
25h. North and South Platte Valley and Terraces	1562	Flat alluvial valley, bluffs, and uplands.	3300-4500 / 2-100	Sandy and silty alluvial deposits. Mostly Oligocene siltstone (White River Group), but some Miocene sandstone (Ogallala Formation).	Mollisols (Haplustolls), Entisols (Torriorthents)	Tripp, Mitchel, Alice	Mesic/ Aridic Ustic	14-18	130-140	12/38; 58/90	Lowland tallgrass prairie: big bluestem, western wheatgrass, prairie cordgrass, sedges, and switch grass. Mixedgrass prairie: needle-and-thread, blue grama, and threadleaf sedge. Sandsage prairie: little bluestem, sand bluestem, needle-and-thread, prairie sandreed, and sand sagebrush. Floodplain woodlands with cottonwoods.	Irrigated cropland in the river valleys and dryland and irrigated cropland on terraces. Major crops are sugar beets with dry beans, corn and potatoes in irrigated valleys, and forage crops and alfalfa in terraced areas. Native rangeland on uplands.

26. SOUTHWESTERN TABLELANDS

Level IV Ecoregion		Physiography		Geology	Soil			Climate			Potential Natural Vegetation	Land Use and Land Cover
	Area (square miles)		Elevation/ Local Relief (feet)	Surficial Material and Bedrock	Order (Great Group)	Common Soil Series	Temperature / Moisture Regimes	Precipitation Mean annual (inches)	Frost Free Mean annual (days)	Mean Temperature January min/max; July min/max, (°F)		
26a. Cimarron Breaks	2812	Irregular, dissected slopes, bluffs, and gypsum-capped buttes.	1700-2500 / 100-300	Red-colored Permian shale, siltstone, sandstone, salt, and gypsum deposits.	Mollisols (Argiustolls)	Shellabarger, Albion, Farnum	Thermic/ Ustic, Udic	20-28	190-200	22/46; 69/96	Mixedgrass prairie, dominated by big bluestem (on more mesic sites), little bluestem, side-oats grama, blue grama, and some hairy grama, with eastern red-cedar a dominant tree, especially in sites sheltered from fire.	Rangeland and grassland.
26b. Flat Tablelands and Valleys	779	Flat tablelands and river valleys.	1500-2200 / 10-125	Silty alluvium, sand and gravel, red-colored Permian shale, siltstone, sandstone, salt, and gypsum deposits.	Inceptisols (Haplustepts), Mollisols (Argiustolls), Alfisols (Haplustalfs), Entisols (Ustipsamments)	Vernon, Woodward, Carey, Pratt, Tivoli	Thermic/ Ustic, Udic	20-28	190-200	22/46; 69/96	Sandsage prairie common in sites with sandy or well-drained soils. Floodplain woodlands dominated by plains cottonwood, black willow, and peach-leaf willow. Common hackberry, green ash, and American elm locally common, especially in the eastern part of the region.	Cropland on flat tabletops and rangeland along the Cimarron River valley.

27. CENTRAL GREAT PLAINS

Level IV Ecoregion		Physiography		Geology	Soil			Climate			Potential Natural Vegetation	Land Use and Land Cover
	Area (square miles)		Elevation/ Local Relief (feet)	Surficial Material and Bedrock	Order (Great Group)	Common Soil Series	Temperature / Moisture Regimes	Precipitation Mean annual (inches)	Frost Free Mean annual (days)	Mean Temperature January min/max; July min/max, (°F)		
27a. Smoky Hills	7834	Undulating to hilly dissected plain. Broad belt of low hills formed by mature dissection of Cretaceous rock layers.	1200-1800 / 100-250	Sandstone and shale, loamy colluvium, and chalky limestone. Locally mantled with thin loess over Cretaceous sandstone (Dakota Formations).	Mollisols (Argiustolls, Haplustolls, Argiudolls)	Crete, Lancaster, Geary, Hedville, Wells	Mesic/ Udic, Ustic	24-28	165-180	18/42; 68/94	Transitional from tallgrass prairie in the east to mixed-grass prairie in the west. Some floodplain forests along riparian areas.	Cropland with winter wheat as primary crop (more corn grown in irrigated areas) and areas of grassland.
27b. Rolling Plains and Breaks	24739	Dissected plains with broad undulating to rolling ridge tops and hilly to steep valley sides.	1700-3200 / 50-200	Holocene to Illinoian-aged loess on uplands with alluvium in floodplains and stream terraces. Tertiary sandstone (Ogallala Formation) and Cretaceous limestone and shale (Niobrara and Greenhorn Formations).	Mollisols (Haplustolls, Argiustolls, Calciustolls), Entisols (Ustorthents)	Coly, Uly, Harney, Holdredge, Hord	Mesic/ Ustic, Udic	20-24	150-190	16/42; 58/94	Mixedgrass prairie: big bluestem, little bluestem, blue grama, needle-and-thread, side-oats grama, and western wheatgrass. Some areas of floodplain forests along major riparian corridors.	Mosaic of predominantly cropland and rangeland. Winter wheat and grain sorghum are the major crops with large areas of corn in the north. Irrigated areas along the major rivers planted with corn, alfalfa, and small grains. Rangeland on breaks.
27c. Great Bend Sand Prairie	4118	Undulating to rolling sandy plains, dune areas.	1500-2400 / 10-175	Sandy eolian deposits, dune sand, and loamy Quaternary sediments over sandy alluvium.	Alfisols (Haplustalfs), Entisols (Ustipsamments), Mollisols (Argiustolls)	Pratt, Tivin, Naron, Farnum, Shellabarger, Albion	Mesic/ Ustic, Udic	20-26	180-190	20/44; 68/96	Sand prairie-bunch grasses: sand bluestem, sand dropseed, and sand reedgrass.	Dryland and irrigated cropland. Winter wheat is main dryland crop. Large areas of center pivot irrigation support grain sorghum and alfalfa crops. Some areas of rangeland.
27d. Wellington-McPherson Lowland	6058	Flat alluvial lowlands. Perennial streams and numerous springs.	1100-1800 / 2-75	Loess and silty, sandy, and clayey alluvium. Permian sandstone, shale, and salt deposits (Wellington Formation).	Mollisols (Argiustolls, Paleustolls, Haplustolls)	Farnum, Shellabarger, Bethany, Grant, Pond Creek, Ladysmith, Irwin, Clime	Thermic, Mesic/ Ustic, Udic	24-32	185-200	22/44; 69/96	Tallgrass prairie: big bluestem, little bluestem, and Indiangrass, with switchgrass in more mesic sites. Floodplain forests are well developed along rivers and streams and are dominated by plains cottonwood, black willow, peach-leaf willow, common hackberry, American elm, green ash, and black walnut, with bur oak becoming less abundant westward.	Extensive cropland agriculture. Major crops include winter wheat and grain sorghum. Small area of cotton cultivation.
27e. Central Nebraska Loess Plains	6617	Rolling dissected plains with deep loess layer. Perennial and intermittent streams.	1600-3100 / 50-275	Deep Quaternary calcareous loess, early Pleistocene and Pliocene alluvial sand, gravel, and lacustrine sand and silt. Tertiary sandstone (Ogallala Formation).	Entisols (Ustorthents, Ustifluvents), Mollisols (Haplustolls, Argiustolls)	Coly, Uly, Holdrege, Holder, Hobbs, Hord	Mesic/ Udic, Ustic	20-25	135-150	10/36; 62/90	Mixedgrass prairie: big bluestem, little bluestem, sideoats grama, blue grama, and western wheatgrass with areas of recent eastern red-cedar intrusion. Highest concentration of cedar is in northwest and adjacent to the Sand Hills.	Predominantly rangeland with large areas of cropland planted in winter wheat, corn, and forage crops. Irrigation agriculture continues to expand in this area.
27f. Rainwater Basin Plains	7370	Flat to gently rolling loess-covered plains. Historically, extensive rainwater basins, and wetlands.	1300-2400 / 5-100	Quaternary loess and mixed loess and sandy alluvium. Tertiary sandstone (Ogallala Formation) in the west and Cretaceous limestone and shale (Niobrara and Carlile Formations) to the east. Wind-excavated depressions.	Mollisols (Argiustolls, Argialbolls, Argiaquolls, Haplustolls), Entisols (Ustorthents)	Hastings, Fillmore, Crete, Butler, Holder, Uly, Coly	Mesic/ Ustic, Aquic, Udic	22-28	150-170	14/38; 65/92	Transitional: tallgrass prairie to the east and mixed-grass prairie in the west, dominated by big bluestem, little bluestem, and sideoats grama. Wetlands dominated by western wheatgrass, sedges, spike rushes, and slender bulrush.	Extensive cropland. Sorghum and winter wheat are the principal dryland crops. Corn and alfalfa are the principal irrigated crops. Historically, the region contained extensive rainwater basins and wetlands that provide important habitat for migrating bird species. Most of the basins have been drained for cultivation and only a few remnants still exist.
27g. Platte River Valley	3061	Flat, wide alluvial valley. Shallow, interlacing streams on a sandy bed.	1300-2900 / 2-75	Alluvial sand, silt, clay, and gravel deposits. Quaternary and Tertiary unconsolidated sand and gravel.	Mollisols (Haplustolls, Argiustolls, Endoaquolls), Entisols (Psammaquents, Fluvaquents, Ustorthents, Ustipsamments)	Cozad, Hord, Hall, Gibbon, Gothenburg, Platte, Boel, Wann, Hersh, Valentine	Mesic/ Aquic, Ustic, Udic	18-28	140-170	12/36; 64/92	Lowland tallgrass prairie with areas of wet meadow and marsh. Historically, riparian woody vegetation was minimal, however, with flood management and reduced river flow floodplain forests are increasing along the Platte River.	Extensive cropland with much of the area irrigated. Corn, grain sorghum, soybeans, and alfalfa are the principal crops. Some native rangeland and haylands. Many channelized streams and flood control structures.

28. FLINT HILLS

Level IV Ecoregion		Physiography		Geology	Soil			Climate			Potential Natural Vegetation	Land Use and Land Cover
	Area (square miles)		Elevation/ Local Relief (feet)	Surficial Material and Bedrock	Order (Great Group)	Common Soil Series	Temperature / Moisture Regimes	Precipitation Mean annual (inches)	Frost Free Mean annual (days)	Mean Temperature January min/max; July min/max, (°F)		
28. Flint Hills	9783	Undulating to rolling hills, cuestas, cherty limestone, and shale outcrops. Perennial streams and springs common.	1000-1600 / 50-400	Cherty and clayey residuum. Interbedded cherty Permian limestone and shale. Some limited glacial drift in the northeast corner of region.	Mollisols (Haplustolls, Argiustolls, Natrustolls, Argiudolls)	Clime, Labette, Sogn, Dwight, Florence, Eram, Kenoma, Irwin, Ladysmith	Mesic, Thermic/ Udic, Ustic	28-35	160-190	22/42; 68/96	Tallgrass prairie: big bluestem, little bluestem, switchgrass, and Indiangrass. Largest area of intact, native, tallgrass prairie in the Great Plains.	Rangeland with extensive cattle grazing. Some limited areas of cropland agriculture along the river valleys and in areas with little relief.

29. CENTRAL OKLAHOMA/TEXAS PLAINS

Level IV Ecoregion		Physiography		Geology	Soil			Climate			Potential Natural Vegetation	Land Use and Land Cover
	Area (square miles)		Elevation/ Local Relief (feet)	Surficial Material and Bedrock	Order (Great Group)	Common Soil Series	Temperature / Moisture Regimes	Precipitation Mean annual (inches)	Frost Free Mean annual (days)	Mean Temperature January min/max; July min/max, (°F)		
29a. Cross Timbers	775	Rolling hills and uplands.	700-1000 / 100-200	Sandy residuum and shale outcrops. Pennsylvanian shale with thin sandstone strata.	Alfisols (Haplustalfs, Paleustalfs)	Steedman, Niotaze, Stephenville	Thermic/ Udic, Aquic	32-36	190-205	24/46; 69/94	Cross timbers savanna: post oak, blackjack oak, hickory, and eastern red-cedar with an understory of tallgrass and mixedgrass species.	Woodland and rangeland.

39. OZARK HIGHLANDS

Level IV Ecoregion		Physiography		Geology	Soil			Climate			Potential Natural Vegetation	Land Use and Land Cover
	Area (square miles)		Elevation/ Local Relief (feet)	Surficial Material and Bedrock	Order (Great Group)	Common Soil Series	Temperature / Moisture Regimes	Precipitation Mean annual (inches)	Frost Free Mean annual (days)	Mean Temperature January min/max; July min/max, (°F)		
39a. Springfield Plateau	56	Smooth to rolling hills.	800-1000 / 100-175	Loamy residuum. Mississippian cherty limestone.	Ultisols (Paleudults, Fragiudults)	Clarksville, Nixa	Mesic/ Udic	40-42	215-220	26/46; 68/93	Oak-hickory mixed forest. Pecan, Shumard oak, pin oak, white sassafras, and river birch are common in places along rivers and streams, with flowering dogwood on uplands. Tallgrass prairie and some sandstone and limestone glades were also found on uplands, but most prairies have been converted to cropland.	Mosaic of woodland, grassland, and small areas of cropland.

40. CENTRAL IRREGULAR PLAINS

Level IV Ecoregion		Physiography		Geology	Soil			Climate			Potential Natural Vegetation	Land Use and Land Cover
	Area (square miles)		Elevation/ Local Relief (feet)	Surficial Material and Bedrock	Order (Great Group)	Common Soil Series	Temperature / Moisture Regimes	Precipitation Mean annual (inches)	Frost Free Mean annual (days)	Mean Temperature January min/max; July min/max, (°F)		
40b. Osage Cuestas	8988	Cuestas and gentle undulating plains. Perennial streams.	800-1200 / 50-200	Silty and clayey residuum and colluvium. Alternating layers of Pennsylvanian sandstone, limestone, and shale. Glacial drift fairly abundant in the extreme northern part of this ecoregion.	Mollisols (Argiudolls, Argiaquolls), Alfisols (Albaqualfs), Entisols (Udarents)	Kenoma, Martin, Woodson, Eram, Lula, Dennis, Parsons, Kanima, Bates	Thermic, Mesic/ Aquic, Udic	32-38	190-220	24/44; 68/94	Transitional: mostly tallgrass prairie in the west to a combination of tallgrass prairie and oak-hickory woodland in the east. Upland forests dominated by shagbark hickory, bitternut hickory, red oak, white oak, and black oak, with Ohio buckeye, American bladderpod, and pawpaw common understory trees.	Mosaic of cropland, woodland, and grassland.
40c. Wooded Osage Plains	1565	Cuestas and gentle undulating plains. Perennial streams.	900-1100 / 50-200	Silty and clayey residuum and colluvium. Alternating layers of Pennsylvanian sandstone, limestone, and shale.	Mollisols (Argiudolls), Alfisols (Albaqualfs), Entisols (Udarents)	Catoosa, Clareson, Parsons, Dennis, Kanima	Thermic/ Aquic, Udic	38-40	195-210	23/44; 68/93	Mixture of oak-hickory woodland and tallgrass prairie with a greater concentration of hardwood forest. Much like 40b, but Shumard oak, pecan, pin oak, and persimmon a bit more common, especially along the Marais des Cygnes River.	Mosaic of woodland, cropland, and grassland.
40d. Cherokee Plains	1308	Flat to gently sloping plains. Perennial streams.	800-1000 / 10-100	Sandy and clayey residuum and colluvium. Pennsylvanian sandstone, limestone, and shale (Cherokee Group).	Mollisols (Argiudolls), Alfisols (Albaqualfs), Entisols (Udarents)	Parsons, Dennis, Kanima	Thermic/ Aquic, Udic	38-40+	195-210	25/45; 68/93	A combination of mostly tallgrass prairie and oak-hickory woodland in areas of greater relief. Upland areas dominated by hardpan and claypan prairie with little bluestem, side-oats grama, varying amounts of big bluestem and Indiangrass, and a variety of forbs.	Combination of cropland and grassland, with scattered areas of woodland. Areas of historic coal strip mining, especially along the Kansas-Missouri border.

42. NORTHWESTERN GLACIATED PLAINS

Level IV Ecoregion		Physiography		Geology	Soil			Climate			Potential Natural Vegetation	Land Use and Land Cover
	Area (square miles)		Elevation/ Local Relief (feet)	Surficial Material and Bedrock	Order (Great Group)	Common Soil Series	Temperature / Moisture Regimes	Precipitation Mean annual (inches)	Frost Free Mean annual (days)	Mean Temperature January min/max; July min/max, (°F)		
42g. Ponca Plains	143	Unglaciated. Level to rolling plains. Preglacial stream drainage.	1700-1900 / 80-140	Alluvial sand and gravel. Miocene soft sandstone (Ogallala and Arikaree Formations) and Cretaceous Pierre Shale.	Mollisols (Argiustolls, Calciustolls)	Onita, Reliance, Ree, Jansen, O'Neill	Mesic/ Ustic	21-22	145-155	10/32; 64/92	Mixedgrass prairie: little bluestem, prairie sandreed, green needlegrass, needle-and-thread, western wheatgrass, sideoats grama, blue grama, and porcupine grass.	Cropland with winter wheat, corn, sorghum, and alfalfa as principal crops.
42h. Southern River Breaks	586	Dissected hills and canyons with slopes of high relief bordering major rivers and associated alluvial plains.	1400-2000 / 250-500	Cretaceous Pierre Shale.	Inceptisols (Haplustepts), Entisols (Ustorthents)	Labu, Bristow, Sansarc	Mesic/ Ustic	20-23	145-155	10/32; 64/92	Deciduous woodland: bur oak, basswood, and eastern red-cedar in canyons and along steep north-facing slopes. Plains cottonwood, willows, green ash. Mixedgrass prairie: western wheatgrass, little bluestem, and green needlegrass on uplands.	Rangeland, wildlife habitat, with some limited cropland.
42p. Holt Tablelands	1401	Unglaciated. Tablelands with dissected slopes.	1500-2000 / 50-475	Eolian sand, alluvial sand and gravel, and lacustrine sand and silt. Miocene soft sandstone (Ogallala Formation).	Mollisols (Argiustolls, Haplustolls)	Jansen, O'Neill, Meadin, Dunday, Pivot, Valentine	Mesic/ Ustic	20-24	145-150	10/32; 62/90	Mixedgrass prarie: little bluestem, switchgrass, sideoats grama, blue grama, sand dropseed, needle-and-thread, prairie sandreed, and sand bluestem.	Cropland on more level tablelands; grassland occurs in areas of greater relief. Crops include grain sorghum, winter wheat, and alfalfa.

43. NORTHWESTERN GREAT PLAINS

Level IV Ecoregion		Physiography		Geology	Soil			Climate			Potential Natural Vegetation	Land Use and Land Cover
	Area (square miles)		Elevation/ Local Relief (feet)	Surficial Material and Bedrock	Order (Great Group)	Common Soil Series	Temperature / Moisture Regimes	Precipitation Mean annual (inches)	Frost Free Mean annual (days)	Mean Temperature January min/max; July min/max, (°F)		
43g. Semiarid Pierre Shale Plains	759	Unglaciated. Undulating to rolling plains. Steep-sided, incised stream channels.	3200-4100 / 100-300	Cretaceous Pierre Shale to Greenhorn Granerous Shale.	Vertisols (Haplusterts), Entisols (Ustorthents)	Pierre, Samsil, Kyle	Mesic/ Aridic	15-17	135-140	10/36; 58/90	Mixedgrass prairie: western wheatgrass, green needlegrass, blue grama, fringed sage, big sagebrush, and buffalograss.	Cattle grazing, some limited dryland farming with winter wheat as principal crop.
43h. White River Badlands	223	Unglaciated. Highly dissected landscape of eroded walls and escarpments, isolated buttes and badlands. Dendritic drainage pattern; ephemeral streams highly erosive.	3100-4100 / 225-450	Oligocene, Brule, and Eocene Chadron claystone formations (White River Group) over Cretaceous Pierre Shale.	Vertisols (Haplusterts), Entisols (Torriorthents), Alfisols (Haplustalfs)	Bufton, Orella, Norrest	Mesic/ Aridic, Ustic	15-17	130-140	10/35; 60/91	Silver sagebrush, western wheatgrass, saltbush, rabbitbrush, thickspike wheatgrass, greasewood, and poverty weed.	Cattle grazing.
43i. Keya Paha Tablelands	680	Unglaciated. Level to rolling, sandy plains, isolated gravelly buttes. Dissected near streams.	1900-2400 / 20-400	Eolian and alluvial sand and silt over Miocene soft sandstone (Ogallala Formation).	Entisols (Ustipsamments, Torriothents, Psammaquents), Mollisols (Argiustolls, Haplustolls)	Valentine, Tassel, Elsmere, Tryon, Hennings, Ronson	Mesic/ Ustic, Aridic	19-20	130-155	10/32; 62/90	Mosaic of Sand Hills transition prairie and gravelly mixedgrass prairie: little bluestem, prairie sandreed, threadleaf sedge, and needle-and-thread.	Rangeland with areas of cropland. Alfalfa, winter wheat, millet, and corn are principal crops.
43r. Niobrara River Breaks	490	Unglaciated. Dissected canyons with slopes of high relief bordering river.	1700-2700 / 200-600	Sandy residuum. Miocene soft sandstone over Cretaceous Pierre Shale.	Entisols (Torriorthents, Ustipsamments)	Tassel, McKelvie, Rock Outcrop	Mesic/ Ustic	19-20	130-155	10/32; 62/90	Ponderosa pine woodlands with eastern red-cedar on south-facing bluffs and canyon slopes. Deciduous woodlands: bur oak, basswood, green ash, and some paper birch on north-facing bluffs and lower canyon slopes. Plains cottonwoods and eastern red-cedar on floodplains and mixedgrass and Sand Hills prairies through the valley.	Rangeland with scattered cropland in valley bottom. Recreational use.

44. NEBRASKA SAND HILLS

Level IV Ecoregion		Physiography		Geology	Soil			Climate			Potential Natural Vegetation	Land Use and Land Cover
	Area (square miles)		Elevation/ Local Relief (feet)	Surficial Material and Bedrock	Order (Great Group)	Common Soil Series	Temperature / Moisture Regimes	Precipitation Mean annual (inches)	Frost Free Mean annual (days)	Mean Temperature January min/max; July min/max, (°F)		
44a. Sand Hills	14726	Sand sheets and extensive fields of barchanoid, parabolic, and domal sand dunes. High water table.	2200-3900 / 50-400	Eolian dune sand and Pliocene and Pleistocene alluvial silt, sand, and gravel over Miocene soft sandstone (Ogallala Formation).	Entisols (Ustipsamments)	Valentine	Mesic/ Ustic	17-23	120-150	10/35; 60/90	Sand Hills mixedgrass prairie: prairie sandreed, little bluestem, sand bluestem, switchgrass, sand lovegrass, needle-and-thread, blue grama, and hairy grama.	Rangeland.
44b. Alkaline Lakes Area	1438	Sand sheets and dunes interspersed with numerous alkaline lakes. No rivers or streams.	3800-4100 / 50-300	Eolian dune sand over Miocene soft sandstone (Ogallala Formation).	Entisols (Ustipsamments), Inceptisols (Halaquepts)	Valentine, Els, Wildhorse	Mesic/ Ustic, Aquic	17-19	120-135	12/37; 60/90	Sand Hills mixedgrass prairie: prairie sandreed, little bluestem, sand bluestem, switchgrass, sand lovegrass, needle-and-thread, blue grama, and hairy grama. Alkaline tolerant grass species in wetlands: alkali sacaton, alkaline bulrush, and inland saltgrass.	Rangeland.
44c. Wet Meadow and Marsh Plain	1899	Flat, sandy plain. Numerous marshes and wetlands.	1900-2400 / 10-50	Eolian dune sand, sand sheets, and Pliocene and Pleistocene alluvial silt, sand, and gravel over Miocene soft sandstone (Ogallala Formation).	Entisols (Ustipsamments), Mollisols (Endoaquolls, Haplustolls)	Els, Valentine, Ipage, Loup, Elsmere	Mesic/ Ustic, Aquic	17-21	140-145	10/33; 62/90	Sand Hills transition mixedgrass prairie: prairie sandreed, little bluestem, sand bluestem, sun sedge, porcupine grass, needle-and-thread, blue grama, and hairy grama. Wetlands: big bluestem, bluejoint, prairie cordgrass, and sedges.	Grassland with a small acreage used for cultivated crops. Some center-pivot irrigation.
44d. Lakes Area	4277	Sand sheets and dunes. Numerous lakes, few rivers or streams.	2300-3900 / 50-200	Eolian dune sand and Pliocene and Pleistocene alluvial silt, sand, and gravel over Miocene soft sandstone (Ogallala Formation).	Entisols (Ustipsamments, Psammaquents), Mollisols (Haplustolls)	Valentine, Elsmere, Tryon	Mesic/ Ustic, Aquic	20-24	120-150	10/36; 60/90	Sand Hills mixedgrass prairie: prairie sandreed, prairie lovegrass, little bluestem, sand bluestem, switchgrass, sand lovegrass, needle-and-thread, blue grama, and hairy grama. Aquatic plants in marshes.	Rangeland.

47. WESTERN CORN BELT PLAINS

Level IV Ecoregion		Physiography		Geology	Soil			Climate			Potential Natural Vegetation	Land Use and Land Cover
	Area (square miles)		Elevation/ Local Relief (feet)	Surficial Material and Bedrock	Order (Great Group)	Common Soil Series	Temperature / Moisture Regimes	Precipitation Mean annual (inches)	Frost Free Mean annual (days)	Mean Temperature January min/max; July min/max, (°F)		
47d. Missouri Alluvial Plain	559	Glaciated. Level floodplain alluvium. Riparian wetlands largely drained.	800-1200 / 2-50	Alluvial deposits over Cretaceous sandstone and shale (Carlile shale through Dakota sandstone) in the north, and Pennsylvanian shale, sandstone, and limestone to the south.	Entisols (Fluvaquents, Udifluvents, Udipsamments)	Albaton, Haynie, Sarpy, Onawa	Mesic/ Aquic	23-35	135-180	15/35; 66/91	Northern floodplain forest: cottonwood, green ash, boxelder, and elm, with lowland tallgrass prairie: big bluestem, prairie cordgrass, switchgrass, and sedges.	Intensively farmed for corn and soybeans. Transportation corridor with most areas drained by surface ditches, land grading, or protected by dams or levees.
47h. Nebraska/ Kansas Loess Hills	3333	Glaciated. Deep, rolling loess-covered hills. Perennial streams.	1000-1500 / 100-300	Loess mantle with underlying calcareous glacial till on Pennsylvanian shale, sandstone, and limestone.	Mollisols (Argiudolls, Argialbolls, Hapludolls), Entisols (Udorthents)	Fillmore, Marshall, Ponca, Monona, Ida, Askarben	Mesic/ Udic	26-34	150-190	16/38; 66/92	Tallgrass prairie: big bluestem, Indiangrass, switchgrass, and little bluestem. Scattered oak-hickory forests and some floodplain woodlands along rivers and streams: bur oak, basswood, black walnut, green ash, plains cottonwoods, and willows.	Principally in cropland except on the steep slopes, which are in trees and pasture. Corn, soybeans, small grains, and alfalfa are typical crops.
47i. Glacial Drift Hills	6460	Glaciated. Rolling low hills. Perennial streams.	1000-1600 / 100-300	Loess and clay loam calcareous glacial till. Loess is variable. Generally loess depth decreases with distance from source rivers. Pennsylvanian shale, sandstone, and limestone and Permian shale and limestone.	Mollisols (Argiudolls), Entisols (Udorthents)	Wymore, Pawnee, Burchard, Askarben, Steinauer, Morrel	Mesic/ Udic	27-35	150-190	14/34; 66/92	Tallgrass prairie with cottonwood-dominated forests along floodplains and oak-hickory forests on bluffs.	Predominately cropland on the flatter loess hills with main crops of wheat and corn, and some areas in grain sorghum, soybeans, and alfalfa. Pasture land is more extensive on till soils.
47j. Lower Platte Alluvial Plain	437	Flat, alluvial plain.	1100-1400 / 2-50	Calcareous alluvium, silt, clay, sand, and gravel. Cretaceous sandstone.	Mollisols (Endoaquolls), Entisols (Psammaquents, Fluvaquents)	Gibbon, Zook, Gothenburg, Platte	Mesic/ Udic, Aquic	27- 29	160-170	13/34; 65/91	Lowland tallgrass prairie: big bluestem, prairie cordgrass, switchgrass, and sedges. Floodplain forests: plains cottonwoods with marshes dominated by aquatic plant species.	Irrigated cropland with primary crops of corn, grain sorghum, and alfalfa. A small area is in native hay meadows.
47k. Northeastern Nebraska Loess Hills	5401	Glaciated. Rolling low hills. Perennial streams.	1100-1900 / 100-300	Deep calcareous loess. Cretaceous sandstone, shale, and limestone. Some Miocene soft sandstone (Ogallala Formation).	Mollisols (Haplustolls), Entisols (Ustorthents)	Nora, Crofton, Moody, Judson	Mesic/ Udic	23-28	140-165	10/32; 64/90	Predominately tallgrass prairie with a transition to mixedgrass prairie in the west: big bluestem, little bluestem, porcupine grass, side-oats grama, switchgrass, and Indiangrass. Wet meadows and cottonwood woodland in floodplains.	Cropland, except on the steeper slopes. Principal crops are corn, soybeans, oats, grain sorghum, and alfalfa.
47l. Transitional Sandy Plain	1044	Level to rolling plains.	1400-2000 / 5-150	Alluvial sand, gravel, and lacustrine silt and sediments. Miocene soft sandstone (Ogallala Formation).	Mollisols (Haplustolls, Argiustolls)	Thurman, Boelus, Nora, Bazile	Mesic/ Udic	23-27	145-160	10/32; 64/40	Tallgrass prairie and Sand Hills border mixedgrass prairie: sand bluestem, little bluestem, prairie sandreed, and needle-and-thread. Wet meadows along stream valleys.	Cropland, both dryland and irrigated. Corn and alfalfa are the principal crops, with a smaller acreage of winter wheat, oats, and grain sorghum.

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