Summary Table: Characteristics of Ecoregions of Nebraska and Kansas

25. WESTERN HIGH PLAINS

Level IV Ecoregion	Area (square miles)	Physiography: Elevation/Local Relief (feet)	Geology: Surficial Material and Bedrock	Soil: Order (Great Group)	Soil: Common Soil Series	Climate: Temperature/Moisture Regimes	Climate: Precipitation Mean annual (inches)	Climate: Frost-Free Mean annual (days)	Climate: Mean Temperature January min/mean (°F) July min/mean (°F)	Potential Natural Vegetation	Land Use and Land Cover
25a. Pine Ridge Escarpment	11,91	3400–5100 / 200–1000	Sandy sandstone, Miocene Oligocene, and Eocene sandstone, and claystone siltstone Formation and White River Group).	Mollisols (Ustolls), Mollisols (Argiustolls, Haplustolls)	Canyon, Arlington, Rosebud, Satanta, Baston Bridges, Ogallala, Rock Outcrops	Mesic/ Aridic, Ustic	14–18	130–140	10/30, 70/90	Ponderosa pine woodlands with thinly mountain juniper, western snowberry, muhlenbergia grasses, and bluebunch wheatgrass, Rocky Mountain juniper, little bluestem, western wheatgrass, prairie sandreed, needle-and-thread, blue grama, and threadleaf sedge.	Cattle grazing and western hatmay, with limited agriculture and logging. Grassland and scattered Ponderosa pine woodland.
25b. Rolling Sand Plains	2661	2900–3300 / 25–150	Aeolian sand sheets and dunes over Miocene sandstone (Ogallala Formation).	Entisols (Torripsamments, Ustorthents, Ustipsamments), Mollisols (Argiustolls, Haplustolls), Aridisols (Haplargids)	Valentine, Wessily, Jayem, Tarboo, Ed. Master, Satanta, Optima, Pive, Vona	Mesic/ Aridic, Ustic	16–21	140–180	14/44, 62/94	Sandsage prairie: sand sagebrush, sand bluestem, prairie sandreed, and vine bluestem. Pine-bunchgrass: sage 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 Ridgefield	3009	3900–5000 / 50–250	Loess-mantled uplands. Sandy, gravelly and loamy colluvium. Miocene sandstone (Ogallala Formation).	Mollisols (Argiustolls, Haplustolls), Aridisols (Haplargids), Entisols (Ustorthents)	Tassin, Keith, Colby, Uptown	Mesic/ Aridic, Ustic	16–20	130–160	14/40, 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; prairie sandreed, sand bluestem, prairie Indiangrass, and switchgrass are common in the south. Western wheatgrass, side-oats grama) on slopes, more moist sites along rivers and streams, and on sites overlain by fluvial loess deposits. In the south, largely on Cretaceous shales, 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	1701	Flat to rolling prairie. Few streams, mostly intermittent.	Loess-mantled uplands with alluvial deposits. Northern: pre-Tertiary and siltstone (Ogallala Formation) with thin loess mantle. Also some Rush Formation/White River Group).	Mollisols (Argiustolls, Haplustolls), Entisols (Ustorthents)	Hill, Albaton, Rosebud, Rosta, Satanta, Keith Bid. Richfield, Ulysses, Colby, Manter	Mesic/ Aridic, Ustic	15–20	130–160	14/40, 62/94	Mixedgrass prairie in the north: needle-and-thread, blue grama, threadleaf sedge, prairie sandreed, and western wheatgrass. Shortgrass prairie in the south: blue grama and buffalograss dominants on upland sites; prairie sandreed, sand bluestem, prairie Indiangrass, and switchgrass are common in sandy areas, with an admixture of mixed- and tallgrass species. Western wheatgrass, sideoats grama, and sand dropseed are common on sandy soils; sand sagebrush, yucca, and Ponderosa pine are common on sandhills. Sand bluestem, switchgrass, and prairie sandreed are common in subirrigated valleys.	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	7947	Nearly level to rolling plains. Few streams, mostly intermittent.	Alluvial deposits; thin mantle of loess, fan-and-alluvium, and colluvium.	Aridisols (Haplocalcids)	Duffield, Vona	Mesic/ Aridic, Ustic	16–20	170–182	20/47, 58/90	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 hay grassland. Major crops include winter wheat, grain sorghum, alfalfa, and corn.
25f. Scarp Slope and Badland Hills	1307	Bluffs, escarpments, and steep valley side slopes. Rock outcrops.	Sandy sandstone, Miocene and Oligocene sandstone (Ogallala and Arikaree Formations, and upper White River Group).	Entisols (Torriorthents), Mollisols (Haplustolls, Argiustolls),	Tassel, Bayher, Rosebud, Canyon	Mesic/ Aridic, Ustic	16–18	125–150	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 scattered sand dunes, and canyons along stream valleys.	Sandy siltstones, Miocene sandstone and siltstone (Ogallala and Arikaree Formations).	Mollisols (Haplustolls), Entisols (Ustorthents, Torriorthents)	Bayher, Valent, Tassel	Mesic/ Aridic, Ustic	16–17	130–150	10/36, 58/90	Mixedgrass prairie: blue grama, little bluestem, threadleaf sedge, and needle-and-thread. Some areas of shortgrass prairie: blue grama and buffalograss.	Rangeland with limited agriculture.
25h. North and South Platte Valley and Terraces	1502	Flat alluvial valley, bluffs, and uplands.	Sandy and silty alluvial deposits. Mostly unconsolidated sediments (White River Group), but some Miocene sandstone (Ogallala Formation).	Mollisols (Haplustolls), Entisols (Ustifluvents)	Tripp, Minatol, Alice	Mesic/ Aridic, Ustic	16–18	130–160	12/38, 58/90	Lowland tallgrass prairie: big bluestem, switchgrass, and indiangrass (White River Group); tall grass. Mixedgrass prairie: needle-and-thread, blue grama, and western wheatgrass. Some areas of floodplain forests along major riparian corridors.	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 dryland areas. Pasture/rangeland on uplands. Many abandoned mesas and local control structures.

26. SOUTHWESTERN TABLELANDS

Level IV Ecoregion	Area (square miles)	Physiography: Elevation/Local Relief (feet)	Geology: Surficial Material and Bedrock	Soil: Order (Great Group)	Soil: Common Soil Series	Climate: Temperature/Moisture Regimes	Climate: Precipitation Mean annual (inches)	Climate: Frost-Free Mean annual (days)	Climate: Mean Temperature January min/mean (°F) July min/mean (°F)	Potential Natural Vegetation	Land Use and Land Cover
26a. Cimarron Breaks	2011	Irregular, dissected slopes, bluffs, and gypsum-capped buttes.	Red-colored Permian shale, siltstone, sandstone, salt, and gypsum deposits.	Mollisols (Argiustolls)	Barbarlarge, Albion, Farnum	Thermic/ Ustic, Udic	20–28	150–200	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 western wheatgrass and sand sagebrush. Ponderosa pine woodlands on ridge tops, especially in cuesta features from fire.	Rangeland and grassland.
26b. Flat Tablelands and Valleys	779	Flat tablelands and river valleys.	Silty alluvium, sand and gravel, red-colored Permian shale, siltstone, sandstone, salt, and gypsum deposits.	Aridisols (Haplocalcids), Mollisols (Argiustolls), Entisols (Ustifluvents)	Penrose, Woodward, Carey, Pratt, Vonk	Thermic/ Ustic, Udic	20–28	150–200	22/50, 69/96	Sandsage prairie common in sites with sandy or well-drained soils. Floodplain woodlands dominated by plains cottonwood. Shrub 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 tablelands and rangeland along the Cimarron River valley.

27. CENTRAL GREAT PLAINS

Level IV Ecoregion	Area (square miles)	Physiography: Elevation/Local Relief (feet)	Geology: Surficial Material and Bedrock	Soil: Order (Great Group)	Soil: Common Soil Series	Climate: Temperature/Moisture Regimes	Climate: Precipitation Mean annual (inches)	Climate: Frost-Free Mean annual (days)	Climate: Mean Temperature January min/mean (°F) July min/mean (°F)	Potential Natural Vegetation	Land Use and Land Cover
27a. Smoky Hills	7834	Undulating to hilly dissected plain. Broad belt of low hills formed by western exposures of Cretaceous rock layers.	Sandstone and shale, loamy colluvium, and shaly limestone. Locally mantled with thin loess over Cretaceous sandstone (Dakota Formation).	Mollisols (Argiustolls, Haplustolls, Argiudolls)	Crete, Lancaster, Geary, Harville, Wells	Mesic/ Udic, Ustic	26–28	165–180	19/42, 84/94	Tallgrass prairie: big bluestem, little bluestem, indiangrass, switchgrass, and prairie cordgrass. 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	3470	Dissected plains with broad undulating to rolling ridge tops and hilly to steep valley sides.	Siltstone to Eocene-aged loess on uplands with alluvium in floodplains and stream terraces. Tertiary siltstone (Ogallala Formation) and Cretaceous limestone and shale (Niobrara and Greenhorn Formations).	Mollisols (Haplustolls, Argiustolls, Calciustolls), Entisols (Ustorthents)	Crete, Uly, Ramsey, Holdrege, Hord	Mesic/ Udic, Ustic	26–28	150–190	19/42, 78/94	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 south. Irrigated areas along the major rivers planted with corn, alfalfa, and small grains. Rangeland on breaks.
27c. Great Bend Sand Prairie	4110	Undulating to rolling sandy prairie, dune areas.	Sandy eolian deposits, dune sand and loamy Quaternary sediments over sandy alluvium.	Aridisols (Haplocalcids), Mollisols (Argiustolls), Entisols (Ustipsamments), Mollisols (Argiustolls)	Pratt, Vicia, Naron, Farnum, Harlingen, Albion	Mesic/ Udic, Ustic	20–28	160–190	20/44, 84/96	Sand prairie-bunch grasses: sand bluestem, sand dropseed, and switchgrass.	Dryland and irrigated cropland. Wheat is the major dryland crop. Large areas of center pivot irrigation with corn, grain sorghum, and alfalfa crops. Some areas of rangeland.
27d. Wellington-Milan-Leonard	6070	Flat alluvial lowlands. Perennial streams and numerous springs.	Loess and silty, sandy, and clayey alluvium. Permian shale, siltstone, and salt deposits (Wellington Formation).	Mollisols (Argiustolls, Paleustolls, Haplustolls)	Farnum, Harlingen, Pratt, Coyle, Ladysmith, Irwin, Clime	Thermic, Mesic/ Udic, Ustic	24–32	185–200	22/44, 89/96	Tallgrass prairie: big bluestem, little bluestem, and switchgrass. Some areas of floodplain forests along major riparian corridors.	Extensive cropland agriculture. Major crops include winter wheat and grain sorghum. Small areas of corn cultivation.
27e. Central Nebraska Loess Plains	6617	Rolling dissected plains with deep loess layers. Perennial and intermittent streams.	Late Quaternary eastward loess, early Holocene and Pliocene alluvial sand, gravel, and limestone sand and silt. Tertiary siltstone (Ogallala Formation).	Entisols (Ustorthents, Ustifluvents), Mollisols (Argiustolls, Argiudolls)	Crete, Uly, Holdrege, Hobbs, Hord	Mesic/ Udic, Ustic	20–25	155–170	16/36, 82/94	Mixedgrass prairie: big bluestem, little bluestem, prairie cordgrass, prairie sandreed, and western wheatgrass with areas of tallgrass prairie: big bluestem, indiangrass, switchgrass, and prairie cordgrass.	Predominantly rangeland with large areas of irrigated agriculture in central Platte, Loup, and Elkhorn River valleys. Major crops include winter wheat and corn.
27f. Salemonie Basin Plains	5170	Nearly dissected plains with broad undulating to rolling ridge tops and hilly to steep valley sides.	Quaternary loess and eastward loess and sandy alluvium. Tertiary sandstone (Ogallala Formation) and Cretaceous limestone and shale (Niobrara and Greenhorn Formations).	Mollisols (Argiustolls, Haplustolls), Entisols (Ustorthents)	Hall, Holdrege, Hobbs, Hord	Mesic/ Udic, Ustic	20–25	155–170	16/36, 82/94	Mixedgrass prairie: big bluestem, little bluestem, blue grama, needle-and-thread, side-oats grama, and western wheatgrass. Some areas of 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 abandoned mesas and local control structures.

28. FLINT HILLS

Level IV Ecoregion	Area (square miles)	Physiography: Elevation/Local Relief (feet)	Geology: Surficial Material and Bedrock	Soil: Order (Great Group)	Soil: Common Soil Series	Climate: Temperature/Moisture Regimes	Climate: Precipitation Mean annual (inches)	Climate: Frost-Free Mean annual (days)	Climate: Mean Temperature January min/mean (°F) July min/mean (°F)	Potential Natural Vegetation	Land Use and Land Cover
28. Flint Hills	4762	Undulating to rolling hills, common, chalky limestone, and shale outcrops. Perennial streams and springs common.	Cherty and chalcy limestone interbedded shale, Permian limestone and shale. Some limited glacial drift in the northeast corner of region.	Mollisols (Haplustolls, Argiustolls, Natrustolls, Argiudolls)	Clime Labette, Kaja, Dwight, Florence, Eram, Kenoma, Irwin, Ladysmith	Mesic, Thermic/ Udic, Ustic	26–35	160–180	22/42, 89/96	Tallgrass prairie: big bluestem, little bluestem, switchgrass, and side-oats grama. Scattered oak-hickory forests and woodlands along streams and streams. Bur oak, bur oak, and chinkapin oak in moist ravines, especially along the Kansas River.	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	Area (square miles)	Physiography: Elevation/Local Relief (feet)	Geology: Surficial Material and Bedrock	Soil: Order (Great Group)	Soil: Common Soil Series	Climate: Temperature/Moisture Regimes	Climate: Precipitation Mean annual (inches)	Climate: Frost-Free Mean annual (days)	Climate: Mean Temperature January min/mean (°F) July min/mean (°F)	Potential Natural Vegetation	Land Use and Land Cover
29a. Crisp Tablelands	775	Rolling hills and uplands.	Sandy mudstone and shale outcrops. Pennsylvanian shale with thin sandstone strata.	Alfisols (Haplustalfs, Paleustalfs)	Tuttle, Stonham, Stamford, Stonewall	Thermic/ Udic, Ustic	32–36	190–220	29/58, 89/96	Cross timbers savannas: post oak, blackjack oak, hickory, and eastern red cedar with an understory of tallgrass and mixedgrass species.	Woodland and rangeland.

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