| 18. | WYOMING BASIN | | | | | | | | | | 22. |
|--|---|--|---|--|------------------------------------|---|-------------|--|--|---|---|
| Level IV Ecoregi | Area (square | Geology Elevation/ Surficial and Bedrock Local Relief Control of the second | Order (Great Group) | Soils Common Soil Series | Temperature/ Moisture Regimes | Precipitation Mean annual | Mean annual | Mean Temperature 1 January min/max; | Natural Vegetation | Land Use and Land Cover | Level IV Ecoregion |
| 18a. Rolling Sagebrush Steppe | miles) 2197 Rolling plains with hills, cuestas, mesas, terraces, and near the footslopes, alluvial fans, and outwash fans. | (reet)Quaternary alluvium, colluvium, outwash, thin residuum, and eolian deposits. Tertiary and Cretaceous claystone, sandstone, and other sedimentary rock. Areas of lenticular coal, oil shale, and marlstone. Rock outcrops occur. | Aridisols (Haplargids, Calciargids), Entisols (Torripsaments), Mollisols (Argiustolls), Vertisols (Haplusterts) | Ryan Park, Maybell, Rockriver, Mayspring, Ryark, Berlake, Taffim, Styers, Ruedloff, Tresano | Frigid/ Aridic, Ustic | (inches) Mostly 10-15, up to 20 at higher elevations | (days) | July min/max (°F) 4/32; 48/88 | Sagebrush steppe with areas of bitterbrush shrubland and scattered juniper woodland at higher elevations. Associated vegetation may include western wheatgrass, needle- and-thread, blue grama, Sandberg bluegrass, Junegrass, rabbitbrush, fringed sage, Wyoming | n l | 22a. San Luis Shrublands and Hills |
| | | | | | | | | | big sagebrush, silver and black sagebrush in lowlands, and mountain big sagebrush at the higher elevations. | | 22b. San Luis Alluvial Flats and Wetlands |
| 18d. Foothill Shrublands and Low Mountains | 248 Footslopes, alluvial fans, hills, low mountains, ridges, and valleys. | 6000-9600/ 200-1000 Quaternary alluvium and colluvium derived from Tertiary sedimentary and older crystalline rocks of the surrounding mountains. Tertiary claystone, mudstone, sandstone, and oil shale. Precambrian quartzite, conglomerate, and shale. | Alfisols (Glossocryalfs), Mollisols (Argicryolls), Inceptisols (Calciustepts) | Uinta, Miracle, Chittum, Rentsac | Cryic/ Ustic, Xeric | 10-20 | 60-90 | 8/34; 54/84 | Big sagebrush shrubland, with pinyon- juniper woodland. Higher elevations may have areas of lodgepole pine, aspen, and subalpine fir. Associated vegetation may include rabbitbrush, mountain big sagebrush, pricklypear, bluebunch wheatgrass, and Idaho fescue on fine-textured soils. Rocky Mountain juniper, Utah juniper, and mountain mahogany woodlands occur on rock outcrops. | Shrub-covered rangeland and wildlife habitat. | 22c. Salt Flats22e. Sand Dunes and Sand Sheets |
| 18e. Salt Desert Shru Basins | terraces, and rolling alluvial fans. Streams are ephemeral or intermittent; | 5400-7300/ 50-300Quaternary alluvium and colluvium; gravel and fan deposits; areas of active and stabilized dune sand and loess. Tertiary and | Entisols (Torriorthents), Aridisols (Haplocalcids), Mollisols (Calciustolls), | Luhon, Brownsto, Niart, Rentsac, Atchee, Mikim, Huguston, Teagulf | Frigid, Mesic/ Ustic, Aridic | 8-15 | 60-90 | 6/32; 50/88 | Desert shrublands dominated by alkaline- tolerant shrubs and grasses: greasewood, Gardner's saltbush, fourwing saltbush, | Shrub-covered rangeland and wildlife habitat. Oil and gas production. | Sand Sheets |
| | many are incised and flow into playas. Substrates are fine textured material or platy shale gravels. Seasonal playas have high levels of soluble salts. | Cretaceous siltstone, sandstone, claystone, and areas of oil shale and marlstone. | Inceptisols (Calciustepts) | | | | | | shadscale, bud sage, and big sagebrush. Stabilized sand dunes are dominated by alkali cordgrass, Indian ricegrass, blowout grass, alkali wildrye, and needle-and-thread. | | 25. |
| 18f. Laramie Basin | 116 High elevation valley, nearly flat floodplains, and low terraces. Streams and rivers are moderate gradient, with cobble, gravel, and sandy substrates. | 7800-9100/ 100-300Quaternary alluvium and colluvium. Tertiary gravels and fan deposits in stream and floodplain areas. Tertiary shale, siltstone, and conglomerate. Triassic and Permian siltstone, | | Driggs, Newfork, Pendergrass, Clergern | Cryic/ Xeric, Ustic | 15-20 | 60-90 | 4/30; 40/76 | Mixedgrass prairie with needle-and-thread, western wheatgrass, blue grama, Indian ricegrass, and other mixedgrass species, along with rabbitbrush, fringed sage, and various forb and shrub species. | | Level IV Ecoregion |
| | | shale, and sandstone. | | | | | | | | 25b. Rolling Sand Plains | |

| 20 | | COI | LORADO PLATEA | A U S | | |
|------|---|---------------------------|--|--------------------------------------|--|--|
| | Level IV Ecoregion | S | Physiography | Geology | | |
| | | Area (square miles) | | Elevation/ Local Relief (feet) | Surficial and Bedrock | |
| 20a. | Monticello- Cortez Uplands and Sagebrush Valleys | 951 | Nearly level to rolling plains and basins containing stream terraces, alluvial fans, and low rolling hills and ridges. | 6000-7300/ 25-200 | Quaternary colluvium, alluvium, ar eolian deposits. Western area under Cretaceous Dakota sandstone form Eastern areas underlain by Cretaceo House and Pictured Cliffs sandston Lewis shale, or Tertiary arkosic san siltstone, and shale. | |
| 20b. | Shale Deserts and Sedimentary Basins | 2923 | Nearly level to rolling plains and basins, with benches, low rounded hills, and badlands. | 4900-8000/ 25-400 | Quaternary colluvium, alluvium, ar deposits. Cretaceous Mancos shale of Rangley, east of Meeker, Grand Dry Creek Basin, Disappointment and in the southwest, just north of t Mancos River). Tertiary claystone, mudstone, shale and sandstone (are of Meeker, and in the Colorado Riv outside of Rifle). Jurassic and Trias and siltstone, salt anticlines (Parado Big Gypsum Valley). | |
| 20c. | Semiarid Benchlands and | 9079 | Benches, mesas, cuestas, alluvial fans, hillslopes, cliffs, arches, and canyons. A few isolated peaks. Areas of low relief | 5400-9200/ 100-1000 | Quaternary alluvium and colluvium Tertiary and Cretaceous siltstone, si claystone, oil shale, and marlstone. | |

| | Level IV Ecoregions | 5 | Physiography | | Geology | | Soils | | | Climate | | Natural Vegetation | Land Use and Land Cover |
|------|---|---------------------------|--|--------------------------------------|--|--|--|---|---|-------------------------------------|---|---|--|
| | | Area (square miles) | | Elevation/ Local Relief (feet) | Surficial 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) | | |
| 20a. | Monticello- Cortez Uplands and Sagebrush Valleys | 951 | Nearly level to rolling plains and basins containing stream terraces, alluvial fans, and low rolling hills and ridges. | 6000-7300/ 25-200 | Quaternary colluvium, alluvium, and eolian deposits. Western area underlain by Cretaceous Dakota sandstone formation. Eastern areas underlain by Cretaceous Cliff House and Pictured Cliffs sandstone and Lewis shale, or Tertiary arkosic sandstone, siltstone, and shale. | Aridisols (Calciargids, Natrargids), Alfisols (Haplustalfs), Entisols (Torriorthents), Vertisols (Haplusterts) | On uplands: Witt, Sharps, Cahona, Lazear, Pulpit. In valleys: Falfa, Arboles, Bayfield, Uzona | Mesic/ Aridic, Ustic | 10-15 | 90-120 | 12/38; 52/88 | Sagebrush steppe and associated grasses, with scattered pinyon-juniper woodland. Dominant species include: Wyoming big sagebrush, western wheatgrass, and Indian ricegrass. Some two-needle pinyon pine, bitterbrush, and serviceberry. | Dryland cropland with some areas of irrigated cropland, shrubland, and rangeland. Crops include pinto beans, Anasazi beans, winter wheat, and alfalfa. |
| 20b. | Shale Deserts and Sedimentary Basins | 2923 | Nearly level to rolling plains and basins, with benches, low rounded hills, and badlands. | 4900-8000/ 25-400 | Quaternary colluvium, alluvium, and eolian deposits. Cretaceous Mancos shale (northwest of Rangley, east of Meeker, Grand Valley, Dry Creek Basin, Disappointment Valley, and in the southwest, just north of the Mancos River). Tertiary claystone, siltstone, mudstone, shale and sandstone (areas west of Meeker, and in the Colorado River valley outside of Rifle). Jurassic and Triassic shale and siltstone, salt anticlines (Paradox Valley, Big Gypsum Valley). | Entisols (Torriorthents), Aridisols (Haplargids, Calciargids), Inceptisols (Calciustepts), Vertisols (Haplusterts), Mollisols (Argiustolls, Endoaquolls) | Bulkley, Evanston, Forelle, Paradox, Diamondville, Rock River, Persayo, Farb, Redlands, Hagerman, Palma, Transfer, Callan, Skein, Chipeta, Uncompahgre | Frigid, Mesic/ Aridic, Ustic | 8-15 | 90-150 | 6/36; 48/92 | Sparse cover of mat saltbush shrubland and salt desert scrub: shadscale, Nuttall's saltbrush, blackbrush, fourwing saltbush, Wyoming big sagebrush, desert trumpet, galleta grass, and other associated grasses. Floodplain areas support greasewood, alkali sacaton, seepweed, and shadscale. Badland areas have little to no vegetation cover. | Shrubland and rangeland, areas of dryland and irrigated cropland with winter wheat, small grains, forage crops, and pinto beans. Orchards of apples, peaches, pears, and apricots in the Gunnison and Colorado River valleys. Shrublands provide important winter habitat for wildlife. |
| 20c. | Semiarid Benchlands and Canyonlands | 9079 | Benches, mesas, cuestas, alluvial fans, hillslopes, cliffs, arches, and canyons. A few isolated peaks. Areas of low relief alternate with areas of high relief. | 5400-9200/ 100-1000 | Quaternary alluvium and colluvium. Tertiary and Cretaceous siltstone, sandstone, claystone, oil shale, and marlstone. In deep canyons and cliffs: areas of Permian siltstone, sandstone, and shale, and Pre-Pennsylvanian Paleozoic shale, limestone, and sandstone. | Entisols (Torriorthents), Alfisols (Haplustalfs), Mollisols (Argiustolls, Haplustolls, Argicryolls, Haplocryolls), Aridisols (Haplargids, Calciargids, Haplocambids, Haplocalcids), Inceptisols (Calciustepts) | Atchee, Cahona, Hagerman, Lamphier, Lazear, Mikim, Palma, Persayo, Redcreek, Rentsac, Shavano, Skein, Skyway, Transfer, Utaline, Veatch, Zyme, Callan, Castner, Chipeta, Cochetopa | Mesic, Frigid; Cryic on highest elevations/ Aridic, Ustic | Mostly 10–18, on highest sites 20-25 | 60-120 | 8/40; 48/88 | Pinyon-juniper woodland, Gambel oak woodland, and sagebrush steppe with black sagebrush, winterfat, Mormon tea, fourwing saltbush, shadscale, galleta grass, and blue grama. | Woodland and shrubland. Rangeland, recreation, coal mining, oil and gas production. Oil shale extraction. |
| 20d. | Arid Canyonlands | 70 | Narrow canyons, cliffs, valley floors, floodplains, structural benches, mesas, and cuestas. Terrain deeply eroded by major rivers and their tributaries. | 4900-6000/ 200-500 | Quaternary alluvium and colluvium. Cretaceous sandstone, shale, and conglomerate. Rock outcrops are common. | Entisols (Torriorthents), Aridisols (Natrargids) | Claysprings, Myton, Uzona, Tocito | Mesic/ Aridic | 8-10 | 120-150 | 18/40; 60/92 | Desert shrubland: blackbrush, shadscale, Indian ricegrass, fourwing saltbush, blue grama, mat saltbush, saline wildrye, and galleta grass. | Shrubland. Recreation, rangeland, and wildlife habitat. |
| 20e. | Escarpments | 1013 | High, dissected cliffs, escarpments, mesa tops, and breaks with a wide elevational range. Includes the Book Cliffs and Roan Cliffs. | 6000-9000/ 500-3000 | Quaternary alluvium and colluvium. Tertiary and Cretaceous sandstone, shale, siltstone, marlstone, limestone, and areas of oil shale. Rock outcrops are common. | Entisols (Torriorthents), Aridisols (Natrargids) | Claysprings, Myton, Uzona | Mesic/ Aridic | Mostly 15-25, up to 32 at higher elevations | 60-90 | 4/36; 46/84 | Pinyon-juniper woodland, mountain mahogany, aspen, and Douglas-fir forest at highest elevations. | Shrubland, evergreen and deciduous woodland, some forests. Recreation and wildlife habitat, some limited grazing. |
| 20f. | Uinta Basin Floor | 39 | Synclinal basin containing mountain- fed streams, alluvial terraces, outwash terraces, floodplains, hills, and ridges. | 5500-6100/ 50-200 | Quaternary colluvium, alluvium, and eolian deposits. Tertiary and Cretaceous sandstone and shale. | Mollisols (Haplustolls), Entisols (Torriorthents), Aridisols (Haplargids, Haplocalcids) | Potts, Walknolls, Veatch, Redcreek, Castner | Mesic/ Aridic | 8-10 | 90-120 | 6/34; 56/88 | Desert shrubland: saltbush, greasewood, shadscale, Indian ricegrass, galleta grass, Wyoming big sagebrush, fourwing saltbush, winterfat, needle-and-thread. | Shrubland. Rangeland, cropland, and wildlife habitat. Oil and gas production. |

| | | JTHERN ROCKIE | | Caslass | Soils | | | | Climet | | Natural Vagatation | Land Use and Land Cover |
|--|-------------------|--|---|---|--|---|---|-------------------------------------|-----------------------|---------------------------------------|--|---|
| Level IV Ecoregions | | Physiography | Elevation/ | Geology Surficial and Bedrock | Order (Great Group) Common Soil Series Tem | | Temperature/ | | | | Natural Vegetation | Land Use and Land Cover |
| | (square miles) | | Local Relief (feet) | | | | Moisture Regimes | Mean annual (inches) | Mean annual (days) | January min/max; July min/max (°F) | | |
| 21a. Alpine Zone | 3690 | Glaciated. High mountains with steep slopes, ridges, and exposed rocky peaks above timberline. Some wetlands and glacial lakes. High gradient headwater streams with boulder, cobble, and bedrock substrates. | 10000- 14400+/ 400-2500+ | Quaternary rubble, glacial drift, and colluvium. Exposed bedrock. Tertiary andesitic lavas, basalts, breccia, tuffs, and conglomerates. Precambrian metasedimentary rocks: pelitic schist, amphibole schist, quartzite, diamictite, quartz-pebble conglomerate, and marble. Permian and Pre- Pennsylvanian Sangre de Cristo Formation: arkosic conglomerate, sandstone, and siltstone. | Inceptisols (Dystrocryepts) | Mirror, Bross, Whitecross, Henson, Teewinot | Cryic/ Udic | 35-70+ Deep winter snowpack | Less than 30 | -8/24; 36/72 | Alpine meadows. Dominated by bistort, alpine timothy, alpine avens, alpine bluegrass, alpine clover, tufted hairgrass, and various sedges. Trees if present are krummholz (dwarf and/or prostrate shrubs) and include spruce, fir, and pine. Willow thickets occur in depressions and wet meadows. | Snow, ice, bare rock, alpine meadows. Recreation and wildlife habitat. Snowmelt provides water source to lower-elevation ecoregion |
| 21b. Crystalline Subalpine Forests | 4737 | Glaciated. High mountains with steep slopes. High gradient perennial streams with boulder, cobble, and bedrock substrates. | in the north, 9000-12000 in the south/ | Quaternary glacial till and colluvium. Tertiary intrusive rocks. Precambrian metasedimentary, metavolcanic, and intrusive rocks: pelitic schist, amphibole schist, quartzite, diamictite, quartz-pebble conglomerate, and marble. Precambrian granitic gneiss, felsic gneiss, amphibolite, and granitic rocks. Copper, silver, and gold deposits. | Alfisols (Glossocryalfs, Haplocryalfs), Mollisols (Argiustolls, Argicryolls, Haplustolls) | Boyle, Granile, Kebler, Lakehelen, Leadville, Limber, Lucky, Peeler, Resort, Seitz | Cryic, Frigid/ Udic, Ustic | 30-58 Deep winter snowpack | 30-60 | -4/28; 36/72 | Subalpine forests dominated by Engelmann spruce and subalpine fir. Often interspersed with aspen groves, lodgepole pine forest, or mountain meadows, and with Douglas-fir at lower elevations. May include limber pine and Rocky Mountain bristlecone pine. Understory is dominated by dwarf huckleberry and grouse whortleberry. | Evergreen and some deciduous forest. Timber production, recreation, hunting, wildlife habitat, and seasonal grazing. Some gold mining. Snow cover is a major source of water for lower, more arid ecoregions. |
| 21c. Crystalline Mid-Elevation Forests | 4455 | Partially glaciated. Low mountain ridges, slopes, and outwash fans. Moderate to high gradient perennial streams with boulder, cobble, and bedrock substrates. | 7000-9000/ 400-1000 | Quaternary glacial till, colluvium, and alluvium. Precambrian metasedimentary, metavolcanic, and intrusive rocks: pelitic schist, amphibole schist, quartzite, diamictite, quartz-pebble conglomerate, and marble. Precambrian granitic gneiss, felsic gneiss, amphibolite, and granitic rocks. Copper, silver, and gold deposits. | Alfisols (Haplustalfs, Glossocryalfs), Entisols (Cryorthents, Ustorthents), Inceptisols (Dystrocryepts), Mollisols (Argicryolls, Haplocryolls) | Boyett, Granile, Larkson, Peeler, Seitz, Wetmore, Legault, Sphinx, Catamount, Ivywild, Cabin, Frenchcreek, Pendant, Pierian, Raleigh, Rogert, Teoculli, Woodhall | Cryic, Frigid/ Udic, Ustic | 20-32 | 60-90 | 8/36; 50/80 | Ponderosa pine forest with areas of Douglas- fir forest. Understory may include mountain mahogany, bitterbrush, wax currant, skunkbush, woods rose, mountain muhly, Junegrass, Arizona fescue, king spike-fescue, and various sedges. | Evergreen and some deciduous forest. Wildlife habitat, rangeland, timber production, recreation, and mineral extraction. Some gold mining. |
| 21d. Foothill Shrublands | 4780 | Unglaciated. Hills, ridges, and footslopes. Moderate to high gradient perennial, intermittent, and ephemeral streams with cobble, gravel, and sandy substrates. | Mostly 6000-8500, small areas up to 10000/ 200-900 | Quaternary glacial till, colluvium, and alluvium. Tertiary and Cretaceous shale and sandstone. Permian sandstone, limestone, and siltstone. Precambrian metasedimentary: sandstone, claystone, shale, siltstone, and conglomerates. Precambrian metamorphic rocks: amphibolite, schist, gneiss, quartzite, quartz-pebble conglomerate, and marble. | Alfisols (Haplustalfs), Aridisols (Haplargids, Haplocalcids), Entisols (Torriorthents, Ustorthents), Mollisols (Argicryolls, Argiustolls, Haplustolls, Calciustolls) | Ring, Bond, Bronell, Brownsto, Coaldale, Potts, Kerhayden, Neville, Patent, Travessilla, Bowen, Bushvalley, Castner, Dominson, Embargo, Gelkie, Keeldar, Libeg, Lucky, Martinsdale, Nederland, Noden, Norriston, Pando, Parlin, San Isabel, St. Elmo | Mesic, Frigid, Cryic/ Ustic, Aridic | 12-20 | 75-100 | 10/36; 46/84 | Sagebrush shrubland, pinyon-juniper woodland, and foothill-mountain grasslands. Also includes areas of mountain mahogany shrublands and scattered Gambel oak woodlands. The woodlands are often interspersed with mountain big sagebrush, skunkbush, serviceberry, fringed sage, rabbitbrush, blue grama, Junegrass, western wheatgrass, Indian ricegrass, Scribner needlegrass, muttongrass, and blue grama. | Shrubland and grassland, some woodland. Rangeland and wildlife habitat. |
| 21e. Sedimentary Subalpine Forests | 6196 | Glaciated. High mountains with steep slopes. High gradient perennial streams with boulder, cobble, and bedrock substrates. | in the north, 9000-12000 | Quaternary drift and colluvium. Faulted and folded Tertiary sedimentary rocks of limestone, siltstone, shale, and sandstone. Permian arkosic conglomerate, sandstone, and siltstone of the Sangre de Cristo Formation. Flat Tops Mountains: Pre-Pennsylvanian Paleozoic limestone, sandstone, quartzite, and dolomite. Uncompahgre Plateau: Cretaceous sandstone and shale. | Alfisols (Haplocryalfs, Glossocryalfs), Entisols (Cryorthents), Inceptisols (Eutrocryepts), Mollisols (Haplocryolls, Argicryolls) | East: Ashcroft, Granile, Leadville, Limber, Seitz, Vulcan, Wetterhorn, Gralic, Storm, Adel, Leaps, Ruby. Southwest: Graysill, Scotch, Needleton, Ryman. Uncompahgre Plateau: Gateway | Cryic/ Udic, Ustic | 28-50 Deep winter snowpack | 30-60 | 2/32; 40/76 | Subalpine forests dominated by subalpine fir, Engelmann spruce, and lodgepole pine. Areas of Douglas-fir or aspen forests at lower elevations. Understory may include whortleberry, kinnickinnick, snowberry, sedges, mountain brome, and forbs. | Evergreen and some deciduous forest. Timber production, recreation, hunting, wildlife habitat, and seasonal grazing. Some gold mining. Snow cover is a major source of water for lower, more arid ecoregions. |
| 21f. Sedimentary Mid-Elevation Forests | 7532 | Partially glaciated. Low mountain ridges, slopes, and outwash fans. Moderate to high gradient perennial streams with boulder, cobble, and bedrock substrates. | | Quaternary drift and colluvium. Faulted and folded Tertiary sedimentary rocks of limestone, siltstone, shale, and sandstone. Uncompahgre Plateau: Cretaceous sandstone and shale. | Alfisols (Haplustalfs, Glossocryalfs, Haplocryalfs), Entisols (Ustorthents), Mollisols (Argicryolls, Haplustolls, Argiustolls, Haplocryolls), Inceptisols (Haplustepts) | East: Allens Park, Granile, Gulnare, Lakehelen, McIntyre, Mulgon, Seitz, Troutville, Ula, Wahatoya, Brownsto, Patent, Cabin, Castner, Pierian, Poncha. Southwest: Archuleta, Fivepine, Nortez, Morapos, Cerro, Fughes, Nortez. Uncompahgre Plateau: Mayflower, Cebone, Wetopa, Lamphier, Falcon | Frigid, Cryic/ Udic, Ustic | 20-32 | 60-90 | 6/34; 44/84 | Ponderosa pine forest, Gambel oak woodland, and aspen forest (especially on the Western slope). Areas of mountain mahogany and two- needle pinyon pine. Shrub vegetation includes antelope bitterbrush, fringed sage, serviceberry, and snowberry. Understory grasses of Arizona fescue, bluegrass, Junegrass, needlegrasses, mountain muhly, pine dropseed, and mountain brome. | Evergreen and some deciduous forest. Timber production, summer livestock grazing, wildlife habitat, and recreation. Some copper, silver, and gold mining. |
| 21g. Volcanic Subalpine Forests | 3940 | Glaciated. High mountains with steep slopes. High gradient perennial streams with boulder, cobble, and bedrock substrates. | 9000- 12000/ 600-1800 | Quaternary drift and colluvium. Tertiary pyroclastic material, breccia, and volcanic ash flows, including basalt, andesitic lavas, and water-laid volcanics and conglomerates. | Alfisols (Haplocryalfs, Glossocryalfs), Inceptisols (Eutrocryepts), Mollisols (Argicryolls, Haplocryolls) | Frisco, Granile, Needleton, Seitz, Snowdon, Taglake, Clayburn, Hapgood, Lamphier, Wetopa. Rubble and rock outcrops. | Cryic/ Udic, Ustic | 28-50 Deep winter snowpack | 30-60 | 2/32; 40/74 | Subalpine forests dominated by Engelmann spruce, subalpine fir, aspen and, in the north, lodgepole pine. Understory may include whortleberry, kinnickinnick, snowberry, sedges, mountain brome, and forbs. | Evergreen and some deciduous forest. Timber production, recreation, hunting, wildlife habitat, and seasonal grazing. Some gold mining. Snow cover is a major source of water for lower, more arid ecoregions. |
| 21h. Volcanic Mid- Elevation Forests | 1010 | Partially glaciated. Low mountain ridges, slopes, and outwash fans. Moderate to high gradient perennial streams with boulder, cobble, and bedrock substrates. | | Quaternary drift and colluvium. Tertiary pyroclastic material, breccia, and volcanic ash flows, including basalt, andesitic lavas, and water-laid volcanics and conglomerates. | Alfisols (Haplocryalfs, Glossocryalfs), Mollisols (Argicryolls, Endoaquolls) | Frisco, Granile, Seitz, Shule, Cochetopa, Youman | Cryic/ Ustic | 20-32 | 60-90 | 4/32; 42/76 | Ponderosa pine, Douglas-fir, and aspen forests, with scattered areas of Gambel oak woodlands. Understory of dwarf juniper, western wheatgrass, Oregon grape, blue grama, sideoats grama, and needlegrasses. | Evergreen and some deciduous forest. Timber production, summer livestock grazing, wildlife habitat, and recreation. Some gold mining. |
| 21i. Sagebrush Parks | 2098 | High intermontane valleys. Moderate gradient perennial streams with cobble, gravel, and sandy substrates. | 7500-9500/ 100-400 | Quaternary alluvium, colluvium, and loess. Cretaceous and Tertiary sandstone, shale, siltstone, and conglomerate. Tertiary volcanic rocks. | Mollisols (Argiustolls, Endoaquolls, Argicryolls, Haplocryolls) | Evanston, Gold Creek, Lucky, Parlin, Cheadle, Gas Creek | Cryic, Frigid/ Ustic, Aridic | 10-16 | 60-90 | -4/28; 44/78 | Sagebrush shrubland: Wyoming big sagebrush, mountain big sagebrush, black sagebrush, western wheatgrass, bottlebrush squirreltail, and elk sedge. Areas of bunchgrasses include Arizona fescue and mountain muhly. | Shrubland and some grassland. Recreation, rangeland, and wildlife habitat. Some hay production. Oil and gas production in North Park. |
| 21j. Grassland Parks | 1254 | High intermontane valleys. Moderate gradient perennial streams with cobble, gravel, and sandy substrates. Some wetlands. | 7900-9800/ 100-400 | Quaternary alluvium, colluvium, and sand. Tertiary siltstone, sandstone, conglomerate, volcanic basalt and ash-flow tuff. Precambrian gneiss, schist, and quartzite. | Mollisols (Haplocryolls, Argicryolls, Argiustolls, Endoaquolls, Cryaquolls) | Gebson, Alvarado, Becks, Bushvalley, Coutis, Feltonia, Gas Creek, Gelkie, Hodden, Venable, Quander, Norriston, Morset, Libeg, Hoodle | Cryic, Frigid/ Ustic, some Aquic | 10-20 | 60-90 | 6/36; 40/76 | Foothill grasslands with bunchgrasses dominant: Arizona fescue, Idaho fescue, Columbia needlegrass, Canby bluegrass, mountain muhly, bluebunch wheatgrass, needle-and-thread, Junegrass, and slender | Grassland. Recreation, rangeland, and wildlife habitat. |

Summary Table: Characteristics of the Ecoregions of Colorado

| | Hills |
|-------------|---|
| 22b. | San Luis Alluvial Flats and Wetlands |
| 22c. | Salt Flats |
| 22e. | Sand Dunes and Sand Sheets |
| | |
| 25 | .] |
| | Level IV Ecoregions |
| 25b. | Rolling Sand Plains |
| 25c. | Moderate Relief Plains |
| 25d. | Flat to Rolling Plains |
| 251. | Front Range Fans |
| | |
| 26 | - |
| | Level IV Ecoregions |
| 26e. | Piedmont Plains and Tablelands |
| 26f. | Mesa de Maya/ Black Mesa |
| 26g. | Purgatoire Hills and Canyons |
| | |
| 26h. | Pinyon-Juniper Woodlands and Savannas |
| 26i. | Pine-Oak Woodlands |
| | |
| 26j. | Foothill Grasslands |
| 26k. | Sand Sheets |
| V Alexan | CES: on, J.R., 1970, Major land Vashington, D.C., U.S. Geolo der, R.R., 1987, Classification ommunity type: Fort Collins, |

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ARIZONA/NEW MEXICO PLATEAU Soils Physiography Geology Ecoregions Surficial and Bedrock Elevation/ Order (Great Group) Common Soil Series Temperature/ Precipitation Local Relief Ioisture Regimes Mean annual (feet) (inches) 10-14 993 Low mountains, hills, mesas, and 7900-9100/ Quaternary gravels and alluvium. Tertiary Aridisols (Haplocalcids, Travelers, Garita, Luhon, Frigid/ 400-1000 igneous rocks of basalt flows, pre-ash Calciargids), Mollisols foothills. Space City, Costilla, Tolman, Aridic, Ustic flow andesitic lavas, breccias, tuffs, and Argiustolls) Bendire, Curecanti, Rock River, Stunner, Hesperus conglomerates. 1217 Irregular plains. Wetlands, springs, and 7500-8000/ Quaternary alluvium of gravel, sand, and silt. Mollisols (Argiaquolls, Graypoint, Platoro, Dunul, Frigid/ 6-10 areas with a high water table. Few large 10-100 San Arcacio, Zinzer, Acacio, Aridic, Endoaquolls, perennial streams which originate in Calciustolls), Aridisols Alamosa, Lajara, Vastine, Aquic, Ustic Haplargids, Natrargids), Gunbarrel, Mosca, San Luis mountains. Entisols (Torriorthents, Psammaquents) 7400-7700/ Quaternary alluvium of gravel, sand, and silt. Entisols Frigid/ Aridic 866 Irregular plains and alkaline basins. Space City, Costilla, Cotopaxi, 6-8 10-100 (Torripsamments), Hooper, San Luis, Corlett Aridisols (Natrargids) 8-12 254 Large dunes, low parabolic and 7500-8900/ Quaternary eolian sand deposits, dunes, and Entisols Cotopaxi, Space City, Costilla, Frigid/ longitudinal shrub-stabilized dunes, and 100-700 sand sheets. Aridic Alamosa, Lajara, Vastine (Torripsamments), Mollisols (Endoaquolls sand sheets. Argiaquolls), Aridisols (Haplocalcids)

HIGH PLAINS

| | | H FLAINS | | | | | | | | | | |
|-------|---------------------------|---|--------------------------------------|---|---|---|----------------------------------|--|-------------------------------------|---|--|--|
| gions | 5 | Physiography | | Geology | | Soils | | | Climate | | Natural Vegetation | Land Use and Land Cover |
| | Area (square miles) | | Elevation/ Local Relief (feet) | Surficial 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) | | |
| | 4620 | Undulating plains with areas of active sand dunes. Few perennial streams. Drainage network is not well established due to a lack of runoff and sand-choked drainage ways. Disappearing subterranean streams. | 3500-5100/ 25-150 | Quaternary eolian sand sheets and dunes. Underlain by Tertiary claystones and sandstones of the Ogallala Formation. | Entisols (Torripsamments), Alfisols (Haplustalfs), Mollisols (Argiustolls, Haplustolls), Aridisols (Haplargids) | Valent, Vona, Julesburg, Haxtun, Jayem, Busher, Bijou | Mesic/ Aridic, Ustic | 12-20 | 140-160 | 14/42; 60/92 | Sandsage prairie: sand sagebrush, sand bluestem, prairie sandreed, blowout grass, lemon scurfpea, little bluestem, rabbitbrush, Indian ricegrass, and sand dropseed. | Grassland and rangeland with some areas of irrigated cropland. |
| £ | 6206 | Irregular plains with moderate slope. Intermittent streams, with a few large perennial streams which mostly originate in higher relief areas. Silty and sandy substrates. Small, open, depressional wetland "playas" scattered throughout region. | 3600-6500/ 50-200 | Quaternary loess, sandy, gravelly, and loamy alluvium, and some thin residuum. Tertiary claystone, sandstone, and conglomerate, including the Tertiary Ogallala Formation in the east. Cretaceous shales, sandstones, claystones, and coal beds in the west. | Mollisols (Argiustolls, Paleustolls, Haplustolls), Alfisols (Haplustalfs), Aridisols (Haplargids), Entisols (Torriorthents) | Olney, Ascalon, Platner, Stoneham, Nucla, Kim, Dix, Altvan, Keith, Kuma, Ulysses, Colby, Norka | Mesic/ Ustic, Aridic | 12-18 | 140-160 | 14/44; 60/92 | Shortgrass prairie: blue grama, buffalograss, with threadleaf sedge, fringed sage, Junegrass, and western wheatgrass. Riparian areas contain cottonwood/shrub/herbaceous species. | Grassland and rangeland with areas of dryland and irrigated agriculture. Gas and oil production. |
| | 13219 | Flat to rolling plains. Intermittent streams, with a few large perennial streams. Silty and sandy substrates. Small, open, depressional wetland "playas" scattered throughout region. | 3600-5700/ 10-150 | Quaternary loess, alluvial deposits, and some thin residuum. Tertiary gravel, claystone, sandstone, and sand deposits, including the Ogallala Formation in the east. Cretaceous shales, sandstones, claystones, and coal beds in the west. | Mollisols (Argiustolls, Paleustolls, Haplustolls), Alfisols (Haplustalfs), Entisols (Ustorthents, Torriorthents) | Stoneham, Fort Collins, Olney, Richfield, Keith, Colby, Wages, Rosebud, Manter, Ascalon, Platner, Haxtun, Rago, Alliance, Canyon, Weld, Norka, Adena | Mesic/ Ustic, Aridic | 12-18 | 140-180 | 16/46; 62/94 | Shortgrass prairie: blue grama, buffalograss, with threadleaf sedge, fringed sage, Junegrass, and western wheatgrass. Riparian areas contain cottonwood/shrub/herbaceous species. | Dryland and irrigated cropland with winter wheat, grain sorghum, corn, barley, sunflowers, and sugar beets (grown under irrigation). Some grassland and rangeland. Gas and oil production, especially in the Denver Basin. |
| | 782 | Fans, irregular plains, and scattered low hills. Intermittent and perennial streams with gravelly, silty, and sandy substrates. Streams are generally colder and may contain species found more commonly in the Southern Rockies (21). | 4800-5300/ 50-200 | Quaternary gravel and sandy alluvium, eolian sand deposits. Underlain by sandstone, claystone, and shale of the Cretaceous Laramie and Fox Hills formations and sandstone, mudstone, claystone, and conglomerate of the Tertiary Denver and Arapahoe formations to the south. | Mollisols (Argiustolls), Aridisols (Haplargids), Alfisols (Haplustalfs), Entisols (Torriorthents) | Altvan, Ascalon, Larimer, Stoneham, Dacono, Nunn, Renohill, Shingle, Otero, Thedalund, Olney, Ulm, Englewood, Nederland, Kutch, Denver | Mesic/ Ustic, Aridic | 14-18 | 120-140 | 12/40; 56/88 | buffalograss, Junegrass, and little bluestem. | Urban and residential, some irrigated cropland with hay, corn, wheat, and barley. Many manmade lakes and gravel pits. |

SOUTHWESTERN TABLELANDS

| | 500 | JIHWESIEKN IA | BLEI | | 1 | | | | | | | |
|-------|---------------------------|--|--------------------------------------|--|---|---|------------------------------------|---|-------------------------------------|---|---|--|
| gions | | Physiography | | Geology | | Soils | | | Climate | | Natural Vegetation | Land Use and Land Cover |
| | Area (square miles) | | Elevation/ Local Relief (feet) | Surficial 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) | | |
| S | 13373 | Irregular and dissected plains. Intermittent streams, with a few large perennial streams which mostly originate in mountains or higher relief areas. Silty and sandy substrates. | 3600-6500/ 50-200 | Quaternary alluvium and eolian deposits of loess, silt, and sand. Cretaceous shale, limestone, and sandstone. | Alfisols (Haplustalfs), Mollisols (Argiustolls, Paleustolls), Entisols (Torriorthents), Aridisols (Haplargids, Natrargids, Haplocalcids) | Wiley, Baca, Colby, Manvel, Minnequa, Penrose, Rocky Ford, Nepesta, Ascalon, Fort Collins, Stoneham, Kim, Razor, Midway, Limon, Deertrail, Absted, Harvey, Truckton, Yoder, Blakeland, Ordway, Cadoma, Campo, Platner | Mesic/ Ustic, Aridic | Mostly 12-16, with 10-12 in low- lying area between Pueblo and Las Animas | 120-160 | 14/46; 60/92 | Shortgrass prairie: blue grama, green needlegrass, buffalograss, needle-and-thread, and red threeawn. Also may include mixed grass species such as western wheatgrass, galleta grass, sand dropseed, and little bluestem. Sand sagebrush, yucca and cholla cactus can also occur. | Mostly grass-covered rangeland with scattered areas of dry and irrigated cropland. Dryland agriculture is mostly to the north of the Arkansas River. |
| , | 565 | Broad mesa, knobs, and dissected plains with deep canyons. Rough, rocky, steep slopes are common. | 4500-6200/ 75-500 | Quaternary alluvium and colluvium. Capping the mesa: Tertiary basalt, 60 to 70 feet thick. Cretaceous sandstone and shale. On slopes and exposed canyons: Jurassic sandstone, claystone, mudstone, and limestone, Triassic sandstone, siltstone, and limestone. | Mollisols (Argiustolls, Haplustolls), Entisols (Torriorthents), Aridisols (Haplocambids) | Capulin, Torreon, Apache, Travessilla, Carnero, Fruitland, Manzano, Alicia, Kim. Rock outcrops. | Mesic/ Ustic, Aridic | 14-18 | 100-150 | 16/46; 58/90 | Pinyon-juniper woodland and shortgrass prairie. On top of the mesa: shortgrass prairie dominated by blue grama, hairy grama, sideoats grama, galleta grass, buffalograss, and western wheatgrass. On rocky slopes and in canyons: juniper with pinyon pine- oak woodlands with a few isolated areas of mesquite shrublands. | Woodland, rangeland, grassland, and wildlife habitat. |
| 5 | 1041 | Dissected plains and tablelands with some hills, steep canyons, and rock outcrops. | 4900-7400/ 100-700 | Quaternary alluvium and colluvium. Cretaceous sandstone and shale. Jurassic sandstone, claystone, and shale. Triassic sandstone and siltstone. Permian siltstone, dolomite, and sandstone. | Entisols (Torriorthents), Alfisols (Haplustalfs) | Travessilla, Baca, Manvel, Minnequa, Penrose | Mesic/ Ustic, Aridic | 12-16 | 100-150 | 14/46; 58/90 | Juniper woodlands and shortgrass prairie. Rocky Mountain juniper, oneseed juniper, Utah juniper, blue grama, and buffalograss. | Woodland and wildlife habitat. |
| | 997 | Dissected plains and tablelands with some scattered ridges and hills. | 5100-7100/ 100-500 | Quaternary alluvium and colluvium. Cretaceous shale, limestone, and sandstone. | Entisols (Torriorthents), Alfisols (Haplustalfs), Mollisols (Argiustolls), Aridisols (Haplargids) | Travessilla, Baca, Noden, Bond, Razor, Midway, Limon, Manvel, Minnequa, Penrose, Wetmore (in west at the base of mountains). Rock outcrops. | Mesic, Frigid/ Ustic, Aridic | 12-20, with highest near the mountains | 90-120 | 16/44; 56/88 | Pinyon-juniper woodlands: pinyon pine, Rocky Mountain juniper, eastern redcedar, and oneseed juniper. | Woodland and wildlife habitat. |
| | 580 | Dissected plains and hills. | 6000-7500/ 100-300 | Quaternary alluvium and colluvium. Tertiary and Cretaceous arkosic conglomerate, sandstone, claystone, and shale. | Mollisols (Argiustolls, Paleustolls), Alfisols (Haplustalfs) | Brussett, Peyton, Kettle, Weld, Fondis, Bresser | Frigid, Mesic/ Ustic | 14-20 | 90-120 | 10/36; 50/80 | Pine-oak woodlands and foothill grasslands. Ponderosa pine, Gambel oak, mountain mahogany, skunkbush, western serviceberry, and chokecherry. Gambel oak often forms a well developed understory in the Ponderosa pine forests. Grasslands include yellow Indiangrass, little bluestem, switchgrass, fescues, mountain muhly, Junegrass, bluebunch wheatgrass, needle-and-thread, slender wheatgrass, western wheatgrass, sideoats grama, and galleta grass. | Woodland, grassland, rangeland, and wildlife habitat. Increasing urban and residential development. |
| | 1805 | Dissected and irregular plains. | 5900-7000/ 50-200 | Quaternary alluvium. Tertiary and Cretaceous arkosic conglomerate, sandstone, claystone, and shale. | Mollisols (Argiustolls, Haplustolls), Entisols (Torrifluvents), Aridisols (Haplargids) | Bresser, Truckton, Ellicott, Stapleton, Columbine, Cushman, Ascalon | Mesic/ Aridic, Ustic | 14-20 | 100-150 | 12/40; 52/84 | Foothills prairie with a scattering of pine woodlands. Yellow Indiangrass, big and little bluestem, switchgrass, fescues, mountain muhly, Junegrass, bluebunch wheatgrass, needle-and-thread, slender wheatgrass, western wheatgrass, sideoats grama, and galleta grass. Ponderosa pine, mountain mahogany, Gambel oak, western serviceberry, and chokecherry in small scattered pockets. | Grassland, rangeland, some scattered woodland and cropland. Increasing urban and residential development. |
| | 566 | Rolling plains with stabilized sand sheets and areas of low sand dunes. | 3500-5900/ 25-100 | Quaternary eolian sands and alluvial gravels and sands. Cretaceous shale and sandstone. | Entisols (Torripsamments), Aridisols (Haplargids), Alfisols (Haplustalfs) | Valent, Vona, Bijou, Wigton | Mesic/ Aridic, Ustic | 10-16 | 120-150 | 14/46; 60/88 | Sandsage prairie: sand sagebrush, sand bluestem, prairie sandreed, blowout grass, lemon scurfpea, and little bluestem. | Grassland, some shrubland, and rangeland. |

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| Climate | | Natural Vegetation | Land Use and Land Cover | | | |
|-------------------------------------|---|---|---|--|--|--|
| Frost Free Mean annual (days) | Mean Temperature January min/max; July min/max (°F) | | | | | |
| 30-60 | 4/32; 42/76 | Shrublands, grasslands, and pinyon-juniper woodlands at highest elevations. Species include big sagebrush, rubber rabbitbrush, winterfat, western wheatgrass, green needlegrass, blue grama, and needle-and- thread. | Shrub- and grass-covered rangeland. Low density grazing, wildlife habitat. | | | |
| 60-90 | 0/34; 46/80 | Shrublands dominated by shadscale, fourwing saltbush, and greasewood. | Irrigated cropland has replaced most of the natural vegetation. Crops include potatoes, alfalfa, barley, hay, and wheat. Small areas of vegetables such as lettuce, spinach, and carrots. | | | |
| 60-90 | 0/34; 46/80 | Shrublands dominated by shadscale, fourwing saltbush, greasewood, horsebrush, spiny hopsage, rubber rabbitbrush, saltgrass, and alkali sacaton. | Shrub-covered rangeland with low density grazing, wildlife habitat, and some small areas of irrigated cropland. | | | |
| 60-90 | 0/34; 44/80 | Sand sagebrush, rubber rabbitbrush, sand dropseed, sand verbena, prairie sunflower, and spiny hopsage on sand sheets. Dune areas are mostly devoid of vegetation, some Indian ricegrass, blowout grass, and lemon scurfpea. | Bare sand, shrublands, grasslands. Recreation, some low density rangeland on vegetatively stabilized sand sheets. Wildlife habitat. | | | |

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