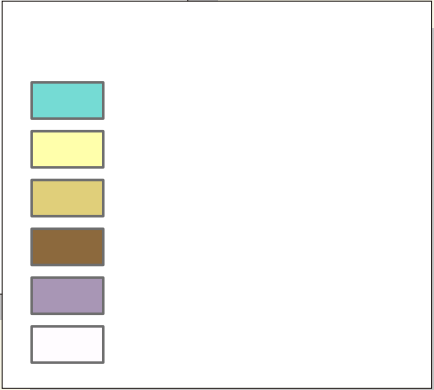
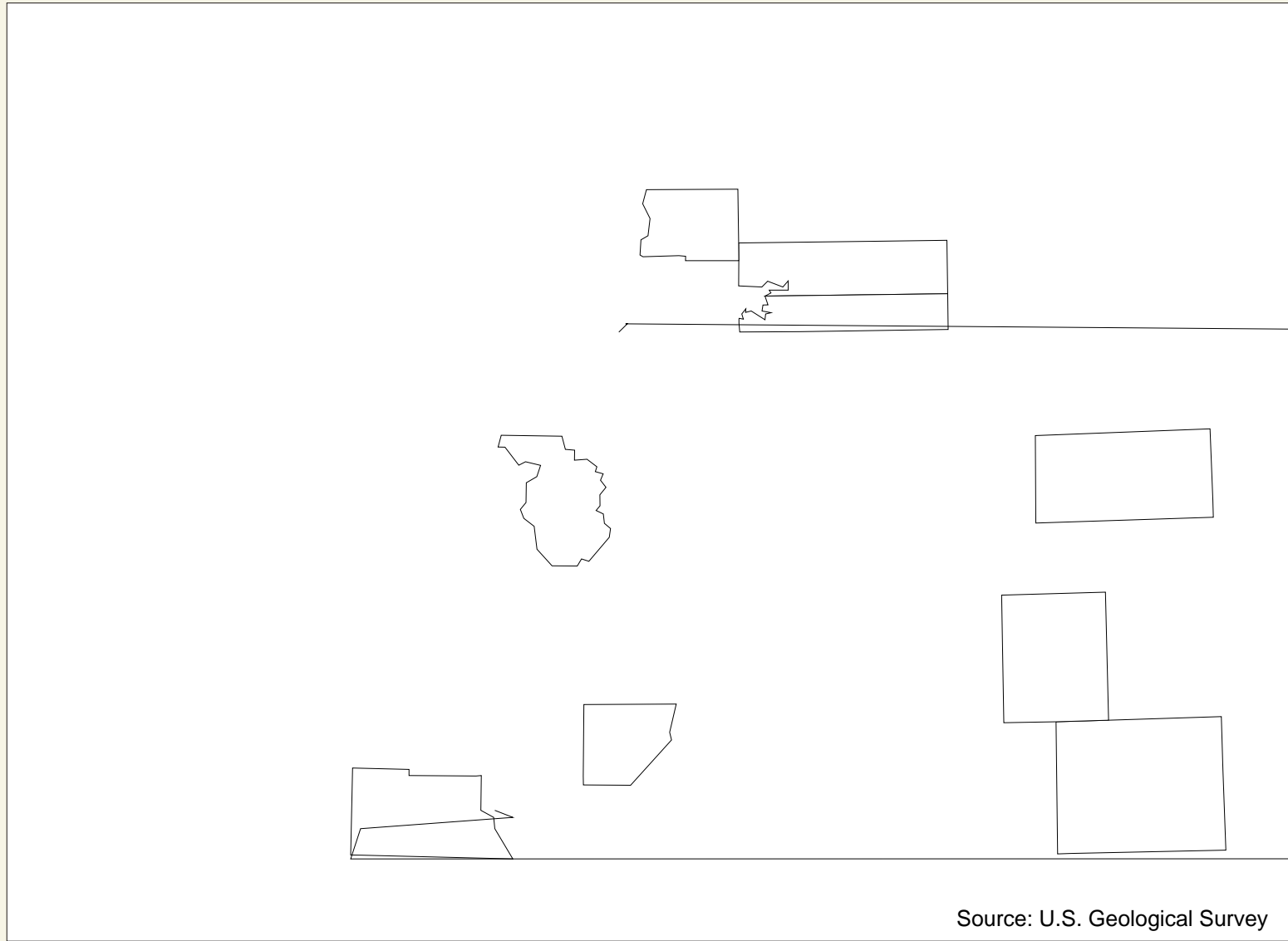




isto Range





LANDFORM REGIONS

TOPOGRAPHY-LANDFORM REGIONS-ELEVATION

Cartographers have always been challenged to depict the Earth's varied surface features on a flat sheet of paper. While representing areas of plains would seem comparatively easy, it is when one considers the numerous hills, valleys, gorges, plateaus, and mountains that constitute Earth's topography, and especially Colorado, that the problem comes a bit more into focus.

The three maps titled Colorado Topography, Landform Regions, and Elevation represent three ways to depict the surface features of Colorado.

READING THE MAPS

The simplest depiction of the physical geography of the state is to label the major landform features and group them into regions. Notice that eight distinct terms are used to classify the nature of Colorado's

Looking at the three maps side-by-side, it should be easier to "see" the differences in elevation and surface features. Notice that elevation changes so gradually in the landform regions labeled Great Plains and Colorado Piedmont that the map of topography shows little variation in this region. By contrast, in the mountainous regions the isolines are close together and the map of topography shows mountains and valleys in close proximity.

Most people are more attracted to the topography map than to the other two and feel that it gives them a better understanding of what Colorado is really like. Why, then, include the elevation map at all? First of all, the topography map is much more difficult to draw. Very few people can construct such a map by hand, and then it would require a great amount of time. This particular map was drawn by CAD

SOILS

called weathering, parent material is broken into small particles from the underlying bedrock or may be materials transported from elsewhere.

Temperature and moisture are the most important factors in weathering.

Entisols

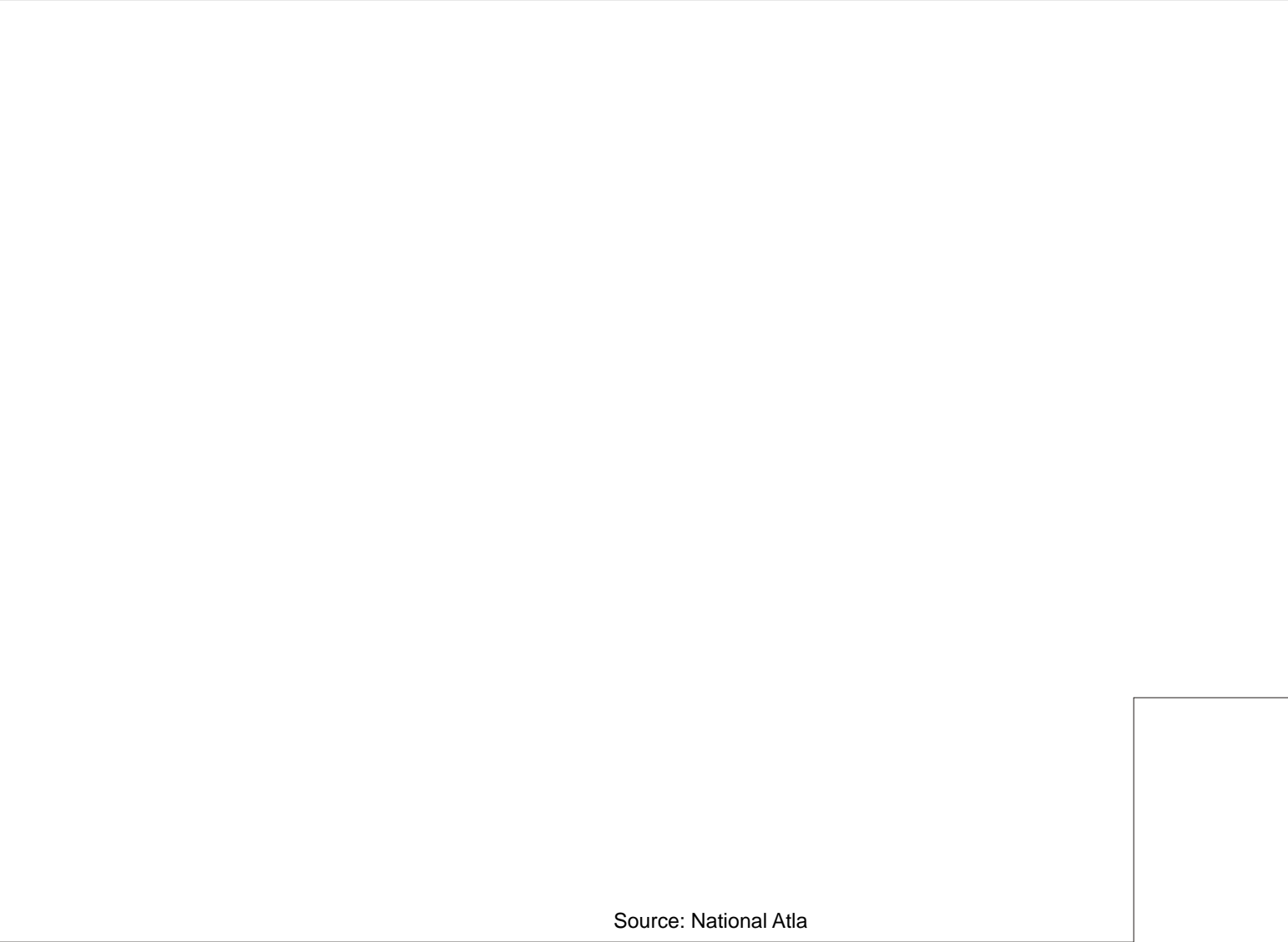
Entisols are immature or underdeveloped soils owing to their recent origin (the "Ent" prefix is merely the last three letters of recent). They may also be associated with dryer climates.

The most extensive deposits of Entisols in Colorado occur in river valley as a result of alluvial (water deposited) material. Note that several of these soil regions have an elongated shape. Most notable are the South Platte and Arkansas in eastern Colorado, the Colorado River and its tributaries in the west, and the Rio Grande along the western margin of the San Luis Valley. Smaller regions of Entisols occur in mountain valleys such as North Park and remnant basins of now seasonal streams. Where irrigated this soil order tends to be very productive. [A 26] [A 32]

Mollisols

Mollisols are found in regions where neither arid nor humid conditions characterize the climate, but where environmental conditions support the growth of grasses. These are soils that generally have a rich humus content owing to the decay of extensive grass roots systems. On a world wide basis Mollisols are probably the most productive of all soil orders because of their high organic content and relative ease of cultivation.

Large areas of northeast Colorado are in this soil order, with a smaller region in the northwest. Where irrigation water is adequate these soils are highly productive. But even where plant growth is dependent upon natural precipitation more drought resistant crops such as wheat, barley, and sunflowers are grown. [PH 14] [A 37] [A 23]



Source: National Atla



POTENTIAL NATURAL VEGETATION

POTENTIAL VEGETATION

Vegetation is the mosaic or pattern of plant communities evident upon the landscape. Mapping vegetation is, however, a difficult task. On the one hand the variety and distribution of plant communities found in Colorado's complex range of environments cannot be comprehensively portrayed at the map

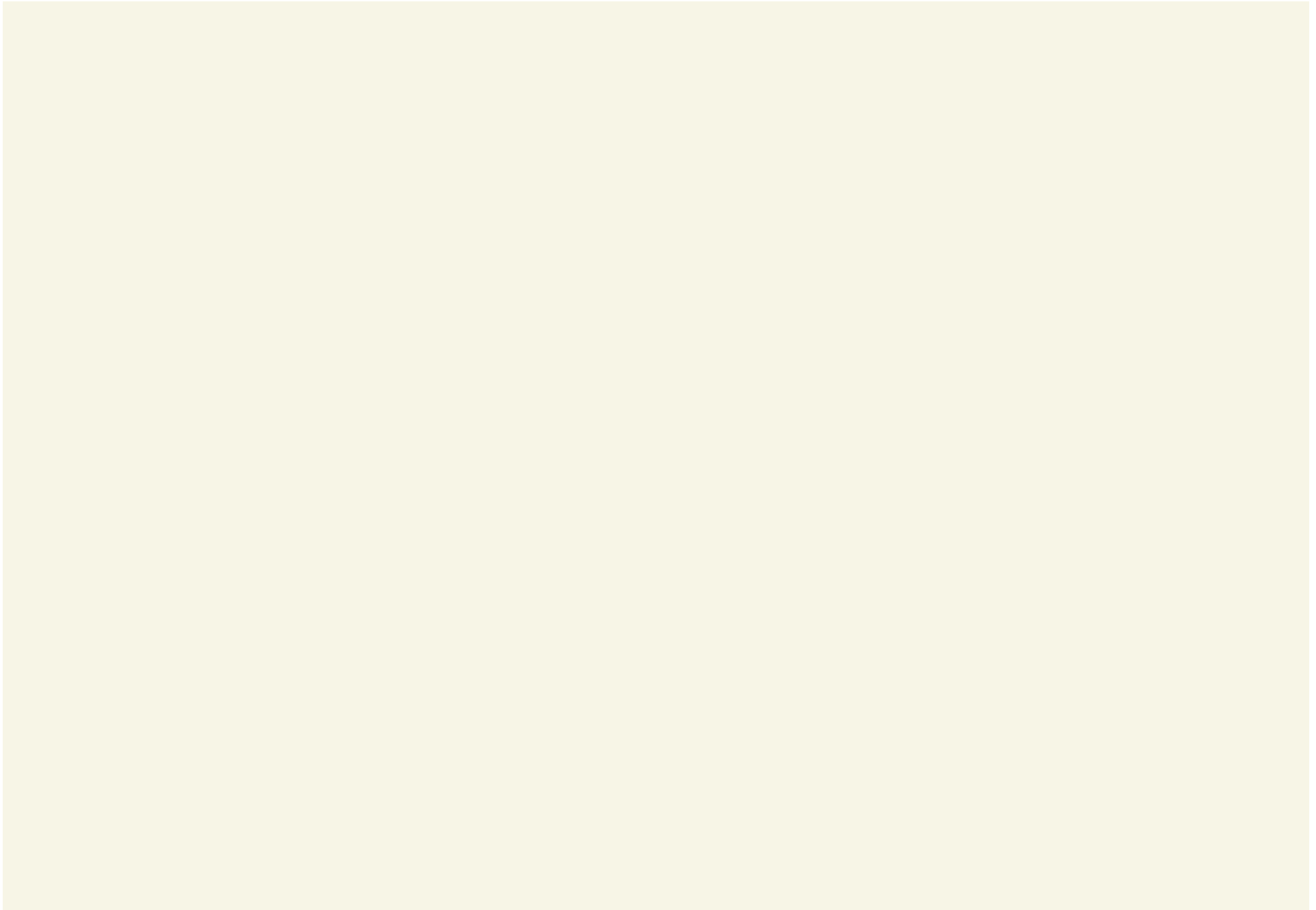




Interval = 2 Degrees F.

Source: Monthly Station Normals of Temperature, Precipitation, and Heating and Cooling Degree Days, 1961-90, COLORADO

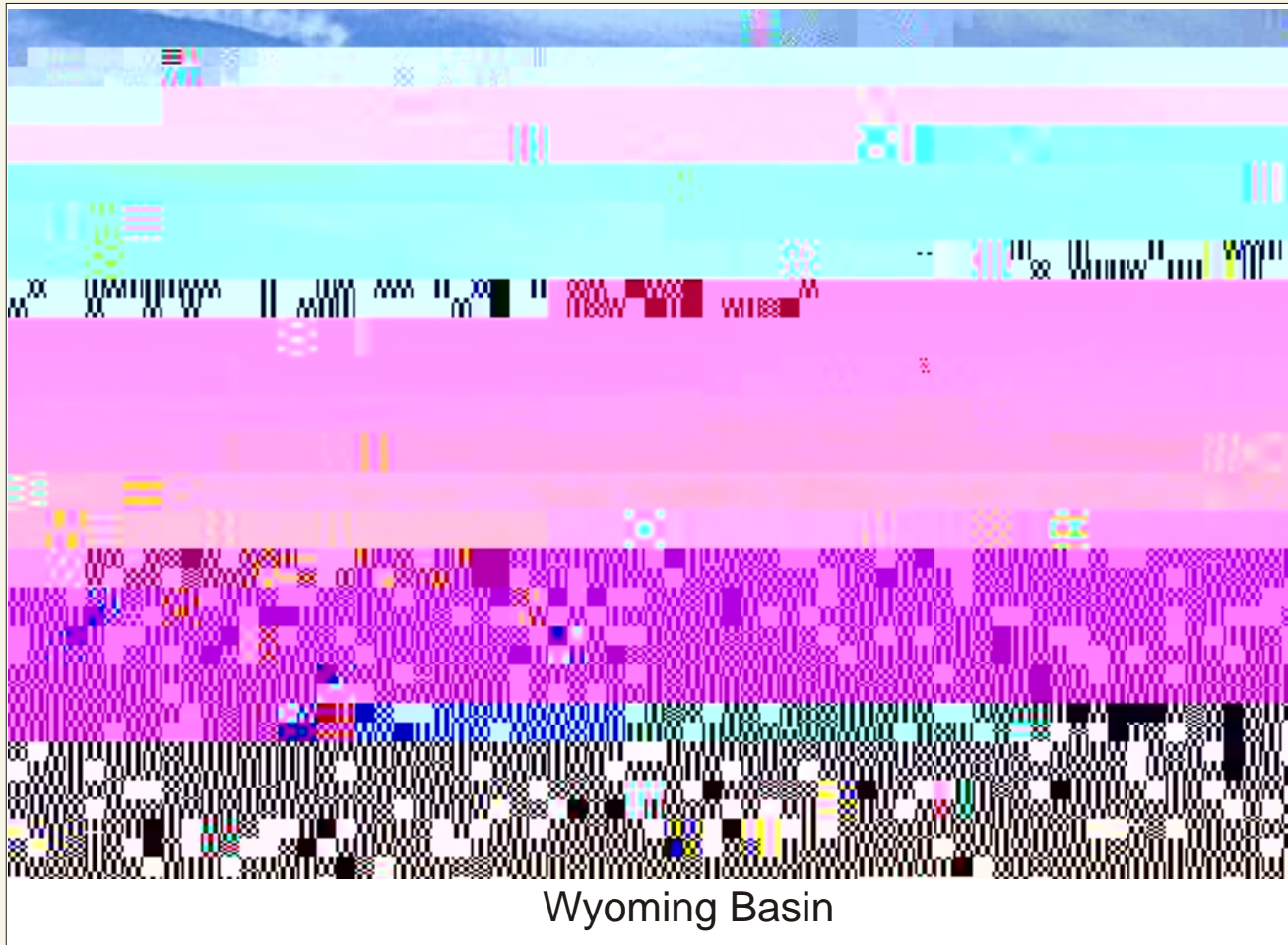
Average July Temperature





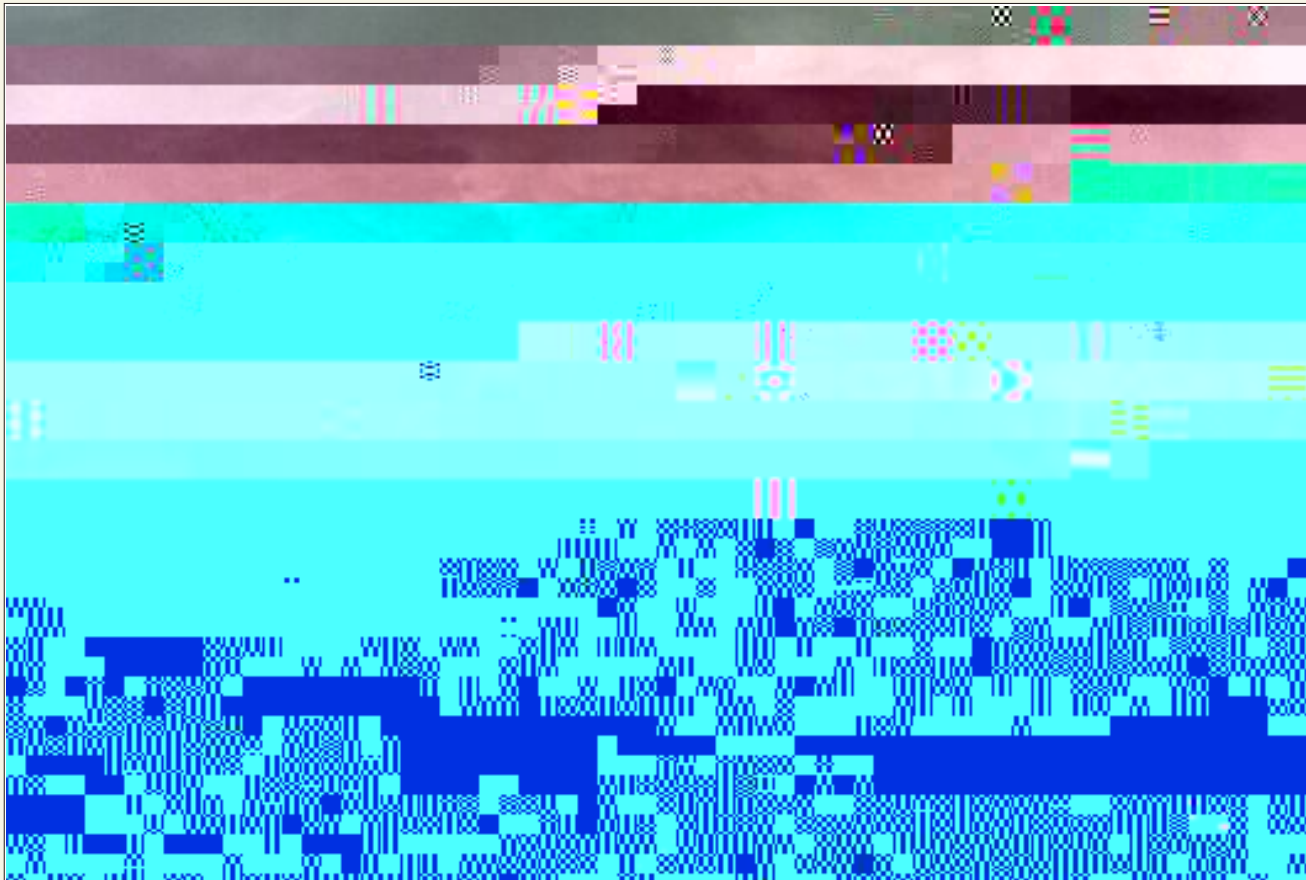
Pawnee Buttes

Eastern Colorado is a region of plains, broad river valleys, and rolling uplands. The origin of these landforms is essentially depositional, primarily water and wind-borne materials originating in regions to the west and northwest. Occasionally, the gentle topography is broken by erosional remnants such as the Pawnee Buttes where a more resistant layer protects somewhat the underlying soft materials from the forces of erosion. These buttes provide a layered geologic history of this portion of eastern Colorado.



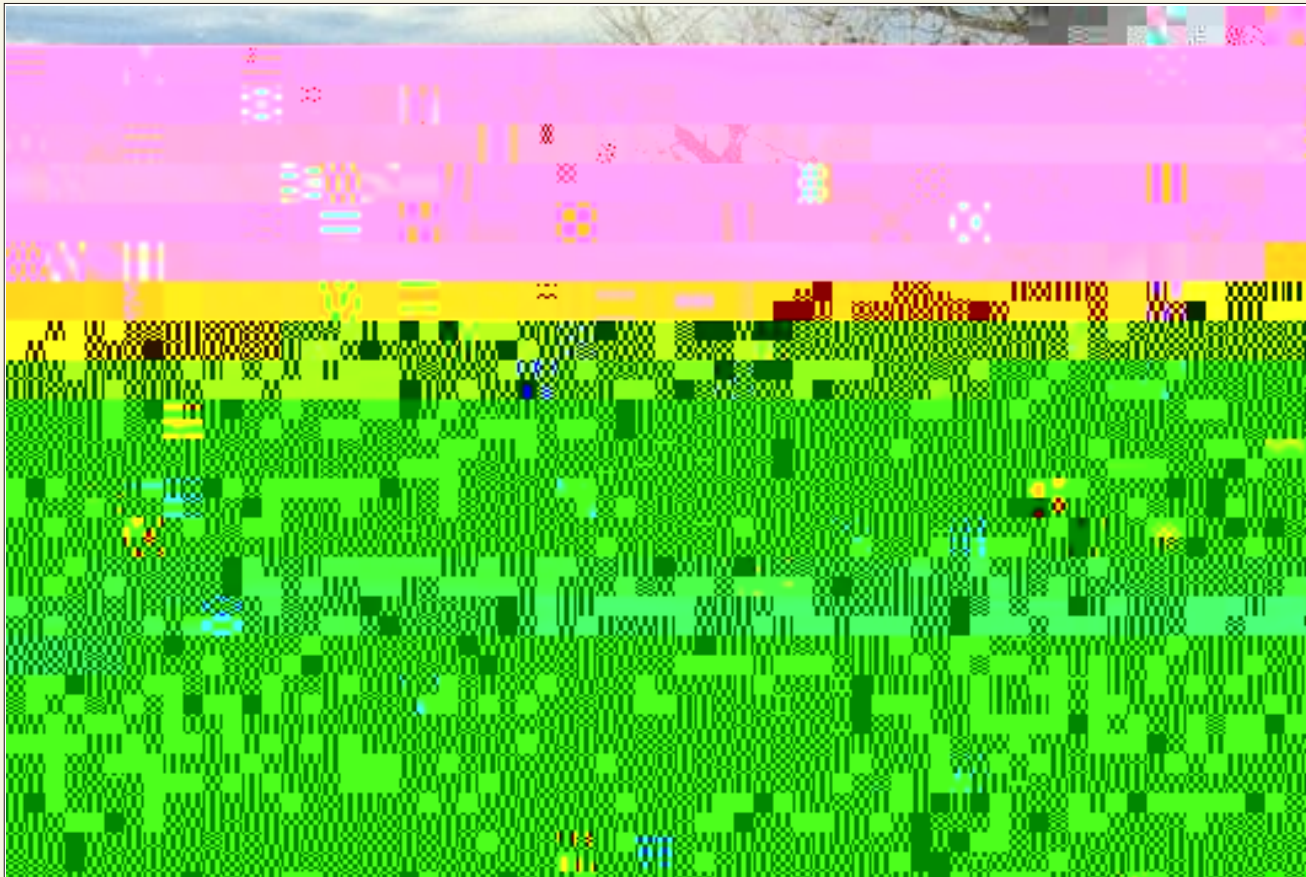
The flat to rolling topography of the Wyoming Basin extends into northwestern Colorado. This elevated basin is dry, with a typical vegetative covering of bunch grasses and sagebrush. Sheep are more numerous than cattle in this environment. Large deposits of oil, coal, and oil shale underlie much of this region.





Tornado Watch

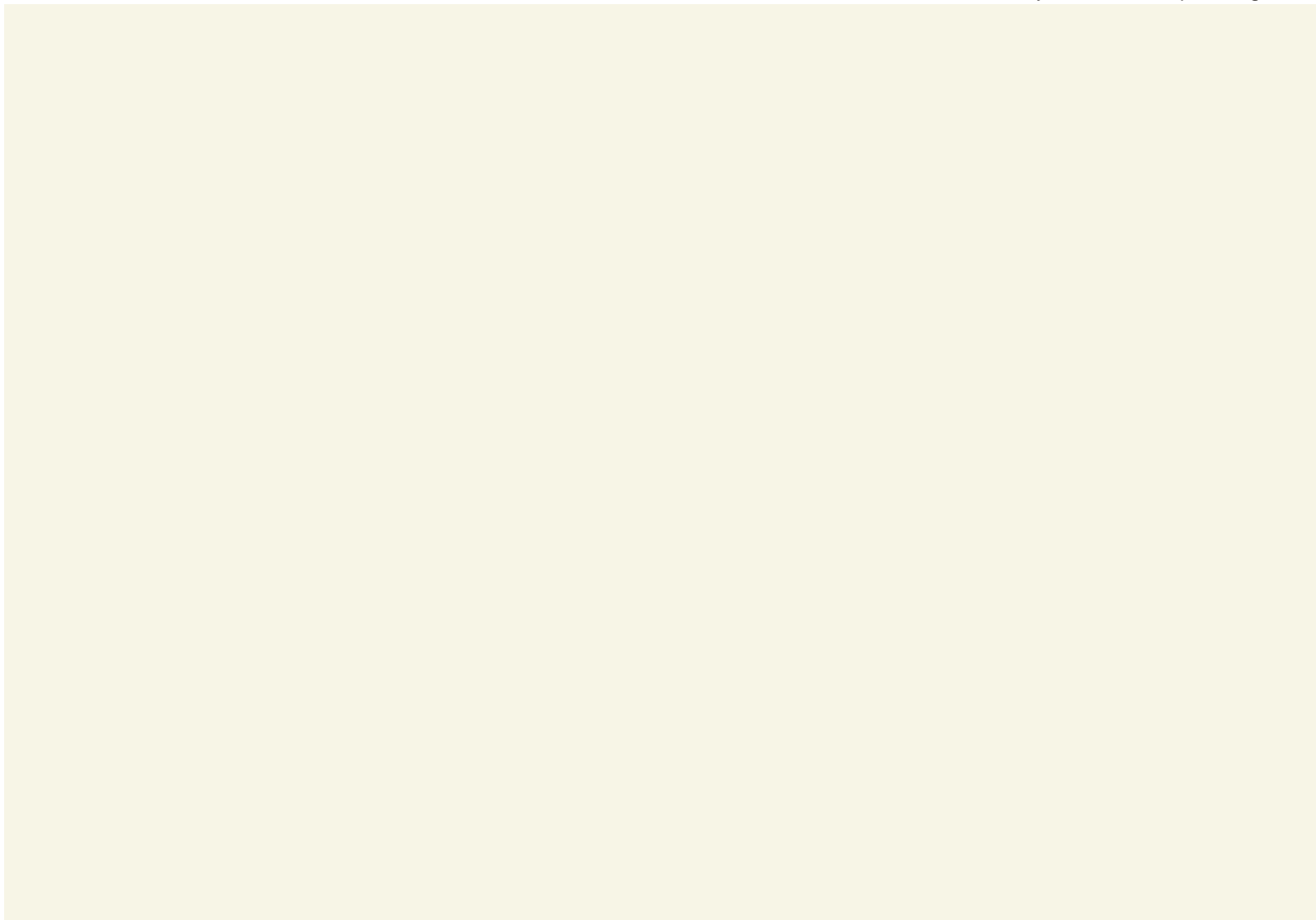
Owing to a variety of factors -- continental location, proximity to the Rocky Mountains, elevation, latitude -- the weather in eastern Colorado is subject to frequent and sometimes radical change. An early summer storm cell is cause for concern. Such a system may produce violent thunder showers, damaging hail, or even a tornado. Annually, eastern Colorado produces a substantial number of reported funnel clouds and/or tornados, though these are fewer and smaller than the occurrences in Texas, Kansas, or Oklahoma.

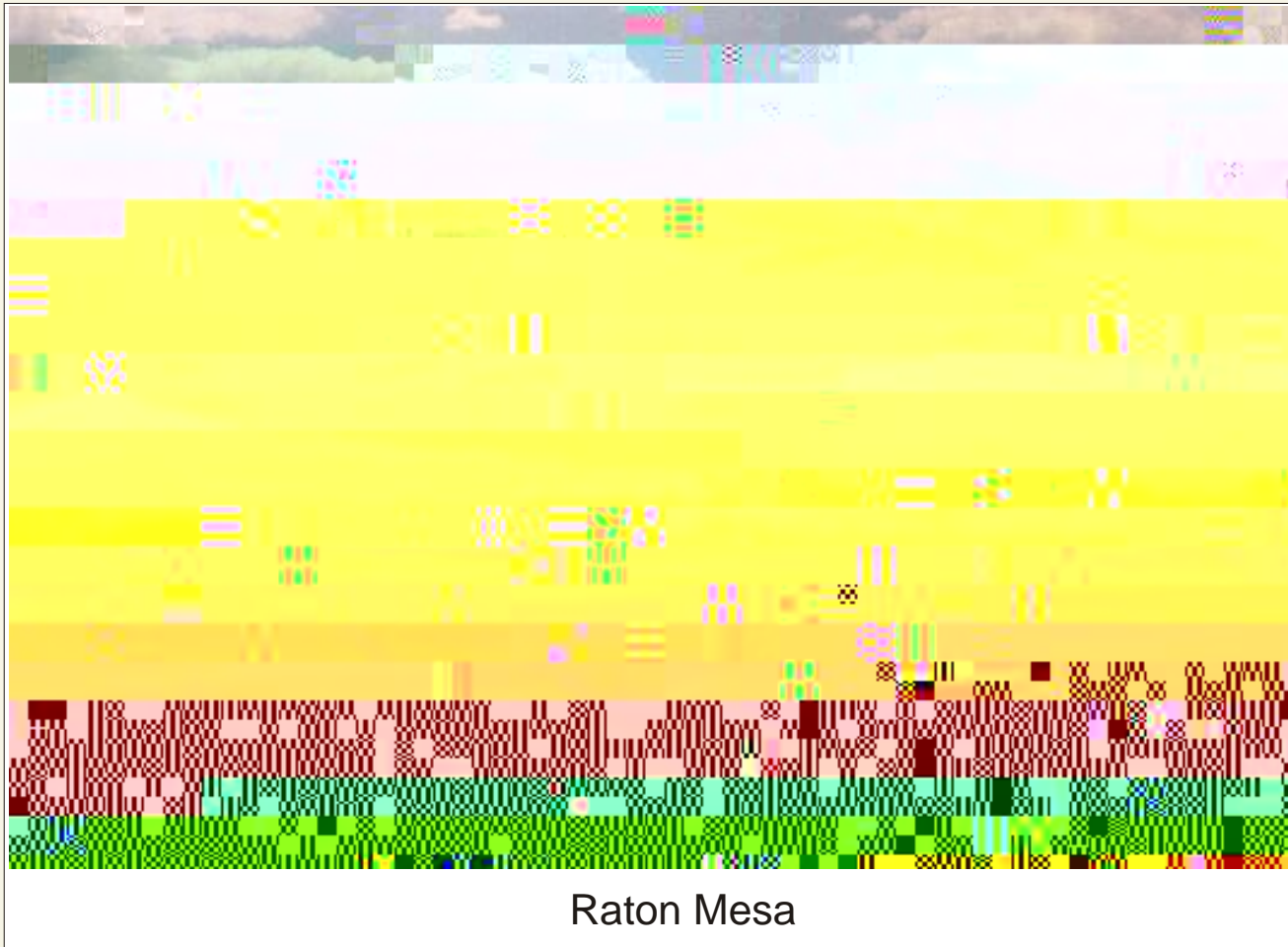


South Platte River

For most of the year, the South Platte River makes its way between low, Cottonwood-covered banks as it crosses the plains of eastern Colorado. Only during late spring and early summer runoff is there a notable increase in volume and occasional flooding. Hydrologists speculate that prior to modern settlement, the South Platte in eastern Colorado ceased flowing most years during late summer and fall. Seasonal fluctuations are now reduced owing to storage and diversion of water from Colorado's western slope; downstream states such as Nebraska are by law assured a continuous flow.







Raton Mesa

The horizontal flow of molten rock created this elevated mesa (table) near

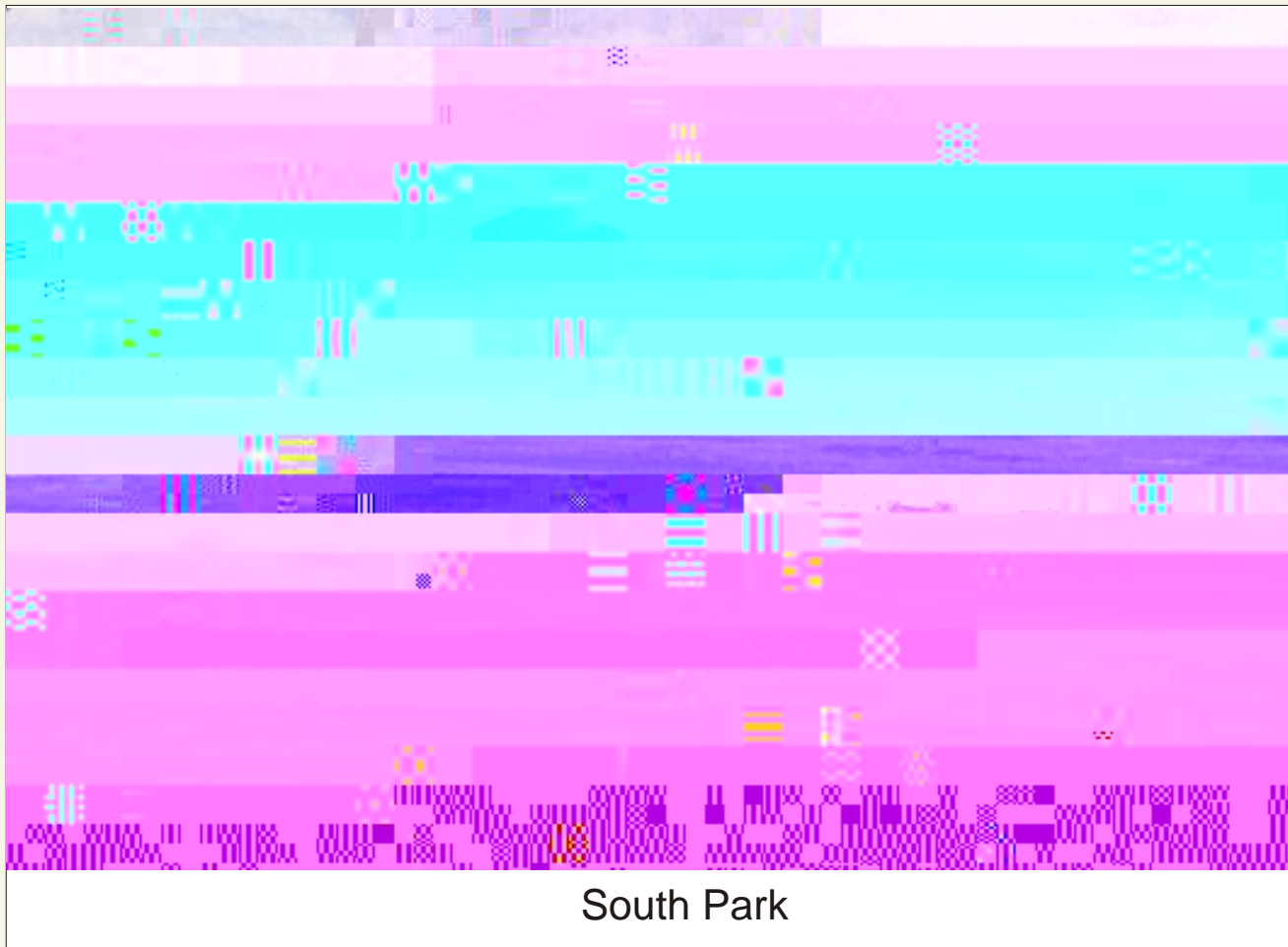


Spanish Peaks

These two large mountains were created as masses of volcanic magma intruded or pushed upward into the overlying sediments. Erosion has stripped away much of the softer sedimentary material revealing the harder volcanic rock as well as numerous wall-like dikes radiating outward from each peak, much like the spokes of a wagon wheel.



This location in the San Juan Mountains of southwestern Colorado is one of the wettest places in the state. The mountains intercept moisture bearing winds, force them to rise, and the result is precipitation, often in the form of snow. In a single winter season, nearby Wolf Creek Pass has received as much as 400 inches of snow.



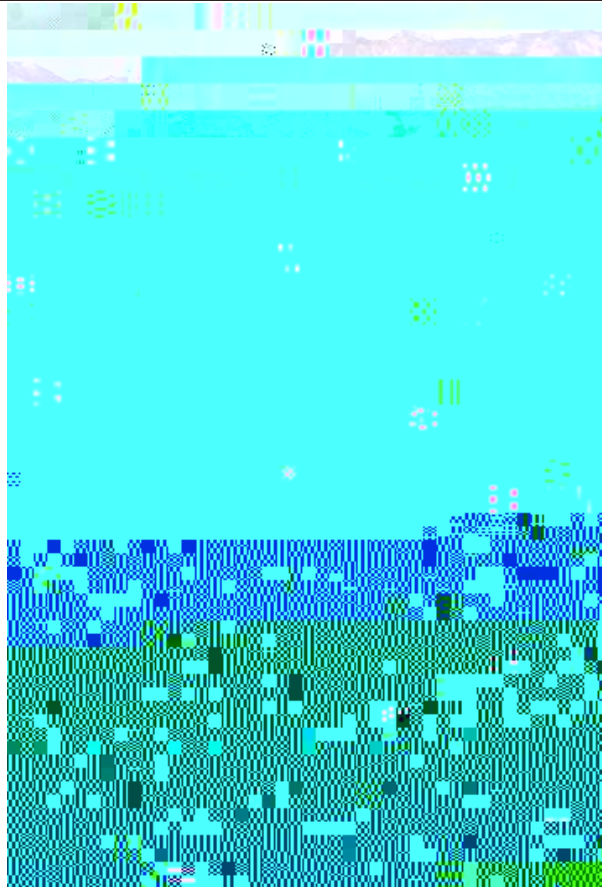
Located within the mountains of Colorado are several large flat-floored basins commonly referred to as "parks." South Park, measuring approximately twenty-four by forty-eight miles, appears to be a grassy and virtually treeless plain. However, the basin's average elevation is 8,800 feet



Blanca Peak

Part of the Sangre de Cristo range, Blanca Peak (14,345 feet) takes its name from the light colored granite that forms the summit. As the fourth highest mountain in Colorado, Blanca Peak is also covered with snow





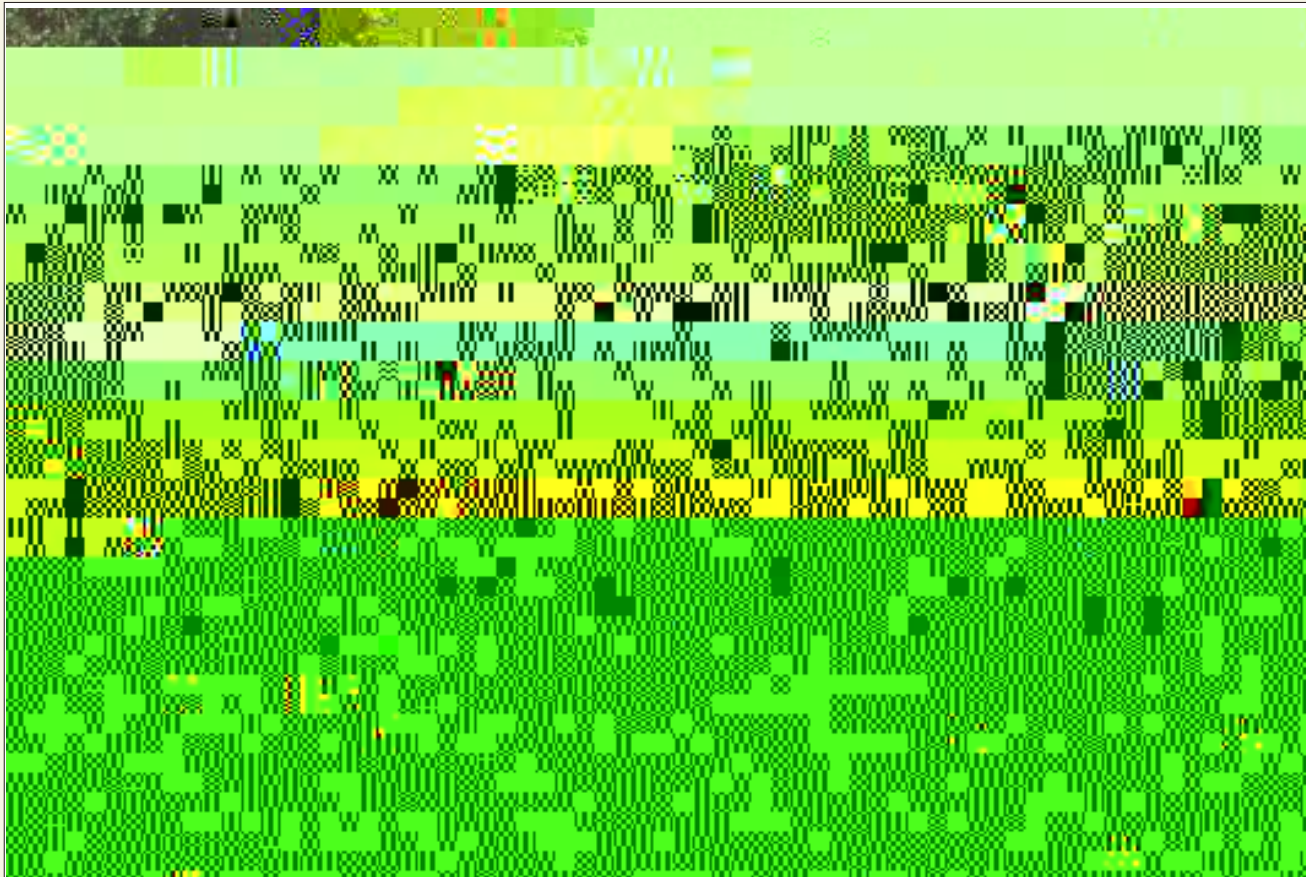
Royal Gorge

The Royal Gorge Bridge spans a 1,200-foot-deep canyon carved by the Arkansas River. As the river erodes downward the surrounding land surface has been uplifted, accelerating the work of the river. The suspension bridge is the world's highest, hanging 1,053 feet above the river, yet its function is as



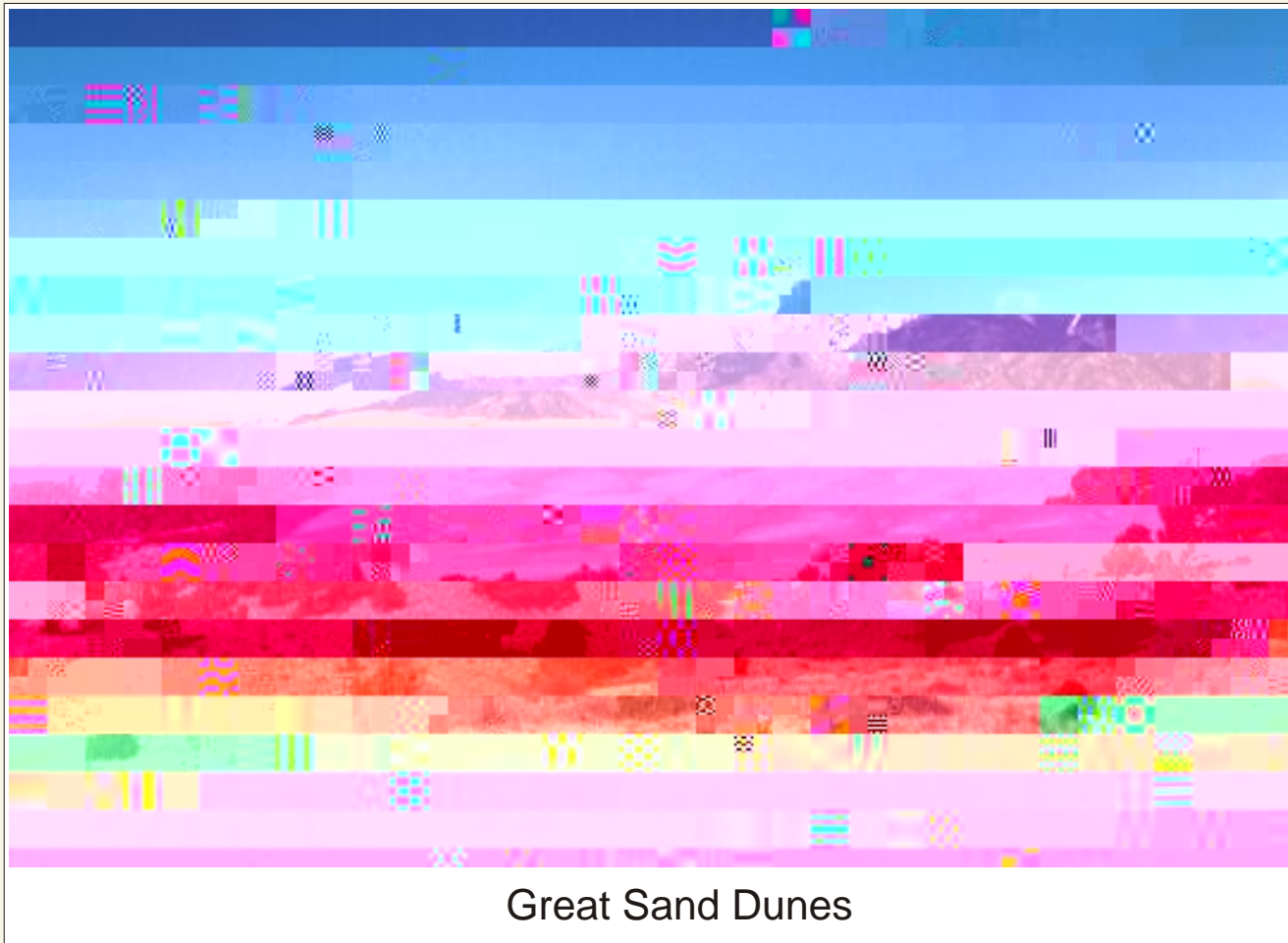
Sawatch Range

Located in south central Colorado, the Sawatch Range contains the state's highest elevation (Mt. Elbert, 14,433 feet) and many of its "Fourteeners," peaks that exceed 14,000 feet. Because of their height, snow remains upon many of the peaks most, if not the entire year.

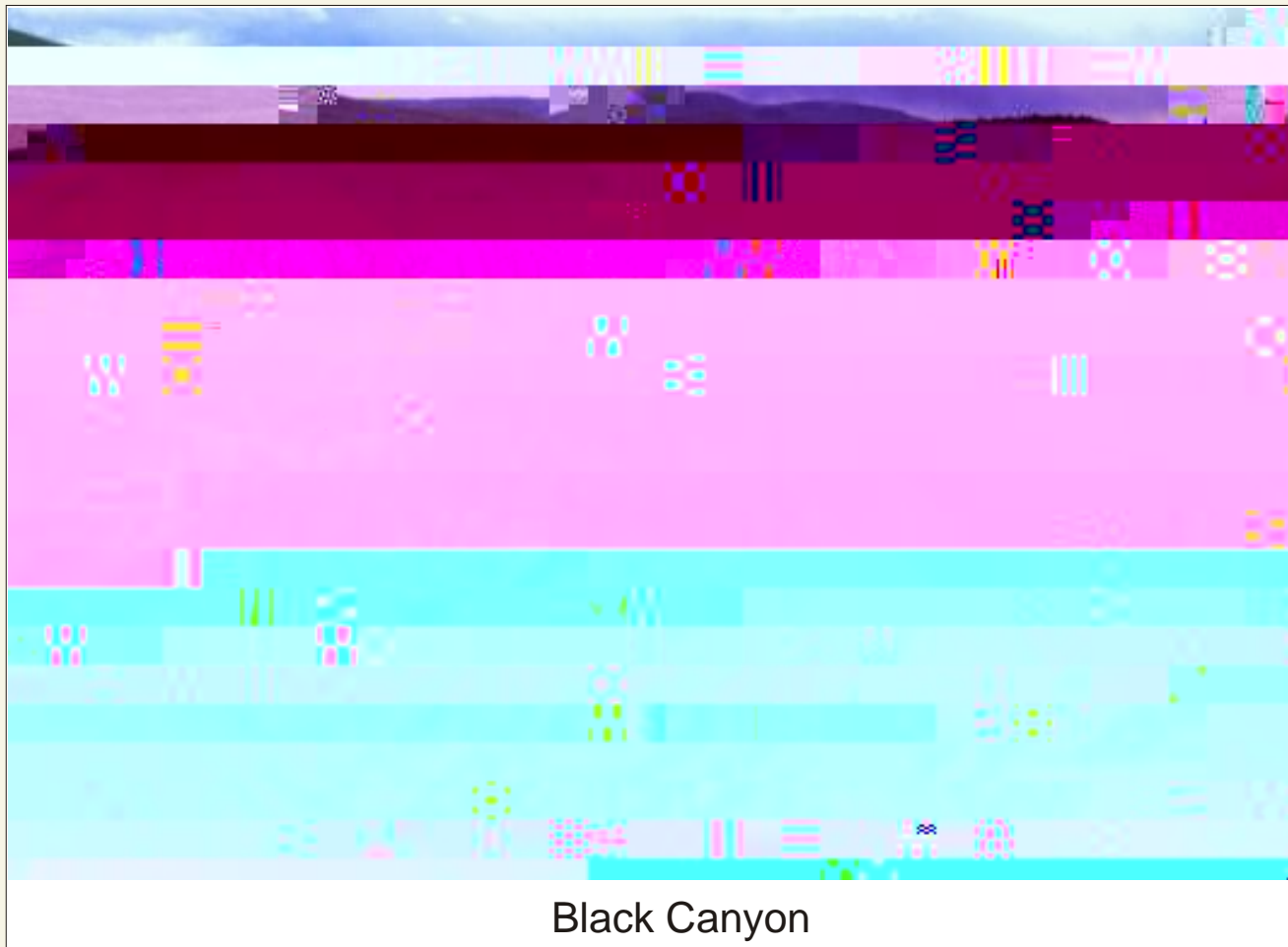


Grand Mesa

Western Colorado is dominated by plateaus and mesas. The Grand Mesa's surface is composed of thick layers of lava, called basalt. This material once accumulated in valleys where it cooled and hardened. Erosion removed the softer materials surrounding the lava and left the mesa standing high above the intervening landscape.

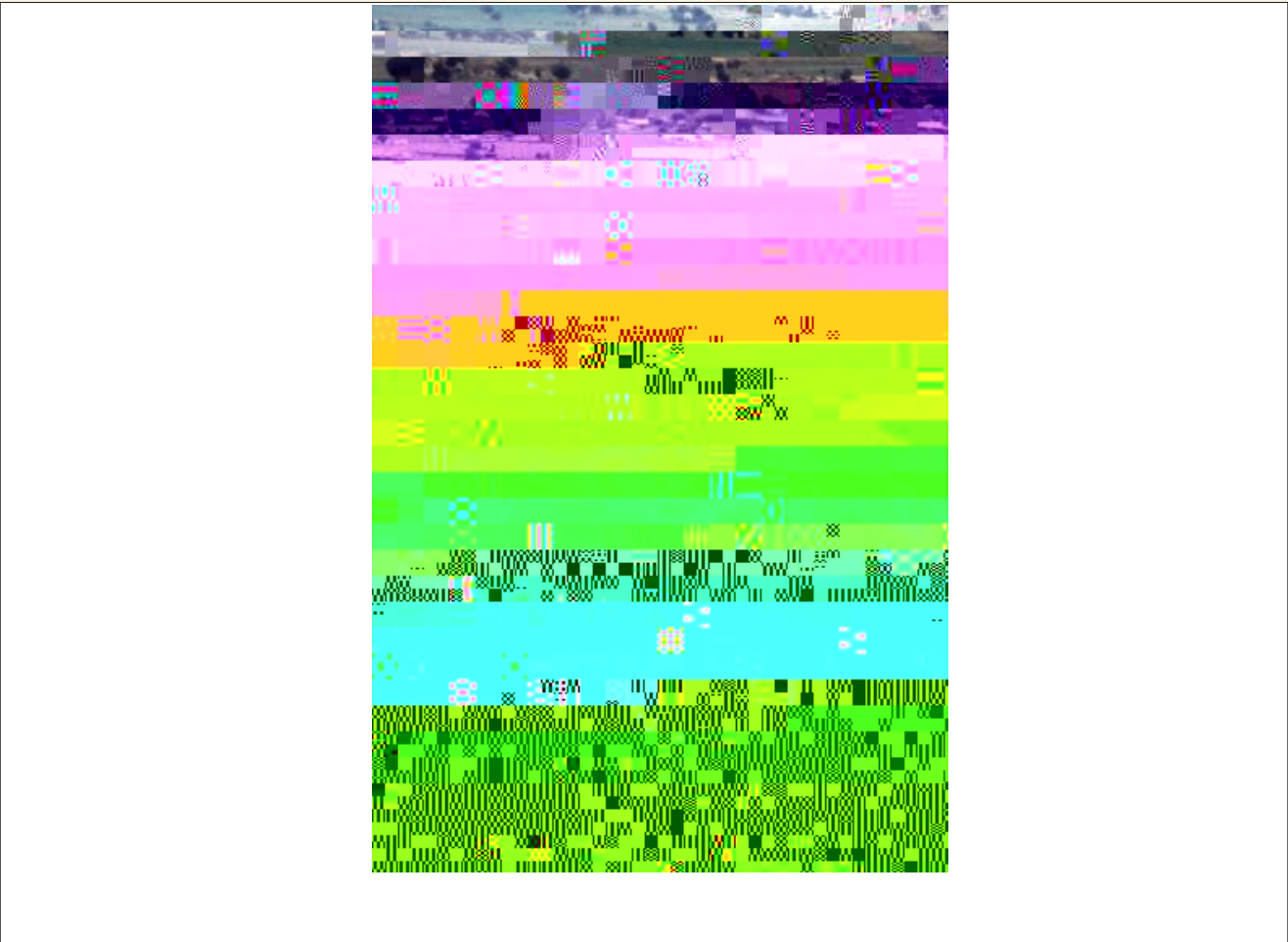


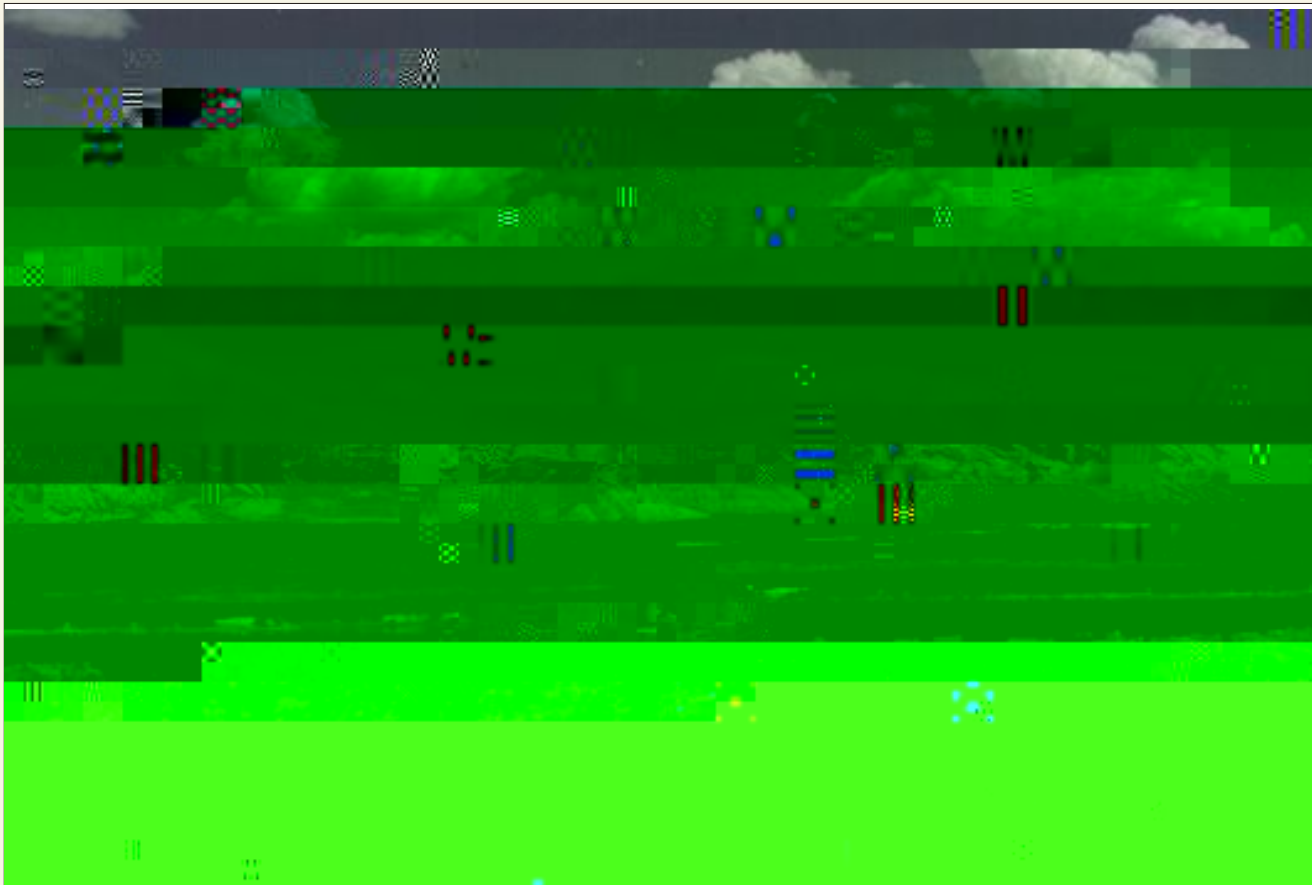
Prevailing southwesterly winds moving across the desert floor of Colorado's largest intermontane basin, the San Luis Valley, pick up fine soil particles. As the winds reach the Sange de Cristo mountains they lose velocity and deposit their load near the western foot of that range. The result is Great Sand Dunes National Monument, approximately forty square miles of dunes some of which rise over 700 feet above the valley floor.



Black Canyon

With nearly vertical walls, some more than 2,000 feet tall, the Black Canyon of the Gunnison River is among the most spectacular landscapes in Colorado. Initially, the river cut downward through softer volcanic materials. Once its course was established the river has continued to erode the very hard Precambrian materials through which it now flows. At places, the river nearly disappears beneath jumbles of boulders, making this a challenging run for kayakers.





Dinosaur National Monument

The old and largely sedimentary materials of the Uinta Mountains contain numerous fossils, including those of large dinosaurs. After paleontologists began excavating the fossils, an area extending from northwestern Colorado into eastern Utah was designated a National Monument. Not only did this help protect the fossil beds against unauthorized digging, it also stimulated tourism. In fact, the nearby small town of Artesia, Colorado, changed its name to Dinosaur, Colorado.