

## Environmental History

*Source: E. Michell, J. Langfield, and M. Fiege  
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## PROJECT SUMMARY

### Introduction and Background

On November 29, 1864, soldiers from the US military attacked a peaceful encampment of Cheyenne and Arapaho along Big Sandy Creek in southeastern Colorado. Over 150 Indians were killed in the attack, most of whom were women, children, or elderly. The massacre profoundly influenced US-Indian relations and the structure of the Cheyenne and Arapaho tribes. Sand Creek Massacre National Historic Site was established in 2007 to preserve and protect the cultural landscape of the massacre, enhance public understanding, and minimize similar incidents in the future.

Colorado State University researchers conducted an environmental history study to create a greater understanding of how human interaction with natural surroundings contributed to cultural changes that eventually led to the Sand Creek Massacre. The site is an example of these changes that took place on the Plains since the arrival of humans. Competition for limited resources and cultural conflict derived from different land use philosophies and practices by Indians and Euroamericans contributed to the massacre. The report is the result of reviewing literature, including historical documents, oral interviews, and recent site studies.

### Environmental and Cultural Changes

#### Pre-Massacre

The Sand Creek Massacre site lies in the Colorado Piedmont segment of the Great Plains, which ranges east from the Rocky Mountains to Kansas and south from the South Platte River to the Arkansas River. Over the past 8,000-10,000 years, the prairie has gone through several dry and wet periods which have impacted human lifestyles through the availability of resources. Paleoindians entered the area around 10,000 Before Present (BP) pursuing game and vegetation as part of a nomadic hunter-gatherer subsistence. A period of extremely dry, warm conditions in the Middle Holocene (7,500-5,000 BP) reduced forage available for game and may have contributed to a decrease in the human population. Inhabitants adjusted their lifestyle to available resources as regional climate fluctuated

and transitioned from nomadic hunter-gatherers to a sedentary horticulture life during wet periods.

In the mid to late 1500s, the Spanish conducted the first European exploration of the region and reintroduced horses to North America. Minimal exploration activity occurred until the 1700s when other Europeans began to investigate the region. American Pioneers and American Indians, including the Cheyenne and Arapaho now using horses, also expanded into the Plains at this time. The regional population doubled between the 1820s and 1850s. The number of horses, spread by trade, also increased and replaced bison, deer, and pronghorn antelope, further increasing demands on the ecosystem. An 1845-1856 drought magnified these pressures.

#### 1864

Food and fuel became increasingly scarce due to cultural demands on the ecosystem and natural factors including drought.



Pronghorn antelope

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J.R. DOUGLASS

By 1864, bison, deer, and pronghorn antelope were nearly absent from the range. The combination of climate fluctuation and increased pressures on the land by both native and settler populations contributed to the severely degraded condition of the Plains ecosystem. Traditional sites used by the Cheyenne and Arapaho along rivers and streams were unable to support winter encampments. In October 1864, Cheyenne Chief Black Kettle established a winter campsite at Big Sandy Creek, though food and fuel were scarce.

In response to limited resources, winter camping needs, and the desire to demonstrate peacefulness, groups of Cheyenne led by Chief Black Kettle and Arapaho separately visited Fort Lyon in October 1864, 40 miles south of the massacre site. Both groups were prohibited from making an encampment near the fort and instead moved to Big Sandy Creek. During the November 29 massacre, Indians took shelter in the high banks of a dry segment of Big Sandy Creek. The camp's isolation from its approximately 1,000 horses, pastured at a distance because of lack of forage near the creek, hindered escape. Survivors of the initial attack fled to the north, hoping to reach a larger band of Cheyenne. The range provided no shelter or fuel and little food.

### Post-Massacre to present

Dry and wet periods continue to impact the region. In addition to these climate changes, the site and surrounding area have been affected by hunting, grazing, cultivation, erosion, water diversion, and fire. In the late 1800s, bison were scarce in the region, primarily due to accelerated hunting related to Euroamerican market demands and sport; the last documented bison in the area was killed in 1885, 12 miles south of the massacre site. The extirpation of bison had significant political, cultural, and ecological consequences, including the loss of economic independence and a vital spiritual element of native Plains people.

Cattle were introduced to the range in the 1870s and grazed primarily on public lands until the industry shifted to stock farming in response to increased private land ownership in the 1880s. Farmland along stream channels was initially irrigated by primitive, privately owned ditches until a large network of corporate canals was developed around 1880. Elevated areas were dryland farmed until drought caused the land to be returned to grazing. Historic efforts have been made to mitigate the effect of droughts and floods on settlement of the region though precipitation fluctuations are common to the Plains. Fire, which naturally occurs on the Plains, was historically used as a tool for range management, hunting, and communication by native people and by the US military for military tactics. Fire continues to affect the environment and lifestyles of Plains inhabitants, though recent policy supported fire suppression.

The Sand Creek Massacre site has been used continuously throughout the 1900s for farming and ranching, and has been disturbed by related development activities and changes in water availability. Big Sandy Creek is currently an intermittent stream with grass, brush, and cottonwood stands. Recent changes include the expansion of sagebrush, introduction of non-native species, and growth of cottonwood stands along the creek banks, which may be related to flood depositions. Overall, little change in plant communities occurred between prehistoric times and the present.

## Discussion

The landscape of Sand Creek Massacre National Historic Site is a record of human relationships with the natural environment, the contrasting values of American Indians and Euroamericans, and their competition for limited resources. The environmental history of the site is an important resource describing how the environment changed over time and how human actions altered ecosystems. It supports a greater understanding of how natural resources impact cultural values and actions. The site continues to reflect human relationships with the environment, including the values of native Plains people, European explorers, Euroamerican settlers, and, most recently, the National Park Service.

## Literature Cited

Michell, E., J. Langfield, and M. Fiege. 2007. Sand Creek Massacre Site: An environmental history. Report. Fort Collins, CO: Colorado State University.

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Pond and cottonwoods along Big Sandy Creek.

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