Using memoirs, diaries, regimental histories, letters, the 128-volume "Official Records," and like primary sources, generations of Civil War historians have devoted much of their attention to the military, economic, political, racial, and social elements of the war. While some works, such as Bell Irvin Wiley’s classics, "The Life of Johnny Reb: The Common Soldier of the Confederacy" (1943) and "The Life of Billy Yank: The Common Soldier of the Union" (1952), make passing reference to how soldiers endured the weather and other natural aspects of the war, none have attempted a serious analysis of the interaction between the conflict and the environments in which it took place.

The much newer field of environmental history began to form as an independent discipline in the late 1960s and 1970s. While environmental historians—for example, Alfred Crosby—did not shy away from studying conflict, they tended to concentrate on the clash between settler-colonists and indigenous populations. Such topics as perceptions and roles of wilderness, forests and their use, nature protection and the movements that advocated it, relationships among animals, pollution, regimes of land use, landscapes, and imperialism, to name a few of the most prevalent, absorbed environmental historians from the 1960s through to the end of the twentieth century. Wars in general and the Civil War in particular received scant attention in the developing canon of environmental history.

In a 2001 National Humanities Center essay, “The American Civil War: An Environmental History,” Jack Temple Kirby noted that the two subfields “not so much debated as ignored each other.”[1] To entreat historians to assimilate these two disciplines, Kirby offered two compelling reasons for applying environmental history to the Civil War. First, he argued that we will better understand both fields when examining how the environment and views of nature shaped and were shaped by the conflict. Second, he noted that all wars are agents of immense ecological change. Kirby offered numerous subjects for future study. At the time Kirby wrote this piece, historians were only just beginning to apply environmental analysis to military history. Eric Bergerud’s "Touched with Fire: The Land War in the South Pacific" (1996), Harold Winters’s (with Gerald E. Galloway Jr., William J. Reynolds, and David W. Rhine) Battling the Elements: Weather and Terrain in the Conduct of War (1998), Edmund Russell’s "War and Nature: Fighting Humans and Insects with Chemicals from World
War I to Silent Spring (2001), and Richard Tucker and Edmund Russell’s edited collection Natural Enemy, Natural Ally: Toward an Environmental History of War (2004) are among the trailblazing works of this genre written in the late 1990s and early 2000s. None of them focus exclusively on the American Civil War.

The application of environmental history to the American Civil War began a little more than a decade ago. Some of the earliest material was assembled in The Blue, the Gray, and the Green: Toward an Environmental History of the Civil War, edited by Brian Allen Drake. Although published in 2013, most of the material in this volume was presented at the Un-Civil War Conference in 2011. “As its contributions to other fields suggest,” Drake wrote in the introduction, “environmental history can locate and turn over new stones in the Civil War field as well as reposition some older ones.”

Historians Kenneth W. Noe, Megan Kate Nelson, Timothy Silver, Kathryn Shively Meier, Aaron Sachs, John Inscoe, Lisa M. Brady, Drew Swanson, Timothy Johnson, and Mart Stewart contributed essays that examine weather, climate, landscapes, wilderness, agricultural uses, and the impact of the war on the nature appreciate movement as aspects of the Civil War as environmental history.

This brief essay will examine some of the important works that have moved those “stones” around. It makes no pretense to be a comprehensive review of all the existing literature but offers a brief survey and guide for those looking to know about some recent historiography of this new and exciting field.

Weather

Outcomes of events were often attributed to the decisions and initiative of military and political leaders. Some generals, think George B. McClellan, were long ridiculed for their inability to produce victory. Yet something was missing. Acknowledging a significant gap in historiography, Douglass Southall Freeman pled with historians in 1953 to study the climatology of the war. Considering that soldiers’ accounts are filled with references to the weather, it is odd that historians paid such little attention to a subject so central in the lives of Billy Yank and Johnny Reb. After all, as Noe commented in his essay on the weather in The Blue, the Gray, and the Green, “the American Civil War was largely fought outdoors.”

Robert K. Krick’s Civil War Weather in Virginia (2007) was the first monograph dedicated exclusively to the topic. Relying on civilian and military diaries, ship logs, and private records largely assembled by the Smithsonian Institution and US Army Signal Corps, Krick compiled thrice-measured daily temperatures of Washington, DC, supplemented with personal descriptions to describe the elements beyond thermal readings. He points to some important examples of how weather affected the war in the eastern theater. For example, recent rain dampened the soil around Chancellorsville so that Confederate General Thomas “Stonewall” Jackson’s flanking movement in May 1863 was not betrayed by the marching column’s tell-tale clouds of dust. In another example, Krick cites McClellan’s Peninsula Campaign as one of several examples of how rainfall greatly delayed the advance of an army. Despite these examples, and several others, Krick restraints from any organized analysis of how weather affected the war in Virginia.

In their synthesis, An Environmental History of the Civil War (2020), Judkin Browning and Timothy Silver depict the period between 1856 and 1865 as abnormally dry in the South and West. Yet this same weather pattern created short periods of intense rain that resulted in significant flooding.
Citing two examples from 1862, Ulysses S. Grant’s attack on Fort Henry and McClellan’s Peninsula Campaign, they show how generals responded differently to the weather. Grant took advantage of the rising Tennessee River to bring gunboats closer to the fort for more effective fire. On the other hand, bursts of sudden rainfall unfortunately occurred just as McClellan was finally about to move; he seemed to make all the wrong choices at the worst time, dooming his attempt to take Richmond from the East.

In ground-breaking scholarship, Noe’s *The Howling Storm: Climate, Weather, and the American Civil War* (2020) examines the role of weather in determining the war. Shaped by El Niño, La Niña, and North Atlantic Oscillations, the weather of the war was, according to Noe, “bizarre.” Comparing weather events at important points to norms both before and after and connecting patterns across regions support the conclusion that the war-time weather was extraordinary. Noe further argues that frequent rain and ubiquitous mud significantly prolonged the war, which all but ensured emancipation. Had McClellan’s 1862 Peninsula Campaign, for instance, succeeded in capturing Richmond, Noe suggests, the war might have ended before Abraham Lincoln even proposed emancipation. In discussing McClellan’s ill-fated effort, Noe points that it failed due to rain, mud, floods, and swollen waterways, not solely because of the commanding general’s incompetence. Prolonging the war amid deteriorating agricultural yields greatly weakened the Confederacy’s ability to feed both its military and civilian populations. Noe challenges the assumption that Northern superiority in food production resulted from more advanced machinery and technology. He counters that early frosts and drought prevailed throughout North America in these years, but the effects were much worse in the South. *The Howling Storm* abounds with many additional important examples of how weather shaped the war in both small and large ways.

**Battles and Campaigns**

In her contribution to *The Blue, the Gray, and the Green*, Brady reminds us that nature, in all its environmental manifestations, acted as what the nineteenth-century Prussian military theorist Carl von Clausewitz dubbed “friction,” those chance or unforeseen occurrences that frustrate the best laid plans. As a small sampling of recent scholarship attests, environmental factors can be decisive in determining victory and defeat.

In a fresh look at one of the most documented battles of the Civil War, Mark Fiege applied environmental history to Robert E. Lee’s 1863 invasion of Pennsylvania in an essay titled “Gettysburg and the Organic Nature of the American Civil War,” which first appeared in Tucker and Russell’s *Natural Enemy, Natural Ally* (2004), an early collection of essays on the intersection of environmental and military history. Fiege expanded on this in *Republic of Nature: An Environmental History of the United States* (2012), a sweeping environmental history that demonstrates engagement of the Civil War flows in both directions. Southern ecological degradation pushed General Lee North to invade the fertile farms of Pennsylvania. Dependence on the captured land and the concurrent need to keep moving greatly limited Lee’s options. It was ecological necessity, more than military strategy, that forced Lee to attack a superior force defending in favorable terrain. In a war between two rival ecosystems, the Union simply overwhelmed the Confederacy.

Brady’s *War upon the Land: Military Strategy and the Transformation of Southern Landscapes during the American Civil War* (2012) was among the first monographs to apply environmental analysis to
the Civil War. Brady depicts three prominent campaigns—General Grant’s conquest of Vicksburg, General Phillip Sheridan’s Shenandoah Valley Campaign, and General William T. Sherman’s march through Georgia and the Carolinas—as explicit attacks on the Southern landscape, intended on turning farms, plantations, commons, and forests into a desolate wilderness. A war on the economic and social foundation of the Confederacy was by necessity a war on the ecology that sustained that system. Further relying on environmental history, Brady incorporated mid-nineteenth-century concepts of landscape as objects of civilization and progress to illustrate why the war on the Southern environment was so successful in undermining the Confederate morale and war effort.

Adam H. Petty’s *The Battle of the Wilderness in Myth and Memory: Reconsidering Virginia’s Most Notorious Civil War Battlefield* (2019) centers attention on the infamous battle that inaugurated Grant’s Overland Campaign in May 1864. “While environmental history informs its arguments,” he writes of his approach in the introduction, “the questions that drove this study were those of a military historian.” Petty compares the 1864 battle to those of Chancellorsville and Mine Run that took place on some of the same ground the previous year, as well as to Chickamauga around Chattanooga, Tennessee, in 1863 that transpired on similar terrain. Showing that environmental perceptions shaped experience and memory, Petty contends that much of the 1864 battle’s reputation for savagery resulted from the name itself with all that this loaded term conjured up in the minds of mid-nineteenth-century Americans. The Wilderness’s meaning was further clouded by the intermingling of active farms and clearings, sure signs of progress in the mid-nineteenth-century mind, with abandoned tobacco fields, second-growth forests, and unkept roads, terrain that marked nature’s defeat of man’s civilizing efforts, an indication, in itself, of savagery.

Although not centered on a particular campaign, Browning and Silver’s *An Environmental History of the Civil War* provides further illustrations of how the environment influenced the course of military affairs. Early frosts, drought, salt shortages, loss of labor, and farmers’ preference for cash over edible crops compelled Lee to invade Maryland in 1862, as Fiege argues was true of the Gettysburg Campaign the following year. So hungry and lacking in rations, Browning and Silver contend, the soldiers of the Army of Northern Virginia gorged themselves on so many unripe fruits and vegetables that it affected their performance at Antietam. In another critical moment, Confederate forces failed to stockpile enough supplies at Vicksburg to survive the prolonged siege that Grant conducted on the city in 1863, an error compounded by effective Union raids in the northern Mississippi farmlands in 1862 and 1863.

**Disease**

More soldiers died of diseases than from combat during the American Civil War. Large armies that could number as many as one hundred thousand men, plus thousands of additional camp followers, were essentially cities on the march with all the health challenges of contemporary urban areas. At various times during the war, the Union Army of the Potomac would have ranked as the ninth or tenth largest city in the United States according to the 1860 census. Crowding, poor sanitation, lack of clean water, animals, pests, and inadequate, if not downright dangerous, medical care contributed to making a soldier’s life, in the words of historian Michael C. C. Adams, a living hell.

In *Mosquito Soldiers: Malaria, Yellow Fever, and the Course of the American Civil War* (2010), Andrew MacIlwaine Bell shows how malaria and yellow fever, products of the environment,
substantially altered the progress of the war by stymieing both ground and naval campaigns, restricting and containing Union amphibious operations, and weakening the Union blockade, as well as other outcomes. Southerners, especially New Orleans residents, believed that deadly yellow fever was an ally capable of thwarting Union efforts to capture and maintain control of the city, but General Benjamin Butler’s strict sanitation measures dashed their hope. Union sailors and soldiers were more susceptible to malaria because the disease had been largely eradicated in the North prior to the war. Troops under the command of some of the most maligned generals of the war, including Henry W. Halleck, Nathaniel Banks, and McClellan, suffered the greatest from mosquito-borne diseases.

Meier’s *Nature’s Civil War: Common Soldiers and the Environment in 1862 Virginia* (2013) professes to be an “ethnographic history of soldier health” in Virginia. Unlike Bell’s account that focuses tightly on the issue of mosquito-borne disease, Meier’s work looks more broadly at geographic and environmental effects on soldiers’ health. Trudging through swamps, marching on dusty roads in the scorching sun, suffering from the heat, and drinking dirty water, soldiers were plagued by a host of ailments. As much as 20 percent of an army could be laid up at any time with various forms of debilitating illnesses. Many of these men filtered to the rear of the army and were commonly referred to as cowards and shirkers. In contrast, Meier contends that many of these men, who distrusted their own doctors, sought refuge in the rear for brief intervals of mental and physical self-care in their stressful, alien environments.

Combatants suffered from numerous ailments beyond the diseases that Bell and Meier studied in their monographs. To their list Browning and Silver add measles, mumps, whooping cough, heat exhaustion, lice, gonorrhea, syphilis, and typhus, among other maladies that afflicted both military and civilian personnel to varying degrees during the war.

**Long-Term Consequences**

As the war tore up the antebellum economic, political, racial, and social landscape, so it did too the very ground on which it was fought. Like the human institutions, the land of the South also underwent a reconstruction after the fighting ceased.

In a contribution to *The Blue, the Gray, and the Green*, “Reconstructing the Soil: Emancipation and the Roots of Chemical-Dependent Agriculture in America,” Johnson describes how postwar efforts to restore the once fruitful farmland that Sherman’s bummers trampled across on the “March to the Sea” led to the development of chemical fertilizers. Encouraged by the initial effectiveness of this new, modern method, farmers throughout the South adopted its use. This expensive product, increasingly necessary to compensate for the deteriorating soil, further encouraged cotton monoculture and led to further indebtedness and poverty, especially among Black farmers.

In *Ruin Nation: Destruction and the American Civil War* (2012), Nelson places the environment in the cultural context of other examples—cities, homes, human bodies—of the war’s destructive impact. Emphasis on postwar rebuilding and restoration attempted to erase both the physical and psychic ruins of war and the stigma of defeat. Agricultural land was reclaimed and replanted. More land was brought under cultivation as forests were felled. This reshaping of the landscape included moving homes and planting trees to make fields of combat look as they did before the battle they
commemorate, a technique that gave the illusion that time had been frozen. The late nineteenth-century construction boom claimed most of the trees that survived the war. In this, the landscape of the South was forever altered by the war. Yet many, especially advocates of the “New South,” saw this transformation in a positive light. To them, urbanization, internal improvements, factories, and modern farming were signs of progress and modernity, not loss, sharpening the contrast between ante- and postbellum eras.

Erin Stewart Mauldin’s *Unredeemed Land: An Environmental History of Civil War and Emancipation in the Cotton South* (2018) draws a stark difference between pre- and postwar land use practices. Diversification of crops, soil conservation, irrigation, and field rotation marked prewar Southern agriculture. Throughout the war soldiers clad in both blue and gray tore down fences, diverted waterways, chopped down wooded common areas, and killed and ate free-ranging pigs and livestock. Out of this destruction, a single-crop system based solely on cotton emerged. After laying fallow for a couple of years, high yields gave a false promise of future prosperity. In stressing production, this new system devalued maintenance work, forced the division and subdivision of holdings, and plowed up what were once considered marginal and unproductive lands, further damaging the ecosystem and leaving poor tenant farmers in a spiral of debt and peonage. Commons, a prominent feature of antebellum Southern landscape disappeared. In short, the war completely reshaped the agricultural regime of the South.

While Sherman’s March to the Sea and Sheridan’s Shenandoah Valley Campaign are oft-cited examples of intentionally inflicting harm to the land, Joan E. Cashin argues in *War Stuff: The Struggle for Human and Environmental Resources in the American Civil War* (2018) that ecological destruction was less the case of a few prominent examples toward the end of the war and more a general practice from the very beginning of the conflict. Both armies ravaged the surrounding countryside for food, forage, timber, and water, long before General John Pope’s issuance of General Orders No. 100 in the summer of 1862. “The result was a total war in terms of destructiveness,” Cashin writes, “without modern execution of efficiency.”

With most of the examples of long-term destruction concentrating on farm and rural settings, Browning and Silver offer an urban case. Amid a rapidly expanding population, Atlanta faced serious water supply issues and disease due to poor sanitation prior to the war. The situation degraded significantly throughout the war. Sherman’s assault and capture of the city in 1864 and its subsequent burning destroyed Atlanta’s few remaining wells and buildings. Paucity of clean water, horrible sanitation, and ever-present disease tormented Atlanta’s inhabitants in the decades following Appomattox, with the worst effects falling on the city’s poorest, mostly African American, residents. Intense demand for lumber in the postwar reconstruction of Atlanta was another long-term environmental consequence of the war on the region’s already depleted forests. Smaller towns throughout the region echoed Atlanta’s example.

**Trans-Mississippi**

The extensive Trans-Mississippi theater has attracted recent attention from historians who demonstrate that the region’s varied environments encouraged small-unit operations and produced a warfare that differed significantly from that waged between large armies east of the Mississippi River. Their stories treat Native Americans not as peripheral actors but as participants central to the
Civil War.

In *Extreme Civil War: Guerrilla Warfare, Environment, and Race on the Trans-Mississippi Frontier* (2016), Matthew M. Stith shows how the regional environment shaped a violent war between rebel guerillas referred to as bushwhackers and Union counterinsurgency jayhawkers in Arkansas, Indian Territory (present-day Oklahoma), Kansas, and Missouri. Rolling hills, mountains, stands of forests, small towns, and farms provided advantageous ground for small, mobile operations. In a war that blurred boundaries between the military and civilian worlds, both sides pillaged and even murdered, at will, leading to what Stith refers to as “localized total war.”

Drought and harsh winters intensified the ecological damage wrought in these small-unit actions. Violence forced many to flee, creating pockets of refugees, which further denuded the countryside and drained resources.

Christopher M. Rein approaches the Trans-Mississippi from a different perspective with a unit history in *The Second Colorado Cavalry: A Civil War Regiment on the Great Plains* (2020). Serving in several distinct areas of the vast Trans-Mississippi, this unit defeated Texans in New Mexico; fought numerous skirmishes against rebel bushwhackers in Arkansas and Missouri; participated in raids on pro-Confederate Cherokees and Creeks in the Indian Territory; protected dissident pro-Union Cherokees and freedmen in refugee camps along the Missouri-Kansas border; and conducted pacification operations in Kansas against Arapaho, Cheyenne, Comanche, and Kiowa raiding parties. In each instance, they were forced to adapt to strange and unrelenting environments, racked by diseases, and often lacking adequate food, water, and shelter.

Nelson’s *Three Corner War: The Union, the Confederacy, and Native Peoples in the Fight for the West* (2020) centers on the New Mexico territory where various groups—Confederate Texans; US Army regulars; Colorado, New Mexico, and California Union volunteers; and Navajo, Apache, Arapahoe, Cheyenne, and other tribal nations—contested control of the Southwest. Grand visions of Confederate empire stretching to the Pacific and controlling silver mines of the West came to naught in March 1862 at the battle of Glorieta Pass in New Mexico. Tellingly, the destruction of the Confederate baggage train and supplies proved to be the decisive point of the battle. Whatever leadership, tactical, or strategic errors the Confederates might have made, it was the unforgiving environment that condemned them to failure. “The root of the problem for the Confederates,” Nelson states, “however, had been the high desert landscape itself.” They retreated all the way back to Texas. With the rebels gone, Union troops pivoted to wage a brutal war against native tribes. Long before General Sheridan and other famous names supposedly instituted total war on the Great Plains, Union volunteers unleashed hard war on sundry Native Americans by massacring noncombatants and destroying crops, livestock, villages, and other important assets.

**Summation**

As I hope this essay has proven, excellent work has been done to integrate environmental and Civil War histories. We have gained numerous valuable insights on this seminal event in American history. We see not only the ways the environment shaped the war but also the transformative effect that the latter had on the former.

Despite these important lessons, there is room for future research. First, there is much that can still be done along the lines of the books discussed in this essay. What directions might new lines of
inquiry take? How might biographies of important figures be rewritten in light of what we are learning about the Civil War from environmental history? While this essay has highlighted some works that center on the dramatic changes that affected the South, it raises the question of what were the environmental outcomes in areas outside of the fighting? Factories, urbanization, food and livestock farming, railroad construction, and mining are some of the land uses that were indirectly affected by the war. Over the last five years, several environmental historians have produced detailed studies of the changing role of animals in the nineteenth and twentieth centuries. In this vein, there is room for work on the role of animals during the war. Reconstruction has elicited growing attention in the last decade. Most of this work has studied the legal, political, racial, and social legacies of Reconstruction. There is a need to examine the interaction between Reconstruction and the environment, especially, as Noe alludes to at the end of The Howling Storm, the weather. Finally, we need a general synthesis of the war that incorporates environmental history into its narrative.


[8] Joan E. Cashin, War Stuff: The Struggle for Human and Environmental Resources in the American Civil War (New York: Cambridge University Press, 2018), 6. There were limitations to what could be gained by living off the land. Many items, such as gunpowder and bullets, for example, had to be supplied through elaborate logistical networks. See Earl J. Hess, Civil War Logistics: A Student in Military Transportation (Baton Rouge: Louisiana State University Press, 2017).

[9] Matthew M. Stith, Extreme Civil War: Guerrilla Warfare, Environment, and Race on the Trans-
Mississippi Frontier (Baton Rouge: Louisiana State University Press, 2016), 165.


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**Suggested Readings**


