The Revolutionary War's Hard Winter

The winter of 1779–1780 was North America's coldest, harshest eighteenth-century winter. Even so, the "Hard Winter" has received little attention, likely because other cataclysmic upheavals of the Revolutionary era overshadowed it. This wintry siege—which occurred at a time when the war appeared to have no end—had a huge impact on every aspect of daily life for civilians and American and British military forces.

The story of the Continental Army's Valley Forge encampment during the winter of 1777–1778 looms larger in popular memory. Although that winter was cold, it was not unusual. The suffering caused by the Valley Forge winter was extraordinary because of the diseases that ran rampant in the encampment. Smallpox, dysentery, typhoid fever, and typhus were endemic at Valley Forge. Between 1,000 to 3,000 soldiers and officers of the 12,000 troops stationed there succumbed to disease that winter. By contrast, only about 100 soldiers died during the following Hard Winter when the Continental Army was encamped in Morristown, New Jersey.[1]

During the Hard Winter, the war was at a pivotal point. The 1777–1778 struggle for control of the Hudson River was won by the Americans. The British occupied New York City and Long Island. In the spring of 1780, the British would launch military campaigns in the Southern colonies. But during this winter, while military operations were on hold for the winter, survival was the major struggle for everyone in North America.

David Ludlum, a noted twentieth-century historian of early American weather, observed that the ravages of the winter of 1779–1780 hit all the colonies from north to south and to the west. "Reports from Maine southward along the seaboard to Georgia, and from Detroit down through the interior waterways to New Orleans, all chronicled tales of deep snow, severe cold, and widespread suffering."[2]

The Hard Winter's climate connection

Historical climatologists have determined that North America's severe eighteenth-century winters were part of the Little Ice Age, a climatic era that particularly impacted Europe and North America. Experts agree that this era began around 1400 and persisted until at least 1860 to 1880.[3] The impact of the era in North America has been subjected to much less rigorous study than in Europe, although Ludlum asserted that the eighteenth century was harsher than the seventeenth in the American colonies.[4]

Scientists are still unraveling the climatic dynamics of the Little Ice Age. One of the most recent discoveries was reported in late 2021, after scientists at the University of Massachusetts Amherst discovered the trigger that initiated the climatic cooling in the North Atlantic. A period of extraordinary warmth in the region in the late 1300s caused a massive melting of ice in Greenland. The deluge of fresh water into the ocean disrupted the normal course of warm water flowing northward from the tropics to the North Atlantic. Without the usual circulation of

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warm water in the North Atlantic, Europe experienced significant cooling, which began the Little Ice Age.[5]

Another contributing factor was solar minima (steep reductions in the number of sunspots), which are associated with a decrease in solar energy emissions. Less solar radiation to warm the Earth and a significant increase in the number of volcanic eruptions in the Pacific from 1257 to 1815 prolonged the colder climate.[6]

The Hard Winter grips North America

January was the most brutal month of the Hard Winter. For the first time in recorded history, all the waterways surrounding New York City, including New York Harbor, froze solid. Shipping came to a standstill, preventing all civilian and military transport from entering or leaving the city.[7] At month's end, horse-drawn sleighs drove across the ice of Long Island Sound from Long Island to Greenwich, Connecticut.[8]

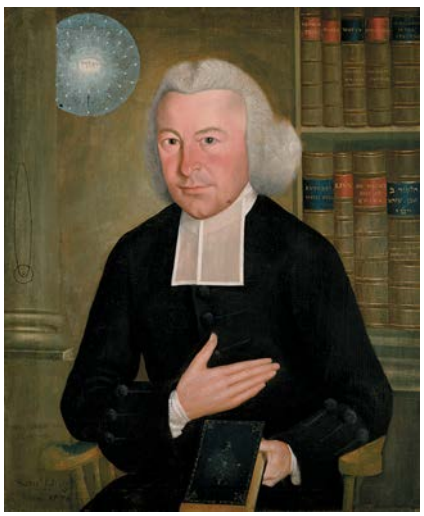
The month began with abnormally frigid cold and a blizzard that battered New England and the Mid-Atlantic region for days. On January 2, Reverend Ezra Stiles, the president of Yale College, noted the conditions from his home in New Haven: "Excessive Cold. The Ink freezes in my pen while I am writing this by the Fireside. … About sunset came a violent snow storm & highest Tide ever known by two or 3 feet. Wind for 4 hours blew almost every pt. of Compass."[9]

Many other diarists recorded their observations of this historic storm. Dr. James Thacher of Barnstable, Massachusetts, was the regimental surgeon for the Massachusetts 16th Regiment encamped in Morristown, New Jersey. He wrote, "On the 3d we experienced one of the most tremendous snow storms ever remembered; no man could endure the violence many minutes without danger of his life. Several marquees [tents used for officers' quarters usually constructed of durable duck canvas] were torn asunder and blown down over the officers' heads in the night, and some of the soldiers were actually covered while in their tents, and buried like sheep under the snow."[10]

Throughout the Northeast, supplies of wood and other heating fuels were quickly exhausted due to the unrelenting frigid temperatures. The situation created a crisis in many communities, particularly for the poor and for the families of soldiers, whose pay was months in arrears.

On January 5, Reverend Stiles reported that snow continued to fall, and on the 7th wrote, "Snow over the Fences—Drifts high—in Woods at Amity, Carmel & Cheshire 3½ & four feet deep on Level. Destressing time for want of Wood." On January 11 Stiles noted, "The Ways are impassable on account of the Quantity of Snow, which is 3, 4, 6 & ten feet deep, estimated at four feet & half on a Level. … The high Winds fill up the Paths." According to Stiles, a Worcester, Massachusetts, newspaper reported that the Boston to Hartford roadway was the only road passable in the entire region and all other roadways required the use of snowshoes.[11]

When the blizzard hit the Continental Army in their encampment at Morristown, the soldiers hadn't finished building the huts for their winter shelter. The army had only arrived in Morristown in December. In order to create the winter encampment at Jockey Hollow that would house about 10,000 soldiers and officers, the men



Opposite: Revolutionary War soldier huts at Jockey Hollow National Historical Park, Morristown, N.J., 2011. B.A.E. Inc./Alamy. *Left:* Ezra Stiles (1727–1795), by Samuel King, 1771. Yale University Art Gallery. Bequest of Dr. Charles Jenkins Foote, B.A. 1883, M.D. 1890. *Center:* Abigail Adams (Mrs. John Adams), by Benjamin Blyth, ca. 1766. Collection of the Massachusetts Historical Society. *Right:* Baroness Riedesel, 1867. New York Public Library Digital Collections.

A detail of *Chart and plan of the harbour of New York & the couny. Adjacent,* by John Lodge, 1781. Norman B. Leventhal Map & Education Center.

were tasked with logging about 2,000 acres of woodland for huts and for fuel.[12] Once the trees were felled, construction of the huts began in earnest, most of it in miserable weather. Compounding the difficulties, many soldiers lacked the clothing necessary for such work.

Dr. Thacher later wrote, "… the sufferings of the poor soldiers can scarcely be described; while on duty they are unavoidably exposed … at night they now have a bed of straw on the ground, and a single blanket for each man; they are badly clad and some are destitute of shoes. … The snow is now from four to six feet deep."[13]

In Braintree, Massachusetts, Abigail Adams shared the local news with her husband, John Adams, who was in France to negotiate with British diplomats.[14] On January 18, Abigail wrote:

> Winter set in with all its horrors a week after you [*illegible*] saild, and has continued with all its rigours ever since. Such mountains of snow have not been known for 60 years. No passing for this fortnight, only for foot travellers [and], no prospect of any as one Storm succeeds another so soon that the roads are filld before a path can be made … The Blocade of the roads has been a sad hinderance to the meeting of the [Massachusetts Constitutional] convention, a few only of the near Members could get together, so few that they were obliged to adjourn.[15]

Because John Adams had drafted the new Massachusetts State Constitution, Abigail knew that any delay in its progress would concern him. Since the constant barrage of snowstorms halted the delivery of mail and newspapers, Abigail's letter was no doubt also delayed.

Attack on Staten Island

In early January, General George Washington planned a surprise attack on the British garrison on Staten Island. Due to the deep snow, the approximately 2,500 soldiers traveled from Morristown via sleighs and sleds, crossing a frozen tidal strait from New Jersey to Staten Island on January 14.[16] British forces knew of the imminent attack.

Joseph Plumb Martin, a soldier in a Connecticut Continental regiment, participated in the mission.

> We accordingly found them all waiting for us—so that we could not surprise them, and to take their works by storm looked too hazardous; to besiege them in regular form was out of the question. … We then fell back a little distance and took up our abode for the night upon a bare bleak hill, in full rake of the northwest wind, with no other covering or shelter than the canopy of the heavens, and no fuel but some old rotten rails which we dug up through the snow, which was two or three feet deep. The weather was cold enough to cut a man in two.[17]

The next day the Americans retreated to Morristown without ever engaging in battle. On January 17, Dr. Thacher, who was based at Morristown, related what he learned from soldiers returning to the encampment: "The snow was three or four feet deep, and the weather extremely cold, and our troops continued … twenty four hours without covering, and about five hundred were slightly frozen, and about six were killed."[18]

After the Staten Island fiasco, the worst of the winter weather settled in, and extreme privation descended on the troops at Morristown. One blizzard ran into the next with little respite. Temperatures dropped further still. All transportation stopped and, for a period of time, no food and other supplies reached Morristown. Joseph Plumb Martin recalled:

> Here was the keystone of the arch of starvation. We were absolutely, literally starved;—I do solemnly declare that I did not put a single morsel of victuals into my mouth for four days and as many nights, except

> a little black birch bark which I gnawed off a stick of wood, if that can be called victuals.
>
> I saw several of the men roast their old shoes and eat them, and I was afterward informed that … some of the officers killed and ate a favourite little dog that belonged to one of them.—If this was not "suffering" I request to be informed what can pass under that name."[19]

The food supplies that finally began to arrive were never sufficient, and the shortages resulted in constant hunger throughout the entire winter.

Women & children, food & fuel

During the Revolutionary War, women and children were present in most American encampments and Morristown was no exception. However, journals and correspondence kept by officers and soldiers rarely mention them, making their numbers and activities difficult to estimate. Their presence was noted in local churches where a number of soldiers' marriages and baptisms of their children were recorded. And a study of widows' Revolutionary War pension records confirms that soldiers' wives assisted the troops at Morristown.[20]

Women performed key roles in the camps and were especially valued for their nursing of the sick and injured. Perhaps most importantly during the Hard Winter, women knew more about stretching meager food supplies and devising cooking methods for unfamiliar foods. Although rations usually included beef and "wheaten" bread, other foods had to be substituted. Joseph Plumb Martin recalled that coarsely ground "Indian corn" was the only food available for most of the winter. Making it edible was challenging. Martin noted that the corn was used to create a water-based hasty pudding, which at least made the corn digestible.[21]

Frederika Charlotte Louise Riedesel, Baroness of Eisenbach, was the wife of General Friedrich Adolph Riedesel, a commander of Hessian forces aligned with the British. As she and her young children followed her husband and his troops in the northern theater she recorded her experiences in correspondence.[22] During January of the Hard Winter, Riedesel was seven months pregnant and living with her children in a grand home in British-occupied New York City. Despite their stature in society, Riedesel and her family suffered, primarily from a lack of fuel.

> The cold was so fierce that I often kept the children in bed, and often wood could not be bought at any price, and when it was sold it cost 10 pounds a cord … The poor people burned lard to warm their hands and to cook over.[23]

Lard may have helped to prevent frozen fingers, but it couldn't heat a room or prevent exposure.

The flood of Loyalist refugees arriving in New York City led to increased demands and prices for fuel and food. The need for wood was so great that British soldiers completely deforested Manhattan Island.[24] Contemporary observers noted that it was not unusual for poor residents to perish in their dwellings for a lack of fuel.[25]

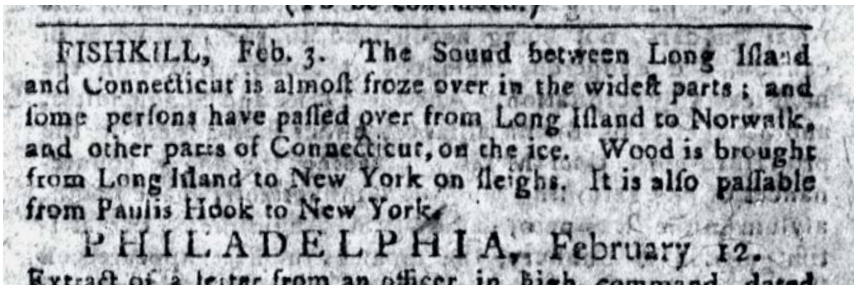
The plight of the Iroquois

During the Hard Winter, thousands of Iroquois refugees suffered from starvation, exposure, and disease in northwestern New York, on lands surrounding the British garrison at Fort Niagara. In August and September 1779, Major General John Sullivan had led an assault into the heart of the Iroquois nations of Cayuga and Seneca.

Washington's orders for the campaign were explicit. Troops were to effect "the total destruction and devastation of the settlements and the capture of as many prisoners of every age and sex as possible. It will be essential to ruin their crops now in the ground and prevent their planting more."[26] Washington's vehemence reflected the outrage of Americans reacting to Iroquois attacks on their settlers in central New York and Pennsylvania.

In addition to burning all crops, the soldiers reduced forty-one Iroquois towns to ashes. At the end of the campaign—one of the largest in the entire war—General Sullivan reported his troops had destroyed 160,000 bushels (about 6,500 tons) of corn. No food source remained. In the aftermath, the Iroquois in central New York fled to the British.[27]

When the displaced Iroquois arrived at the garrison in Niagara, the British decreed that they would


FISHKILL, Feb. 3. The Sound between Long Island and Connecticut is almoſt froze over in the wideſt parts; and ſome perſons have paſſed over from Long Island to Norwalk, and other parts of Connecticut, on the ice. Wood is brought from Long Island to New York on ſleighs. It is alſo paſſable from Paulis Hook to New York.

PHILADELPHIA, February 12.

This news item begins, "The Sound between Long Island and Connecticut is almost froze over in the widest parts." *Pennsylvania Evening Post*, February 12, 1780, 17. Readex: America's Historical Newspapers.

have to hunt to feed themselves over the winter. After five feet of snow blanketed western New York by mid-January, burying all the wild game the refugees were supposed to live on, starvation and disease ensued.[28] According to estimates, at least 1,000 Iroquois refugees perished from the late autumn of 1779 through the Hard Winter.[29]

The burning of Newtown [near Elmira, N.Y.], by the Sullivan Expedition on August 29, 1779. Woodcut, ca. 1825. Wikimedia Commons.

The Hard Winter turns to spring

At the end of 1779, the British were jubilant that their naval fleet had escaped being iced in. The original plan had been to leave months earlier but supplies and troops had been delayed. The fleet set sail from New York City on December 26, headed for South Carolina in preparation for their Southern Campaign.

The severe storms of January 1780 made the usual ten-day voyage last five weeks.[30] The British fleet did not arrive at Simmons Island, south of Charleston, until February 11, 1780.[31] These delays ensured that the British would wage most of their Southern Campaign during the "unhealthy" summer season when malaria was rife. Unlike Continental soldiers in the Southern Campaign, British troops were especially vulnerable because they had never been exposed to malaria. The disease devastated them—killing many and sickening countless others. Historians agree that malaria was an important contributing factor to British failures in the South.[32]

The effects of the Hard Winter could have been catastrophic for the Americans if vast numbers of soldiers had deserted the Continental Army after a winter of severe hunger and many months without pay. The possibility of mass desertions weighed heavily on George Washington in Morristown through the Hard Winter and the spring of 1780.[33]

When springtime meals at Morristown consisted of "a little musty bread and a little beef" only every other day, and were followed by days of no food, Martin explained

> The men were now exasperated beyond endurance; they could not stand it any longer. They saw no other alternative but to starve to death, or break up the army, give all up and go home. This was a hard matter for the soldiers to think upon. They were truly patriotic, they loved their country … and now, after such extreme hardships to give up all was too much, but to starve to death was too much also.[34]

On May 25, 1780, the soldiers in Martin's regiment participated in a mutinous action. Groups of armed soldiers marched without orders, calling for others to join them. For hours they ignored officers' repeated commands to halt. Then, in the early hours of the night, the soldiers returned to their huts.[35] They had made their point. Not long after, Martin wrote, provisions appeared in camp. While these mutinous actions occurred in a number of regiments, American soldiers did not abandon their posts in large numbers. Despite the hardships of the Hard Winter, they persevered to the end.

In July of 1780, George Washington wrote to his brother John Augustine Washington. He reflected on the soldiers' extraordinary resolve and refusal to give up throughout the Hard Winter and following spring, recognizing that this spirit contributed to the Americans' earlier successes and their eventual triumph.

> To tell a person … that an Army reduced almost to nothing … should, sometimes, be five or six days together without Bread, then as many without Meat, and once or twice, two or three without either; that the same Army should have had numbers of Men in it with scarcely cloaths enough to cover their nakedness, and a full fourth of it without even the shadow of a blanket severe as the Winter was, and that men under these circumstances were held together, is hardly within the bounds of credibility, but is nevertheless true.[36]

"These were the times that tried men's souls," Thomas Paine wrote in 1776, but the American Revolution also strained and exhausted their bodies—and those of women and children, too. During the Hard Winter of 1779–1780, war and climate collided, intensifying the suffering for all populations. Nonetheless, as Washington reported with some awe, Patriots held fast to their cause, proving they were not just "summer soldiers." ◆

Notes

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