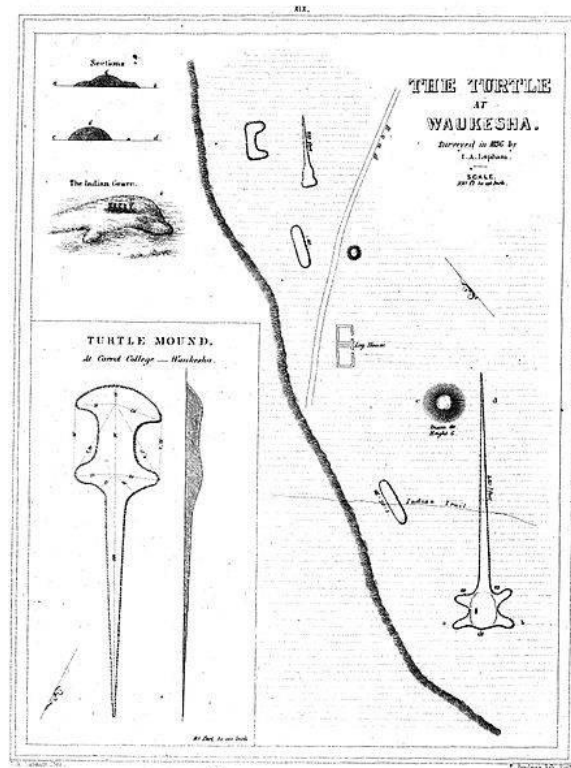


# Increase Lapham Lives in Milwaukee and Practices Natural Science



Increase Lapham-The Antiquities of Wisconsin-Wikimedia Commons

A few days after he had returned to Milwaukee, Increase Lapham received a letter from Henry Schoolcraft expressing Schoolcraft's regret at missing his visit. Schoolcraft continued their discussion about the diluvial material along the western shore of Lake Michigan lying above the secondary rocks, "furnishing an interesting field of imagery, together with the mineralogy and conchology of the shore."

## **Increase Lapham Moved to Milwaukee and Married**

Milwaukee and Increase Lapham fit well together. At that time Milwaukee consisted of a village of about 1,000 people and most of them were squatting on the land that they claimed. They appointed Increase Register of Claims because they trusted him to secure legal title to their lands for them. The records of his temporary office show that in every case, his certificate of title filed with the court of claims was accredited as valid. When the lands were offered for sale, the certificates were thoroughly respected and justice impartially administered.

Three months after he came to Milwaukee, in October of 1836, Increase married Ann M. Alcott who was related to Louisa M. Alcott of literary fame. They lived happily together and raised a family of five children until Ann died on February 25, 1863.

## **Increase Lapham Discovered and Surveyed Mounds**

For thirty years, Increase Lapham worked in several scholarly fields. In 1836 he published a story in the *Milwaukee Sentinel* about a turtle-shaped mound he had discovered at Waukesha. He and his horse Adelaide traveled thousands of miles surveying mounds, including the site of the Indian acropolis at Aztalan, Jefferson County.

The State of Wisconsin used his detailed maps to restore the earthworks and [Lapham](#) identified several other animal effigies he had discovered at other places in the course of his engineering and mineral explorations. The Smithsonian Institution published his mound descriptions and drawings in a handsomely printed book with 55 plates and nearly 100 wood engravings made from his drawings.

In 1838 Increase printed a catalogue of the plants and shells he found in the vicinity of Milwaukee. In 1844 he published a 250 page book called, *A Geographical and topographical Description of Wisconsin, with brief sketches of the history, geology, mineralogy, natural history, population, soil, productions, government, antiquities, etc.* It was the first scientific report to be published in the Northwest. Reprinted in 1846, it brought Wisconsin resources to the attention of the East and encouraged immigrants to settle in the state.

## **Increase Lapham Sounded the Milwaukee River and Lake Michigan**

Throughout his correspondence with his brother, Darius, Increase interspersed notes about the lakes and the [Milwaukee River](#). In an April 17, 1842, letter he spoke of lake navigation opening a month or so earlier than usual. He told Darius that two men were drowned a week since trying to get a load of wood out of a steamboat lying at anchor in the bay at Milwaukee. After this, a public meeting was held and a resolution passed to not wait any longer for an appropriation for a harbor from Congress, but to “raise the funds by voluntary subscriptions. Increase was appointed with two others as a committee to make a survey and estimate the cost. He noted that “since that time we have been waiting for a calm to be able to take soundings in the lake. ..”

Shortly after he arrived in Milwaukee Increase became involved with the Milwaukee River. In a letter home Lapham explained to his father that his mentor Bryon Kilbourn was planning to

make a slack water navigation several miles up the Milwaukee River and create a dam at the upper end of town. Kilbourn appointed Lapham to the engineering and he successfully completed the task.

By 1845, Increase and his family were living in a house next to the Milwaukee River. Increase described the sun raisings and moon raisings as beautiful beyond description “rendered so in a great degree by the broad smooth surface of the Milwaukee River lying just before our door towards the east...”

He daily recorded the temperatures, barometric pressures and sky observations. Every year he recorded the date of the first snowfall, the first freezing of the Milwaukee River, the opening of navigation on the Great Lakes and the annual total of snow and rain fall. He also kept a record of the high and low water points of Lake Michigan and the Milwaukee River.

### **Increase Lapham Investigated Fish Populations**

When he traveled away from Milwaukee, his wife Ann, kept the records for him. In September 1848, she wrote to him, “I imagine we have your thoughts four times a day, 6 and 9 a.m. and 3 to 9 p.m., the observations have not been neglected.” These records provided information for articles and newspaper notices and established his reputation as an authority able to settle questions about temperatures, rainfall, and water levels.

From the beginning of his career, Lapham investigated the fish populations of local streams, rivers, and Lake Michigan. In 1854 he wrote of a new species of fish, *Alburnus cutus*, that he had discovered in the Milwaukee River. Lapham said that in the spring and autumn of each year the Milwaukee River teemed with a minnow that supposedly was the young of some larger fish. These fish swam in immense numbers a few inches below the surface of the water and fishermen caught them in immense numbers and converted them into oil.

The fish belonged to the genus *Alburnus* and differed from the species brought from Lake Superior by Professor Agassiz, which he described, in the *Annals of Science*. Lapham said that *Alburnus* could readily be distinguished from other species by the “very acute extremities of the two caudal lobes; the numerous minute rounded black dots on the upper part of the sides and back; the sinus on the top of the head; the mouth not extending to the vertical from the eyes. Many other distinctions might be pointed out, but these will serve to separate the Milwaukee fish from those of Agassiz and Kirtland.”

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# Increase Lapham Travels the Great Lakes and Experiments and Educates



Increase Lapham-  
Wikimedia Commons

In 1847, Increase Lapham escorted his sister Lorana back to the family farm in central Ohio after a visit with him and Ann and their children in Milwaukee. Increase and Lorana left Milwaukee on May 26, 1847, on the steamboat *Oregon* with Captain Cotton at the helm, steaming for Ohio and the west. The Milwaukee shore receded into the distance and the white houses of the city became blurred with the white caps on the lake, and then entirely disappeared. Soon after that the sun went down, its brilliant reflections upon the clouds, which were pictured again in the water of the lake, thus giving double beauty to the scene.

## **Increase Lapham Discovered a Meteor and Traveled the Great Lakes**

Lapham wrote to his wife Ann: “I noticed on the sky what I supposed to be the reflection of the light from the surface of the lake. . . Similar appearances are described in Silliman’s Journal, as

seen in western New York, being the reflection of the rays from the several Great Lakes; the observer can distinguish the different lakes and assign to each its name as it appears in the sky. .

The next day Lapham wrote to Ann that they had been delayed several hours in the night because of rain, which prevented the pilot from seeing the light of the “light ships”, stationed in the channel leading to Mackinac. “This light is no better than a piece of chalk on a bean pole,” Captain Cotton complained to Lapham. But the delay enabled them to see Mackinac’s quaint old houses and fort. They spent the day along the west shore of Lake Huron. Lapham described the music of the black waiters, and noted that only enough dancers could be found to make one set of four couples.

By May 29, 1847, the *Oregon* had reached the St. Clair River. Lapham wrote in his letter to Ann that while crossing the Delta of the St. Clair he counted 27 vessels that were grounded on the flats in their efforts to find the narrow and winding channel. Lapham wrote that:

“You will be gratified to learn that measures have been or about to be, taken for the appointment of delegates by all the towns along the Lakes. Some complaint, however, is made on account of a recent call from an honorable editor at Chicago for a mass meeting on that occasion, thus while other places will have only a few delegates that place (and the country adjacent) will send in their thousands. The good sense of the people of Chicago will not, I am sure, allow them thus to impose upon their neighbors.”

Lapham concluded his letter by exalting that it only took 29 hours to travel from Lake Erie to the Ohio River at Cincinnati!

Next, Lapham wrote to Ann that they had reached Cleveland and transferred to the *Bunker Hill*, bound for Buffalo. On June 3 Lapham described the sights of the Cleveland waterfront. He spied 37 sails and five steamboats in sight and remarked that the water of Lake Erie was kept muddy by their constant agitation in passing back and forth. He noted passing the *Oregon* on her return trip at Fairport at the mouth of the Grand River. In a letter dated May 30, Lapham’s wife Ann reassured him that she had not forgotten to measure the height of the river.

### **Increase Lapham Advocated Crop Rotation, Fertilization, and Spoke Against Cutting Forests**

Lapham delivered Lorena to the family home in Mt. Tabor, Ohio, visited for a few days and then traveled to Cleveland to begin the next leg of his trip. His destination was Boston where he planned to meet with educators to solicit funds for a Milwaukee high school. He boarded the *Bunker Hill* once again at Cleveland, and wrote, “We have about one hundred fat hogs on board the *Bunker Hill*. Their squealing is charming when softened down by the piano, the rattling of the engine and other kinds of noise and confusion which make up this bedlam. How different from the *Oregon!*”

Increase continued his scientific exploration. He was one of the first scientists to advocate crop rotation and fertilization. In 1843 he convinced the Wisconsin territorial legislature to adopt a resolution to Congress calling for land grants to establish institutions to care for the blind, deaf,

and insane. As early as 1855, he spoke out against the diminishing stream flow and erosion because of the reckless cutting of forests.

He made valuable contributions to the Wisconsin State Agricultural Society, including papers on the fauna and flora of Wisconsin and its forest trees and a 100 page treatise on the Grasses of Wisconsin and surrounding states. Eventually, he compiled a 574 page catalogue of all of the grasses of the United States and Territories. The last paper he published was on "The Law of Embryonic Development, the Same in Plants as in Animals," a paper which showed a careful study and vast knowledge of the evolution of life in the vegetable world.

### **Increase Lapham Became an Education Advocate**

Increase also contributed to education in Milwaukee. In 1846, he established the first high school in Milwaukee and then went East to raise funds to build it. He was one of the founders of the Milwaukee Female Seminary, which later became the Milwaukee Downer College, and eventually the University of Wisconsin-Milwaukee. He was one of the early trustees of Carroll College in Waukesha, Wisconsin.

He helped to organize the "Young Men's Society," which began a book collection that grew into the Milwaukee Public Library. He was one of three men who founded the Wisconsin State Historical Society and for twenty-two years served as its president and vice president. Dr. Lyman C. Draper and Increase A. Lapham gathered an impressive collection of books and manuscripts for the State Historical Society. Amherst College awarded Increase Lapham the degree of doctor of laws in 1860 for his vast contribution to knowledge.

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# Increase Lapham Predicts United States and Great Lakes Weather



Increase Lapham-Wikimedia  
Commons

Darius Lapham, the brother of Increase Lapham, called his attention to a series of lectures called “The Law of Storms,” given in Cincinnati by James P. Espy. In 1842, Espy himself wrote to Increase requesting that he collect weather information as one of many observers across the country who would supply the data for his study of storms. Espy showed by a series of weather maps extending over a number of years that “storm predictions are perfectly possible.”

## **Increase Lapham Predicted United States Weather**

Storm prediction in the United States dated back to Benjamin Franklin who observed that in the United States, storms usually travel towards the north and east. In 1817, Josiah Meigs, Commissioner of the General Land Office, organized a system of weather reporters in the Land Office. In 1819, Joseph Lovell, Surgeon General, established a similar system at military posts. In 1831, William C. Redfield used reports from the Land Office’s and Surgeon General’s systems to discover the rotation of hurricanes. In 1837 James Espy reported that great barometric fluctuations generally travel in a northeasterly direction. In 1840, he established his system of weather observers.

Because Dr. Lapham had demonstrated exceptional ability in classifying and translating the notes of geologist James Gates Percival after his death, Wisconsin Governor C.C. Washburn named him state geologist in 1873. Other scientists Dr. Lapham worked with were Asa Gray, Louis Agassiz, J.W. Foster and Alphonse Wood. Dr. Gray, a distinguished American botanist, named several plants in Lapham's honor.

But these eight words illustrate Dr. Lapham's most famous accomplishment: Weather Report – Increasing cloudiness; warmer, tomorrow, becoming unsettled.”

### **Increase Lapham, Father of Meteorology**

He was the father of the science of tracking the weather with charts and maps – weather forecasting and the weather bureau. Always he observed atmospheric phenomena thoughtfully and when a great storm swept over the lake region in 1859, he constructed a chart showing its origin, track, and rate of motion. The Smithsonian Institute published his chart.

Eventually, Congress became interested in establishing a weather bureau and finally on December 16, 1869, the bill establishing a weather bureau was introduced into the House of Representatives. It was passed by both houses and on November 1, 1870 at 7:45 a.m., the first systematized meteoric reports ever taken in the United States were read from the instruments by the observer-sergeants of the Signal Service at 24 stations. They were placed on the telegraph wires for transmission and with the delivery of these reports to Washington, the weather bureau became official. Ordinary Americans could now read weather reports in their newspapers.

In November 1871, Dr. Lapham accepted temporarily the office of Assistant at Chicago to supervise the Signal Service on the lakes, but his duties ceased with the close of navigation. He sent the draft for his first month's salary to his family saying, “I send, enclosed, the first considerable sum I have ever received, as salary, for any scientific work, being a draft for my pay for November.”

This considerable sum was \$166.67.

### **Increase Lapham Finished a Report About Fish Production**

Increase Lapham continued to be involved with fish culture during all of the days of his career. Two 1873 letters from his files reveal the geographical extent of his fish egg exchanges. One letter from Waterville, Wisconsin dated March 11, 1873, is from H.F. Dousman. Douglas tells Lapham that the fish eggs had been delivered the previous evening, but this particular order was not as good as the previous order because he had taken 350 dead ones from the lot. Dousman said that the eggs seemed too dry. He said that the first lot was doing nicely and that he had taken out only 20 dead ones from that batch.

A fierce fall storm pounded Lake Michigan in September 1875, the same month that the old man

who had first predicted storms and a lunar tide on Lake Michigan blotted the ink of the last page of the thick pile of papers. The ink had not dried yet, so he left the manuscript in his open portfolio. The title of the paper caught his eyes as he carefully arranged the pages, "Oconomowoc and other Small lakes of Wisconsin Considered in Reference to their Capacity for Fish Production."

Lapham had spent much of his time in the past two years making soundings and taking the temperature of the numerous lakes in Wisconsin's Lake Country in order to determine their adaptation to the culture of certain species of fish. He finally had finished his report. It was ready to be published.

This day in 1875, September 14, was a beautiful fall day. Oconomowoc Lake shone calm and beautiful. Its miniature bays and headlands, crescent beach and wooded coast line reflected the blaze of autumn trees and lacey mist settled over the lake. He lingered until the mist surged softly around the boat. Then he gathered up his oars and started to row.

Later, when the boat rocked gently a few feet from shore, Dr. Lapham rested quietly on its bottom. To his daughter and son who found him there, it was obvious that the heart attack had been a swift one. He died, apparently as peaceful as a sunset on Lake Michigan.

The legacy of Increase Lapham survived and flourished in Wisconsin, the state where he finally settled, and with his scientific friends at the Smithsonian and all across the country. His achievements including the fields of history, cartography, botany, biology, archaeology, have survived into the 21<sup>st</sup> Century.

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