

**THE HISTORY CHANNEL® PRESENTS:
Little Ice Age: Big Chill
An Original Documentary**



Spanning over 500 years and killing countless humans and animals, the Little Ice Age took over the Earth and the livelihood of all those who inhabit it. Despite its duration and magnitude, humans living through the Little Ice Age did not know much about it and some did not know that it existed. Research has been undertaken by environmental change specialists and different scientists around the world to study this natural phenomenon. The need to understand the Little Ice Age is important in being able to prepare and predict future weather patterns and their effect on society. From the frozen New York Harbor, to icy waters in Scotland to widespread famine and disease, the Little Ice Age played a mysterious, yet large role in significant changes in weather patterns throughout many centuries. In this program, **The History Channel®** will decipher fact from fiction and reveal all there is to know about the Little Ice Age.

Little Ice Age: Big Chill reveals all traits of the Little Ice Age – its scientific properties, its natural causes, the people it affected and specific examples of areas it decimated. However, not everything from the Little Ice Age was a total disaster. Did you know that as a result of the Little Ice Age, better violins were invented and that Americans actually drink 11 times more beer than they do wine? Utilizing specific scientific evidence, extensive research, on-location explanations, expert interviews, historical facts, and first hand accounts of triumphs and tragedies, *Little Ice Age: Big Chill* explores all facets of one of the greatest scientific phenomena in recent history.

Curriculum Links

Little Ice Age: Big Chill would be an excellent addition to any middle school or high school class on American History, European History, World History, Environmental Studies, the History of Agriculture and Science and Technology. It fulfills the following standards as outlined by the National Council for History Education: (1) Civilization, cultural diffusion, and innovation and (2) Human interaction with the environment.

Footnotes to History

WERE YOU AWARE that at one point during the Little Ice Age, Iceland's population reached a one thousand year low when it was at just half of its highest ever population?



Vocabulary

Using the dictionary at www.merriamwebster.com, an internet resource such as www.history.com, or an encyclopedia, students should define or explain the significance of the following terms:

Antonio Stradivari

Apogee

Comely

Ebb

Favonian

General George Washington

Napoleon Bonaparte

Sere

Sonorous

Sprightly

Stagnant

Woolly Mammoth

Comprehension Questions

1. What was the Little Ice Age? When did begin? For how many centuries did it continue? When was it at its strongest (coldest)?
2. What was the average change in global temperature due to the Little Ice Age? How can this global average be deceiving? ***For Class Discussion ? Does this example of minor temperature change make you more or less worried about the possibility of global warming today?*
3. How do scientists use the ocean in order to record data on specific temperature ranges from the Little Ice Age?
4. What are some of the characteristics of the Medieval Warming Period? Was this a good period or bad period for those who relied on farming and crop production?
5. What were the consequences of almost five years of straight rain starting in Europe in 1315? Is grain vulnerable to heavy rains? If so, why?
6. What are the properties of the Oceanic Conveyor Belt and Thermohaline Circulation? Would the world be better off without the conveyor belt? What purpose does it serve?
7. How were the Vikings in Greenland affected by the Little Ice Age? How did they cope with the colder climate? What could they have learned from the native tribe, the Inuits, on Greenland?
8. What is the Maunder Minimum? Why is it relevant and imperative to understanding the Little Ice Age?
9. What happened to Napoleon Bonaparte's troops beginning in the fall of 1812? Where were the troops? What were they doing?
10. What happened in the summer of 1816? What is that summer commonly nicknamed by historians? What evidence, besides the freezing cold in the United States, is there of the Little Ice Age?

11. What are some theories that explain the end of the Little Ice Age? Pick the theory you think is correct and elaborate on your answer in a one-page response. Be sure to answer why you picked this theory? What has led you to agree with the scientific evidence supporting it?
12. Do you believe that the potential conflicts resulting from global climate change (theorized in the end of the documentary) could actually happen? Explain.

Extended Activities

1. Understanding the Ocean Conveyor Belt

The Ocean Conveyor Belt is explained briefly in the program, but there is no way to get a detailed understanding of the concept without obtaining further information. On your own, using an online search engine, such as www.google.com or an encyclopedia, look up how the Oceanic Conveyor Belt functions. Write a well-written 3-page paper on your findings. Be sure to research a unique aspect of the natural process in order to be specific in your paper.

2. Art, Writing and Research

There are multiple cases when the Little Ice Age causes something very unusual to happen like when Eskimos kayaked to Scotland or when the New York Harbor froze over and people could walk from Staten Island to Manhattan over a century ago. Pick a specific phenomenon either from *Little Ice Age: Big Chill* or one that you have found on your own and sketch a detailed picture of the scene. Then, attach a well-written one-page summary explaining the situation depicted in your artwork.

3. The Weather and the Military

This **History Channel**® documentary shows us the impact the weather has had on military undertakings from Napoleon's European conquest to the English battle with the Spanish Armada to George Washington's heroic crossing of the Hudson on Christmas Eve. In groups of 3-5, pick a military battle or engagement from the documentary or find one on your own using an internet search engine. In a presentation to your class, summarize your selected battle and discuss how the weather and other natural phenomena affected the course of the battle and/or the overall war.

Additional Resources

Internet

Resources from Ocean & Climate Change Institute:

http://www.who.edu/institutes/occi/currenttopics/ct_abruptclimate.htm

Global Climate Change Information from the University of California at San Diego:

<http://calspace.ucsd.edu/virtualmuseum/>

Report from Harvard University on the effect of the Little Ice Age on New England's Vegetation: <http://harvardforest.fas.harvard.edu/data/p07/hf078/hf078.html>

Books

Fagan, Brian M. *The Little Ice Age: How Climate Made History, 1300-1850*. Basic Books, 2001. ****Note that Dr. Fagan is consistently interview throughout *Little Ice Age: Big Chill*.**

Fagan, Brian M. *The Long Summer: How Climate Changed Civilization*. Basic Books, 2003.

Seaton, Maureen. *Little Ice Age*. Invisible Cities Press, 2001.