

Climate Scientists who were right 30 years ago?

Stephen Goddard has found a gem of a news article. [1979 : Before The Hockey Team Destroyed Climate Science](#).

Drs [Leona Libby](#) and Louise Pandolfi projected world temperatures in 1979 for the next 70 years and got results that, 30 years later, appear to have been broadly correct if out by 5 – 7 years. Ironically, they used, of all things, ... tree ring data (going back 1,800 years). The critical difference was they assumed that the climate changes in *natural* cycles. St Petersburg Times, Jan 1 1979

Prediction: Warming trend until year 2000, then very cold.

1979 : Before The Hockey Team Destroyed Climate Science Posted on [May 26, 2011](#) by [stevengoddard](#)

A reminder that there was a time when climate scientists actually did science.

ST PETERSBURG TIMES ■ MONDAY, JANUARY 1, 1979 **21A**

By **GEORGE ALEXANDER**

Los Angeles Times

LOS ANGELES — The forecast is for continued cool weather all over the Earth through the mid-1980s, with a **global** warming trend setting in thereafter for the rest of the century — followed by a severe cold snap after 2000, a cold snap that might well last throughout the first half of the 21st century.

That, at least, is the way that Drs. Leona M. Libby and Louis J. Pandolfi project the world's climate for roughly the next 70 years. They base this forecast upon a detailed analysis of past climatic patterns, as seen in several hundreds-year-old trees, in samples of deep ice from Greenland and in sea floor cores taken from the Santa Barbara, Calif. Basin.

DR. LIBBY, an adjunct professor of engineering at the University of California, Los Angeles, and Pandolfi, formerly a graduate student in Dr. Libby's laboratory and now a research scientist with the **Global** Geochemistry Corp. of Santa Moni-

ca, Calif., have been interested in past, present and future climatic trends for several years now.

Proceeding on the assumption that climate varies in a cyclic, repetitive way, the two researchers have sought to reconstruct past climatic conditions for a variety of clues. Specifically, they have made chemical analyses of samples of three rings ranging in age from a few hundred years to more than 1,800 years, since a tree lays down a new ring each year from the rainwater, carbon dioxide and other nutrients it absorbs during the course of that year.

TREE RING SIZES have long been interpreted as rough indicators of climatic conditions for any year — a wide ring suggesting ample supplies of water and nutrients, along with benign temperatures, for example — but Dr. Libby's and Pandolfi's work, reported in 1976, extended this concept and refined it.

They did this by calculating such factors as the ratio of certain isotopes (different forms of the same element)

like oxygen-16 (O 16) to oxygen-18 (O 18) from a tree ring of say, 800 or 900 years ago, and comparing it to a ratio from a more recent ring for which the annual average temperature is known. Dr. Libby and Pandolfi have been able to work out the climatic trends of past centuries for which

ALTHOUGH seemingly small, that slight temperature drop was enough for glaciers in the Alps, Scandinavia, Alaska and New Zealand to extend much farther down into their valleys than they do now.

Dr. Libby and Pandolfi have found additional evidence that not

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there are otherwise no records.

The tree ring measurements reflect, for example, the "Little Ice Ages" of the 15th and 18th centuries, when the annual average temperatures dropped only one to two degrees Fahrenheit. The average drops around 15 to 20 degrees during an Ice Age.

only corroborates their earlier work done on past climates, but also suggests possible climatic trends in the future.

For example, there are plugs of ocean floor matter taken from the Santa Barbara Channel in which the concentrations of uranium and organic carbon can be seen to fluctu-

ate in the same sort of way as the oxygen isotopes in the tree rings.

IN A REPORT to be printed in a scientific journal, the two wrote, "In trees which grow on rain water, isotope variations in their (annual) rings should be climate indicators because the isotope composition in rain and carbon dioxide varies with temperature."

Indeed, a trace of the isotopic variations in a series of very old trees from around the world coincides almost perfectly with a trace of temperatures made in England with mercury thermometers since the early 1700s.

Both the isotope record and the thermometer record show neat agreement for the cold decades at the ends of the 17th and 18th centuries, when temperatures fell by 1-10th to 2-10ths of a degree.

Is it a coincidence that so many of Europe's great palaces and chateaus were built during the early 1700s, when temperatures — as evidenced in the tree ring data — were mild?

Dr. Libby thinks not.

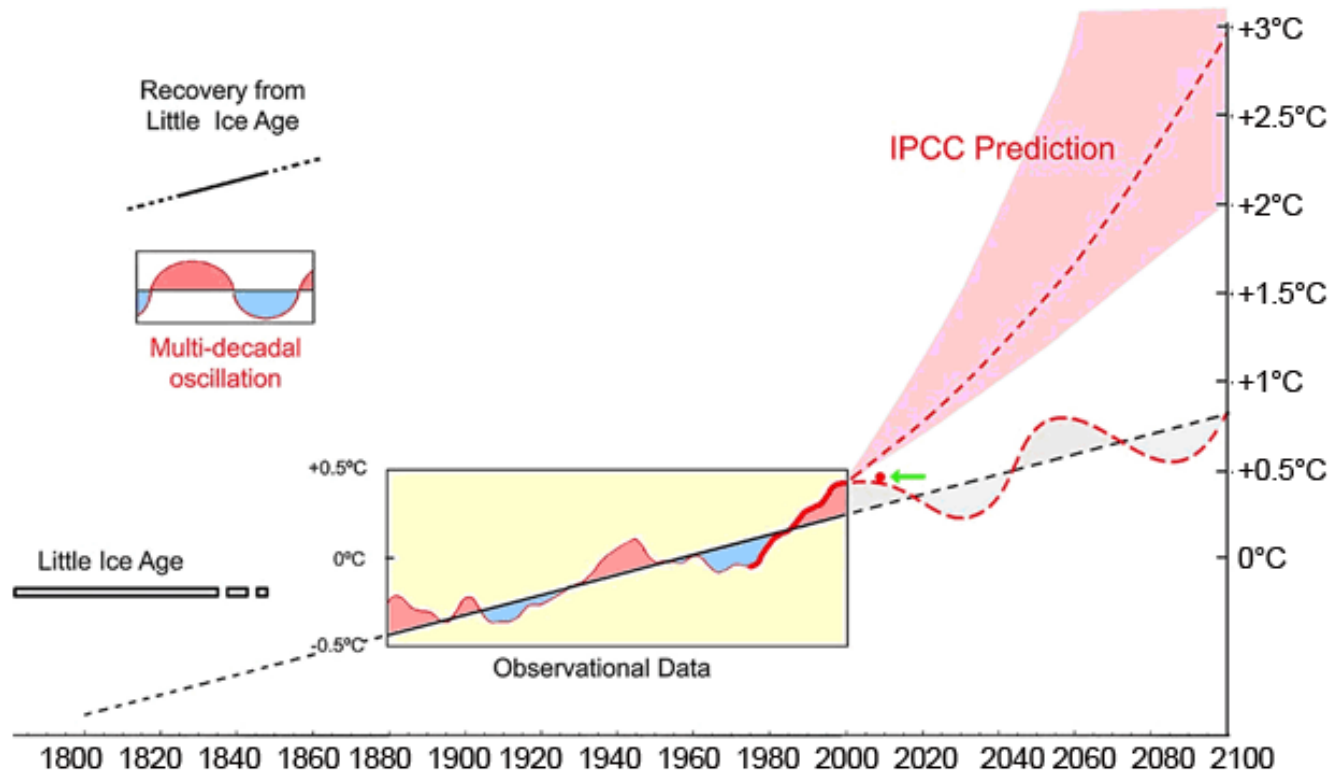
She reasons that because there were many consecutive years of warm sunshine and abundant rain, there were ample supplies of food and other raw materials.

MORE RECENTLY, the world has enjoyed an agricultural boom during the past 70 years or so. The Earth's annual average temperature has risen by about 1 to 1½ degrees, about as much of an increase as the decrease during the Little Ice Ages, during this interval.

When she and Pandolfi project their curves into the future, they show lower average temperatures from now through the mid-1980s. "Then," Dr. Libby added, "we see a warming trend (by about a quarter of 1 degree Fahrenheit) globally to around the year 2000. And then it will really get cold — if we can believe our projections. This has to be tested."

How cold? "Easily one or two degrees," she replied, "and maybe even three or four degrees. It only takes 10 degrees to bring on an Ice Age."

Their work fits in reasonably well with the Syun Akasofu graph we posted here for the world to see:



Where are those researchers now?

Jimash in comments on Goddard's site found the bio of [Leona Libby](#), who unfortunately died in 1986, but appears to have notched up a seriously good career as a scientist. "Dr. Libby was the first and only woman member of the group that built the first nuclear reactor." He also found one of their tree ring papers in [Nature](#). (According to Jimash, Libby also apparently worked with none other than Leo Szilard and Enrico Fermi. Her second husband won the Nobel Prize in 1960.)

- "She stayed at New York University as a professor of Physics until 1964 when she moved to Colorado to become a professor of Physics at Colorado University until 1973. Dr. Libby then went to **University of California at Los Angeles where she was an adjunct professor of Environmental Studies**, Engineering, Engineering Archaeology, Mechanical Aerospace and Nuclear Engineering."

UPDATE:Mark in comments points us to this graph of Hadcrut temperatures since 2000.

