The first climate science ever published was in 1856 by Eunice Newton Foote, who discovered that CO2 and water vapor trapped the sun's heat. Her paper was read at the annual meeting of the American Association for the Advancement of Science. That paper, along with another paper of hers, were the only physics papers by an American woman for the next thirty years. She deserves recognition as part of Women's History Month, begun yesterday.

Foote was born in 1819, a distant relative of Isaac Newton. From age 19, she attended the Rensselaer School (now Rensselaer Polytechnic Institute). When she was 22, she married a lawyer who apparently supported her efforts. He apparently also had a technical turn of mind, becoming Commissioner of Patents in 1868 and then serving on the Board of Examiners-in-Chief.

Foote was an active feminist who attended the 1848 Seneca Falls Convention, a milestone in the crusade for women's rights. She was a neighbor and friend of Elizabeth Cady Stanton, the famous suffragette and signed the 1848 Declaration of Sentiments, which demanded equal rights for women and the right to vote.

Her experiment was simple but revealing. In her home lab, she exposed cylinders of air with varying amounts of water vapor, CO2, and hydrogen to sunlight. When she measured the resulting temperature, she found that water vapor influenced the warming of air but that CO2 had the most pronounced and lasting warming effect. She observed that "an atmosphere of that gas would give to our earth a high temperature; and if, as some suppose, at one period of its history, the air had mixed with it a larger proportion than at present, an increased temperature from its own action, as well as from increased weight, must have necessarily resulted." Thus, Foote was the first to detect the warming effect of CO2 and the first to see how that could impact global climate.

Foote died in 1888 at the then-ripe old age of 69. Last year, the American Geophysical Union established the Eunice Newton Foote Medal for Earth-Life Science in her honor. The medal is given annually to "an exceptional senior scientist for outstanding creative achievements in research at the intersection of Earth and life sciences that substantially advanced understanding of the past, present, or future of key facets of the Earth system, or of the prospects for life on worlds beyond our own, or of the future of human well-being."

The first recipient of the medal was the late Marilyn Fogel from U.C. Riverside. According to the citation accompanying the medal,

> "Marilyn Fogel's groundbreaking career spurred the opening of entirely new research

> areas in the biogeosciences, advancing knowledge at the Earth-life interface and inspiring a generation of geoscientists. During a career spanning more than 40 years, she drove the integration of isotope geochemistry with a variety of topics in the environmental and life sciences, ranging from paleoecology to the search for life on other worlds to questions in human evolution."

If anyone reading this happens to have the resources, it would be nice to add some funding to the medal. Even better would be a Eunice Newton Foote Chair at Rensselaer.