farmdoc DAILY

Agricultural, Consumer & Environmental Sciences | University of Illinois Urbana-Champaign

Climate Change and the Farm Bill: A Brief History

Jonathan Coppess

Department of Agricultural and Consumer Economics
University of Illinois

September 29, 2022

***farmdoc daily* (12): 149**

Gardner Policy Series

Recommended citation format: Coppess, J. "Climate Change and the Farm Bill: A Brief History." *farmdoc daily* (12): 149, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, September 29, 2022.

Permalink: https://farmdocdaily.illinois.edu/2022/09/climate-change-and-the-farm-bill-a-brief-history.html

The Inflation Reduction Act of 2022 invested approximately $19 billion in farm bill conservation programs for conservation practices that address climate change (*farmdoc daily*, August 11, 2022). In addition, USDA has announced nearly $3 billion for a climate-smart commodities partnership effort (USDA, September 14, 2022). These investments for climate change and agriculture are historic. The blending of climate change and farm bills is not, however, without precedent. Title XXIV of the Food, Agriculture, Conservation and Trade (FACT) Act of 1990 was titled "Global Climate Change" (P.L. 101-624). This article provides a brief historical review of the climate change title in the 1990 Farm Bill.

Background

The background for inclusion of a climate change title in the 1990 Farm Bill centers on the historic 1988 drought. The Illinois State Water Survey reported that the 1988-1989 drought was one of the worst droughts in the State up to that time. The National Oceanic and Atmospheric Administration (NOAA) reported that the 1988 drought was widespread throughout the U.S. and Canada. The drought's damage was widespread. USDA predicted substantial crop losses and President Reagan signed a $3.9 billion disaster relief bill for farmers in August of 1988. The relief was among an estimated $20 billion spent to help farmers. The relief included protecting 9 million acres as severe soil erosion and dust storms returned to drought-stressed areas. 1988 was likely the fourth worst drought on record at the time (following 1934, 1936, and 1954); 7 out of the previous 12 years had experienced the warmest temperatures on record as the 1980s experienced a notably sharp rise in temperatures. The drought hit at a time of increased attention and concern with what was known as the greenhouse effect, or climate change; growing awareness and scientific consensus linked the two with the drought as harbinger (see e.g., Lamb, Research Report 121, 1992; NOAA, October 18, 1988; Opie, 1992; Namias, 1991; Soule and Meentemeyer, 1989).

Knowledge about greenhouse gases contributing to climate change did not materialize with the 1988 drought, however. A 1965 report to President Lyndon Johnson from the President's Science Advisory Committee was an early official governmental recognition of the issue (The White House, November 1965). That report reviewed increased levels of atmospheric carbon dioxide and explained that continued

We request all readers, electronic media and others follow our citation guidelines when re-posting articles from farmdoc daily. Guidelines are available here. The farmdoc daily website falls under University of Illinois copyright and intellectual property rights. For a detailed statement, please see the University of Illinois Copyright Information and Policies here.

contributions would cause global temperatures to rise significantly. Among the consequences noted in the report were melting polar ice caps and rising sea levels. Humankind's "worldwide industrial civilization" was "unwittingly conducting a vast geophysical experiment," the report concluded, by "burning fossil fuels that slowly accumulated in the earth over the past 500 million years" in the span of a few generations (at 126-27). In hindsight, the 1965 report takes on outsized significance. It did not catalyze substantial action in Congress, however. Much of the subsequent Congressional record on the topic is sporadic, periodic reports and hearings but little substantive effort to address climate change.

In 1976, the Subcommittee on the Environment and the Atmosphere of the House Committee on Science and Technology released a lengthy report on climate change prepared by the Congressional Research Service. The massive report included potential impacts on agriculture among the many topics reviewed (*Congressional Research Service*, September 1976). Arguably the most substantive work in the 1970s was the National Climate Program Act signed into law by President Carter in 1978 (P.L. 95-367). It was introduced by Representative George Brown (D-CA) with 24 cosponsors on April 27, 1977 (H.R. 6669, 95th Congress, 1st Session). The purpose of the law was to establish a national climate program in the Department of Commerce to assist with efforts regarding climate change (see, *Congressional Research Service*, October 10, 1979).

Congressional work included a Senate Committee on Government Affairs symposium on carbon dioxide accumulation in the atmosphere and energy policy in 1979 (Committee on Governmental Affairs, July 30, 1979). The Senate Committee on Energy and Natural Resources held a hearing on the potential effects of the atmospheric buildup of carbon dioxide in 1980 (Committee on Energy and Natural Resources, April 3, 1980). Two subcommittees of the House Committee on Science and Technology held a joint hearing on "Carbon Dioxide and Climate: The Greenhouse Effect" in July 1981 (Committee on Science and Technology, July 31, 1981). The topic of climate change made the front page of the New York Times in 1981, reporting on the research of a team of Federal scientists about the greenhouse effect and the potential for sea level rise (Sullivan, August 22, 1981; Worland, July 27, 2017).

Arguably a critical catalyst occurred on June 23, 1988, when Dr. James E. Hansen of NASA Goddard Institute for Space Studies testified to the Senate Committee on Energy and Natural Resources (Shabecoff, June 24, 1988). Opening the hearing, the chairman of the committee, Senator J. Bennett Johnston (D-LA), noted that the temperature that day in Washington DC was 101 degrees and drought was destroying crops across the Midwest. "We have only one planet," he said, "[i]f we screw it up, we have no place else to go." Chairman Johnston added, "the fact of our mistreating this planet by burning too much fossil fuels and putting too much CO_2 in the atmosphere and thereby causing this greenhouse effect is now a major concern of Members of the Congress and of people everywhere in this country" (*S. Hrg*. 100-461, Part 2, at 1). Dr. Hansen told the committee that NASA scientists had concluded "that there is evidence that the greenhouse effect increases the likelihood of heat wave drought situations in the southeast and Midwest United States even though we cannot blame a specific drought on the greenhouse effect" (*S. Hrg.* 100-461, Part 2, at 41). The topic appeared on the presidential campaign trail soon thereafter. In August 1988, Vice President George H.W. Bush called for climate change legislation and provided further evidence of the attention on the issue and its salience (see e.g., Waldman, December 3, 2018; Waldman and Hulac, December 5, 2018).

Discussion

On December 1, 1988, the Senate Committee on Agriculture, Nutrition, and Forestry held a hearing on "The Potential Impact of Global Warming on Agriculture," taking testimony from scientists with the National Center for Atmospheric Research and NASA's Goddard Institute, as well as from experts with the World Resources Institute, EPA, and USDA. Senator Patrick Leahy (D-VT), chairman of the Senate Committee on Agriculture, Nutrition, and Forestry, opened the hearing by explaining that he wanted to begin exploring the topic prior to the 101st Congress. He added that the issues of climate change and agriculture "are going to have a major impact on what we do in the next Congress" and that over the "next 4 years" Congress would "make major decisions about how this Nation will address the threat of global atmospheric pollution" (*S. Hrg.* 100-980, at 1). The U.S., he added, had just experienced "the worst drought in my lifetime" and four of "the hottest years recorded in the past 100 years have occurred in this decade, the 1980s" and, he wondered, if those experiences were a "forerunner of things to come" (*S. Hrg.* 100-980, at 2). Chairman Leahy also noted that the newly elected President, George H.W. Bush, had

pledged new initiatives on the issue of climate change and that he looked forward to working with the incoming Administration.

Two subcommittees of the House Committee on Agriculture held a joint hearing on "Climate Change and Agriculture" on April 19, 1989 (House, Serial No. 101-28). Witnesses included officials from USDA, NASA, and NOAA, as well as Resources for the Future, Duke University and the Natural Resources Defense Council. Subcommittee Chairman, Representative George E. Brown, Jr. (D-CA) noted a consensus among scientists on climate change and he wanted to hear testimony about what it meant for agriculture in America. Representative Pat Roberts (R-KS) noted that the "consciousness of the American public is at its highest sincerity since the early 1970's in regard to the environment" and he noted the effects of weather on farming, especially high-risk areas such as those in Kansas where the recent drought had caused great damage to pasture and wheat. He also raised concerns about the vast unknowns with respect to climate change and the challenges for policy on the topic. Both Representative Roberts and Representative Charlie Stenholm (D-TX) grilled the witness from NRDC with questions about methane and livestock production, fertilizers, farm practices and irrigation; the discussion offers hints of the controversies at work.

On September 12, 1989, Senator Leahy introduced S.1610, the "Global Climate Change Prevention Act of 1989" and it was referred to the Senate Committee on Agriculture, Nutrition, and Forestry (S.1610, 101st Congress, 1st Session; *Congressional Record*, September 12, 1989, at 10918). Fourteen Senators cosponsored the bill from both parties and all regions of the country. The bill included many findings about climate change and the potential consequences for agriculture, forestry, and food production. The Senators sought to establish an Office of Climate Change at USDA and require studies on the implications of climate change for agriculture and forestry, as well as identify and direct research priorities for climate change effects on forests and farming. The bill sought to encourage international cooperation on the topics of climate change, agriculture and forestry, including issues of deforestation, as well as advance biomass energy projects. Senators included authority to encourage urban forestry through planting and maintaining trees in urban areas, enhance forestry and rangeland research. Finally, Senators sought to establish a goal of planting trees on at least 12.5 percent of the Conservation Reserve Program (capped at between 40 and 45 million acres) with cost-sharing assistance.

The Senate Agriculture Committee held a hearing on the bill on November 6, 1989 (*S. Hrg.* 101-1135). Agriculture Secretary Clayton Yeutter was the key witness and he was joined by other ranking officials from USDA, as well as R. Neil Sampson with the American Forestry Association and Lynn A. Greenwalt with the National Wildlife Foundation. Chairman Leahy opened the hearing stating, "[l]egend has it that in ancient Rome, Nero played his fiddle while Rome burned" but that in 1989 "it is the rain forests of the Amazon that are ablaze, and the entire planet is threatened with global warming" (*S. Hrg.* 101-1135, at 1). The bill had two primary goals which he summarized as: (1) reforestation of at least 3 million acres of the Conservation Reserve Program (CRP) acres to capture carbon dioxide; and (2) avoid U.S. agriculture from becoming a victim of global warming and helping it avoid substantial damage. Secretary Yeutter expressed his and the Administration's support for the bill commending the Senators for pushing it and noting that it was "worthwhile for all of us to be prudent" with the "trend toward global change, and we should take whatever actions are necessary to permit us to adjust and adapt to whatever that change may be" (*S. Hrg.* 101-1135, at 5).

The Senate considered the bill two weeks later, discharging the committee from further work on it (*Congressional Record*, November 20, 1989, at 30470). Senators Tom Daschle (D-SD) and Kit Bond (R-MO) introduced an amendment to encourage further reforestation such as adding more cost share for tree planting on CRP acres and to include cropland acres if the land was planted to trees for shelterbelts, windbreaks or wildlife corridors. The Senate agreed to the amendment and then passed the amended bill by unanimous consent (*Congressional Record*, November 20, 1989, at 30473). The House, however, did not act on the legislation.

The Senate version of the farm bill in 1990 included Senator Leahy's bill in Title XIX for Related and Miscellaneous Matters (*S. Rept.* 101-357). The House version of the farm bill did not include a climate change title or provisions but did note climate change issues in provisions for establishing a national agricultural weather information system in the research title (*H. Rept.* 101-569). The conference committee between the House and Senate versions of the farm bill placed the Global Climate Change provisions in a separate title, Title XXIV. The conference report explained that the House did not include

comparable provisions to the Senate. Conferees agreed to adopt some of the Senate provisions, including the Office of Climate Change (renamed the Global Climate Change Program) at USDA (*H. Rept.* 101-916). Conferees deleted the Senate provisions directing the Secretary to study the implications of climate change for agriculture and forestry, as well as the provisions for research on the topic. Conference did accept a limited authorization of study and research, focusing on economically significant crops and forests. The conference managers "urge[d] USDA to broaden its global climate change research agenda to include other important areas" such as rice and recognized the "potential for certain agricultural and forestry practices to reduce emissions and to mitigate their effects." But conference managers also noted that "[g]iven the increasing need for food associated with population increases, it is important that strategies for reducing emissions be developed that simultaneously contribute to higher productivity and increased farmers' incomes" and that "much work is necessary to develop and demonstrate" the opportunities and economics (*H. Rept.* 101-916, at 121).

Concluding Thoughts

In 1989, Senator Richard Lugar (R-IN), ranking member on the Senate Agriculture Committee, counseled that "a prudent person takes every precaution to prevent potential disasters, to try to get some handle on the size, shape, and timing of these events, and clearly what the implications will be for the food supply of the planet" (*S. Hrg.* 101-1135, at 3). From the view in 2022, the 1985 and 1990 Farm Bills can appear as a high-water mark, the point where a wave of potential broke and receded. The landmark conservation achievements in 1985 were built upon in 1990 as Congress took bipartisan and near-consensus steps towards addressing the climate change risks for agriculture, forestry and the food system. More than thirty years have passed without climate change making a major appearance in a farm bill; neither a title nor a program over three decades of increasing emissions and evermore apparent consequences. The historic investments by the Inflation Reduction Act and USDA have generated a new wave of potential, but this brief look back in time begs many questions to which the interregnum does not offer comforting answers. And, it is a moment to wonder how it will appear in thirty years.

References

Congressional Research Service, John R. Justus. "The National Climate Program Act of 1978: Background and Legislative History." October 10, 1979.

Lamb, P. (Scientific Editor). "The 1988-1989 Drought in Illinois: Causes, Dimensions, and Impacts," Research Report 121 (1992): https://www.isws.illinois.edu/pubdoc/RR/ISWSRR-121.pdf

Namias, Jerome. "Spring and summer 1988 drought over the contiguous United States—Causes and prediction." *Journal of Climate* 4, no. 1 (1991): 54-65.

National Oceanic and Atmospheric Administration (NOAA), National Climate Program Office U.S. Dept. of Commerce. "The Drought of 1988 and Beyond." Proceedings of a Strategic Planning Seminar Co-sponsored with the National Academy of Science and Resources for the Future, October 18, 1988: https://repository.library.noaa.gov/view/noaa/10952/noaa_10952_DS1.pdf?

Opie, John. "The drought of 1988, the global warming experiment, and its challenge to irrigation in the old Dust Bowl region." *Agricultural History* 66, no. 2 (1992): 279-306.

Riebsame, W.E.; S.A. Changnon, Jr.; and T.R. Carl. 1991. *Drought and Natural Resources Management in the United States: Impacts and Implications of the 1987–89 Drought.* Westview Press, Boulder, Colorado.

Shabecoff, Philip. "Global Warming Has Begun, Expert Tells Senate." The New York Times, Archives, June 24, 1988: https://www.nytimes.com/1988/06/24/us/global-warming-has-begun-expert-tells-senate.html.

Soulé, Peter T., and Vernon Meentemeyer. "The drought of 1988: historical rank and recurrence interval." *Southeastern Geographer* 29, no. 1 (1989): 17-25.

Sullivan, Walter. “Study Finds Warming Trend That Could Raise Sea Levels.” The New York Times, Archives (August 22, 1981): https://www.nytimes.com/1981/08/22/us/study-finds-warming-trend-that-could-raise-sea-levels.html?mcubz=1.

The White House. “Restoring the Quality of Our Environment” Report of the Environmental Pollution Panel, President’s Science Advisory Committee (November 1965), available: https://www.climatefiles.com/climate-change-evidence/presidents-report-atmospher-carbon-dioxide/ and https://www-legacy.dge.carnegiescience.edu/labs/caldeiralab/Caldeira%20downloads/PSAC,%201965,%20Restoring%20the%20Quality%20of%20Our%20Environment.pdf.

U.S. House of Representatives, Committee on Science and Technology, Subcommittee on the Environment and the Atmosphere, “A Primer on Climatic Variation and Change” prepared by the Congressional Research Service, Library of Congress (94th Congress, 2d Session; September 1976).

U.S. House of Representatives, Committee on Science and Technology, Subcommittee on Natural Resources, Agriculture Research and Environment, and Subcommittee on Investigations and Oversight. “Carbon Dioxide and Climate: The Greenhouse Effect,” Hearing No. 45 (97th Congress, 1st Session; July 31, 1981).

U.S. House of Representatives, Committee on Agriculture, “Food and Agricultural Resources Act of 1990,” Report on H.R.3950, *H. Rept.* 101-569 (101st Congress, 2d Session; July 3, 1990).

U.S. House of Representatives, “Food, Agriculture, Conservation, and Trade Act of 1990,” Conference report to accompany S.2830, *H. Rept.* 101-916 (101st Congress, 2d Session; October 22, 1990).

U.S. Senate, Committee on Governmental Affairs. “Carbon Dioxide Accumulation in the Atmosphere, Synthetic Fuels and Energy Policy: A Symposium” (99th Congress, 1st Session; July 30, 1979).

U.S. Senate, Committee on Energy and Natural Resources. “Greenhouse Effect and Global Climate Change,” Hearing, *S. Hrg.* 100-461, Part 2 (100th Congress, 1st Session; June 23, 1988).

U.S. Senate, Committee on Agriculture, Nutrition, and Forestry. “The Potential Impact of Global Warming on Agriculture,” Hearing, *S. Hrg.* 100-980 (100th Congress, 2d Session; December 1, 1988).

U.S. Senate, Committee on Agriculture, Nutrition, and Forestry. “Global Climate Change Prevent Act of 1989—S.1610,” Hearing, *S. Hrg.* 101-1135 (101st Congress, 1st Session; November 6, 1989).

U.S. Senate, Committee on Agriculture, Nutrition, and Forestry. “Food, Agriculture, Conservation, and Trade Act of 1990” Report to accompany S. 2830, *S. Rept.* 101-357 (101st Congress, 2d Session; July 6, 1990).

Waldman, Scott. “Bush Had a Lasting Impact on Climate and Air Policy.” E&E News, December 3, 2018: https://www.scientificamerican.com/article/bush-had-a-lasting-impact-on-climate-and-air-policy/.

Waldman, Scott and B. Hulac. “This is when the GOP turned away from climate policy.” E&E News, December 5, 2018: https://www.eenews.net/articles/this-is-when-the-gop-turned-away-from-climate-policy/.

Worland, Justin. “Climate Change Used to Be a Bipartisan Issue. Here’s What Changed.” Time (July 27, 2017): https://time.com/4874888/climate-change-politics-history/.