

It's time to change the weather modifiers

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The current joke in West Germany asserts that the news broadcasters here are terrible liars: "Each day they announce news, but they report nothing new: just the same old forecasts, day after day: Rain, rain, rain."

While the prolonged, week after week summer's rain has destroyed a substantial portion of this year's planting in Europe, the same shift in world weather patterns is responsible for a killer heat wave in northern Mexico and large parts of the United States.

Recently the government of Mexico ordered the United States to cease weather modification operations in the western Caribbean. The charge that the United States government's weather modification programs are responsible for the present killer heat wave in North America is extremely credible scientifically. The United States has been engaged in major weather modification efforts in the Caribbean. That activity correlates with the kind of shift in rainfall movements which such Caribbean-centered weather modification would produce.

It is possible that the Mexican government's strongly founded suspicions exaggerate the present technological capabilities of the U.S. weather modification program. This matter must be the subject of immediate emergency investigation by congressional committees on agriculture and government operations.

Whatever is discovered by such much-needed congressional inquiries, we already know the chief cause for the overall pattern of catastrophic global weather changes during the 1970s. Brazil's substitution of "renewable biomass" idiocies for fossil fuels has directly caused a shift of the most potent weather system of the Western Hemisphere, the "Amazon High," away from the continent, out into the Atlantic. All of the major weather systems of the world have been shifted, like billiard balls, in chain-reaction response to that shift of the "Amazon High."

Unless Brazil's lunatic biomass substitution program is stopped quickly, and unless similar policies in other regions are halted immediately, we are entering a long period of devolution of weather systems.

I am not putting the blame chiefly on Brazil, or on

the D.K. Ludwig Enterprises' operations in the Amazon region. It was the International Monetary Fund and the Manhattan, Canadian and British West Indies bankers who forced the government of Brazil into substituting "biomass" for fossil fuel consumption. It is those bankers, together with their support for the sort of neo-Malthusian doctrines typified by the Carter administration's "energy policy," which are the direct cause of the catastrophic shift in global weather patterns.

How weather systems work

The citizen should be informed of the following basic facts about the 1970s shift of the Amazon High.

The government of Brazil, together with firms such as D.K. Ludwig, moving into the Amazon region, adopted two programs whose lawful consequences were the chief direct causes for the global weather shift.

One of those programs was directed to creating labor-intensive agriculture in cleared areas of the Amazon rain forest. This quickly transformed the leached-out soil into infertile hard-pan—echoing the way in which similar follies caused the collapse of the ancient Khmer civilization of Angkor Wat. In the latter case, labor-intensive looting of the rain forest area transformed the leached-out soil into mineral laterite. The destroyed area, instead of radiating a column of moisture from forest into the atmosphere, radiated the reflected baking heat of the sun.

The other program was the cutting-down of large areas of the same Amazon rain forest as a source of fuel, including the production of charcoal—in place of coal—for Brazil's iron and steel industry.

The areas of Amazon rain forest so destroyed have totaled to a growing region substantially in excess of 100,000 square miles of rain forest.

How does this affect the weather? A few basic facts must be known.

In addition to coriolis forces and other factors normally contemplated by meteorologists, the creation and maintenance of a stable high-pressure system is determined by the respiration of moisture from plant

life. This column of moisture, although relatively a small portion of the total energy involved in a weather system, affects what are called "long wave" patterns in the atmosphere. The result: in a manner consistent with the geometrics of least action, the columns of moisture rising from plant life pin major weather systems into place. By the same least-action principle, a substantial shift in the pattern of such vapor ascension results in a shift of the weather system.

So, as a direct result of the Brazilian substitution of biomass for fossil fuels, the Amazon High shifted out into the Atlantic, causing catastrophic shifts in the rainfall patterns in Brazil, and throughout the Caribbean region. The shift also caused—billiard-ball fashion—a general shift of weather systems globally.

Two other cases should be cited as illustrations. These are the ongoing desertification of the Sahel region of Africa and recent years' rise in the average temperature of large parts of India.

Under the pressure from the same sort of bankers who dictated the biomass-substitution policy to Brazil, debt-ridden African nations sought to increase their tax-receipts from the most primitive forms of labor-intensive agriculture and pastoral tribes. This meant accelerated depletion of the soil—under labor-intensive modes lacking in the compensatory benefits of irrigation and fertilization. It meant extensive overgrazing of the band of brush along the Sahara side of the Sahel.

The reduction in biomass in these regions meant a reduction in plant-produced vapor production. The weather patterns in much of the Sahel shifted, resulting in a pattern of self-aggravating desertification.

In India, the direct cause of an oppressive rise in mean temperature is the large-scale deforestation caused chiefly by the substitution of biomass for combined hydroelectric, fossil-fuel and nuclear requirements.

It is the conversion of solar energy into the organized vapor and biomass of forests and agriculture (principally) which regulates not only rainfall patterns, but the climate generally.

Morally acceptable weather control

The management of global and regional climates in a manner consistent with climate and food requirements must be focused on improving the energy-intensity of a large tracts of crop production plus a combination of extensive forestation and energy-intensive biomass production along coasts as an adjunct of a general shift from ocean fishing to fish-farming.

For example, we can bring back the Sahel, and can make the Sahara itself fruitfully habitable eventually, by a combination of irrigation, energy-dense fertilization, and related heavy-engineering modifications of both

fresh-water flows and land modifications. Once "artificial" means of this sort have established significant increases in biomass production of vapor, this vapor columning will have a pump-priming effect on the development and positioning of weather systems.

Generally speaking, the efficiency of this process is constrained by the energy flux density of plants individually, and the energy flux density of biomass per hectare. The more energy we add to the soil, as in the form of fertilizers, and the more efficiently we manage the addition of trace-element additives to enhance biomass per plant, the greater the two desired beneficial effects. These desired effects are increased rates of conversion of solar radiation into biomass, plus strengthening of the vapor production which maintains a major and subsidiary weather systems.

The answer to these needs is not to continue the lunatic doctrine of "wilderness areas." The United States, in particular, needs a major increase in multiple-use forests. These forests must be developed on the basis of modern biological technology—for their efficiency in converting solar energy into useful biomass. They supply wood, recreational facilities, maintain watersheds, and perform a key part in stabilizing our weather. More trees and parks in urban areas should be a significantly promoted national policy.

Globally, as well as nationally, weather control must be situated in a context of qualitative advances in management of fresh-water systems. The leading edge of this effort must be the commitment to develop arid and desertified regions. This must be complemented by a coordinate biomass-development program, with emphasis on high-energy-flux-density modes of high-technology food production.

This must be supplemented by biological research and development programs on a much-enlarged scale. We must break out of the reductionists' confines of mere genetics, and focus on the function of ribosomes and of whole biological processes in regulating the activity of the DNA "chemical plants."

U.S. governmental policies

Several measures, listed in order of priority for immediate action, must be undertaken by the U.S. government.

First, there must be an emergency debt moratorium for all farmers in areas devastated by the heat wave.

Second, there must be large-scale special credits for the disaster areas, in the range of 4-6 percent interest on medium- to long-term loans funnelled through agricultural credit agencies and local banks.

Third, there must be immediate commitment to rapid development of projected fresh-water systems,

bringing fresh water from Alaska and Canada down between and to the east of our western mountain ranges. This must be complemented by immediate restoration and augmentation of both the research and development functions of the Department, and reinvigoration of the Agricultural Extension Service.

These four measures must be implemented in the context of a general, radical revision of current U.S. government parity and agricultural-credit policies.

The Carter administration must implement immediately its standby authority to maintain 90 percent parity for all U.S. agriculture, as demanded by the directive adopted by the Texas State Democratic Party Convention.

Congressional action must provide authorization for a policy of 100 percent of parity paid to producing farmers, less the standard, competitive discount earned by agricultural products handlers.

A combined facility for rescheduling indebtedness of independent, owner-operated family and intra-family corporate farms must be established, to stop the collapse of the independent owner-operated farm system.

A new line of credit, at 4-6 percent interest on medium- to long-term agricultural loans for productive improvements, and short- to medium-term credit for orderly marketing of produced product, must be established.

Tax incentives for high-quality maintenance of farm land not currently in production, and for development of high-quality forested reserves, must be legislated.

An appeal to the electorate

This indispensable package of programs is an immediately practical possibility, on condition that the majority of the electorate is adequately informed of the growing jeopardy to the nation's dinner table if such actions are not taken.

For a long time, most of the food-consuming population has been led down the proverbial garden path by the false but appealing argument that parity to farmers means higher food prices. It is falsely believed, for this reason, that farmers producing at less cost means financial benefit to the non-farmer food consumer.

Over the period since the 1790 U.S. census, the rural population of the United States has shrunk from 90 percent to the present farmer population of less than 4 percent of the total labor force. This was accomplished through capital improvements in agriculture: increased benefits of industrial technology purchases, combined with farmers' investments of savings—profits—in improvements in land, livestock, equipment, and increased energy consumption per acre.

The source or reduced social cost of production of food is the investment of farmers' profits into technologies which reduce the farmers' unit costs of production.

If the farmer lacks profits to invest, then agricultural

technology will stagnate. Stagnation means higher prices of food—through margination-effects of stagnation, and a tendency for food shortages. If the farmer produces at less than zero profit, the productivity of farm output, and food production is also shrunken by bankruptcy of farmers.

Although agricultural parity is calculated differently by various of its advocates, the essential fact about parity is that it represents the equilibrium-price level at which competitive independent owner-operator farmers will continue to achieve technologically-determined reductions in social cost of food production, as well as continuing improvements in quantity and quality of product.

Over the post-1940s period, the economic lawfulness of these equations has been somewhat concealed by the correlated rise in per-acre farm debt and in farm-land prices. The capital which the farmer has lost through less-than-parity prices, the farmer has borrowed back in the form of a pyramiding mass of agricultural indebtedness. In other words, the effective ownership of the farm has been shifted away from the farmer to the holder of agricultural debt.

In the United States presently, we are at the end of the long period of such uses of borrowed capital.

The Carter administration's credit-crunch actions of October 1979 and March 1980 have created a structural collapse in major sectors of the credit market. Therefore, recent reductions in interest-rates from spring prime-rate levels in the order of 20 percent have not had the effect of returning the economy to pre-March levels of borrowing or productive output. This Carter-induced crisis in credit markets, coupled with the accelerating collapse of industrial production which that triggered, has, so to speak, "pulled the plug" on the agricultural debt situation.

Under conditions of removal of the credit buffer between farm production and less-than-parity prices, the economic logic of less-than-parity prices comes to the surface in the form of direct and immediate cause-and-effect connections. Without the continuation of the credit buffer, as a way of capitalizing income-losses in the form of borrowed loan-capital, the margin of the farmers' losses at the market-place today becomes either the immediate cause for bankruptcy of the debt-ridden farmer, or, at best, forces that farmer to reduce his crop and livestock programs by an amount proportional to the shrinking of his reinvestible operating capital.

This development means not only a shrinking of the nation's food supplies. It also means the logic of the dustbowl.

The ability of the soil to produce depends decisively on the equivalents of added fertilizer and essential trace-elements stored in the soil. If the farmer cuts his combined irrigation, fertilization and trace-element-adding programs, under cost pressures, his land will

continue to produce at an ever-reduced productivity per acre—up to a point. Beyond that point, the depletion of the soil's fertilizer-equivalents and of essential trace-elements leads toward dustbowl and related expressions of the sterility of looted land.

Over the known history of mankind, it has been such labor-intensive looting of the soil which has set into motion the spiral leading into desertification.

Lower energy-flux density of biomass production over a large area means lowering levels of stable vapor transpiration. Continued vapor-flows in the atmosphere became more erratic—often a pattern of periods of leaching rains and flooding alternating with destruction periods of aridity. So, today, less fertilizer and less essential trace-element additives for soil mean an accelerating shift in weather patterns over the affected areas. The stabilizing effect of control of vapor transpiration through high energy flux dense biomass production causes changes in weather patterns, and an ensuing tendency for degradation of weather systems.

In terms of basic thermodynamics, that process of devolution of climate caused by decline of agricultural productivity can be restated usefully as follows.

In thermodynamics generally, we are properly focused on three interconnected expressions for energy. The first expression is the total number of calories-equivalent involved in the process. The second, higher-order consideration, is the energy flux density of the energy throughput—the rate of calories-equivalent through a square centimeter cross-section of the energy-producing and energy-consuming processes, respectively. The still higher-order, and most important aspect of the energy-process is what is sometimes termed the “free energy ratio.” This is the ratio of the portion of energy doing useful work to the total energy throughput.

The throughput of solar energy (plus supplements through energy embodied in fertilizers) is normally of very low energy flux density. Consequently, solar energy and, still worse, the burning of biomass as an inorganic energy source, are merely the worst, most uneconomical, most wasteful means available to us. However, when this solar energy is absorbed and reorganized by plant-life, the energy is converted into an extraordinarily-potent equivalent of very high energy flux density, through the high free-energy ratios of biological processes.

These high free-energy-ratio plant-life systems produce our planet's oxygen, and also meter the flow of vapor back into the atmosphere in a highly-organized way. It is that organized flow of energy in the form of vapor emanations from plant-life which organizes the weather systems.

It is not the weather which determines the conditions for life. It is life which has created and maintains the weather-systems. In other words, weather is not an

inorganic physics matter: it is a byproduct of a highly-organized living process.

To stabilize our weather, as well as to ensure stable food supplies, our nation must reverse the trend of agricultural policy in Washington from what it has been since the 1940s. We must begin to pour productive investment into our water-management systems, our forest development, and our agriculture.

If food prices do not drop as rapidly as one might wish, do not blame the farmer already largely bankrupted by too much of less-than-parity prices. We must maintain our American System of independent, owner-operated farms—and not have agriculture monopolized by giants such as Safeway's and MacDonald's growing purchasing operations.

If independent owner-operator farmers are replaced by large absentee agri-financial interests, food prices will soar skyhigh through manipulation of food shortages and related means. We must protect the price and stability of our food supplies for ourselves and our children.

World parity prices an urgent objective

As I have stated repeatedly, echoing the detailed argument I presented to a Chicago meeting of agricultural representatives, U.S. food exports must hereafter be sold at true world-market prices.

The dumping of U.S. agricultural products on the world market has had the effect of destroying developing nations' investment in their own internal food production.

As I also proved, the true cost of food production in underdeveloped nations is as high as that in the United States—in fact, higher. This is proven easily: by adding to the apparent cost of food production in underdeveloped nations the margin of profit needed to effect the investments which bring that production technologically up to U.S. levels of productivity; on that basis, the true price of production of food is substantially higher in cheap-labor nations than in the United States.

If we are to feed a growing world population, and create the essential conditions for sound weather management, we must foster appropriate rates of investment in food production. To accomplish this, we must establish, through treaty agreements, a world parity price for food products which provides both economic means and incentives for a global high-technology agricultural revolution.

This will provide not only the food needed, but also foster the kind of development of biomass required for weather management.

Meanwhile, we must reschedule the Brazilian debt, and encourage Brazil to import coal from such places as Colombia. We must stop at once the catastrophe being aggravated by Brazil's enforced resort to biomass in place of nuclear energy and fossil fuels.