Mother Nature is biggest 'ozone polluter,' Michigan study shows

by Rogelio Maduro

The claim that the clean air guidelines just announced by President George Bush will reduce the amount of low-level "ozone pollution," also known as smog are a complete hoax, according to leading scientists interviewed by the author. The amount of "natural pollution" is much greater than all of man's pollution, and shutting down industry will have little effect in the concentration of chemical "pollutants" in the air. The evidence is presented in a scientific paper published in the November 1980 issue of the *Bulletin of the American Meteorological Society* by Dale E. Linvill, now at the Agriculture and Weather office at Clemson University in South Carolina.

What Linvill documents is that the amount of ozone (smog) in the atmosphere today is identical to the amounts of ozone found in the last century, before cars or electric power plants existed. The existence of "ozone pollution" can be accounted for by the emission of anthropogenic nitrogen from actively growing green plants and soils. Although at high concentrations ozone can have serious health effects on humans, no scientific study has ever shown any ill effects from the very small amounts found in the world's most "polluted" areas.

In his paper, titled "Ozone in Michigan's Environment 1876-1880," Linvill states:

"Although ozone is now considered a pollutant of Earth's atmosphere, this was not always the case. Medical doctors recognized beneficial germicidal properties of ozone shortly after it was identified by Shoenbein in 1845. They carried out innumerable studies on its effect on human diseases. Literature of that era emphatically states the benefits of light, airy, 'ozone rich' rooms over the customary dark sickrooms of the day.

"Just as today's doctors have difficulty in establishing cause and effect relationships for various health problems, so did the doctors of the 1880s. Thus meteorological conditions were recorded in hopes of explaining cause-and-effect relationships for various health problems, so did the doctors of the 1880s. Thus meteorological conditions were recorded in hopes of explaining why certain diseases become more prevalent at specific times within the year. The pioneering work of Dr. R.C. Kedzie, Michigan Agricultural College, resulted in a statewide meteorological observation network in 1871. Parts of this network exist today as climatological stations operated by the National Oceanic and Atmospheric Administration's (NOAA) Environmental Data Information Service.

"Observations of barometric pressure, temperature, precipitation, cloud cover, wind direction and 'force' were recorded each day at many of the sites. Other data were also noted by those early weather observers. For example, depth of water in wells and well-water temperature were commonly recorded. It was in records from these sites that we found daily observations labeled 'ozone.'

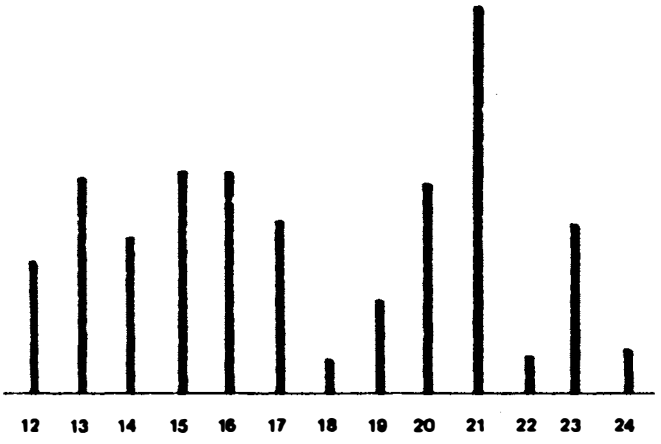
"Continued searching through the old data has uncovered monthly average ozone values from 1871 through 1903 from approximately 20 stations in Michigan. . . . We will present some of the early data . . . to show that the resulting patterns are similar to those of ozone concentration observed today."

Linvill calibrated the measurements of ozone with the standard methods of measuring ozone today, and compared the results between July 1879 and July 1976 (see **Figures 1** and **2**). In those two years, the ozone levels were similar, and furthermore on July 21, 1879, the state of Michigan grossly violated the EPA standards for ozone, something that was recorded to be happening for several months of some years in the 1800s.

Linvill continues: "We have just described the 1876-1880 period in which day-to-day ozone levels exhibited very similar patterns seen in today's data. Ozone concentration was lowest during the coldest part of the year and highest during warm months. Ozone concentrations also increased with time as an air mass moved slowly across the area.

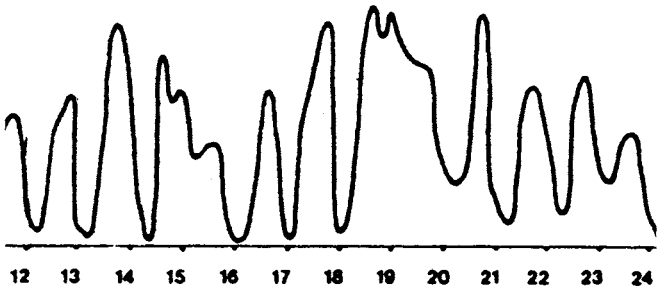
"Vegetation patterns in Michigan and throughout much of the Midwest during the late 1800s were probably very similar to today's patterns. The native forest of conifers and hardwoods had been cleared in southern Michigan. Draining of swamplands and wet areas was well under way with farming well established. Railroads had entered the area, bringing with them increased population and industrial demands. However, neither the internal combustion engine, electrical generation plants, nor large-scale petrochemical plants were

FIGURE 1
Ozone pollution in 1879



Daily ozone concentration at Michigan Agricultural College near Lansing, Michigan, July 12–24, 1879.

FIGURE 2
Ozone pollution in 1976



Hourly ozone concentration at Lansing, Michigan, July 12–24, 1976. The ozone levels for the month of July and the entire year were nearly identical in 1879 and 1976.

present in Michigan nor anywhere in the Midwest during this time period. What, then, can account for ozone measured throughout Michigan during the late 1800s?"

Linvill then reviews several scientific studies on the amount of nitrogen (a precursor of ozone in the atmosphere) emitted by plants and soils, billions of tons per year, which is at least 100 times greater than all nitrogen emitted from all of man's pollution. Linvill adds that "when results of these nitrogen emission studies are compared with current ozone measurements in the boundary layer (the lower atmosphere) and with the historical measurements documented in this paper, a strong argument can be advanced for plant-soil emissions as the major contributor for photochemical ozone precursors. Levels of O_3 in Michigan start to rise in the springtime as the green wave advances northward. Maximum ozone levels and episodes of high ozone levels occur during the months of July and August, the prime vegetative growth months for northern latitute crops. Ozone levels and episodes generally decrease in late August and during September, the time of grain filling or the reproductive stage of crop growth.

"The pattern of ozone levels noted as an air mass crosses Michigan also fits into an anthropogenic source model. Immediately after frontal passage ozone levels are low. This air originates in northern latitudes in areas of typically cooler temperatures and forested environments. As the air mass passes to the east and winds swing to southerly directions, air from warmer areas arrives. These source areas are intensive agriculture and grassland areas having higher nitrogen production rates than the cooler north woods. Thus on the backside of a high pressure area measured ozone levels are higher than on the front side of the high."

In the conclusion to his paper, Linvill states "Average daily O_3 (0700 to 1400) was largest during the spring months of March through May. The highest mean and median values occurred as southwest winds flowed into the area during April. Lowest mean and median values were recorded during the winter period. The probability of daily ozone levels in excess of 80ppb reached a high of 0.37 in April and dropped to a December low of 0.02.

"During the 1876-1880 period, day-to-day ozone levels exhibited patterns very similar to patterns in today's data. Ozone levels peaked during the warm months after falling to wintertime minimals. The concentration increased with time as an air mass moved slowly across the area. These patterns can be explained using anthropogenic sources—plants and soils—emitting nitrogen oxides into the atmosphere to act as precursors for photochemical ozone formation."

In a phone conversation, Dr. Linvill told *EIR* that his group barely touched the historical data which is available at Michigan State University, and that careful measurements of ozone levels were also kept in several other parts of the world, such as London. It amazes Dr. Linvill that research funds have not been allocated to examine these historical records, which may provide a clue to solving "one more of earth's mysteries—the generation of boundary layer ozone." In looking at the national readings for ozone levels in recent

years, the picture that Dr. Linvill has seen is rather spectacular. In the winter months, the levels of ozone are lowest, but in spring, the levels of ozone rises like a wave across the United States following the sweep of greenery as the trees blossom with the onset of the new growing season. The highest levels of ozone are found when the plants are actively growing.

The Los Angeles basin

The levels of ozone "pollution" in Michigan are clearly determined by soils and vegetation. Now, what about Los Angeles? Again, it is worthwhile to research the historical record. The Los Angeles basin is named the "valley of smoke" in all the accounts of the early explorers going back to the original Spanish discovery. In one of his books, Richard Henry Dana describes the characteristics of the smoke in the valley in the last century, following a trading trip, and the same description is found in the diaries of the people that colonized the West. Indian folklore describes the Los Angeles basin as "on fire" every summer.

According to Dr. Hugh Ellsaesser from Lawrence Livermore National Laboratory, the smoke, haze, or smog comes from the peculiar precipitation pattern in southern California. Following heavy rains in the winter, there are very dry, hot summers, so that plants, in order to survive transpire hydrocarbons in the process of photosynthesis, instead of water. These hydrocarbons are highly reactive, much more so than hydrocarbons from fossil fuels, and are quickly converted into ozone by sunlight. That is why the highest concentrations of "ozone pollution" are not found in downtown Los Angeles, or where cars and industries are located, but in the wooded hills. Dr. Ellsaesser concludes that environmentalists could eliminate every car and industry in Los Angeles, and it wouldn't reduce smog one bit.

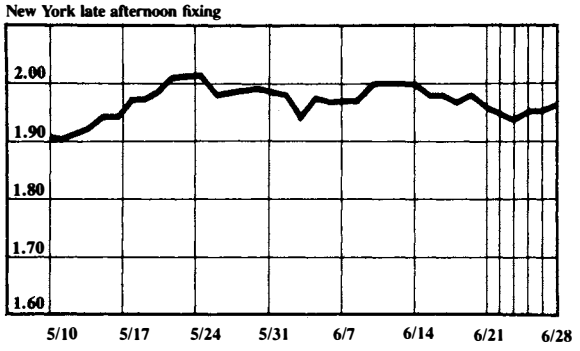
The Environmental Protection Agency, now implementing what its head William K. Reilly referred to as the "clenched fist" policy against "polluters," such those who are "culpable" for ozone pollution. This will cost hundreds of billions of dollars to the economy, the livelihood of millions of workers, and will harshly reduce the standard of living of the great majority of Americans. All of this despite the fact that all the scientific evidence reveals their arguments to be a scientific fraud.

The latest EPA report states "ozone levels are highest during the day, usually after heavy morning traffic has released large amounts of volatile organic compounds and nitrogen oxides." Yet some of the highest concentrations of "ozone pollution" in the United States are found in the Smoky Mountains and a few other heavily protected wilderness areas, hundreds of miles from away from any "heavy morning traffic." How does the EPA explain that? Perhaps the purpose of all these regulations is not to protect individuals from natural levels of ozone or other natural gases, but to shut down modern industrial society.

Currency Rates

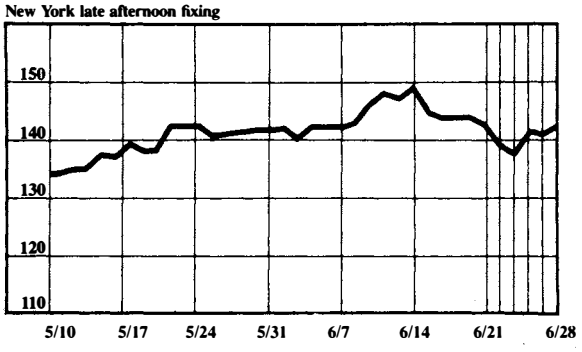
The dollar in deutschemarks

New York late afternoon fixing



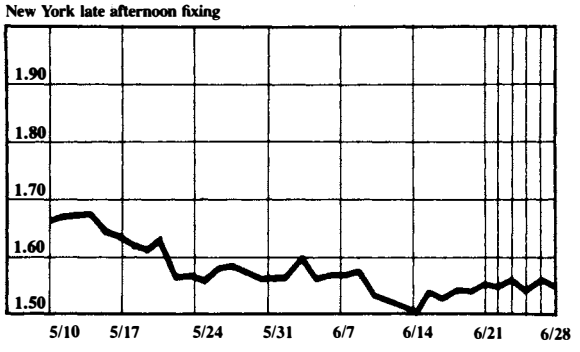
The dollar in yen

New York late afternoon fixing



The British pound in dollars

New York late afternoon fixing



The dollar in Swiss francs

New York late afternoon fixing