

CARBON DIOXIDE AND CLIMATE

WHAT IS CARBON DIOXIDE (CO₂)

Carbon dioxide is a molecule made up of one carbon atom and two oxygen atoms. It is a gas. It is always present in our atmosphere, but the amount of carbon dioxide varies according to certain factors.

Carbon is stored in most all things. Of particular concern is the storage of carbon in the ground, trees, oceans and atmosphere. The movement of carbon between these four areas illustrates the carbon cycle.

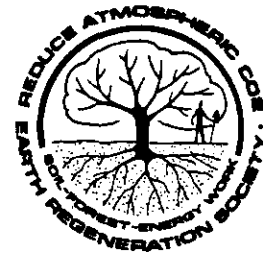
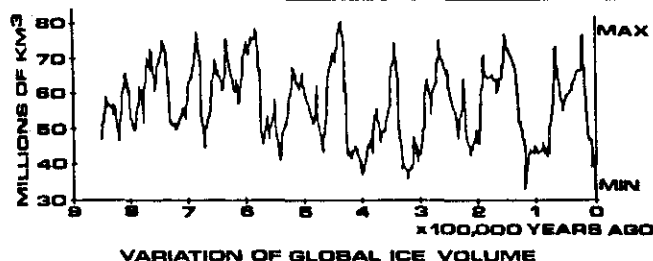
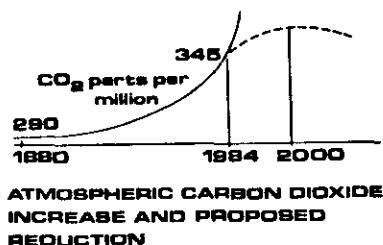
WHERE DO CHANGES IN CO₂ COME FROM ?

Movement of carbon between the four storage areas of carbon cause the changes in atmospheric CO₂.

Increases are caused by decaying plant or animal life, deforestation, burning of fossil fuels and forests, volcanoes and even respiration of humans and animals.

Decreases are caused by photosynthesis in plant and tree life, carbon sink in the oceans and carbon sink into the ground.

(continued on page 2.)



A NEWSLETTER ABOUT CYCLES OF GLACIATION, THE NEGATIVE EFFECTS OF AN INTERGLACIAL/GLACIAL TRANSITION ON LIVING SPECIES, AND A COUNTER PROGRAM.

CO₂ & CLIMATE

Published by the Earth Regeneration Society, Inc.
1442A Walnut Street #57 Berkeley, CA 94709

Directors: Alden Bryant, Douglas W. Fryday, Dolores Huerta, Julianne M. Malveaux, PhD, Fred Bernard Wood, PhD.

VOLUME I NEWSLETTER 15 SEPT. 1986

E.R.S., INC.

EARTH REGENERATION SOCIETY, INC.

The Earth Regeneration Society is a non-profit organization. It is dedicated to development and dissemination of relevant information on the effects of carbon dioxide (CO₂) on our atmosphere and climate. It is also dedicated to implementing an earth regeneration program. A massive immediate earth regeneration program is the only means available to avert the catastrophic events which will increasingly occur as a result of the earth's changes.

(continued on page 4.)

LETTER TO THE EDITOR

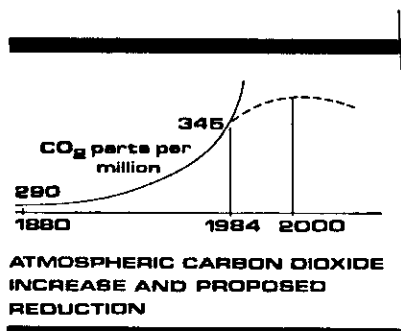
WE WELCOME QUESTIONS AND
COMMENTS FROM OUR READERS

Unhealthy trees are less efficient in processing CO_2 . All of our soils are suffering from deficiencies in minerals. Necessarily, so are our trees. They are consequently experiencing high levels of tree mortality. The trees are increasingly affected adversely by insects, pests, temperature, forest fires, diseases and acid rain among other things. All of this reduces worldwide photosynthesis capabilities.

HOW DOES INCREASED CO_2 EFFECT THE ATMOSPHERE ?

First, sunlight enters the atmosphere and is absorbed by the non - snow covered surfaces of the earth which re-radiates part of the energy back into space as infra-red radiation. (Snow covered areas reflect most of this light directly back into space.)

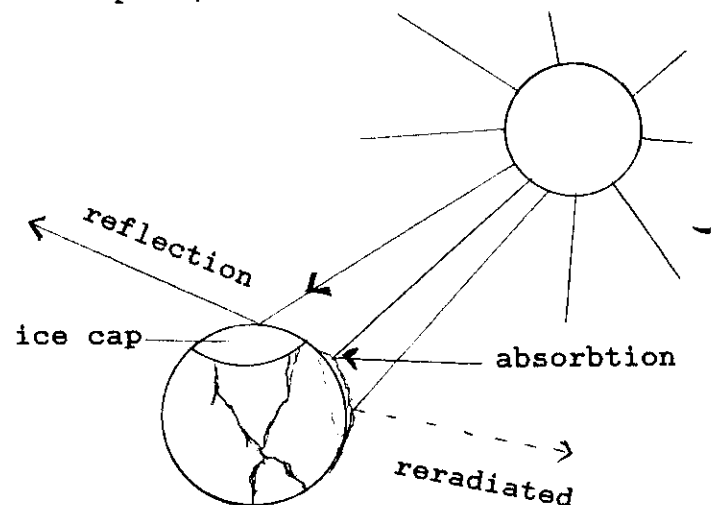
WHAT IS OCCURRING IN THE CARBON CYCLE NOW ?



CO_2 has been increasing exponentially since 1945. For the last 12,000 years CO_2 has been below 280 parts per million (ppm). As the graph above illustrates, carbon dioxide now sits at 345 ppm.

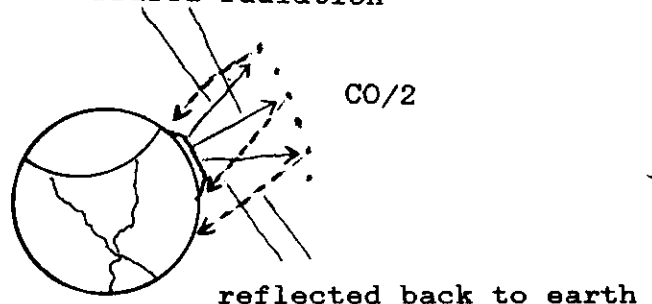
WHY HAS ATMOSPHERIC CO_2 INCREASED SO RAPIDLY IN THE LAST 40 YEARS ?

Massive deforestation, the burning of fossil fuels and demineralized soil are the major contributors to CO_2 increase. Plant and tree life absorb CO_2 through the process of photosynthesis. Therefore, the reality of fewer and smaller forests reduce the ability of the earth to stabilize CO_2 .



Part of the incoming light is absorbed by rocks and the ground. As heat is emitted from these areas, it is emitted as near infrared rays. The near infrared rays are absorbed in part by CO_2 as well as substantially being reflected back toward the earth's surface. This aspect causes what is known as the greenhouse effect.

near infrared radiation

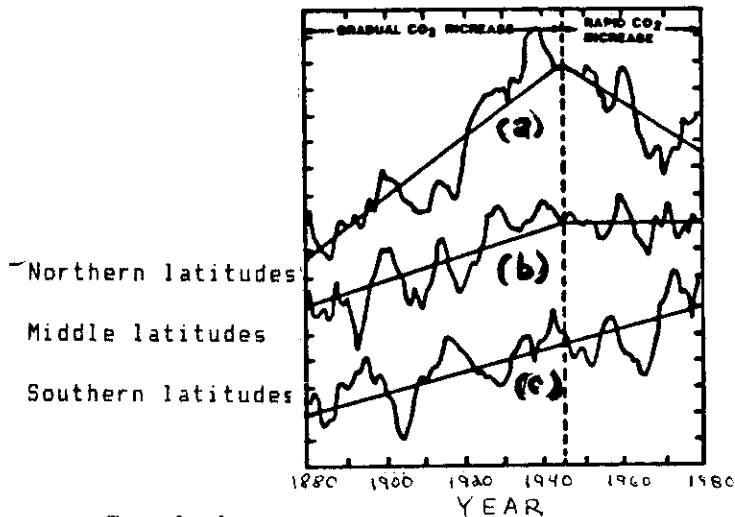


Secondly, this increased atmospheric heat causes greater evaporation. As the warm moist air moves toward the poles and meets the cold air masses of the poles, precipitation results. Snow and ice build up. What moisture goes up in the warmer regions, comes down in the polar areas.

The overall result is warmer temperatures in the lower latitudes, (those latitudes somewhat above and below the latitudes at the equator), while simultaneously there are colder temperatures in the northern latitudes.

Graph A illustrates the temperature variations and trends of the various latitudes of the earth.

Surface air temperature trend
in intervals of 0.1 deg. C



Graph A.

IS THE UNITED STATES WARMING OR COOLING ?

The U.S. is cooling. The following is the abstract from a paper by Kenneth E. F. Watt entitled, "The Effect of Local Influences on Perception of Climate Trends".

The appearance of a century-long climatic warming trend results from the placement of most thermometers in cities, which warm relative to the countryside as they grow. The pattern revealed by rural thermometers in the United States is a significant cooling trend since 1941, except in some far western and north central regions.

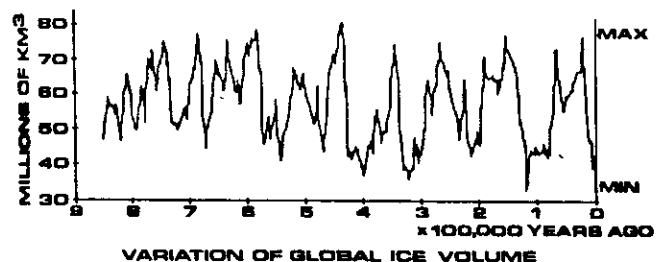
WHAT ARE THE LONG TERM RESULTS OF THESE TRENDS ?

Scientists do not agree on how the CO₂ influences the climate. The most consistent hypothesis is that CO₂ is the trigger in the transition from an interglacial period to a glacial period.

The most significant factor in varying CO₂ are the earth's glacial cycles (or glacial, includes ice ages, and interglacial periods. There have been 17 such glacial cycles. (Please refer to the graph on the bottom of this page on VARIATION OF GLOBAL ICE VOLUME.) These variations and those on a much shorter time framework are integrally related to and commonly referred to as part the carbon cycle.

WHAT OTHER EFFECTS ON THE EARTH'S CLIMATE DOES INCREASED CO₂ HAVE ?

Increased heat in the lower latitudes and increased cold in the northern latitudes creates an increasing temperature differential between the equators and the poles. Consequently, the air masses move increasingly faster between those areas. This results in more dramatic and increased frequency of turbulent weather. The more turbulent the weather, the greater the number of storms on both land and sea, landslides, blizzards, floods, tornadoes, droughts, record heat spells, record cold spells, increased tree mortality destruction to property, destruction to crops and many more disasters. All of these disasters occur in the U.S. as well as around the world at different times in different places in one general system accelerating us into technical breakdown and famine, to be followed by glaciation.



WHAT ARE THE SOLUTIONS ?

Simply, a full worldwide, maximum effort on an earth regeneration program.

An earth regeneration program means:

*** STOP DEFORESTATION

Forests are being destroyed at a rate equivalent to losing the size of the country of Austria every year, and this rate is increasing. This process releases carbon into the atmosphere and reduces the ability to balance CO₂ in the atmosphere through photosynthesis.

*** STOP BURNING FOSSIL FUELS.

AND FIND NON NUCLEAR

ALTERNATIVES

Coal, oil and gas, when burned, release CO₂ into the atmosphere. CO₂ is being put into the atmosphere through burning fossil fuels at an alarming rate.

Nuclear alternatives are not acceptable to this organization nor the health and welfare of the people of the world.

*** REFOREST AT THE RATE OF 500,000 SQUARE KILOMETERS OF NET GROWTH PER ANNUM FOR THE NEXT 30 YEARS.

To reduce CO₂, photosynthesis must be increased. A net increase in forest growth of 500,000 square kilometers for 30 years should pull enough carbon out of the atmosphere to return the CO₂ levels to well under 300 parts per million.

*** REMINERALIZE THE SOILS OF THE EARTH TO RESTORE THE HEALTH OF THE SOILS, SOIL ORGANISMS AND THEN THE TREES.

A glacial cycle remineralizes the soils over a long period of time. This is accomplished through glacier movements and wind blowing of glacial dust. Volcanic activity spreads minerals throughout the world. (Mt. St. Helens sent volcanic dust throughout the world as do all volcanoes.) Volcanic activity is greatly increased during a glacial period.

What must be accomplished is to artificially remineralize the earth. Not much rock dust per acre is needed. A number of countries and individuals in many more countries including our own, are already doing this on increasingly larger scales. This effort restores the mineral balance to the soils. This improves the survival ability of micro-organisms, the soils and consequently the trees.

- end

E.R.S., INC.

(CONTINUED FROM PAGE 1.)

Our approach is to maximize usage of all relevant disciplines of science. We also utilize facts (or current events and data) which sometimes contradict some scientific explanations. Our approach is to be comprehensive and consequently, our explanations must reconcile (for example) such diverse facts as a CO₂ induced greenhouse effect with massive buildups of snow and ice in the polar regions and shorter growing seasons for crops.

Our conclusion is that in fact, we are in a transition period from a stable, relatively warm interglacial period into a cooler glacial period. Our concern is that this transition period will be full of turbulent, radically changing weather on a global scale. (Droughts in Africa and actively moving glaciers in Alaska are only parts of the changing conditions.) In

turn, this worsening weather will cause increasing damage to our ability to grow food, to our technological facilities, to our homes and to peoples lives.

As mentioned earlier, our proposal to avert (or at least delay) this cataclysm is an earth regeneration program. An earth regeneration program involves a worldwide effort to: (1) stop deforestation; (2) stop the use of fossil fuels with using alternative non-nuclear technologies; (3) reforest on a massive scale and; (4) remineralize the soils. We have proposed for the U.S. alone a 20 million jobs program to perform the U.S.'s part in the worldwide effort.

The Earth Regeneration Society perceives that to accomplish its goals, it is necessary to work with scientists,

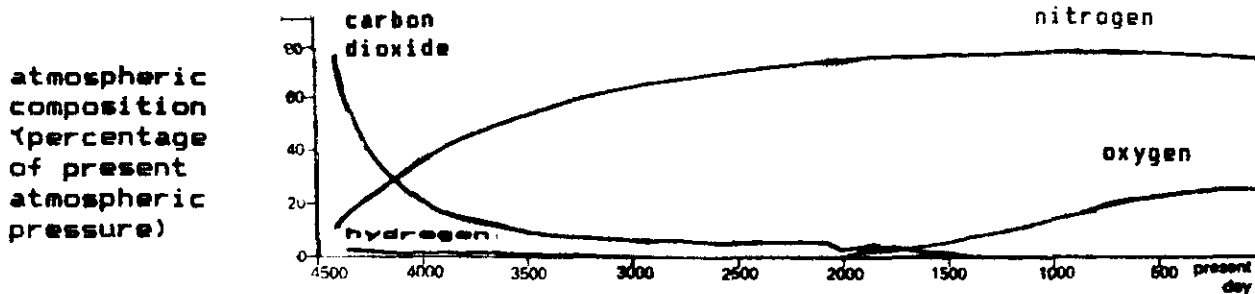
organized labor, individuals, all forms of political organizations, government officials and agencies at the national, state and local levels, as well as their counterparts in other countries.

Our bottom line is simple. We are doing everything in our power to avert an oncoming disaster beyond human imagination.

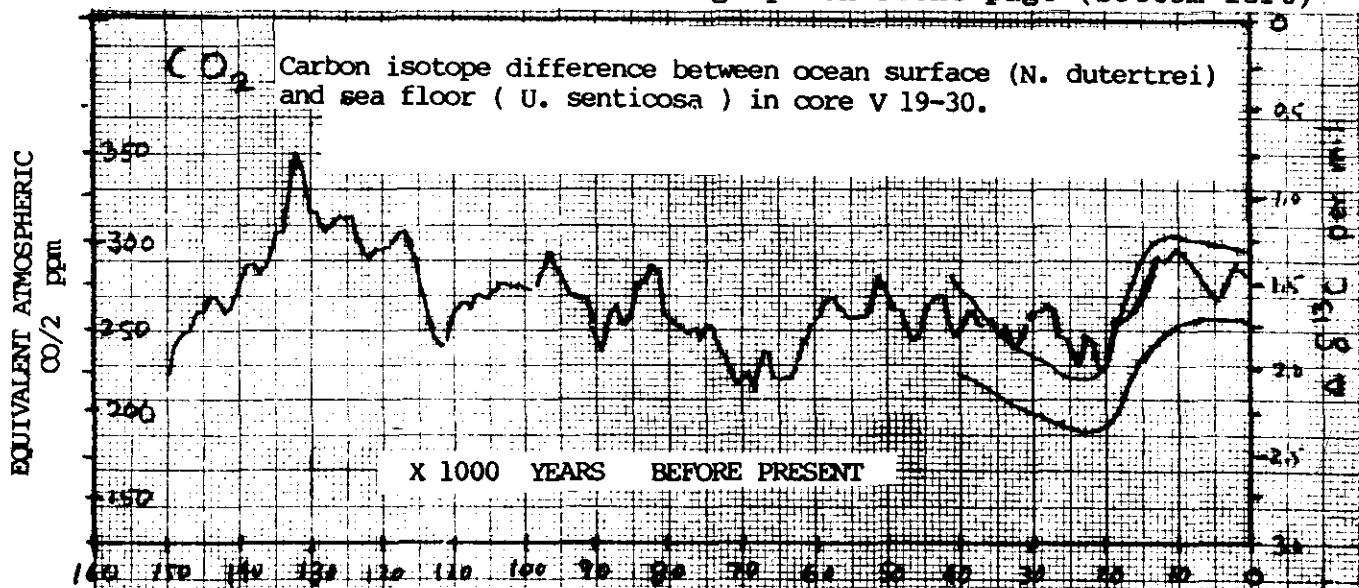
We urge you to join us in this effort. As a member (subscribing or sponsoring) of the Earth Regeneration Society, you will have access to the most current and significant information available. You will receive our monthly newsletter among other things. Most importantly, you will participate in the earth regeneration program. Your contribution will be the best investment you can make for your future. (Please use our order form provided on page 7.)

- end

Approximate Historical Atmospheric Composition.



0 point (present) on the graph below is an average count of the last 485 years. For current information see graph on front page (bottom left)



N. J. Shackleton, M.A. Hall, J. Line, & Cang Shuxi, "Carbon isotope data in core V 19-30 confirm reduced carbon dioxide concentration in ice age atmospheres." *Nature*, Nov. 24, 1983, vol. 306, pp. 319-322 (ERS #96)

PROGRESS IN CONGRESS

ON June 10, 1986 U.S. Senator John Chafee held hearings on ozone depletion and the 'greenhouse effect'. Senator Chafee is Chairman of the Senate Subcommittee on Environmental Pollution.

Senator Chafee introduced a six-point action plan. The points were:

1. Ask the Environmental Protection Agency and the Office of Technological Assessment to conduct separate studies on options to stabilize world levels of atmospheric trace gases, including energy and reforestation options. These studies are to be completed in the next two years.
2. Ask the National Academy of Science to review existing gaps in scientific knowledge about ozone depletion and the greenhouse effect;
3. Ask the Dept. of State to bring the climate change issues to the attention of other nations.
4. Ask the U.N Environment Program and the World Meteorological Organization to expand efforts to assess social and economic consequences of climate change and work towards an international convention on climate change;
5. Ask Epa to coordinate a study on the effects of climate change within the U.S. and to hold public hearings.
6. Ask the President's Council on Environmental Quality to require that ozone depletion, greenhouse effect, and climate change be considered in the NEPA PROCESS.

The Board of Directors of the Earth Regeneration Society have sent Senator Chafee a letter of commendation for these initiatives. Excerpts of that letter are printed later in this section.

We urge all readers to write Senator Chafee and also commend his work to date and to encourage him to continue to expand his work.

John H. Chafee
U.S. Senator
567 Dirksen Building
Washington, D.C.

The following are excerpts from a letter sent from the Earth Regeneration Society to Senator Chafee.

"The Earth Regeneration Society would like to inform you that its Board of Directors have voted to send you a letter of commendation for your efforts to date to stop atmospheric pollution which depletes the earth's protective ozone layer and causes devastating changes in the global climate.

We urge you to pursue your six specific recommendations to the fullest and with the greatest sense of urgency. In our opinion the trigger on the final chamber of the "planetary roulette" gun is now being squeezed.

We would also like to thank you for your courage in honestly stating that there is dissent in the scientific community about the long term effects of the buildup of carbon dioxide. We find it quite objectionable that in our great democracy this very same dissent has been purposefully ignored and excluded from the great debate over this serious threat to all of the world's peoples, technological bases and food supplies. Furthermore, we find it contemptible that federal funds are being used to promote the 'warming only' theories to the virtual complete exclusion of scientific studies which directly contradict this notion. Why, if the world is 'warming' and eventually the polar caps are to melt, is there such a massive water flow out of the equatorial and lower latitudes such that 1) droughts occur in these same lower latitudes and 2) simultaneously there is a massive buildup of snow and ice in the polar regions and all of the northern latitudes have been cooling dramatically since 1945?

We urge you to continue to assist in the process to provide full disclosure of all relevant information on this subject. Without this full disclosure, our institutions will fail us. Given the magnitude of the impending disaster, none of us can afford to have our institutions fail us now."

"WE URGE THAT YOU ADOPT AN EARTH REGENERATION PROGRAM. This program was put forth by our organization three years ago and by others in theory before that. Presently it is being pushed by many people and organizations across our own country as well as internationally."

We are writing to you in regard to a hearing on June 10-11, 1986, held by Senator John H. Chafee, Chair Subcommittee, Environmental Pollution, Committee on Environment and Public Works. Title: Hearing on Ozone Depletion and the Greenhouse Effect. CDC asks your active support of the Chafee proposals."

"We strongly support his proposals and know that backing is needed to get sufficient action going soon enough. We ask you to communicate with Senator Chafee and members of his Subcommittee your encouragement and assistance in whatever way possible for the six areas of action he enumerated in his news release.

We consider as particularly important the proposal to ask the Congressional Office of Technology Assessment to expedite studies directed to setting forth policy options on climate stabilization. He specifies conservation and alternative energy technology, rates of deforestation, and reforestation efforts. We urge you to emphasize that reforestation includes bringing back up the mineral level of the soil to support forests in many areas (please see attachments number 599B, 504, 587)."

The following are excerpts from his letter.

"To: Members of Congress, California Delegation

(continued on page 8)

I WANT TO KNOW MORE ABOUT THE EARTH REGENERATION SOCIETY

Name _____ phone () _____

Address _____

State _____ zip _____

I WANT TO CONTRIBUTE.

_____ \$5 donation. I'll receive an order list (information on the glaciation process) and basic information.

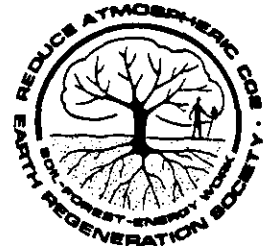
_____ \$5 donation. I'll receive one lapel pin (ERS logo).
(ERS logo shown at right).

_____ \$10.00 donation. I'll receive one T-shirt with
ERS logo printed on it (green with white letters).
___S___Med. ___L___XL \$8.00 for each additional order.

I WANT TO BECOME A MEMBER OF E.R.S.

_____ \$25.00 donation (subscribing member). I'll receive the newsletter and other important mailings. I'll receive a lapel pin, order list and other information.

_____ \$100.00 donation (sponsoring member). I want to help more.
I'll receive all of the above.



Send your check and this coupon to ERS, 1442A Walnut St. #57, Berkeley, CA. 94709

(continued from page 7)

Background

"CDC observes that 1986 is the year to fully open up the climate situation, meaning disclosing fully to the public and starting counter soil, forest and energy measures to try and stabilize conditions before it is too late.

This has been ten years in the coming. There has been a charade for ten years. The charade is over! "

"How long will the Government of our Country continue to support financially and organizationally the "warming only" charade when the losses are mounting worldwide in the millions of lives and billions of dollars of crops, homes, and utilities due to the intense climate change as we move into glaciation?"

Solutions

"We know that there are solutions to these problems. Senator Chafee has identified some of them and the ideas in an earth regeneration program fill in many more of the gaps.

We should know within the next eight to ten years whether or not a massive, world-wide, earth regeneration program (487A) will be sufficient to stop the process and re-establish the earth/atmosphere balance, with CO₂ slowly being brought back to the level which will allow human civilization to survive. Both food and technology are already under stress."

"Soils and forests are the basis of an earth regeneration program (ERP). The supplement to our ERP is energy conservation and alternative energy technology development. I say "our" since the realities in nature are forcing us to finally move on this work, the whole of human civilization is at risk, and you are the ones to legislate the program of physical work and continuing research and planning in the U.S. — and international cooperation by the U.S."

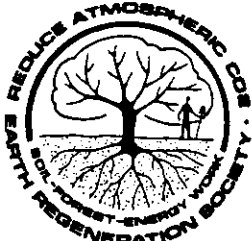
"We urge you to support the Chafee June 10 proposals and begin immediately in supporting physical work to reduce atmospheric carbon dioxide.

Robert Farran, President

cc: Members of the Senate Subcommittee on Environmental Pollution."

A NEWSLETTER ABOUT CYCLES OF GLACIATION, THE NEGATIVE EFFECTS OF AN INTERGLACIAL/GLACIAL TRANSITION ON LIVING SPECIES, AND A COUNTER PROGRAM.

EARTH REGENERATION SOCIETY
1442A WALNUT ST. #57
BERKELEY, CA. 94709



BULK MAIL
U.S. POSTAGE
PAID
Berkeley, CA.
Permit No. 163