

FOIA MARKER

**This is not a textual record. This is used as an
administrative marker by the William J. Clinton
Presidential Library Staff.**

Collection/Record Group: Clinton Presidential Records
Subgroup/Office of Origin: Council on Environmental Quality
Series/Staff Member: Kathleen (Katie) McGinty
Subseries:

OA/ID Number: 2615
FolderID:

Folder Title:
"Ozone Crisis"

Stack:	Row:	Section:	Shelf:	Position:
S	61	5	7	1

Ozone Hole May Harm Marine Life

UV Light in Lab Test Alters Plankton Genes

By William Booth
Washington Post Staff Writer

Researchers have found the first evidence that marine plants in the ocean around Antarctica, the tiny organisms upon which a vast ecosystem depends, are damaged by the ultraviolet light that pours through the seasonal hole in the ozone layer.

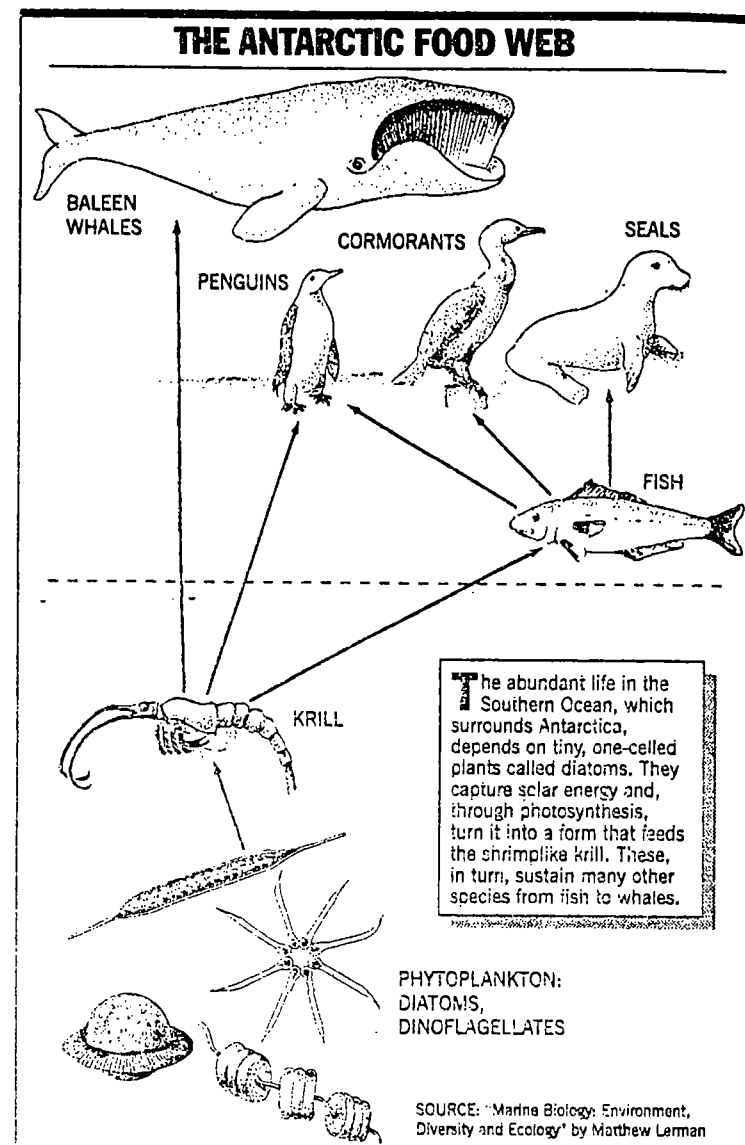
Scientists caution that the work is preliminary and may not accurately reflect what is happening in Antarctic waters. But laboratory tests at Palmer Station in Antarctica show that ultraviolet (UV) radiation can alter the genes of common species of Antarctic phytoplankton, the one-celled marine plants that sustain a food web that includes krill, fish, penguins and whales.

The findings were announced yesterday by the National Science Foundation, which pays for the work. The research will be published in the *Antarctic Journal* and in *Marine Biology*.

The scientists found that different species of phytoplankton respond differently to the same dose of ultraviolet. The UV light caused mutations in the plants' DNA, some of which were lethal. Some species suffered much DNA damage, while others escaped with little.

"We found a very large range in abilities of these organisms to survive UV. Some species were very resistant and were still able to divide and reproduce. In others, a small amount of UV produced a drastic reduction in their ability to divide," said Deneb Karentz of the University of California at San Francisco, who did the studies with colleague David Mitchell. "Essentially we observed a wide range of responses. It's possible the same thing would be happening in the field."

Karentz said such variations in response mean it is possible that some species would proliferate, while others might die back. A change in species composition of phytoplankton would have unknown effects on the Antarctic ecosystem,



BY TOBEY—THE WASHINGTON POST

though Karentz and other scientists said it is possible it could disturb the food web.

While the UV doses delivered in the lab were greater at any one moment than those experienced in Antarctic waters, the studies are thought to reflect the relative sensitivity of the marine plants.

"One of the big questions is what the ultraviolet will do to species composition," said Greg Mitchell of the Scripps Institution of Oceanography in San Diego. "At the present time, I don't know if anyone could say what a change in species mix would do."

In Antarctica, especially during the annual algae blooms, the most common marine plants are diatoms, which have glasslike shells made of silica. These and other plants are eaten by krill and other small animals called copepods, which graze on the floating marine plants like sheep on grass.

Research by Robin Ross and Langdon Quetin of the University of

California at Santa Barbara suggests that krill may be more likely to catch and eat the larger plants than smaller ones. "It looks like most of their selection is based on size," Ross said.

Ross said if the larger plants are depleted by UV damage, the krill may go hungry.

Scientists say they have not yet detected any change in the Antarctic ecosystem that they can attribute to the annual appearance of the ozone hole, which is caused by pollution of the atmosphere with chlorofluorocarbons, or CFCs, which are used as aerosol propellants, refrigerants and plastic foaming agents.

Natural fluctuations from year to year make it difficult to see what effect, if any, the increased ultraviolet has had since the ozone hole was discovered a decade ago. A large expedition funded by the National Science Foundation to study the effects of ozone hole on Antarctic marine life is set for this fall.

2 Space Flights to Use U.S. Ozone Monitors

WASHINGTON, July 30 (Reuters) — The United States will put monitoring equipment aboard Soviet and Japanese spacecraft in two joint unmanned missions to gauge damage to the earth's protective ozone shield, the National Aeronautics and Space Administration has announced.

An American device called the Total Ozone Mapping Spectrometer will fly on a Soviet spacecraft in 1991 and on a Japanese craft four years later, NASA said.

"The flight of the instrument will

provide crucial environmental data on the yearly variability of the ozone hole over Antarctica," the space agency said.

Scientists say man-made pollutants are digging a hole in the stratospheric ozone layer, which protects the earth from ultraviolet rays that increase cancer risks. The losses are caused by chlorofluorocarbons, chemicals that are used as refrigerants and in electronic cleansers, and foam insulation materials.



John Wiley & Sons, Inc.
605 Third Avenue
New York, NY 10158-0012
212-850-
Telex 12-7063
Cable JONWILE

June 6, 1989

Mr. Rick Adcock
Ms. Marla Romash
Office of Senator Al Gore
SR 393 Russell Building
Washington, DC 20510

Dear Rick and Marla,

Just a quick note to thank you for taking the time to meet with Ted and me last Friday. I found our meeting very informative, and I continue to be excited about the possibility of Senator Gore's writing a book for Wiley. Please don't hesitate to call anytime if you have any questions, or if there is any further information we can provide.

Thanks again, and I look forward to hearing from you.

Sincerely,

A handwritten signature in cursive script, appearing to read 'David Sobel'.

David Sobel
Executive Editor

President: Hope Kobak
Editor: Anne Lursen
Associate Editor: Jeffrey P. Zaleski
YA/Children's Editor: Joanna Rudge Long
Business Manager: Nancy Place
Editorial Assistant: Mary Daley

Senior Contributors: W. Eric Aiken, Jane Alexandre,
Joyce Kilmer, Joseph Cummins,
Thomas DeFietto, Peter French,
Robert Grodz, Paul Laney,
Betty Lichtenberg, Anne Mendelson,
Donald Newkove, Albert Pyle,
Eve Robins, Joan Wilentz

Jim Kobak's

KIRKUS
REVIEWS

200 East Avenue South, New York, NY 10003 (212) 777-8554 Fax: (212) 879-3352

D-712
7/25
Roan, Sharon
OZONE CRISIS: *The
15-Year Evolution of
a Sudden Global
Emergency*
Wiley \$18.95
7/25 SBN: 471-61985-X

6-1-89

One is first amazed at the title: Can it really be 15 years since "ban the can"? Fifteen years in which aerosols containing chlorofluorocarbons were outlawed, while other "essential" CFCs (in refrigerants, air-conditioners, etc.) were allowed? Yes, as science-writer Roan emphatically chronicles in this first-rate description of the politics, the personae, and the science behind the current crisis.

Gratifyingly, heroes emerge here who maintained their reasoned demeanor while continuing to push the science to more and more definitive proof: CFCs *do* make their way to the stratosphere; there, they trigger a catalytic destruction of ozone, the thin layer that absorbs ultraviolet rays and thereby protects living organisms from skin cancer and mutations, as well as climatological change. Sherwood Rowland and Mario Molina were the pair who first discovered the effect in 1973 through their theoretical modelling. The cast then expands to include experimentalists with balloons, satellite instrumentation and, finally, an obscure British team who actually discovered a "hole" in the ozone over the Antarctic. That finding, plus the smoking gun evidence that CFCs were abundant in the atmosphere, has again triggered political action (but not enough) after an unconscionable lull—a decade of do-nothingness while the actual production of CFCs increased. The reasons? The decontrol of the Reagan Administration. The opposition of industry. The reluctance of more industrialized and Third World countries to look for (more expensive) substitutes.

A sad commentary on ostrich-like behavior. All well and truly told.

VOYAGE OF AMERICAN PROMISE

by *Dodge Morgan*, Houghton Mifflin, \$24.95 ISBN 0-395-44096-3
"I find these days moving by the legs of a spent runner." Three years later Dodge Morgan sailed into a tropical cyclone in the Southern Pacific and in the next 24 hours made nautical miles under bare poles. Morgan's nonstop solo circumnavigation of the globe, east to west, was a series of chills and thrills, ups and downs, and the fulfillment of a dream. Morgan, age 53, retired and financially secure, he commissioned the design and construction of a boat that, with back-up systems and state-of-the-art mechanical and electrical equipment, could withstand six months of continuous sailing under any condition. *American Promise*, a 60-foot cutter, was completed in less than nine months. In October 1985, Morgan set out from Portland, Maine, only to limp to Bermuda when the self-steering gear failed. After repairs, he set out again, returned triumphant to Bermuda 150 days later. This first-class adventure for sailors and armchair sailors alike. Photos. (July)

ERNOBYL: A Documentary Story

by *Shcherbak*, translated by *Ian St. Martin*, \$29.95 ISBN 0-312-15315-3
A workmanlike report heavily studied with eyewitness testimony, Ukrainian science writer Shcherbak offers a gripping closeup of the still-unfolded nuclear nightmare that rocked the Pribaltic power plant and the surrounding region in 1986. He interviewed victims of radiation sickness, the workers forced to evacuate the danger zone, fire fighters who helped contain a greater catastrophe, helicopter pilots, scientists, doctors, government officials. Besides capturing the shock, trepidation, anger and courage of ordinary people, the author (who is also a physician, novelist and environmentalist) airs many questions that have nagged other observers in the U.S.S.R. and elsewhere, such as: Why did the evacuation take so long? Why weren't those who lived downwind fully apprised of potential dangers? This account concludes with the warning that nuclear plants must be built safer, yet it implicitly rejects a shutdown of the nuclear power industry. (July)

PISTOLETTO

by *Ennio Celant*, translated by *John Neugroschel*, Rizzoli, \$40 ISBN 0-692-24102-4
Inventive, energy-giving, chameleonic in his constant changes, Italian artist Michelangelo Pistoletto came to prominence in the 1960s with his "arte

povera" pieces, which wed scraps of wood, string and cardboard into objects of forlorn, mysterious beauty. This monograph profiles a practitioner of inner monologues, visual tricks, enigmatic installations, conceptual sculptures. Pistoletto turns a lava-like spray of bronze into an ocean wave. He launches witty assaults on art history and erects marble figures that strive for weightless monumentality. The pensive men and women in his "mirror paintings"—tissue-paper cutouts fixed onto polished stainless-steel surfaces—are eerie, ghostlike presences. Just when you think you've begun to take the measure of this polymath, he takes a different tack, inventing an archaic-looking temple or meditating on illusion versus reality in photo-collages and mirror installations. The running commentary by Celant, a contributing editor of *Artforum*, is marred by pedantic use of obscure academic terms. (July)

OZONE CRISIS:

The 15-Year Evolution of a Sudden Global Emergency

by *Sharon Roan*, Wiley, \$18.95 ISBN 0-471-61985-X

Damage to the Earth's fragile ozone layer by airborne chlorofluorocarbons (CFCs), used in aerosols and refrigerants, was strongly suspected by scientists as early as 1973. But it was not until 15 years later that the U.S. ratified an international agreement restricting CFC use—and that pact only limits CFC emissions by about one-third. Science writer Roan looks at this many-sided controversy in her balanced, disturbing report, a remarkable tale of government and corporate foot-dragging, public indifference, environmentalists' furor and scientific experiment. The discovery that CFC-related ozone depletion, besides letting in dangerous ultraviolet radiation, can fuel the greenhouse effect and thus overheat the planet did not prompt decisive action. A turning point came only in 1984 with the shocking detection of a seasonal hole in the ozone layer over Antarctica. Those who favor a complete phase-out of "ozone-eating" chemicals will find plenty of ammunition in this dossier. Photos. Author tour. (July)

THE BENNY HILL STORY

by *John Smith*, St. Martin's \$16.95 ISBN 0-312-02867-9

Alongside the sophisticated humor of *Punch* and Noel Coward, there has long existed in England music-hall comedy—vulgar, obvious and filled with leaden double entendres. The most visible modern practitioner of this latter style is Benny Hill, the darling of British TV whose shows have aired in 80 countries. Smith, a former reporter for

the London *Daily Mirror*, recounts Hill's moderate early success on the stage and his decision to concentrate on television, a medium ideally suited to his raised eyebrows, winks and smirks (the U.K. press has dubbed him King Leer). Perhaps more interesting than his comedic techniques is the man himself, very much a loner and so deeply rooted in the lower middle class that he prefers a bus or subway to a limousine and enjoys the simplest of foods. Hill's fans should make this biography a success. Photos. (July)

THE SACRED MOUNTAIN OF TIBET: On Pilgrimage to Kailas

by *Russell Johnson and Kerry Moran*, Park Street (Harper & Row, dist.), \$24.95 ISBN 0-89281-325-3

Pyramid-shaped, snowcapped Mount Kailas rises more than 22,000 feet above sea level in the Himalayas of western Tibet. No climber has tainted its slopes, for Kailas has been sacred for over 1000 years. To followers of Bonpo, the pre-Buddhist animist religion of Tibet, it is the "soul" of the region; to Hindus, the throne of Shiva; to these, to Jains and to Buddhists, Kailas is the divine taken physical form. Kailas is also key to a question that once puzzled geographers: the sources of India's four great sacred rivers, the Indus, the Brahmaputra, the Sutlej and the Karnali (a tributary of the Ganges) are all found in this region. In 1987, the authors joined more than 5000 other pilgrims in circumambulating Kailas. Johnson's first-rate color photographs are placed to enhance Moran's clear and informative commentary, which concludes with a brief, wise discussion of the mountain's "secret" and what one finds there: "A mountain. A lake. So high." (July)

FROM BEIRUT TO JERUSALEM

by *Thomas L. Friedman*, Farrar, Straus & Giroux, \$19.95 ISBN 0-374-15894-0

Friedman, who twice garnered the Pulitzer as a *New York Times* correspondent in Lebanon and Israel, further delineates the two countries in this provocative, absorbing memoir cum political and social analysis. A condensed, incisive history of the Middle East is proffered, as well as personal reflections on his 10-year sojourn: the issue of Friedman's Jewishness in Beirut, the fact that he was the *Times*'s first Jewish reporter in Israel, the bombing of his apartment in Beirut by the PLO, which took the lives of his Lebanese news assistant's children. A top-flight observer and interpreter, the author elucidates the complex religious factions obstructing Lebanese and Israeli politics; the agendas of various posturing, media-loving Arab and Israeli leaders; the perversity of daily life in "Wild West Beirut"; the



John Wiley & Sons, Inc.
605 Third Avenue
New York, NY 10158-0012
212-850-
Fax 212-850-6088
Telex 12-7063
Cable JONWILE

May 23, 1989

Senator Al Gore
United States Senate
SR 393 Russell Building
Washington, CD 20510

Dear Senator Gore,

I am pleased to enclose two copies of Sharon Roan's Ozone Crisis: The 15 Year Evolution of a Sudden Global Emergency. On behalf of the author and John Wiley & Sons, I would like to thank you very much for providing us with such an excellent foreword for the book. We are confident that your association with Ozone Crisis will help to promote the book and renew a commitment to action among the book's readers.

Again, we sincerely appreciate the efforts made by you and your staff to produce the foreword to Ozone Crisis.

Sincerely,

David Sobel
Executive Editor
Wiley Science Editions

DS:nw

encl: 2 copies Ozone Crisis



John Wiley & Sons, Inc.
605 Third Avenue
New York, NY 10158-0012
212-850-
Telex 12-7063
Cable JONWILE

April 25, 1989

Mr. Rick Adcock
Office of Senator Albert Gore
United States Senate
Washington, DC 20510

Dear Rick,

I'm writing for a couple of reasons. First, I wanted to thank you again for all your help with the foreword to Sharon Roan's book, Ozone Crisis. The book will be ready in about a month, and I will send you some copies as soon as they arrive from the printer.

Secondly, I thought it wouldn't hurt to ask if Senator Gore himself had ever given any thought to writing and publishing his own book on the environment. I have seen several recent essays by the Senator, and also am aware that he is currently sponsoring ground-breaking environmental legislation in Congress. I doubt this is a new idea to any of you, but please just keep in mind that John Wiley would be very interested in working with you and the Senator on such a project. Please feel free to call me any time to discuss the possibilities.

Thanks again for your help and consideration. I look forward to hearing from you soon.

Sincerely,

A handwritten signature in cursive script, appearing to read 'David Sobel'.

David Sobel
Executive Editor



John Wiley & Sons, Inc.
605 Third Avenue
New York, NY 10158-0012
212-850-
Telex 12-7063
Cable JONWILE

212/692-6695

May 24, 1989

Rick Adcock
Office of Senator Al Gore
United State Senate
SR 393 Russell Building
Washington, DC 20510

Dear Rick,

Having seen the attached piece by Flora Lewis in today's New York Times, I'm more interested than ever in exploring the possibility of Senator Gore doing a book on the global environmental crisis. I wonder if you've had the opportunity to discuss the idea with him since my last letter.

As it happens, I'll be in Washington for the American Booksellers Association convention, June 2-5. Is there any chance you'd have some time free to discuss this further? If so, please drop me a note, or call at (212) 850-6440. (Also, if you not the right person for me to be speaking with about this, perhaps you could point me in the right direction.)

I look forward to hearing from you.

Sincerely,

A handwritten signature in cursive script that reads 'David Sobel'.

David Sobel
Executive Editor

Sobel was editor for the book "Ozone Crisis," recently published, for which Al wrote the "Forward." This is the second letter from him proposing a book by Al.
Rick

Sharon L. Roan
24575 Sundance Ave.
Laguna Hills, Calif. 92653
March 29, 1989

Rick Adcock
Office of Sen. Al Gore Jr.
U.S. Senate
Washington D.C. 20510

Dear Rick:

Thank you again for your hard work and sincere efforts on the forward for "Ozone Crisis."

I realize you were instrumental in bringing this matter to Senator Gore's attention. It is rare to find people so generous with their time and so willing to help another. Senator Gore's beautifully written forward will have great impact on the book.

We will send copies to your office upon release of the book in late May or early June. Best wishes for continued success.

Sincerely,


Sharon L. Roan

Sharon L. Roan
24575 Sundance Ave.
Laguna Hills, CA. 92653
March 30, 1989

The Honorable Albert Gore Jr.
United States Senate
Washington D.C. 20510

Dear Senator Gore:

Please accept my sincere thanks for writing the forward to my book
"Ozone Crisis."

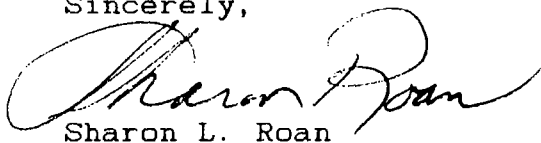
As I stated in my earlier letter to you, the remarks you made during the 1988 campaign on protecting the ozone layer gave me the boost I needed to write the book. (I was five months pregnant at the time I began work on it!) Only then did I realize the significance of the issue and that there were a few dedicated people who would work for ozone protection until it was guaranteed. I had always thought the story was a compelling one, and you motivated me to write it.

I am most pleased that you agreed to provide the forward. Your words have given the book a special strength. My thanks to your aide, Rick Adcock, for his careful attention to the details.

The book is being printed and will be released in late May or early June. Wiley Publishing will provide you with copies.

Senator, I hope to meet you on a future trip to Washington to promote my book. Best of luck with your continuing efforts to save the ozone layer.

Sincerely,

A handwritten signature in cursive script, reading "Sharon L. Roan". The signature is fluid and elegant, with the first name "Sharon" being more prominent than the last name "Roan".

Sharon L. Roan

Foreword to "Ozone Crisis"

SENATOR AL GORE

February 1989

When I began my campaign for the 1988 Democratic nomination, I said that the depletion of the ozone layer, the greenhouse effect, and the global environmental crisis were the most important issues this country would have to face in the next decade and the next century. The political pundits, to put it mildly, were not impressed. Some said that anyone who thought ozone belonged on the next President's agenda was not going to become the next President.

The pundits were right about that, as it turned out, but they were wrong about the issue. After years of neglect, global warming and stratospheric ozone depletion have suddenly become matters of widespread international concern. The escalation of the ozone crisis even jump-started an unprecedented international treaty. While we have hardly begun to make the dramatic changes that will be necessary, it is a revolutionary step for society to recognize the problem at all.

For those who first raised these issues, the sudden awakening of public concern about the global environmental crisis may seem a triumph. At last, people will no longer dismiss the destruction of the earth's stratospheric ozone shield as the stuff of bad science fiction. But the real work now begins. This enormous crisis, which has been staring us in the face for more than a decade, poses daunting challenges that remain to be solved.

Even now, there are those who look for every possible excuse not to act, clinging to the frail human hope that perhaps these problems will somehow go away. Some want to keep waiting for more evidence, for an even clearer picture of the dire consequences we face. Others seem to think it would be easier to adapt to a crisis than prevent it -- in the words of one Reagan Administration official, to deal with holes in the ozone by passing out sunglasses and floppy hats. Almost everyone is overwhelmed by the prospect of solutions that will be harder than anything we have done before.

So even though we can rejoice at some progress -- that for example, the Congress is now considering a ban on the production of ozone-eating chlorofluorocarbons (a step that seemed unthinkable just a few years back) -- the path ahead is still

unimaginably difficult. We know what to do. But we do not yet know whether we have the courage within ourselves to do it.

This book will help us confront that central question. In Ozone Crisis, Sharon Roan recounts the journey of an environmental issue from the laboratory to the international negotiating table. The book profiles the brilliant scientists who saw trouble looming and did everything they could to show the world what it meant. It is a revealing portrait of a society with its head in the sand -- industry, politicians, and the general public stubbornly refusing to accept change.

I hope we can learn from this disturbing saga. It took us 15 years to see what we have done to the atmosphere. We cannot afford to wait another 15 years to clean it up.

Attention: Rick Adcock
Office of U.S. Sen. Albert Gore Jr.
U.S. Senate
Washington D.C.

From: Sharon Roan

Paragraph for foreward:

In "Ozone Crisis" Sharon Roan has chronicled a 15-year story from the discovery that CFCs destroy ozone to the latest international efforts to address this environmental problem. The book identifies the people who saw that a horrendous problem was looming and tried to alert the public, industry and world political leaders to its implications. Readers will see the frustrations, drama and difficulties scientists struggle with daily in their quest to understand the workings of the environment and mankind's effect on nature. Ozone Crisis is also a story of economics and politics. Readers will discover what happened during the years when few people were concerned about the ozone layer and learn of the events that led to an international conference to protect the atmosphere. Finally, the book explores how the ozone crisis is part of the much larger problem of global warming.

PHOTOCOPY
PRESERVATION



WILEY

JOHN WILEY & SONS, INC.

**605 THIRD AVENUE
NEW YORK, NEW YORK 10158 - 0012**

FACSIMILE NUMBER: 212-850-6088

MESSAGE FOR: Rick Adcock

FAX NUMBER: 202/224-0580

FROM: David Sobel

DATE: January 31, 1989

**NUMBER OF PAGES
INCLUDING THIS
PAGE:** 2

**PHOTOCOPY
PRESERVATION**

**IF YOU HAVE TROUBLE WITH THIS TRANSMISSION,
CONTACT:
FRANK WILLIAMS ON VOICE LINE - 212-850-6190**



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Research Laboratories
325 Broadway
Boulder, Colorado 80303-3328

October 15, 1988

Ms. Nancy Woodruff
Wiley & Sons, Inc.
605 Third Avenue
New York, NY 10158-0012

Dear Ms. Woodruff,

Thank you for your letter of September 30. I have read with interest Sharon Roan's manuscript on the ozone crisis. I have already sent several detailed comments and suggestions directly to Sharon.

I think that this an important book at an important time. It is well-written, and accurately describes the sometimes unbelievable turn of events in the history of stratospheric ozone over the past decade and a half. It provides a comprehensive review of how the scientific community and the community of mankind at large has arrived at the state we're at today with regard to understanding and reacting to ozone depletion. The book places particular and appropriate emphasis on the central role played by Professor Rowland of the University of California, Irvine, who was one of the pioneers in the problem and who has tirelessly and sincerely devoted much of his efforts to action both on the scientific and political issues.

This book is of particular importance because the controversy is not yet over. We now know that the ozone over Antarctica decreases during spring of each year due to chlorine abundances put there by man. We do not yet know how large ozone depletion in other parts of the world may become in the future. In spite of the Montreal protocol to control substances hazardous to the ozone layer, the world is still divided as to whether the current controls on these substances are 'enough'. Sharon Roan's authoritative book provides an excellent primer for watching the drama continue to unfold.

If you choose to use any of these quotations, you may wish to refer to me as a research chemist at the National Oceanic and Atmospheric Administration (NOAA), as well as head project scientist of the National Ozone Expedition, McMurdo Station, Antarctica, 1986-1987.

Thank you for asking for my thoughts. I do share your enthusiasm.

Yours sincerely,

Susan Solomon

**PHOTOCOPY
PRESERVATION**

