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2005-0336-F

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# FOIA MARKER

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**Record Group/Collection:** George H.W. Bush Presidential Records  
**Collection/Office of Origin:** Science and Technology Policy, Office of (OSTP)  
**Series:** Bromley, D. Allan, Files  
**Subseries:** Global Climate Change Files

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**OA/ID Number:** 62049  
**Folder ID Number:** 62049-001

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**Folder Title:**  
Environment: General [3 of 6] [1992]

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"Document Control"

TYPE: ACTION DOCUMENT NUMBER: 9202833  
ORIGINATOR: 02 STATUS C DIRECTORATE STATUS C  
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FROM: CONNOLLY, Judy

TO: OSTP

DATE OF  
CORRESPONDENCE: 09/10/92

SUBJECT: SHE IS WRITING TO REQUEST INFORMATION ON THE ROLE  
OSTP PLAYS IN THE FORMULATION OF ENVIRONMENTAL  
POLICY.

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: ENVIRONMENT ASSIGNED:

ACTION STAFF  
REQUIRED: DIRECT REPLY ACTION:

\*\*\*\*\*  
SENDER'S DUE DATE:  
OSTP DUE DATE: 10/06/92 STAFF DUE DATE  
DATE COMPLETED: 10/06/92 DATE COMPLETED/DEPT: 01/12/93  
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COPIES TO:

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WHITE HOUSE TRACKING #: CONTACT PERSON:  
PHONE: EXT:  
REMARKS: OBE END OF ADMINISTRATION NO RESPONSE NECESSARY



OSTP RECEIVED: 09/22/92 DEPT RECEIVED:  
FILE: ENVIRONMENT  
CENTRAL FILES:



9202833

ORIGINATOR: 02 STATUS I DIRECTORATE STATUS  
\*\*\*\*\*

FROM: CONNOLLY, Judy

TO: OSTP

DATE OF  
CORRESPONDENCE: 09/10/92

SUBJECT: SHE IS WRITING TO REQUEST INFORMATION ON THE ROLE  
OSTP PLAYS IN THE FORMULATION OF ENVIRONMENTAL  
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ASSIGNED: ENVIRONMENT ASSIGNED:

ACTION STAFF  
REQUIRED: DIRECT REPLY ACTION:

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SENDER'S DUE DATE:  
OSTP DUE DATE: 10/06/92 STAFF DUE DATE  
DATE COMPLETED: DATE COMPLETED/DEPT:

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COPIES TO:

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WHITE HOUSE TRACKING #: CONTACT PERSON:  
REMARKS: PHONE: EXT:

OSTP RECEIVED: 09/22/92 DEPT RECEIVED:  
FILE: ENVIRONMENT  
CENTRAL FILES:



285-  
RECEIVED

92 SEP 21 A 9: 59

OSTP  
MAIL ROOM

336 College #16785  
Dekalb, IL 60115  
Sept. 10, 1992

OFFICE OF SCIENCE AND TECHNOLOGY POLICY  
611 EXECUTIVE OFFICE BUILDING  
WASHINGTON, DC 20506

Dear Sir or Madame:

I am a college student taking an ENVIRONMENTAL POLICY CLASS. Part of the curriculum is to do a paper on a governmental agency. I chose your agency for my paper because it is vital in policy formulation and implementation. I am MOST INTERESTED in THE ROLE THE OFFICE OF SCIENCE AND TECHNOLOGY plays in environmental policy. Please send me information regarding the history and the mission of this agency. Please include a description of the duties and responsibilities of the employees as well as any other information which you think would be useful in writing the paper. I truly appreciate your time and assistance.

Sincerely,  
May Connolly



Judy Connolly

336 College #16A5

DeKalb, IL 60115

"Document Control"

TYPE: INFORMATION  
ORIGINATOR: 02

DOCUMENT NUMBER: 9203064  
DIRECTORATE STATUS

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FROM: WISE, Donna: WORLD RESOURCES INSTITUTE

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 09/09/92

SUBJECT: SHE IS FORWARDING A COPY OF THE ARTICLE "A POST-RIO  
COMPACT".

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: ASSIGNED:

ACTION STAFF  
REQUIRED: ACTION:

\*\*\*\*\*  
SENDER'S DUE DATE:  
OSTP DUE DATE: STAFF DUE DATE  
DATE COMPLETED: DATE COMPLETED/DEPT:

\*\*\*\*\*  
COPIES TO: D. Allan Bromley  
Nancy Maynard

\*\*\*\*\*  
WHITE HOUSE TRACKING #: CONTACT PERSON:  
PHONE: EXT:  
REMARKS: ENCLOSURES TO ENVIRONMENT PER DAMAR.

OSTP RECEIVED: 10/07/92 DEPT RECEIVED:  
FILE: P-ENVIRONMENT  
CENTRAL FILES:



FAX: \_\_\_\_\_ MAIL: ☒

OSTP #: 9203064

Date of Correspondence: 9/9 ✓

Date of Receipt of Correspondence: 10/7

From: Donna Wise

Affiliation: Vice President, Policy Affairs  
World Resources Institute

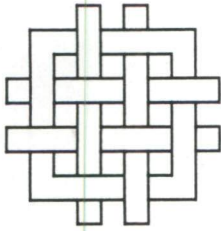
Subject: encloses Gus Speth's article "A Post-Rio Compact"

Action: ☒  
FYI: \_\_\_\_\_

Assign to: \_\_\_\_\_

Due Date: \_\_\_\_\_

Copies to: DAB, Nancy (w/enclosure)



WORLD RESOURCES INSTITUTE

1709 New York Avenue, N.W., Washington, D.C. 20006, Telephone: 202-638-6300  
Facsimile: 202-638-0036 Telex: 64414 WRIWASH

RECEIVED  
02 OCT 7 1992  
OSTP  
MAIL ROOM

September 1992

Dear Friend:

I thought you would find of interest Gus Speth's article, "A Post-Rio Compact," which appears in the current issue of Foreign Policy.

The article develops the idea that the currents of change apparent at the Earth Summit in Rio, coupled with evolving U.S. interests, require fundamental changes in U.S. relations with developing countries. The nature of those changes, the elements of a revamped U.S. Foreign Assistance Act, and a proposal to create a U.S. Sustainable Development Cooperation Agency, replacing the Agency for International Development, are described in the article.

Your comments and reaction would be welcomed.

Sincerely,

Donna Wise  
Vice President, Policy Affairs



# FOREIGN POLICY

NUMBER 88

FALL 1992

## A POST-RIO COMPACT

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*by James Gustave Speth*

Whether America is ready or not, world events are pressing forward, driven by powerful currents of change. One such event was the June 1992 Earth Summit in Rio de Janeiro, where the outlines of the new world order became clear. President George Bush's vision of that order has emphasized mutual security, a goal of extraordinary importance. But Rio suggests that new values, new sources of international strength, and new areas for world leadership are coming to the fore.

First, the Rio conference concentrated on another kind of security—environmental security—and on the need to close the widening gap between the haves and have-nots through accelerated, broad-based development in the poorer countries. The greatest accomplishment of the Earth Summit may lie not in the actual commitments governments made, which were mostly modest, but in the way that the event has shaped the international agenda for years to come. It defined the new international values of equity and environment, linked them inseparably, and dramatized how powerfully they affect North-South relations.

Second, Rio suggested that with the end of the Cold War the goal of diplomacy is shifting from conflict management to common endeavor. Earth Summit diplomacy had little to do with superpower conflict; instead, it focused on building a new system of international responsibility through inclusive multilateral agreements. By the close of the Earth Summit, 154 countries had signed the climate protection convention; 156 had signed the biodiversity protection convention; and 178 had agreed to Agenda 21, an impressively detailed manual that translates

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JAMES GUSTAVE SPETH is president of the World Resources Institute. A version of this article will appear in the forthcoming book from the Citizen Transition Project, *Changing America: Blueprints for a New Democracy*.

"Document Control"

TYPE: ACTION DOCUMENT NUMBER: 9202638  
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS C  
\*\*\*\*\*

FROM: KENDALL, Henry: UNION OF CONCERNED SCIENTISTS

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 08/27/92

SUBJECT: HE IS WRITING TO REQUEST THAT DR. BROMLEY JOIN THEM  
IN SIGNING THE ENCLOSED "WORLD SCIENTISTS' WARNING  
TO HUMANITY" TO EMPHASIZE TO ALL PEOPLES THE URGENT  
NEED FOR CHANGE.

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: ENVIRONMENT ASSIGNED: Nancy Maynard

ACTION STAFF  
REQUIRED: AS NECESSARY ACTION:

\*\*\*\*\*  
SENDER'S DUE DATE:  
OSTP DUE DATE: 09/14/92 STAFF DUE DATE  
DATE COMPLETED: DATE COMPLETED/DEPT: 01/07/93

\*\*\*\*\*  
COPIES TO: D. Allan Bromley  
INTERNATIONAL/POLICY

\*\*\*\*\*  
WHITE HOUSE TRACKING #: CONTACT PERSON:    
PHONE: EXT:  
REMARKS: Closed out as unfinished action item.

OSTP RECEIVED: 09/01/92 DEPT RECEIVED:  
FILE: P-ENVIRONMENT  
CENTRAL FILES:



# UNION OF CONCERNED SCIENTISTS

RECEIVED

92 SEP 1

POST  
MAIL ROOM

2638  
Allan: hope you can join OS.  
If not, you'll see our concerns.  
✓  
Henry Kendall

August 27, 1992

D. Allan Bromley, Ph.D.  
Office of Science & Tech Policy  
The White House  
Washington, DC 20500

Dear Dr. Bromley:

The increasing pressure on the global systems that we and all life depend on has now become a grave concern. Present human activities are putting our world at risk, and there is little sign of a change in course.

This letter is to request that you join with us in signing the enclosed "World Scientists' Warning to Humanity" to emphasize to all peoples the urgent need for change.

In brief, the Warning outlines the stress on the global environment and on important resources posed by mismanagement, overconsumption, and continued population growth. It emphasizes the obstacles to reducing and eliminating this stress, and sets out the nature of the changes that will be needed.

The Warning is being mailed to the world community of senior scientists, asking for their endorsement. The Union of Concerned Scientists will be using these endorsements as the opening of a sustained campaign in the United States, Europe, and elsewhere in support of public education about the problems that lie ahead.

The campaign's aim is to improve public knowledge of threats to our global systems and to gain support for the necessary changes. The main issues are set out in the statement, issues that we are sure you are familiar with. They badly need authoritative telling, something the scientific community has the credibility to effect. Please join us.

Your endorsement will be strictly limited to the contents of the Warning and will be made public by the Union of Concerned Scientists. Your institutional affiliation will be listed for identification purposes only. If you wish, please add a few sentences of comment that could be made public along with the Warning. All signatories will be sent a final list of endorsers.

26 Church Street Cambridge, MA 02238 617-547-5552 FAX: 617-864-9405

Washington Office: 1616 P Street, NW Suite 310 Washington, DC 20036 202-332-0900 FAX: 202-332-0905

If you agree, kindly return your statement of agreement to the Union of Concerned Scientists, 26 Church Street, Cambridge, Mass. 02238, USA.

Sincerely,

*Christian Anfinsen*  
Christian Anfinsen\*  
Johns Hopkins University

*Norman E Borlaug*  
Norman Borlaug\*  
Wheat Improvement Center, Mexico

*Carlos Chagas*  
Carlos Chagas  
University of Rio de Janeiro

*Murray Gell-Mann*  
Murray Gell-Mann\*  
Calif. Inst. of Technology

*Dorothy Hodgkin*  
Dorothy Crowfoot Hodgkin\*  
University of York

*Henry W Kendall*  
Henry W. Kendall\*  
Chairman, Union of Concerned Scientists  
Mass. Inst. of Technology

*George J. F. Kohler*  
George J. F. Kohler\*  
Max Planck Institute

*Rita Levi Montalcini*  
Rita Levi-Montalcini\*  
Inst. of Neurobiology, CNR

*Ernst Mayr*  
Ernst Mayr  
Harvard University

*M. G. K. Menon*  
M. G. K. Menon  
Member of Parliament, India

*Yuri Ossipyan*  
Yuri Ossipyan  
Russian Academy of Sciences

*John C. Polanyi*  
John C. Polanyi\*  
University of Toronto

*Peter H. Raven*  
Peter Raven  
Missouri Botanical Garden

*Roald Sagdeev*  
Roald Sagdeev  
University of Maryland

*Frederick Sanger*  
Frederick Sanger\*  
Medical Research Council

*Jack Steinberger*  
Jack Steinberger\*  
Center for European Nuclear Research

*Tan Jia-zhen*  
Tan Jia-zhen  
Inst. of Genetics, Shanghai

*James Tobin*  
James Tobin\*  
Yale University

*Susumu Tonegawa*  
Susumu Tonegawa\*  
Mass. Inst. of Technology

*Victor F. Weisskopf*  
Victor Weisskopf  
Mass. Inst. of Technology

*Thomas H. Weller, MD*  
Thomas Weller\*  
Harvard School of Public Health

*Zhou Guang-zhao*  
Zhou Guang-zhao  
Chinese Academy of Sciences

*Lord Zuckerman*  
Lord Zuckerman  
University of East Anglia





# WORLD SCIENTISTS' WARNING TO HUMANITY

I agree to serve as a Sponsor of the World Scientists' Warning to Humanity.  
You may publicize my endorsement of the statement.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Institutional Affiliation(s) (for identification purposes only):

Honors and Awards:

314286 SBA  
D. Allan Bromley, Ph.D.  
Office of Science & Tech Policy  
The White House  
Washington, DC 20500



# WORLD SCIENTISTS' WARNING TO HUMANITY

I agree to serve as a Sponsor of the World Scientists' Warning to Humanity.  
You may publicize my endorsement of the statement.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Institutional Affiliation(s) (for identification purposes only):

Honors and Awards:

314286 SBA  
D. Allan Bromley, Ph.D.  
Office of Science & Tech Policy  
The White House  
Washington, DC 20500

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# WORLD SCIENTISTS' WARNING TO HUMANITY

## INTRODUCTION

Human beings and the natural world are on a collision course. Human activities inflict harsh and often irreversible damage on the environment and on critical resources. If not checked, many of our current practices put at serious risk the future that we wish for human society and the plant and animal kingdoms, and may so alter the living world that it will be unable to sustain life in the manner that we know. Fundamental changes are urgent if we are to avoid the collision our present course will bring about.

## THE ENVIRONMENT

The environment is suffering critical stress:

### The Atmosphere

Stratospheric ozone depletion threatens us with enhanced ultra-violet radiation at the earth's surface, which can be damaging or lethal to many life forms. Air pollution near ground level, and acid precipitation, are already causing widespread injury to humans, forests and crops.

### Water Resources

Heedless exploitation of depletable ground water supplies endangers food production and other essential human systems. Heavy demands on the world's surface waters have resulted in serious shortages in some 80 countries, containing 40% of the world's population. Pollution of rivers, lakes and ground water further limits the supply.

### Oceans

Destructive pressure on the oceans is severe, particularly in the coastal regions which produce most of the world's food fish. The total marine catch is now at or above the estimated maximum sustainable yield. Some fisheries have already shown signs of collapse. Rivers carrying heavy burdens of eroded soil into the seas also carry industrial, municipal, agricultural, and livestock waste - some of it toxic.

### Soil

Loss of soil productivity, which is causing extensive land abandonment, is a widespread byproduct of current practices in agriculture and animal husbandry. Since 1945, 11% of the earth's vegetated surface has been degraded - an area larger than India and China combined - and per capita food production in many parts of the world is decreasing.

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Developing nations must realize that environmental damage is one of the gravest threats they face, and that attempts to blunt it will be overwhelmed if their populations go unchecked. The greatest peril is to become trapped in spirals of environmental decline, poverty, and unrest, leading to social, economic and environmental collapse.

Success in this global endeavor will require a great reduction in violence and war. Resources now devoted to the preparation and conduct of war — amounting to over \$1 trillion annually — will be badly needed in the new tasks and should be diverted to the new challenges.

A new ethic is required — a new attitude towards discharging our responsibility for caring for ourselves and for the earth. We must recognize the earth's limited capacity to provide for us. We must recognize its fragility. We must no longer allow it to be ravaged. This ethic must motivate a great movement, convincing reluctant leaders and reluctant governments and reluctant peoples themselves to effect the needed changes.

The scientists issuing this warning hope that our message will reach and affect people everywhere. We need the help of many.

We require the help of the world community of scientists — natural, social, economic, political;

We require the help of the world's business and industrial leaders;

We require the help of the world's religious leaders; and

We require the help of the world's peoples.

We call on all to join us in this task.



"Document Control"

TYPE: INFORMATION

DOCUMENT NUMBER: 9202487

ORIGINATOR: 02

STATUS C

DIRECTORATE STATUS

\*\*\*\*\*

FROM: EBERT, ANDREW: INTERNATIONAL FOOD ADDITIVES COUNCIL

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 08/21/92

SUBJECT: LETTER REGARDING FOOD ADDITIVES PURSUING MORE  
EXTENSIVE REGULATION OF PHOSPHORIC ACID AND  
INDUSTRIAL PHOSPHATES.

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: ASSIGNED:

ACTION STAFF  
REQUIRED: ACTION:

\*\*\*\*\*  
SENDER'S DUE DATE:  
OSTP DUE DATE: STAFF DUE DATE  
DATE COMPLETED: DATE COMPLETED/DEPT:

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COPIES TO: ENVIRONMENT  
D. Allan Bromley

\*\*\*\*\*  
WHITE HOUSE TRACKING #: CONTACT PERSON:  
PHONE: EXT:

REMARKS:

OSTP RECEIVED: 08/21/92  
FILE: P-ENVIRONMENT

DEPT RECEIVED:

CENTRAL FILES:

INTERNATIONAL  
**Food  
Additives  
Council**

SUITE 500 G • 5775 PEACHTREE-DUNWOODY ROAD • ATLANTA, GEORGIA 30342 • (404) 252-3663

2487

August 21, 1992

Mr. Dennis Ross  
Assistant to the President for Policy Planning  
The White House  
Washington, D.C. 20500

RECEIVED  
92 AUG 27 10:31  
OSTP  
MAIL ROOM

Dear Mr. Ross:

The U.S. Environmental Protection Agency is pursuing more extensive regulation of phosphoric acid and industrial phosphates under Section 313 of the EPCRA, Title III of the Superfund law. EPCRA imposes extensive annual reporting requirements on all listed toxic pollutants. Reported information, in turn, forms the basis for direct regulatory controls in twelve States.

Further information-gathering on phosphoric acid and phosphates under EPCRA is not only unjustified, but potentially economically harmful. Discussions with EPA officials have revealed sympathy to our point of view on the merits but have indicated that, absent a legislative change, EPA will proceed on its proposed course of action.

In the past, EPA has demonstrated considerable administrative flexibility, and could do so in this case. EPCRA §313 has three clear criteria for listing a substance as toxic: (1) acute human health effects; (2) chronic human health effects; and (3) significant adverse impacts on the environment due to toxicity.

Phosphates are not only omnipresent in the environment; they are also essential human nutrients, deemed "Generally Recognized As Safe" by the Food and Drug Administration, naturally present in every living organism, and in thousands of name brand food and beverage products. To the extent that there are water quality concerns created by phosphates, such concerns are caused by the beneficial effects of phosphates in promoting plant growth. Scientific evidence has established that phosphoric acid and phosphates are less toxic than common household table salt, and far less toxic than a number of other substances EPA has already declared non-toxic and "delisted" from all reporting or regulatory requirements. Thus, the inclusion of phosphoric acid and phosphates under Section 313 of EPCRA is unjustified and will also confuse the public.

EPA's second rationale for using EPCRA §313 is to collect more information on phosphate releases, yet use of EPCRA is limited to industrial discharges, which comprise only 5% of all releases, and will provide no information on the remaining 95% of all phosphate releases, which come from agricultural run-off, other non-point sources, and sewage treatment plants. Additionally, while EPCRA §313 is technically only an information collection statute on the



federal level, it triggers state-level toxic use reduction requirements, and therefore, cannot be termed merely an information-gathering tool.

Despite this questionable basis for its position, EPA appears intent on continuing and broadening EPCRA §313 coverage of phosphoric acid and phosphates. Any such stretch of regulatory authority beyond statutory authority should be for a sound public policy purpose which cannot be accomplished in any other way. Use of EPCRA §313 is unwarranted in this case because EPA already has the authority to obtain whatever information it needs to study and, if needed, further control all phosphate dischargers under the Clean Water Act.

The mandate the President issued when he imposed a moratorium on anti-growth regulations was intended precisely to address this type of problem -- selective regulatory interpretations of statutory authority. Consequently, we urge the EPA proposals be evaluated as a case study under the President's regulatory moratorium. The attached policy paper summarizes the economic, technical, and legal bases of our request.

The proposed EPA action is an excellent example of why the moratorium is so important to protect jobs and economic growth. Hundreds of millions of dollars in U.S. business and a significant number of jobs are at risk, many of them in rural America, with no resultant environmental benefit. We would appreciate your review of this EPA proposal and would be pleased to present our concerns in greater detail to you and your staff.

Sincerely,



Andrew G. Ebert, PhD.  
Executive Director  
International Food Additives Council

cc: Michael Boskin, Chairman, Council of Economic Advisors  
Allan Bromley, Assistant to the President and Director, Office of Science and Technology  
Richard Darman, Director, Office of Management & Budget  
Boyden Gray, Counsel to the President  
David McIntosh, Director, President's Council on Competitiveness  
William K. Reilly, Administrator, Environmental Protection Agency



**PHOSPHORIC ACID AND PHOSPHATES:  
ESSENTIAL NUTRIENTS THAT SHOULD NOT BE  
MISTAKENLY REGULATED AS TOXIC SUBSTANCES**

**I. Issues Raised by the EPA Proposal**

- ▶ Should EPA be allowed to employ the Emergency Planning and Community Right-to-Know Act (EPCRA) to impose additional regulatory requirements on industry for phosphoric acid and industrial phosphates when neither shows toxicity to human health and the environment and when authority to gather additional information and further regulate phosphates, if necessary, already exists under the Clean Water Act?
- ▶ Should EPA be allowed to use EPCRA to label phosphoric acid and phosphates -- food additives safer than table salt -- as toxic, thus creating unnecessary conflicts with existing science and the Food and Drug Administration?
- ▶ In the spirit of the Presidential regulatory moratorium, should the Administration consider as a case study EPA's effort to use the EPCRA's §313 Toxic Release Inventory (TRI) to impose inappropriate regulations on phosphoric acid and industrial phosphates?

**II. EPA's Selective Interpretation of EPCRA §313 Regulatory Requirements**

- ▶ Once the President's regulatory moratorium expires, EPA plans to deny the industry petition to delist phosphoric acid from coverage under EPCRA §313 and intends to create an additional TRI category for phosphates.
- ▶ Section 313 of EPCRA requires industrial facilities that manufacture, process or otherwise use certain toxic chemicals to report annually their environmental releases and transfers of such chemicals. In turn, the U.S. EPA must compile these industry reports into an annual inventory known as the Toxic Release Inventory (TRI) which is available to the public in a computerized database.
- ▶ Legally, EPCRA §313 requires the listing of substances which cause:
  - Significant adverse acute human health effects.
  - Cancer or teratogenic effects, or serious or irreversible reproductive dysfunctions, neurological disorders, heritable genetic mutations or other chronic health effects.
  - Significant adverse effects on the environment due to their toxicity, toxicity and persistence, or toxicity and tendency for bioaccumulation.
- ▶ EPA refuses to delist phosphoric acid because it appears on the initial statutory list, despite (1) the petition process set forth in the statute which provides for administrative delisting of such substances and (2) EPA's removal from the list of other substances which seem to fit the criteria more than phosphoric acid.

- ▶ EPA's sole basis for creating the phosphate category and not delisting phosphoric acid is a theoretical indirect environmental impact (i.e, the capability of phosphates to contribute to eutrophication).
- ▶ In its *Federal Register* notice, EPA has already conceded that direct human and environmental exposures to phosphoric acid are far below the levels expected to cause acute or chronic effects. As noted below, EPA has not demonstrated significant, real-world environmental impacts from phosphoric acid and phosphates which are not able to be controlled under the Clean Water Act. Also, EPA has not demonstrated any environmental effects due to toxicity, as required under EPCRA §313.

### III. Phosphoric Acid and Phosphates Are Safe and Already Regulated

- ▶ Phosphates are not only omnipresent in the environment, they are also essential human nutrients, deemed "Generally Recognized As Safe" by the Food and Drug Administration. Phosphates are naturally present in every living organism and are naturally present in or added to thousands of name brand food and beverage products.
- ▶ EPA's actions are based on the assumption that, under certain environmental conditions, including high levels of sunlight and nitrogen and limited water current, surface waters may experience heightened algae growth due to the nutrient value of excessive phosphates, usually caused by agricultural run-off. Thus, in surface waters with limited capability for oxygen replenishment and high concentrations of phosphates, eutrophication, a natural process, may occur or be accelerated.
- ▶ In reality, phosphoric acid and phosphates are not toxic substances; they are nutrients. In some cases, in fact, phosphates are intentionally added to surface waters to support and stimulate aquatic plant growth and to support fish populations (e.g., Lake Mead).
- ▶ EPA's principal basis for creating the phosphate category and not delisting phosphoric acid is the capability of phosphates to contribute to eutrophication, and in its notice EPA listed 35 sites of concern. Analysis of those sites presented to EPA indicates that all 35 are controlled by NPDES permits. Eutrophication is not, in the sense of Section 313, due to a toxic effect, but is due to the nutrient and growth stimulating properties of phosphates and phosphoric acid.
- ▶ Thus, there is no record which supports the contention of adverse effects now in existence which cannot be remedied under §402 of the Clean Water Act (CWA), since industrial releases of phosphates are already subject to NPDES permits under §402. More importantly, EPA possesses the authority under the CWA to extend those control requirements, if necessary.



- ▶ In attempting to broaden the TRI, EPA also contends it needs more data on phosphate releases. However, the TRI would only provide data on industrial releases, 5% of all phosphate releases. EPCRA §313 does not cover the 95% of all phosphate releases into surface waters, which are created primarily by agricultural run-off, municipal sewage treatment effluent, or storm water run-off.
- ▶ If EPA truly is interested in collecting data on all phosphate releases, the more appropriate legal authority to collect data exists under sections 102, 104, and 308 of the Clean Water Act.

#### **IV. The TRI Listing Automatically Triggers Additional and Unnecessary State and Federal Regulation**

- ▶ Although EPA contends that the continued listing of phosphoric acid and the additional listing of phosphates under EPCRA §313 does not constitute further regulation, that contention is erroneous, since:
  - Listing on the TRI subjects users of a TRI-listed substance to state toxic use reduction acts.
  - Legislative reauthorizations of RCRA and the Clean Water Act are employing the TRI listing categories as the basis for defining "hazardous" substances.
  - The TRI listing perpetuates the misperception that phosphoric acid and phosphates are toxic substances, thus creating confusion and conflict with the FDA determination that both are safe food additives.

#### **V. EPA's Proposal Creates Significant Economic Harm**

- ▶ Neither phosphoric acid or phosphates are toxic to human health or the environment. Nonetheless, EPA lists phosphoric acid in eighth place of more than 300 chemicals on the TRI with over 240 million pounds reported of phosphoric acid released or transferred. Phosphoric acid is the only chemical in the top 15 of the TRI which is listed for indirect environmental effects.
- ▶ Most phosphoric acid and industrial phosphates are consumed by or come into contact with humans. Public misperception caused by EPA's TRI listing of phosphoric acid and industrial phosphates as toxic substances could force many industries, especially the food and beverage industries and water treatment plants, to seek more expensive and less effective phosphate-substitutes.
- ▶ According to the economic analysis prepared and submitted to EPA, EPA's planned course of regulatory action would likely impose at least several hundred million dollars of adverse



economic impacts while producing no environmental benefits. Further, much of this impact would be in rural areas. Significant costs by industry sector would be:

- Soft Drinks -- \$35 million (more, if product reformulation is required).
- Baking Products -- \$440 million (replacements are expected to be inferior in quality).
- Meat, Seafood, Poultry, and Other Food Products -- \$50 million (no replacement has been proven safe).
- Water Treatment -- \$45 million (no replacement has been proven safe).

## VII. Conclusions

- ▶ EPA possesses adequate statutory authority and scientific justification to delist phosphoric acid as a toxic substance under EPCRA §313.
- ▶ The EPA efforts to further regulate phosphates under EPCRA §313 are a questionable extension of EPA's legal authority and duplicate existing regulatory controls under the Clean Water Act.
- ▶ Such a selective stretch of regulatory authority should be for a good public policy purpose which cannot be accomplished in any other way. The use of EPCRA §313 to regulate phosphates and phosphoric acid is inappropriate because it:
  - Would confuse the public, since phosphoric acid and phosphates are not toxic, but safe and present in thousands of consumer products.
  - Will put at risk hundreds of millions of dollars of U.S. business, much of it in rural areas.
  - Will not result in measurable environmental improvement.
  - Unnecessarily duplicates existing Clean Water Act authority.

## VIII. Recommendations

- ▶ The Administration should review EPA's selective use of EPCRA §313 authority to regulate phosphates and phosphoric acid as a case study under the President's regulatory moratorium.
- ▶ The Administration should explore an alternative approach which meets the goals of both EPA and industry, embodying:
  - Data-gathering, if necessary, under the authority of the Clean Water Act.
  - Additional regulation of phosphate discharges, if required, under either Clean Water Act NPDES permits or non-point source regulations.



TYPE: ACTION  
ORIGINATOR: 02

DOCUMENT NUMBER: 9202421  
DIRECTORATE STATUS

STATUS I

\*\*\*\*\*

FROM: HEMILY, Philip: NATIONAL RESEARCH COUNCIL

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 08/14/92

SUBJECT: HE IS FORWARDING THE SUMMARY REPORT OF 07/29/92  
CONSULTATIVE MEETING ON INTERNATIONAL SCIENCE AND  
ENGINEERING DIRECTIONS FOR ENVIRONMENT/DEVELOPMENT  
ACTIVITIES: POST UNCED. COMMENTS ARE WELCOME.

\*\*\*\*\*

DIRECTORATE

STAFF

ASSIGNED: ENVIRONMENT

ASSIGNED:

ACTION  
REQUIRED: REVIEW FOR DAB

STAFF  
ACTION: *No action Necessary*

\*\*\*\*\*

SENDER'S DUE DATE:

OSTP DUE DATE: 09/02/92

STAFF DUE DATE

DATE COMPLETED:

DATE COMPLETED/DEPT: *10/1/92*

\*\*\*\*\*

COPIES TO: D. Allan Bromley

\*\*\*\*\*

WHITE HOUSE TRACKING #:

CONTACT PERSON:

PHONE:

EXT:

REMARKS:

OSTP RECEIVED: 08/19/92  
FILE: P-ENVIRONMENT

DEPT RECEIVED:

CENTRAL FILES:





NATIONAL RESEARCH COUNCIL

OFFICE OF INTERNATIONAL AFFAIRS

2101 Constitution Avenue Washington, D.C. 20418

D.A. Bromley  
2421

COMMITTEE ON INTERNATIONAL  
ORGANIZATIONS AND PROGRAMS

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OSTP  
MAIL ROOM

August 14, 1992

TEL.: 202-334-2807  
TELEFAX: 202-334-2231  
CABLE ADDRESS: NARECO  
TELEX: 4900009522  
OFFICE LOCATION:  
ROOM 2020  
THE FOUNDRY BUILDING  
1055 THOMAS JEFFERSON STREET, N.W.

MEMORANDUM

TO : Participants and Invitees

FROM : Philip Hemily *PH*

SUBJECT : Summary Report of July 29, 1992 Consultative Meeting on  
International Science and Engineering Directions for Environment/  
Development Activities: Post UNCED

Most stimulating, productive discussions were held during our July 29, 1992 meeting. A very brief draft summary report is attached. Section III identifies some of the **Understandings and Needs** that have been reached. Section IV lists **Possible Action Items** to consider. A list of participants and invitees is attached as well as a list of acronyms.

We shall welcome your comments and suggestions as well as guidance to follow-up our discussions.

Attachment

cc: F. Press  
CIOP

**DRAFT**

**Summary Report  
Consultative Meeting, July 29, 1992 on  
INTERNATIONAL SCIENCE AND ENGINEERING DIRECTIONS FOR  
ENVIRONMENT/DEVELOPMENT ACTIVITIES: POST UNCED**

**I. Objective**

There have been extensive preparations for the UNCED involving the scientific and engineering community. This process continues and will interact with a number of on-going research, assessment and training programs at the global and regional levels. An informal consultative meeting was held to assess the implications of the post-Rio UNCED process to the S&T community for promoting and participating in international follow-up activities. Discussions attempted to:

- assess what related program activities are underway;
- note what is proposed in the ASCEND 21 as well as relevant portions of Agenda 21, from the point of view of priorities and feasibility;
- examine the international partnerships to be strengthened or developed in order to pursue the goals and recommendations of the UNCED;
- consider needs and weaknesses in proposed programs and the adequacy of institutional arrangements;
- review the U.S. role in participating in and supporting environment/development activities; and
- propose follow-up activities to further international environmental research and assessment, and the UNCED process.

**II. Consideration of International Organizations and Programs**

As background, brief discussions were held on the ASCEND 21 Conference and the Conference Report, and relevant UNCED/Agenda 21 chapters. The activities of ICSU, ISSC, international engineering organizations (CAETS, WFEO and UATI), IUCN and ILASA were briefly described. Particular attention was devoted to:

- IGBP/HDGECF/WCRP;
- START and IAI;
- GEF;
- CGREEN;
- World Engineering Partnership for Sustainable Development;
- TWAS Program for Sustainable Development; and
- World Partnership for a Sustainable Future.



### III. Understandings and Needs

Based on UNCED deliberations and important earlier understandings reached by ICSU and its partners in the engineering and social sciences, certain fundamental principles and concerns have been identified:

- Environment and development are closely linked; the contributions of the science and engineering communities are most significant in dealing with environment/development challenges;
- These challenges which include the provision of soundly based environmental research and assessment capabilities require important contributions from the social and behavioral sciences. The provision of such expertise in current international undertakings must be greatly improved;
- There is a need to deal with such challenges from the ground-up; i.e., local/national/regional levels within a correlated global perspective;
- This means capacity building, particularly in the developing world, to ensure essential participation in environmental research and assessment processes with respect to policy formulation and implementation. Such capacity building should be based on a problem-oriented approach to training. It is important to guide and redirect a portion of currently available bilateral and multilateral resources for such purposes (estimated to be at a level of \$15 billion/yr);
- This, in turn, poses challenges to the international science and engineering community to provide guidance and assistance to the development of this capacity and thereby the participation of scientists and engineers in the Third World in the future elaboration of regional and global environment conventions and their monitoring;
- An early priority requirement in global capacity building is the further establishment and improvement of transfer of knowledge processes--including open access to environment/development information and its application. Encouraging open access and application through regional environment/development networks could facilitate technology transfer processes;
- Current institutional arrangements are inadequate; there is a serious need to fill gaps and avoid duplication in providing environment/development cooperation; i.e., a need to develop a framework or umbrella arrangement under which funding mechanisms can communicate with one another;
- At the same time there is need for the initiators of capacity building networks and the planners of relevant environmental research and assessment centers to carry out consultations with a view to providing funders with consolidated and cooperative plans and operations. Third World scientists and engineers should participate in this process.



#### IV. Possible Action Items

##### A. Donor Consultations (\*)

Convene an exploratory consultation of donors and sponsors of environmental research and capacity building to consider establishing a sustainable mechanism to support (a) global change research broadly defined to include biodiversity, land use as well as climate change and (b) environment/development programs relating to science and particularly capacity building. The World Bank and other co-sponsors such as IDRC and NAS/NRC could convene such a consultative meeting to include representatives from appropriate intergovernmental and nongovernmental bodies, as well as from governments and the private sector in donor nations. It would be important to invite representatives from regional development banks, the Business Council for Sustainable Development and private foundations. Representation from the OECD Development Assistance Committee, Environment Committee, and Mega-Science Forum could be influential. This proposed mechanism could consider:

- (a) coordinated support and encouragement of the proposed international and related national projects under coordinated and consolidated plans noted below, under B; and
- (b) providing core support for networking systems, centers of excellence, national biodiversity centers and, particularly, emergency needs.

##### B. Coordination of Performers

Convene the organizers and performers of international initiatives of global change research, environment research and assessment, and capacity building to consider establishing a forum for communication and coordination, and to avoid gaps and duplication of effort. Questions to be addressed include:

- (a) promoting collaboration and synergism among related regional efforts to reinforce common objectives and to act on a global basis; and
- (b) identification of suitable on-going, durable institutional foci with strong links to the NGO/IGO community of sponsors and performers. Possibilities include IIASA and the expanded ACE of ICSU and its partners.

Consideration should be given to inviting representatives of proposed and existing collaborative networks such as:

- START;
- IAI;
- MAB;
- IDNDR;

(\*) This proposed action item resulted from discussions of the Global Environment Facility – see Annex 1.



- TWAS proposed Network of Intentional Centers for Science, Technology and the Environment;
- The World Engineering Partnership for Sustainable Development; and
- The Business Council for Sustainable Development.

### C. Priorities

The preparations for the UNCED were extremely effective in articulating needs, but provided little sense of priorities. Therefore, it is most important to assess short-term and long-term program activities proposed under ASCEND 21 and relevant chapters of Agenda 21 (\*) with a view to developing a sense of priorities and feasibility. This needs to be done internationally as well as nationally. This immensely difficult task could be undertaken through collaborative efforts among research councils in donor countries and in consultation with developing country scientists and engineers. Such efforts would involve and be beneficial to the donor and performer instruments proposed in A and B, above.

### D. Other Intersecting Actions

Workshops or assessments should be considered to deal with the following concerns:

- (a) Development of a long-term strategy (10+ years) is necessary to provide social science capabilities and much-needed contributions to global change research programs, environmental research and assessment activities, and UNCED environment/development plans;
- (b) Capacity building concepts need to be examined and clarified to provide guidance for systematic assessment and evaluation of proposals including centers of excellence. This could include an examination of the benefits and limitations of regional networks;
- (c) Biodiversity is a special and important case where there is need to build national capabilities through training and strengthening conservation efforts within a framework of economic development;
- (d) Data and information policy development and implementation on an international scale needs serious attention to promote transfer of knowledge processes;
- (e) Science and technology in the UN system should be assessed from the point of view of coordinated sponsors and performers in support of UNCED follow-up; and
- (f) Institutions and organizations in the North such as IIASA and those of ICSU should be encouraged to enlarge and strengthen their capacity-building contributions to the needs of the South.

(\*) A list of available relevant Agenda 21 documents is given in Annex 2 as well as the location of "Scientific and Technological Means" under "Means of Implementation" in all Agenda 21 documents.

Global Environment Facility

Considerable attention was devoted to the activities and plans of the Global Environment Facility (GEF). Mohamed El-Ashry described the current three-year pilot project (\$1.3 billion) under the auspices of the World Bank, UNDP and UNEP in the areas of (1) global warming, (2) biodiversity, (3) ozone depletion, and (4) international waters. Current proposals include the establishment of the START network in S.E. Asia. Following the endorsement by UNCED, a new GEF is being designed to be the major multilateral funding mechanism to consider Agenda 21 recommendations of global and regional concern. It is to be established by the end of 1993 with expanded resources (\$4 billion plus) to include related land degradation issues. Discussions highlighted:

- the need for donor structures to catch up with environment/development areas of rapidly evolving institutional change;
- the importance of involving the international scientific and engineering community in a dialogue with donors in proposing and implementing global change research programs including capacity building contributions; and
- that consultations of donors or sponsors of environmental research need to seriously consider CGREEN and other multilateral collaborative mechanisms. Europe and Japan would be particularly important contributors to such consultations. At the same time there is need to carry out consultations with the developing world in formulating funding strategies and priorities.



**UNCED**  
**Relevant Chapters of Agenda 21**

1. Peter Thacher has provided copies of four of the most relevant chapters of Agenda 21, as approved by governments in Rio:

Chapter 21, the "Scientific and Technological Community" as one of the "Major Groups" (along with local authorities, NGOs, business and industry, women, etc.);

Chapter 34, "Transfer of Environmentally Sound Technology, Cooperation and Capacity-Building";

Chapter 35, "Science for Sustainable Development"; and

Chapter 37, "National Mechanisms and International Cooperation for Capacity-Building".

Copies are available on request.

2. Attached is information on the availability of final texts of Agenda 21 chapters as approved in Rio that can now be downloaded. These are authoritative advance copies as forwarded by the UNCED Secretariat to UN Headquarters in New York for final editing and translation. The paper products should be available by the end of August and issued as documents for the next session of the UN General Assembly at which they will be considered.

3. Also attached is a quick run that Peter Thacher did on the paragraph numbers in the draft chapters spelling out in more detail what the scientific and technological means of implementation are for the various "program activities"; these citations are probably still valid for most of the final chapters now available (but may or may not coincide with the formal documentation issued by the UN next month).

This is the EcoNet<sup>1</sup> list of post-Rio Agenda 21 chapters available for downloading as of mid-July in the EcoNet Conference "en.unced.-documents" (note - all previously-issued documents for various PrepCom meetings are also available on this conference):

|            |                         |       |
|------------|-------------------------|-------|
| 411*A21/1  | Preamble                | unced |
| 412*A21/2  | Sustainable Dev.        | unced |
| 413*A21/3  | Combating Poverty       | unced |
| 414*A21/4  | Consumption Patterns    | unced |
| 415*A21/5  | Sustainability          | unced |
| 416*A21/6  | Human Health            | unced |
| 417*A21/7  | Human Settlements       | unced |
| 418*A21/8  | Decision Making         | unced |
| 419*A21/9  | Atmosphere              | unced |
| 420*A21/10 | Land Resources          | unced |
| 421*A21/11 | Combating Deforestation | unced |
| 422*A21/12 | Desertification         | unced |
| 423*A21/13 | Mountain Development    | unced |
| 424*A21/14 | Agriculture             | unced |
| 425*A21/15 | Biological Diversity    | unced |
| 426*A21/16 | Biotechnology           | unced |
| 427*A21/17 | Oceans                  | unced |
| 428*A21/18 | Freshwater Resources    | unced |
| 429*A21/19 | Toxic Chemicals         | unced |
| 430*A21/20 | Hazardous Wastes        | unced |
| 431*A21/21 | Solid Wastes            | unced |
| 432*A21/22 | Radioactive Wastes      | unced |
| 433*A21/23 | Preamble Major Groups   | unced |
| 434*A21/24 | Women                   | unced |
| 435*A21/25 | Children & Youth        | unced |
| 436*A21/26 | Indigenous People       | unced |
| 437*A21/27 | NGOs                    | unced |
| 438*A21/28 | Local Authorities       | unced |
| 439*A21/29 | Trade Unions            | unced |
| 440*A21/30 | Business & Industry     | unced |
| 441*A21/31 | Science & Technology    | unced |
| 442*A21/32 | Role of Farmers         | unced |
| 443*A21/33 | Financial Resources     | unced |
| 444*A21/34 | Technology Transfer     | unced |
| 445*A21/35 | Science                 | unced |
| 446*A21/36 | Education               | unced |
| 447*A21/37 | Capacity Building       | unced |
| 448*A21/38 | Institutions            | unced |
| 449*A21/39 | Legal Instruments       | unced |
| 450*A21/40 | Information             | unced |

\*\*\*\* End of Topics \*\*\*\*

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<sup>1</sup> EcoNet is the US non-profit network under the Institute for Global Communications (3228 Sacramento Street, San Francisco, CA, 94115; tel: (415) 923-0900). EcoNet corresponds to "WEB" in Canada, "Pegasus" in Australia, etc.



Most of the final chapters of Agenda 21 now available for downloading set forth a number of "Program Areas", each of which contains a section on the "Means of Implementation" with a subsection on "Scientific and Technological Means." These subsections are found in the following paragraphs of the draft Agenda 21 chapters submitted to UNCED in June; since the content of these chapters was little modified, these citations are probably valid for the final version of Agenda that was approved by governments in Rio:

| chapter   | paragraph | chapter              | paragraph |
|-----------|-----------|----------------------|-----------|
| Health    | 6.7       | Bio-Div              | 15.9      |
|           | 6.16      |                      | 16.6-9    |
|           | 6.30      |                      | 16.25-27  |
|           | 6.37      |                      | 16.29     |
|           | 6.45      |                      | 16.35     |
| Settlmts  | 7.12      |                      | 16.40-41  |
|           | 7.34      | Bio-Tech             | 16.50     |
|           | 7.45      | Oceans               | 17.14     |
|           | 7.65      |                      | 17.40     |
|           | 7.81      |                      | 17.69     |
| Dec-Makng | 8.24      |                      | 17.97     |
| Atmosph   | 9.30      |                      | 17.115    |
| Land      | 10.14     |                      | 17.127    |
|           | 10.15     |                      | 17.138    |
| Forests   | 11.10     | Water                | 18.24     |
|           | 11.24     |                      | 18.39     |
|           | 11.37     |                      | 18.53     |
|           | 11.48     |                      | 18.63     |
| Deserts   | 12.12     |                      | 18.72     |
|           | 12.23     |                      | 18.98     |
|           | 12.32     | Toxics               | 19.20     |
|           | 12.42     |                      | 19.55     |
|           | 12.52     |                      | 19.64     |
|           | 12.61     | Haz Waste            | 20.27     |
| Mountains | 13.10     | Solids               | 21.14     |
|           | 13.21     |                      | 21.24     |
| Agricult  | 14.13     |                      | 21.37     |
|           | 14.22     |                      | 21.47     |
|           | 14.31     | Radioacts            | 22,8      |
|           | 14.41-42  | Major Groups         |           |
|           | 14.71     | Sci - see all of     | 31        |
|           | 14.80     | Science - see all of | 35        |
|           | 14.90     | Info                 | 40.15     |
|           | 14.99     |                      | 40.31     |

There are, of course, a number of other portions of Agenda 21 that are relevant to science, but these paragraphs give more specificity to requirements relevant to the chapter subjects than are found in the general chapters on science (ch. 35) and on the "Scientific and technological community" as one of the "Major Groups" (ch. 31). The same is true for technology transfer (ch. 34) and capacity-building (ch. 37).

**July 29, 1992**  
**Consultative Meeting**  
**on**  
**International Science and Engineering Directions - Post UNCED**

**Participant List**

|                     |               |
|---------------------|---------------|
| John Ahearne        | (Sigma Xi)    |
| Jesse Ausubel       | (Carnegie)    |
| David Beckler       | (Carnegie)    |
| William Blanpied    | (NSF)         |
| William Carroll     | (WFEO)        |
| Robert Corell       | (NSF)         |
| Mohamed El-Ashry    | (World Bank)  |
| Roland Fuchs        | (UNU and PSA) |
| Carole Ganz         | (NSF)         |
| Elizabeth Leroy     | (OSTP)        |
| Jeffrey MacLure     | (OES/State)   |
| Thomas Malone       | (Sigma Xi)    |
| Nancy Maynard       | (OSTP)        |
| Cyril Ponnampereuma | (TWAS)        |
| Kenneth Prewitt     | (Rockefeller) |
| Mark Schaefer       | (Carnegie)    |
| Tucker Scully       | (OES/State)   |
| Michael Strauss     | (AAAS)        |
| Peter Thacher       | (WRI)         |
| Hassan Virji        | (NSF)         |
| Anne Whyte          | (IDRC)        |

**NAS/NAE/IOM**

|                |                        |
|----------------|------------------------|
| Gerald Dinneen | Foreign Secretary, NAE |
| William Gordon | Vice President, ICSU   |
| Peter Raven    | Home Secretary, NAS    |
| Leon Silver    | Chairman, CIOP         |
| Robert White   | President, NAE         |
| Jim Wyngaarden | Foreign Secretary, NAS |

**NRC Staff**

Sherburne Abbott  
John Campbell  
E. William Colglazier  
Michael Dow  
Philip Hemily  
Alvin Lazen  
John Perry  
William Salmon  
Mitchel Wallerstein  
Audrey Ward  
Patrice Zechman



Invited, Unable to Attend

|                    |                                                     |
|--------------------|-----------------------------------------------------|
| Dale Corson        | (Chairman, NRC Committee on Environmental Research) |
| E.U. Curtis Bohlen | (State)                                             |
| D. Allan Bromley   | (OSTP)                                              |
| David Featherman   | (SSRC)                                              |
| Alan Hecht         | (EPA)                                               |
| Thomas Lovejoy     | (Smithsonian)                                       |
| John Sewell        | (ODC)                                               |
| Alexander Shakow   | (BOSTID, World Bank)                                |
| Philip Smith       | (Executive Officer, NRC)                            |
| Paul Stern         | (NRC)                                               |
| Walter Rosenblith  | (Member, CIOP)                                      |

## LIST OF ACRONYMS

|           |                                                                                                   |
|-----------|---------------------------------------------------------------------------------------------------|
| ACE       | Advisory Committee on the Environment of ICSU                                                     |
| ASCEND 21 | An Agenda of Science for Environment and Development into the 21st Century, 11/91 ICSU Conference |
| CAETS     | Council of Academies of Engineering and Technological Sciences                                    |
| CGREEN    | Consultative Group for Research on Environment                                                    |
| GEF       | Global Environmental Facility                                                                     |
| HDGECF    | Human Dimensions of Global Environmental Change Program of ISSC                                   |
| IAI       | Inter-American Institute for Global Change Research                                               |
| ICSU      | International Council of Scientific Unions                                                        |
| IDNDR     | International Decade of Natural Disaster Reduction                                                |
| IDRC      | International Development Research Council of Canada                                              |
| IGBP      | International Geosphere-Biosphere Program of ICSU                                                 |
| IIASA     | International Institute for Applied Systems Analysis                                              |
| ISSC      | International Social Science Council                                                              |
| IUCN      | The World Conservation Union                                                                      |
| MAB       | Man and the Biosphere Program                                                                     |
| NATO      | North Atlantic Treaty Organization                                                                |
| OECD      | Organization for Economic Cooperation and Development                                             |
| PSA       | Pacific Science Association                                                                       |
| REC       | Regional Engineering Centers for Sustainable Development                                          |
| START     | System for Analysis Research and Training                                                         |
| TWAS      | Third World Academy of Sciences                                                                   |
| UATI      | Union of International Technical Associations                                                     |
| UNCED     | United Nations Conference on Environment and Development                                          |
| UNU       | United Nations University                                                                         |
| WCRP      | World Climate Research Program                                                                    |
| WFEO      | World Federation of Engineering Organizations                                                     |



SEP 23 1992

"Document Control"

TYPE: ACTION DOCUMENT NUMBER: 9202466  
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS C  
\*\*\*\*\*

FROM: ETHERIDGE, Lloyd S.: THE POLICY SCIENCES CENTER

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 08/13/92

SUBJECT: HE IS WRITING TO SUGGEST THAT THE PRESIDENT CREATE  
THE WORLD'S FIRST INTERNATIONAL SCIENTIFIC NETWORK  
UTILIZING COMMUNICATIONS SATELLITES.

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: ENVIRONMENT ASSIGNED: JEFF SCHWEITZER

ACTION STAFF  
REQUIRED: AS NECESSARY ACTION: AS NECESSARY

\*\*\*\*\*  
SENDER'S DUE DATE:  
OSTP DUE DATE: 10/06/92 STAFF DUE DATE  
DATE COMPLETED: DATE COMPLETED/DEPT: 09/11/92

\*\*\*\*\*  
COPIES TO: D. Allan Bromley  
PHYSICAL SCIENCES  
NATIONAL SECURITY

\*\*\*\*\*  
WHITE HOUSE TRACKING #: CONTACT PERSON:  
PHONE: EXT:  
REMARKS: Reassigned to Environment.

OSTP RECEIVED: 08/26/92 DEPT RECEIVED: 08/27/92  
FILE: P-ENVIRONMENT  
CENTRAL FILES:

2466

# THE POLICY SCIENCES CENTER, INC.

YALE LAW SCHOOL, ROOM 216  
YALE UNIVERSITY  
127 WALL STREET, NEW HAVEN, CONN. 06520

CHAIRMAN:  
MYRES S. McDOUGAL  
VICE CHAIRMAN:  
W. MICHAEL REISMAN  
EXECUTIVE DIRECTOR:  
JEREMIAH B. McKENNA  
(203) 432-1993

RECEIVED

92 AUG 26 AM 11:45

Please reply to: 7106 Bells Mill Rd.  
Bethesda, MD 20817  
(301)-365-5241 (voice)  
(301)-657-4214 (fax)

OSTP  
MAIL ROOM

August 13, 1992

Honorable Allan Bromley  
Assistant to the President for Science and Technology  
Old Executive Office Building, Room 358  
17th & Pennsylvania Ave., NW  
Washington, DC 205005  
USA

Dear Dr. Bromley:

As you may know, the Canadian government elected, this last spring, to continue with the privatization of its communication satellite capabilities. I regret these were not available to join with NASA satellites as, following Maurice Strong's letter, we hoped they would be.

At Howard Raiffa's suggestion the working group is proceeding with plans to invite 30-40 of the world's leading scientists to meet in Vienna to discuss the ideas, with IIASA serving as a venue for organizing a full set of international scientific networks.

However I wonder if, with the campaign approaching, President Bush might wish to create the world's first International Scientific Networks, as an American initiative, with an announcement in September? One network might be an attractive statement of American global leadership and commitment to stimulate the rate of scientific and industrial innovation concerning environmental issues, using NASA and/or other American satellites for an initial period, along the lines discussed with Dr. Maynard.

A second US Scientific Channel could aid domestic technology transfer and American competitiveness. This channel could provide material directly from government labs, on Ku-band channels, at very low cost. It could become international as reciprocal agreements are reached with other governments.

As you may know, business satellite channels are becoming more common. MIT (for example) will soon begin its own satellite channel to broadcast to subscribers of its Industrial Liaison Program.



(Business norms are changing; many corporations prefer the option to view conferences and ask questions by E-mail rather than always travel to Cambridge; and participation increases.) Rates have fallen to \$300/hour (full-motion, Ku-band to all sites in North America) and will go much lower.

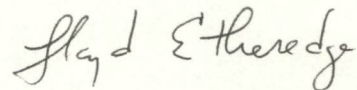
I did speak recently with Arnold Donahue, Chief of the Intelligence Branch at OMB. He suggested FBIS might have an interest to support part of the cost of an American International Scientific Network, especially if it provided access to the international play of ideas within invisible colleges, and American business with timely, low-cost monitoring of new developments 1-2 years prior to normal publication.

I might add that the Canadian government completed an internal review of the International Scientific Project last month. Dr. Paul LaFleche, Senior Policy Adviser to Mr. Winegard, called and assured me that they would be open to receiving proposals for Canadian participation but have no facilities or established programs to allow them to take a leading role in the near future. My own judgment is that an American-designed system would produce better results.

I'm sorry our thinking wasn't far-enough along earlier; an American-created initiative would have been an excellent project for President Bush to take with him to Rio.

With best wishes for your work. If we can be of further assistance, please let me know. I will be in the Washington, DC suburbs through the end of the month.

Yours sincerely,



(Dr.) Lloyd S. Etheredge, Director  
Global Communications Project

cc: Dr. Nancy Maynard

Dr. Bramley:  
Today's report from the National Science  
Board suggests a domestic initiative would  
be especially timely.

L Etheredge

## International Scientific Networks Project

### Objectives:

- To stimulate the process of scientific, medical and industrial innovation by:
  - a.) allowing scientists to communicate at a much earlier stage of the creative process;
  - b.) allowing R&D-oriented corporations to identify and establish contacts with research developments and researchers worldwide.
- To move quickly to take advantage of the end of the Cold War, and build new foundations for global security and cooperation. (Specifically, to use emerging communications technology to create new networks of routine and mutually-beneficial working relationships linking academic institutions, research institutes, and R&D-oriented corporations globally).

### Basic Design:

- 10 worldwide, self-financing teleconference networks to begin within a year.
- Program content to be determined by working groups of scientists themselves. To include: full teleconferencing; video broadcasts with telephone dialogue capabilities; time-shifted rebroadcasts of conference proceedings, etc.
- Full commitment to cross-subsidy and global participation, making:
  - a. participation in scientific discussions possible at lower costs of time and travel (if desired), and affordable to scientists without normal access to funds for international travel.
  - b. international communication capabilities available to all scientific specialties.
  - c. channel capacity available to facilitate international policy discussions, arts and humanities projects.

### Financing:

R&D-oriented companies write checks for the networks. In return, they receive rights for their researchers to listen-in, reduce costs and time of travel, hear new creative discussions made possible by real-time network capabilities, quickly identify fruitful contacts with researchers and research developments worldwide.



Vendors of communication services have incentives to support the International Scientific Networks – establishing contact & selling equipment and services to receive broadcasts to R&D companies and research institutes (est. 26,000) and academic institutions.

Evolution: International research teleconferencing (like the use of fax machines), requires an initial critical mass of users to create the market. After the initial work to establish a modest degree of organization and standard technical protocols (e.g., video compression), there should be growing demand for (and supply of) services from vendors.

Global v.  
National Visions: A globally-financed solution is politically healthier than for scientists to secure funding for new communication services based on considerations of national rivalries and nationally-based competition. The bolder - global - solution also is healthier for science: it allows wider participation and wider access for contacts to develop among researchers, research institutes, and R&D-oriented corporations.

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### ISN - Background and Recent Developments

The International Scientific Networks project is intended to organize discussions of the international scientific community and professional societies; develop plans and demonstration projects; and (within the next year) begin a core group of 10 international scientific teleconference networks to stimulate scientific, medical, and industrial innovation by allowing scientists to communicate at an earlier stage of the creative process.

It is a pro bono initiative of the Policy Sciences Center (Yale Law School) with support from senior scientists from several disciplines, at several leading research universities, including Harvard (e.g., Howard Raiffa, Harvey Brooks), the University of Toronto (e.g., Anatol Rapoport, Ted Munn, John Polanyi), MIT (e.g., Shaul Ezekiel, Hayward Alker, Nazli Choucri), Yale (e.g., Michael Reisman) and others.

At a recent planning discussion at Harvard, Howard Raiffa felt we should invite 30-40 of the world's leading scientists to meet for a week to discuss the ideas and the implementation of the project. He thought the International Institute for Applied Systems Analysis in Vienna (IIASA) would be a good international venue. This assessment was shared by Harvey Brooks, Ted Munn, and several other former Presidents of IIASA. Initial discussions with Peter de Janosi (the current President of IIASA) have been encouraging - they are especially interested to build networks that include scientists and institutions in Eastern Europe and the former Soviet Union - and we are starting to seek financial support for the meetings.

Given the new technology, we also think it will be a good idea to explore possibilities of demonstration projects and test-beds linking several sites. This seems important to identify and solve technical problems. Perhaps more important, our social science advisers feel that key problems of user interfaces, etc. need to be solved before the scientific community begins large scale investments.



Prospectus

INTERNATIONAL SCIENTIFIC NETWORKS PROJECT

I. Background

Within the next few years, extraordinary changes in technology (e.g., new generations of fiber optic cable<sup>1</sup>, digital encoding (ISDN) and video compression techniques<sup>2</sup>, direct-broadcast satellites and global cellular networks<sup>3</sup>) will create extraordinary opportunities for new forms of routine scientific communication. These include opportunities - of special concern of this proposal - to organize and secure funding for international video teleconference networks to stimulate the rate of scientific, medical, and industrial innovation by allowing scientists to communicate at an earlier stage of the creative process.<sup>4</sup>

We are entering a historically critical period where issues of real concern to the scientific community will be affected, the outcomes are not foreclosed, and a modest degree of forethought and organization by scientists may be a wise investment.

II. Proposal

- Objectives:
- To design and evaluate options for the use of new telecommunication technology that can stimulate the process of scientific, medical and industrial innovation by:
    - a.) allowing scientists to communicate at a much earlier stage of the creative process;
    - b.) creating open-architecture systems, and organizing financial support, to assure participation by scientists in all countries and scientific specialties;
    - c.) supporting progress in solving common problems, including those addressed by other IIASA programs, and policy questions with scientific and international components;
    - d.) allowing R&D-oriented corporations to identify and establish contacts with research developments and researchers worldwide;
  - To move quickly to take advantage of the end of the Cold War, and

build new foundations for global security and cooperation. (Specifically, to use emerging communications technology to create new networks of routine and mutually-beneficial working relationships linking academic institutions, research institutes, and R&D-oriented corporations globally).

Plan:

- IIASA lays the groundwork for, and convenes, a week-long meeting of 30 - 40 distinguished people to evaluate options for international video communications among scientists, design prototypes, frame choices for alternative futures, and suggest steps by which the alternative futures could be created.<sup>5</sup>

- Preparation for the meeting will involve a small working group, support for background discussions with specialists, and preparation of discussion papers.

- Among the options will be models (e.g., Appendix A) for self-financing global video teleconference networks that can be created by different scientific and engineering societies for their members; that secure a cash-flow from the R&D corporations of the world; and that can sub-contract operations to commercial vendors.

- The planning discussions also will assess research opportunities to design experiments and understand the best uses of new telecommunications technology to support scientific progress.<sup>6</sup>

### III. Discussion

This proposal makes sense only if there are reasons to believe that it can make a difference. This section discusses three issues: a.) Is there reason to believe that scientific communication systems should develop that are not already foretold in the likely behavior of competitive markets? b.) Can the global rate of scientific, medical, and industrial innovation be measurably altered by such improvements? c.) Are there other (e.g., political) considerations that make these initiatives timely and healthy, for the world and for the future of science?

#### 1. Will the market produce the best outcomes?

Probably not, except for users who have large sums of money and are organized with



sufficient market power to secure favorable rates. Unless they organize, the most likely future of most individual scientific researchers is to be charged the same commercial rates as the for-profit sector. For several decades, only a relatively few universities and specialties (e.g., medical schools and biomedical researchers) in the developed countries will readily afford the benefits of these services.

2. Can new communications technologies increase the rate of scientific, medical and industrial innovation?

This is a critical question, and needs to be answered at the conference itself. It deserves a thoughtful and refined answer that is sensitive to the (potentially, different) creative processes in different areas of science and technology.<sup>7</sup> Several issues can be identified briefly:

a.) One of our best models of scientific creativity is a simple communication/ permutation model in which the rate and diversity of new ideas available to an individual researcher predict to the likelihood (by chance) of hitting upon a fruitful, new combination.<sup>8</sup> By this model, there may be major effects.<sup>9</sup>

b.) New communication technology probably will have major impact by other routes as well - for example, creating and altering social networks (e.g., invisible colleges), and daily working habits of individual scientists, in different academic and applied settings. There may be different results, depending upon the field of science, existing social structures and the ability to expand opportunities for participation, profit incentives, etc.

In this light, the new networks might be intentionally designed, in part, to be experiments. One could then study any changes in scientific relationships, work habits, rates of innovation, and evaluations of scientists themselves (etc.) to learn lessons that can be useful in the long-run.

c.) There is an additional inhibiting factor to be evaluated in the design process. Scientists may feel under competitive pressure not to share their best ideas, and this may limit the benefits of the networks. For example, in some areas of scientific research that are ripe for commercial applications, free and open discussions may become difficult. A key design question is to identify those areas where discussions can be, in fact, most productive.<sup>10</sup>

d.) Care probably needs to be given to the design of prototypes, as they will establish norms and expectations that affect the life of the entire enterprise. If there are to be genuine, group teleconference discussions, this vision probably requires a great deal of help from senior and distinguished scientists, sensitive to both ideas and people, who care about the issues, and who can help to design stimulating, lively discussions to which people look forward.

3.) Political considerations

A globally-financed solution is politically healthier than for scientists to secure funding for new telecommunication services based on considerations of nationally-based commercial competition. And the bolder - global - solution that may be produced by IIASA planning also will be healthier for science.

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Appendix A: Self-Financing Systems

[There are several models of systems, and evolutionary pathways, to be assessed. This is one example, with long-term funding from R&D-oriented corporations. The networks could be created by individual scientific or engineering societies, by IIASA, or by new, non-profit foundations or consortia. By establishing a core group of networks, the international scientific community can secure an income stream from R&D-oriented corporations.]

Design:

- 10 worldwide, self-financing scientific teleconference networks, for different fields of science, to begin within a year.<sup>11</sup>
- Program content to be determined by scientists themselves. To include:  
international teleconferencing of state-of-the-art discussions of working groups of 12-15 scientists; video broadcasts of lectures or presentations with telephone dialogue capabilities; time-shifted rebroadcasts of conferences, of research colloquia at leading research universities or government labs, etc.

New programming also may be commissioned by scientific societies for their members: e.g., a.) weekly half-hour roundtable reviews of new developments by leading scientific journalists; b.) quick-response teleconference discussions of new developments; c.) commissioned programming (e.g., scientific journalists who summarize highlights of specialized scientific meetings.)

Finance:

- The financing package is based upon the model of the Industrial Liaison Program at MIT. R&D-oriented companies write checks for the



networks. In return, they receive rights for their researchers to listen-in, reduce costs and time of travel, hear new creative discussions made possible by real-time network capabilities, quickly identify fruitful contacts with researchers and research developments worldwide, and other benefits.

This model secures for the scientific community, to support its own work and values, a portion of the income stream that basic scientific progress generates for R&D-oriented corporations in the long-term.

- Vendors of communication services have incentives to support the International Scientific Networks - establishing contact & selling equipment and services to receive broadcasts to R&D-oriented companies, government labs, and research institutes (est. 26,000) and academic institutions.

#### Footnotes

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<sup>1</sup> E.g. Emmanuel Desurvire, "Lightwave Communications: The Fifth Generation" in Scientific American, 266:1; January, 1992, pp. 116 - 121.

<sup>2</sup> E.g., Gina Kolata, "New Technique Stores Images More Efficiently" The New York Times, November 12, 1991, pp. C1, 12 describes developments in the use of wavelets for data compression; Rachel Powell, "Digitizing TV Into Obsolescence," The New York Times, October 20, 1991, p. F11 reviews the development of earlier video compression standards and chips.

<sup>3</sup> A capable overview is Ithiel de Sola Pool's, Technologies Without Boundaries: On Telecommunications in a Global Age edited by Eli M. Noam (Cambridge, MA: Harvard University Press, 1990). The new international consortium to develop the Iridium network is discussed in Anthony Ramirez, "The Ultimate Portable-Phone Plan" The New York Times, March 18, 1992, pp. D1, D7.

<sup>4</sup> For example, it is now possible to create desk top video teleconference systems using individual PC's, that serve as television screens that display pictures of other participants. A Palmcorder (miniature television camera) sits next to the computer, atop a black box (that handles digital conversion and compression) that connects to a telephone line. In such a global system, perhaps 12-15 scientists can routinely have informal brown-bag teleconferences, and many more scientists also can listen to presentations and discussions. With timely planning (as discussed in Appendix A), it may be possible to create such systems and make them available to all scientists without user charges.

The video quality of the current desk top systems needs improvement, but there are several foreseeable ways this will be occurring.

<sup>5</sup> In keeping with the international spirit of the project, it would be best to seek funding from foundations in 3-4 countries.

<sup>6</sup> Other implications will not be addressed - e.g., more efficient forms of publication or improved on-line access to library holdings. Copyright issues that arise in the use of international video networks are identical to those that already arise in presenting written papers at international scientific meetings - and will not be reviewed.

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<sup>7</sup> For example, it may be easiest to produce benefits in areas like mathematics where gifted students or scholars in Third World countries might be immediately and constructively involved - i.e., where the stimulation of excellence does not necessarily require a laboratory.

<sup>8</sup> E.g., Donald T. Campbell, "Blind Variation and Selective Retention in Creative Thought as in Other Knowledge Processes," *Psychological Review* 67 (1960), pp. 380 - 400; for a wider range of theories: Dean Keith Simonton, *Genius, Creativity, & Leadership: Historiometric Inquiries* (Cambridge, MA: Harvard University Press, 1984).

<sup>9</sup> Perhaps, especially, beginning just outside the major research centers. At the major centers, where scientists shuttle constantly between international conferences, and Departments are designed and funded to have representatives connected to a wide range of invisible colleges, these effects may already be high. At the major research centers themselves, benefits may occur through different routes - e.g., allowing more productive use of time; including options to substitute communications technology for travel, and creating a bit more time for thought.

<sup>10</sup> This problem may not emerge, as there are standard incentives to participate in scientific meetings which any new scientific network also would provide. For example, 1.) the networks will assure recognition of scientific priority - the opportunity to be the first person to mention a new idea, before a worldwide audience including 15 leaders in your field - and a videotaped archive of the discussions; 2.) Opportunities for lively, and open, discussions with other smart and creative scientists are one of the genuine pleasures of being a scientist; 3.) New networks can provide an opportunity - even more than existing international conferences - to secure new financial support for promising research ideas, and consulting work. Leading R&D companies, worldwide, will probably subscribe to the networks, in part, with an eye to identify these opportunities;

<sup>11</sup> It would also be attractive, in the long term, to develop 1 or 2 networks to stimulate innovation in the creative and performing arts.



# KU-BAND VIDEO SERVICES

## KU-BAND SATELLITE LOCATIONS

EAST

SOUTH

- KU-Band Satellites
- KU/C-Dual Band Satellites

WEST



### B5 SBS 5 123°W

- 9 ♦ IBM FIN Network-private business television network
- 10 ♦ Hewlett Packard-private business television network
- 10 ♦ Kodak Broadcast TV-private business television network
- 10 ♦ Newspaper Satellite Network-ongoing management training on the newspaper industry
- 10 ♦ Texas Instruments-private business television network
- 10 ♦ Penn State Instructional Network-under/post graduate college courses
- 10 ♦ MegaBINGO-Creek Nation Indian bingo
- 12 ♦ Chico State University Satellite Network-computer/information systems education classroom courses
- 13 ♦ Syracuse University-computer sciences/engineering courses
- 13 ♦ Domino's Pizza Satellite Network-private business television network
- 13 ♦ UNISYS-private business television network

### S1 Spacenet 1 120°W

- 20 U.S. Army Supply Corps-educational training
- 20 ♦ Corporate Satellite Television Network-participative-interactive corporate seminars and training
- 20 Gannett News Service Television-news backhaul and distribution for Gannett-owned stations
- 21 Educational Telecommunications Network-Los Angeles County schools internal teleconference network
- 22 U.S. Army Supply Corps-educational training
- 22 Absat-ABC affiliates newsfeeds

### E1 Anik E1 111.1°W

Occasional Video on most channels

### E2 Anik E2 107.3°W

- 9 Alberta Access
- 10 Y-TV
- 11 ♦ The Family Channel
- 14 Assinibola Downs Racing
- 15 Knowledge Network 1
- 17 Musique Plus
- 18 Atlantic Satellite Network-CTV
- 19 Super Ecran
- 21 Radio Quebec
- 22 Four Seasons Network
- 23 ♦ Canal Famille
- 24 ♦ Reseau Des Sports
- 25 TV Ontario (French)
- 26 TV Ontario (English)
- 27 Le Club (French)
- 28 Ontario Legislature
- 29 Y-TV
- 30 ♦ The Family Channel
- 31 Musique Plus
- 32 Atlantic Satellite Network

### GS2 GStar 2 105°W

- 3 Continuing Legal Education Satellite Network-legal continuing education programming
- 5 CBS Newsnet-ABC affiliates newsfeeds
- 6 ♦ Texaco-Texaco Oil Company private

- 6 business television network
- 6 Cable News Network-incoming newsfeeds
- 6 PENN State Instructional Network-under/post graduate college courses
- 7 ♦ CNN NewsSource-Cable News Network newsfeed service
- 8 Absat-ABC affiliates newsfeeds
- 11 ♦ FAA Network-Federal Aviation Administration private business television network
- 11 Business Channel-PBS internal teleconference channel
- 12 Absat-ABC affiliates newsfeeds
- 13 ♦ Law Enforcement Television Network-continuing education training courses for law enforcement officials
- 15 Practicing Law Institute-legal continuing education programming
- 15 Financial Satellite Network-corporate financial advisory service
- 15 ♦ JC Penney-private business television network
- 15 Tandem Television Network-Tandem Computers internal teleconference channel
- 15 Cable News Network-incoming newsfeeds

### GS1 GStar 1 103°W

- 3 ♦ Federal Express-private business television network
- 3 ♦ American Red Cross-private business television network
- 3 ♦ A.L. Williams-private business television network
- 5 National Technological University-Engineering M.S. degree program and AMCEE short courses
- 7 ♦ Healthcare Satellite Broadcasting-24 hour a day in hospital network (Patient Movie Network)
- 8 Banker's TV Network-banking industry continuing education programming
- 12 Rensselaer Polytechnic Institute-graduate computer engineering courses
- 12 ♦ Help-U-Sell-private business television network
- 12 ♦ NCR-private business television network
- 15 ♦ Hospital Satellite Network-medical educational programming subscription service for hospitals
- 15 ♦ American Hospital Association-periodic hospital administrative teleconferencing
- 15 ♦ Voluntary Hospitals of America-private hospital teleconference network
- 15 Georgia Institute of Technology-under/post graduate college courses

### B6 SBS6 99°W

- 2 SkyPix Video Compression Test Channel
- 9 SkyPix Video Compression Test Channel
- 18 SkyPix Video Compression Test Channel
- 19 SkyPix Video Compression Test Channel

### B3 SBS3 95°W

- 7 Conus-remote satellite newsfeed access
- 7 ♦ Digital Video Network-DEC internal teleconference network

### B4 SBS4 91°W

- 1 World Monitor-Christian Science

- Monitor daily news network distribution service
- 1 Computerland-business television network
- 1 GMI Engineering & Management Institute-training courses
- 1 JM Satellite Network-Toyota Motors private business television network
- 4 ♦ The Computer Channel-computer industry information service
- 4 ♦ Chrysler Satellite Network-private business satellite network
- 4 ♦ Hughes Aircraft Company-internal teleconference network
- 5 ♦ Automotive Satellite Television Network-automobile dealership sales training
- 7 ♦ Electronic Data Systems-private business television network
- 7 ♦ Wal-Mart Satellite Network-private business television network

### S3 Spacenet 3 87°W

- 23 Oregon ED Net-high schools distance learning network

### K1 Satcom K1 85°W

- 2 ♦ PrimeStar pay-per-view 1 (Viewer's Choice 1)
- 3 ♦ PrimeStar (WWOR-TV)
- 4 ♦ PrimeStar (KTUU - Fox)
- 6 ♦ PrimeStar pay-per-view 2 (Viewer's Choice 2)
- 7 ♦ Videostar Connections-private business television events
- 7 ♦ U.S. West-private business television network
- 7 ♦ New York Life-private business television network
- 7 ♦ Xerox Corp.-private business television network
- 7 ♦ Aetna Satellite Network-internal teleconference
- 7 ♦ Allen Bradley-private business television network
- 7 ♦ John Hancock-private business television network
- 7 ♦ Mutual of New York-private business television network
- 8 ♦ PrimeStar (WSBK-TV)
- 9 ♦ Private Satellite Network-business television network feeds
- 9 ♦ Institutional Research Network-business continuing education network
- 9 ♦ American Law Network-continuing legal education programming
- 9 ♦ Merrill Lynch-private business television network
- 10 ♦ PrimeStar pay-per-view 3 (Request 1)
- 11 ♦ PrimeStar (WPIX)
- 12 ♦ PrimeStar (KTLA)
- 13 ♦ PrimeStar (TBS)
- 15 ♦ GE Medical-private business television network
- 15 ♦ Apple TV-private business television network
- 15 ♦ Amdahl Television Network-private business television network
- 15 Businessland-private business television network
- 15 Ford Communications Network-private business television network
- 15 ♦ First Boston-private business television

- network
  - 16 ♦ PrimeStar (WGN-TV)
- ### K2 Satcom K2 81°W
- 1 NBC-(East)-incoming and outgoing newsfeeds
  - 3 NBC-(West)-incoming and outgoing newsfeeds
  - 4 Cyclesat-direct satellite commercial distribution service
  - 5 NBC-(Central)-incoming and outgoing newsfeeds
  - 6 Conus-remote satellite newsfeed access channel
  - 6 INDX News Service-daily newsfeed distribution service
  - 7 NBC-Skycom-incoming and outgoing news/sports feeds and regular network programming
  - 8 Conus-remote satellite newsfeed access channel
  - 8 ♦ Home Depot-private business television network
  - 9 NBC-Skycom-incoming and outgoing news/sports feeds and regular network programming
  - 11 NBC-regularly scheduled network programming, incoming and outgoing newsfeeds
  - 18 NBC-regularly scheduled network programming, incoming and outgoing newsfeeds
  - 14 ♦ AT&T Newsline / Hi-Lite-graphics new and information update service
  - 14 North American Chinese Television Network-Nationalist Chinese news variety and entertainment programming (6.2-Cantonese, 6.8-Mandarin)
  - 15 NBC-Skycom-incoming and outgoing news/sports feeds and regular network programming

### S2 Spacenet 2 69°W

- 20 Florida News Network-daily Florida TV newscast feeds
- 22 SERC-distance learning high school courses
- 23 SERC-distance learning high school courses
- 23 Kentucky Educational Television-educational courses teletraining courses
- 24 SERC-distance learning high school courses

### WHAT THE SYMBOLS MEAN

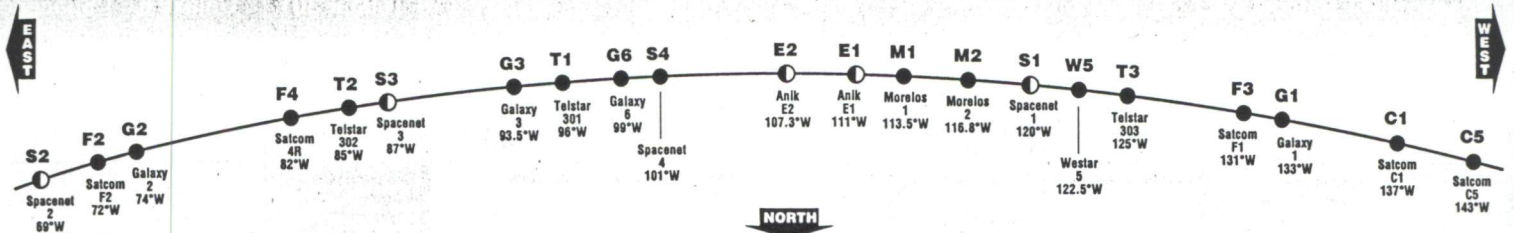
- ♦ Scrambled (VideoCipher II)
- ♦ Scrambled (Oak Orion)
- ♦ Scrambled (Leitch)
- ♦ Scrambled (Not Available)
- Vertical
- Horizontal

Fine tuning the Video Frequency on your receiver may be needed to pick-up Ku channels. Consequently, channel numbers may differ from receiver to receiver.



# CHANNELS BY INTEREST

## C-BAND SATELLITE LOCATIONS



### ADULT

|                  |    |    |
|------------------|----|----|
| Night Action     | S3 | 6  |
| Playboy At Night | F4 | 22 |
| Spice            | F4 | 18 |

### EDUCATIONAL

|                              |    |    |
|------------------------------|----|----|
| Mind Extension University    | G3 | 11 |
| NETV—Nebraska (PBS)          | S3 | 2  |
| NETV—Nebraska (PBS)          | S3 | 4  |
| Oklahoma State               | G6 | 19 |
| STEP Classes                 | S1 | 21 |
| The Discovery Channel        | G1 | 22 |
| The Learning Channel         | F3 | 2  |
| TI-IN Network                | G3 | 11 |
| Virginia State Education Net | G2 | 13 |
| Virginia Tech University     | G2 | 19 |
| Virginia Tech University     | G2 | 21 |

### FRENCH

|                   |    |    |
|-------------------|----|----|
| CBC French (East) | E2 | 15 |
| CFTM—Montreal     | E2 | 14 |
| French One TV     | F2 | 20 |
| TV5—Montreal      | E1 | 17 |

### HOME SHOPPING

|                         |    |    |
|-------------------------|----|----|
| Canadian Home Shopping  | E1 | 22 |
| Collectors Clubhouse    | S3 | 19 |
| Home Shopping Club      | F2 | 11 |
| Home Shopping Network 1 | G3 | 8  |
| Home Shopping Network 2 | F3 | 22 |
| QVC Network             | F3 | 8  |
| QVC Network             | G3 | 9  |
| Shop At Home            | F4 | 15 |
| Sky Store               | G6 | 11 |
| Skyvision Show          | G6 | 12 |
| US Land Exchange        | T1 | 1  |
| Valuevision             | F4 | 10 |
| Video Catalog Channel   | S3 | 16 |
| Video Shopping Mall-O/V | G1 | 22 |

### INTERNATIONAL

|                           |    |    |
|---------------------------|----|----|
| ECO/Galavision            | S2 | 10 |
| GalaVision                | G1 | 20 |
| JISO                      | F2 | 21 |
| Monitor Channel           | F4 | 20 |
| NHK feeds—Tokyo           | F2 | 23 |
| SCOLA                     | S2 | 23 |
| Telemundo                 | S2 | 9  |
| Telemundo feeds           | S2 | 17 |
| The International Channel | F4 | 12 |
| TV Globo                  | F2 | 24 |
| Univision                 | F3 | 7  |
| Univision feeds           | S1 | 4  |
| Univision feeds           | S2 | 2  |

### MOVIES

|                          |    |    |
|--------------------------|----|----|
| American Movie Classics  | F3 | 1  |
| Bravo                    | F3 | 24 |
| Cinemax (East)           | G1 | 19 |
| Cinemax (West)           | F3 | 23 |
| Cinemax-2                | T2 | 21 |
| Encore                   | C1 | 11 |
| Encore                   | F3 | 16 |
| First Choice             | E2 | 4  |
| HBO-2                    | T2 | 5  |
| HBO-3                    | T2 | 9  |
| Home Box Office (East)   | G1 | 23 |
| Home Box Office (West)   | F3 | 13 |
| Showtime (East)          | G1 | 5  |
| Showtime (West)          | G1 | 16 |
| Showtime-2               | T3 | 19 |
| Superchannel             | E2 | 13 |
| The Movie Channel (East) | G1 | 10 |
| The Movie Channel (West) | G1 | 14 |
| The Nostalgia Channel    | F4 | 21 |
| TNT                      | G1 | 17 |

### MUSIC VIDEOS

|                                |    |    |
|--------------------------------|----|----|
| Country Music TV               | G1 | 13 |
| Digital Music Express (Audio)  | F4 | 19 |
| Instore Satellite Net. (Audio) | S1 | 17 |
| MTV (East)                     | G3 | 17 |
| MTV (West)                     | G3 | 18 |
| Much Music                     | E2 | 6  |
| Video Hits 1                   | G3 | 15 |

### NETWORKS

|                    |    |    |
|--------------------|----|----|
| ABC (East)         | T1 | 10 |
| ABC (East)         | T1 | 12 |
| ABC (West)         | T2 | 10 |
| CBC North (East)   | E2 | 19 |
| CBC North (West)   | E2 | 11 |
| CBS (East)         | T1 | 7  |
| CBS (East)         | T2 | 20 |
| CBS (West)         | T1 | 2  |
| CBS (West)         | T2 | 16 |
| CBS-KMGH (West)    | C1 | 6  |
| CBS-WRAL (East)    | F2 | 2  |
| CTV Network        | E1 | 12 |
| CTV Network        | E1 | 16 |
| CTV Network        | E1 | 24 |
| FOX (East)         | T3 | 13 |
| FOX (West)         | T3 | 23 |
| Fox Network (East) | G3 | 2  |
| Global TV          | E2 | 12 |
| NBC (East)         | C1 | 8  |
| NBC (East)         | C1 | 9  |
| NBC-KCNC (West)    | C1 | 14 |
| PBS (A feed)       | S1 | 23 |
| PBS (B feed)       | S1 | 5  |
| PBS (C feed)       | S1 | 3  |
| PBS (D feed)       | S1 | 9  |

### NETWORKS AFFILIATES

|                      |    |    |
|----------------------|----|----|
| ABC Affiliates Feeds | T1 | 6  |
| ABC Contract Channel | T1 | 11 |
| BCTV—Vancouver (CTV) | E2 | 20 |
| CBMT—Montreal (CBC)  | E2 | 22 |
| KCNC—Denver (NBC)    | C1 | 14 |
| KMGH—Denver (CBS)    | C1 | 6  |
| KRMA—Denver (PBS)    | C1 | 3  |
| KUSA—Denver (ABC)    | C1 | 2  |
| WABC—New York (ABC)  | F2 | 4  |
| WRAL—Chicago (CBS)   | F2 | 2  |
| WDIV—Detroit (NBC)   | E2 | 9  |
| WJBK—Detroit (CBS)   | E2 | 23 |
| WTVS—Detroit (PBS)   | E2 | 21 |
| WXIA—Atlanta (NBC)   | F2 | 12 |
| WXYZ—Detroit (ABC)   | E2 | 10 |

### NEWS AND INFORMATION

|                                   |    |    |
|-----------------------------------|----|----|
| All News Channel                  | F2 | 7  |
| Cable News Network                | G1 | 7  |
| CBC Newsworld                     | E2 | 16 |
| CNBC/FNN                          | F3 | 6  |
| CNN Contract Channel (N.Y. feeds) | G2 | 5  |
| CNN Contract Channel (News feeds) | W5 | 1  |
| CNN Headline News                 | G1 | 8  |
| CNN Headline News-O/V             | W5 | 3  |
| CNN International                 | G2 | 1  |
| CNN Telemundo Newsfeeds           | W5 | 23 |
| Worldnet/CSPAN/VOA                | F2 | 5  |

### NETWORK FEEDS (Occasional Video)

|                         |    |    |
|-------------------------|----|----|
| ABC Affiliate feeds     | T2 | 11 |
| ABC Affiliate feeds—O/V | G6 | 18 |
| ABC feeds               | T1 | 4  |
| CBC—O/V                 | E2 | 5  |
| CBC—O/V                 | E2 | 17 |
| CBS Affiliates feeds    | T1 | 15 |
| CBS Affiliates feeds    | T2 | 15 |
| CBS Affiliates feeds    | T2 | 19 |

|                         |    |    |
|-------------------------|----|----|
| CBS Contract Channel    | W5 | 7  |
| CBS—Occasional Video    | T2 | 22 |
| Fox News                | S1 | 1  |
| Global—Occasional Video | E1 | 19 |

### WILD FEEDS (Occasional Video)

|                        |    |    |
|------------------------|----|----|
| Able Telecommunication | G6 | 16 |
| ATT—Occasional Video   | T2 | 14 |
| Group W                | W5 | 18 |
| Hughes TV Network      | W5 | 8  |
| Hughes TV Network      | W5 | 13 |
| Hughes TV Network      | T1 | 5  |
| Hughes TV Network      | T1 | 13 |
| Hughes TV Network      | T1 | 20 |
| Video Tape Co.         | T1 | 21 |
| Warner Bros. TV        | T1 | 3  |

### PAY-PER-VIEW

|                         |    |    |
|-------------------------|----|----|
| Action Pay-per-view     | S3 | 6  |
| Cable Video Store       | F4 | 4  |
| Playboy at Night        | F4 | 22 |
| Request-TV 1            | F3 | 21 |
| Request-TV 2            | F3 | 4  |
| Spice                   | F4 | 18 |
| TVN Promotional Channel | T3 | 24 |
| TVN Theater 1           | T3 | 1  |
| TVN Theater 2           | T3 | 2  |
| TVN Theater 3           | T3 | 3  |
| TVN Theater 4           | T3 | 4  |
| TVN Theater 5           | T3 | 5  |
| TVN Theater 6           | T3 | 6  |
| TVN Theater 7           | T3 | 7  |
| TVN Theater 8           | T3 | 8  |
| TVN Theater 9           | T3 | 9  |
| TVN Theater 10          | T3 | 20 |
| Viewer's Choice 1       | G3 | 21 |
| Viewer's Choice 2       | G3 | 16 |

### RELIGION

|                                |    |    |
|--------------------------------|----|----|
| 3 Angels Broadcasting          | S1 | 7  |
| Alternate View Network         | F3 | 1  |
| American Christian TV System   | G3 | 7  |
| Eternal Word TV Network        | G3 | 10 |
| Keystone Inspirational Network | S1 | 13 |
| National Christian Network     | G6 | 6  |
| New Inspirational Network      | F3 | 18 |
| Oral Roberts                   | G6 | 24 |
| The University Network         | W5 | 2  |
| Trinity Broadcasting Network   | F3 | 3  |
| Vision TV                      | E1 | 15 |
| VISN                           | F3 | 5  |

### SPECIAL INTEREST

|                                   |    |    |
|-----------------------------------|----|----|
| AFRTS                             | S2 | 20 |
| C-SPAN 1 (House)                  | G3 | 24 |
| C-SPAN 2 (Senate)                 | G3 | 14 |
| CBC Parliamentary Net. (Eng.—6.8) | E2 | 24 |
| CBC Parliamentary Net. (Fr.—7.38) | E2 | 24 |
| Emergency Educational Network     | S1 | 1  |
| Hospital Satellite Network        | S1 | 11 |
| NASA-Select Channel               | F2 | 13 |
| OPEN / net                        | W5 | 24 |
| Satellite Show                    | S1 | 13 |
| Silent Network                    | F4 | 22 |
| The Travel Channel                | F3 | 9  |
| The Weather Channel               | G3 | 13 |
| Voice of America/Worldnet         | S2 | 3  |
| Weather Network 6.8 Fr./7.8 Eng.  | E2 | 1  |
| World Harvest TV                  | G6 | 15 |

### SPORTS

|                           |    |    |
|---------------------------|----|----|
| ESPN                      | G1 | 9  |
| ESPN                      | S2 | 11 |
| ESPN Blackout Network     | G1 | 6  |
| Home Sports Entertainment | C1 | 10 |
| Home Team Sports          | S3 | 23 |

|                               |    |    |
|-------------------------------|----|----|
| KBL Sportschannel             | S2 | 19 |
| Madison Square Garden Network | F4 | 6  |
| Midwest Sports Channel        | W5 | 20 |
| New England Sports Network    | F4 | 13 |
| Pacific Northwest             | C1 | 18 |
| Prime Network                 | F3 | 11 |
| Prime Sports Northwest        | C1 | 22 |
| Prime Ticket                  | C1 | 7  |
| Pro Am Sports System          | S3 | 21 |
| SportsChannel—America         | F4 | 3  |
| SportsChannel—Bay Area        | F4 | 2  |
| SportsChannel—Chicago         | F4 | 9  |
| SportsChannel—Florida         | F4 | 14 |
| SportsChannel—Los Angeles     | C1 | 20 |
| SportsChannel—New England     | F4 | 23 |
| SportsChannel—New York        | F4 | 7  |
| SportsChannel—Ohio            | F4 | 16 |
| SportsChannel—Philadelphia    | F4 | 1  |
| SportsChannel—Plus            | F4 | 11 |
| SportSouth                    | W5 | 16 |
| Sunshine Network              | C1 | 24 |
| TSN (The Sports Network)      | E2 | 2  |

### SUPERSTATIONS

|                  |    |    |
|------------------|----|----|
| KTLL—Los Angeles | S3 | 15 |
| KTVT—Fort Worth  | S3 | 5  |
| KWGN—Denver      | C1 | 23 |
| TBS              | G1 | 18 |
| WGN—Chicago      | G1 | 3  |
| WPIX—New York    | S3 | 9  |
| WSBK—Boston      | S3 | 3  |
| WWOR—New York    | G1 | 15 |

### VARIETY

|                             |    |    |
|-----------------------------|----|----|
| Agnet                       | C1 | 10 |
| Alaska Satellite TV Project | C5 | 24 |
| Arts & Entertainment        | G1 | 12 |
| Black Entertainment TV      | F3 | 20 |
| Caribbean Superstation      | W5 | 6  |
| Channel America             | S2 | 5  |
| CHCH—Hamilton               | E2 | 8  |
| CITV—Edmonton               | E2 | 18 |
| Comedy Central (East)       | G1 | 1  |
| Comedy Central (West)       | G3 | 23 |
| Court TV                    | F3 | 12 |
| CTNA                        | W5 | 13 |
| E! Entertainment TV         | F3 | 15 |
| Family Channel (East)       | G1 | 11 |
| Family Channel (West)       | F3 | 14 |
| FamilyNet                   | F4 | 5  |
| Infonet                     | F4 | 24 |
| Keystone feeds              | T1 | 9  |
| KUBD—Denver                 | C1 | 3  |
| Las Vegas TV Network        | S4 | 20 |
| Lifetime (East)             | G3 | 20 |
| Lifetime (West)             | F3 | 17 |
| National College TV-O/V     | W5 | 4  |
| Nickelodeon (East)          | G3 | 19 |
| Nickelodeon (West)          | G3 | 22 |
| NuStar Promotional Channel  | G3 | 12 |
| Superstar Prevue Guide      | F4 | 8  |
| The Disney Channel (East)   | G1 | 4  |
| The Disney Channel (West)   | G1 | 24 |
| The Nashville Network       | G1 | 2  |
| USA Network (East)          | G1 | 21 |
| USA Network (West)          | F3 | 10 |

### WHAT THE SYMBOLS MEAN

|                              |
|------------------------------|
| ♦ Scrambled—(VideoCipher II) |
| ♦ Scrambled—(Oak Orion)      |
| ♦ Scrambled—(Leitch)         |
| ♦ Scrambled—(Not Available)  |
| □ Vertical                   |
| ■ Horizontal                 |
| O/V — Occasional Video       |



"Document Control"

TYPE: INFORMATION

DOCUMENT NUMBER: 9202971

ORIGINATOR: 02

STATUS C

DIRECTORATE STATUS

\*\*\*\*\*

FROM: AGEE, Ernest M.: PURDUE UNIVERSITY

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 08/10/92

SUBJECT: HE IS FORWARDING A COPY OF THEIR ANNUAL RESEARCH  
REPORT.

\*\*\*\*\*

DIRECTORATE  
ASSIGNED:

STAFF  
ASSIGNED:

ACTION  
REQUIRED:

STAFF  
ACTION:

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SENDER'S DUE DATE:

OSTP DUE DATE:  
DATE COMPLETED:

STAFF DUE DATE  
DATE COMPLETED/DEPT:

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COPIES TO: D. Allan Bromley  
ENVIRONMENT

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REMARKS: ENCLOSURES TO DR. BROMLEY.

OSTP RECEIVED: 10/01/92  
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## PURDUE UNIVERSITY



DEPARTMENT OF EARTH  
AND ATMOSPHERIC SCIENCES

10 August 1992

Dr. Allen Bromley  
Presidential Science Advisor  
Office of Science and Technology Policy  
Old Executive Office Building  
17th and Pennsylvania Avenue, NW  
Washington, D.C. 20506

Dear Dr. Bromley:

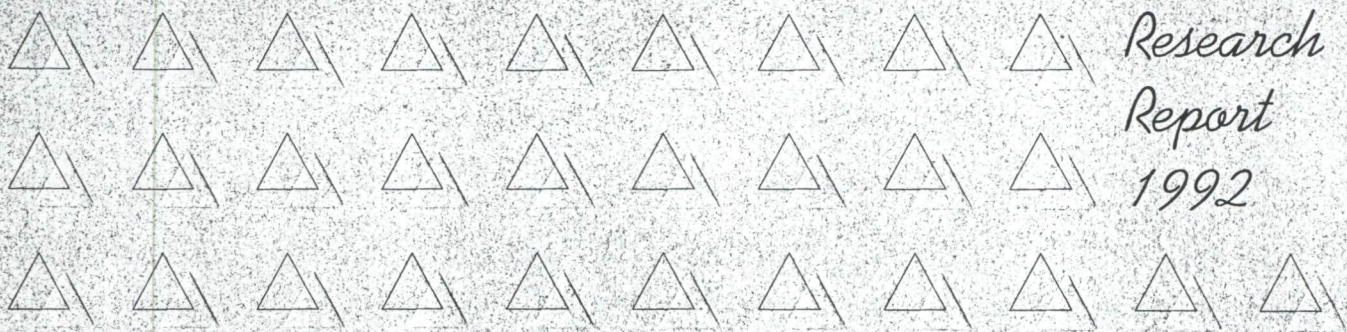
On behalf of the Department of Earth and Atmospheric Sciences, I'm pleased to enclose a copy of our Annual Research Report for 1991-92. Hopefully, this will serve to better inform you of our research programs, activities and accomplishments during the past year.

Sincerely,

A handwritten signature in cursive script that reads "Ernest M. Agee".

Ernest M. Agee  
Professor and Head





*Research  
Report  
1992*

*Department of*    **E      R   T   H   &**  
**   T   M   O   S   P   H   E   R   I   C**  
**S   C   I   E   N   C   E   S**

*Purdue University*



TYPE: ACTION  
ORIGINATOR: 02

STATUS I

DOCUMENT NUMBER: 9202682  
DIRECTORATE STATUS

FROM: LEIGHTON, Morris W.: ASSOCIATION OF AMERICAN STATE GEOLOGISTS

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 08/05/92

SUBJECT: HE IS WRITING TO NOMINATE WILLIAM BUSCH TO SERVE ON  
THE GEOLOGICAL MAPPING ADVISORY COMMITTEE.

DIRECTORATE  
ASSIGNED: DIRECTOR'S OFFICE

STAFF  
ASSIGNED:

ACTION  
REQUIRED: AS APPROPRIATE

STAFF  
ACTION:

SENDER'S DUE DATE:  
OSTP DUE DATE: 09/23/92

STAFF DUE DATE  
DATE COMPLETED/DEPT: 9/24/92

COPIES TO: ENVIRONMENT  
D. Allan Bromley

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EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF SCIENCE AND TECHNOLOGY POLICY  
WASHINGTON, D.C. 20506

September 24, 1992

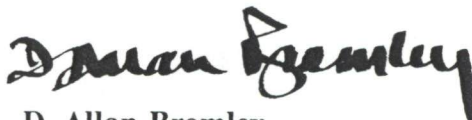
Dear Mr. Leighton:

Thank you for your letter regarding the appointment of a representative for the Office of Science and Technology Policy (OSTP) to the Geologic Mapping Advisory Committee to advise the Director of the United States Geological Survey on planning and implementation of the geologic mapping program. I appreciate your suggestion for a candidate but, in order for our representative to be most effective, I wish to appoint a representative of OSTP who is a member of the OSTP staff.

Accordingly, I would hereby like to appoint Dr. Nancy G. Maynard, Assistant Director for the Environment, as the representative for the Office of Science and Technology Policy to the Geologic Mapping Advisory Committee. Her background, experience, and present responsibilities at OSTP combine to make her a particularly well-qualified and appropriate representative to that committee.

I appreciate your concern for quality membership on this committee and might suggest that you contact Dr. Maynard at (202) 456-6202 to discuss your concerns and suggestions regarding the activities of the committee.

Sincerely yours,



D. Allan Bromley  
Director

Mr. Morris W. Leighton  
President  
Association of American State Geologists  
Illinois State Geological Survey  
121 Natural Resources Building  
615 E. Peabody Drive  
Champaign, Illinois 61820

AASG

## ASSOCIATION OF AMERICAN STATE GEOLOGISTS

RECEIVED

32 SEP 9 P 6: 58

OSTP  
MAIL ROOM

August 5, 1992

Dr. D. Allan Bromley  
The Assistant to the President for  
Science Technology and Director,  
Office of Science & Technology Policy  
Old Executive Office Building  
17th Street & Pennsylvania Ave., NW  
Washington, DC 20506

Dear Dr. Bromley:

The recently passed National Geologic Mapping Act of 1992, Public Law 102-285, specifies that, "The President shall appoint one representative each from the Environmental Protection Agency, the Department of Energy, the Department of Agriculture, and the Office of Science and Technology Policy" to a sixteen-member geologic mapping advisory committee to advise the Director of the United States Geological Survey on planning and implementation of the geologic mapping program. In furtherance of the purposes of this Act, our Association of American State Geologists, representing the State Geological Surveys, wishes to recommend for your consideration Mr. William Busch as a representative of OSTP to serve as a member on the geologic mapping advisory committee. As you doubtless know, Mr. Busch was formerly Senior Policy Analyst with OSTP and is now Assistant Director of Energy Technologies, NOAA, in the Office of Global Programs. While working in that capacity, he is also continuing a close relationship with OSTP through one of the FCCET Committees as Chairman of the Global Changes Working Group on Private Enterprise and Government Interaction.

Mr. Busch's knowledge, leadership qualities, and demonstrated administrative abilities uniquely qualify him for this assignment. We ask that he be given serious consideration as the President's appointee to this vital and distinguished committee, one that will help guide the development of basic geologic mapping in the scale required to assist the nation in economic development and environmental protection. The implementation and administration of the National Geologic Mapping Act will require the careful and insightful stewardship that Mr. Busch can provide.

Cordially,



Morris W. Leighton  
President

xc: Dr. Dallas Peck, Director USGS

**PRESIDENT\***

Morris W. Leighton  
Illinois State Geological Survey  
121 Natural Resources Bldg.  
615 E. Peabody Dr.  
Champaign, IL 61820  
Phone: 217-333-5111  
FAX: 217-244-7004

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New York Geological Survey  
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FAX: 518-473-8469

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FAX: 503-731-4066

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FAX: 717-772-2291

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Walter Schmidt  
Florida Geological Survey  
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FAX: 614-447-1918

**HISTORIAN**

Donald L. Koch  
Iowa Geological Survey  
123 N. Capitol St.  
Iowa City, IA 52242  
Phone: 319-335-1575  
FAX: 319-335-2754





**ISGS**

**Memo**

Dr. D. Allan Bromley

Date: 9/1/92

Re:

☐ Take necessary action

☐ For your approval

☐ Reply

☐ For your comments

☐ For your information

☐ Draft (letter)(memo) for my signature

☐ Per your request

☐ See me about attached

☐ Return

☐ File

☐ Route

**Remarks:**

I understand that the attached letter, mailed August 5th, 1992 was not received by your office; hence I am forwarding another copy.

M. W. Leighton

JUL 29 1992

"Document Control"

TYPE: ACTION

ORIGINATOR: 02

STATUS I

DOCUMENT NUMBER: 9202590

DIRECTORATE STATUS

\*\*\*\*\*

FROM: GARRETT, W.E.: LA RUTA MAYA

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 07/23/92

SUBJECT: HE IS WRITING TO SEEK ASSISTANCE AND FUNDING FOR A  
PROJECT TO PRESERVE CORAL REEFS IN THE CARIBBEAN.

\*\*\*\*\*  
DIRECTORATE

ASSIGNED: ENVIRONMENT

STAFF  
ASSIGNED:

ACTION

REQUIRED: AS APPROPRIATE

STAFF  
ACTION:

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SENDER'S DUE DATE:

OSTP DUE DATE: 08/07/92

DATE COMPLETED:

STAFF DUE DATE  
DATE COMPLETED/DEPT:

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COPIES TO: D. Allan Bromley  
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OSTP RECEIVED: 07/27/92  
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# La Ruta Maya

CONSERVATION FOUNDATION

July 23, 1992

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Carolinas Medical Center

Beatriz Zunista-Seigne  
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Guatemala

Dr. D. Allen Bromley  
Assistant to the President  
Science and Technology  
Old Executive Office Bldg  
Suite 358  
Washington, DC 20500

*Dr. D. Bromley*

Forgive me for imposing on what may be a very hectic schedule. Our Foundation has been trying to buy an island in the Bay Islands of Honduras and have it and the surrounding coral reefs declared a biosphere reserve. In order to make the island self-sufficient, we are recommending that a combination eco-tourist facility and marine research lab be built on one end of the island.

We are searching for both financial and academic support. The 1500 acre island has been in private hands since it was captured by pirate Henry Morgan. It has not been logged, farmed or developed and is presently owned by a American family in Mobile, Alabama. The reef is immaculate and considered by those who have dived it to be the finest in the Caribbean. It could well be the finest place in the region to do a base line study of healthy reef life. There are no local sources of pollution to alter it's natural state.

I'll enclose a bit more information if you would like to read more. Naturally, I would be delighted to pay a call to explain our project. But, short of that, what we would very much appreciate is contacts in the United States, Japan and elsewhere who might be interested in our project and could advise or support us.

As you will see from the enclosed curriculum vitae, I have absolutely no expertise in coral ecology though as editor of the National Geographic Magazine, I did publish many articles on the subject because of a fascination for the reefs. In the years since I've been involved, they have suffered greatly, especially those in Florida.

With thanks for your time,

*Sincerely*  
*D. Allen Bromley*

209 SENECA ROAD • GREAT FALLS, VIRGINIA 22066 • (703) 450-4160 FAX (703) 450-4170



## A BIOGRAPHY

### W. E. (Bill) Garrett

#### NATIONAL GEOGRAPHIC CAREER

During his ten years as Editor of the National Geographic Magazine, W. E. (Bill) Garrett led it to the highest circulation and the largest income in its 102 years. In his thirty-six years on the staff, the Magazine grew from a circulation of 2 million into one of the largest and most respected publications in the world with a monthly circulation of nearly 11 million.

Bill wrote and/or photographed 32 major articles from every continent except Antarctica, wrote 120 editor's columns, several book chapters, co-produced the award-winning television special "Alaska!" which was based on his adventures there, created numerous landmark photographic exhibitions, and produced three Atlases for the National Geographic Society. As a member of the Board of Trustees of the Society and its Research and Exploration Committee, he was instrumental in the Geographic's emergence as the world's largest educational and scientific institution.

#### ENVIRONMENTAL ACTIVITY

Bill received in 1990 the Chevron Environmental Award. Other environmental awards include the Leadership Medal of the United Nations Environmental Program, the National Parks and Conservation Association Citation for Outstanding Service and The Trustee of America, the highest award of the Mary Washington College Center for Historic Preservation.

#### BOARD MEMBERSHIPS

He serves on the Board of Governors of The Nature Conservancy where he chairs its International Committee, is on the Senior Advisory Council of Woodlands Institute, the Boards of Partners for Livable Places, the International Center of Photography, the W. Eugene Smith Fund, the University of Missouri Alumni Magazine Advisory Board, and the Advisory Councils of the Textile Museum and the Accokeek Foundation.

#### SERVICE AWARDS

In 1987, President Marco Venecio Cerezo presented Bill a medal for "distinguished service to Guatemala" for his leadership in the La Ruta Maya conservation project. This year Mexico presented him their prestigious "Silver Pen Award" for his writing on the same subject. The National Conference of Christians and Jews awarded him the "Distinguished Citizen of the Midwest Award" in 1986. The University of Miami conferred a doctor of letters degree "in recognition of high attainment and distinguished service." In November, 1990 Guatemala presented their highest honor The Order of the Quetzal.

#### JOURNALISM AWARDS

In the field of Journalism Bill Garrett's awards include the University of Missouri School of Journalism Gold Medal, Syracuse University's Newhouse Citation for Distinguished Service, the National Press Photographers Association award for "distinguished service to the profession of journalism," and the Holography Museum's Outstanding Achievement Award. Over the years he has received many awards for his photography from the White House News Photographers Association, the Overseas Press Club, the University of Missouri/National Press Photographers Competition—topped by being named Magazine Photographer of the Year in 1968 for his Vietnam War coverage.



Under his leadership the National Geographic Magazine and its staff have won hundreds of awards including the 1984 National Magazine Award for excellence — considered the Pulitzer Prize of the magazine field. This past year the Magazine won the National Magazine Award for the best single issue for its July, 1989 issue in celebration of the French bicentennial.

PERSONAL  
PUBLISHING

Bill has been contributor, writer or editor of many books including the conception and editing of Photojournalism 76 which gave birth to the Photojournalism Annual now in its 15th year.

EDUCATION/  
MILITARY

Born in Kansas City, Missouri, he holds a Bachelor in Journalism from the University of Missouri and an Associate in Engineering. He has taught at the Missouri Photo Workshop 12 years. Studies at the University were interrupted while he served 2 years in Navy Squadron VF 884 in the Korean war.

SPORTS  
HOBBIES  
CLUBS

In his younger years Bill was active in baseball, basketball, and football. In mid-life he raced without distinction in the Baja Mexico Road Race. Now arthritic joints limit his sports to week-end tennis. His most satisfying hobby— growing grapes and making wines from his home vineyard in Great Falls, Virginia. Club memberships include the Commanderie de Bordeaux, Cosmos Club, National Press Club, Overseas Writers, White House News Photographers.

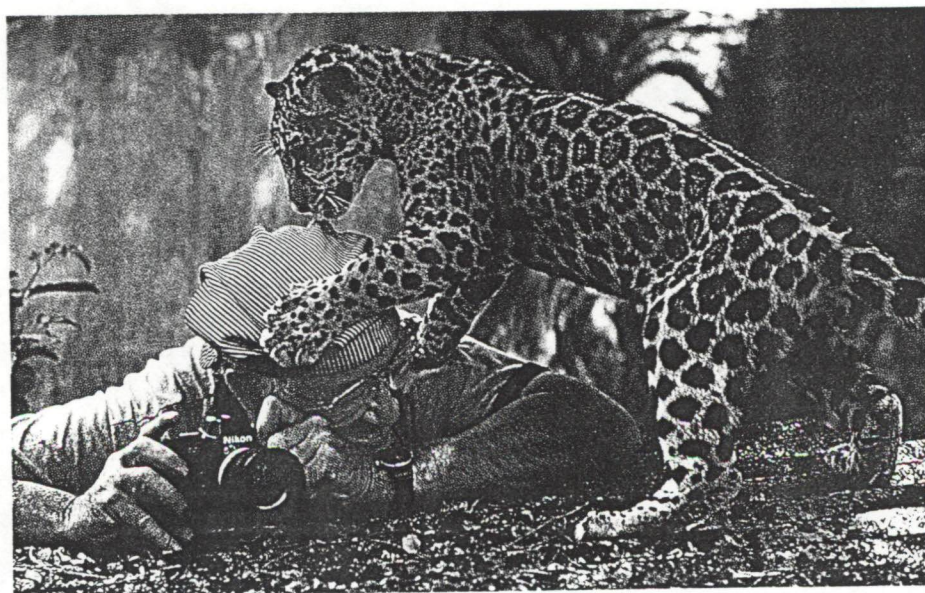
FAMILY

His proudest achievement he shares with Lucille, his wife of 40 years—raising two fine sons who married two talented ladies who have presented the Garretts with 4 beautiful and intelligent grandchildren.

TODAY,  
TOMORROW

Since leaving the National Geographic Magazine in April, 1990, after 36 years, W. E. (Bill) Garrett has travelled often to Latin America on environmental projects. He is the President of La Ruta Maya Conservation Foundation which was founded to pursue a project in the homelands of the ancient Maya designed to prove that development can proceed in a rational and sustainable manner that will improve the lifestyle of the people and at the same time conserve the region's cultural and environmental assets.

He is active in other environmental organizations and involved in several publishing projects—all of which interfere with his wine-making.





JUL 29 1992

"Document Control"

TYPE: ACTION DOCUMENT NUMBER: 9202590  
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS  
\*\*\*\*\*

FROM: GARRETT, W.E.: LA RUTA MAYA

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 07/23/92

SUBJECT: HE IS WRITING TO SEEK ASSISTANCE AND FUNDING FOR A  
PROJECT TO PRESERVE CORAL REEFS IN THE CARIBBEAN.

Action  
Remind me

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: ENVIRONMENT ASSIGNED:

ACTION STAFF  
REQUIRED: AS APPROPRIATE ACTION:

\*\*\*\*\*  
SENDER'S DUE DATE:  
OSTP DUE DATE: 08/07/92 STAFF DUE DATE  
DATE COMPLETED: DATE COMPLETED/DEPT:

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COPIES TO: D. Allan Bromley  
INTERNATIONAL/POLICY

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WHITE HOUSE TRACKING #: CONTACT PERSON:  
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OSTP RECEIVED: 07/27/92 DEPT RECEIVED:  
FILE: P-ENVIRONMENT  
CENTRAL FILES:





# La Ruta Maya

CONSERVATION FOUNDATION

2590

July 23, 1992

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Dr. D. Allen Bromley  
Assistant to the President  
Science and Technology  
Old Executive Office Bldg  
Suite 358  
Washington, DC 20500

*Dr. Bromley*

Forgive me for imposing on what may be a very hectic schedule. Our Foundation has been trying to buy an island in the Bay Islands of Honduras and have it and the surrounding coral reefs declared a biosphere reserve. In order to make the island self-sufficient, we are recommending that a combination eco-tourist facility and marine research lab be built on one end of the island.

We are searching for both financial and academic support. The 1500 acre island has been in private hands since it was captured by pirate Henry Morgan. It has not been logged, farmed or developed and is presently owned by a American family in Mobile, Alabama. The reef is immaculate and considered by those who have dived it to be the finest in the Caribbean. It could well be the finest place in the region to do a base line study of healthy reef life. There are no local sources of pollution to alter it's natural state.

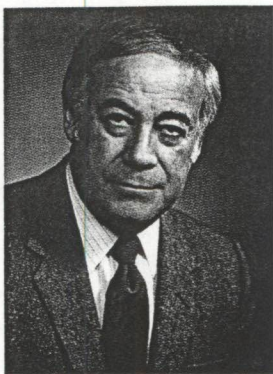
I'll enclose a bit more information if you would like to read more. Naturally, I would be delighted to pay a call to explain our project. But, short of that, what we would very much appreciate is contacts in the United States, Japan and elsewhere who might be interested in our project and could advise or support us.

As you will see from the enclosed curriculum vitae, I have absolutely no expertise in coral ecology though as editor of the National Geographic Magazine, I did publish many articles on the subject because of a fascination for the reefs. In the years since I've been involved, they have suffered greatly, especially those in Florida.

With thanks for your time,

*Sincerely*

*Dr. D. Allen Bromley*



## A BIOGRAPHY

### W. E. (Bill) Garrett

#### NATIONAL GEOGRAPHIC CAREER

During his ten years as Editor of the National Geographic Magazine, W. E. (Bill) Garrett led it to the highest circulation and the largest income in its 102 years. In his thirty-six years on the staff, the Magazine grew from a circulation of 2 million into one of the largest and most respected publications in the world with a monthly circulation of nearly 11 million.

Bill wrote and/or photographed 32 major articles from every continent except Antarctica, wrote 120 editor's columns, several book chapters, co-produced the award-winning television special "Alaska!" which was based on his adventures there, created numerous landmark photographic exhibitions, and produced three Atlases for the National Geographic Society. As a member of the Board of Trustees of the Society and its Research and Exploration Committee, he was instrumental in the Geographic's emergence as the world's largest educational and scientific institution.

#### ENVIRONMENTAL ACTIVITY

Bill received in 1990 the Chevron Environmental Award. Other environmental awards include the Leadership Medal of the United Nations Environmental Program, the National Parks and Conservation Association Citation for Outstanding Service and The Trustee of America, the highest award of the Mary Washington College Center for Historic Preservation.

#### BOARD MEMBERSHIPS

He serves on the Board of Governors of The Nature Conservancy where he chairs its International Committee, is on the Senior Advisory Council of Woodlands Institute, the Boards of Partners for Livable Places, the International Center of Photography, the W. Eugene Smith Fund, the University of Missouri Alumni Magazine Advisory Board, and the Advisory Councils of the Textile Museum and the Accokeek Foundation.

#### SERVICE AWARDS

In 1987, President Marco Venecio Cerezo presented Bill a medal for "distinguished service to Guatemala" for his leadership in the La Ruta Maya conservation project. This year Mexico presented him their prestigious "Silver Pen Award" for his writing on the same subject. The National Conference of Christians and Jews awarded him the "Distinguished Citizen of the Midwest Award" in 1986. The University of Miami conferred a doctor of letters degree "in recognition of high attainment and distinguished service." In November, 1990 Guatemala presented their highest honor The Order of the Quetzal.

#### JOURNALISM AWARDS

In the field of Journalism Bill Garrett's awards include the University of Missouri School of Journalism Gold Medal, Syracuse University's Newhouse Citation for Distinguished Service, the National Press Photographers Association award for "distinguished service to the profession of journalism," and the Holography Museum's Outstanding Achievement Award. Over the years he has received many awards for his photography from the White House News Photographers Association, the Overseas Press Club, the University of Missouri/National Press Photographers Competition—topped by being named Magazine Photographer of the Year in 1968 for his Vietnam War coverage.



Under his leadership the National Geographic Magazine and its staff have won hundreds of awards including the 1984 National Magazine Award for excellence — considered the Pulitzer Prize of the magazine field. This past year the Magazine won the National Magazine Award for the best single issue for its July, 1989 issue in celebration of the French bicentennial.

PERSONAL  
PUBLISHING

Bill has been contributor, writer or editor of many books including the conception and editing of Photojournalism 76 which gave birth to the Photojournalism Annual now in its 15th year.

EDUCATION/  
MILITARY

Born in Kansas City, Missouri, he holds a Bachelor in Journalism from the University of Missouri and an Associate in Engineering. He has taught at the Missouri Photo Workshop 12 years. Studies at the University were interrupted while he served 2 years in Navy Squadron VF 884 in the Korean war.

SPORTS  
HOBBIES  
CLUBS

In his younger years Bill was active in baseball, basketball, and football. In mid-life he raced without distinction in the Baja Mexico Road Race. Now arthritic joints limit his sports to week-end tennis. His most satisfying hobby— growing grapes and making wines from his home vineyard in Great Falls, Virginia. Club memberships include the Commanderie de Bordeaux, Cosmos Club, National Press Club, Overseas Writers, White House News Photographers.

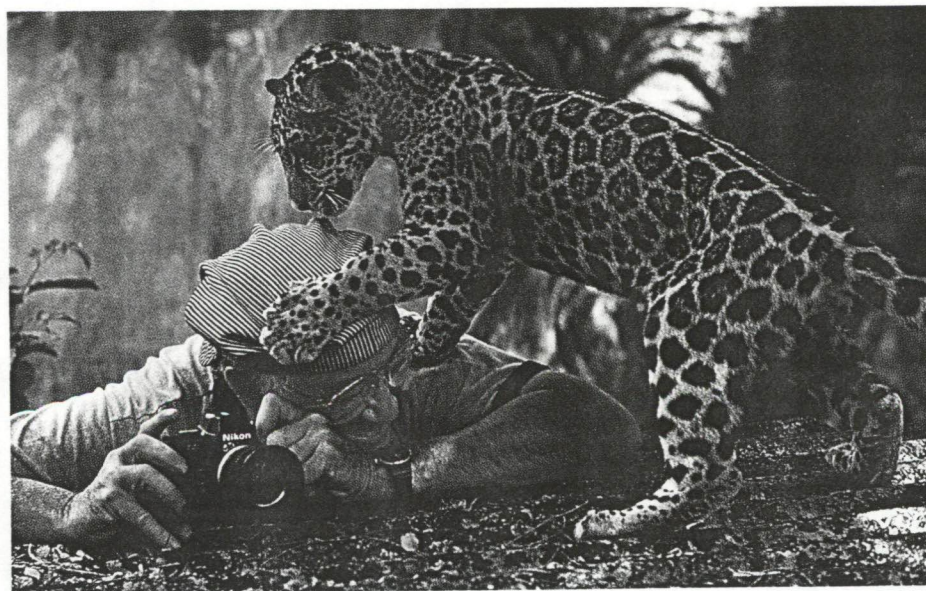
FAMILY

His proudest achievement he shares with Lucille, his wife of 40 years—raising two fine sons who married two talented ladies who have presented the Garretts with 4 beautiful and intelligent grandchildren.

TODAY,  
TOMORROW

Since leaving the National Geographic Magazine in April, 1990, after 36 years, W. E. (Bill) Garrett has travelled often to Latin America on environmental projects. He is the President of La Ruta Maya Conservation Foundation which was founded to pursue a project in the homelands of the ancient Maya designed to prove that development can proceed in a rational and sustainable manner that will improve the lifestyle of the people and at the same time conserve the region's cultural and environmental assets.

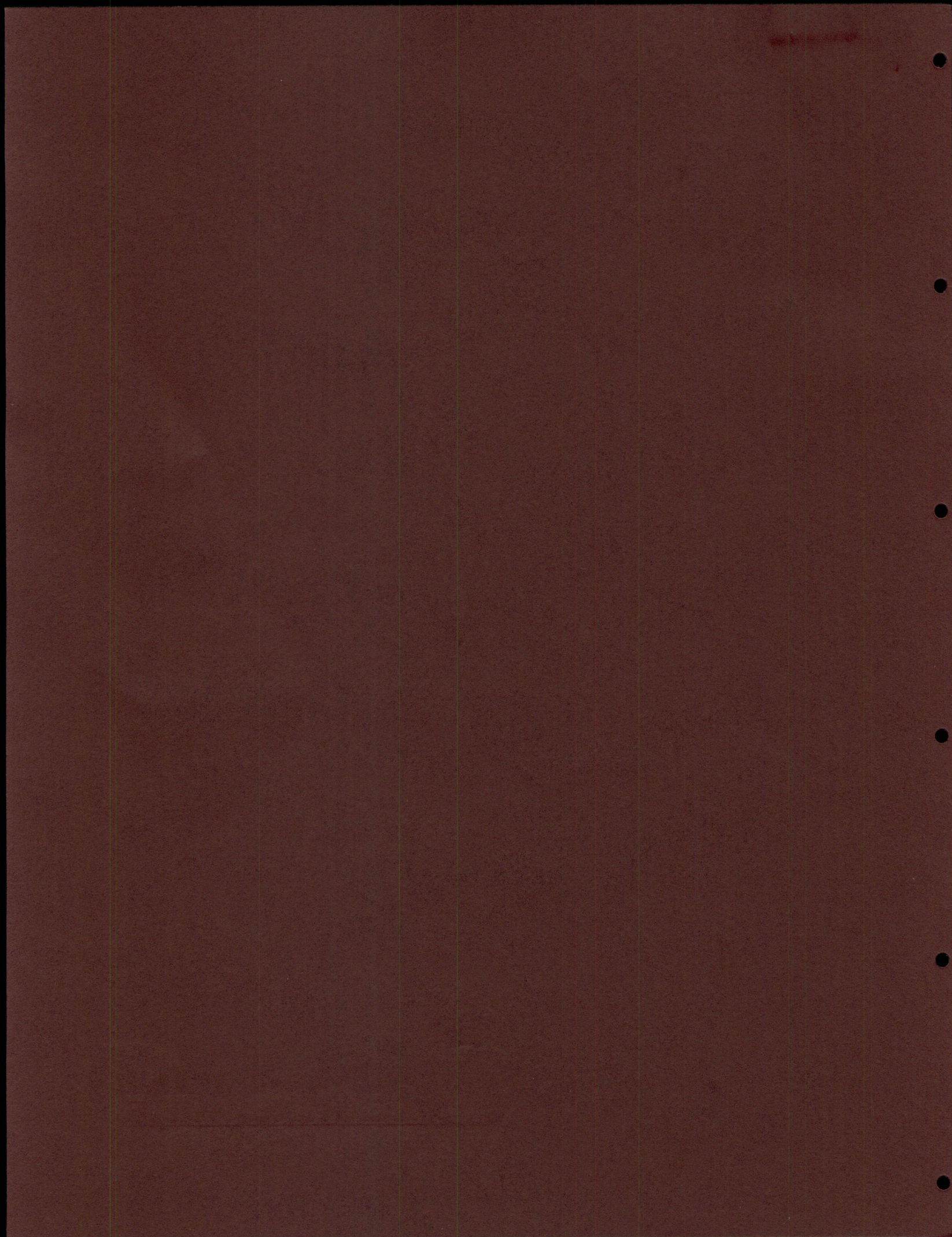
He is active in other environmental organizations and involved in several publishing projects—all of which interfere with his wine-making.















# La Ruta Maya

CONSERVATION FOUNDATION

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# A PROPOSAL of La Ruta Maya Conservation Foundation PRESERVATION OF BARBARETA ISLAND, HONDURAS





## **BARBARETA ISLAND--BAY ISLANDS, HONDURAS**

The **La Ruta Maya Conservation Foundation** is negotiating to buy Barbareta, one of Honduras's four Bay Islands, and have it and the surrounding reef designated a Honduran national park. A combination research station and ecotourist facility would make the park self-sustaining financially. An underwater habitat with a surface entrance could be built near one of the small reef islands offshore to provide scientists a facility for continuous study of the reef and ocean life. The same facility would serve as a unique tourist attraction. Passenger submarines would make the deep reef available for both study and tourism.

The best technical advice will be sought to make the entire project as environmentally sound as possible. Every effort will be made to use solar and wind power--natural breezes instead of air conditioning, horse or burro carts instead of trucks and cars etc.--in an effort to make the island free of any need for fossil fuels. It could become the standard for future eco-tourist tropical resorts.

## **HISTORY**

The Bay Islands stretch like a chain of jewels 140 kilometers across the western Caribbean off the north coast of Honduras. They first came to the attention of Europeans when Christopher Columbus hove to in the area in 1502 during his fourth voyage. His men captured two canoes loaded with people and trade goods. The people, it turned out, were the first Mayans to be encountered by Europeans.

Columbus's son Ferdinand, age 14, reported the encounter when one of the canoes was brought alongside the flagship:

*...it was as long as a galley and eight feet wide, all made of one tree...in the middle of it there was an awning of palm leaves, no different to the ones on the gondolas of Venice...Under the awnings were children, women, furniture, and merchandise...As provisions they had roots and grains.. wine made of maize..axes for wood cutting made of good copper and the crucibles to melt it in..*

As Columbus's men stole the Maya's spectacular woven fabric clothes right off their backs, Columbus noted that these people should make good Christians since they modestly tried to hide their private parts with their hands.



This first encounter took place at or near Barbareta, still today an unspoiled tropical paradise just east of Roatan--largest of the Bay Islands.

An archeological survey revealed several Maya sites--including pre-Columbian jade mines. They indicate the island was an important Maya maritime link with other areas of Central America. Copper hatchets and weapons adorned with gold have been reported among Maya items found there. Artifacts also revealed early British and Spanish sites.

Once heavily populated, it was eventually totally de-populated by the slave trade. The Bay Islands were alternately occupied by British pirates and Spanish settlers before becoming part of Honduras. Barbareta was bought by the present owners some 30 years ago from descendants of pirate Henry Morgan.

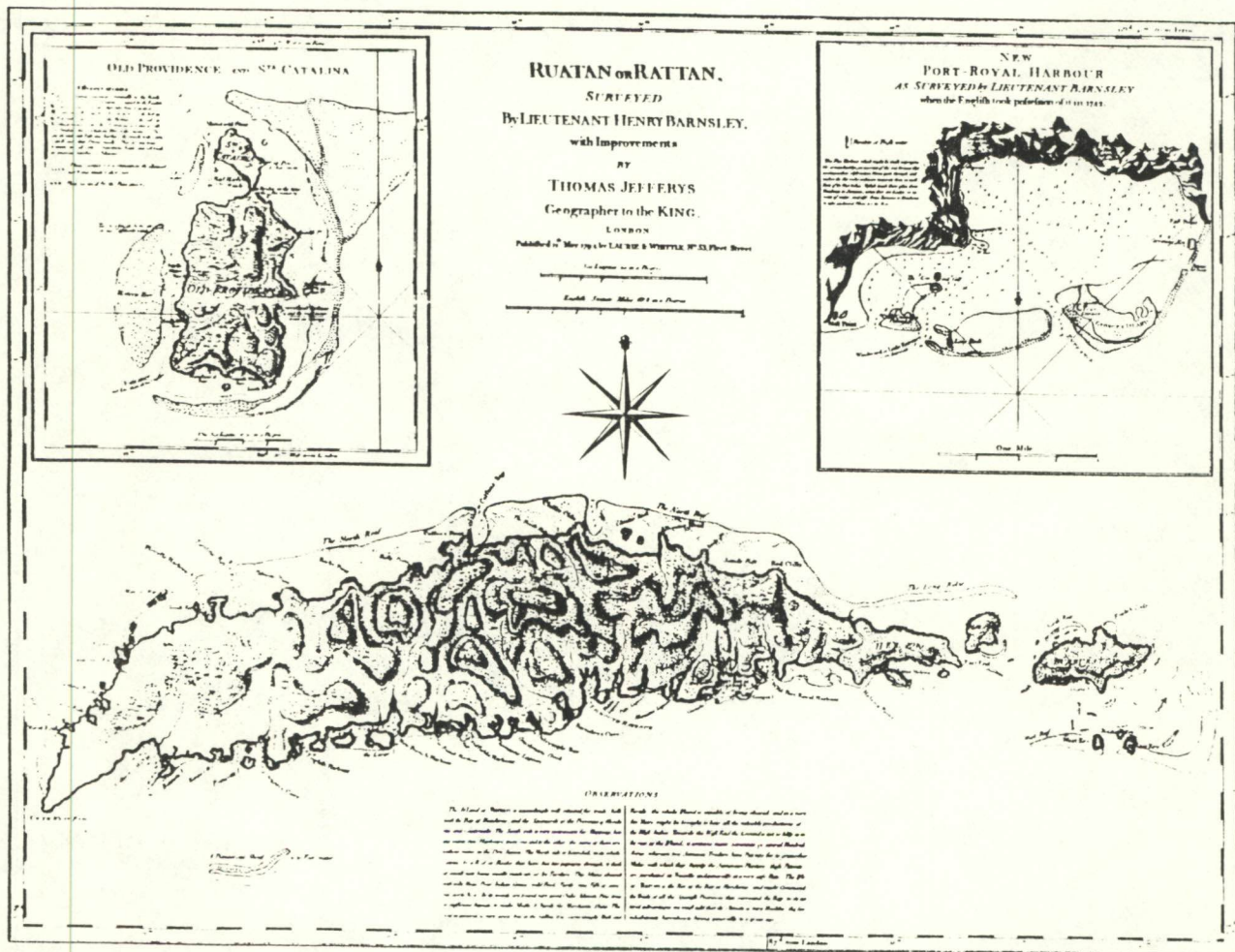


PLATE XVI. Jefferys 1794

*A British map of 1794 showing Roatan and Barbareta to the east with encircling reefs.*



## TODAY

Barbareta is a heavily wooded island some 3 miles long and 2 miles across at its widest point. The hilly terrain reaches some 300 feet. It has miles of white sandy beaches and is almost totally surrounded by pristine coral reefs--considered among the finest in the Caribbean. Prevailing currents from the east keeps the reef free of the pollution effecting Roatan's reefs.

Mean air temperature is 80 degrees fahrenheit and the water is 78--making it a diver's paradise. The vegetation ranges from mangrove to tropical forest. Avocados, coconuts, and other fruits are in abundance. There are deer, iguanas, and an endangered nocturnal agouti--a tiny rabbit-like rodent--now extinct on the other Bay Islands.

Nearby Roatan recently became a port of entry for Honduras. A small grass airstrip on Barbareta makes it easily accessible by plane as well as by boat. Barbareta, in private hands for many years, is in pristine condition--not having been developed, farmed, nor logged.

## PROPOSAL

The project we envision would include as partners the Honduran government, a Honduran environmental group, a University level research station and an ecotourist developer. The research facility would permit continuing studies of the adjacent reefs, ocean waters and island fauna and flora. The scientists--who would share the resort dining facility with the guests--would be available to provide lectures for the visitors.

The present owners are completely in accord with the need to conserve the island's rich environmental and cultural assets. However, they must sell. If we are unable to come up with \$50,000 for a twelve month option, it very likely will be sold soon for commercial development.

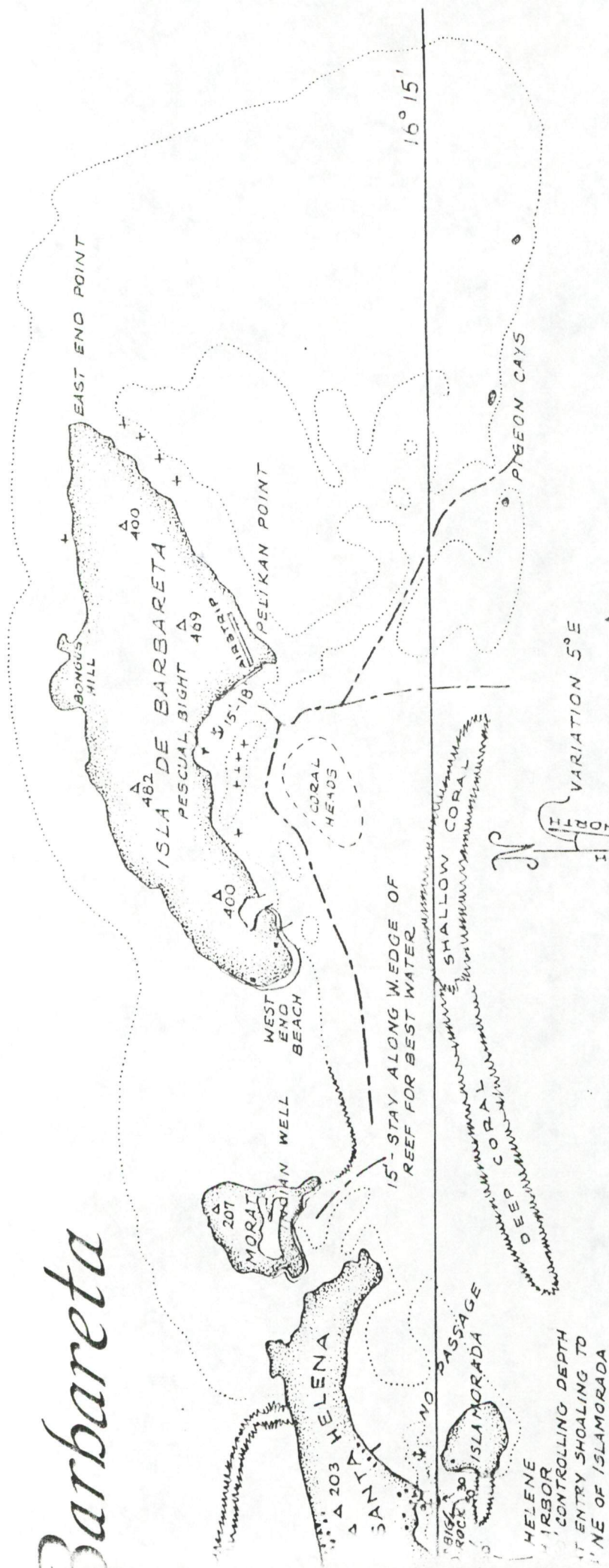
When Columbus first saw the awesome American rainforest islands and the naked inhabitants, he may well have thought he had stumbled upon the Garden of Eden. The well-travelled discoverer wrote on October 28, 1492, "Never have I beheld so fair a thing. Trees beautiful and green, and different from ours, with flowers and fruits each according to their kind: many birds and little birds which sing very sweetly."

While we know he had not found the Garden of Eden, Barbareta may be the closest thing left in the Caribbean. Let's not let it slip away.





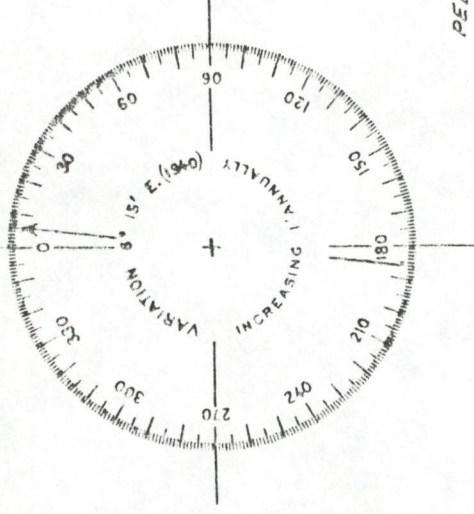
# Barbareta



NAUTICAL MILES  
ELEVATIONS IN FEET  
3 IN FEET

VARIATION 5° E

TRUE NORTH  
MAGNETIC NORTH



BETWEEN STAKES.

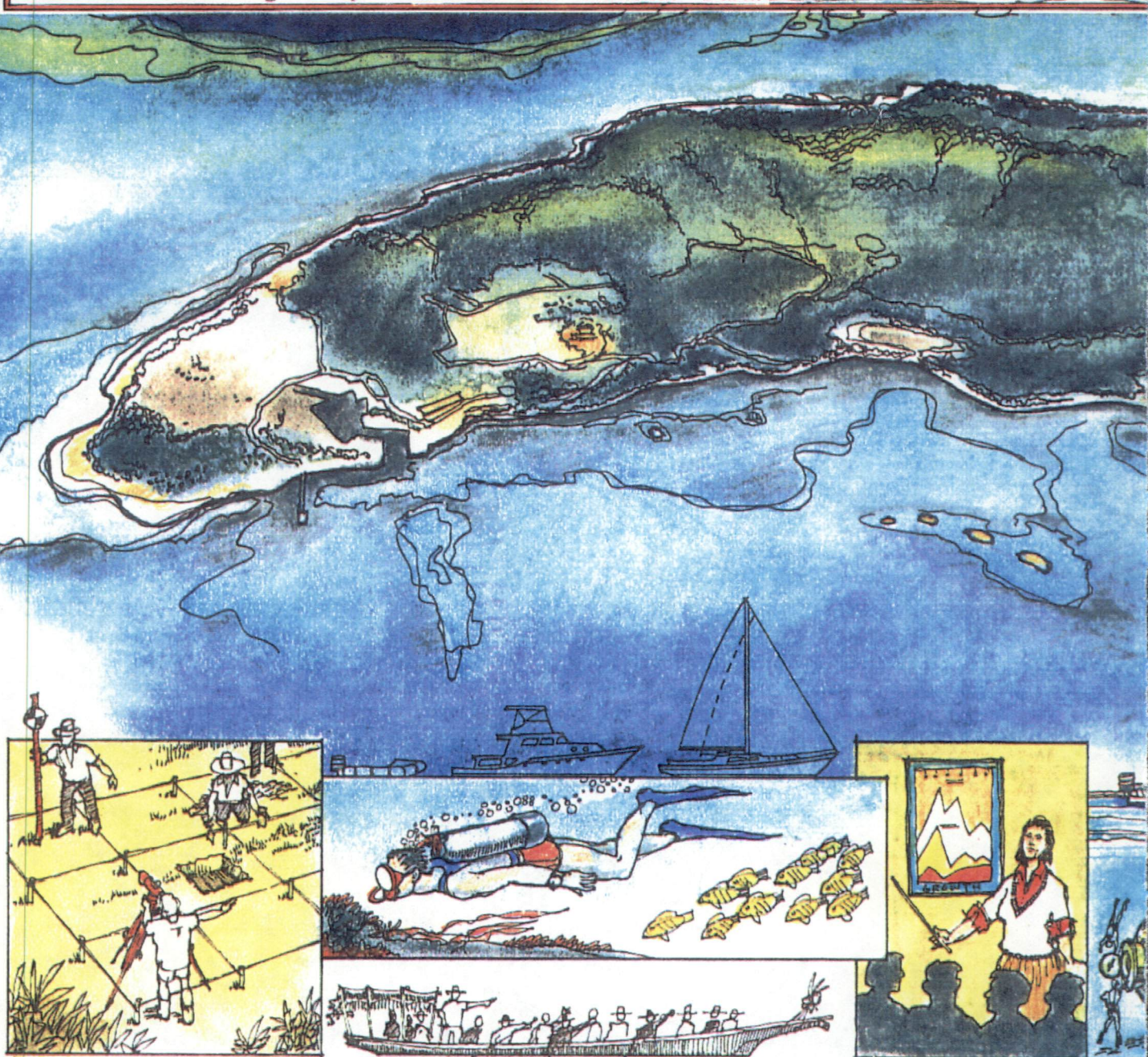


# Barbareta Island, Honduras

After Columbus sailed the coast of Honduras into the Bay Islands in 1502, he wrote to Queen Isabella, "Never have I beheld so fair a thing. Trees, beautiful and green, and different from ours, with flowers and fruits each according to their kind: Many birds and little birds which sing sweetly."

Barbareta, the smallest in a string of four Bay Islands of 1500 acres, lies in the center of a ring of spectacular coral reefs. La Ruta Maya Conservation Foundation proposes that the island be purchased and it and the coral reef be designated as a Honduran Biosphere Reserve and National Park.

To make the island a self-sustaining and economically viable reserve, we recommend building a combination ecotourism lodge and research station to provide continuing income to support environmental and cultural protection.





With available technology  
Barbareta could be a fossil  
fuel free island--powered  
by solar and wind energy.





## BARBARETA ISLAND PROJECT

April 14, 1992

*The Caribbean Sea has watched her green island gems succumb one by one to the ravages of uncontrolled exploitation and development. As these processes have been largely dictated by immediate economic considerations, the ecological consequences have devastated both terrestrial and marine ecosystems throughout the region.....hopes diminish of preserving for posterity an unspoiled remnant of the Caribbean isles. One of the few remaining is Barbareta Island, a paradise that rises from the cobalt depths of the western Caribbean in the Bay Islands of Honduras.*

*Dr. William Alevizon  
Marine Ecologist-Fish biologist  
University of Florida*

### PROJECT

To acquire the Island of Barbareta in the Bay Islands of Honduras and see it and the surrounding Coral Reefs preserved--hopefully declared a UNESCO Biosphere Reserve and a Honduran National Park. As the above excerpt from Dr. Alevizon's report to the **La Ruta Maya Conservation Foundation** makes clear, Barbareta and its reef constitute a rare treasure.

### THE ISLAND

At some 1450 acres, Barbareta is the third largest of the Bay Islands that run in an east--west chain 40 miles off the north coast of Honduras. The Bay Islands and the Maya people both first came to world attention when Columbus hove to in the area of Barbareta on his fourth voyage. His men captured two sea-going Maya trading canoes and brought them to the flagship for Columbus to see them.

Barbareta, the only privately owned island in the Bay Islands, rises to a ridgeline with peaks of some 450 feet. Several Maya ruins are found on the upper slopes. With the exception of a grass airstrip on the south and a bit of construction on the west end, it is covered with tropical rainforest characteristic of the region. Undisturbed sand beaches are interspersed with mangrove



and palm--fringed shorelines and rocky cliffs. Beyond the beaches are shallow lagoons rich with seagrass meadows and spectacular shallow and deep coral reefs--all in pristine condition. It is a microcosm of Caribbean island ecosystems. The surrounding waters seem to contain all the coral, fish, and other marine life endemic to the Western Caribbean.

The Bay Islands lie 800 miles south of Miami. Numerous daily international flights arrive at Roatan airport--a Honduran port of entry. There is no commercial connection to Barbareta.

## OWNERSHIP

For thirty years the Tonsmeire family have owned Barbareta through a Honduran corporation. It was purchased from the Morgan family--descendants of the notorious pirate Henry Morgan. The Tonsmeires are anxious that Barbareta be preserved and are willing to make sacrifices to achieve that end. They favor the **La Ruta Maya Conservation Foundation** plan outlined above. Spokesman for the family is Skipper Tonsmeire, eldest of eight brothers. Another brother, Pepper Tonsmeire, currently lives on the island as does a family of caretakers who harvest the coconuts to extract cooking oil. They also wage a continuous and losing battle to stop trespassers from stealing turtle eggs and the rare yellow head Amazon parrots for the pet market and from digging for Maya artifacts.

## PLAN

Knowing that neither Honduras nor the **La Ruta Maya Conservation Foundation** can afford to buy, maintain and protect Barbareta forever as a wilderness area, the plan has been to acquire the island and follow UNESCO guidelines for Biosphere Reserves--sustainable development permitted around an undisturbed core area. The plan, as first outlined, would be to build a combination eco-tourist facility and research station on approximately 10% of the island to generate enough income to maintain and protect the island in perpetuity.

Since a first-class marine research laboratory would probably be too costly for one university to build and staff, we will try to put together a consortium of schools from different countries. A natural extension of the lab would be regular undergraduate classes for credit taught on Barbareta. There are at least 100 Universities that offer marine biology courses. Ancillary Facilities could include a permanent underwater research facility on the reef that would also be accessible to tourists to view the reef without having to scuba dive. Marine engineers assure me this it would not be difficult to build. A small submarine could take tourists to the deeper reefs along the Barbareta Wall.

If feasible, the entire facility on Barbareta will be supplied by solar and wind power--making it a fossil-fuel free island. No sewage would be dumped into the ocean. The architecture should be designed for minimum physical, ecological or scenic damage to the natural beauty and environmental integrity of Barbareta. No automobiles would be permitted on the island--only electric(solar charged) carts and bicycles or tricycles.

Charter flights from the airstrip would be available to take visitors to Copan and other mainland attractions.



This plan was presented to President Rafael Leonardo Callejas in his office on January 23, 1992. He supports the general idea. It was also discussed with Honduran officials, environmentalist and private sector leaders. Ignacio Agurcia, Executive President of the Bay Island Environmental and Tourism Commission, has been most supportive.

## ACTIVITIES

The main tourist attraction of the Bay Islands is snorkeling and diving on the reefs. This would be true of Barbareta. But unlike most of Roatan, Barbareta has beautiful natural beaches and fine forests and many species of birds. Bill fishing and bone-fishing are reputed to be good in the waters off Barbareta. There is plenty of research work for scientists both on land and sea. Lectures and videos could be presented by scientists in the evening for tourists as partial payment for room and board.

## MARCH--APRIL 1992 VISITS TO BARBARETA ON YACHT MAYA

Christine Jurzykowski and husband Jim Jackson generously made their elegant 74 ft Deerfoot ketch MAYA available for two weeks to take scientists, officials, and potential donors/developers from Roatan to Barbareta. **La Ruta Maya Conservation Foundation** arranged for visits between March 20 and early April.

We had hoped that President Callejas, Ignacio Agurcia and associates would join us on the MAYA March 21, but shortage of time altered the plans. Instead we were invited to fly from Roatan to Barbareta with President Callejas in his helicopter and return on Albert Jackson's power yacht. The helicopter circled Barbareta giving all a fine look. Upon landing, the party boarded the Jackson yacht for lunch and a tour of the northwest coast. President Callejas and others swam ashore at two separate locations. During the trip the President reiterated his support of our plan.

It is obvious others would prefer a large traditional commercial resort--hotel complex built with the idea of maximizing income to Honduras. Such a "Cancun" concept would not only be aesthetically and environmentally more destructive than the Foundation plan, it might produce less foreign exchange for Honduras. The Foundation plan is unique and could attract a great deal of attention to Honduras as a Caribbean destination. There is a growing demand for cultural and natural tourism that is environmentally sound and breaks away from the huge hotel, swimming pool bar type of tourism. A study of eco-tourism by the World Wildlife Fund found that eco-tourists leave twice as much money behind as those on traditional tour group plans.

Among those who went to Barbareta on the MAYA were Drs. Bill Alevizon and Susan Jacobson of University of Florida and Carlos Cerrato, biologist, University of Honduras.

Alevizon--a renown marine ecologist consultant--dove on several reef locations, studied the quality and variety of reef organisms and recorded his observations on video. He said there seldom has been a good base line study of an area before it is ruined. It is important to have an intact system. Barbareta is the only such place he knows that has an undisturbed classical



Caribbean ecosystem. He saw several sharks--mostly nurse 4-5 feet long. He observed spawning of yellow tail parrot fish--rare treat. The area is famous for its annual grouper spawning frenzy. Fishermen have learned about it and now come to net them during spawning!

Alevizon feels Barbareta is a great place for a marine lab, estimating that there are as many a 2000 species of marine life within a mile of shore. Fish, obviously not used to divers, swam right up to him. His full report is available.

Dr. Jacobson, an expert on tropical biology, studied the island. She will submit a list of species endemic to the area and her observations. On our first walk we heard and spotted hummingbirds, doves, parrots, buzzards, two species of herons, egrets, black-neck stilts, and woodpeckers. Also on Barbareta: iguanas, agouti, green and yellow head parrots, boa constrictors, salt water alligators, hawks, buzzards, little possum, hawksbill and leatherback turtles. There are several species of palms including many cahune palms which serve as nesting sites for parrots. We saw strangler figs and two royal palms. Dr. Jacobson said Barbareta has the most intact forest in the Bay Islands.

From recent studies Lic. Carlos Cerrato said there were 327 varieties of shells in the area, American crocodiles, and two varieties of caiman. Alevizon saw caiman nesting on a beach. I saw three agoutis--a rodent that looks like an earless rabbit.

Among others with us on Barbareta were three members of the Tonsmeire family, Lawyer John Woods(Patton, Boggs & Blow of Washington), Larry Stinchcomb(President--Fund For America), Drs. Max Harcourt and Beth Richards(both Sandia Research Labs alternative energy experts).

Woods and Stinchcomb appraised Barbareta for its potential to attract investments for eco-tourist and research facility. They will make recommendations and contact potential investors.

The Sandia scientists will submit a reports on the potential for solar and wind power.

Discussions continue on how best to preserve Barbareta as a pristine Caribbean ecosystem.



**Dr. William S. Alevizon**  
**Tropical Marine Ecologist\Fisheries Biologist**  
**University of Florida**  
**Gainesville, FL 32611**

**BARBARETA**

April 9, 1992

The Caribbean Sea has watched her green island gems succumb one by one to the ravages of uncontrolled exploitation and development. As these processes have been largely dictated by immediate economic considerations, the ecological consequences are devastating terrestrial and marine ecosystems throughout the region. This unfortunate trend is accelerating for most of these tiny island nations are cash poor with little to sell beyond the commercial value of their coastal resources. In the face of such economic pressures, there is little hope of preserving for posterity the unspoiled remnants of the Caribbean isles. As the market value of island real estate escalates, opportunities for conservation of intact ecosystems are rapidly disappearing.

One of the few remaining islands still intact is Barbareta, a paradise that rises from the cobalt depths of the western Caribbean Sea a few miles off the eastern end of Roatan, largest of the Bay Islands of Honduras. The marine environment surrounding Barbareta contains the full gamut of marine habitats that characterizes the Caribbean Basin--mangrove and palm fringed shorelines, shallow lagoons rich with seagrass meadows, and miles of shallow and deep coral reefs. All are as yet in nearly pristine condition. The island is large enough and the resources varied enough to be considered a microcosm of Caribbean island life--a biological warehouse containing much of the diversity of corals, fishes, and other forms of inshore marine life representative of the entire West Indian region.

The reef system marking the eastern fringe of the submarine platform upon which the island rests is a textbook example of the zonation pattern typifying Caribbean coral reef environments. At the southern end of this spectacular reef lie two islets and a highly unusual deep lagoon, further increasing the range of habitats present, and thus the biodiversity of the entire area. In these crystal waters, one may still observe marine life largely unaffected by the activities of people. Fishes remain cautiously curious since boats and divers are as yet uncommon. In contrast to most other islands of the region, Barbareta still belongs to the sharks, lobsters, turtles, and reef fishes that call these rich seas home.

Barbareta provides a rare opportunity to preserve and protect one of the few remaining outposts of unspoiled Caribbean island life. As we struggle to learn methods of management and sustainable development of the rich natural resources of such areas, access to a "natural yardstick" that may serve as a frame of reference becomes ever more essential. The opportunity to study the ecology of such areas in an undisturbed state is fundamental to understanding the effects of environmental alterations. The establishment of a protected area encompassing Barbareta and its surrounding waters would represent an invaluable contribution to conservation efforts aimed at protecting a vanishing treasure--the priceless biological riches of these sparkling islands in the sun.





# Conservation Education and Natural Resource Management Program

118 Newins-Ziegler Hall, University of Florida, Gainesville, FL 32611 (Phone: 904-392-8372, FAX: 904-392-1707)  
Dr. Susan K. Jacobson, Director

April 20, 1992

Mr. Bill Garrett  
209 Seneco Road  
Great Falls, VA 22066

Dear Bill,

I hope all is well. Thank you very much for the opportunity to visit Barbareta. It was a fascinating trip. I had a splendid time, thanks largely to your wonderful company.

Here are some notes on Barbareta for your brochure.

**PLANTS:** Within two square miles on Barbareta, grow a typical beach plant community, mangrove swamp, and Caribbean forest. Coconut palms dominate the beach community along with coco plums, sea grapes, almonds, and other trees adapted to the brackish, dry environment. In Barbareta's western lagoon, an extensive mangrove forest, dominated by red mangroves, shelters myriad wading birds and serves as a nursery-ground for bonefish and shellfish.

Barbareta's steep slopes are forested in Corozo palms, Cordias, and oaks. The red-peeling bark of the gumbo-limbo trees, the pale glove-like leaves of the Cecropia, and the twisting trunks of the strangler figs are all distinctive. Ferns, bromeliads, and several species of orchids festoon the higher branches.

**ANIMALS:** Barbareta serves as a refuge for many of the 120 species of birds, a dozen mammals, particularly bats and rodents, and 35 species of reptiles and amphibians recorded from the Bay Islands. Several endangered species, such as yellow-naped parrots (Amazona auropalliata caribaea) and the green iguanas are being extirpated on the other islands. The agouti, an endemic rodent locally called a rabbit, is still abundant on Barbareta. As deforestation and development increase on surrounding islands, Barbareta will become a last resort (no pun intended) for many of these endangered and endemic species.

I will send you bird lists, etc. for the Bay Islands as soon as they are printed. I haven't finished looking through my slides yet, but I probably have a good shot of a yellow-naped parrot. Can you use it? I would love to see Barbareta conserved and hope to remain involved with your initiative. Let me know how I can be of help.

I hope our paths cross again soon.

Many thanks and warm wishes always,

  
Susan K. Jacobson  
Director

SKJ/lkf/L19.055

Department of Wildlife and Range Sciences  
School of Forest Resources and Conservation  
118 Newins-Ziegler Hall

University of Florida

Program for Studies in Tropical Conservation  
Center for Latin American Studies  
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TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 07/20/92

SUBJECT: LETTER TO RICHARD DARMAN REGARDING THE CHEMICAL  
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DATE COMPLETED/DEPT:

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D. Allan Bromley

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GERRY E. STUDDS, MASSACHUSETTS  
PETER H. KOSTMAYER, PENNSYLVANIA  
RICHARD H. LEHMAN, CALIFORNIA  
CLAUDE HARRIS, ALABAMA

NORMAN F. LENT, NEW YORK  
CARLOS J. MOORHEAD, CALIFORNIA  
MATTHEW J. RINALDO, NEW JERSEY  
WILLIAM E. DANNEMEYER, CALIFORNIA  
DON RITTER, PENNSYLVANIA  
THOMAS J. BLILEY, JR., VIRGINIA  
JACK FIELDS, TEXAS  
MICHAEL G. OXLEY, OHIO  
MICHAEL BILIRAKIS, FLORIDA  
DAN SCHAEFER, COLORADO  
JOE BARTON, TEXAS  
SONNY CALLAHAN, ALABAMA  
ALEX McMILLAN, NORTH CAROLINA  
J. DENNIS HASTERT, ILLINOIS  
CLYDE C. HOLLOWAY, LOUISIANA  
FRED UPTON, MICHIGAN

2135

U.S. House of Representatives  
Committee on Energy and Commerce  
Room 2125, Rayburn House Office Building  
Washington, DC 20515-6115

OSTP  
MAIL ROOM

July 20, 1992

JOHN S. ORLANDO, CHIEF OF STAFF  
ALAN J. ROTH, CHIEF COUNSEL

The Honorable Richard G. Darman  
Director  
Office of Management and Budget  
Old Executive Office Building  
Washington, D.C. 20503

Dear Mr. Darman:

Thank you for your Agency's enclosed reply to my letter of May 29, 1992 concerning the Chemical Safety and Hazard Investigation Board established by the 1990 Clean Air Act Amendments.

I am pleased to see that you are "fully committed" to the establishment of a Board. The Board, however, is already established by statute. The problem is that it is not yet operating because of a lack of members and staff.

I note your comment that "Congress only appropriated \$1 million for FY 1992" after the Administration requested \$5 million. However, that Administration request was made very late in the appropriation process for FY 1992. In fact, the record shows that the Administration was lucky, despite its tardiness, to get the \$1 million appropriation. Because the Board has not yet begun to function and FY 1992 is in its last quarter, I cannot imagine that you even needed all of the \$1 million since the board is not yet operating. What has happened to that money? How has it been used? What amount remains?

As to the nomination of members to the Board, you explain that the nomination "is currently underway" and that the "identification and nomination of qualified candidates" is the "responsibility" of the White House Office of Personnel. You add:

We have communicated with that office the importance of establishing this Board.

The Honorable Richard G. Darman

Page 2

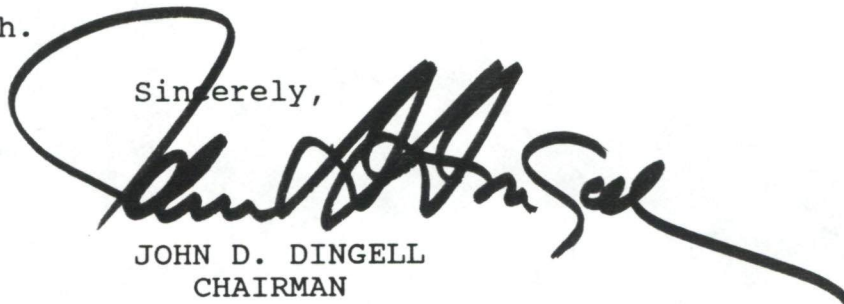
However, you provide no date when I can expect this process to produce such nominees. I request a status report by July 29, 1992.

Also enclosed is a "Recommended Executive Order" on Environmental Risk Assessment and Risk Management. Please explain its origin and status. Please explain who reviewed and recommended it and whether the new Risk Assessment and Management Commission reviewed it. Please explain its need at this time and its purpose, in light of the role of the new Commission. What is the legal basis for this document? Will the "guidance" to be issued under section 5 of this document be subject to review by all Federal agencies and the public before it becomes final, particularly since section 4 states that this future guidance (that does not yet exist) shall be "binding on all departments and agencies to the extent permitted by law"? If not, why not? What statutes would permit such "binding" effect in the case of the Departments of Health and Human Services and Energy, and the Environmental Protection Agency?

Please provide a copy of your reply to this letter to the General Accounting Office (GAO) so that the GAO can review these matters for the Subcommittee.

With every good wish.

Sincerely,



JOHN D. DINGELL  
CHAIRMAN

Enclosure

cc: The Honorable Norman F. Lent, Ranking Minority Member  
Committee on Energy and Commerce

The Honorable Lynn Martin, Secretary  
Department of Labor

The Honorable William K. Reilly, Administrator  
Environmental Protection Agency

Ms. Constance Horner, Assistant to the President  
and Director, Presidential Personnel

Dr. D. Alan Bromley, Assistant to the President on  
Science and Technology





EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF MANAGEMENT AND BUDGET  
WASHINGTON, D.C. 20503

23 JUN 1992

RECEIVED  
1992 JUN 24 AM 9 06  
ENERGY AND COMMERCE  
U.S. HOUSE OF REPRESENTATIVES

Honorable John D. Dingell  
Chairman  
Committee on Energy and Commerce  
U.S. House of Representatives  
Washington, D.C. 20515

Dear Mr. Chairman:

Thank you for your letter of May 29th inquiring about the budget and the nomination of members of the Chemical Safety and Hazard Investigation Board under the provisions of the Clean Air Act Amendments of 1990.

The Administration shares your concerns about the accidental release of hazardous chemicals into the ambient air and supports efforts to investigate the causes of such releases and to prevent similar occurrences. We are fully committed to establishment of the Board and requested \$5 million and 30 workyears for the Board in FY 1992. Congress, however, only appropriated \$1 million for FY 1992. The FY 1993 President's Budget again requests \$5 million and 30 workyears for the Board.

The nomination of members to the Board is currently underway. Qualified candidates have been identified by the Administration and are undergoing the necessary background investigation. We are hopeful that nominations for these candidates will be submitted shortly to the Senate for confirmation. As you know, the White House Office of Personnel has primary responsibility for the identification and nomination of qualified candidates. We have communicated with that office the importance of establishing this Board.

Thank you for your interest in this matter. I look forward to working with you on this and other issues in the future.

Sincerely,

Robert E. Grady  
Associate Director  
Natural Resources,  
Energy and Science

JOHN D. DINGELL, MICHIGAN, CHAIRMAN

J. ROY ROWLAND, GEORGIA  
RON WYDEN, OREGON  
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NORMAN F. LENT, NEW YORK  
DAN SCHAEFER, COLORADO  
FRED UPTON, MICHIGANREID P. F. STUNTZ, STAFF DIRECTOR/CHIEF COUNSEL  
STEPHEN F. SIMS, DEPUTY STAFF DIRECTOR

U.S. House of Representatives  
Subcommittee on Oversight and Investigations  
of the  
Committee on Energy and Commerce  
Washington, DC 20515-6116

May 29, 1992

The Honorable Richard G. Darman  
Director  
Office of Management and Budget  
Old Executive Office Building  
Washington, D.C. 20503

Dear Mr. Darman:

At approximately this time last year, this Subcommittee was in the middle of an exchange of correspondence regarding the funding and operation of the Chemical Safety and Hazard Investigation Board established by the 1990 Clean Air Act amendments. You will recall that our Subcommittee scheduled hearings on the matter. However, those hearings became unnecessary because you committed to funding the Board and to start its actual operations.

As you know, the funding has been provided pursuant to your commitment and action by the Appropriations Committee. However, the Board is still not operational because of a lack of Board members. Enclosed is a letter from the Secretary of Labor who explains that the "Administration is working on selecting nominees." The Secretary adds that during "the final selection process, all names will be submitted to the Senate for confirmation." The Environmental Protection Agency made a similar comment earlier.

That process appears to be extremely slow. It has been continuing for over one year. Indeed, I have seen several reports of persons being considered for nomination, including one from the Environmental Protection Agency who may not meet the statutory criteria for nomination, but no actual nominees. This long delay is unreasonable and not consistent with your commitments of last summer.

It is all the more troubling because we are rapidly coming to the end of the 102nd Congress, and, of course, to the end of the President's present term in office. There may be a natural reluctance in the Senate to confirm in advance of the Presidential elections five persons nominated by this Administration to a five-year term. If that reluctance becomes a reality, the inaction



The Honorable Richard G. Darman  
Page 2

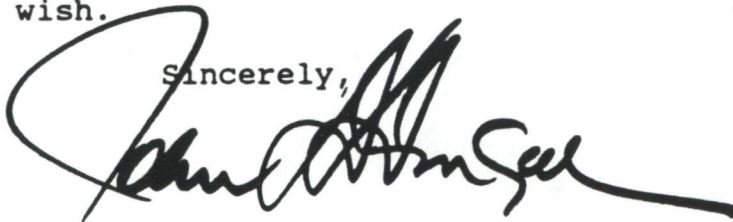
by the Administration over these many months will have greatly contributed to this Board's failure to be operational pursuant to your commitments to me last summer and to meet its statutory duties, including the requirements section 112(k) of the Clean Air Act. I request an explanation. Is the Administration stalling on making the Board operational or is it really having trouble finding qualified people who meet the statutory standards for the job and gaining political clearance? What are the reasons for this long delay? What are the problems in the "selection process"? Please explain.

Also, has the Administration submitted a budget for this Board for the next fiscal year?

I request your reply before June 20, 1992.

With every best wish.

Sincerely,

A handwritten signature in black ink, appearing to read "John D. Dingell", with a large, sweeping flourish extending to the right.

John D. Dingell  
Chairman  
Subcommittee on  
Oversight and Investigations

Enclosure

cc: The Honorable Thomas J. Bliley, Ranking Republican Member  
Subcommittee on Oversight and Investigations

The Honorable Lynn Martin, Secretary  
Department of Labor

The Honorable William K. Reilly, Administrator  
Environmental Protection Agency

Mr. Jay Power, Legislative Representative  
AFL-CIO

Mr. Robert A. Roland, President  
Chemical Manufacturers Association

# IV. Recommended Executive Order

Federal Focus is hereby proposing that the Director of the Office of Management and Budget consider the following draft Executive order for submission to the President with a recommendation that he adopt it.<sup>104</sup>

EXECUTIVE ORDER \_\_\_\_\_ OF \_\_\_\_\_, 1991

## Environmental Risk Assessment and Risk Management

By the authority vested in me as President by the Constitution and laws of the United States of America, and in order to improve consistency among federal agencies and to enhance scientific credibility and impartiality in assessing the risks of potential environmental hazards, characterizing and communicating the results of those risk assessments and utilizing them as the basis for regulatory decisions that represent sound investments in the health, safety, and welfare of the country while minimizing regulatory burdens, it is hereby ordered as follows:

### Sec. 1. Definitions. For purposes of this Order:

(a) "Risk assessment" refers to the process of identifying hazards and quantifying or describing the degree of risk they pose for exposed individuals, populations, or resources. It also refers to the document containing the explanation of how the assessment process has been applied to an individual substance, activity, or condition, and includes such documents regardless of whether they are prepared for purposes of considering a regulatory decision.

(c) "Risk management" refers to the regulation of risks through rules of general applicability and individual regulatory actions.

(d) "Negative data" refers to data indicating that under certain conditions a given substance or activity did not induce an adverse effect.

<sup>104</sup> Pursuant to the procedural requirements in 1 CFR Part 19.



**Sec. 2. Applicability.** To the extent permitted by law, this Order applies to all risk assessments and risk management decisions on health, safety, and ecological risks, including those of a site-specific, substance-specific, or product-specific nature.

**Sec. 3. Effective date.** Except as otherwise specifically provided herein, the provisions of this Order are effective immediately.

**Sec. 4. Risk Assessment Principles.** To the extent permitted by law, all departments and agencies shall adhere to the following principles when preparing risk assessments:

(a) Risk assessments and all of their components shall be, to the maximum extent possible, scientifically objective and include all relevant data. Determinations concerning the appropriate degree of conservatism, safety factors, uncertainty factors or margin of safety to be incorporated in a regulatory decision shall be reserved for the risk management decision process. To the extent that selection of any assumption, inference, or model for a risk assessment involves, wholly or partially, policy or value judgments, such policy or value judgments shall be clearly identified as such and explained and justified.

(b) Selection of low-dose extrapolation models and assumptions shall be based on all available scientific data, including biological, metabolic, pharmacokinetic, and mechanistic data. In the absence of clear supporting data and scientific rationale, no single model or threshold/no-threshold assumption shall be preferred.

(c) Negative laboratory or epidemiological data of sufficient quality that are not consistent with positive experimental results or low-dose extrapolations shall be considered on the basis of scientific judgment, and without any bias based on "conservatism" or value judgments, and if they are not incorporated into the risk assessment, the scientific basis for not incorporating them shall be explained.

(d) If reasonably available, empirical exposure data shall be utilized rather than assumptions or modeling. To the extent empirical data are not available, exposure assumptions or modeling, whether for an average-case scenario or a worst-case scenario, shall reflect exposures that are reasonably expected.

**Sec. 5. Science Policy and Inference Guidance for Risk Assessments.**

(a) Within one year of the date of this Order, and from time to time thereafter as he deems necessary, the Director of the Office of Science and Technology Policy shall issue uniform guidance for all departments and agencies on aspects of risk assessment where there is a difference of scientific opinion or a lack of adequate data and the choice of a position involves policy or a mixture of policy and scientific judgment. Such



guidance shall be consistent with and subordinate to the risk assessment policy principles stated in section 4 of this Order and shall be binding on all departments and agencies to the extent permitted by law.

(b) The subjects addressed by such guidance shall be at the discretion of the Director, and he shall consider inclusion of guidance on at least the following subjects: interspecies scaling factors, dose-response modeling, treatment of tumors that do not appear to be malignant, thresholds, use of the maximum tolerated dose, weighting of positive findings from sensitive species, and definition of adverse health effects.

(c) Such guidance shall be developed in consultation with the Federal Coordinating Council on Science, Engineering and Technology, the National Research Council, the Council on Competitiveness, the Office of Management and Budget, the Council on Environmental Quality, and such other departments and agencies, offices, organizations or persons as the Director deems advisable.

(d) Any guidance promulgated under this section shall permit divergence by a department or agency in particular cases on the basis of overriding scientific data or the requirements of law.

(e) Guidance promulgated under this section shall be reviewed by the Director at least every four years, after requesting comments from all entities and persons consulted in accordance with subsection c. A particular provision of the guidance shall be reviewed whenever any department or agency formally requests such review and supports its request with significant new data or scientific rationale. In addition, the Director shall consider supplementing the guidance upon formal request by any department or agency.

**Sec. 6. Risk Characterization Principles.** In characterizing risk in risk assessment documents, regulatory proposals and decisions, budget documents, and legislative recommendations, departments and agencies shall:

(a) If a numerical estimate of risk is provided, provide an unbiased expected-value estimate for the average individual. Upper-bound or conservative estimates or estimates for sensitive or more-highly-exposed populations may be provided in addition to the expected-value estimate. If an upper-bound estimate is provided, the lower-bound estimate will also be provided. If the available data are, in the best judgment of the department or agency, inadequate to provide an estimate of the expected value, this judgment shall be clearly stated along with a narrative explanation of the limitations and uncertainties, and both upper- and lower-bound estimates shall be provided.

(b) Present, to the extent possible, along with expected-value and upper-bound or conservative estimates of risk, to the extent possible, the distribution of probabilities for various possible results.



(c) Where a number of different health, safety, or ecological effects are possible from exposures to the same substance, process, activity, or condition, provide separate estimates for each of the significant effects. If the risk assessment is intended to address only a single route of exposure, provide any available estimates or qualitative information regarding risks from other pertinent routes of exposure, and any information regarding the likelihood of synergism or antagonism as a result of exposures from other sources.

(d) Clearly and succinctly acknowledge any significant limitations in the data or current scientific understanding.

(e) A risk assessment that is significantly different from a risk assessment for the same substance, process, activity, or condition prepared by another department or agency, or by another office, or under another program, of the same department or agency, shall explain the scientific, policy, or legal justification for the inconsistency.

(f) Where possible, describe risk by multiple comparisons with best estimates of other risks that are familiar to and routinely encountered by individuals. Any differences in the levels of uncertainty for such risk estimates shall be noted.

(g) Include, for discretionary proposed and final regulatory actions, an evaluation of significant substitution risks and risk tradeoffs that are likely to occur and that would significantly affect assessment of net benefits. If the regulatory action is a major rulemaking action within the meaning of Executive Order 12291, such evaluation shall consist of a risk assessment under the provisions of this Order based on all reasonably available relevant data.

(h) Explain any differences of opinion between the department or agency and an official peer review body, and explain why the agency does not agree with that body's opinion.

#### **Sec. 7. Risk Characterization Guidance.**

(a) Within one year of the date of this Order, and from time to time thereafter as he deems necessary, the Director of the Office of Management and Budget shall issue uniform guidance for all departments and agencies on risk characterization. Such guidance shall be consistent with and subordinate to the risk characterization principles stated in section 6 above, and shall be binding on all departments and agencies to the extent permitted by law.

(b) The subjects addressed by such guidance shall be at the discretion of the Director, and he shall consider inclusion of guidance on at least the following subjects: expression of uncertainties, distribution of probabilities for outcomes, calculation of expected values, a uniform concise format for summarizing risk assessment results, and a system for integrated ranking of different risks.



(c) The Director shall develop such guidance in consultation with the Director of the Office of Science and Technology Policy, the Federal Coordinating Council on Science, Engineering and Technology, the National Research Council, the Council on Competitiveness, the Council on Environmental Quality, and such other departments and agencies, offices, organizations or persons as the Director deems advisable.

**Sec. 8. Risk Management Principles.** All departments and agencies shall apply the following principles, to the extent permitted by law, in making risk management decisions:

(a) Take into consideration the magnitude and likelihood of substitution risks and risk tradeoffs when assessing "net benefits" under Sections 2(c) and 3(d)(1) and (3) of E.O. 12291.

(b) Avoid the regulation of insignificant or *de minimis* risks. In deciding whether a risk is significant, the following factors shall be considered at a minimum: the probability of a given effect occurring, the level of uncertainty or confidence associated with the risk assessment data, the severity of the effect, and the number of persons potentially exposed. In considering the severity of an effect, officials shall take into account factors such as reversibility and whether significant morbidity, damage, or functional impairment is involved.

(c) Set margins of safety, safety factors, and uncertainty factors so as to protect against health, safety, or ecological effects that are significant and can be reasonably expected to occur, and consider the following factors, among others: the significance or severity of the effect to be prevented; the level of uncertainty in the risk assessment; technical feasibility; cost; and the range of sensitivity in the human or biotic population likely to be affected.

(d) To the degree that performance can be measured or reasonably imputed, utilize performance standards or ends rather than design or technology standards or means.

**Sec. 9. Review of Risk Assessments and Risk Management Decisions.** This Order shall not affect any risk assessments or risk management decisions previously made, except as follows:

(a) Any interested person may petition a department or agency for revision of a risk assessment or risk management decision in accordance with the foregoing provisions of this Order or on the basis that significant new scientific data or understanding has become available.

(b) Within six months of receipt of a petition, the department or agency shall determine whether the potential benefits and the significance of the new data or understanding are sufficient to justify a review and shall inform the petitioner.



(c) If the agency or department notifies the petitioner that it will undertake a review, the review shall be completed, and any final decision issued, no later than one year after the petitioner is so notified.

#### *Sec. 10. Implementation and Oversight.*

(a) The Director of the Office of Management and Budget shall be responsible, subject to the direction of the Council on Competitiveness, for ensuring that all departments and agencies comply with the requirements of this Order when proposing and issuing rules that are subject to Executive Order 12291.

(b) The Director of the Office of Management and Budget, the Director of the Office of Science and Technology Policy, and the Council on Competitiveness shall, from time to time, recommend, jointly or separately, after consultation with each other, revisions to this Order as they deem advisable.

(c) The head of each department or agency shall designate a senior policy official to be responsible for ensuring that the department or agency complies as fully as possible with the requirements of this Order, and shall publish notice of such designation in the *Federal Register*. The duties of the designated official shall include: (1) educating other officials, employees, and contractors concerning the requirements of this Order; (2) accepting petitions for review under section 9 of this Order, and ensuring that the department or agency complies with the section's time requirements; (3) preparing and submitting annually to the Director of the Office of Management and Budget, the Director of the Office of Science and Technology Policy, and the Council on Competitiveness a concise report on petitions for review received and action taken, any complaints received concerning non-compliance by the department or agency, and any problems experienced in interpreting the Order; and (4) transmitting, on behalf of the agency head, to the entities specified in subsection b any recommendations for clarification or revision of this Order.

*Sec. 11. Judicial Review.* This Order is intended only to improve the internal management of the Federal government, and is not intended to create any right or benefit, substantive or procedural, enforceable at law by a party against the United States, its agencies, its officers or any person.

TYPE: INFORMATION

DOCUMENT NUMBER: 9202192

ORIGINATOR: 02

STATUS C

DIRECTORATE STATUS

\*\*\*\*\*

FROM: PECK, DALLA: U S GEOLOGICAL SURVEY

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 07/27/92

SUBJECT: ENCLOSED REPORT REGARDING THE USGS FY 1991.

\*\*\*\*\*

DIRECTORATE  
ASSIGNED:

STAFF  
ASSIGNED:

ACTION  
REQUIRED:

STAFF  
ACTION:

\*\*\*\*\*

SENDER'S DUE DATE:

OSTP DUE DATE:  
DATE COMPLETED:

STAFF DUE DATE  
DATE COMPLETED/DEPT:

\*\*\*\*\*

COPIES TO: ENVIRONMENT  
D. Allan Bromley

\*\*\*\*\*

WHITE HOUSE TRACKING #:

CONTACT PERSON:  
PHONE:

EXT:

REMARKS:

OSTP RECEIVED: 08/04/92  
FILE: P-ENVIRONMENT

DEPT RECEIVED:

CENTRAL FILES:



2192

U.S. Geological Survey  
101 National Center  
Reston, VA 22092

Office of the Director

JUL 27 1992

Honorable D. Allan Bromley  
Science Advisor to the President  
Old Executive Office Building  
17th and Pennsylvania Avenue, N.W.  
Washington, D.C. 20506

Dear Dr. <sup>Alan</sup>Bromley:

It is with great pleasure that I send you this report on the activities of the U.S. Geological Survey (USGS) for Fiscal Year 1991.

The USGS is proud of the important work it has done during the past year. People across the Nation -- and around the world -- live safer, healthier and more comfortable lives because of the science produced by this talented and dedicated staff. I hope you will find the yearbook to be a useful and informative reference to what we are doing here at USGS.

Sincerely yours,

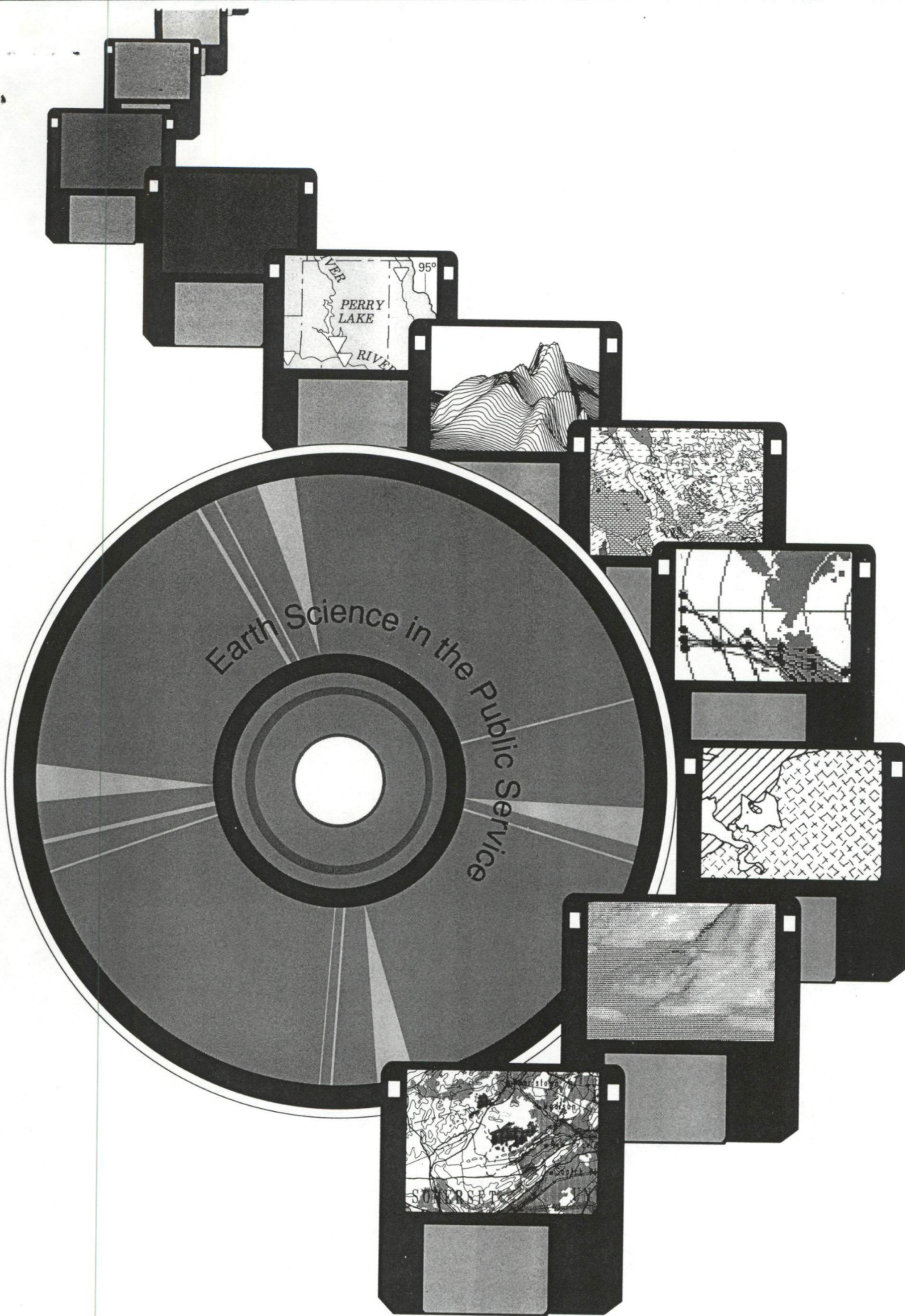


Dallas L. Peck  
Director

Attachment



# U.S. GEOLOGICAL SURVEY



1 9 9 1



"Document Control"

TYPE: ACTION DOCUMENT NUMBER: 9202590  
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS  
\*\*\*\*\*

FROM: GARRETT, W.E.: LA RUTA MAYA

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 07/23/92

SUBJECT: HE IS WRITING TO SEEK ASSISTANCE AND FUNDING FOR A  
PROJECT TO PRESERVE CORAL REEFS IN THE CARIBBEAN.

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: ENVIRONMENT ASSIGNED:

ACTION STAFF  
REQUIRED: AS APPROPRIATE ACTION:

\*\*\*\*\*  
SENDER'S DUE DATE:  
OSTP DUE DATE: 08/07/92 STAFF DUE DATE  
DATE COMPLETED: DATE COMPLETED/DEPT:

\*\*\*\*\*  
COPIES TO: D. Allan Bromley  
INTERNATIONAL/POLICY

\*\*\*\*\*  
WHITE HOUSE TRACKING #: CONTACT PERSON:  
PHONE: EXT:  
REMARKS:

OSTP RECEIVED: 07/27/92  
FILE: P-ENVIRONMENT

DEPT RECEIVED:

CENTRAL FILES:





# La Ruta Maya

CONSERVATION FOUNDATION

2590  
JUL 27 1992  
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July 23, 1992

## BOARD OF DIRECTORS

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John M. Keshishian, MD  
President Medical & Dental Staff  
Washington Hospital Center

### President

W.E. (Bill) Garrett  
Editor (Ret.)  
National Geographic Magazine

Hon. Holland H. Coors  
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our Hemisphere  
Achieving Together

John K. Hoff  
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The Seville Group

Graham Williams  
Director Special Projects  
Overseas Private  
Investment Corp.

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University of Florida

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IUCN-Latin America  
Switzerland

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Cultural Exchange

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Chairman Dept. Thoracic  
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Carolinas Medical Center

Beatriz Zuniga-Seigne  
President Turismo Kim'Arrin  
Guatemala

Dr. D. Allen Bromley  
Assistant to the President  
Science and Technology  
Old Executive Office Bldg  
Suite 358  
Washington, DC 20500

*Dr. Bromley*

Forgive me for imposing on what may be a very hectic schedule. Our Foundation has been trying to buy an island in the Bay Islands of Honduras and have it and the surrounding coral reefs declared a biosphere reserve. In order to make the island self-sufficient, we are recommending that a combination eco-tourist facility and marine research lab be built on one end of the island.

We are searching for both financial and academic support. The 1500 acre island has been in private hands since it was captured by pirate Henry Morgan. It has not been logged, farmed or developed and is presently owned by a American family in Mobile, Alabama. The reef is immaculate and considered by those who have dived it to be the finest in the Caribbean. It could well be the finest place in the region to do a base line study of healthy reef life. There are no local sources of pollution to alter it's natural state.

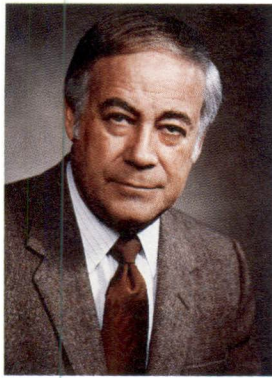
I'll enclose a bit more information if you would like to read more. Naturally, I would be delighted to pay a call to explain our project. But, short of that, what we would very much appreciate is contacts in the United States, Japan and elsewhere who might be interested in our project and could advise or support us.

As you will see from the enclosed curriculum vitae, I have absolutely no expertise in coral ecology though as editor of the National Geographic Magazine, I did publish many articles on the subject because of a fascination for the reefs. In the years since I've been involved, they have suffered greatly, especially those in Florida.

With thanks for your time,

*Sincerely*  
*D. Allen Bromley*





## A B I O G R A P H Y

### W. E. (Bill) Garrett

#### NATIONAL GEOGRAPHIC CAREER

During his ten years as Editor of the National Geographic Magazine, W. E. (Bill) Garrett led it to the highest circulation and the largest income in its 102 years. In his thirty-six years on the staff, the Magazine grew from a circulation of 2 million into one of the largest and most respected publications in the world with a monthly circulation of nearly 11 million.

Bill wrote and/or photographed 32 major articles from every continent except Antarctica, wrote 120 editor's columns, several book chapters, co-produced the award-winning television special "Alaska!" which was based on his adventures there, created numerous landmark photographic exhibitions, and produced three Atlases for the National Geographic Society. As a member of the Board of Trustees of the Society and its Research and Exploration Committee, he was instrumental in the Geographic's emergence as the world's largest educational and scientific institution.

#### ENVIRONMENTAL ACTIVITY

Bill received in 1990 the Chevron Environmental Award. Other environmental awards include the Leadership Medal of the United Nations Environmental Program, the National Parks and Conservation Association Citation for Outstanding Service and The Trustee of America, the highest award of the Mary Washington College Center for Historic Preservation.

#### BOARD MEMBERSHIPS

He serves on the Board of Governors of The Nature Conservancy where he chairs its International Committee, is on the Senior Advisory Council of Woodlands Institute, the Boards of Partners for Livable Places, the International Center of Photography, the W. Eugene Smith Fund, the University of Missouri Alumni Magazine Advisory Board, and the Advisory Councils of the Textile Museum and the Accokeek Foundation.

#### SERVICE AWARDS

In 1987, President Marco Venecio Cerezo presented Bill a medal for "distinguished service to Guatemala" for his leadership in the La Ruta Maya conservation project. This year Mexico presented him their prestigious "Silver Pen Award" for his writing on the same subject. The National Conference of Christians and Jews awarded him the "Distinguished Citizen of the Midwest Award" in 1986. The University of Miami conferred a doctor of letters degree "in recognition of high attainment and distinguished service." In November, 1990 Guatemala presented their highest honor The Order of the Quetzal.

#### JOURNALISM AWARDS

In the field of Journalism Bill Garrett's awards include the University of Missouri School of Journalism Gold Medal, Syracuse University's Newhouse Citation for Distinguished Service, the National Press Photographers Association award for "distinguished service to the profession of journalism," and the Holography Museum's Outstanding Achievement Award. Over the years he has received many awards for his photography from the White House News Photographers Association, the Overseas Press Club, the University of Missouri/National Press Photographers Competition—topped by being named Magazine Photographer of the Year in 1968 for his Vietnam War coverage.

Under his leadership the National Geographic Magazine and its staff have won hundreds of awards including the 1984 National Magazine Award for excellence — considered the Pulitzer Prize of the magazine field. This past year the Magazine won the National Magazine Award for the best single issue for its July, 1989 issue in celebration of the French bicentennial.

PERSONAL  
PUBLISHING

Bill has been contributor, writer or editor of many books including the conception and editing of Photojournalism 76 which gave birth to the Photojournalism Annual now in its 15th year.

EDUCATION/  
MILITARY

Born in Kansas City, Missouri, he holds a Bachelor in Journalism from the University of Missouri and an Associate in Engineering. He has taught at the Missouri Photo Workshop 12 years. Studies at the University were interrupted while he served 2 years in Navy Squadron VF 884 in the Korean war.

SPORTS  
HOBBIES  
CLUBS

In his younger years Bill was active in baseball, basketball, and football. In mid-life he raced without distinction in the Baja Mexico Road Race. Now arthritic joints limit his sports to week-end tennis. His most satisfying hobby— growing grapes and making wines from his home vineyard in Great Falls, Virginia. Club memberships include the Commanderie de Bordeaux, Cosmos Club, National Press Club, Overseas Writers, White House News Photographers.

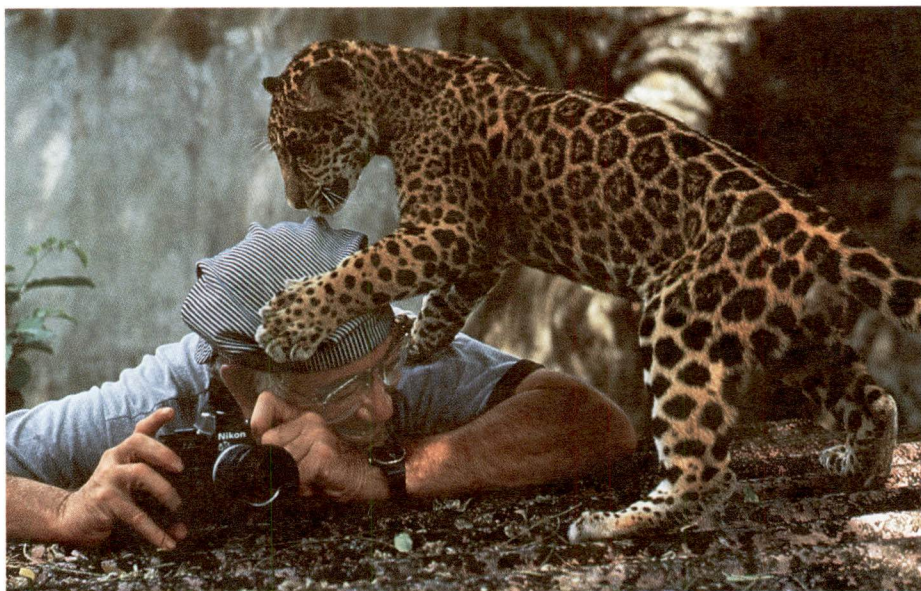
FAMILY

His proudest achievement he shares with Lucille, his wife of 40 years—raising two fine sons who married two talented ladies who have presented the Garretts with 4 beautiful and intelligent grandchildren.

TODAY,  
TOMORROW

Since leaving the National Geographic Magazine in April, 1990, after 36 years, W. E. (Bill) Garrett has travelled often to Latin America on environmental projects. He is the President of La Ruta Maya Conservation Foundation which was founded to pursue a project in the homelands of the ancient Maya designed to prove that development can proceed in a rational and sustainable manner that will improve the lifestyle of the people and at the same time conserve the region's cultural and environmental assets.

He is active in other environmental organizations and involved in several publishing projects—all of which interfere with his wine-making.





AUG 7 1992

"Document Control"

TYPE: INFORMATION

DOCUMENT NUMBER: 9202195

ORIGINATOR: 02

STATUS C

DIRECTORATE STATUS

\*\*\*\*\*

FROM: LEVY, MICHAEL: EARTH SPACE INSTITUTE

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 07/15/92

SUBJECT: INFORMATION REGARDING A REALISTIC APPROACH TO  
INTERNATIONAL COLLABORATION IN SPACE.

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: ASSIGNED:

ACTION STAFF  
REQUIRED: *none* ACTION:

\*\*\*\*\*  
SENDER'S DUE DATE:  
OSTP DUE DATE: STAFF DUE DATE  
DATE COMPLETED: DATE COMPLETED/DEPT: 9/2/92

\*\*\*\*\*  
COPIES TO: ENVIRONMENT  
D. Allan Bromley  
PHYSICAL SCIENCES

\*\*\*\*\*  
WHITE HOUSE TRACKING #: CONTACT PERSON:  
REMARKS: PHONE: EXT:

OSTP RECEIVED: 08/04/92  
FILE: P-ENVIRONMENT

DEPT RECEIVED:

CENTRAL FILES:





# EARTH SPACE INSTITUTE

A division of the Institute for International Scientific Cooperation

Directors: John Egan · Roy Gibson · Peter Kleber · Yoji Kondo · Yasuhiro Kuroda · Maurice Lévy · Minoru Oda · Charles Sheffield

Dr. Allan D. Bromley  
Science Adviser to the  
President of the United States  
The White House

USA-Washington, D.C. 20500

15 July 1992

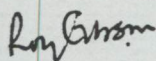
Dear Dr. Bromley,

You recently received correspondence from the Earth Space Institute inviting you to our 2nd International Symposium, entitled "A Realistic Approach to International Collaboration in Space", at Airlie, Virginia near Washington, DC from 27-29 August 1992. We had intentionally scheduled this event in conjunction with the World Space Congress to be held in Washington the following week. As the event draws closer, it has become very clear to us that we were not the only organization which had this clever idea. It is now evident that a large number of meetings, including several official functions, has been scheduled at the same time.

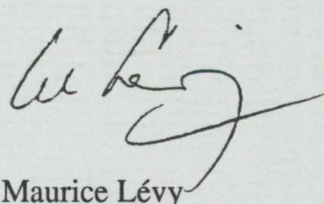
It is a founding principle of the Institute that these symposia be an opportunity for healthy and spirited exchange among the participants regarding the topic under discussion. We planned to hold this symposium in a restful location and at a moment when the participants could dedicate the time to fruitful interchange. Unfortunately, it has become increasingly obvious that we would be unable to ensure the availability of the participants we wanted to attend and the time needed for the symposium to be run as we would like.

Consequently, we have decided to postpone the 2nd International Symposium until later in the year. More precise and detailed information will be forwarded to you in the near future. We regret any personal inconvenience that our decision may have brought about and are confident that we may count upon your understanding and support of our desire to maintain the highest possible standards for this and future meetings.

Best regards,



Roy Gibson



Maurice Lévy



"Document Control"

TYPE: INFORMATION

DOCUMENT NUMBER: 9202122

ORIGINATOR: 02

STATUS C

DIRECTORATE STATUS

\*\*\*\*\*

FROM: DAVIS, WILLIAM: UNITED STATES ASSOCIATION FOR THE CLUB OF ROME

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 07/15/92

SUBJECT: THANK YOU TO DR. BROMLEY FOR HIS COMMENTS REGARDING  
THE GLOBAL ENVIRONMENTAL PROBLEMS.

\*\*\*\*\*

DIRECTORATE  
ASSIGNED:

STAFF  
ASSIGNED:

ACTION  
REQUIRED:

STAFF  
ACTION:

\*\*\*\*\*

SENDER'S DUE DATE:

OSTP DUE DATE:  
DATE COMPLETED:

STAFF DUE DATE  
DATE COMPLETED/DEPT:

\*\*\*\*\*

COPIES TO: ENVIRONMENT  
D. Allan Bromley

\*\*\*\*\*

WHITE HOUSE TRACKING #:

CONTACT PERSON:  
PHONE:

EXT:

REMARKS:

OSTP RECEIVED: 07/27/92  
FILE: P-ENVIRONMENT

DEPT RECEIVED:

CENTRAL FILES:

2122



UNITED STATES ASSOCIATION FOR THE CLUB OF ROME

92 JUL 27 AM 11:31

William B. Davis  
11800 Ambleside Drive  
Potomac, MD 20854-2104, U.S.A.  
(301) 424-3944

July 15, 1992

MAIL ROOM

The Honorable  
D. Allan Bromley  
The Assistant to the President  
for Science and Technology  
The White House  
Washington, D.C. 20500

Dear Mr. Bromley:

Thank you for your letter of July 6 in response to my correspondence with President Bush. A copy of your letter was sent to each member of the Governing Board of USACOR.

We appreciate the comments you made on the commitment of the Administration in dealing with global environmental problems. As one of four USACOR members who attended the Rio Conference as well as the Global Forum in Rio de Janeiro last month, I discerned the sincerity of people from many countries to work assiduously to protect, preserve and, where possible, to improve our environment. While we must exercise prudent judgement in protecting the interests of our own country, I hope we will always be alert to opportunities to work with other countries when joint endeavors do not work against our goals and objectives of a better world for all mankind.

Hopefully, Mr. Bromley, I shall have the opportunity to meet you one day and introduce some of our members to you. For example, I would like to introduce the immediate past president of USACOR to you. She is Dr. Anitra Thorhaug, an internationally known marine biologist, who has made three trips in the past year to Kuwait to study and make recommendations on dealing with the environmental problems caused by the oil well fires there.

By the way, I hope the Presidential candidates will do what they can to raise the consciousness of Americans about environmental problems during the upcoming campaigns. The better informed Americans become about those problems, the more likely they are to support the Administration's efforts in this field. Let's keep in touch.

Sincerely,

A handwritten signature in cursive script, reading "William B. Davis", is written over the typed name.

William B. Davis  
President

WBD:am



"Document Control"

TYPE: ACTION DOCUMENT NUMBER: 9203252  
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS C  
\*\*\*\*\*

FROM: BALDRIDGE, Gary

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 07/03/92

SUBJECT: HE REQUESTS INFORMATION ON GLOBAL WARMING.

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: ENVIRONMENT ASSIGNED:

ACTION STAFF  
REQUIRED: DIRECT REPLY ACTION: nm

\*\*\*\*\*  
SENDER'S DUE DATE:  
OSTP DUE DATE: 11/10/92 STAFF DUE DATE  
DATE COMPLETED: DATE COMPLETED/DEPT: 01/07/93  
\*\*\*\*\*

COPIES TO:

\*\*\*\*\*  
WHITE HOUSE TRACKING #: CONTACT PERSON:  
PHONE: EXT:  
REMARKS: Closed out as unfinished action item.



OSTP RECEIVED:  
FILE: P-ENVIRONMENT

DEPT RECEIVED:

CENTRAL FILES:

FAX: \_\_\_\_\_ MAIL: ☒

OSTP #:

3252

Date of Correspondence: 7/3/92

Date of Receipt of Correspondence: ?

From: Gary Bledridge

Affiliation: Topeka, KS

Subject: wants info on global warming & CO<sub>2</sub> emissions

Action:  
FYI:

Assign to: Henry Maynard

Due Date: \_\_\_\_\_

Copies to: \_\_\_\_\_





7858

Gary Baldrige  
1807 SW 71 Terrace  
Topeka, KS 66619  
July 3, 1992

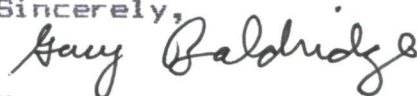
Mr. Allan Bromley  
Science Advisor  
The White House  
1600 Pennsylvania Avenue, N.W.  
Washington, D.C. 20500

Dear Mr. Bromley:

I have been reading about the recent Rio Summit. I noticed that there are widely varying views on the global warming "problem". From the material I have read, there are simply too many unknown factors related to CO<sub>2</sub> emissions to make the major governmental decisions many people want to make.

I would like more information about the proof of global warming and CO<sub>2</sub> emissions. I am concerned about policy decisions that are based on incomplete scientific research. The forced shift from our present fuel sources could be an unnecessary burden on the world economy. Government policies of this magnitude should not be made on data that cannot be adequately proved.

Thank you for your time. I look forward to hearing from you.

Sincerely,  
  
Gary Baldrige

"Document Control"

TYPE: ACTION DOCUMENT NUMBER: 9203251  
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS C  
\*\*\*\*\*

FROM: COLPRUSSO, Paul E.

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 06/26/92

SUBJECT: RE: CO2 AND THE GREENHOUSE EFFECT.

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: ENVIRONMENT ASSIGNED: Nancy Maynard

ACTION STAFF  
REQUIRED: DIRECT REPLY ACTION:

\*\*\*\*\*  
SENDER'S DUE DATE:  
OSTP DUE DATE: 11/10/92 STAFF DUE DATE  
DATE COMPLETED: DATE COMPLETED/DEPT: 01/07/93

\*\*\*\*\*  
COPIES TO: 

\*\*\*\*\*  
WHITE HOUSE TRACKING #: CONTACT PERSON:  
PHONE: EXT:  
REMARKS: Closed out as unfinished action item.

OSTP RECEIVED: DEPT RECEIVED:  
FILE: P-ENVIRONMENT  
CENTRAL FILES:



FAX: \_\_\_\_\_ MAIL: ☒

OSTP #: 3251

Date of Correspondence: 6-26-92

Date of Receipt of Correspondence: ?

From: Paul E. Colprusso

Affiliation: Fairview Park, Ohio

\_\_\_\_\_

\_\_\_\_\_

Subject: CO<sub>2</sub> - The greenhouse effect

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Action:

FYI:

D/R

Assign to:

Nancy Maynard

Due Date:

Copies to:

\*

7872

6-26-92

To: Dr. D. Allen Bromley  
President's Science Advisor  
% of White House  
Washington, D.C. 20050

From: PAUL E. COLARUSSO  
P.O. Box 26110  
FAIRVIEW PARK, OH 44126

Subject: CO<sub>2</sub> and the "Greenhouse Effect"

Dear Dr. Bromley,

Recently read in Popular Science July '92 issue  
your answers to questions on the environment -  
You imply that increasing CO<sub>2</sub> levels are contributing  
to world warming. I am confused but thought  
CO<sub>2</sub> essential to photosynthesis -

Maybe we should be concentrating on  
planting more trees, going all out to save  
the Rain Forests etc.?

I am confused. Is CO<sub>2</sub> all bad.

Please advise,

Sincerely

P.S. If there were no CO<sub>2</sub> would I  
hyperventilate continuously?

Paul E. Colarusso



7849

**R. H. GOBLE ENTERPRISES, INC.**

145 WEST CRYSTAL LAKE AVENUE  
P. O. BOX 423  
LAKE MARY, FLORIDA 32795-0423  
407-322-0514

June 30, 1992

Dr. D. Allan Bromley  
Assistant to the President  
Science and Technology  
Old Executive Office Building  
Room 358  
Washington, D. C. 20500

Dear Dr. Bromley:

Your interview in the July 1992 issue of Popular Science was both interesting and enlightening. While reading the article I kept asking myself the question, "What price can we put on protecting the environment"?

Although the production of electricity through nuclear plants and fossil fuels is only part of our environmental problems, planning to phase out these processes should be a world-wide priority. We have no long-term effective procedure for safe disposal of nuclear waste or of protecting the air from the burning of fossil fuels.

The purpose of this correspondence is to encourage you to seek other sources and methods for production of electricity. In fact, we have a feasible idea for hydro-electric and compressed air production through natural wave generation.

Our concept has been cursorily reviewed by Dr. Hsiang Wang, Chairman of Coastal and Oceanographic Engineering Department at the University of Florida. He indicated the concept would produce electricity, but he would need a grant to do a thorough analysis of the process.

In addition, we submitted our idea about two years ago to the Department of Energy in Washington D. C. for their opinion. They replied quite candidly that the federal government at that time wanted to concentrate their efforts on nuclear applications and on fossil fuels.

We would be happy to share our ideas with you and your staff if you are interested. However, in any case we believe that the future of the human race will depend on finding other ways of generating electricity.

We hope to hear from you soon.

Sincerely,



R. H. Goble

7863

June 25, 1992

Presidential Science Advisor  
The White House  
Washington, DC 20500

Dear Sir:

Enclosed is a copy of an article I have submitted to NATURE Magazine for publication. This should be of interest because it pinpoints a fundamental error that will have a profound effect on the future course of almost all scientific endeavor.

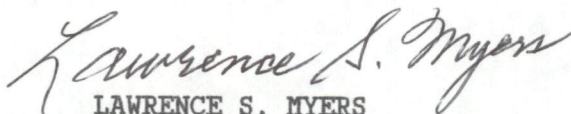
It is also submitted for action to initiate the suggested measurements by the organizations operating the VLBI and LLR resources. I do not know who they are, nor how to contact them.

This is a truncated first part of a much larger paper that outlines a new cosmology to replace Laplace's nebular hypothesis.

I feel that I have finally crafted an argument that can break the subduction syndrome barrier that has delayed acceptance of Earth Expansion for more than 25 years. The basic idea of accretion and external growth is so obvious that I find it hard to believe the scientific community has not pursued it tenaciously.

Please feel free to call upon me if you have any questions.

Sincerely yours,

  
LAWRENCE S. MYERS  
Commander, USN, Ret.

1128 Harrogate Drive  
Knoxville, TN 37923  
Tel: (615) 691-2580

Enclosures:

(1) Copy of article w/3 Figs.



COPY  
6/25/92  
70

THE PACIFIC OCEAN BASIN -- SHRINKING OR EXPANDING?

Lawrence St. Clair Myers  
Commander, U. S. Navy, Retired

5 The scientific community faces a major unforeseen problem--subduction  
and plate tectonics has a fatal flaw. The problem can be illustrated by the  
following question I raised in the American Geophysical Union to focus on  
this fatal flaw that subductionists failed to anticipate: "If the Atlantic  
Ocean basin continues expanding on a constant-diameter Earth, how long will  
10 it take for subduction to reduce the Pacific Ocean to zero?" [1] This can be  
stated another way: "Is plate subduction maintaining Earth at the constant  
diameter required by Laplace's nebular hypothesis of solar system creation?"

15 These are very important questions because they expose subduction as a  
specious idea and place Laplace's nebular hypothesis in serious jeopardy. If  
the hypothesis is wrong, then the most fundamental assumptions of cosmology,  
the solar system, geophysics and many other scientific disciplines have been  
wrong for 200 years and will prove to be a scientific error equal to adoption  
of Ptolemy's geocentrism 18 centuries ago. All science will be suspect.

20 Plate tectonics fails because extinction of the Pacific Ocean basin is  
the ultimate result of subduction dogma. To illustrate the problem, cup both  
hands with thumbs together and palms outward to represent Wegener's Pangaea.  
Then slowly spread the hands apart as if circling a globe to show that, as  
the Atlantic Ocean spreads apart between the thumbs, the left hand (North and  
South America) and the right hand (Asia and Australia) approach each other in  
25 the rear to close the Pacific Ocean.

Subduction was accepted hastily and still is not proven despite general  
acceptance of subduction and plate tectonics as dogma for the past 25 years.  
If subduction is to be proven it must be shown conclusively that the Pacific  
Ocean basin is shrinking rapidly just to maintain Earth's diameter at its  
30 present value. The reason is that, on a constant-diameter Earth, continuing  
growth of the Atlantic Ocean basin necessarily forces North and South America  
across the Pacific towards Asia and Australia at a velocity equal to the  
total combined velocity of the 65,000 km volcanic ridge system that runs  
throughout the Atlantic, Antarctic, Pacific and Indian Oceans. All ocean  
35 ridges expand at velocities that vary by area; most grow at a rate of 4-5  
cm/yr or less, but the hyperactive East Pacific Rise spreads at 17-18 cm/yr.  
The total velocity should have simplified subduction measurements, but the  
geodesists have not found this to be true.

40 Today's technology, especially Very Long Baseline Interferometry (VLBI)  
and Lunar Laser Ranging (LLR) resources, might resolve this intriguing, very  
important fundamental problem without a long-term measurement program. The  
answer may even reside in old computer data files that could be compared with  
recent data. Would previous analysis have produced the answer if researchers  
had been given the right question?

45 If VLBI/LLR tests prove the Pacific basin to be shrinking, subduction  
can be validated. If the basin is found to be increasing, as I anticipate,



# THE PACIFIC OCEAN BASIN -- SHRINKING OR EXPANDING?

Lawrence St. Clair Myers  
Commander, U. S. Navy, Retired

The scientific community faces a major unresolvable problem--subduction and plate tectonics has a fatal flaw. The problem can be illustrated by the following question I raised in the American Geophysical Union to focus on this fatal flaw that subductionists failed to anticipate: "If the Atlantic Ocean basin continues expanding on a constant-diameter Earth, how long will it take for subduction to reduce the Pacific Ocean to zero?" [1] This can be stated another way: "Is plate subduction maintaining Earth at the constant diameter required by Laplace's nebular hypothesis of solar system creation?"

These are very important questions because they expose subduction as a specious idea and place Laplace's nebular hypothesis in serious jeopardy. If the hypothesis is wrong, then the most fundamental assumptions of cosmology, the solar system, geophysics and many other scientific disciplines have been wrong for 200 years and will prove to be a scientific error equal to adoption of Ptolemy's geocentricism 18 centuries ago. All science will be suspect.

Plate tectonics fails because extinction of the Pacific Ocean basin is the ultimate result of subduction dogma. To illustrate the problem, cup both hands with thumbs together and palms outward to represent Wegener's Pangaea. Then slowly spread the hands apart as if circling a globe to show that, as the Atlantic Ocean spreads apart between the thumbs, the left hand (North and South America) and the right hand (Asia and Australia) approach each other in the rear to close the Pacific Ocean.

Subduction was accepted hastily and still is not proven despite general acceptance of subduction and plate tectonics as dogma for the past 25 years. If subduction is to be proven it must be shown conclusively that the Pacific Ocean basin is shrinking rapidly just to maintain Earth's diameter at its present value. The reason is that, on a constant-diameter Earth, continuing growth of the Atlantic Ocean basin necessarily forces North and South America across the Pacific towards Asia and Australia at a velocity equal to the total combined velocity of the 65,000 km volcanic ridge system that runs throughout the Atlantic, Pacific and Indian Oceans. All ocean ridges expand at velocities that vary by area; most grow at a rate of 4-5 cm/yr or less, but the hyperactive East Pacific Rise spreads at 17-18 cm/yr. The total velocity should have amplified subduction measurements, but the geodesists have not found this to be true.

Today's technology, especially Very Long Baseline Interferometry (VLBI) and Lunar Laser Ranging (LLR) resources, might resolve this intriguing very important fundamental problem without a long-term measurement program. The answer may even reside in old computer data files that could be compared with recent data. Would previous analysts have produced the answer if researchers had been given the right question?

If VLBI/LLR tests prove the Pacific basin to be shrinking, subduction can be validated. If the basin is found to be increasing, as I anticipate,



expansion of Earth's diameter will be proven and a new cosmological model will be needed to replace Laplace's 200-year-old concept of solar system creation, probably the most fundamental assumption in science today.

These questions are pertinent because Pacific Ocean morphology shows no evidence of shrinking, but does show strong empirical evidence of expansion.

1. The deep western Pacific trenches, from Kamchatka to Macquarie Ridge, from Lat. 55 N to 60 S, match the outlines of North and South America --strong vestigial evidence that the Asian and North American plates and the Australian and South American plates were conjoined 200-250 m.y. ago.[Fig. 1] Most striking and conclusive is the figure "7" configuration of the Vityaz-Tonga Trench that terminates in a fishhook curve at the southern end of Macquarie Ridge.[2] This exactly fits the western coast of South America and matches the configurations of South America and Africa that led to Wegener's historic Continental Drift Theory that took 50 years to confirm because there was no apparent mechanism. Now we have a causative mechanism.

2. Pacific Ocean sediment depths and ages decrease unilaterally eastward across the North Pacific basin, which would be consistent with lateral separation of Asia from North America. Depth and age patterns in the South Pacific basin sediments match the pattern of sediments in the Atlantic basin because both are bisected by active mid-ocean volcanic ridges.[See Fig. 2] This is consistent with lateral separation of Australia from South America, and the hyperactive East Pacific Rise spreads at a velocity of 17-18 cm/yr, which, coupled with velocities of the other ocean ridges, should make any measurement relatively easy to determine.

3. Other evidence of earlier separation of the Pacific rim continents is provided by the Andesite Line bounding both sides of the Pacific Ocean;[3] alleged "Asian terranes" found in northern California; and related floral and faunal species found on both sides of the Pacific,[4] all of which provide additional evidence the Asian continents once conjoined the Americas.

4. Wegener also provides geologic evidence of an earlier connection, even though he was unaware of the connection: "The present-day cordilleran system of eastern Australia was formed in still earlier times; it arose at the same time as the earlier folds in South and North America, which formed the basis of the Andes (pre-cordilleras), at the leading edge of the continental blocks, then drifting as a whole before dividing." [5]

5. Wegener also said (in different context on the next page): "The outermost layer, represented by the continental blocks, does not cover the whole earth's surface, or it may be true to say that it no longer does so." This is not entirely clear, but whatever Wegener had in mind, a Pangaeian landmass with the Americas joined to Asia and Australia could not occur unless Earth was about 60-62% of its present diameter.

6. The Antarctic plate, which is surrounded by ocean ridges and is expanding (growing) in total surface area, is actually expanding radially outward from Earth's center and southward away from all other continents.



expansion of Earth's diameter will be proven and a new cosmological model will be needed to replace Laplace's 200-year-old concept of solar system creation, probably the most fundamental assumption in science today.

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6. The Antarctic plate, which is surrounded by ocean ridges and is expanding (growing) in total surface area, is actually expanding radially outward from Earth's center and southward away from all other continents.



7. The 65,000 km-long ocean ridge system (an elongated volcanic rift) is another strong piece of evidence supporting expansion. Originally formed in relatively straight lines, expansion has created lateral offsets, and some, such as the Eltanin Ridge, show evidence of huge offsets. The ridges are "geosutures" that permit the planet's outer shell to expand in the same way cranial sutures permit a child's skull to grow to maturity.[6]

8. The deep fracture zone valleys are additional evidence of expansion. They are formed perpendicular to the ridge line and provide the north-south component of surface extension.

9. The San Andreas Fault NW\SE slip-strike motion is also evidence of the expansion process, functioning much like lateral ridge offsets such as the Eltanin Ridge. It appears to be an extension of the East Pacific Rise, transiting the Gulf of California, running beneath southern California and behind the Coast Range, and re-emerging north of San Francisco to resume its northward course. This unusual phenomenon is somehow responsible for, or associated with, the unique unilateral growth of the North Pacific basin.

10. Volcanic magma extrusion is another conclusive piece of evidence. Billions of cubic kilometers extruded from volcanoes over the life of Earth have recycled matter from the interior and spread it over the landscape, thus adding deep layers onto the surface--and kilometers to Earth's diameter.

11. External growth does not require much imagination. This is a known fact that first put me on the trail of an expanding Earth in 1965--thousands of meteorites (some large, some small, some micron-sized) that strike Earth daily. Why have scientists overlooked the long-term cumulative effect of constant daily accretion of this unlimited source of extraterrestrial matter? Total influx of dust alone is estimated at 5,000,000 tons/yr, [7] plus untold numbers of solid meteorites known to fall to Earth each year. This fact is so elementary that it can not be ignored.

Regardless of the seemingly insignificant volume (relative to Earth's present mass), this accretion of mass becomes significant when calculated over billions of years. The evidence is clearly evident in Grand Canyon strata [See Fig.3] and anywhere else one cares to dig. Each layer was laid down atop older layers, and the diversity of each layer gives clear evidence of differing source materials deposited over long periods of time, each layer in turn succumbing to a different source or type of material. When Earth was smaller, and its atmosphere thinner, meteorites could strike with full mass, but as time passed and the atmosphere thickened, an increasing proportion of meteoritic mass would have ablated, losing some fraction of mass to energy.

The few facts outlined above make a strong case for an expanding Earth. They are well-known empirical facts but here interpreted differently based on a fundamentally different philosophy. Other anti-subduction arguments can be offered, but they are hypothetical and rely upon subjective interpretation of the facts; e.g., palaeomagnetic readings that can be interpreted to show the progress of expansion. An expanding Earth fits the empirical facts and makes subduction unnecessary because tectonic plate growth at the mid-ocean ridges increases Earth's surface area, and thus increases its diameter.



7. The 65,000 km-long ocean ridge system (an elongated volcanic rift) is another strong piece of evidence supporting expansion. Originally formed in relatively straight lines, expansion has created lateral offsets, and some, such as the Eltanin Ridge, show evidence of huge offsets. The ridges are discontinuous that permit the planet's outer shell to expand in the same way cranial sutures permit a child's skull to grow to maturity. [6]

8. The deep fracture zone valleys are additional evidence of expansion. They are formed perpendicular to the ridge line and provide the north-south component of surface extension.

9. The San Andreas Fault NW/SE slip-strike motion is also evidence of the expansion process, functioning much like lateral ridge offsets such as the Eltanin Ridge. It appears to be an extension of the East Pacific Rise, transecting the Gulf of California, running beneath southern California and behind the Coast Range, and re-emerging north of San Francisco to resume its northward course. This unusual phenomenon is somehow responsible for, or associated with, the unique unilateral growth of the North Pacific basin.

10. Volcanic magma extrusion is another conclusive piece of evidence. Billions of cubic kilometers extruded from volcanoes over the life of Earth have recycled matter from the interior and spread it over the landscape, thus adding deep layers onto the surface--and kilometers to Earth's diameter.

11. External growth does not require much imagination. This is a known fact that first put me on the trail of an expanding Earth in 1965--thousands of meteorites (some large, some small, some micron-sized) that strike Earth daily. Why have scientists overlooked the long-term cumulative effect of constant daily accretion of this unlimited source of extraterrestrial matter? Total influx of dust alone is estimated at 2,000,000 tons/yr. [7] plus untold numbers of solid meteorites known to fall to Earth each year. This fact is so elementary that it can not be ignored.

Regardless of the seemingly insignificant volume (relative to Earth's present mass), this accretion of mass becomes significant when calculated over billions of years. The evidence is clearly evident in Grand Canyon strata [see Fig. 3] and anywhere else one cares to dig. Each layer was laid down atop older layers, and the diversity of each layer gives clear evidence of differing source materials deposited over long periods of time, each layer in turn succumbing to a different source or type of material. When Earth was smaller, and its atmosphere thinner, meteorites would strike with full mass, but as time passed and the atmosphere thickened, an increasing proportion of meteoritic mass would have ablated, losing some fraction of mass to energy.

The few facts outlined above make a strong case for an expanding Earth. They are well-known empirical facts but here interpreted differently based on a fundamentally different philosophy. Other anti-subduction arguments can be offered, but they are hypothetical and rely upon subjective interpretation of the facts; e.g., palaeomagnetic readings that can be interpreted to show the progress of expansion. An expanding Earth fits the empirical facts and makes subduction unnecessary because tectonic plate growth at the mid-ocean ridges increases Earth's surface area, and thus increases its diameter.



Substantive empirical facts to support subduction are not to be found. Most subduction evidence (so-called) is actually misinterpreted evidence of expansion. It is also very speculative and can be explained by motion in the opposite direction--obduction, and even more easily by expansion. Subduction rates are usually inferred from ocean ridge growth rates and prove nothing. Subduction measurements now starting to appear (I have not seen any specific reports) should have high velocities corresponding to the combined known seafloor spreading rates, which should have made them measurable long before now. I suggest they be reviewed skeptically as being the result of lateral seafloor compression, or satellite location errors generated by expansion itself because expansion of the Earth increases distances between parallels of latitude and meridians of longitude.

The evidence now available is sufficient to show that Earth Expansion is probable and will eventually be accepted fact. However, when subduction is finally disproven the record will show, ironically, that S. W. Carey, an early proponent of continental drift, had proposed the subduction concept in 1953, [8] but by 1956 was propounding Earth Expansion and has argued against subduction as a "myth" ever since. Geophysicists can not say they were not warned about the fallacy of subduction.

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2. Myers, L. S., 1982. Abstract p.1112, EOS, Vol. 63, No. 45, Nov. 9, 1982.
3. Carey, S. W., 1976. "The Expanding Earth", Elsevier, Amsterdam. 488pp.  
And Carey, S. W., 1983. "Tethys and her Forebears", p.172 Carey, S. W. (ed):  
Expanding Earth Symposium, Sydney, 1981.
4. Shields, O., 1983. "Trans-Pacific biotic links that suggest Earth Expansion." pp.199-205 in Carey, S. W. (ed): Expanding Earth Symposium, Sydney, 1981.
5. Wegener, A., 1928, p.20 "The Origin of Continents and Oceans" (Transl. of 4th edition by John Biram, Dover Publications, Inc., New York. 246pp.
6. Myers, L. S., 1972. "The Accreation of the Earth" (The Concept of an Expanding Earth). Published privately in 30 copies. 19pp.
7. Pettersson, Hans, 1956.
8. Carey, S. W., 1976. P.11 in "The Expanding Earth", Elsevier, Amsterdam.

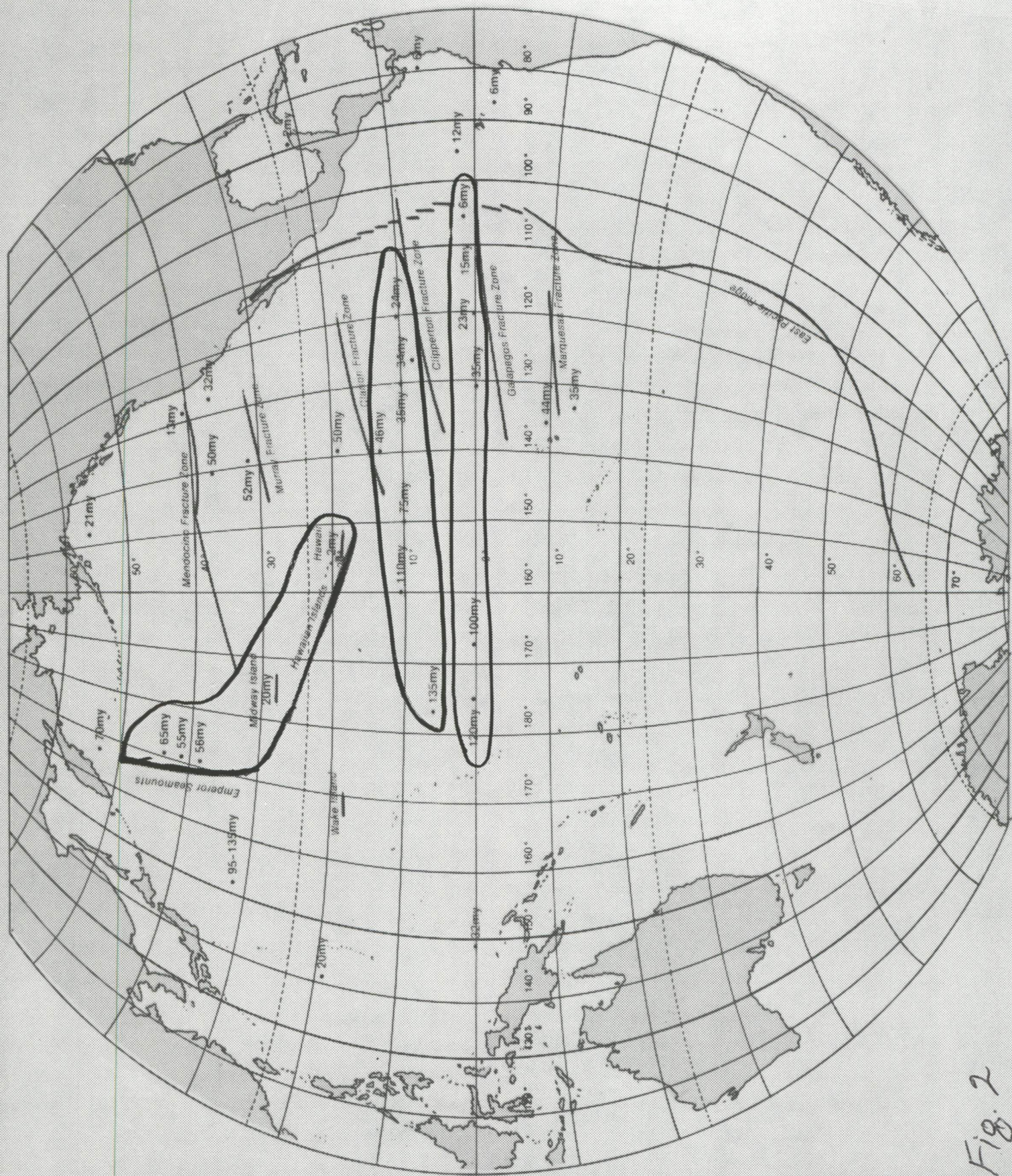


WORI



Fig. 1







# GRAND CANYON ACCRETION HISTORY

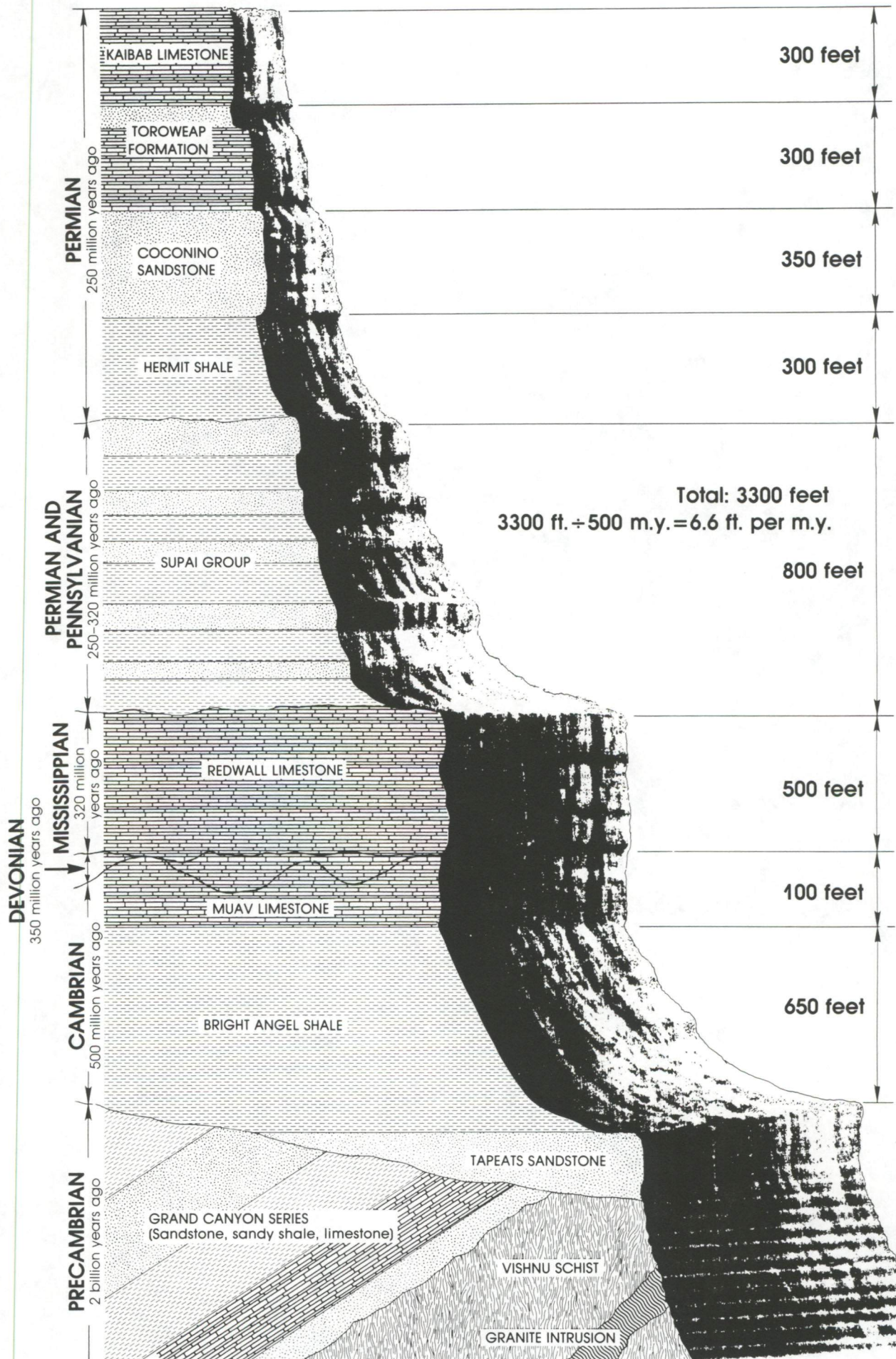


Fig. 3





SMITHSONIAN INSTITUTION

*Washington, D.C. 20560*  
*U.S.A.*

June 22, 1992

The Honorable John Schmitz  
Deputy Counsel to the President  
The White House  
Washington, DC 20500

Dear John:

This is not only to signal my personal delight with the forest initiative which you and Jonathan worked together on, but also the pleasure of being able to show some of this topic to you first hand at Camp 41.

I would like to be helpful in any way that I might to efforts to implement this initiative as well as the initiative on science and biological diversity survey. I know the Smithsonian would be equally interested as I am personally. I have already spoken with Ira Rubinooff, the Director of the Smithsonian Tropical Research Institute in Panama about hosting the partnership forum and he is as enthusiastic as I.

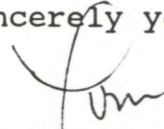
I also know that Frank Talbot, the Director of the National Museum of American History is interested in how the Institution might contribute in a substantial way to the biological diversity survey initiative. This is a subject of institutional involvement as old as the Institution itself, and while we would in no way wish to preempt the interests of Interior Agriculture and EPA, again if we can provide and appropriate venue or lead role I know we would consider the possibility very seriously.

As these topics relate to OSTP I am taking the liberty of copying this letter to Allan Bromley. I look forward to working with you on these important initiatives.

J. Schmitz  
June 22, 1992  
page two

With all best wishes,

Sincerely yours,



Thomas E. Lovejoy  
Assistant Secretary for  
External Affairs

TEL/crd

cc: Prof. Bromley ✓  
Secretary Adams



"Document Control"

TYPE: INFORMATION  
ORIGINATOR: 02

DOCUMENT NUMBER: 9202278  
DIRECTORATE STATUS

\*\*\*\*\*

FROM: HIRSCH, Robert L.: ELECTRONIC POWER RESEARCH INSTITUTE

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 06/19/92

SUBJECT: A COPY OF THE BOOK ENTITLED "BUYING GREENHOUSE  
ECONOMIC INSURANCE-THE ECONOMIC COSTS OF CO2  
EMISSION LIMITS"

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: ASSIGNED:

ACTION STAFF  
REQUIRED: ACTION:

\*\*\*\*\*  
SENDER'S DUE DATE:  
OSTP DUE DATE: STAFF DUE DATE  
DATE COMPLETED: DATE COMPLETED/DEPT:

\*\*\*\*\*  
COPIES TO: ENVIRONMENT  
D. Allan Bromley

\*\*\*\*\*  
WHITE HOUSE TRACKING #: CONTACT PERSON:  
PHONE: EXT:

REMARKS:

OSTP RECEIVED: 06/24/92  
FILE: P-ENVIRONMENT

DEPT RECEIVED:

CENTRAL FILES:

June 19, 1992

Dr. D. Allan Bromley  
Assistant to the President of the United States  
Office of Science and Technology Policy  
1600 Pennsylvania Avenue, N.W.  
Washington, D.C. 20500

Dear Allan:

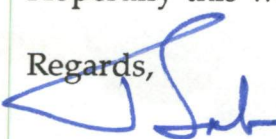
In the thought that it might be of interest to you, I am forwarding a copy of "Buying Greenhouse Insurance--The Economic Costs of CO<sub>2</sub> Emission Limits," by Alan S. Manne and Richard G. Richels. It was just published.

A few highlights:

- "One can point to plausible assumptions that will result in abatement costs on the order of several trillion dollars (discounting year-by-year losses back to 1990). Alternatively, if one is optimistic about the potential for supply and conservation technologies, the costs could be much lower." (p. 66)
- "The analysis leaves little doubt that there can be a big payoff to reducing climate-related uncertainties and that it could be upward of \$100 billion for the United States alone." (p. 86)
- "There is less need for precautionary emission reductions if we undertake a sustained commitment to reducing climate uncertainty and developing new supply and conservation options." (p. 87)

Hopefully this will be of some value to you and/or your colleagues.

Regards,

  
Robert L. Hirsch

RLH/ch

Enclosure

OSIP  
MAIL ROOM

92 JUN 24 A10:44

RECEIVED



# **BUYING GREENHOUSE INSURANCE**

The Economic Costs of CO<sub>2</sub> Emission Limits



**Alan S. Manne and  
Richard G. Richels**



THE WHITE HOUSE  
WASHINGTON

July 14, 1992

Dear Bob:

A belated thank you for the copy of "Buying Greenhouse Insurance--The Economic Costs of CO2 Emission Limits" which arrived while I was traveling in the Middle East. This is an important contribution to what I know will be an ongoing debate and I appreciate your sending over the copy.

With all best wishes,

Sincerely yours,

A handwritten signature in black ink, appearing to read "D. Bromley", with a long horizontal flourish extending to the right.

D. Allan Bromley  
The Assistant to the President  
for  
Science and Technology

Dr. Robert L. Hirsch  
Electric Power Research Institute  
1019 19th Street, N.W. - Suite 1000  
Washington, D.C. 20036



JUN 24 1992

"Document Control"

TYPE: ACTION DOCUMENT NUMBER: 9202237  
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS  
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FROM: SCHROTE, John E.: U.S. DEPARTMENT OF THE INTERIOR

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 06/16/92

SUBJECT: HE IS WRITING REGARDING THE ETHICAL BEHAVIOR OF DR.  
TUCKER.

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: ENVIRONMENT ASSIGNED:

ACTION STAFF  
REQUIRED: AS NECESSARY ACTION:

\*\*\*\*\*  
SENDER'S DUE DATE:  
OSTP DUE DATE: 07/06/92 STAFF DUE DATE  
DATE COMPLETED: DATE COMPLETED/DEPT: 7/6/92  
\*\*\*\*\*

COPIES TO: D. Allan Bromley

\*\*\*\*\*  
WHITE HOUSE TRACKING #: CONTACT PERSON:  
REMARKS: PHONE: EXT:

OSTP RECEIVED: 06/22/92  
FILE: P-ENVIRONMENT

DEPT RECEIVED:

CENTRAL FILES:



THE WHITE HOUSE  
WASHINGTON

July 6, 1992

Dear Mr. Schrote:

Thank you for your letter of June 16. I have looked into the situation regarding the New York Times article, and have the following observations.

Dr. Tucker is a well-respected biologist, with Masters and Ph.D degrees from the College of Forestry at Colorado State University, and substantial expertise in ecosystem studies. He has been one of the world leaders in the scientific community in the study of ecosystems using remote sensing techniques. The methods used to conduct the study in question are straightforward, and have previously been presented in international scientific meetings, most recently the World Forest Watch Conference in Sao Jose Dos Campos, Brazil. Questions about the factual basis of the research study can most profitably be pursued by independent analyses of the data. I understand that the Department of the Interior has requested the data, and that Dr. Tucker sent them to Mr. Allan Watkins, Chief, National Mapping Division, USGS, on June 22, 1992, to be forwarded and reviewed by experts at the Eros Data Center.

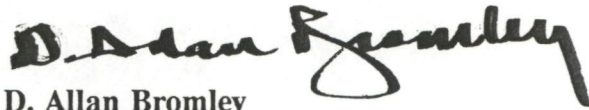
I note your concern over ethical issues. As is usual in any scientific study, the analyses in progress have been discussed with colleagues in open scientific meetings well before the UNCED conference, and as a result of such discussions, the New York Times reporter became aware of the work in late April or early May. Therefore, the timing of publication was clearly under control of the New York Times, and not due to any scientist's personal political agenda.

The ethical issue of most concern is that working scientists not be intimidated from discussing their methods and results in the spirit of full and open exchange of information, because of concern, or potential concern, over the possible implications of the results. I am sure you will agree that scientists must have the freedom to discuss their research in open scientific



forums without fear that reaction to media reporting will adversely affect them. The scientific community will ultimately be the arbiter of the factual reliability of Dr. Tucker's research, and the implications of his findings.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "D. Allan Bromley", with a stylized, flowing script.

D. Allan Bromley  
The Assistant to the President  
for  
Science and Technology

Mr. John E. Schrote  
Assistant Secretary  
Policy, Management and Budget  
Department of the Interior  
Washington, DC 20240



# United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

June 16, 1992

2231  
TAKE  
PRIDE IN  
AMERICA

Honorable D. Allan Bromley  
Assistant to the President  
for Science and Technology  
The White House  
OEOB, Room 358  
Washington, DC 20506

MAIL ROOM

Dear Dr. Bromley:

Attached is an article out of the New York Times dated June 11 which causes this Department some concerns (this is an understatement).

I assume that Dr. Tucker's expertise is in physical services; not biology, silvaculture, or forest management. I can find no evidence he shared his findings with this land management Department, nor those with expertise in biodiversity or ecosystems.

What I do note, is that Dr. Tucker used government resources, and "knowledge" gained from his job, to press forward his personal agenda. Even the timing of the release suggests this. He has done so in the name of science though the science is incomplete and, therefore, is not scientifically credible for policymaking purposes.

Our knowledge is limited to the article but with that in mind we question the legality and especially the ethics of Dr. Tucker's conduct.

The reason I am bringing this ethical matter to your attention is because you are the ranking scientist in this administration, and as such, you more than anyone, are probably concerned about the integrity of the scientific community and the conduct of government scientists.

I wish I could forward a recommendation or suggestion, but if you wish to address this specific problem, please know that this Department will enthusiastically support that endeavor.

Sincerely,

JOHN E. SCHROTE  
Assistant Secretary  
Policy, Management and Budget

Attachment

cc: Secretary

*Handwritten signature: The undersigned JES*



## The Earth Summit:

### A Closer Look at the Vanishing Forests

# Space Photos Show Forests in Pacific Northwest Are in Peril, Scientists Say

By TIMOTHY EGAN  
Special to The New York Times

SEATTLE, June 10 — A team of Government scientists mapping changes in the earth's surface says the latest satellite pictures show a surprising level of damage to the richest forests of the United States.

When compared particularly with the tropical rain forests of Brazil, the evergreen forests of the Pacific Northwest, although only a tenth the size, appear to be in danger of losing their biological vitality, the scientists said.

They said the pictures show the national forests in the Northwest so torn up by thousands of clear-cuts that the logging threatens the ability of the forests to support a diversity of species.

The scientists, from the National Aeronautics and Space Administration's Goddard Space Flight Center in Greenbelt, Md., are led by Dr. Compton J. Tucker. They base their conclusions on pictures from space of the tropical rain forest in Brazil and the temperate rain forests of Washington and Oregon.

#### 'Severe Fragmentation' Found

"When you compare the situation in the Pacific Northwest to the Amazon of Brazil, the Northwest is much worse," Dr. Tucker said in an interview. "The pictures show this amazing, graphic situation — the severe fragmentation of the forest in the Northwest."

Because the continuity of the forest is so badly damaged, he said, such logging "has serious implications" for the diversity of plant and animal species needed to maintain a healthy biological system.

Officials of the United States Forest Service, which sets policy on such logging operations, say it is misleading to make judgments about forest practices based on pictures from space.

Almost all the cut-over Forest Service land has been replanted with new trees, they say, but this is not shown in the pictures from space because newly planted plots look the same as bald, deforested areas until the trees are about 10 years old.

The NASA pictures are bound to influence the debate in Congress over how much logging should be allowed in the national forests. The Bush Administration wants to open up logging on four million acres, in two areas of the state of Washington that contain large sections of old growth forest. Several bills pending in Congress would preserve most of the remaining forest.

Aerial tours of clear-cuts in the Northwest have proved to be one of the most convincing lobbying tools for groups opposed to extensive logging.

Dr. Tucker said he made his pictures available because he thought the comparison was relevant to the international debate.

#### Mapping Terrestrial Changes

Dr. Tucker, a senior fellow at the Goddard Center who has worked for the space agency for 17 years, heads a 15-member team that has been using satellite pictures to map changes in the earth's surface. He directs a unit of the Laboratory for Terrestrial Physics. His past studies have focused on the Amazon rain forest and on the growth of the Sahara Desert.

He has spent much of the past year comparing pictures of the Pacific Northwest with those of Brazil. Some of the pictures were shown to President Bush during his visit to the Goddard Center two weeks ago.

A White House spokesman said to-

day that the President saw many satellite photos that day and did not specifically recall the ones comparing deforestation.

In Brazil, Dr. Tucker said, most of the Amazon forest remains intact despite years of cutting and burning to clear land for agriculture and development. The forest's edges have been pushed back and some sections have been opened in the interior, but the vast expanse of forest is undisturbed.

By contrast, he said, in the Pacific Northwest a large portion of the forest has been cut into small segments by roads and development or logging. When loggers clear-cut a tract of land, they cut down all the trees on hundreds of plots of 40 to 60 acres each.

#### Cutting the Forest to Pieces

"What so astonished us when we started to do this comparison was the tremendous degree of fragmentation in the Northwest," Dr. Tucker said. "It appears that much of the forest has been literally cut to pieces."

Some biologists compare the forests of the Northwest to a shirt that has been perforated again and again; after awhile there are many holes and little shirt. They contend that the region's national forests have been so sliced up by small clear-cuts that the overall

health of the forest is at risk.

#### New Logging Methods

The Forest Service announced last week that it was retreating from its decades-old policy of clear-cutting. Under the new logging methods, some trees will be left standing as a means of encouraging a more natural regeneration of the forest.

The satellite analysis of the forests in the Pacific Northwest and Brazil adds a new dimension to a claim that many environmentalists have made about logging in the United States.



Extensive mapping by the Wilderness Society, for example, has concluded that a little more than 10 percent of the original 25-million-acre forest that once stretched from Northern California to the Canadian border is intact. This great swath of trees, including species like the Pacific yew, which contains a cancer-fighting compound, and many plants and animals in danger of being lost forever, is generally considered the biggest and richest of American forests.

In recent years, as other countries have stepped up their criticism of forestry practices in South American nations, some of these countries, including Brazil, have countered by citing the destructive logging of ancient forests in the Pacific Northwest.

As delegates met in Rio de Janeiro this week for the Earth Summit, leaders from the northern nations have continued to press for restrictions on logging in tropical forests.

The United States delegation arrived in Rio proclaiming protection of the world's forests as the main objective. As an incentive to developing countries, President Bush said the United States would increase its aid to other nations' forestry programs by \$150 million, to \$270 million, in the next fiscal year.

But the Bush Administration has opposed as too costly a proposed treaty

that would protect the world's plant and animal species.

In Dr. Tucker's analysis, the biggest threat from logging in the Pacific Northwest is to the diversity of species, a point on which many Forest Service officials agree.

#### **Pictures Termed Misleading**

But John Lowe, the deputy regional forester for the Pacific Northwest, said the satellite pictures do not show the replanting that has taken place in many areas.

"The big difference between us and Brazil is that we are trying to bring it back," Mr. Lowe said. "Deforestation is not the business we are in. It never

has been. We have been 99 percent successful in bringing in new forests after logging."

He acknowledged that the clear-cutting in the Northwest had left many experts concerned about a drop in the diversity of species. These people say that when a natural forest is replaced by commercially valuable trees, the plot becomes a farm, not a forest, and biological interaction is damaged.

But Mr. Lowe defended the practice. "Certainly, we have fragmented the landscape," he said, "but overall the forest is healthy enough to operate as an ecosystem that will foster species diversity."

THURSDAY, JUNE 11, 1992

### **THE WALL STREET JOURNAL**

\* \* \*

Earth Summit negotiators reached an accord on a compromise text that trims a request for financing commitments for environmental efforts, the Reuters news agency said. Reuters said the draft text, hammered out in all-night talks in Rio de Janeiro, substantially waters down an initial funding appeal. (Related story on Page A2)

\* \* \*

- "U.S. Finds Success In Rio With Oceans Pact"
- "Popularity Puts Pacific Sharks At Risk" (Earth Summit)
- (USA TODAY - 6/11/92)
- "Purse-Strings Issue Snarls Ambitious Environment Plan"
- (Washington Times - 6/11/92)
- "U.S., Third World Reduce Gap At Rio" (Earth Summit A1)
- "Critics Say U.S. Behind The Curve"
- (Washington Post - 6/11/92)
- "Bush's Badge Is Waiting" (Earth Summit - Editorial)
- (Wall Street Journal - 6/11/92)