The original documents are located in Box D32, folder "House Science and Astronautics Committee Annual Panel on Science and Technology, Washington, DC, January 25, 1972" of the Ford Congressional Papers: Press Secretary and Speech File at the Gerald R. Ford Presidential Library.

HOUSE SCIENCE AND ASTRONAUTICS 13TH ANNUAL PANEL ON SCIENCE AND TECHNOLOGY, THE RAYBURN BUILDING, JAN. 25, 1972.

MR. CHAIRMAN, MR. SPEAKER, DISTINGUISHED GUESTS, LADIES AND GENTLEMEN. I AM VERY PLEASED TO HAVE THE OPPORTUNITY TO WELCOME THE PARTICIPANTS AND GUESTS TO THIS YEAR'S PANEL ON SCIENCE AND TECHNOLOGY. FURTHER, I COMMEND THE COMMITTEE ON SCIENCE AND ASTRONAUTICS, AND IN PARTICULAR, ITS DISTINGUISHED CHAIRMAN, IN THEIR CHOICE OF A RELEVANT AND TIMELY THEME -- REMOTE SENSING OF EARTH RESOURCES.

IT IS MY CONVICTION THAT IF OUR MANNED VOYAGES INTO SPACE HAVE TAUGHT US ONE LESSON, IT IS THAT THE EARTH ITSELF IS BUT A SPACESHIP. WE HAVE SEEN THAT THE EARTH, LIKE OUR APOLLO SPACECRAFT,

IS A CLOSED ECOLOGICAL SYSTEM REQUIRING OUR MOST RESPONSIBLE MANAGEMENT AND CONTROL. THIS DISCOVERY HAS POSED A VERY CRITICAL QUESTION. HOW DO WE KEEP THE "SPACESHIP" EARTH HABITABLE?

BOTH THE POPULATION AND PER CAPITA DEMANDS ON THE EARTH'S RESOURCES CONTINUE TO RISE WITH NO DECREASE IN SIGHT. BUT FORTUNATELY, THIS HAS BEEN ACCOMPANIED BY AN INCREASED INTEREST FOCUSING ON THE EARTH'S ENVIRONMENT AND THE PRESERVATION OF OUR QUALITY OF LIFE. AN OUTGROWTH OF THIS INTEREST IS RECOGNITION OF THE NEED FOR MORE ACCURATE AND FREQUENT ASSESSMENT OF THE EARTH'S RESOURCES -- A MEANS BY WHICH TO SURVEY THE EARTH'S TOTAL SURFACE RAPIDLY AND ECONOMICALLY.

THE KEY TO PROVIDING THIS TYPE OF COMPREHENSIVE RESOURCES INVENTORY WOULD APPEAR TO BE A COMBINATION SPACEBORNE AND AIRBORNE SENSING SYSTEM. IN THIS MANNER, THE ENTIRE GLOBE CAN BE MONITORED TO PROVIDE THE EARTHBOUND DECISION-MAKERS WITH THE INFORMATION NECESSARY TO PERFORM THEIR "PLANETARY ENGINEERING."

WE NOW HAVE EVIDENCE THAT OUR GLOBAL SYSTEM EXISTS IN A STATE OF DELICATE BALANCE. FURTHERMORE, THERE ARE ALSO INDICATIONS OF THE VERY DISASTROUS CONSEQUENCES OF DISTURBING THIS BALANCE. EARTH RESOURCES TECHNOLOGY IS THEREFORE AIMED AT THE HEART OF THE PROBLEM AS IT ATTEMPTS TO ASSESS THE PRESENT AND PROSPECTIVE IMPACT OF MAN'S ACTIVITIES ON THE GLOBAL ENVIRONMENT.

I WOULD LIKE TO COMPLIMENT THE CHAIRMAN ON THE TIMELINESS OF THIS THEME. AS ALL OF YOU ARE AWARE, THE FIRST MAJOR THRUST IN EARTH RESOURCES MANAGEMENT WILL BE THE LAUNCHING OF THE NASA EARTH RESOURCES TECHNOLOGY SATELLITES A AND B -- THE FIRST OF WHICH WILL BE LAUNCHED IN MAY.

THESE SATELLITES WILL PROVIDE US WITH THE FIRST "HARD" INFORMATION IN TERMS OF AN INVENTORY OF THE EARTH -- A SURVEY OF ITS PLANTS, ANIMALS, FORESTS, LAND, WATER, MINERALS, AND PEOPLE. PERHAPS MORE IMPORTANT, THESE SATELLITES WILL ALSO GIVE US SOME INDICATION OF WHAT STRESSES WE ARE PLACING UPON THE EARTH'S ECOLOGICAL SYSTEM, AND THEREBY PROVIDE US THE INFORMATION NECESSARY FOR CHARTING THE BEST COURSE OF FUTURE ACTION.

IT IS ALSO PARTICULARLY HEARTENING TO ME, MR. CHAIRMAN, THAT WE HAVE SUCH OUTSTANDING INTERNATIONAL PARTICIPATION FOR THE PANEL. THE PROBLEMS WE ARE FACING IN EARTH RESOURCES ARE GLOBAL IN NATURE AND THE SOLUTIONS TO THESE PROBLEMS MOST CERTAINLY WILL REQUIRE INTERNATIONAL AS WELL AS NATIONAL ACTION. TYPICALLY, MEASURES TAKEN WITHIN ONE NATION WILL REQUIRE SUPPORT IN THE FORM OF PARALLEL ACTION WITHIN OTHER NATIONS. AND, IF I AM TO JUDGE BY THE PARTICIPATION HERE TODAY, I AM VERY OPTIMISTIC ABOUT THE PROSPECTS FOR ACHIEVING INTERNATIONAL COOPERATION AS WE ADDRESS THE PROBLEMS OF OUR ECOLOGY AND ENVIRONMENT.

MR. CHAIRMAN, I LOOK FORWARD TO THIS PANEL SESSION NOT ONLY AS A MEANS OF

IMPROVING INTERNATIONAL COMMUNICATIONS AND UNDERSTANDING, BUT ALSO BECAUSE I AM CONFIDENT THIS SERIES OF MEETINGS WILL LEAD TO GREATER INTELLECTUAL SERIOUSNESS AND MORAL SENSITIVITY IN ADDRESSING OUR CRUCIAL GLOBAL PROBLEMS.

I FEEL THAT THERE IS AN ALTERNATIVE TO A 21ST CENTURY WORLD OF STARVING HUMAN MASSES, WITHOUT AIR, WATER AND ROOM, BARELY SURVIVING IN A TOTALLY DEGRADED LEVEL OF EXISTENCE. I AM CONVINCED THAT IT IS NOT TOO LATE AND THAT THERE IS AN ALTERNATIVE. CERTAINLY, THIS PANEL REPRESENTS A MAJOR STEP IN THE RIGHT DIRECTION.

AGAIN, I WELCOME ALL PARTICIPANTS AS YOU COMMENCE YOUR EFFORTS UNDER OUR DISTINGUISHED CHAIRMAN. THANK YOU VERY MUCH.

-- END --

Carl Swartz 58772 Office Copy 9:45
13th meeting 1-25-72 10:00
Panel on Science & Technology
Committee on Science & Astronautics.
1-25-72

Remarks of Congressman Gerald R. Ford

RAYBURN H.O.B, WASH., D.C. 1-25-72

Mr. Chairman, Mr. Speaker, distinguished guests, ladies and gentlemen, I am very pleased to have the opportunity to welcome the participants and guests to this year's 13th Panel on Science and Technology. Further, I commend the Committee on Science and Astronautics, and in particular, its distinguished Chairman, in their choice of a relevant and timely theme--Remote Sensing of Earth Resources.

It is my conviction that if our manned voyages into space have taught us one lesson, it is that the earth itself is but a spaceship. We have seen that the earth, like our Apollo spacecraft, is a closed ecological system requiring our most responsible management and control. This discovery has posed a very critical question: How do we keep the "spaceship" Earth habitable?

Both the population and per capita demands on the earth's resources continue to rise with no decrease in sight. But fortunately, this has been accompanied by an increased interest focusing on the earth's environment and the preservation of our quality of life. An outgrowth of this interest is recognition of the need for more accurate and frequent assessment of the earth's resources--a means by which to survey the earth's total surface rapidly and economically.

The key to providing this type of comprehensive resources inventory would appear to be a combination spaceborne and airborne sensing system. In this manner, the entire globe can be monitored

to provide the earthbound decision-makers with the information necessary to perform their "planetary engineering."

We now have evidence that our global system exists in a state of delicate balance. Furthermore, there are also indications of the very disastrous consequences of disturbing this balance. Earth resources technology is therefore aimed at the heart of the problem as it attempts to assess the present and prospective impact of man's activities on the global environment.

I would like to compliment the Chairman on the timeliness of this theme. As all of you are aware, the first major thrust in earth resources management will be the launching of the NASA Earth Resources Technology Satellites A and B--the first of which will be launched in May.

These satellites will provide us with the first "hard" information in terms of an inventory of the earth--a survey of its plants, animals, forests, land, water, minerals, and people. Perhaps more important, these satellites will also give us some indication of what stresses we are placing upon the earth's ecological system, and thereby provide us the information necessary for charting the best course of future action.

It is also particularly heartening to me, Mr. Chairman, that we have such outstanding international participation for the Panel. The problems we are facing in earth resources are global in nature and the solutions to these problems most certainly will require international as well as national action. Typically, measures taken within one nation will require support in the form of parallel action within other nations. And, if I am to judge

by the participation here today, I am very optimistic about the prospects for achieving international cooperation as we address the problems of our ecology and environment.

Mr. Chairman, I look forward to this Panel session not only as a means of improving international communications and understanding, but also because I am confident this series of meetings will lead to greater intellectual seriousness and moral sensitivity in addressing our crucial global problems.

I feel that there is an alternative to a 21st century world of starving human masses, without air, water, and room, barely surviving in a totally degraded level of existence. I am convinced that it is not too late and that there is an alternative. Certainly, this Panel represents a major step in the right direction.

Again, I welcome all participants as you commence your efforts under our distinguished Chairman. Thank you very much.

Carl Swartz 58172 Office Copy
13th meeting 1-25-72
Panel on Science & Technology
Committee on Science & Astronautics.
1-25-72

Remarks of Congressman Gerald R. Ford

RAYBURN H.O.B., WASH. DC.

Mr. Chairman, Mr. Speaker, distinguished guests, ladies and gentlemen, I am very pleased to have the opportunity to welcome the participants and guests to this year's Panel on Science and Technology. Further, I commend the Committee on Science and Astronautics, and in particular, its distinguished Chairman, in their choice of a relevant and timely theme--Remote Sensing of Earth Resources.

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COMMITTEE ON
SCIENCE AND ASTRONAUTICS
U.S. HOUSE OF REPRESENTATIVES

Thirteenth Meeting

with the

PANEL ON SCIENCE AND TECHNOLOGY

January 25, 26, and 27, 1972

Room 2318

RAYBURN HOUSE OFFICE BUILDING

WASHINGTON, D.C.

2325 9-10 AM
Coffee

MEMBERS OF THE COMMITTEE

George P. Miller, California, Chairman

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Ken Hechler, West Virginia
John W. Davis, Georgia
Thomas N. Downing, Virginia
Don Fuqua, Florida
Earle Cabell, Texas
James W. Symington, Missouri
Richard T. Hanna, California
Walter Flowers, Alabama
Robert A. Roe, New Jersey
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R. Lawrence Coughlin, Pennsylvania
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Joseph Del Riego, Minority Staff
Elizabeth S. Kerr, Scientific Research Assistant
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A. Patrick Nucciarone, Assistant Publications Clerk

MEMBERS OF THE PANEL ON SCIENCE AND TECHNOLOGY

MODERATOR

Ivan L. Bennett, Jr. [medicine]
New York University

GUEST PANELISTS

Harrison S. Brown [geochemistry]
California Institute of Technology

A. Hunter Dupree [history]
Brown University

David M. Gates [ecology]
University of Michigan

Martin Goland [applied mechanics]
Southwest Research Institute

Walter J. Hesse [aircraft and missile systems]
LTV Aerospace Corporation

Herbert E. Longenecker [biochemistry]
Tulane University

Thomas F. Malone [meteorology]
University of Connecticut

J. Roger Porter [microbiology]
University of Iowa

William F. Pounds [management]
Massachusetts Institute of Technology

Roger Revelle [geophysics]
Harvard University

H. Guyford Stever [aerospace engineering]
Carnegie-Mellon University

Athelstan Spilhaus [oceanography]
Woodrow Wilson International Center for Scholars

James A. Van Allen [physics]
University of Iowa

INTERNATIONAL GUEST PANELISTS

Fred L. Whipple [astronomy]
Smithsonian Astrophysical Observatory

John T. Wilson [psychology]
University of Chicago

KEYNOTE SPEAKER

H. Guyford Stever, President, Carnegie-Mellon University.

MODERATOR

Hon. James W. Symington, Subcommittee on Space Science and Applications.

THEME ADDRESS

Dr. James C. Fletcher, Administrator, National Aeronautics and Space Administration.

GUEST PANELISTS

Dr. Brian O'Brien, Consulting Physicist; Chairman, NASA Space Program Advisory Council; Chairman, National Academy of Sciences Advisory to Commander, Air Force Systems Command.

Dr. Allen E. Puckett, Executive Vice President and Assistant General Manager, Hughes Aircraft Company.

Dr. A. K. Thiel, Senior Vice President, TRW Systems Group.

Mr. Daniel J. Fink, Vice President and General Manager, Space Division, The General Electric Company.

Dr. William T. Pecora, Undersecretary, Department of the Interior.

Dr. Robert N. Colwell, Associate Director, Space Sciences Laboratory, University of California, Berkeley.

Dr. George J. Zissis, Research Physicist, Institute of Science and Technology, University of Michigan.

Dr. Robert M. White, Administrator, National Oceanic and Atmospheric Administration.

Dr. Edward E. David, Jr., Science Advisor to the President.

Mr. Robert L. Lillestrand, Director of Electro-Optics Research, Control Data Corporation.

Dr. Peter A. Castruccio, Program Manager, Ecology and Civil Programs, Federal Systems Division, IBM Corporation.

Dr. Carl Hammer, Director, Computer Sciences, Federal Systems Division, UNIVAC.

INTERNATIONAL GUEST PANELISTS

Dr. Norman Fisher, Chairman, Australian Committee on Earth Resources Satellites, Bureau of Mineral Resources, Canberra, Austrialia.

Dr. Fernando De Mendonca, General Director, Instituto de Pesquisas Espaciais, Brazil.

Dr. Franco Fiorio, Chairman, United Nations Working Group on Remote Sensing of the Earth by Satellites.

Dipl.-Ing. Armin Spaeth, Head, Office of Research Policy on Space and Aviation, Ministry of Science and Education, Bonn, Germany.

PROGRAM

REMOTE SENSING OF EARTH RESOURCES

In recent years it has been increasingly recognized that information about the earth and its complex environment is highly important to the future of man. In gaining this information, the technology of remote sensing by aircraft and satellites offers great promise. For this reason, "Remote Sensing of Earth Resources" has been selected as the theme of the Thirteenth Panel Meeting. The various sessions will be devoted to obtaining a better understanding of the technological, administrative, and political factors related to remote sensing of earth resources.

OPENING SESSION

Tuesday, January 25, 1972

Room 2318 Rayburn House Office Building

10:00 A.M.

Opening Remarks:

Hon. George P. Miller, Chairman
Hon. Carl Albert, Speaker, U.S. House of Representatives
Hon. Gerald R. Ford, Minority Leader, U.S. House of Representatives
Hon. Charles A. Mosher, Ranking Minority Member

The Keynote:

H. Guyford Stever, President, Carnegie-Mellon University

Moderator:

Hon. James W. Symington, Subcommittee on Space Science and Applications

Theme Address:

NASA's Long-Range Earth Resources Survey Program. Dr. James C Fletcher, Administrator, National Aeronautics and Space Administration

Tuesday, January 25, 1972

2:00 P.M.

CURRENT CAPABILITIES; STATE OF THE TECHNOLOGY; FUTURE REQUIREMENTS

Paper:

Dr. Brian O'Brien, Consulting Physicist; Chairman, NASA Space Program Advisory Council; Chairman, National Academy of Sciences Advisory Committee to Commander, Air Force Systems Command

Guest Panelists:

Dr. Allen E. Puckett, Executive Vice President and Assistant General Manager, Hughes Aircraft Company

Dr. A. K. Thiel, Senior Vice President, TRW Systems Group

Mr. Daniel J. Fink, Vice President and General Manager, Space Division, The General Electric Company

Discussion Period

Wednesday, January 26, 1972

Room 2318 Rayburn House Office Building

10:00 A.M.

POTENTIAL USERS; FUTURE PROSPECTS; OPERATIONAL PLANS

Paper:

Dr. William T. Pecora, Undersecretary, Department of the Interior

Guest Panelists:

Dr. Robert N. Colwell, Associate Director, Space Sciences Laboratory, University of California, Berkeley

Dr. George J. Zissis, Research Physicist, Institute of Science and Technology, University of Michigan

Dr. Robert M. White, Administrator, National Oceanic and Atmospheric Administration

Discussion Period

Wednesday, January 26, 1972

2:00 P.M.

INTERNATIONAL IMPLICATIONS

Paper:

Dr. Norman Fisher, Chairman, Australian Committee on Earth Resources Satellites, Bureau of Mineral Resources, Canberra, Australia.

Guest Panelists:

Dr. Fernando de Mendonca, General Director, Instituto de Pesquisas Espaciais, Brazil.

Dipl.-Ing. Armin Spaeth, Head, Office of Research Policy on Space and Aviation, Ministry of Science and Education, Bonn, Germany.

Dr. Franco Fronzo, Chairman, United Nations Working Group on Remote Sensing of the Earth by Satellites.

Discussion Period

Thursday, January 27, 1972

Room 2318 Rayburn House Office Building

10:00 A.M.

DATA HANDLING; DISSEMINATION AND USAGE

Paper:

Dr. Edward E. David, Jr., Science Advisor to the President.

Guest Panelists:

Mr. Robert L. Lillestrand, Director of Electro-Optics Research, Control Data Corporation

Dr. Peter A. Castruccio, Program Manager, Ecology and Civil Programs, Federal Systems Div., IBM Corporation

Dr. Carl Hammer, Director, Computer Sciences, Federal Systems Div., SAVIN

Discussion Period

Summary Remarks:

Hon. James W. Symington

Closing Remarks:

Hon. George P. Miller, Chairman

PANEL ON SCIENCE AND TECHNOLOGY

OBJECTIVES

Develop a background of scientific, technical and policy information for the Committee on Science and Astronautics which is authoritative, timely and candid, and which includes the points of view found in the scientific community.

Foster an improved understanding by scientists of the legislative responsibilities and processes as they relate to scientific research, development and education.

Identify spheres of scientific and technological research which offer exceptional promise for our national welfare and security, and which need special legislative attention.

Discuss current methods for conducting research.

Provide information concerning availability of scientific manpower and educational needs.

Provide information on matters of international cooperation and organizations concerned with science and technology.

Maintain channels of communication between the Congress and the scientific community.