

**Remarks by Mr. David B. Sandalow, Assistant Secretary of State for Oceans and
International Environmental and Scientific Affairs, to the Workshop on**

***“Remote Sensing and Environmental Treaties:
Building More Effective Linkages”***

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**Joseph H. and Claire Flom Auditorium
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I. Introduction

Good Afternoon. It is an honor to be here. I want to begin by thanking the sponsors of this Workshop including CIESIN, IUCN, and the Woodrow Wilson International Center, for their initiative in facilitating this important discussion and for their kind invitation to join you today.

II. Remote Sensing plays an important role in the management of foreign policy

Remote sensing is a relatively new development in the history of diplomacy. It has been less than a century since human beings learned to fly. The first satellite was launched in 1957. Capabilities of early overflights and satellites were primitive by modern standards.

Indeed, until the mid-twentieth century, information traded by diplomats was limited largely to spoken words and printed pages. Then, in 1962, the Kennedy administration released pictures of Soviet missiles in Cuba taken from high-altitude airplanes. Those images shaped the course of a historic Cold War confrontation and demonstrated that remote sensing technologies could serve as powerful diplomatic tools.

In the decade following the Cuban missile crisis, satellite information became, and remains today, an important tool for verification of arms control and non-proliferation treaties.

In more recent years, however, we have seen an exponential growth in the application of remote sensing to address other global issues that play an increasingly prominent role in U.S. foreign policy. These include public health, human rights, refugees, illegal crops, complex emergencies and the environment. At the same time, there is a growing number of satellites launched and operated by an expanding contingent of space-faring nations. The launch and operation of earth-observing satellites are no longer limited to Cold War superpowers. Earth observing satellites are launched and operated by a growing number of actors, including: the European Community and many of its member states, Australia, Brazil, China, India, Israel, and Japan. Others that have either recently launched earth observing satellites or are scheduled to launch by 2003 include: South Korea, Pakistan, Thailand, South Africa and Taiwan. A particularly significant trend is the number of new multinational, private ventures trying to develop a commercial market in high-resolution satellite data, beginning with Space Imaging's successful launch of the 1-meter-resolution Ikonos satellite in September of 1999.

We know that remote sensing is especially powerful in helping protect the global environment and that it provides a cost-effective and timely source of reliable, synoptic, information. Applications used and supported today by U.S. agencies include: forest management and assessment programs, the monitoring of forest fires, management and

understanding of freshwater and marine ecosystems, understanding of and response to weather and climate events such as hurricanes and El Niño events, tracking infectious diseases and management of natural and industrial disasters such as volcanic eruptions and oil spills. Remote sensing also has emerged as a particularly powerful tool for monitoring sources of carbon emissions into the atmosphere and of the sinks that sequester carbon.

One of the most relevant applications of remote sensing for policy makers is, of course, its potential use as a tool to develop and refine multilateral environmental agreements. As you may know, the Bureau of Oceans and International Environmental and Scientific Affairs (OES), of which I am the Assistant Secretary, is the arm of the State Department responsible for monitoring and negotiating international agreements on environment, as well as civil science and technology issues. So I have a particular interest in this area. This interest also is consistent with the State Department's ongoing commitment to enhance the use of science and technology assets in the formulation and implementation of U.S. foreign policy.

Many of you in the audience understand how this technology could play a role in the reporting and inventory of carbon stocks called for by Article 3, on human-induced land use change and forestry activities, and Article 12, on Clean Development Mechanism, of the Kyoto Protocol to the UN Framework Convention on Climate Change. But perhaps few of us have fully explored how this same technology could be used to monitor and enforce environmental treaties that attempt to reduce land-based sources of marine pollution, transboundary movement of hazardous wastes, and overexploitation of fisheries. Perhaps, in the not too distant future, governments will be able to use remote sensing data to routinely evaluate international regime effectiveness, verify national reporting practices, and assess treaty implementation.

III. The US Department of State and Multinational Environmental Agreements

It is not difficult to document the proliferation of multilateral environmental agreements (referred to as MEAs in this conference) which has occurred in the past decade. This is painfully evident every day, in the workload of our OES Bureau within the Department of State. Our Bureau's portfolio includes over 180 international treaties and conventions on environment, science, technology and health. This includes more than 33 bilateral umbrella science and technology agreements under which there are more than 300 implementing arrangements and Memoranda of Understanding. Since the 1992 Earth Summit in Rio de Janeiro the number of negotiations, agreements and treaties our Bureau supports has nearly tripled. Examples of the broad range of environmental topics our Bureau addresses through these agreements, include: the 1946 International Whaling Commission, the 1975 Ramsar Convention on Wetlands, the 1982 UN Convention on the Law of the Sea, the 1987 Montreal Protocol to The Vienna Convention for the Protection of the Ozone Layer, 1989 Basel Convention on the Transboundary Movement of

Hazardous Waste, the 1992 Convention for the Conservation of Anadromous Fish in the North Pacific Ocean, and the 1994 UN Convention to Combat Desertification.

IV. Challenges

With the explosion of environmental treaties OES recognizes remote sensing as a potentially invaluable tool in developing, refining, and monitoring many of these agreements. But many challenges remain. Both domestic and international policy makers need to clarify how this technology is to be effectively harnessed. The literature prepared by the organizers of this workshop identifies some of the difficult issues that need to be addressed, such as:

- 1) Demonstrating to the environmental diplomatic community the potential benefits and relevance of remote sensing tools.
- 2) Identifying priority multilateral environmental treaties where remote sensing tools are already providing value added in either the development, implementation or monitoring of agreements.
- 3) Fostering an active dialogue between remote sensing scientists and the foreign policy community.
- 4) Identifying international guidelines for the development of remote sensing procedures, standards and data formats for its integration into the negotiation and implementation of environmental treaties.

Before fully incorporating these technologies into the OES diplomatic toolbox, many of these questions will need to be resolved. This can be done. Let me briefly discuss OES activities that respond to these challenges.

V. OES Activities

OES and the State Department are committed to better integrate science and technology into the day-to-day conduct of foreign policy. While some of the major questions regarding the full integration of remote sensing in environmental agreements still must be addressed, we have taken a number of steps in this direction. Some of the things we have done include:

- 1) Approaching the National Research Council's Space Studies Board last June with a request to bring together experts from government, industry and academia to examine the emerging role of remote sensing in foreign policy development and implementation. A preliminary meeting was convened on November 3 to discuss the scope of this study. It is my hope that the results of the study will identify some of the

hurdles that today prevent us from realizing the full potential of remote sensing technologies.

2) Working with the UN's Office of Outer Space Affairs to fund and develop a series of regional workshops in Africa, Asia, Latin America, and Eastern Europe for the promotion of space applications for sustainable development. These workshops will emphasize the synergy of satellite navigation information and geospatial techniques, to support a wide range of environmental applications.

3) Participating in the organization of a working group — on the same topic we are here to discuss today - for the Sixth International Space Cooperation Workshop meeting in Seville, Spain, in March 2001. This group will discuss the "Contribution of Space Systems to the Implementation and Verification of International Environmental Agreements." It is co-sponsored by the American Institute of Aeronautics and Astronautics (AIAA) and the Confederation of European Aerospace Association (CEAS).

4) Working with NOAA on initiatives to promote the effective use of existing space technologies for the application and sharing of information to manage natural and industrial disasters. Specifically, we are working with the Committee for Earth Observing Satellites (CEOS) Disaster Management Support Project.

In addition, OES has been an active participant in the development of the Global Disaster Information Network (GDIN). Through GDIN, our Bureau is engaged in an international effort to develop regional disaster information networks that facilitate timely dissemination of the right information in the right format to disaster managers in order to save lives and property. There are regional initiatives under discussion for the Mediterranean, the Pacific and the Americas.

5) Joining the Civil Applications Committee (CAC), an interagency committee that coordinates and oversees federal civil use of classified and unclassified information. The CAC facilitates imagery acquisition, provides applications support services to Committee members and coordinates remote sensing research and development. This will provide further venues for the State Department to engage technical agencies with remote sensing expertise.

6) Hosting last week's MEDEA workshop. MEDEA is a group of senior scientists, created by the government in 1994, to address the intersection of environmental science, national security and foreign policy. The objective of this workshop was to identify ways that MEDEA can better assist the Department of State with scientific issues; the discussion addressed how remote sensing can support the Department of State on key environmental agreements.

7) Co-sponsoring, along with the Bureau of Intelligence and Research (INR), the National Imagery & Mapping Agency and the DCI Environmental and Societal Issues Center a one-day workshop on December 15 entitled "Remote Sensing and Environmental Change: Implications for Diplomacy." The purpose is to educate and

inform policymakers at the State Department and other agencies with whom we work closely on the relevance of this technology to environmental diplomacy. We are inviting government and non-government representatives, academics, and representatives from the commercial remote sensing industry to participate.

VI. Conclusion

Every day, new opportunities emerge for the use of remote sensing and related geospatial technologies such as GIS and GPS, in the management of our foreign policy. This includes a broad spectrum of issues, from more traditional applications such as arms control to newer emerging diplomatic issues such as monitoring the environmental impact of refugee flows, protecting the global environment and promoting public health.

We are making progress in integrating science and technology more broadly, into the conduct of US foreign policy. Remote sensing and related geospatial technologies have been identified as high priorities in this effort.

I believe this meeting can help make considerable progress in clarifying our thinking on many of these fronts. The discussions conducted here can contribute to the development of international consensus on how to harness fully the benefits these technologies can bring to environmental diplomacy and ultimately enhance global environmental protection and stewardship.

I look forward to reviewing the conclusions from your workshop and participating further in this important discussion.