



TESTIMONY OF DR. BRENT BLACKWELDER, VICE PRESIDENT FOR POLICY,  
FRIENDS OF THE EARTH, BEFORE THE SUBCOMMITTEE ON SCIENCE,  
TECHNOLOGY, AND SPACE, CONCERNING LANDSAT AND EOSAT, MAY 6, 1992



## TESTIMONY OF DR. BRENT BLACKWELDER

Mr. Chairman, Senator Pressler, distinguished Senators of the Committee, I am Dr. Brent Blackwelder, Vice President of Friends of The Earth. Friends of The Earth is a national environmental organization with affiliate organizations in 47 countries around the world. I greatly appreciate this opportunity to testify on behalf of the broad spectrum of national and international conservation groups listed at the conclusion of my testimony, with a combined membership of millions of Americans, and who are engaged together in the struggle to protect and conserve our common environment.

With your permission Mr. Chairman, I request that the attached letter to you, signed by national conservation and environmental groups, four national farm groups, the University of California, the National Association of State and University Land Grant Colleges, the American Library Association, the National Association of Counties and the National Congress of American Indians be inserted in the record. The letter expresses very strong support for the basic thrust of Senator Pressler's bill and suggests strengthening and clarifying amendments.

The Land Remote Sensing Commercialization Act of 1984, under which Landsat policy has been formulated, states that "... the national interest of the United States lies in maintaining international leadership in remote sensing and in broadly promoting the beneficial use of remote sensing data." The results obtained under the Act have run almost entirely counter to this expressed purpose.

(a) Rather than developing the market, EOSAT, the heavily subsidized commercial monopoly established under the 1984 Act, has repressed the development of a market by charging inflated prices. Use of Landsat data today is far under its pre-commercialization peak. Many would-be users of satellite imagery have turned to other means of securing data. Aerial photography and digital sensing from aircraft have staged a major comeback. Geographic Information Systems are being developed with a minimal satellite component.

(b) The development of a vibrant "value added" industry, characterized in the Act as "best suited to develop land remote-sensing data markets," has been stultified. The high cost of data, combined with delay and incompetence by EOSAT in filling orders, permits only the most tenacious firms to take root and survive.

(c) Education in remote sensing techniques has been discouraged by the cost of data. The pool of trained expertise has declined rather than expanded since the advent of commercialization. The entire remote sensing infrastructure put in place during the 1970's and 1980's has decayed.

(d) The once immense U.S. lead in remote sensing instruments and techniques has largely disappeared. By the mid 1990s the French, Europeans and Japanese will have outstripped the U.S. in land remote sensing technology. The instruments aboard the French satellites, SPOT 3 and SPOT 4, are expected to be equal or superior to Landsat in virtually all respects. The Japanese ASTER, when launched late in the decade, will represent "state of the art" in land remote sensing.

By the standards set up by the 1984 Act itself, "commercialization" has utterly failed. Despite the tremendous advances in software, which make it possible to manipulate Landsat images on personal computers, we are further away from a situation in which bona fide commercialization is possible than in 1984. The commercial market that does exist is flowing rapidly to SPOT Image. It is clear that if matters continue on their present course, the only major user of Landsat data in another 3 to 5 years will be the U.S. government.

It should come as no great surprise that events have followed this course. The Halbouty advisory committee on commercialization of space, convened by the Reagan administration in 1982, cautioned that "... designation of a sole operator, which would have exclusive and proprietary rights to the data from acquisition to delivery to users, under conditions of guaranteed subsidy and guaranteed tax incentives would severely limit the degree of natural market development." The report insisted that a full archive of Landsat data be established in the public domain and maintained that the real potential for commercialization lies not in the sale of raw data, but "value added" services and development of software programs to make data interpretation accessible to potential users. Halbouty particularly warned about a "... sole entity operating the space segment ...(being)

allowed to compete unfairly with the value added industry in furnishing processed and analyzed data to users."

The current situation is, above all, a legacy of Mr. Stockman's lamented reign at OMB. Stockman and Co. overrode Halbouty's recommendations in favor of the scheme with which we are now saddled.

The Grace commission report in 1982 notes that ..."The Administration, as represented by OMB and the Cabinet Counsel on Commerce & Trade, has decided that non-defense government needs for land remote sensing are ...not critical. Simply stated the Government neither wants nor needs a civil land remote sensing system..."

The Grace Commission viewed commercialization not as a means of providing essential public services, but as a way to rid the government of the entire program. It recommended that "whether or not the ...attempt to commercialize civil land remote sensing activities is successful, the Government should stick to its plan not to launch any (Landsats) beyond Landsat D..." The Commission blithely accepted the likelihood that the OMB's commercialization model "might put the price of raw data out of the reach of several end users..."

Unfortunately, the price paid by the U.S. public only begins with the hundreds of millions of dollars sunk into a failed policy. The major loss to all of us is to be found in gains in conservation and environmental protection, land use, research and education which could have been realized through an enlightened Landsat policy but were not.

At the moment, use of remote sensing for conservation and environmental protection by non-profit groups and state and local government is at low ebb, as is use of Landsat data for academic research. The tremendous advantages that remote sensing could provide us in the struggle to protect the environment remain largely unrealized. For example: at a time when the most calamitous deforestation is underway in the tropics, Landsat sensors are rarely even turned on over the affected regions. Dr. Robert Jenkins, Vice President for Science at the Nature Conservancy, which manages over 20 million acres of critical habitat in the Western Hemisphere, has advised us that the Conservancy would use from 10 to 100 times as much Landsat imagery as it presently employs if the data could be secured at a reasonable price. This view is echoed throughout the conservation, resource management and research communities.

Much of the debate over deforestation and global ecological changes which will rage at the UNCED conference this year, could be obviated if Landsat's 20 year data base had been properly analyzed and were available.

In the face of incontrovertible evidence that commercialization has failed and that large sums of money have been wasted subsidizing a monopoly, the House committee has reported a bill expressly designed to keep EOSAT in business. For the nation's conservation and environmental groups, for farmers, for state and county governments, for the majority of our academic researchers, for American Indian tribes, for the nation's educators the House bill simply represents "more of the same." For value-added firms it is little better than a death sentence. The House bill contains a provision designed to put EOSAT in the value added business, which is forbidden in both the 1984 Act and the contract under which EOSAT operates. If this becomes law it will create a vertically integrated monopoly. Existing value added firms will not only face federally subsidized competition, they will be forced to rely upon that same competitor for delivery of raw data. EOSAT will be in a position to put them out of business by simply delaying data deliveries.

We are convinced that the U.S. public will never receive a return on its investment in Landsat and that the system's potential for conserving and protecting the environment will not be realized until the current policy of maintaining a private monopoly is ended. The only way this can be accomplished is by establishing a single track pricing policy under which all domestic users, and all bona fide earth and global change researchers across the world, receive raw data at cost of reproduction and transmission. This is, of course exactly what S. 2297 does. We commend Senator Pressler for having the courage and the foresight to draft and offer such a bill, and you, Mr. Chairman, for moving ahead with this important policy change.

In our letter we have suggested drafting changes designed to clarify pricing policy and to re-establish a national infrastructure to develop and disseminate applications technology. I will be glad to discuss these proposed amendments in detail if the Committee wishes.

With or without them, however, S 2297 contains the basic ingredients to put national Landsat policy back on a rational and equitable track. The indispensable elements

of the bill are to be found in Sec. 202 (b) under which the federal government retains ownership of unenhanced data, no exclusive marketing rights are to be extended to any contractor and the Federal government retains the right to set pricing policy for unenhanced data and in Sec. 101 (8) which affirms that data should be made available to users at marginal cost.

When S. 2297 comes under assault, these indispensable principles must be retained. It is also critically important that the new data and pricing policies go into effect with the launch of Landsat 6, as the bill provides. With vast numbers of species being driven to extinction each year in the tropics, with the global climate affected and entire ecosystems threatened, we cannot afford to wait another five years, until launch of Landsat 7, to reform Landsat policy.

The Administration is certain to argue that funds are unavailable to carry out major reforms at this time, since this would involve "buying out" EOSAT. We are by no means convinced that the "buy out" would be as expensive as apologists for the present system have indicated. But this must, in any case, be done if the Landsat system, which the public has paid for, is to be useful for people across the length and breadth of our country.

There is a tremendous, pent up demand for Landsat imagery. If S. 2297 becomes law, there will be numerous benefits to the public, not the least of which will be a bloom of value added companies. These will create thousands of new jobs, pay taxes and -- at the same time -- play an important role in putting data to work to help stave off the ecological disaster threatening our planet.

We urge the committee to firmly rebuff all efforts to weaken S. 2297, and to report it out with salient features intact. We ask your sympathetic consideration of the amendments included in our letter, which were developed in consultation with experts throughout the United States.