

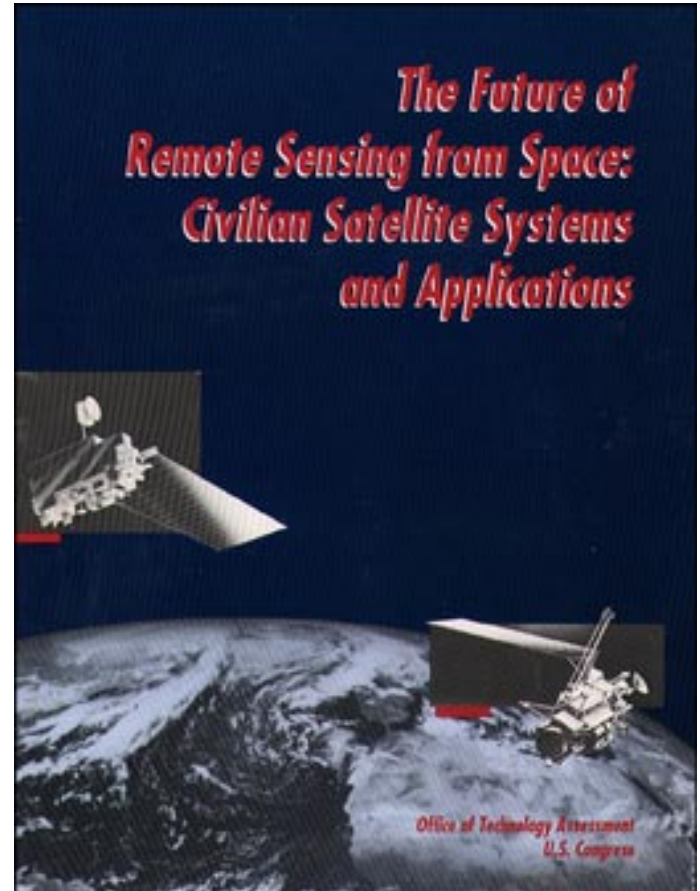
*The Future of Remote Sensing From Space:  
Civilian Satellite Systems and Applications*

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# Foreword

Over the past decade, the United States and other countries have increasingly turned to satellite remote sensing to gather data about the state of Earth's atmosphere, land, and oceans. Satellite systems provide the vantage point and coverage necessary to study our planet as an integrated, interactive physical and biological system. In particular, the data they provide, combined with data from surface and aircraft-based instruments, should help scientists monitor, understand, and ultimately predict the long term effects of global change.

This report, the first of three in a broad OTA assessment of Earth observation systems, examines issues related to the development and operation of publicly funded U.S. and foreign civilian remote sensing systems. It also explores the military and intelligence use of data gathered by civilian satellites. In addition, the report examines the outlook for privately funded and operated remote sensing systems.

Despite the established utility of remote sensing technology in a wide variety of applications, the state of the U.S. economy and the burden of an increasing Federal deficit will force NASA, NOAA, and DoD to seek ways to reduce the costs of remote sensing systems. This report observes that maximizing the return on the U.S. investment in satellite remote sensing will require the Federal Government to develop a flexible, long-term interagency plan that would guarantee the routine collection of high-quality measurements of the atmosphere, oceans, and land over decades. Such a plan would assign the part each agency plays in gathering data on global change, including scientifically critical observations from aircraft- and ground-based platforms, as well as from space-based platforms. It would also develop appropriate mechanisms for archiving, integrating, and distributing data from many different sources for research and other purposes. Finally, it would assign to the private sector increasing responsibility for collecting and archiving remotely sensed data.

In undertaking this effort, OTA sought the contributions of a wide spectrum of knowledgeable individuals and organizations. Some provided information; others reviewed drafts. OTA gratefully acknowledges their contributions of time and intellectual effort. OTA also appreciates the help and cooperation of officials with NASA, NOAA, DOE, and DoD. As with all OTA reports, the content of this report is the sole responsibility of the Office of Technology Assessment and does not necessarily represent the views of our advisors or reviewers.



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*NOTE: OTA appreciates and is grateful for the valuable assistance and thoughtful critiques provided by the advisory panel members. The Panel does not, however, necessarily approve, disapprove, or endorse this report. OTA assumes full responsibility for the report and the accuracy of its contents.*

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