

*Other Civil Peacetime Services Available
from Aerospace Surveillance*

Mention has already been made of the value of aerospace surveillance for weather prediction, ice reconnaissance, and marine charting, which are of course needed for many civilian purposes. Indeed, accurate weather forecasting is of great value for agriculture, protection against hurricanes, planning of outdoor events, and many other activities. The major meteorological organizations are making effective use of satellite observations for these purposes. Map making includes updating to record growth of cities and changes to forested and agricultural areas, both eminently suited for observation with airborne or spaceborne electro-optical or radar sensors. Short-term changes of great importance to agriculture and forestry can be observed, providing valuable information concerning the progress of crops, rate of growth of trees, and incidence and spreading of forest fires. Flooding can be observed. Geological information can be obtained from overhead sensors which is useful for prospecting for minerals.

The increasing concern over deterioration of the environment is creating a demand for many types of monitoring of the atmosphere as well as the land and water. Sensors such as electro-optical multi-spectral scanners are able to detect quite small concentrations of particulate and gases in the air, or of chemicals on the surface of water.¹⁶ What is lacking is a widespread network of sensors at different altitudes, such as could be provided by space vehicles and aircraft, perhaps carrying additional appropriate sensors in addition to those needed for the conduct of a primary role in security.

¹⁶ National Oceanic and Atmospheric Administration, United States Department of Commerce and the National Aeronautics and Space Administration, *Space-Based Remote Sensing of the Earth, A report to the Congress*, Washington: September 1987, p. 66 and p. 74.