

PERKIN ELMER

Thematic Mapper scheduled to fly in 1980 aboard Landsat-D spacecraft will be in sun-synchronous orbit at 705 km altitude, scanning a swath 185 km wide and covering all inhabited areas of the earth.

Some additional growth capabili-

Forecasting crop yields is still more of an art than a science. No electronic system, however sophisticated, can yet match a farmer's feel for how his crops are doing. But individual assessments like "pretty good" or "we'll have a bumper crop if the weather holds" can't be used effectively for worldwide or even regional forecasts. They don't fit into a computer, and they take too long to compile and analyze.

What's needed is millions of precise, numerical estimates of crop status flowing steadily into the computer on an acre-by-acre basis.

This calls for a satellite-borne system which provides a truly synoptic view of the earth's arable areas. NASA's Landsat, in orbit since 1972, has been providing this kind of data. NASA is now preparing to provide a much improved capability to the world's users of Landsat data.

This next generation Landsat sensor system, called Thematic Mapper, is now in the study phase. This new system will provide improved spatial and spectral resolution over the present system. It will be able to discriminate more effectively between different crops, stages of growth, and sick and healthy vegetation. Besides crop watching, it will be able to survey forest resources, detect changes in land use, monitor rangelands for better livestock management, and help in watershed and water use management.

ties will be built into the Thematic mapper design under study by TRW Systems and Perkin-Elmer. Because of its unique rotary scanning system, the scan is unidirectional and the sensor output is inherently linear. This means simplified data processing on

the ground, faster status reporting, and thus an overall reduction in system operating costs.

Simplified ground data processing is particularly important. It means that low-cost ground stations can be set up around the world. They'll be able to take data on local crop conditions directly from the satellite as it passes overhead; no need to go through a central receiving station. Such reports will become even more valuable when they can be coordinated with long-range weather forecasts.

The Thematic Mapper is one of many ways that TRW is working to improve space technology as a tool to give us a better understanding of our earth and man's impact on it.

TRW is a worldwide leader in electronics, defense, & energy systems and in computer-related technology for information management & systems control.



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