# Remote Sensing

The first photographs of the earth from very high altitudes ( 160 to 320 km) were acquired after World War II by small automatic cameras mounted on sounding rockets launched by U.S.A. Merifield (1964) was the first investigator to report on the ultra-high altitude photography. The rocket photographs stimulated interest in orbital photography and on the basis of this experience, a terrain photography exercise was included in the first two Mercury flights in 1962 and 1963. Probably the greatest value of these early terrain experiments was the interest they created in orbital photography of the earth's surface.

This resulted into inclusion of terrain photography experiment in most of the GEMINI two-manned missions that orbited the earth in 1965 and 1966. Despite various problems

in the GEMINI systems, approximately 1100 photographs proved useful for studying the earth. Lowman and Tiedeman (1971) summarized the applications of the GEMINI terrain photographs and pointed out numerous accomplishments. The subsequent manned space missions — APOLLO, SKYLAB and COLUMBIA, better known for other achievements, produced several thousands very useful photographs. APOLLO programs in particular may be mentioned for the first multispectral orbital photographs. Detailed discussions may be seen in Lowman (1969), NASA (1967) and Welch (1974, 1976).

## Landsat

These achievements brought recognition to orbital photography in particular and Remote Sensing in general so much so that an exclusive unmanned satellite program for orbital photography was started by NASA with participation of the scientific community all over the globe. Now known as Landsat program, the first satellite was launched in July, 1972 and named ERTS-1 (Earth Resources Technology Satellite), subsequently ERTS-A and retrospectively known as Landsat-1. Landsat-1 operated until January, 1978. The platform used for Landsat-1 sensors was a Nimbus weather satellite, modified for the Landsat mission objectives. It represented the first unmanned satellite specifically designed to acquire data about earth resources on a

2