



ERTS IMAGERY

THE ERTS-1 satellite (ERTS – Earth Resources Technology Satellite) is equipped to obtain specialized (e.g. false colour) photographs of the earth from which various information can be deduced. From ERTS imagery it is possible generally (for continents other than Antarctica) to revise maps to a very high degree of accuracy, to identify and study geological features, to study seasonal variations in vegetation cover, and to monitor the extent of veld fires, amongst other applications.

In 1974 SCAR (the Scientific Committee for Antarctic Research) is planning to give consideration to problems, unique to Antarctic research, which are amenable to ERTS, or remote-sensing type solutions. SCAR plans to liaise with the various space agencies, such as NASA, to explore ways and means of approaching the various problems.

South African Antarctic programme directors have recently expressed their interest in updating maps of the Sanae area from ERTS imagery and of performing

mass-balance studies in the area. Icebergs are formed by “calving” from the edge of Antarctica’s ice shelf, therefore by studying changes in the ice shelf coastline, it is possible to calculate the volume of ice lost to the oceans. Similar information from the geophysicists as to the amount of annual snow accumulation should, theoretically, enable one to determine whether there is a net build-up or decrease in ice.

On sub-Antarctic islands it should also be possible, from ERTS imagery, to study seasonal variations in ice and vegetation cover. One other, more ambitious idea, has been the suggestion of using remote sensing techniques to monitor animal migrations.

These are some of the possible suggested avenues for study. The picture shows an ERTS image of the area just east of Sanae. The image covers an area roughly 100 km \times 100 km. Icebergs, the ice shelf, pack ice, clouds and cloud shadows are visible. The area shown is actually the “estuary” of the Jutulstraumen glacier.