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PROGRESS REPORT - HCMM

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General

HCMM products were not received in Australia until early 1979, and not in substantial quantities until mid-1979. The products as received are circulated to the several investigators.

The investigators have continued various ground truth programmes on a sporadic basis. During the lifetime of HCMM as number of "days of interest" were nominated to project management, and the observation schedule received from NASA indicates that data were obtained on many of these days. However hard copy has not been received from some of these days yet.

The majority of the investigators plan to use the data in CCT form for their detailed investigations. No useable CCTs have been received as yet. Consequently the majority of investigations, to date, have been of a preliminary nature.

A substantial number of tapes have now been ordered and analysis will proceed in a more effective manner once they are received.

Specific Research Progress

Division of Land Resources Management

The investigation into the applications of HCMM image data to the management of arid land resources has so far been limited to a perusal of the circulated film products. However several interesting observations have been made. The first is that on day IR imagery it is possible to distinguish property boundaries, wild fire scars and, in one case, a state border. Checking this image against the visible wavelength imagery and known ground sites reveals that the common basis is a change in the amount of vegetative cover across these boundaries. These changes in vegetation reflect in the first case overgrazing, and in the latter, differences in the amount of overgrazing resulting from differences in land tenure policy.

Also two hydrogeological problems have presented themselves. The first is the apparent east with which one can map areas of differing soil type/high ground water levels in the irrigation areas of the Riverina plain on one night IR image . The second is that the shallow flows of the ephemeral inland rivers (Cooper and Diamantina) appear to enhance and highlight known (and unknown) faulting.

All three of these casually observed phenomena will be investigated in far greater detail when the dgital image data become available.

HCMM 039
TYPE II

Division of Land Use Research

Continuous records of surface and canopy temperatures have been obtained at Cowra throughout southen winter 1979. Surface soil,water and meteorological data are also available for other sites nominated by us. We have digitised images of Melbourne district and of Canberra-Cowra for a preliminary climatological analysis. This preliminary work complete, progress depends entirely upon the receipt of the CCT data.

Division of Fisheries and Oceanography

This Division has used HCMM imagery to complement ocean circulation studies in Australian waters that have previously been hampered by a lack of synoptic data. A better understanding of the east Australian current system has resulted from combining HCMM and other satellite imagery with the results from ships and satellite tracked buoys. Certainly the satellite imagery has highlighted the difficulty of contouring sea surface temperature data from ships and has revealed the complex interaction between warm east Australian current waters and eddies.

K G McCracken
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