PHOTOGRAMMETRIC ENGINEERING and REMOTE SENSING

Volume XLVII

April 1981

Number 4

COVER PHOTO — This is a photograph of simple microphyll vine-fern tropical raint in northern Queensland, Australia. It was exposed in mid-winter with a Vinten 70 aerial camera (12-inch focal length lens, f 5.6 at 1/500 second) at 1:2,000 scale on K Aerochrome MS Film 2448 processed to a positive transparency. It was used for species identification studies. The cover photo has been enlarged 2× from the orig (See article on page 505.) Submitted by Brian Myers, CSIRO, Canberra, Australia.) mm lodak tree ginal.
TECHNICAL ARTICLES	
New Developments in Architectural Photogrammetry at the Institut Géographique National, France Maurice Carbonnell and Yves Egels	479
Direct Editing of Normal Equations of the Banded-Bordered Form F. James Heindl	.489
Skylab in Retrospect Eugene E. Derenyi	.495
Marking Pens for Aerial Photographs and Transparency Material Joseph J. Ulliman and Oliver J. Grah	.501
Rainforest Species on Large-Scale Color Photos B. J. Myers and M. L. Benson	.505
Extravisual Damage Detection? Defining the Standard Normal Tree P. A. Murtha and J. A. McLean	.515

(Continued on page 433)

Second-class postage paid at Falls Church, Virginia and at additional mailing offices.

Photogrammetric Engineering and Remote Sensing (ISSN 0099-1112) is published monthly by the American Society of Photogrammetry, 105 N. Virginia Ave., Falls Church Virginia 22046. Publication Office—Everybodys Press, Hanover, Pa. 17331. (Also see Notice on second following page.)

Copyright 1981 by the American Society of Photogrammetry. Reproduction of this issue or any part thereof (except short quotations for use in the preparation of technical and scientific papers) may be made only after obtaining the specific approval of the Editor.

The Society is not responsible for any statements made or opinions expressed in the technical papers, advertisements, or other portions of this Publication.

MEMBERSHIP RATES: Membership in the American Society of Photogrammetry is open to any person actively engaged in the practice of Photogrammetry, Photo-interpretation and Remote Sensing, or who by means of education or profession is interested in the application or development of these arts and sciences. The annual dues for Regular members are \$25.00 which includes a \$10.00 member subscription to the Society's official journal, "Photogrammetric Engineering and Remote Sensing." The annual dues for accredited student members are \$10.00 which includes a \$7.00 student subscription to the official journal. (All memberships are on a calendar year basis.)

SUBSCRIPTION RATES: Persons or organizations that are not affiliated with the Society may obtain non-member subscriptions to Photogrammetric Engineering and Remote Sensing in accordance with the following schedule:

Non-member subscription . . . \$30.00 per year (calendar)

Student* non-member subscription . . . \$10.00 per year (calendar)

(*Students must submit evidence of enrollment)

Printed in the United States of America.

(Continued from page 431)

Remote Sensing of Dinoflagellate Blooms in a Turbid Estuary John C. Munday, Jr. and Paul L. Zubkoff
Drift and Dispersion Studies of Ocean-Dumped Waste Using Landsat Imagery and Current Drogues V. Klemas and W. D. Philpot
Vegetable Crop Management with Remote Sensing Carlos H. Blazquez, Robert A. Elliott, and George J. Edwards543
NEWSLETTER561Professional Placement557Engineering Reports551Short Courses, 17th Annual Summer Program in
Color Technology
Call for Papers, International Symposium on Remote Sensing of Environment
HIGHWAYS AND TRANSPORT
THE PHOTOGRAMMETRIC SOCIETY .548 SPIE's 25th Annual International Technical Symposium .548 IN MEMORIAM, George D. Whitmore .549 1981 ASP-ACSM Fall Technical Meeting .556
SOCIETY AFFAIRSOfficers of the Society
JOURNAL AFFAIRS Index to Advertisers

NOTICE: Correspondence relating to all business and editorial matters pertaining to this and other Society publications should be directed to the American Society of Photogrammetry, 105 Virginia Ave., Falls Church; Virginia 22046, including inquiries, memberships, subscriptions, changes in address, manuscripts for publication, advertising, back issues, and the MANUALS OF PHOTOGRAMMETRY, REMOTE SENSING, and COLOR AERIAL PHOTOGRAPHY. The telephone number of the Society Headquarters is (703)-534-6617.