## Photogrammetric Engineering

Volume XXIX

JANUARY 1963

Number 1

## Contents

COVER PAGE—A low level oblique aerial reconnaissance photograph of a Medium Range Ballistic Missile Base in Cuba—October 1962. Photograph and interpretation furnished by the U. S. Defense Department.

## SOCIETY AFFAIRS

Anno "Sep	of Sustaining Member DUNCEMENT—1963 A tember in St. Louis Edward J. Brond ication for Corporate	SP-AC s''—Na czyk .	SM rrat	Co ive	aco	ENTI COUI	ON nt (	of :	1962	2 A	CS	M <i>-</i> A	ASP	C	onv	ent	ion	7 8 9 11
THE SERV	VICES AND EQUIPMEN	T Guid	E	Сн	ARL	ES :	E. (	Coo	K									
Intro	oduction Charles E. Cook							×										12
	x abetical Listing		٠			٠	*								ě	•		13
	Equipment																	14 19
Alph	abetical List of Comertisements	panies					,									è		28 34
TECHNICA	AL PAPERS																	
	ogrammetry—A Ver Robert D. Turpi hoto Analysis in Out	n . door R	ecre	atio	on: \$	Site	In	ven	tory	ai	nd I	Plan	nin	g	- 54			64
To N	Henry W. Dill, . Measure is to Know—	<i>Jr</i> -Or is l	+?	٠	*				•	•	٠		٠			•	٠	67
	Robert N. Colwei	<i>ll</i>									14	i.						71
Geol	ogic Interpretation o																	83
	Laurence H. Lat	ıman.		4		724	4	7.0							9			00

(Continued on page 5)

Second-class postage paid at Menasha, Wisconsin and at additional mailing offices.

Published six times a year, during the months of January, March, May, July, September and November, by the American Society of Photogrammetry Publication Office, Curtis Reed Plaza, Menasha, Wis., and at Society's Address—44 Leesburg Pike, Falls Church, Va. The Editor's address is 3523 Raymond St., Chevy Chase 15, Md.

Copyright 1963 by the American Society of Photogrammetry. Reproduction of this issue or any part thereof (except for short quotes in the preparation of technical and scientific papers) may be made only after obtaining the specific approval of the Society's Chairman of the Publications Committee.

The Society is not responsible for any statements made or opinions expressed in the technical papers,

advertisements or other portions of this Publication.

Subscription Rates—No charge to Society members in good standing; \$9 annually for subscribers in the United States and its possessions; and \$9.50 annually, elsewhere. Society pays the postage. Price of individual back numbers—in U. S. and its possessions, \$1.75 per copy for single purchase of 3 or less and \$1.65 per copy for 4 or more; elsewhere \$1.85 per copy for single purchase of 3 or less and \$1.75 per copy for 4 or more. Orders for subscriptions or for individual copies should be sent to the Society's address.

Changes in address should be sent to the Secretary at the Society's address in Falls Church, Va.

Printed in the United States of America

## (Continued from p. 3)

Color and False-Color Films for Aerial Photography	
R. G. Tarkington and A. L. Sorem	88
TT O	96
H. M. Karara	99
	05
Bertil P. Hallert	08
Calibration of Photogrammetric Lenses and Cameras at the National Bureau of Standards	
Image Aberration	13
New Significance of Errors of Inner Orientation	19 26
Special Compilations:	20
Photogrammetry as a Science and as a Tool	
11 1 1	29
	46
PHOTO INTERPRETATION AND THE CUBAN CRISIS	39
TECHNICAL PAPERS	
Nonuniform Dimensional Changes in Topographic Aerial Films  P. Z. Adelstein and D. A. Leister	49
Calibration of a Precision Coordinate Comparator  George H. Rosenfield	61
The Supragraph—A New Maximum Precision Plotter with Mechanical Analog Computers	70.79
Herbert Trager	74
70 0017	84
Walter M. Robson	88
Analysis of Airphoto Linear Pattern in Eastern Massachusetts  Albert E. Pressman	93
Albert E. Pressman Analytical Aerotriangulation at the University of Illinois	00
Ortho-Contour Photography	99
	06
Journal Administration	
T 1	10 34
Editor Notes	
D. 11'	70
FMA—Maker of Precision Electro-Optical Equipment Film Data Recording and Reading Systems Film Transports	18

