

Volume LVIII

January 1992

and DEM

images.

map creation and revision.

Workstations

Alan A. Ahac, Roger Defoe, and

Softcopy Photogrammetric Workstations

workstation implementations are reviewed.

Image Processing on Open Systems

Several digital-image-based photogrammetric

Through the use of open systems, a family of image

workstations has been created that can be easily

upgraded to the most recent hardware engine without

the need to make extensive software changes.

Clifford W. Greve, Craig W. Molander, and

PRI²SM — Softcopy Production of Orthophotos

The PRI2SM series of workstations are softcopy digital

photogrammetric systems designed to produce digital

ortho-images from both aerial photographs and SPOT

Considerations in the Design of a System for the

Rapid Acquisition of Geographic Information

Utilization of selected automatic information extraction

algorithms together with enhanced interactive capture

aids will result in improved throughput for topographic

Conceptual Issues of Softcopy Photogrammetric

Major progress toward autonomous softcopy

workstations depends more on advances on the

conceptual level rather than on the refinement of system

components such as hardware and algorithms.

Scott B. Miller, U. V. Helava, and Kurt Devenecia ... 77

Daniel K. Gordon 85

Marius C. van Wijk97

Number 1

Foreword

Overview of European Developments in Digital Photogrammetric Workstations

Recent developments of operational and experimental digital photogrammetric workstations and related algorithmic aspects in Europe are reviewed. Ian J. Dowman, Heinrich Ebner, and

Implementation of Softcopy Photogrammetric Workstations at the U.S. Geological Survey

An initial implementation of digital orthophotograph production and pilot production of monoscopic digital revision are described.

The DVP: Design, Operation, and Performance

The objective was to develop software capable of making optimal use of common microcomputer hardware so that the system would solve the standard photogrammetric problems in a user-friendly and efficient way and even perform tasks beyond the possibilities of conventional photogrammetric instrumentation.

Celment Nolette, P.-A. Gagnon, and J.-P Agnard 65

Three-Dimensional Terrain Visualization on Personal Computers: An Application with Stereo SIR-B Images

Automatic stereocorrelation and simplified computational techniques are employed to produce a DEM from stereo radar images.

R. Welch and D. Papacharalampos71

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Cover Image – This image was acquired over the southeast coast of Iceland at the outwash of the Skeidarar Glacier with a Daedalus Thematic Mapper Simulator onboard a NASA high altitute ER- 2 aircraft. North is in the lower right corner of the image. The image composite comprises thermal (8.5 to 14.0 μ m), mid-infrared (2.08 to 2.35 μ m) and near infrared (0.69 to 0.75 μ m) data. The bright red portrays absorbed solar thermal energy radiated by basaltic sediments; blue areas are snow covered ridges; purple represents cultivated fields; and the light green is vegetation.

These data were acquired by NASA in support of joint research by principal investigators from the Nordic Volcanological Institute, Rekjavic, Iceland and the Volcanology Research Program of the Jet Propulsion Laboratory, California Institute of Technology, Pasadena, California. The Image was processed by the NASA-Ames Research Center Aircraft Data Facility at Moffett Field, California. This deployment was part of a larger cooperative research effort sponsored by NASA, U.S. universities, and European remote sensing research organizations.

Stereo Correlation: Window Shaping and DEM Corrections

The advantages of "window shaping" in a digital
correlation method are demonstrated along with an
automatic method for correcting DEM values.
F. Raye Norvelle113

Book Review: A Guide to Remote Sensing;

Interpreting Images of the Earth	69
----------------------------------	----

FEATURES

GIS News
GIS Observer
In Recognition of our Reviewers
Engineering Reports
Newsletter
Selected RESORS Publications
Calendar124
Classifieds126
Index to Advertisers128
Professional Directory129
ASPRS Store132
Membership Application135

SOCIETY AFFAIRS

Board of Directors 6
In Memoriam: Lawrence W. Swanson32
Membership Contest: Chart the Course
New Members41
Sustaining Members42
Building Fund44
1992 ASPRS/ACSM/RT 92 Convention:
Monitoring & Mapping Global Change
Notice to Certified Photogrammetrists
1992 ASPRS/ACSM Annual Convention
ASPRS Headquarters Telephone
Extension Directory
ASPRS/ACSM 1992 Annual Meeting
Preliminary Program116

ANNOUNCEMENTS

4th International GIS Conference27
GIS '92
1st Australian Conference on Mapping
and Charting56
Remote Sensing for Arctic Environments
XVII ISPRS Congress90
Call for Papers: Remote Sensing for
Marine and Coastal Environments125

JOURNAL AFFAIRS

Permission to Photocopy2
Journal Staff 3
What Photogrammetric Engineering &
Remote Sensing is
Call for Papers: November 1992 GIS Issue 50
Instructions to Authors64
Forthcoming Articles75
Erratum

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