



**Universiteit
Leiden**
The Netherlands

Analecta Praehistorica Leidensia 28 / Interfacing the past : computer applications and quantitative methods in archaeology CAA95 Vol. II

Kamermans, Hans; Fennema, Kelly; Kamermans, Hans; Fennema, Kelly

Citation

Kamermans, H., & Fennema, K. (1996). *Analecta Praehistorica Leidensia 28 / Interfacing the past : computer applications and quantitative methods in archaeology CAA95 Vol. II*. Retrieved from <https://hdl.handle.net/1887/32944>

Version: Not Applicable (or Unknown)

License: [Leiden University Non-exclusive license](#)

Downloaded from: <https://hdl.handle.net/1887/32944>

Note: To cite this publication please use the final published version (if applicable).

ANALECTA PRAEHISTORICA LEIDENSIA

28

PUBLICATIONS OF THE INSTITUTE OF PREHISTORY
UNIVERSITY OF LEIDEN

INTERFACING THE PAST

COMPUTER APPLICATIONS AND QUANTITATIVE
METHODS IN ARCHAEOLOGY CAA95 VOL. II

EDITED BY
HANS KAMERMANS AND KELLY FENNEMA



UNIVERSITY OF LEIDEN 1996

Graphic design: Henk de Lorm

Computer graphics: Peter Heavens

Copy editor: Marianne Wanders

Copyright 1996 by the Institute of Prehistory, Leiden

ISSN 0169-7447

ISBN 90-73368-10-3

Subscriptions to the series *Analecta Praehistorica Leidensia* and single volumes can be ordered from:

Institute of Prehistory
P.O. Box 9515
2300 RA Leiden
The Netherlands

contents

VOLUME I

Hans Kamermans
Kelly Fennema

Preface

Data Management

Jens Andresen
Torsten Madsen

IDEA – the Integrated Database for Excavation Analysis 3

Peter Hinge

The Other Computer Interface 15

Thanasis Hadzilacos
Polyxeni Myladié Stoumbou

Conceptual Data Modelling for Prehistoric Excavation Documentation 21

E. Agresti
A. Maggiolo-Schettini
R. Saccoccio
M. Pierobon
R. Pierobon-Benoit

Handling Excavation Maps in SYSAND 31

Alaine Lamprell
Anthea Salisbury
Alan Chalmers
Simon Stoddart

An Integrated Information System for Archaeological Evidence 37

Jon Holmen
Espen Uleberg

The National Documentation Project of Norway – the Archaeological sub-project 43

Irina Oberländer-Târnoveanu

Statistical view of the Archaeological Sites Database 47

Nigel D. Clubb
Neil A.R. Lang

A Strategic Appraisal of Information Systems for Archaeology and Architecture in England – Past, Present and Future 51

Nigel D. Clubb
Neil A.R. Lang

Learning from the achievements of Information Systems – the role of the Post-Implementation Review in medium to large scale systems 73

Neil Beagrie

Excavations and Archives: Alternative Aspects of Cultural Resource Management 81

Mark Bell
Nicola King

The MARS Project – an interface with England's past 87

Archaeometry

- M.J. Baxter
H.E.M. Cool
M.P. Heyworth
Detecting Unusual Multivariate Data: An Archaeometric Example 95
- Jon Bradley
Mike Fletcher
Extraction and visualisation of information from ground penetrating radar surveys 103
- Gayle T. Allum
Robert G. Aykroyd
John G.B. Haigh
Restoration of magnetometry data using inverse-data methods 111
- W. Neubauer
P. Melichar
A. Eder-Hinterleitner
Collection, visualization and simulation of magnetic prospection data 121
- A. Eder-Hinterleitner
W. Neubauer
P. Melichar
Reconstruction of archaeological structures using magnetic prospection 131
- Phil Perkins
An image processing technique for the suppression of traces of modern agricultural activity in aerial photographs 139
- Statistics and Classification**
- Clive Orton
Markov models for museums 149
- Juan A. Barceló
Heuristic classification and fuzzy sets. New tools for archaeological typologies 155
- Kris Lockyear
Dmax based cluster analysis and the supply of coinage to Iron Age Dacia 165
- Christian C. Beardah
Mike J. Baxter
MATLAB Routines for Kernel Density Estimation and the Graphical Representation of Archaeological Data 179
- John W.M. Peterson
A computer model of Roman landscape in South Limburg 185
- Sabine Reinhold
Time versus Ritual – Typological Structures and Mortuary Practices in Late Bronze/Early Iron Age Cemeteries of North-East Caucasia ('Koban Culture') 195
- Leonardo García Sanjuán
Jesús Rodríguez López
Predicting the ritual? A suggested solution in archaeological forecasting through qualitative response models 203
- Johannes Müller
The use of correspondence analysis for different kinds of data categories: Domestic and ritual Globular Amphorae sites in Central Germany 217
- J. Steele
T.J. Sluckin
D.R. Denholm
C.S. Gamble
Simulating hunter-gatherer colonization of the Americas 223

Paul M. Gibson	An Archaeofaunal Ageing Comparative Study into the Performance of Human Analysis Versus Hybrid Neural Network Analysis 229
Peter Durham Paul Lewis Stephen J. Shennan	Image Processing Strategies for Artefact Classification 235
Gijsbert R. Boekschoten Dick Stapert	A new tool for spatial analysis: "Rings & Sectors plus Density Analysis and Trace lines" 241
Susan Holstrom Loving	Estimating the age of stone artifacts using probabilities 251
Oleg Missikoff	Application of an object-oriented approach to the formalization of qualitative (and quantitative) data 263

VOLUME II

Geographic Information Systems I

David Wheatley	Between the lines: the role of GIS-based predictive modelling in the interpretation of extensive survey data 275
Roger Martlew	The contribution of GIS to the study of landscape evolution in the Yorkshire Dales, UK 293
Vincent Gaffney Martijn van Leusen	Extending GIS Methods for Regional Archaeology: the Wroxeter Hinterland Project 297
Trevor M. Harris Gary R. Lock	Multi-dimensional GIS: exploratory approaches to spatial and temporal relationships within archaeological stratigraphy 307
Philip Verhagen	The use of GIS as a tool for modelling ecological change and human occupation in the Middle Aguas Valley (S.E. Spain) 317
Federica Massagrande	The Romans in southwestern Spain: total conquest or partial assimilation? Can GIS answer? 325
Shen Eric Lim Simon Stoddart Andrew Harrison Alan Chalmers	Recent examples of geographical analysis of archaeological evidence from central Italy 331
Vincent Gaffney Krištof Oštir Tomaž Podobnikar Zoran Staničič	Satellite Imagery and GIS applications in Mediterranean Landscapes 337
Yvette Bommeljé Peter Doorn	The long and winding road: land routes in Aetolia (Greece) since Byzantine times 343

- Javier Baena Preysler Application of GIS to images and their processing: the Chiribiquete Mountains Project 353
 Concepción Blasco

Geographic Information Systems II: The York Applications

- Julian D. Richards From Site to Landscape: multi-level GIS applications in archaeology 361
- Harold Mytum Intrasite Patterning and the Temporal Dimension using GIS: the example of Kellington Churchyard 363
- A. Paul Miller Digging deep: GIS in the city 369
- Julian D. Richards Putting the site in its setting: GIS and the search for Anglo-Saxon settlements in Northumbria 379
- Jeffrey A. Chartrand Archaeological Resource Visibility and GIS: A case study in Yorkshire 389

Visualisation

- John Wilcock A description of the display software for Stafford Castle Visitor Centre, UK 405
- Christian Menard Pictorial, Three-dimensional Acquisition of Archaeological Finds as Basis for an
 Robert Sablatnig Automatic Classification 419
- Katalin T. Biró Simple fun – Interactive computer demonstration program on the exhibition of the Szentgál-Tűzköveshegy prehistoric industrial area 433
- György Csáki Documentation and modelling of a Roman imperial villa in Central Italy 437
 Ferenc Redő
- Maurizio Forte Archaeology, GIS and desktop virtual reality: the ARCTOS project 443
 Antonella Guidazzoli
- Germà Wünsch Dissecting the palimpsest: an easy computer-graphic approach to the stratigraphic
 Elisabet Arasa sequence of Túnel VII site (Tierra del Fuego, Argentina) 457
 Marta Pérez
- David Gilman Romano Remote Sensing and GIS in the Study of Roman Centuriation in the Corinthia, Greece 461
 Osama Tolba
- F.J. Baena An application of GIS intra-site analysis to Museum Display 469
 F. Quesada
 M.C. Blasco

Education and Publication

- Robin B. Boast Teaching with objects 479
 Sam J. Lucy

Martin Belcher Alan Chalmers Andrew Harrison Simon Stoddart	Teaching the Visualisation of Landscapes – Approaches in Computer based learning for Archaeologists 487
Anja C. Wolle Stephen J. Shennan	A Tool for Multimedia Excavation Reports – a prototype 493
G. Gyftodimos D. Rigopoulos M. Spiliopoulou	Exploring Archaeological Information through an Open Hypermedia System 501
Martijn van Leusen Sara Champion Jonathan Lizée Thomas Plunkett	Toward a European Archaeological Heritage Web 511
Mike Heyworth Seamus Ross Julian Richards	Internet archaeology: an international electronic journal for archaeology 521
Virgil Mihailescu-Bîrliba Vasile Chirica	A Survey of the Development of Computer Applications in Romanian Archaeology 529
Kris Lockyear	Computer-aided publication in practice 535

Geographic Information Systems II: The York Applications