ABSTRACTS

(i) GENERAL CARTOGRAPHY

Current shortcomings of global mapping and the creation of a new geographical framework for the world, D. Rhind (Geographical Journal, 2000, 166, 4: 295–305). Describes the nature of the need for global mapping, the players involved and the drivers and obstacles to progress.

(ii) CARTOGRAPHIC EDUCATION

GIS education for mapping professionals, J. Kerski and A. Ward (GIM International, 2000, 14, 7: 93–95). Gives an overview of training programme design and implementation for GIS at the US. Geological Survey.

(iii) SPATIAL DATA ASSEMBLY AND STORAGE

Automated generalisation of contour maps, Z. Li and H. Sui (GIM International, 2000, 14, 7: 52–54). Describes a system for automated generalisation of contour lines employing the generalisation of individual lines based on a natural principle.

Bikers' heaven, R. Vanmanen (GIS user, 2001, 43: 19–20). Discusses the use of GIS to determine appropriate cycle routes in Brisbane.

Building GIS for local government, J. Harris (GIS User, 2001, 43: 17–18). Discusses the use and reasons for using GIS by local governments in Australia.

Creating DEMs from contour lines, O. Jaakola and J. Oksanen (GIM International, 2000, 14, 9: 46–49). Presents a quantitative and visual comparison between three interpolative algorithms that create morphological realistic DEMs and compares their performance with three commercially available techniques.

Crime mapping, N. Conolly (GIS User, 2001, 43; 21–31). Series of feature articles by a number of writers on the use of GIS and CAD systems to map crime and related activities.

Data warehousing and data quality, S. Faiz (GIM International, 2000, 14, 12: 28–31). Introduces the principles of spatial data warehouses and discusses data mining and OLAP are also discussed.

Developing rules for map design: a functional specification for a cartographic-design expert system, D. Forrest (Cartographica, 1999, 36, 3; 31–52). The need for intelligent systems, including cartographic knowledge, is explored and a comprehensive functional specification for a cartographic design expert system is presented.

Distributed mobile GIS, H. Karimi et al. (GIM International, 2000, 14, 9: 80–83). Proposes a system architecture and challenges applying to the development of a Distributed Mobile Geographic Information System (DM-GIS).

Evaluating GIS vendor templates, G. Graybill (GIM International, 2000, 14, 8: 36–39). Presents methods for the evaluation of vendor templates and discusses difficulties involved in deciding whether or not a template provides an acceptable solution.

Finding customers, M. Parkinson (GIS User, 2001, 43: 32–33). Discusses the use of GIS for mass marketing campaigns.

Geographical city information via Internet, M. Bonazountas, J. Schaller and C. Aigner (GIM International, 2001, 15, 2: 58–61). Discusses the authors' Internet solution for the distribution of navigable and environmental city information.

Geo-Info, A. Danielski (GIM International, 2000, 14, 10; 53–55). Describes the advanced mapping system developed for Poland, its present applications and its potential for other uses.

Geoprocessing tools over the Internet, C. Tao and S. Yuan (GIM International, 2000, 14, 12: 12–15). Presents a pro-type system : GeoServNet for accessing and integrating geoprocessing software tools over the network.

GI standardisation in Japan, K. Akeno and N. Kubo (GIM International, 2000, 14, 12: 44–45). The paper provides an overview of geographic information standardisation activities in Japan.

GIS for precision farming, G. Grenzdörffer (GIM International, 2000, 14, 8: 12–15). Discusses necessary data and requirements and provides an overview of the current GIS market for precision farming.

GPS from an Indian perspective, M. Kulkami (GIM International, 2000, 14, 10: 43–45). Presents an overview of activities relating to GPS, with an emphasis on earthquake monitoring in India.

Highway mobile mapping, C. Tao and N. El-Sheimy (GIM International, 2000, 14, 10; 84–87). Describes the relationship between the Intelligent
transportation Systems (ITS) and Mobile Mapping Systems (MMS) and addresses MMS applications under the ITS umbrella.

Hunger hides: here and there, A. Singhal (GIS development, 2000, IV, 7: 17–19, 46). Discusses the application of GIS to meet future world food needs.

Map matching for automobile navigation, S. Dmitriev, O. Stepanov and D. Koshaev (GIM International, 2000, 14, 7: 69–71). Describes the main features of automobile navigation systems and map matching methods, presenting an optimal map matching method.

Mapping for bushland managers, A. Hunter (GIS User, 2001, 43: 36–38). Discusses the application of GIS and GPS for managing weed invasion.

Mapping systems and GIS: a case study using the Ghana National grid, G. Thomas, C. Sannier and J. Taylor (Geographical Journal, 2000, 166, 4: 306–311). A practical solution for deriving the required transformation parameters to convert from the World Geodetic System of 1984 (WGS84) to the Ghana National Grid system is demonstrated.

Maps and the Internet, M. Peterson (GIM International, 2000, 14, 9: 12–15). Discusses both the advantages and disadvantages of distributing maps over the Internet to an international audience.

Migrating GIS into Web environment, S. Takino (GIM International, 2000, 14, 8: 76–79). Discusses the author's development of a distributed data processing model for Web GIS utilising Web-clients hardware and software resources.

Monitoring meta-data in a GIS, H. Maras and M. Altan (GIM International, 2000, 14, 12: 34–37). Discusses an updating system for GIS databases currently being used for various applications.

On the parametric description of the shape of the cartographic line, A. Skopeliti and L. Tsoulos (Cartographica, 1999, 36, 3: 53–65). Deals with the quantitative description of line character through a number of parameters and the development of methodology for the segmentation of the cartographic line into "homogeneous" parts.

Outlier detection in DEMs, G. Duraniona and C. Lopez (GIM International, 2001, 15, 1: 46–47). Describes a GRASS-compatible tool to automatically or manually remove outliers from Digital Elevation Models (DEMs).

Practical map generalisation, B. Smith (GIM International, 2000, 14, 9: 70–71). Looks at issues, requirements and solutions for generalising digital vector data.

Producing the city: bird's-eye views of Habsburg Spain, M.M. Camino (Cartographica, 1999, 36, 3: 17–30). Discusses the purpose of the maps.

Redesigning space in time, J. Powers (GIS User, 2001: 39–41). Discusses the design of the Sydney Olympic Village and how the principles learned there may be applied to similar situations.

Restrictions on digital map data for whom? R. J. Rao (GIS Development, 2000, IV, 7: 9). Comment on the restrictive policies applying to the access to Indian spatial data.

Scalability: the forgotten dimension, M. Rives (GIM International, 2001, 15, 1: 56–59). Discusses factors that limit system scalability and explains how to build scalability into systems.

Spatial portals, C. Gentle (GIS User, 2001, 43: 34–35). Discusses e-driven information portals, particularly in relation to Application Service Provision (ASP).

Strategy for and implementation of a company-wide GIS, D. Rosenbaum and M. Scheu (GIM International, 2000, 14, 10: 56–57). Discusses some key aspects of the Berlin Transport Authority (BVG) GIS.

Thematic mapping and agriculture, P. Nag (GIS Development, 2000, IV, 7: 20–21). Brief discussion on the work of the National Atlas and thematic mapping Organisation (NATMO).

TIN database issues, A. Ruiz (GIM International, 2000, 15, 2: 12–15). Presents issues concerning the design of a prototype system for management of the approximately 300 million points of the TIN-based DTM of Catalonia.

Virtualising the 3D real world, C. Reed (GIM International, 2000, 14, 8: 50–53). Presents an Intergraph perspective on the importance of data integration and rendering to map visualisation.

Virtualising the 3D real world, C. Crawford (GIM International, 2000, 14, 9: 37–39). Discusses how ESRI is preparing to support more realistic and informative views of their data.

WWW standardization issues, L. Colombo and B. Marana (GIM International, 2001, 15, 2; 45–47). Considers standardisation issues relating to the transfer of 2D and 3D geo-data over the Internet.

(iv) PHOTOGRAMMETRY AND REMOTE SENSING

Advanced classification of remote sensing imagery, R. de Kok, B. Schneider and U. Ammer (GIM International, 2000, 14, 12: 77–79). Presents the authors recently developed classification
system for classifying the spectral characteristics of individual pixels in satellite imagery.

Colour aerial photographs with B&W resolution, D. Brake and S. Mango (GIM International, 2000, 14, 11: 70–73). Discusses the capabilities of the AEROCOLOR III Negative Film 2444.

Earth observation data pricing policy, R. Harris (GIM International, 2000, 14, 11: 38–41). Explores the benefits and disadvantages of the different pricing models commonly used in Earth observation and discusses the opportunities for new pricing approaches offered by the Internet.

Economics of softcopy photogrammetric production, R. Saleh (GIM International, 2000, 14, 11: 32–35). Presents a methodology for cost and benefit analysis of the introduction of end-to-end softcopy production.

Ground accuracy from directly georeferenced imagery, M. Mostafa, J. Hutton and E. Lithopoulos (GIM International, 2000, 14, 12: 38–41). Presents results of a theoretical and practical error analysis involving different systems, various image scales and dissimilar data acquisition/processing scenarios.

The high resolution stereo camera—Airborne (HRSC-A), F. Lehmann, et. al (GIM International, 2000, 14, 7: 12–17). Present the possibilities for the airborne application of a digital camera originally developed for mars missions.

Hybrid photogrammetric mapping environment, X. Li and B. Baker (GIM International, 2000, 14, 11: 12–15). Addresses issue involved with the transition from analogue to digital photogrammetry.

Image analysis for GIS data acquisition, C. Heipke, K. Pakzad and B. -M. Straub (Photogrammetric Record, 2000, 16 (96): 963–985). Different aspects of image analysis are discussed and a framework is provided for scene interpretation, which is based on the integration of image analysis and a GIS data model.

Mapping the state of New York from Landsat TM, S. DeGloria, M. Laba and S. Gregory (GIM International, 2001, 15, 2: 76–79). Presents the nature, magnitude, frequency and significance of errors associated with mapping land cover to meet multiple bio-diversity conservation objectives.

Mapping Mt. Tsukuba from SAR imagery, T. Okatani, N. Watanabe and M. Korai (GIM International, 2000, 14, 10: 34–37). Discusses a stereo-matching technique for the creation of Digital elevation models (DEM) from RADARSAT imagery.

Mapping Siberian forests, H. Balzter and C. Schmilius (GIM International, 2001, 15, 1: 40–43). Accuracy assessment of the maps produced at a scale of 1:200 000 with a resolution of 50 metres.

The measurement of river channel morphology using digital photogrammetry, S.N. Lane (Photogrammetric Record, 2000, 16 (96): 937–961). Seeks to review the progress that is being achieved by fluvial geomorphologists in making use of digital photogrammetry for river channel research.

Occlusion compensation in orthophotos, J-Y. Rau and L-C. Chen (GIM International, 2000, 14, 11: 49–51). Describes a method to compensate for occlusion by using corresponding image patches from conjugate images.

The Phoenix algorithm for three dimensional data capture, C. Taylor and D.J. Fairbairn (Photogrammetric Record, 2000, 16 (96): 1007–1021). Describes an effective methodology, the Phoenix algorithm, which requires only a single image of an urban object, for the construction of 3D models of buildings at high resolution which is discussed. An outline of further potential GIS applications is presented.

Progress in the development of a high performance airborne digital sensor, P.Fricker, R. Sandau and A. S. Walker (Photogrammetric Record, 2000, 16 (96): 911–927). Discusses what stage the development has reached.

Satellite imagery and GIS for census purposes, P. Delsere, et. al. (GIM International, 2000, 14, 11: 66–67). Organisational and workflow aspects of the project to map all of rural Argentina with Landsat TM and SPOT-P imagery at various scales are discussed.

Small format digital cameras for aerial survey: where are we now? R.W. Graham and J.P. Mills (Photogrammetric Record, 2000, 16 (96): 905–909). Introduces the subject of digital sensors for aerial survey by reviewing the use made of small format digital cameras in such an application.

3D close-range laser mapping systems, M. Lemmens and F.A. van den Heuvel (GIM International, 2001, 15, 1: 30–33). Examines the working and possibilities of 3D close-range laser mapping systems, using practical examples.

3D digital cities on the internet, J. Wang (GIM International, 2000, 14, 11: 78–79). Discusses the development and impact of online 3D digital cities.

Topographic and satellite information for preliminary route location, M. Albattah and H. Kharabsheh (Photogrammetric Record, 2000, 16 (96): 987–996). Presents the combination of map and
GIS information with SPOT data to selecting the optimal route for the Greater Amman ring road, Jordan.

User-oriented datum redefinition, M. Salzmann (GIM International, 2000, 14, 10: 12–15). Discusses user issues associated with the redefinition of the geodetic reference system of the Netherlands.

Validation of remotely sensed data, C. Vieira and P. Mather (GIM International, 2001, 15, 2: 34–37). Describes methods of assessment of classifier performance including the spatial pattern of classification errors.

Virtual cities from digital imagery, E. Gölch (Photogrammetric Record, 2000, 16 (96): 893–903). Presents a semi-automatic system for the extraction of buildings from digital aerial imagery with the aid of volumetric primitives.

Virtualising the 3D real world (4), L. Jordan (GIM International, 2000, 14, 7: 38–41). Discusses prospects and preparations surrounding the need for Virtual Reality and the expected huge increase in consumer groups.

Wavelet compression and the automatic classification of Landsat imagery, J. B. K. Kiema (Photogrammetric Record, 2000, 16 (96): 997–1006). Examines the effect of data compression on the automatic classification of Landsat imagery.

The Z/I imaging digital camera system, A. Hinz and H. Heier (Photogrammetric Record, 2000, 16 (96): 929–936). Describes current development activities and application aspects of a digital modular airborne camera system.

(vi) CADASTRAL MAPPING, GEODESY AND LAND REGISTRATION

Adjusting sea level measurements at the Port of Alexandroupolis, A.M. Agatza-Balodimou, A. Antonopoulous and A. Maratos (Survey Review, 2001, 36, 279: 35–43). Looks at two main models to determine mean sea level height in association with a very recent time period and as a suitable measure of the precision of the observations.

The Bird Yard Parliamentary Standard, L. Pfeifer (Survey Review, 2001, 36, 279: 22). Presents a definitive determination of the thermal expansion and length at standard temperature of the Bird yard (1760) Parliamentary Standard, destroyed in the fire of the Houses of Parliament on 16 October 1834.

Cadastres in the 21st century (1), P. van der Molen (GIM International, 2001, 15, 1: 12–15). Outlines how the Netherlands cadastre has adopted and is continuing to adopt the chances and challenges offered by the Internet.

A checking technique for high precision GPS antennas, A.K. Chong and B.B. Kam (Survey Review, 2000, 35, 277: 464–473). Introduces an antenna checking technique developed by Chong and discusses the design of the precision Plate, the field procedure and the procedure for the computation of the phase centre residuals.

Computation of mean free-air gravity anomalies by Bjerhammer's deterministic and collocation methods over Scandinavia, H. Nahavandchi (Survey Review, 2000, 35, 278: 514–523). Two methods are used to compute mean gravity anomalies in 6° x 10° cells over Scandinavia. The results show that either of the two methods are appropriate to predict mean gravity anomalies.

Datum definition for GPS networks, G. Even-Tzur (Survey Review, 2000, 35, 277: 475–486). Focuses on various aspects of datum definitions and datum design for GPS networks.

Determination of the Hong Kong gravimetric grid, Y. Zhan-ji and C. Yong-qi (Survey Review, 2001, 36, 279: 23–34). Uses the remove-restore technique to construct the Hong Kong gravimetric geoid.

Effects of electric power lines on the accuracy of GPS positioning, A. Alsalman (Survey Review, 2001, 36, 279: 54–61). Evaluates the effect of electric power lines on GPS positioning accuracy and discusses the methodology and results of the study.

Estimates of horizontal displacements associated with the 1999 Taiwan earthquake, C.C. Chang (Survey Review, 2000, 35, 278: 563–568). Discusses the use of GPS data in measuring the Chi-Chi 1999 earthquake and compares it to data measured before the earthquake to investigate the displacements.

Estimation of the stochastic model for GPS code and phase observables, C.C.J.M. Tiberius and F. Kenselaar (Survey Review, 2001, 35, 277: 441–454). A procedure us presented for the estimation of elements of the stochastic model by means of relatively simple formulae.

GPS multipath mitigation using fir filters, S. Han and C. Rizos (Survey Review, 2000, 35, 277: 487–498). Describes the effects of multipath on pseudo-range and carrier phase observations.
Height measurement of Kilimanjaro, J. Saburi (Survey Review, 35, 278; 552–562). Compares and contrasts the survey work in determining the height of Mount Kilimanjaro in 1999 with that of 1952, comparing modern GPS approach with that of traditional techniques.

Height modernization: saving with GPS. (ACSM Bulletin, 2000, 186; 19–24). Excerpt from the : Height modernization report to Congress, prepared by the US Department of Commerce. Full report available at : www.acsm.net

An improved Tape Zero Gyro-Theodolite calculation technique, A. Wetherelt and P. Hunt (Survey Review, 2001, 36, 279: 2–11). Presents a new iterative method to establish estimates of the parameters for a damped oscillation model and locate its equilibrium.

Position and attitude measurements for site-vehicles in real-time, B.J. Gorham (Survey Review, 2000, 35, 534–541). Describes the main design features and development of an automatic laser system that generates full spatial parameters for a road paver in real-time operation on the work-site.

A problem of provenance: a technical analysis of the “Champlain” astrolabe, R.C. Brooks (Cartographica, 1999, 36, 3: 1–16). Reviews evidence associated with attribution to Champlain, provides new documentary evidence and presents previously unpublished data on its metallurgical content.

Second order design of horizontal GPS net, B. Stopar (Survey Review, 2001, 36, 279: 44–53). Looks at systematic errors and observations and how these contribute to the final accuracy of the geodetic net.

Test geoid computations in Peninsular Malaysia, S. Ses and J. Gilliland (Survey Review, 2000, 35, 278: 524–533). The data handling and computational strategies employed by Stoke's integration, Fast Fourier Transform and Least Squares Collocation techniques are described together with their comparison of results.

The tubular brass scales, L. Pfeifer (Survey Review, 2000, 35, 542–551). Presents new demonstrations of the thermal expansion of the tubular brass standard scale of the Royal Astronomical Society and of its copies.

Winterbotham was right! L. Pfeifer (Survey Review, 2001, 35, 277: 455–463). Discusses the new standard introduced following the destruction of the Standards in the fire in 1834.