Finally, with GrassTools/SQL™ you have the power of SQL to solve your most difficult problems. Corporate Databases can now be used easily and effectively as part of the GIS solution through the use of this industry standard tool.

In keeping with the Osiris tradition; sophisticated users will find GrassTools/SQL™ comprehensive enough for the most demanding expert, yet simple enough for the casual or novice user.

Wait no longer to bring Relational Database Technology to bear in the Display or Query of Raster, Vector or Site data. Maps can be analyzed or database Statistics can be gathered to answer pressing questions.

GrassTools/SQL™ can support multiple Databases, any one of which can be selected from a scrolling list on the fly. Tables associated with the selected Database are also displayed for your convenience. SQL Queries can be saved and recalled later quickly. Maps are selected in the same easy way. Point and click!

Need to build a new query or edit an old one? No problem. A feature rich integrated editing window is available at the touch of a button. Novice users will find the "extras" panel most helpful. Buttons and scrolling lists are designed to guide and prompt the user through the formulation of a query. Tables of interest and their respective columns are presented in a clear and concise manner. They may be selected and inserted in the desired location within the editing window at the touch of a button.

GrassTools/SQL™ is a unique product available immediately and included in GrassWorks™ from Osiris Systems Corporation.

THE FUTURE OF GRASS IS HERE TODAY!
GREETINGS FROM THE OPEN GRASS FOUNDATION

The Open GRASS Foundation (OGF) inherits the short but rich tradition of the GRASS Inter-Agency Steering Committee (GIASC) and the GRASS GIS User Forum (GGUF). In this first OGF issue of GRASSCLIPPINGS, we wish to show our intention to continue working in that tradition and to create an even more active forum for the exchange of ideas and information vital to the development of the GRASS community and the cause of open Geographic Information Systems (GISs).

OGF came into existence because many people in the GIS community believe profoundly that GRASS represents a major trend in the use of software resources. GRASS is an open, free development system, available in source code form, and already widely used by end-users and GIS software vendors alike. It is very close to becoming a GIS software common denominator because of its extensive source-level integration with other software tools and applications and because of its broad acceptance in universities as a resource in both teaching and development. Like UNIX in the 1980's, GRASS has "caught on" and, driven by enthusiasm and a pure creative energy, it has begun to set a standard for the open GIS development environment. Researchers and business people alike are beginning to feel that resources like GRASS provide the basic tools for GIS development and, in times like these, nothing could make more sense either from a financial or a technical point of view. This is the message we hope to convey in the current and future issues of GRASSCLIPPINGS! We intend to catalog the technical developments of the GRASS community and to promote awareness of the extent and quality of GRASS-based application systems successfully installed both nationally and internationally.

OGF is concerned with ideas; therefore, we will focus significant resources on making GRASSCLIPPINGS a strong and disciplined voice on behalf of GRASS.

OGF is also concerned with the commercial promotion of open GIS; hence, we will focus on the annual GRASS GIS Users' Conference and Exhibition and joint commercial ventures involving GRASS. The user meeting, like GRASSCLIPPINGS, will be an active demonstration of the state of open GIS. Through our combined, community-wide efforts, we will showcase a broad range of software integrations and GRASS-based application systems.

Although some of what you will read in these pages is new, much concerns ideas that have been brewing in the GRASS community for some time. What is definitely new, and what we wish to emphasize, is that the world of open GIS is beginning to come into its own, and is generating a creative and dynamic market force that will have to be reckoned with.

David Schell, Chairman, OGF

---

YES ! SEND ME GRASSCLIPPINGS

Name: ___________________________ Organization: ___________________________

Street Address: ___________________________________________________________________

City/State/Zip/Country: _____________________________________________________________

Telephone: __________________ Fax: __________________

Email: __________________

For our files: Do you have GRASS? yes / no __________________ Which version? __________________

On what hardware platform do you run GRASS (e.g. SUN 4, IBM RISC)? __________________

People living within the United States may help defray publication and mailing costs by sending an annual $15 subscription fee. This fee is mandatory for overseas subscriptions. Please make checks payable to The Open GRASS Foundation and mail to OGF, Pamela Cashman, Center for Remote Sensing, Boston University, 725 Commonwealth Ave., Boston, MA 02215; 617-353-5642; fax: 617-353-3200.
The
Editor’s
Mark
From Linda Roush

Well Folks, here it is -- the first issue of Grassclippings as a journal! And what a flurry of activity this journal produced! I hope you find the end result stimulating and resourceful.

As a journal, Grassclippings will retain many of the qualities developed during the five years it was published as a newsletter. It will continue to feature columns written by contributing editors, application articles from GRASS users, and programming tips from developers and programmers. Some of you might notice the absence of certain columns you’ve grown accustomed to reading each issue, such as Academic Turf by Jeff Wright and Cartographic Issues by Melissa Records. Their omission is nothing more than a result of the authors’ busy, productive lives, and you may look forward to reading their columns in future issues.

I have encouraged longer, more technical feature articles and columns and an expanded section for Grass activities around the world. As evidenced by the new section entitled Corporate Developments, Grassclippings has expanded also to reflect the Grass community’s increased commercial nature. In the future, I plan to include the European Grass Community Newsletter published by the European Grass Foundation (EGF), more newsbriefs, more special-interest columns, and a Calendar of Events relevant to GIS activities in general.

Grassclippings provides a forum for the discussion of products, issues, and events of interest to Grass/GIS users and developers. It includes features of both a commercial trade magazine and a technical journal. We invite the submission of articles, advertisements, and announcements specific to Grass. Also welcome are items of general interest to GIS users, such as software tricks, applications, and discussions of controversial developments.

I extend a sincere thank you to all the people who have contributed to this issue of Grassclippings. I also thank my husband and daughter for their patience and understanding.

Linda Roush, Managing Editor
The Open Grass Foundation
P.O. Box 3879, Champaign, IL 61826-3879; 217-352-6511; Fax: 217-373-2222; email: roush@zorro.cec.cer.army.mil

Grass 4.0
On Avion
Unix based workstations & servers ranging from 19 to 235 MIPS.

Data General
Where the World is going!

Call 1-800-DATA GEN
Features

An English-Language Interface to GRASS ....................................................... 31
Dr. Susan Walker Toledo
The current system has been designed to allow NASA employees to accomplish most of the currently envisioned, rocket engine test environmental monitoring tasks on its GRASS system with the use of English-language commands.

Next Generation Geographic Modeling Framework Research
At USACERL ................................................................. 35
Kurt Buehler, Jeffrey Wallace, Michael Shapiro, Nancy Amato, and Umni Narayanan
This article reports on research into a next generation of Geographic Modeling Frameworks (GMF), which is part of USACERL-funded basic research.

Sequoia 2000 and the Post-GRASS Project ............................................. 40
Kerr Gardels
Current technology for information management limits the ability of global change researchers to model change and the inter-relationship of earth systems. The goal of the Sequoia 2000 Project is to meet these technological challenges head-on.

Columns

New GRASS Seeds ................................................................. Bill Goran .............. 6
OGI Updates ................................................................. Marji Larson .............. 7
Training and Workshops ........................................................ Brenda Johnson .............. 9
Agency News ................................................................. Linda Roush .............. 11
Growing GRASS ............................................................... Dr. Fred Limp .............. 12
Mission to Planet Earth ....................................................... Robert Lozar and Scott Madry .............. 14
Surfaces and Modeling ........................................................... Dr. Helena Mitsova .............. 16
Around the World ................................................................. Linda Roush .............. 21

Corporate Developments

Education and Consulting at Bureau Nieuwland ........................................ Wim Ploeg .............. 23
EuroGIS Develops the GRASS Markets in Spain ........................................ David Schell .............. 24
GRASS Activities at L.A.S., Inc., Montreal ........................................ Gilles Clement .............. 25
Bringing Digital Remote Sensing to GIS ............................................. Peter Archibald .............. 26
An On-line Data Management System ............................................. Jun Ramsey .............. 28

Departments

Greetings from The Open GRASS Foundation ........................................... David Schell .............. 3
The Editor's Mark ................................................................. Linda Roush .............. 4
Conference Announcement .............................................................. 29
Instructions to Authors ................................................................. 34

Submission deadline for GRASSCLIPPINGS, Summer 1993 ................... April 5, 1993
Cover graphic designed by Bill Brown (USACERL) using SG3d and GRASS.