INTERFACE

Carleton University Computing Centre Newsletter

DECEMBER, 1976

The On-Line Plot

Most plotter users are probably by now aware of the fact that we have a new plotter, a CALCOMP Model 563. In case that doesn't mean anything, it should suffice to add that it is almost identical to the old plotter, and most users will find little or no difference in the quality of plots it produces. A few users may be disappointed to find that the minimal step size of .005 inches, compared to .0025 inches for the old plotter, is not sufficient to meet their requirements. To such users, we extend the assurance that the old plotter will continue to be made available, upon request, although the level of service may eventually be reduced to a self-operated basis.

It is our intent to make the new plotter the primary plotting device, and users will be encouraged to convert to its use. We would like to restrict use of the old plotter to the relatively few applications that require the higher plotting precision, thus prolong the life of the device and also simplify the operational aspects of the plotting service.

Our plan to begin charging for plotting services should provide an added incentive for users to switch to use of the new plotter. Because of its critical nature, the old plotter will be considerably more expensive to run. During the conversion period, full operational support will be provided for both plotters, so that users can convert at their convenience. The precise details of the service that will eventually be available on the old plotter have yet to be decided, but we hope that through consultation with interested users we can arrive at a satisfactory arrangement.

The main reason for purchasing a new plotter was to improve the reliability of plotting services. The existing plotter presented several serious questions with respect to maintenance which made it impossible for us to guarantee the integrity of plotting services. For several years we have had to discourage use of the plotter by warning users that any serious breakdown might leave them without alternative service for an extended period of time. Some users may recall that the plotter was down for three months during the summer of 1973 due to a faulty tape drive on the controller, and several users were severely inconvenienced. Although the plotter has operated faultlessly since that time, the fact that we know of no local source of service or spare parts made us acutely aware that another breakdown might well result in a similar disaster. We were able to purchase the new plotter with the guarantee that it would be fully supported and maintained by Honeywell.

One significant advantage for users of the new plotter is that it can be operated as a peripheral of the Sigma 9. This will eliminate the more complex JCL associated with tape usage, required by the old plotting system and should make for easier access to plotting. Another advantage is that the new plotter provides us the opportunity of using 12 inch wide graph paper in addition to the usual 30 inch wide plain white paper, and we hope to make this option available to users. Although felt tip pens will not be available, at least for the present, we hope that ink and ball point will suffice, especially since users will be able to choose between several different nibs and ink colors. Documentation on procedures for using the new plotter should be available from the program librarian by January 1.

Anyone who has any comments or queries regarding these developments in plotting should call Rick Mallett at 231-7145.

A Map is Worth a Thousand Numbers...

The Academic Support Group is pleased to announce that a number of new programs and improved versions of old programs supporting computer mapping are now available. These programs are designed primarily for mapping of statistical data, and are particularly useful tools for researchers in socio-economic fields. The programs are relatively easy to use, and do not require any knowledge of computer programming. With some imagination, they can even be used for other computer graphic applications besides actual maps!

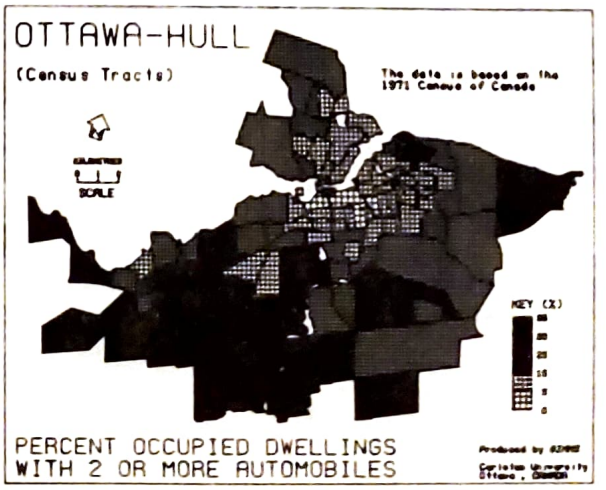

Fig. 1 - A GIMMS map, illustrating the high-resolution drawing and shading capabilities of the program.

A brief note about each program is given below. Additional information may be obtained from the coordinator of user services, at 231-6721.

SYMAP

Our old version of SYMAP has now been replaced by the latest Harvard release, version 5.2. This edition contains numerous improvements and new features, including trend - surface mapping and multiple file input capabilities. A number of local modifications to the program permit us to offer some options not available on other SYMAP installations. A new utility program which enables display of small SYMAP maps on our television-display system is also available.

SUPERMAP

A new program (local product) has been developed, which gives a user the ability to investigate spatial relationships between variables mapped by SYMAP. SUPERMAP performs a "visual" comparison of a number of SYMAP maps, producing a single "composite" map based on user-defined electives. The program can also be used to selectively isolate map "levels" for use in the production of colour plates, and to change the symbolism on a SYMAP map without re-running SYMAP.

SYMVU

A new (working) version of SYMVU is now available. This program is used to produce three-dimensional plots of map data saved by SYMAP. Although there are some known problems with this program, it appears to work satisfactorily as long as the documented elective limits are strictly adhered to. (SYMVU will be maintained, but not actively supported by Computing Services).

PREVU

A new program (local product) developed as an alternative to SYMVU is also available at this time. Although PREVU has fewer options than SYMVU, the basic output - three dimensional plots of SYMAP data - is the same. PREVU can produce larger plots than SYMVU, and has some options which are not available in SYMVU. As well, PREVU is much smaller than SYMVU, so it is cheaper to use, and may even be run interactively with our television display system.

GIMMS

GIMMS is a new mapping package developed by Thomas C. Waugh at the University of Edinburgh, and installed on our system this past summer. Unlike the SYMAP system, GIMMS produces high-quality, detailed maps plotted on the Calcomp plotter. Powerful data manipulation routines and graphics options make GIMMS a highly-flexible and sophisticated computerized cartographic system.

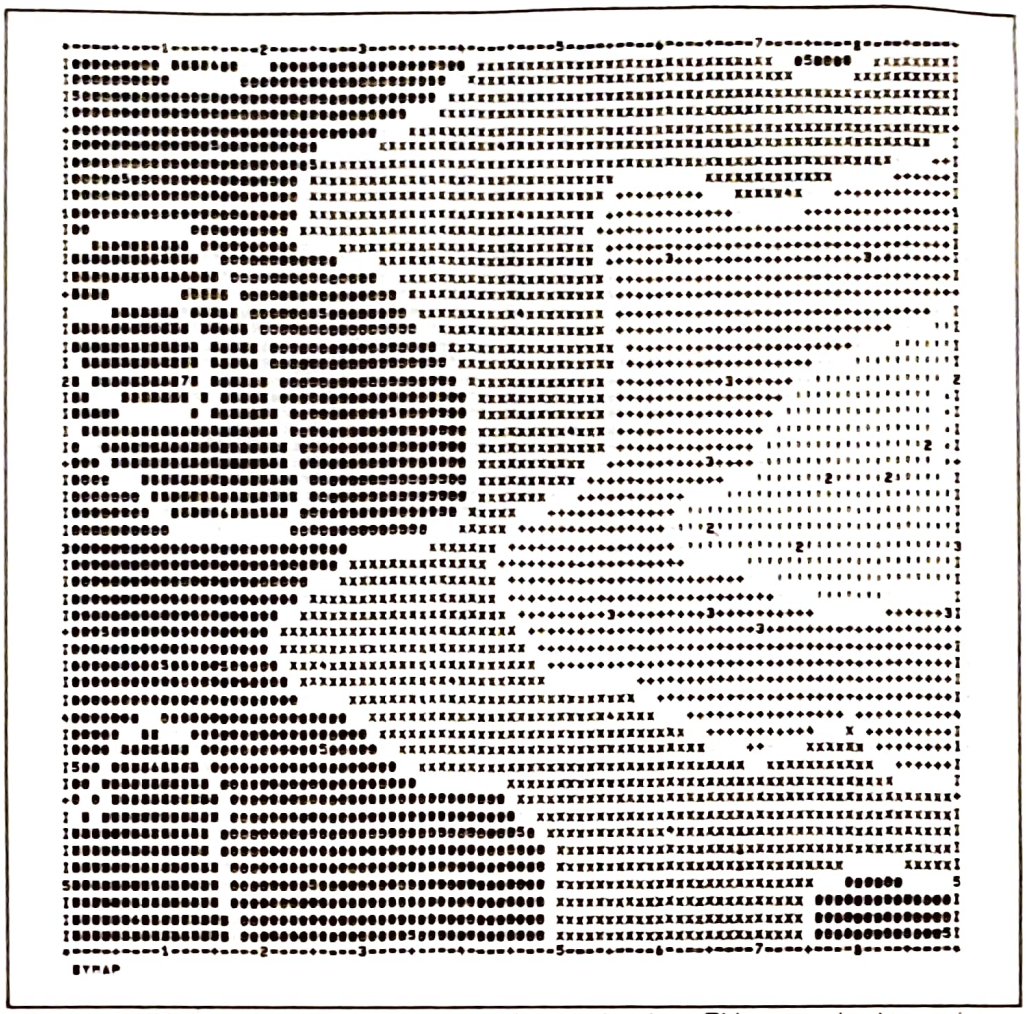

Fig. 2 - SYMAP contour map constructed from point data. This example shows elevation above sea level.

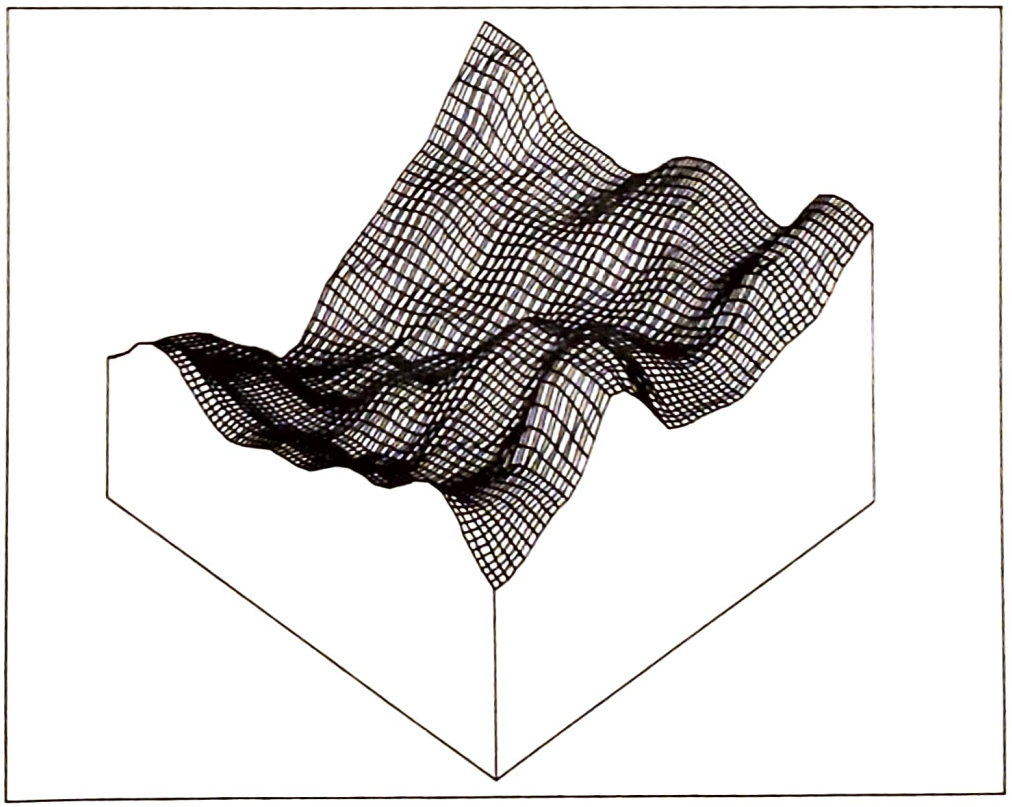

Fig. 3 - PREVU three-dimensional surface plot of map in Fig. 1, viewed from the North-west corner.