REVIEW of RangeMapper ^{TM} (version 1.4b).

A utility for biological species range mapping, and similar mapping tasks in other fields. Price: $350

Program and manual written by **Kenelm W. Philip**. Tundra Vole Software 1590 North Becker Ridge Road Fairbanks, Alaska 99709 (907) 479-2689

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From the author's flyer.

"RangeMapper is a Macintosh mapping and data plotting utility. It allows rapid and accurate display of lat/long data on the user's choice of maps."

"RangeMapper Features"

"Range Mapper can bring up low-resolution maps of the world, or portions thereof, in north polar azimuthal, simple cylindrical, Mercator, orthographic, stereographic, or Lambert azimuthal equal-area projections.

Data may be plotted to maps from ASCII files of latitude, longitude, and site name in several different formats, in several sizes of open/filled circles and squares. Program-readable data files can be dumped directly from a database or spreadsheet. Lat/long coords may be read directly from the maps, and plotted points may be 'verified' by clicking on them. The Alaska map is based on the CIA World Data Bank file, and is usable down to 20-30 mile regions.

The world map is derived from the Micro World Data Bank II file. It is usable down to regions of the order of 500 miles or so in extent, which is adequate for species range mapping on small-scale maps.

Designed originally for biological species range mapping, the program has many other uses wherever data files need to be accurately plotted to maps. In conjunction with the word processor 'Nisus', RangeMapper may also be used as a visual interface to a text database, so you can open a text file on a site by clicking on that site on the displayed map.

The 'verify' feature permits rapid checking of your ASCII data files for errors. In conjunction with a DA text editor, your data files may be edited interactively from within the program—making error correction a rapid and easy job.

Points may also be placed on the maps by hand, either by eye or by reading coordinates off the map and dropping a dot at the correct coordinates.

RangeMapper can save maps to disk, print them directly to an IMageWriter or LaserWriter, or export them as PICT files to be imported into a drawing program (as MacDraw or Canvas) for enhancement and annotation.

Maps produced by RangeMapper may have a user-designed latitude/longitude grid overlaid, and a title and caption may be added. Data plotted to RangeMapper may be overlaid in up to 14 separate layers, each of which may be toggled on and off independently. Data may be plotted as dots or as connected lines."

The processing speed of this software is, to some extent, slow, especially for a small-scale map or a map with filled area. This may be due to the fact that this software involves a vast number of pixels.

Users accustomed to working with Geographic Information Systems should be aware that this software is, as it says, a mapping utility only. The spiral-bound documentation is adequate and contains samples of maps apparently made using RangeMapper; a couple of improvements seem in order.

1. On page 2, the author describes RangeMapper as needing at least 1500KB of free memory, and that the "MultiFinder partition" should be set to that value in the Get Info dialog box. This is confusing, as the user will probably select the MultiFinder icon and try to change the partition in Get Info. In fact, the user should highlight the **RangeMapper** icon, rather than the MultiFinder icon, and then go to Get Info dialog box to change the partition.

2. On page 6, the user is instructed to select the file '*MWDB3.All' under the File menu. However, there is no such file in this software. Instead, the user should select the file 'MWDB2.All' and then check the **show state/provs** under the Mapping menu in order to display the circumpolar map demonstration.

3. The printing requirements should appear early in the first part of the manual.

4. An Index at the end of the manual would be helpful.

Some other suggestions for improvement of the software are:

1. It would help to employ more of the standard Macintosh environment conventions, such as:

   a **Close** selection under the File menu;

   a **Window** sub-menu in the pull-down menu;

   the filename displayed at the top of the screen (different from the title of the map);

   a close box, zoom box, size box, and scroll bars displayed on the screen, as in a standard Macintosh window.

2. The "Menus" section could be moved to the beginning of the manual, rather than in the middle. If not, the author should describe the difference between **Map** and **Open** function in the **File** menu at the beginning.

3. After displaying a map, a selection box will automatically show up on the screen. The author should explain why this box comes up. It only later becomes apparent that it is used to link a map to adjacent regions, if available.

It may be more efficient to run this software using a Macintosh II or higher, or better, with a math co-processer because of very slow printing times. If not, users must carefully follow the recommended printing procedure to reduce the size of the output file, such as turning off "Graphics Smoothing" and checking "Precision Bitmap Alignment" (in the "Moving RangeMapper Output to Word Processors" section and the "Printing: RangeMapper" section).

In addition to the two drawing programs (Canvas 3.0 and SuperPaint 2.0), MacDraw II 1.1 and MacPaint 2.0 are capable of image size reduction. After exporting a map to

MacDraw or MacPaint, one can still copy the map to any word processor.

Those needing only a mapping program will find this sortware useful, especially if working on high latitude areas.

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SuperPaint is a trademark of Aldus Corporation;

NISUS is a trademark of Paragon Concepts, Inc.;

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FROM SCIENCE, AAAS

Science, November 29, 1991, Vol. 254, No. 5036, copyright, the American Association for the Advancement of Science. Many thanks to Joseph Palca at *Science* for his continuing interest in online journals. The citation appeared in "Briefings" and is entitled "**Online Journals**," by Joseph Palca.

NOTE: Readers wishing to contact Richard Zander, Editor of *Flora Online*, can do so at bitnet address:

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FROM SCIENCE NEWS

Math for all seasons

by Ivars Peterson

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When the American Association for the Advancement of Science announced with considerable fanfare last year the 1992 debut of *The Online Journal of Current Clinical Trials*, it was billed as the world's first peer-reviewed science journal available to subscribers electronically. What the organizers of this effort didn't know was that several such electronic journals already existed. One of these concerns the application of mathematics to geography.

Solstice: An Electronic Journal of Geography and Mathematics — published by Sandra Lach Arlinghaus of the Institute of Mathematical Geography, a small, independent research organization in Ann Arbor, Mich. — first appeared in 1990. Its two issues per year, published appropriately on the dates of the summer and winter solstices, go to about 50 individuals, wwho receive the journal free. Transmission costs for distributing the journal electronically over a computer network to all subscribers amount to less than $5 per issue, with the cost of printing passed on to the user. Libraries and other institutions that prefer printed copies pay for each issue, and those copies are generated from computer files only when needed.

"It's all very cheap, all environmentally sound," Arlinghaus says.

But getting the journal going wasn't easy, she remarks. The biggest production problem involved photographs and figures, which can't be transmitted electronically in the same, compact way as letters, numbers or even mathematical notation. At present, individuals wishing to see particular illustrations must obtain photocopies directly from the Institute of Mathematical Geography. Arlinghaus also admits that she has had trouble obtaining manuscripts for publication in this still-unconventional medium. But individuals who might initially have been skeptics "become more receptive when they see the actual product," she says.

LETTER AND RESPONSE IN SCIENCE NEWS

One from AAAS in reply to Peterson; one from IMaGe in reply to AAAS, during period from January through May, 1992.

AAG NEWSLETTER

Volume 27, Number 6, June 1992.
"Online Geographical Journals," page 10.