

Winter, 1991

FEATURES

i. Press Clipping

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.

Online Journals

"When the AAAS and OCLC Online Computer Library Center announced the scheduled debut next year of their new journal—*The Online Journal of Current Clinical Trials* — they said it would be the world's first peer-reviewed, online science journal (*Science*, 27 September, p. 1480). Since then, two other such journals have made their presence known to *Science*. They are *Solstice: An Electronic Journal of Geography and Mathematics*, published by Sandra Lach Arlinghaus of the Institute of Mathematical Geography in Ann Arbor, Michigan, and *Flora Online*, published by Richard H. Zander, curator of botany at the Buffalo Museum of Science. Both have been around for about 2 years and are available free over several popular research computer networks."

NOTE: Readers wishing to contact Richard Zander can do so at bitnet address:
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ii. Word Search Puzzle

The point of this puzzle is to develop familiarity (dispelling fear) with a selection of words possibly not familiar to student readers. The words are embedded in the jumble of letters below; not all letters in this array are part of a word in the list and other words may appear in the puzzle. Words from the list may be written from left to right, from right to left, from top to bottom, from bottom to top, or diagonally (in any direction). Solution is on the last page of this issue.

WORDS IN THE PUZZLE

Algorithm
Asymptote
Azimuthal
Circumpolar
Circumscribe
Conic
Converge
Curvature
Cylindrical
Divergent
Equatorial
Equidistant
Equinox
Exponent
Fractal

Gnomonic
Graticule
Integral
Inverse
Jacobian
Lambert
Latitude
Logarithm
Longitude
Matrix
Mercator
Meridian
Norm
Oblique
Orthogonal

Parallel
Polyconic
Projection
Rotation
Solstice
Stereographic
Tangent
Translation
Vector

P O R T H P O L Y C O N I C I H P A R G O E R E T S
E L O N G I T U D E E Q U I D I S T A N T N E B C C
Q A L G O R I T H M L O D I V E R G E N T G G I U V
U H S L G H T M I H P R C Y M S A N E G R R P R E R
A T E Y R M E T O T P M Y S A P L N U O A R V C E O
T U L A M B E R T I A C I N O M O N G T T A T S A T
O M R O N P T R B R E N N R O P P X I C T O I M L A
A I X M R T T P M A S C G C X C M C A U R R T U N T
L Z R S A T Z O L G C M D E N U U C R A U N E C O I
R A T F E T R S T O M U Q Q N L C E R F E G L R A O
I R C V R E R G N L E U V U E T R A N S L A T I O N
P O O I T A R I S T I L C A T O I N M U T H A C Z I
M T N O R E C X X N W F A T B N C A J I O C A R N N
E A V E R D A T O F J A C O B I A N T G E R G T A V
T C E T S A N X A R S X A R R T G U O A N R E V B E
G R R A M R S I A L X S E I P R D N D G E G A R V R
R E G E C I T S L O S T E A Z E A M U T R H A L S S
A M E R I D I A N Y L A A L E L L A R A P R A L T E
I S G A L R N O I T C E J O R P O B L I Q U E C A L

iii. **Software Briefs** — Brief descriptions of software provided by the creator. Look for reviews of the software in subsequent issues of *Solstice*. The Institute of Mathematical Geography (IMaGe) makes no claim as to the accuracy of the statements made by the creators; the appearance of their comments in *Solstice* is not an endorsement, either direct or indirect, of the product by IMaGe or by anyone associated with either IMaGe or *Solstice*. These "Briefs" are simply presented as a way for software creators to share information, in an e-journal, with other possibly interested parties.

a. **RangeMapperTM** — version 1.4. Created by Kenelm W. Philip, Tundra Vole Software, Fairbanks, Alaska. Program and Manual by Kenelm W. Philip; commentary below from the Manual. "A utility for biological species range mapping, and similar mapping tasks in other fields." FNKWP@ALASKA

"RangeMapperTM is a Macintosh mapping utility program designed specifically for the field or museum biologist who wants to be able to produce, rapidly and easily, species range maps for various organisms. The program may also be used for mapping other kinds of data, in medical, sociological, geological, geophysical, biological, etc. applications.

The program is aimed at people whose mapping needs cover sizable areas. The most accurate data files in the map base are derived from the CIA mapping files, which are suitable for displaying regions down to 20-30 miles or so in linear extent without showing a 'polygon' effect from data point spacing. The data files also include the Micro World Data Bank files, which are suitable for mapping on a whole-world scale and down to regions perhaps 500 miles in linear extent.

On a Macintosh II or other machines in the Macintosh II family, most maps will be plotted in well under one minute. Once plotted, they can be saved to disk and re-loaded as needed. In either case, data from properly formatted latitude/longitude textfiles can be read by the program and plotted to the maps. If your species data (including lat/long coordinates for collecting sites) are stored in a computer database, it should be easy to arrange to export, for any given species, a textfile of lat/long coordinates that RangeMapper can read directly — thus obtaining your range maps in one step from your database.

In conjunction with the word processor NISUS, RangeMapper may be used as a map-based visual interface to a text database.

The current version (1.4) of RangeMapper is set up for world mapping in six projections — north polar azimuthal, cylindrical, Mercator, orthographic, stereographic, and Lambert azimuthal equal-area. The north polar azimuthal maps are quite usable down to the southern limits of the lower 48 states and equivalent latitudes in Eurasia, and are excellent for higher-resolution mapping of Alaska. The cylindrical and Mercator projections can show the entire world (barring the extreme polar regions in Mercator), centered at any longitude. The last three projections show up to one hemisphere, which may be centered at any point on the earth's surface.

The map data files from the Micro World Data Bank cover the entire world. The only CIA file presently incorporated into RangeMapper is the Alaska file (approximately 150,000 points for coastlines, islands, rivers, and lakes). The entire continent of North America will be added from CIA files later, permitting mapping of the U.S. and Canada to the same precision as can be obtained using the current file for Alaska.

Other continents, and higher-precision files covering the U.S., may be added later."

vi. Solution to Word Search Puzzle.

LONGITUDE QUISTANT GORETSC
ALGORITHM DIVERGENT GIUV
H H A E R GRE
T ETOPTMYSALNVAVCOT
ULAMBERTIACINOMONGTATST
MRON RN PPI TO SMAT
IM A G X MC UR MUCO
LZ A GC E U R LCO
A F T O Q QNLCE L R O
RCRR RNLU UETTRANSLATI
OOI A I I A I I TH C
TN R C XN T C IO N
AV D TO JACOB IANTGT T
CE N X A R U O E
RR I L I DN G
EGECITSLOSA EA R
MERIDIANY LELLARAP
NOITCEJO RPOBLIQUE

b. "XYNIMAP" — created by David H. Douglas, University of Ottawa; "a comprehensive system for computer cartography and geo-spatial analysis." Preliminary Version. DHDAD@UOTTAWA

"XYNIMAP is a comprehensive system for computer cartography and geo-spatial analysis, that does a lot of things, but not everything, that other packages do. If you give it a chance you will find it does a number of things better than other packages. The diskette contains all manuals and operating instructions. It is meant for PC computers. PC-XT 286, 386, 486.

COMPONENTS

XYNITIZE: An interactive map digitizing system (with a different way of interacting with the user).

BNDRYNET: A program to convert a mass of intersecting lines into a topology to represent the polygons that are visually evident. In other words BNDRYNET is a cartographic spaghetti to polygon converter.

CONSURF: A contour to grid digital elevation model program.

POLYGRID: A polygon to grid converter.

XYBINASC & XYASCBIN: Programs to convert a XYNIMAP stream feature file back and forth from compressed binary to readable (therefore editable) ASCII files.

GDEMIDRI: A program to convert a XYNIMAP grid digital elevation model to an IDRISI .img and .doc files.

XYTALLY: A program to read a XYNIMAP stream feature file and produce a printout of various measures: (lengths of lines and areas of regions).

The following are tested workable and distributable programs but I am just not ready to put them out just yet.

XYNIDISP: A comprehensive display system for the PC computer with EGA or VGA graphics adapter cards.

XYNIDRAW: A comprehensive display system for line drawing plotters

VUBLOK: A particularly robust perspective view map program for grid digital elevation models. It produces the traditional fishnet display and shaded relief.

PILLAR: A program to display a geographical distribution by an image of standing vertical pillars on the surface of a perspective view of a base map. The program curves the surface to a realistic projection.

PROCIR: A proportional circle display program."