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GRDIMAGE — A Fortran program for displaying banded colour pixel maps

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Abstract

Gridded data or data collected on a nominal grid may be displayed in six colour bands on a suitable personal computer. The colour breaks and map boundaries may be set by the user.

INTRODUCTION

The Geophysics Section of the Department of Mines has been producing coloured contour maps for some time. Each new map produced required several attempts before the correct colour balance was achieved and it was decided that a quick preview on a colour screen could save both time and cost.

The program described here was written using Lahey F77L Fortran and requires a system equipped with a hard disk and an EGA or VGA monitor to run. The presence of a Microsoft™ compatible mouse and second disc drive (either hard disk or RAM disk, but must be D:) is detected and increases the speed and versatility of the program.

THE PROGRAM

ASCII data sets of X, Y and Z values are scanned for range and converted to binary for faster access. If disk D: is present, and sufficiently large, the binary data set is created on this and then copied back to the current directory. The data range is divided to produce an evenly spaced set of colour breaks and this data, together with geographic range data, is written to data files.

Input data files are in the following forms:

(i) Free format input

– File extension .XYZ

Each line consists of an X, Y and Z value separated by spaces or commas. A minus (-) must immediately precede a negative number.

e.g. 10760, 11800, -273.5
10760 11800 -273.5

(ii) Fixed format input

– File extension .DMP

Each line consists of an X, Y and Z value in Fortran F12.3 (or F12.N) format. This is the format output by the Exploration Computer Services GRDXFR program with the XYZOUT option selected.

Output files are:

(i) The binary file

– File extension .BIN

This is a compressed form of the input data.

(ii) The colour break file

– File extension .BRK

(iii) The geographic range and scale file

– File extension .RNG

The current program version (version 1.1) occupies 73 kbytes.

USING THE PROGRAM

The program executable (GRDIMAGE.EXE) and any data files should be located in the same directory. This should be the current directory when running the program.

To start the program:

Type GRDIMAGE (Enter)

Type a standard DOS filename without extension or end to exit.

e.g. PEGASUS (Enter)

On the first run for this data set FILENAME.XYZ or FILENAME.DMP must be present.

Select a menu option followed by (Enter). On the first run with a data set you must select option 1.

Data required is then:

Option 1

The X and Y nominal grid spacing between data points

e.g. 50 200 (Enter)

Option 2

Enter new data origin or <control>Z to accept the defaults

e.g. 560000 5389000 (Enter)

or <control>Z (Enter)

Data top right-hand corner. Enter new values or <control>Z to accept the defaults.

e.g. 570000 5412000 (Enter)

or <control>Z (Enter)

Scale choice:

A (Enter) or (Enter) for auto

U (Enter) for user

If U was selected then enter a scale

e.g. 3000 (Enter)

Option 3

Break no to change or 0 to exit

e.g. 1 (Enter)
0 (Enter)

Enter new position for colour break

e.g. -10 (Enter)

Option 4

After the image has been displayed press any key (but not return)

If there is no mouse the menu appears.

If there is a mouse press either:

M to return to the menu

or Z to zoom in or out on the data set

If Z was pressed then press either:

O to zoom to the data extents

or I to specify a box to zoom on

If I was pressed:

move the mouse cursor to opposite corners of the area to be enlarged and click any button when at the corner.

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