
Subject: How to use ROI on a DEM ?

Posted by [L. Testut](#) on Sat, 11 Feb 2006 18:22:30 GMT

[View Forum Message](#) <> [Reply to Message](#)

Hi,

I never used ROI, I saw on this newsgroup and on the IDL documentation many information on ROI ... but maybe to much for a first time user.

Can someone help me to find which is the good ROI routine for my problem ?

I have a matrix $H(n_x, n_y)$ which is a Digital Elevation Model of the Antartica. I want to select on this map the different regions of drainage (i.e I want to select the ice divide). Is it possible to display the map (with CONTOUR for example) and to select with the mouse one our more closed regions on this map. The idea is to used these regions to compute mean, stddev, ... of certain glaciological parameters inside each region. Well I hope it was clear. Can someone indicate me which routine I need, and how to use it in this case ?

Thanks a lot for your help,

Cheers,

Laurent

Subject: Re: How to use ROI on a DEM ?

Posted by [David Fanning](#) on Sun, 12 Feb 2006 16:21:36 GMT

[View Forum Message](#) <> [Reply to Message](#)

L. Testut writes:

> I never used ROI, I saw on this newsgroup and on the IDL documentation
> many information on ROI ... but maybe to much for a first time user.
> Can someone help me to find which is the good ROI routine for my
> problem ?

A good routine for your program is one that helps you solve your problem. Beyond that, all ROI selection tools are simply devices, usually interactive, but not always (e.g. Search2D), that allow you to discriminate data values based on your (arbitrary) criteria. :-)

Some ROI devices are as simple as "is this pixel inside or outside the box [ellipse, circle, random pattern] I just drew I my image". These kinds of ROI selection tools are easy to create:

http://www.dfanning.com/widget_tips/rubberband_widget.html

Sometimes you need to change device coordinates (which you use to draw your box, ellipse, circle, etc.) to the data coordinates of your data, but this is why God invented `COORD_CONVERT`.

- > I have a matrix `H(nx,ny)` which is a Digital Elevation Model of the
- > Antarctica. I want to select on this map the different regions of
- > drainage (i.e I want to select the ice divide). Is it possible to
- > display the map (with `CONTOUR` for example) and to select with the mouse
- > one or more closed regions on this map. The idea is to use these
- > regions to compute mean, stddev, ... of certain glaciological
- > parameters inside each region. Well I hope it was clear. Can someone
- > indicate me which routine I need, and how to use it in this case ?

So, I would probably build a polygon selection ROI (a *very* simple modification of the rubberband box algorithm described above), that allows you to outline the region you are interested in. If you are drawing the polygon on the DEM, then you can find the pixels in the DEM inside your polygon directly with `POLYFILLV`. It is all really quite easy to do.

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
