Subject: Re: how to use map_set in object graphics programming
Posted by Rick Towler on Mon, 03 Oct 2005 16:12:31 GMT

Check out the MAP_PROJ_* functions which will transform your coordinates
back and forth between cartesian and lat/lon. You'll then (depending on
your map data) pass your transformed map vertices to IDLgrPolyline or
IDLgrPolygon which can be added to a model then then the view which
contains your contour.

The trick will be aligning the map and contour objects on the same space
in your coordinate system. Look into the *COORD_CONV keywords to your
IDLgr* objects.

-Rick

shengbaojun wrote:
> I develop a meteorology program useing IDL6.0 plus VS.net.I want to use
> Object graphics program method in IDL AxtiveX program ,but when I add
> 'map_set' procedure to my procedure,it always open another window,I
> wish the map and contour display in the same window.
> please help me!
> thank you!
>

Subject: Re: how to use map_set in object graphics programming
Posted by shengbaojun on Tue, 04 Oct 2005 14:00:14 GMT

> From your advice,I get the idea,that is to say ,To construct a
background map in IDL's object programming,I must use Map_proj* and
IDLgr* to draw them step by step rather than using map_set draw them
directly in direct graphic programming.
I want to konw the possibility of using map_set in IDLWidgetControl.I
use the Microsoft Visual C# plus IDLWidgetControl 3.0 to contruct an
application.I hope I can use map_set to draw a background map in
IDLWidgetContro when IDLWidgetControl's Graphics_Level is set to 2.But
I can not sucess.
IF the above idea is not fillfull,It means I must use Map_proj* and
IDLgr* to draw map,Could you please give me something advice.
Thank a lot!

Subject: Re: how to use map_set in object graphics programming
Posted by Mark Hadfield on Tue, 04 Oct 2005 20:29:31 GMT

shengbaojun wrote:
>> I hope I can use map_set to draw a background map in
> IDLWidgetContro when IDLWidgetControl's Graphics_Level is set to 2.

A GRAPHICS_LEVEL of 2 implies an Object Graphics draw widget, so you
cannot use MAP_SET, which is a Direct Graphics command.

For examples of creating projected maps in Object Graphics, see the
documentation for the MAP_PROJ_FORWARD function. Unfortunately it's a
bit more verbose and complicated than the Direct Graphcis mapping functions.

The Imap tool uses Object Graphics & map projections.

--
Mark Hadfield   "Kei puwaha te tai nei, Hoea tahi tatou"
m.hadfield@niwa.co.nz
National Institute for Water and Atmospheric Research (NIWA)

Subject: Re: how to use map_set in object graphics programming
Posted by shengbaojun on Wed, 05 Oct 2005 14:25:51 GMT
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Dear Mr.Mark Hadfield ,
Thank you for your apply.
Could you please tell me Where can I find IMap tool?
Thank you

shengbaojun

Subject: Re: how to use map_set in object graphics programming
Posted by Rick Towler on Wed, 05 Oct 2005 16:29:56 GMT
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shengbaojun wrote:

> Could you please tell me Where can I find IMap tool?

iMap is one of the iTools that shipped with IDL 6.1. If you have IDL
6.1 or newer there is information regarding it in the documentation.

 > I hope I can use map_set to draw a background map in
 > IDLWidgetContro when IDLWidgetControl's Graphics_Level is set to 2.
 > But I can not sucess.

As Mark mentioned you can not use MAP_SET and object graphics. Either you develop your application using the direct graphics system (GRAPHICS_LEVEL=1) and use MAP_SET *or* you use the object graphics system (GRAPHICS_LEVEL=2) and the MAP_PROJ_* functions.

 > IF the above idea is not fillfull,It means I must use Map_proj* and
 > IDLgr* to draw map,Could you please give me something advice.

Again, as Mark said, the MAP_PROJ_* functions operate at a lower level and require you to do more coding to get your map on the screen. Check out the IDL documentation for MAP_PROJ_FORWARD for some example code.

The basic steps will be:

You will read in your coastline data.

use MAP_PROJ_INIT to set up your projection

use MAP_PROJ_FORWARD to convert your coastline data from lat/lon to cartesian coordinates X,Y.

At the very least pass X,Y to IDLgrPolyline and plot as a collection of points. If you want to plot the coastline as lines, you may need to generate the connectivity which tells IDLgrPolyline how to connect your vertices X,Y into lines. Read the documentation on IDLgrPolyline.

add your IDLgrPolyline object to an IDLgrModel

use XOBJVIEW to view the IDLgrModel to verify that things worked as expected.

Once you have done this then you can work on doing it using the ActiveX control.

As I mentioned, you will still have one other issue to contend with. I'm guessing that your are contouring with a 2d array of Z values. When you try to overlay your coastline on your contour it will most likely not line up correctly (in fact you will probably not even see it). You will need to use the [XYZ]COORD_CONV keywords of IDLgrContour and IDLgrPolyline to plot your data in the same place in the object graphics coordinate system.

-Rick

Subject: Re: how to use map_set in object graphics programming
Posted by shengbaojun on Sat, 08 Oct 2005 00:17:21 GMT
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Thank a lot to Mr.Mark Hadfield and Rick Towler.

Subject: Re: how to use map_set in object graphics programming
Posted by shengbaojun on Sat, 08 Oct 2005 00:18:04 GMT
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Thanks a lot to Mr.Mark Hadfield and Mr.Rick Towler