Subject: Image Map Overlays and Grids, Oh My!
Posted by David Fanning on Mon, 05 Jan 2009 02:59:34 GMT

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Folks,

I typically spend the holidays slogging down eggnog,
reading trashy novels, and working on an IDL project that
has been bugging the daylights out of me because I don't
have an extended period of time to work on it due to the
usual pressures of job, family, tennis, etc.

This year was no different. But what to do for a project?

Since I've taken a real job, I spend an awful lot of time
working with satellite images. It helps me a great deal
when I am working with these images if I can see a few
land masses in them in order to get my bearings, etc.
And since these are generally map-projected images of
some sort, I would like to be able to display map overlays
of land boundaries, grid lines, etc.

I have been absolutely chagrined at how few tools IDL
has at it's disposal to do this kind of thing. Everything
is clunky. Nothing is interactive. Probably iMap does
what I want, but I honestly can't figure those damn iTools
out and my blood pressure always rises into the danger level
when I try to use them.

I even tried to do this in ENVI, which I like for a lot
of things, and especially for its flexible map projections.
But following the recommended way to overlay a projected image
with continental boundaries in ENVI resulted in a program that
took about 3 minutes to display the image with its overlay!
Uh, that is *way* too long, folks.

So, long story short, I spent the holidays cobbling up
a map coordinate object for my Catalyst Library that
allows me to set up a map projection space in a very easy
way. Then I wrote a couple of wrapper objects for Map_Continents
(or Map_GSHHS_Shoreline, if you prefer that) and Map_Grid.
Used with the map coordinate object, I can *automatically*
get map overlays and grids on any georeferenced image.

It's pretty sweet, if I do say so myself.

You can see how I go about doing it in this article:

http://www.dfanning.com/catalyst/maponimage.html

This is the image display program I've always wanted. :-)

Cheers,

David

P.S. Every time I look into map projections I get more frustrated
with the map projection routines in IDL. Here is an area that could
really use some of our maintenance dollars applied to it. Heck, how
long could it take to move ENVI's map routines over to IDL? I am
advising all my friends to completely avoid the MAP_SET routines.
I no longer have any confidence in them. The MAP_PROJ_*** routines
are better, but they are really limiting for someone who works with
map projections on a daily basis. It wouldn't take a lot of work to
do a LOT better in this area.

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Image Map Overlays and Grids, Oh My!
Posted by Gaurav on Wed, 07 Jan 2009 07:07:26 GMT
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Yes, I remember my frustrations with those IDL mapping routines last
year. I used to pester this group, all the guys would be patient with
me and yet I would walk away frustrated. Guess this 'If-there-is-no-
way-I-will-make-one-of-my-own', that David follows evolves over time.
And that is why we love and respect him so much.

Then, of course, there is all the stuff of displaying georeferenced
images and vector overlays over them in object graphics that is
bugging me now. Hope David will attempt that someday soon because,
frankly, there is nobody to look up to in IDL if you do not elicit a
reply from David: as was the case with my last query.

Cheers,
Gaurav

Subject: Re: Image Map Overlays and Grids, Oh My!
Posted by David Fanning on Wed, 07 Jan 2009 13:16:15 GMT

Gaurav writes:

> Yes, I remember my frustrations with those IDL mapping routines last
> year. I used to pester this group, all the guys would be patient with
> me and yet I would walk away frustrated. Guess this 'If-there-is-no-
> way-I-will-make-one-of-my-own', that David follows evolves over time.
> And that is why we love and respect him so much.
>
> Then, of course, there is all the stuff of displaying georeferenced
> images and vector overlays over them in object graphics that is
> bugging me now. Hope David will attempt that someday soon because,
> frankly, there is nobody to look up to in IDL if you do not elicit a
> reply from David: as was the case with my last query.

Well, flattery used to work with me, but I've got a real job
now. :-)

Cheers,

David

P.S. I've actually been thinking of building more programs
in object graphics, especially since it has been made
abundantly clear to me that we are never going to see decent
fonts in direct graphics (or anything else we want, for that
matter). But even with Revolution IDL to guide you, those
programs still take three times as long to write in IDL and
even I don't have that kind of leisure anymore.

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
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Subject: Re: Image Map Overlays and Grids, Oh My!
Posted by Gaurav on Thu, 08 Jan 2009 07:41:20 GMT

David Writes:
> Well, flattery used to work with me, but I've got a real job
> now. :-)
>
> Cheers,
>

> David
>
> P.S. I've actually been thinking of building more programs
> in object graphics, especially since it has been made
> abundantly clear to me that we are never going to see decent
> fonts in direct graphics (or anything else we want, for that
> matter). But even with Revolution IDL to guide you, those
> programs still take three times as long to write in IDL and
> even I don't have that kind of leisure anymore.
>

Then perhaps you should guide us kids with your visions and see what
we can come up with. Or, are you giving a pointer that we should look
for greener pastures like OpenGL too. I, for one, am looking forward
to do that. Is Coyote planning a page for that too?

Regards,
Gaurav

Gaurav Kumar
Scientist/Engineer
Regional Remote Sensing Service Centre
ISRO

Subject: Re: Image Map Overlays and Grids, Oh My!
Posted by David Fanning on Thu, 08 Jan 2009 14:29:39 GMT
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Gaurav writes:

> Then perhaps you should guide us kids with your visions and see what
> we can come up with. Or, are you giving a pointer that we should look
> for greener pastures like OpenGL too. I, for one, am looking forward
> to do that. Is Coyote planning a page for that too?

Sure, by all means go for it. I'll publish everything
you write, assuming I can get it to run on my computer
(the usual problem when people send me code).

It ought to be possible to plug this directly into
a program like ImgWin or DataViewer, too, since the
Catalyst Library doesn't much care if you use direct
or object graphics. So, if you spend your time working
on the image object, I'll handle the infrastructure. ;-)

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Image Map Overlays and Grids, Oh My!
Posted by David Fanning on Thu, 08 Jan 2009 14:31:46 GMT
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Gaurav writes:

> Gaurav Kumar
> Scientist/Engineer
> Regional Remote Sensing Service Centre
> ISRO

I just looked up ISRO on the Internet. Invite me over.
We can discuss it. ;-)

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")