

Folks,

I don't get really excited about IDL too much these days. Except, of course, when a new release comes out, but those moments are fleeting and almost immediately followed by disappointment, so maybe they don't count.

I'm excited today, though.

Someone asked a week or so ago about creating KML files from IDL, so that they could display them on Goggle Earth. When I read the request I immediately realized how such a capability would be valuable for the work I am doing, too. So, I have been thinking about it ever since.

KML files are hierarchical, so I immediately thought about an object hierarchy approach. Over the weekend, I started to put some of this object framework together. There is a LOT more work to do, but I built just enough to be able to create ground overlays from images in IDL. Such images are draped onto the terrain map in Google Earth.

The exciting thing to me (as always!) is how nicely the Coyote Graphics routines just lend themselves to doing the next, new thing. It's like magic sometimes. But small tweaks to the Coyote map routines to return map boundaries in Goggle Earth preferred formats, and a new routine to warp images in other map projections to the Google Earth map projection (otherwise images won't align with Google Earth continental boundaries, etc.) was almost too easy.

I also wrote a `cglImage2KML` program so those of you terrified of objects can just ignore the darn things. Who cares what's going on under the hood! :-)

The `cglImage2KML` program can use image variables, etc. But, most of my images are in GeoTiff files, so the routine is written to gather information from the GeoTiff file directly. If you want to try this out, you can use the AVHRR NDVI image from my web page. You can find it here:

<http://www.idlcoyote.com/data/AF03sep15b.n16-VIg.tif>

Here is how you create a KML file with it. I'm using a color table and displaying the image with 50% transparency. The KML file will be named avhrr_ndvi.kml.

```
cgImage2KML, GeoTiff='AF03sep15b.n16-VIg.tif', Min_Value=0, $
  CTIndex=11, /Brewer, /Reverse, Transparent=50, $
  Filename='avhrr_ndvi.kml', $
  Description='AVHRR NDVI Data from Africa'
```

Once the file is created, simply start Google Earth and open the file. I haven't implemented a "goto" capability yet, so you will have to rotate the Earth to see Africa, probably. But, I'll have this fixed by tomorrow, no doubt.

Did you ever see anything more beautiful!? And perfectly aligned! Wow! Blows me away.

You will need new files:

http://www.idlcoyote.com/programs/zip_files/coyoteprograms.zip

I have LOTS of ideas for more functionality. If you have ideas of your own, let me know. Check back often because I am sure there are bugs and I know there will be many, many changes as I start to use these programs at work.

Documentation for all these routines is available on-line:

<http://www.idlcoyote.com/idldoc/cg/index.html>

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

Sepore ma de ni thue. ("Perhaps thos speakest truth.")

Subject: Re: Image Overlays on Google Earth with KML Files
Posted by [David Fanning](#) on Fri, 02 Nov 2012 22:02:28 GMT
[View Forum Message](#) <> [Reply to Message](#)

Folks,

For those of you interested in displaying IDL images on Google Earth (I guess this would be every one doing any

kind of physical science on the Earth!), I have written a short article on how I use my new cgImage2KML program to write KML files that can be loaded in Google Earth.

I used images from articles on my web page to give you a feel for what kinds of things can be done.

You can find the article here:

http://www.idlcoyote.com/cg_tips/image2kml.php

You will need today's (4PM Colorado time) Coyote Library to run the code. :-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

Sepore ma de ni thue. ("Perhaps thos speakest truth.")

Subject: Re: Image Overlays on Google Earth with KML Files
Posted by [Craig Markwardt](#) on Thu, 08 Nov 2012 04:06:01 GMT
[View Forum Message](#) <> [Reply to Message](#)

That is really cool David!

You make the making of beautiful graphics with IDL seem natural. I have to work at it. :-)

Craig

On Friday, November 2, 2012 6:02:27 PM UTC-4, David Fanning wrote:

> Folks,
>
>
>
> For those of you interested in displaying IDL images on
>
> Google Earth (I guess this would be every one doing any
>
> kind of physical science on the Earth!), I have written
>
> a short article on how I use my new cgImage2KML program
>
> to write KML files that can be loaded in Google Earth.

>
>
>
> I used images from articles on my web page to give you
>
> a feel for what kinds of things can be done.
>
>
>
> You can find the article here:
>
>
>
> http://www.idlcoyote.com/cg_tips/image2kml.php
>
>
>
> You will need today's (4PM Colorado time) Coyote Library
>
> to run the code. :-)
>
>
>
> Cheers,
>
>
>
> David
>
> --
>
> David Fanning, Ph.D.
>
> Fanning Software Consulting, Inc.
>
> Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
>
> Sepore ma de ni thue. ("Perhaps thos speakest truth.")

Subject: Re: Image Overlays on Google Earth with KML Files
Posted by [David Fanning](#) on Thu, 08 Nov 2012 05:16:01 GMT
[View Forum Message](#) <> [Reply to Message](#)

Craig Markwardt writes:

> You make the making of beautiful graphics with IDL seem natural.

Yes, natural and FAST! ;-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: Image Overlays on Google Earth with KML Files

Posted by [d.poreh](#) on Thu, 08 Nov 2012 09:04:16 GMT

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

On Wednesday, November 7, 2012 9:16:01 PM UTC-8, David Fanning wrote:

> Craig Markwardt writes:

>

>

>

>> You make the making of beautiful graphics with IDL seem natural.

>

>

>

> Yes, natural and FAST! ;-)

>

>

>

> Cheers,

>

>

>

> David

>

>

>

>

>

>

>

> --

>

> David Fanning, Ph.D.

>

> Fanning Software Consulting, Inc.
>
> Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
>
> Sepore ma de ni thue. ("Perhaps thou speakest truth.")

That is cool. How about vector data like this:

```
1.1602939e+01 4.4446562e+01 2.7623378e+01
1.1604566e+01 4.4446339e+01 1.4114955e+01
1.1604247e+01 4.4446755e+01 3.8753678e+00
1.1605390e+01 4.4447162e+01 1.9553264e+01
1.1608997e+01 4.4447025e+01 -3.7990320e+01
1.1607682e+01 4.4446983e+01 -1.4271144e+01
1.1609584e+01 4.4447007e+01 -1.8167818e+01
1.1610609e+01 4.4447495e+01 -4.0033611e+01
1.1608824e+01 4.4447496e+01 1.9855096e+01
1.1609659e+01 4.4447633e+01 3.4076399e+01
1.1608224e+01 4.4447478e+01 -3.9572417e+01
1.1610918e+01 4.4447906e+01 -3.9880344e+01
1.1607643e+01 4.4447524e+01 -3.5140565e+01
1.1610039e+01 4.4447860e+01 2.0528444e+00
1.1607069e+01 4.4447474e+01 2.4701208e+01
1.1611104e+01 4.4447429e+01 3.8922598e+01
1.1608838e+01 4.4447587e+01 2.6964236e+01
1.1612929e+01 4.4447453e+01 2.0973375e+01
1.1611593e+01 4.4447311e+01 -1.6856587e+01
1.1611646e+01 4.4447415e+01 -2.9453914e+01
1.1611620e+01 4.4447781e+01 8.2054304e+00
1.1613786e+01 4.4448333e+01 -6.4471234e+00
1.1614280e+01 4.4447748e+01 1.4550981e+00
.....
```

Cheers,
Dave

Subject: Re: Image Overlays on Google Earth with KML Files
Posted by [David Fanning](#) on Thu, 08 Nov 2012 13:50:39 GMT
[View Forum Message](#) <> [Reply to Message](#)

dave poreh writes:

> That is cool. How about vector data like this:
>
> 1.1602939e+01 4.4446562e+01 2.7623378e+01
> 1.1604566e+01 4.4446339e+01 1.4114955e+01
> 1.1604247e+01 4.4446755e+01 3.8753678e+00

> 1.1605390e+01 4.4447162e+01 1.9553264e+01

I'm just developing things for the free version of Google Earth at the moment.

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: Image Overlays on Google Earth with KML Files
Posted by [Sverre Solberg](#) on Wed, 14 Nov 2012 15:35:42 GMT
[View Forum Message](#) <> [Reply to Message](#)

This will be a very valuable tool if it works out. However, I have a basic question about this. How do you import the data into Google Earth?

Well, from the description I see that I should just use 'open file' and then import the klm file. But that doesn't work for me. It just displays the area with a red frame and a cross inside. I'm confused about the two files (klm and png). Are the klm file referring to the png in some way? I have imported other klm files into Google E. and that works perfectly ok with just one file, no additional jpg/png etc. I'm probably missing some very basic stuff here ...

Subject: Re: Image Overlays on Google Earth with KML Files
Posted by [David Fanning](#) on Wed, 14 Nov 2012 15:45:58 GMT
[View Forum Message](#) <> [Reply to Message](#)

Sverre Solberg writes:

> This will be a very valuable tool if it works out. However, I have a
> basic question about this. How do you import the data into Google
> Earth? Well, from the description I see that I should just use
> 'open file' and then import the klm file. But that doesn't work
> for me. I'm confused about the two files (klm and png). Are
> the klm file referring to the png in some way?

The klm and png file will need to be in the same directory when you open the KLM file in Google Earth. Yes, the KLM file is referring to the PNG file.

> It just displays the area with a red frame and a cross inside.

Yes, this is what happens when the image file can't be found.

> I have imported other klm files into Google E. and that works

> perfectly ok with just one file, no additional jpg/png etc.

> I'm probably missing some very basic stuff here ...

You probably opened a KMZ file. This is a zip file containing the klm file and any other files the KLM file references. I plan to add the ability to create KMZ files soon, but I haven't figured out how to access the zip functionality in a general way on different machines yet.

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

Sepore ma de ni thue. ("Perhaps thou speakest truth.")
