
Subject: Re: ENVI does a dumb thing reading a TIFF file with a palette included
Posted by [David Fanning](#) on Wed, 02 May 2007 19:21:23 GMT

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Ed Hyer writes:

> I apologize for the offtopic post, but maybe someone here knows an
> ENVI trick I am missing. I have an XY array of data, category data
> with values from 0-16 + 254=NODATA. I have a color table ginned up
> specifically to display this data. I write a TIFF file, like so:
>
> tvlct,r,g,b,/get ; load palette values from color table
> write_tiff,filename,image,r=r,g=g,b=b

If that what ENVI wants, why not let it have it?

```
tvlct, r, g, b, /get  
write_tiff, filename, [[[r[image]]], [[g[image]]], [[b[image]]]], 3
```

Cheers,

David

--

David Fanning, Ph.D.

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

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

Subject: Re: ENVI does a dumb thing reading a TIFF file with a palette included
Posted by [MarioIncandenza](#) on Wed, 02 May 2007 19:28:47 GMT

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David,

Thanks for the quick reply. What ENVI wants is not what I want. I don't use ENVI much at all, but I'm preparing this for some colleagues, and they want to be able to manipulate and analyze the actual data values in ENVI. I also want ENVI to know how to display these values. The problem arises that if I include a display palette, ENVI hides the raw numbers. I hesitate to use the term "bug", but what ENVI is doing here is at best a poor choice. ENVI has its own (somewhat clunky) color table functionality, why can't it load the palette as a palette? Am I wrong to think this is how ENVI "should" treat TIFF files?

--Edward H.

Subject: Re: ENVI does a dumb thing reading a TIFF file with a palette included
Posted by [David Fanning](#) on Wed, 02 May 2007 19:43:37 GMT

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Ed Hyer writes:

- > I hesitate to use the term "bug", but what
- > ENVI is doing here is at best a poor choice. ENVI has its own
- > (somewhat clunky) color table functionality, why can't it load the
- > palette as a palette? Am I wrong to think this is how ENVI "should"
- > treat TIFF files?

I don't know. I just know there are an awful lot of
people paying good money for graphics cards they don't
use. :-)

Cheers,

David

P.S. Let's just say that if you subscribe to my view
that ENVI is the only hope IDL programmers have of getting
usable functionality into IDL in the future, you would
be crazy to say a bad word about it. :-)

--

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Subject: Re: ENVI does a dumb thing reading a TIFF file with a palette included
Posted by [Jeff N.](#) on Wed, 02 May 2007 20:09:06 GMT

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On May 2, 3:11 pm, Ed Hyer <ejh...@gmail.com> wrote:

- > Hello IDL Wizards,
- >
- > I apologize for the offtopic post, but maybe someone here knows an
- > ENVI trick I am missing. I have an XY array of data, category data
- > with values from 0-16 + 254=NODATA. I have a color table ginned up
- > specifically to display this data. I write a TIFF file, like so:
- >
- > `tv!ct,r,g,b,/get` ; load palette values from color table
- > `write_tiff,filename,image,r=r,g=g,b=b`
- >
- > This operation works perfectly in reverse-- in IDL.

>
> When I open the TIFF file in ENVI, it tells me I have three image
> planes: r,g,b. So an XY Location that should have a value of [2]
> instead has a value of [255,0,0] = color mapping for category '2'. All
> ENVI functions I tested (statistics, histograms, slices) seem to deal
> only with the RGB levels.
>
> Does anyone know how I can get at the actual data in the file
> [0-16+254] from inside ENVI? I prefer to include the palette in the
> TIFF because otherwise it's ugly, but right now it seems I can't have
> both in ENVI.
>
> Ideas welcome,
>
> --Edward H.

Wow! I had no idea that ENVI did this! I don't think it's a very good way to do to handle tiff files either. I wonder though, if the reason that ENVI does it this way has to do with how it isn't necessarily easy (in my opinion) to load color tables in ENVI. Don't you actually have to go to the preferences menu? And even then, you can only import color tables from an ASCII file?

Jeff

Subject: Re: ENVI does a dumb thing reading a TIFF file with a palette included
Posted by [David Fanning](#) on Thu, 03 May 2007 14:00:05 GMT
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Ed Hyer writes:

> I hesitate to use the term "bug", but what
> ENVI is doing here is at best a poor choice. ENVI has its own
> (somewhat clunky) color table functionality, why can't it load the
> palette as a palette? Am I wrong to think this is how ENVI "should"
> treat TIFF files?

Oh, oh. This post touched a nerve. I've heard this morning from someone who should know that the reason ENVI treats TIFF images this way goes back to the origins of ENVI in the good ol' 8-bit display days, when you had perhaps 200 colors available for EVERYTHING, including all the colors ENVI needed for it's own use. A TIFF file with a 256 color palette would completely overwhelm the system, so the decision was made to decompose the image to a 24-bit image (in the manner I showed yesterday), then COLOR_QUAN that into some acceptable number of colors. (And I learned

that COLOR_QUAN was written by David Stern for *exactly* this purpose!)

Of course, this is not the way things are done now, and the new ENVI Zoom Display, which is written in object graphics, treats one band images with lookup tables as just exactly that.

Here is a suggestion for how you can get what you want now. Output your single band as a flat binary file and make the associated ENVI header file (*.hdr) with a file type "ENVI Classification". Give the number of "classes" and the "lookup" values for the class colors, and bingo, there you go. (You can even open the flat binary file and use ENVI's Edit Header tool to enter the classes.)

Hope that helps. Rest assured your complaints have been heard! :-)

Cheers,

David

--

David Fanning, Ph.D.

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