Subject: Re: differences among map_proj_image, map_image and map_patch
Posted by David Fanning on Tue, 19 Feb 2013 20:56:56 GMT
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Olivia writes:

>
> Thanks David for your answer, and I am really appreciate it. Now, I am more clear about the differences among these routines.
>
> I learned map projection mainly from book "AcrGIS 9 Understanding Map Projections." I began to doubt whether my understanding about map projection is right. If you can give us an example how to understand map projection will benefit many people.
>
> My research is about the climate change of national parks. For example, what't the temperature change at the end of 21st century under different climate scenarios? Since the geographic coordinate is not area conserve, and if I do analysis on the geographic coordinate directly, there will be some biases towards high latitude. That's the reason I wanna project the original data to the Lambert Azimuthal Equal-Area projection, and I need to know the value of warped image.
>
> I have found an easier way to solve my problem using ENVI. Using this software I can customize the output x/y pixel size, define the way to warp the image, and also know the warped value and its position on the image.

Yes, ENVI has better map projection software than IDL (it is using, at least in part, the state-of-the-art proj4 software now). It is a shame it doesn't trickle down to IDL. Still, I routinely display warped images like this in the Catalyst application, ImgWin. This is a resizeable graphics window that allows me to click in the window, on the image, and obtain both the cursor location (in map coordinates) and the image value at that location. So, ENVI is not strictly required. :-)

I've put a static version of your data in the Coyote Plot Gallery:

http://www.idlcoyote.com/gallery/

And I've also put a Catalyst program here, that will allow you to display this data in a resizeable graphics window. As you draw your cursor over the image, you will see the pixel location, map location, and image value printed in the window.

http://www.idlcoyote.com/usa_mean_temperature.pro

Cheers,

David

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