Subject: Re: peculiar things with Z-device
Posted by Liam E. Gumley on Fri, 31 May 2002 15:30:51 GMT
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Sverre Solberg wrote:
> I am plotting data points on maps using the map functions in idl and
> using the Z-device. When the points are close to the plot boundary,
> the program occasionally crashes and complains about too few valid
> data points. It crashes when trying to call the 'oplot' procedure (for
> each individual point). The peculiar thing is that this works
> perfectly using other devices (as 'x', 'cgm'). And the even more
> peculiar thing is that this depends on the value of oplot's keyword
> 'symsize'. For example if I use symsize=0.4 it crashes, whereas
> symsize = 0.38 or 0.42 works without problems...
>
> I must admit this belongs to the more weird things I have experienced
> with idl.
>
> When I use the 'convert_coord' function, it doesnt seem though as the
> problematic points are outside the plotting area (device coordinates
> are larger than 0).
>
> Has anybody any similar experiences?

This may or may not be related to your problem.

If you are using the SCALE keyword in conjunction with MAP_SET, the extent of map projections varies slightly between screen displays (e.g. 'X') and the Z device. This happens because the inherent "resolution" of the devices is slightly different, e.g.

IDL Version 5.3 (IRIX mipseb). (c) 1999, Research Systems, Inc.

```
IDL> set_plot, 'X'
IDL> help, !d.x_px_cm
<Expression>    FLOAT     =       40.0000
IDL> set_plot, 'Z'
IDL> help, !d.x_px_cm
<Expression>    STRING    = 'Z'
<Expression>    FLOAT     =       26.0000
```

To ensure that the map extent in the Z device is the same as the X device, I use the following construct:

```
lat = 45.0
lon = -89.0
scale = 10e6
map_set, lat, lon, /lambert, scale=(scale * (!d.x_px_cm / 40.0))
```

This is very helpful when IDL is running in the UNIX background, and the
Z device is used to create maps, e.g.

http://eosdb.ssec.wisc.edu/modisdirect/

Cheers,
Liam.
Practical IDL Programming
http://www.gumley.com/
