Subject: Map projection of IMAGE() is behaving strangely...
Posted by andeh on Fri, 15 Nov 2013 13:37:52 GMT
View Forum Message <> Reply to Message

Hello,

First time poster, long time reader.

Using IDL 8.2 on linux, I have recently been experimenting with the new IDL IMAGE() function and discovered strange behaviour when projecting an image using the MAP_PROJECTION property (given in the final plot):

```
;; Set up variables
z = BINDGEN(3,5,6) * 21b
lon = FINDGEN(5)*20-60
lat = FINDGEN(6)*20-60


;; Just plot the image.
im0 = IMAGE( z, $
        AXIS_STYLE=2, $
        TITLE='Basic image', $
        LAYOUT=[2,2,1] )

;; Now add coordinates for bottom left point in each pixel.
im1 = IMAGE( z, lon, lat, $
        AXIS_STYLE=2, $
        TITLE='Add x/y coordinates', $
        LAYOUT=[2,2,2], /CURRENT )

;; Let IMAGE() know that we are using lat-lon coordinates.
im2 = IMAGE( z, lon, lat, $
        AXIS_STYLE=2, $
        GRID_UNITS=2, $
        TITLE='+ GRID_UNITS=2', $
        LAYOUT=[2,2,3], /CURRENT )

;; And add a map projection (Sinusoidal in this case, but the same
;; result is seen for Geographic, Orthographic, Interrupted Goode
;; and any other projection I've tried).
im3 = IMAGE( z, lon, lat, $
        AXIS_STYLE=2, $
        GRID_UNITS=2, $
        MAP_PROJECTION='Sinusoidal', $
        TITLE='+ MAP_PROJECTION = Sinusoidal', $
```

LAYOUT=[2,2,4], /CURRENT )

The longitude (x) coordinate appears to be mis-aligned so that the image pixels are stretched in that direction and the image area is filled by z[*,1:-1,*] instead of the full image z[*,*,*]. This doesn't happen in the latitude direction.

Am I missing something fundamental about the MAP_PROJECTION property?

Cheers,

Andy

---