Subject: Re: Lambert Projection to Lat Lon
Posted by Mark Hadfield on Mon, 05 Jul 2004 00:09:44 GMT
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Will McCarty wrote:

> Mark Hadfield <m.hadfield@niwa.co.nz> wrote in message
>
>> I should think you could write something suitable using the
>> MAP_PROJ_INVERSE function (introduced in IDL 5.6).
>
>
> If only it were that easy, unless I'm missing something. Along with
> the Lambert projection settings mentioned, I'm working on a fixed grid
> scale of 185x129. I don't see anything for fixed grid sizes in
> map_proj_init.

I think you just have to construct the fixed-size grid yourself and supply it to the map_projection function.

> It also looks for center lat/lon, which I don't
> believe is given in its entirety.

There are various Lambert projections mentioned in the documentation. I'm no expert, but the one that sounds closest to what you want is #104, Lambert Conformal Conic. It takes CENTER_LONGITUDE and CENTER_LATITUDE keywords. The following example constructs a 185x129 grid with 10 km spacing and seems to produce reasonable answers.

```
map = map_proj_init('Lambert Conformal Conic', $
                    CENTER_LONGITUDE=90, $
                    CENTER_LATITUDE=30, $
                    STANDARD_PAR1=20, $
                    STANDARD_PAR2=30)

x0 = 0.
nx = 185
dx = 10.E3

y0 = 0.
ny = 129
dy = 10.e3

x = x0+dx*findgen(nx)
y = y0+dy*findgen(ny)

x2d = rebin(x, nx, ny)
```

```
y2d = rebin(reform(y, 1, ny), nx, ny)

lonlat = map_proj_inverse(x2d, y2d, MAP_STRUCTURE=map)

lon = reform(lonlat[0,*], nx, ny)
lat = reform(lonlat[1,*], nx, ny)

print, min(lon), max(lon), min(lat), max(lat)
```

It prints:

```
90.000000       110.97169       28.835737       41.354015
```

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Mark Hadfield "Ka puwaha te tai nei, Hoea tatou"
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