Subject: Map parameters for Eta/NAM model
Posted by K. Bowman on Thu, 12 Oct 2006 18:48:30 GMT
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This is an obscure question that I am sure will be of interest only to the weather weenies out there.

I am trying to plot some gridded data from the NCEP Eta/NAM high-resolution model. This model uses WMO grid 218, which is defined on a Lambert conformal map projection by the following:

VALUE - 218 (B)[B]

GRID DESCRIPTIONS - Grid over the Contiguous United States (used by the 12-km Eta Model) (Lambert Conformal)

Nx	614
Ny	428
La1	12.190N
Lo1	226.514E = 133.459W
Res. & Comp. Flag	0 0 0 0 1 0 0 0
Lov	265.000E = 95.000W
Dx	12.19058 km
Dy	12.19058 km
Projection Flag (bit 1)	0 (not bipolar)
Scanning Mode (bits 1 2 3)	0 1 0

Lat/lon values of the corners of the grid
(1,1) 12.190N, 133.459W
(1,428) 54.564N, 152.878W
(614,428) 57.328N, 49.420W
(614,1) 14.342N, 65.127W

Pole point
(I,J) (347.668, 1190.097)

The Dx, Dy grid increment (at 25 deg north) was selected so that the grid spacing would be exactly 12.000 km at 35 deg north; the intersection of 35N & 95W falls on point (347.668, 160.999)

If the map projection is set correctly, the four corners in the table above should define a rectangle on the map. Using my best guess, I get something that is close, but not quite right.

PRO NAM_CONIC

```
MAP_SET, /CONIC, 35.0, -95.0, STANDARD = [35.0], /GRID, /USA, /CONT, SCALE =
5.0E7

x = [-133.459, -152.878, -49.420, -65.127]
y = [  12.190,   54.464,  57.328,  14.342]

PLOTS, [x, x[0]], [y, y[0]]

FOR i = 0, 3 DO BEGIN
  uv = CONVERT_COORD(x[i], y[i], /DATA, /TO_NORMAL)
  PRINT, x[i], y[i], uv[0], uv[1]
ENDFOR

END
```

Does anyone know how to use MAP_SET or MAP_PROJ_INIT to define the correct map projection for this grid?

I guess what I am asking is how to get p0_lat, p0_lon, rot, and the standard parallel(s) from the information in the table.

Ken Bowman
