Subject: lat - lon
Posted by robinson on Wed, 02 Oct 2002 18:15:30 GMT

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Dear Sirs,
      I would like to ask you a suggestion to solve a problem.
      I have GOES images, however I do not have neither the latitude
nor longitude 2D files. Each image has 326 colums and 132 rows, and its
coordinates (corners) are showed below. As you can see lat as well as
lon coordinates vary from one to another row and from one to another
column. How Could I construct both the lat and lon 2D files?

```
   (-19.65ï¿½S, 53.48ï¿½W) _____ (-19.87ï¿½S, 44.95ï¿½W)
              |    326     |
              |132         |
              |_____|
   (-25.09ï¿½S, 52.39ï¿½W)          (-25.42ï¿½S, 43.27ï¿½W)
```

      In advance, thank you very much.
      Robinson

Subject: Re: lat - lon
Posted by Kelly Dean on Fri, 04 Oct 2002 00:15:40 GMT

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Using the satellite projection in IDL's MAP_SET routine will get you in the
ballpark. A simple plotting routine is listed below. CONVERT_COORD can be
used to create the 2-D latitude and longitude information.

Otherwise, visit Dennis Chesters' web site for the GOES Earth Location User
Guide.It has FORTRAN code to do more accurate GOES satellite navigation.

   http://rsd.gsfc.nasa.gov/goes/text/goestechnotes.html#naviga tion

Kelly Dean
CSU/CIRA

```
;=====================================================
; R o b S a t M a p
;=====================================================
PRO RobSatMap, Region=Region
;
;
; Example:
;     Simple map overlay
;         RobSatMap
;     Full GOES-East Projection with region plotted
;         RobSatMap, /Region
```

```
;
SWcorner = [ -25.09, -52.39]
NWcorner = [ -19.65, -53.48]
NEcorner = [ -19.87, -44.95]
SEcorner = [ -25.42, -43.27]
;
NadirLat = 0.0
NadirLon = -75.0 ; Assuming GOES-East
P = 6.6107650
Omege = 0.0
Gamma = 0.0
IF ( KEYWORD_SET(Region) )THEN BEGIN
  WINDOW, 0, XSize=500,YSize=500, Title="GOES-East"
  MAP_SET, NadirLat, NadirLon, 0,    $
       sat_p = [p, Omege, Gamma],  $
       /Satellite
  lats = [ -25.09, -19.65, -19.87, -25.42 ]
  lons = [ -52.39, -53.48, -44.95, -43.27 ]

; Fill the polygon with color index 175:
  POLYFILL, lons, lats, COLOR = 175, /Data

ENDIF ELSE BEGIN
  WINDOW, 0, XSize=326,YSize=132, Title="GOES-East"
  MAP_SET, NadirLat, NadirLon, 0,    $
       sat_p = [p, Omege, Gamma],  $
       /Satellite,    $
       XMARGIN = [0.0,0.0],     $
       YMARGIN = [0.0,0.0],     $
       Limit = [ SWcorner, NWcorner, NEcorner, SEcorner ];, $
ENDELSE
MAP_CONTINENTS, /HiRes, /Coast
MAP_GRID, LonDel=5.0, LatDel=5.0
END
```

Robinson wrote:

> Dear Sirs,
>   I would like to ask you a suggestion to solve a problem.
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> nor longitude 2D files. Each image has 326 colums and 132 rows, and its
> coordinates (corners) are showed below. As you can see lat as well as
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> | 326 |
> |132 |
> |_____|

```
>       (-25.09ï¿½S, 52.39ï¿½W)                (-25.42ï¿½S, 43.27ï¿½W)
>
>       In advance, thank you very much.
>       Robinson
```