Subject: Re: Overlaying gridded winds on satellite data
Posted by Chris[3] on Wed, 20 Jul 2005 15:45:20 GMT
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My code is attached to this message. The Imagemap procedure is the procedure by Dr. Liam Gumley which displays the satellite data to a window. Reading through the code for that procedure...I see no specific projection...I am imagining it's just the satellite projection. The Windbarb1 procedure was written by David Fanning...which draws the wind barbs. The grid on which the wind barbs are on is a 2 km resolution, so 1800 x 1800 km total, however it uses latitude and longitude for those coordinates. If you guys need any more information in helping me with this...I can certainly give it...thank you for all of your help...it's greatly appreciated.

```
pro barbtest2

;Defining all arrays needed
lat1=fltarr(900,900)
long1=fltarr(900,900)
windspeed=fltarr(900,900)
winddir=fltarr(900,900)
upert=fltarr(900,900)
vpert=fltarr(900,900)

;Opening and reading in latitude and longitude
openr, lun, 'C:\Documents and
Settings\jewett\Desktop\IDL\latitude.dat', /get_lun
readf, lun, lat1
close, lun
openr, lun, 'C:\Documents and
Settings\jewett\Desktop\IDL\longitude.dat', /get_lun
readf, lun, long1
close, lun
openr, lun, 'C:\Documents and
Settings\jewett\Desktop\IDL\1815Sept21\1000_900upert.dat', /get_lun
readf, lun, upert
close, lun
openr, lun, 'C:\Documents and
Settings\jewett\Desktop\IDL\1815Sept21\1000_900vpert.dat', /get_lun
readf, lun, vpert
close, lun

windspeed=sqrt(upert*upert+vpert*vpert)
winddir=-asin(vpert/windspeed)*57.29577951+270
windspeed=windspeed*1.94384449
```

```
windspeed1=sqrt(upert1*upert1+vpert1*vpert1)
winddir1=-asin(vpert1/windspeed1)*57.29577951+270
windspeed1=windspeed1*1.94384449
cdfid=ncdf_open("C:\Documents and
Settings\jewett\Desktop\research\netcdf\NETCDF13.nc")
glob=ncdf_inquire(cdfid)

;Finding the dimensions and variables of the netCDF file
     print, 'Dimensions', glob.ndims
     print, 'variables', glob.nvars
     for i=0, glob.ndims-1 do begin
        ncdf_diminq, cdfid, i, name, size
        if i EQ glob.recdim then $
          print, '    ', name, size, '(Unlimited dim)' $
        else    $
          print, '    ', name, size
     endfor
    print, 'variables'
    for i=0, glob.nvars-1 do begin
       info = ncdf_varinq(cdfid,i)
       FmtStr= '(A,"(",A,") Dimension Ids = [ ", 10(I0," "))'
         print, FORMAT=FmtStr, info.name, info.datatype, info.dim[*]

            for j=0, info.natts-1 do begin
                    attname=ncdf_attname(cdfid,i,j)
                ncdf_attget, cdfid, i, attname, attvalue
                  print, '   Attribute    ', attname, '=',
string(attvalue)
            endfor
    endfor
;Obtaining variables from the netCDF file
    dataid=ncdf_varid(cdfid, 'data')
    ncdf_varget, cdfid, dataid, satellite
    latitude=ncdf_varid(cdfid, 'latitude')
    ncdf_varget, cdfid, latitude, lat
    longitude=ncdf_varid(cdfid, 'longitude')
    ncdf_varget, cdfid, longitude, longitude
    time=ncdf_varid(cdfid, 'imageTime')
    ncdf_varget, cdfid, time, time

;Calling procedure which displays the visible satellite image

    imagemap, satellite, lat, longitude
    map_continents, Color=FSC_Color('Sea Green', !D.Table_Size-3),
/hires

    ;Begin procedure which which draws windbarbs...need longitude,
```

latitude, windspeed and wind direction
    Windbarb1, long1[0:*:5,0:*:5], lat1[0:*:5,0:*:5],
windspeed[0:*:5,0:*:5], winddir[0:*:5,0:*:5], Color='Indian Red';,
clip=clip
end