
Subject: Re: Point Observations from NARR output
Posted by [B.J. Baule](#) on Thu, 07 Apr 2011 20:31:36 GMT
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On Apr 7, 3:25 pm, "B.J. Baule" <guitarplayer_...@comcast.net> wrote:

> Hello all,

>

> This is probably a really simple problem however my inexperience
> with IDL has left me baffled. I'm relatively new to IDL programming
> and have a question regarding getting grid point values from NARR
> reanalysis output. I can get the data to open, read in, and make a
> map. However, I would like to get point observations from the
> reanalysis data set (Ex. July Temperature for Barrow, AK Lat:
> 71.2905556 Lon:-156.7886111).

>

> The three variables that I've pulled from the netCDF file are
> air temp (air), latitude, longitude. With the HELP function in IDL, I
> find that the dimensions of the arrays are: air = ARRAY[349, 277, 12],
> rlats = ARRAY[349,277], rlons = ARRAY[349,277]. As I understand it,
> the Lambert Conformal Conic Grid is a 349x277 grid. It has been
> suggested to me that I should be working in x y coordinates. When I
> try and pull x and y from the netcdf file, I get arrays but they are
> both 277 element single dimension arrays. I'd expected the x array to
> be 349 elements and y to be 277 elements. If I could get a 349 element
> x array and a 277 element y array, then maybe I could use
> MAP_PROJ_INVERSE to get lat lon values for these grid points?

>

> Sorry if this is an elementary question that has an easy solution
> that I'm overlooking. Does anyone have experience doing this? Any help
> would be greatly appreciated.

>

> Thanks,

> B.J.

>

> (I've attached a copy of the code I've tried to build, sorry about the
> lack of comments):

>

> PRO TRYIT_XY

>

> Compile_Opt defint32

> ;define number of latitudes/longitudes

> nlons=349

> nlats=277

>

> vararray2 = fltarr(nlons,nlats)

> vararray = fltarr(nlons,nlats,12)

> vararrayin = fltarr(nlons,nlats)

> rlons = fltarr(nlons,nlats)

```

> rlats = fltarr(nlons,nlats)
>
> ;Open file get variable id's
> infile = '/Users/snr-wbaule/Desktop/Reanalysis_Data/air.2m.mon.ltm.nc '
> nunit = ncdf_open(infile,/nowrite)
> ivarid = ncdf_varid(nunit,'air')
> ilatid = ncdf_varid(nunit,'y')
> ilonid = ncdf_varid(nunit,'x')
>
> ;Get scale and offset attributes from netCDF file
> NCDF_ATTGET,nunit,'air','add_offset', add_offset
> NCDF_ATTGET,nunit,'air','scale_factor',xscale
>
> ; apply offset and scale factor to air temp data for all months
> for itime = 0,11,1 do begin
>   offset = [0,0,itime]
>   count = [nlons,nlats,1]
>
>   ncdf_varget,nunit,ivarid,temp, OFFSET=offset
>   vararray[*,* ,itime] = vararray2 + (xscale*FLOAT(temp)) + add_offset
>
> endfor
> ; get lat and lon arrays from file
> ncdf_varget,nunit,ilatid,rlats,OFFSET=[0,0],$
>   count = [nlons,nlats]
> ncdf_varget,nunit,ilonid,rlons,OFFSET=[0,0],$
>   count = [nlons,nlats]
>
> HELP, vararray ,rlats, rlons
>
> ;reproject data with parameters found in netCDF file
> result = MAP_PROJ_INIT(104, CENTER_LATITUDE=0,
> CENTER_LONGITUDE=-107,STANDARD_PAR1=50.0,$
> STANDARD_PAR2=50.0, DATUM=8, /GCTP, LIMIT=[12.2, -133.5, 54.5, -152.,
> 57.3, -49.4, 14.3,-65.1]); FALSE_EASTING=5632642.22547,
> FALSE_NORTHING=4612545.65137)
> ;convert to x y
> result2 = MAP_PROJ_FORWARD(rlons, rlats, MAP_STRUCTURE=result)
> ;convert x y to lat lon to check values.
> result3 = MAP_PROJ_INVERSE(result2, MAP_STRUCTURE=result)
>
> END

```

Sorry: ilatid should be latid and ilonid should be lonid

```

latid = ncdf_varid(nunit,'lat')
lonid = ncdf_varid(nunit,'lon')

```