Subject: Re: plot GRIB2 data as an image
Posted by Paul Van Delst[1] on Fri, 19 May 2006 15:07:21 GMT
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Kenneth Bowman wrote:
> In article <1148030998.881913.176720@g10g2000cwb.googlegroups.com>,
> "JaneHurley" <jane.hurley@exeter.ox.ac.uk> wrote:
>
>
>> I'm trying to load in some GRIB2 formatted data in the hopes of
>> producing an image of cloud top heights. I've decoded the data into a
>> .c format file, using grib_api-0.7.2 as instructed by the folks at
>> ECMWF, but can't seem to do anything with it! Basically, all I want to
>> do with the data is to take the GRIB2 file that I have, decode it, and
>> then use IDL to plot a global map of the data.
>>
>> Would love some insight! Does anyone have something that will do this
>> or any insight that could help?
>>
>> Thanks in advance!
>> Jane Hurley
>
>
> I use the wgrib utility from the Climate Prediction Center to convert GRIB files
> to plain binary.
>
> http://www.cpc.ncep.noaa.gov/products/wesley/wgrib.html
>
> Then read the binary file into IDL.
>
> wgrib let's you parse the GRIB file and extract only the parts that you need.
> It will also produce a readable inventory of the GRIB file.

There's also a grib2nc converter that produces a netCDF file (that is easily readable in IDL). I have a generic reader for netCDF files if the OP is interested (examples below)

paulv

One netcdf file:

```
IDL> result=read_ncdf('amsua_n16.Control7.RadDiag_Stats.nc',d)
% Compiled module: READ_NCDF.
% Compiled module: IS_NCDF.
% Loaded DLM: NCDF.
        Number of dimensions       :      6
        Number of variables        :      9
```

```
          Number of global attributes :       7
          ID of unlimited dimension   :      -1
IDL> help, d, /struct
** Structure <8487e64>, 15 tags, length=120312, data length=120312, refs=1:
   NPREDICTORS     LONG                 5
   NCHANNELS       LONG                15
   NFOVS           LONG                30
   NTIMES          LONG               123
   NVARIABLES      LONG                 8
   STRLEN          LONG                80
   AIRMASSCOEFFICIENTS
                   FLOAT     Array[5, 15, 123]
   CHANNEL         LONG      Array[15]
   FOV             LONG      Array[30]
   SCAN_DATA       FLOAT     Array[8, 15, 30]
   SCAN_NSAMPLES   LONG      Array[15, 30]
   DATETIME        LONG      Array[123]
   TIME_DATA       FLOAT     Array[8, 15, 123]
   TIME_NSAMPLES   LONG      Array[15, 123]
   VARIABLENAMES   STRING    Array[8]
```

and a different one:

```
IDL> print, read_ncdf('windsat_coriolis.SpcCoeff.nc',d)
% Compiled module: READ_NCDF.
% Compiled module: IS_NCDF.
% Loaded DLM: NCDF.
          Number of dimensions       :       2
          Number of variables        :      18
          Number of global attributes :       8
          ID of unlimited dimension   :      -1
           1
IDL> help, d, /struct
** Structure <848942c>, 20 tags, length=1680, data length=1680, refs=1:
   N_CHANNELS      LONG                16
   SDSL            LONG                20
   RELEASE         LONG                 6
   VERSION         LONG                 2
   SENSOR_DESCRIPTOR
                   STRING    Array[16]
   SENSOR_TYPE     LONG      Array[16]
   NCEP_SENSOR_ID  LONG      Array[16]
   WMO_SATELLITE_ID
                   LONG      Array[16]
   WMO_SENSOR_ID   LONG      Array[16]
   SENSOR_CHANNEL  LONG      Array[16]
   FREQUENCY       DOUBLE    Array[16]
```

```
   WAVENUMBER      DOUBLE    Array[16]
   PLANCK_C1       DOUBLE    Array[16]
   PLANCK_C2       DOUBLE    Array[16]
   BAND_C1         DOUBLE    Array[16]
   BAND_C2         DOUBLE    Array[16]
   POLARIZATION    LONG      Array[16]
   IS_SOLAR_CHANNEL
                   LONG      Array[16]
   COSMIC_BACKGROUND_RADIANCE
                   DOUBLE    Array[16]
   SOLAR_IRRADIANCE
                   DOUBLE    Array[16]
```

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Paul van Delst Ride lots.
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