Subject: Re: plotting missing values
Posted by Paul Van Delst[1] on Wed, 04 Dec 2013 16:58:23 GMT
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Hello,

On 12/04/13 11:22, David Fanning wrote:
> Paul van Delst writes:
>
>>> I'd have to have a look. Can you send me a file of the type you think
>>> doesn't work well with the software? I'll have a look and see how much
>>> time I think it will take to make the software compatible with the file.
>>
>> Done.
>
> The netCDF4 file you sent me can be browsed with the H5_Browser supplied
> with IDL. If the good folks at ExelisVis would give me the code for that
> browser, I'd fix it so that it worked more intuitively. ;-)
>
> So, I guess the question is, do we need a better HDF5/netCDF4 browser or
> do we just need a better way to get at the data in these files? I
> haven't yet looked at Mike Galloy's routines, but these are generally
> extremely reliable for these kinds of things.

Based on the to-and-fro about HDF5, I tried the following:

IDL> result=h5_parse('amsua_metop-a.SpcCoeff.nc',/read_data)

and bugger me if it didn't work, making all the groups accessible:

IDL> help, result
** Structure <1e95a58>, 14 tags, length=33952, data length=33548, refs=1:
   _NAME   STRING   'amsua_metop-a.SpcCoeff.nc'
   _ICONTYPE   STRING   'hdf'
   _TYPE   STRING   'GROUP'
   _FILE   STRING   'amsua_metop-a.SpcCoeff.nc'
   _PATH   STRING   '/'
   _COMMENT   STRING   ''
   SPCCOEFF   STRUCT   -> <Anonymous> Array[1]
   WRITE_MODULE_HISTORY
                   STRUCT   -> <Anonymous> Array[1]
   CREATION_DATE_AND_TIME
                   STRUCT   -> <Anonymous> Array[1]
   RELEASE   STRUCT   -> <Anonymous> Array[1]
   VERSION   STRUCT   -> <Anonymous> Array[1]
   TITLE   STRUCT   -> <Anonymous> Array[1]
   HISTORY   STRUCT   -> <Anonymous> Array[1]
   COMMENT   STRUCT   -> <Anonymous> Array[1]

```
IDL> help, result.spccoeff
** Structure <208a1e8>, 19 tags, length=33032, data length=32628, refs=2:
   _NAME          STRING    'spccoeff'
   _ICONTYPE      STRING    ''
   _TYPE          STRING    'GROUP'
   _FILE          STRING    'amsua_metop-a.SpcCoeff.nc'
   _PATH          STRING    '/'
   _COMMENT       STRING    ''
   BAND_C1        STRUCT    -> <Anonymous> Array[1]
   BAND_C2        STRUCT    -> <Anonymous> Array[1]
   CHANNEL_FLAG   STRUCT    -> <Anonymous> Array[1]
   COSMIC_BACKGROUND_RADIANCE
                  STRUCT    -> <Anonymous> Array[1]
   FREQUENCY      STRUCT    -> <Anonymous> Array[1]
   PLANCK_C1      STRUCT    -> <Anonymous> Array[1]
   PLANCK_C2      STRUCT    -> <Anonymous> Array[1]
   SENSOR_CHANNEL STRUCT    -> <Anonymous> Array[1]
   SOLAR_IRRADIANCE
                  STRUCT    -> <Anonymous> Array[1]
   WAVENUMBER     STRUCT    -> <Anonymous> Array[1]
   ACCOEFF        STRUCT    -> <Anonymous> Array[1]
   N_CHANNELS     STRUCT    -> <Anonymous> Array[1]
   SENSORINFO     STRUCT    -> <Anonymous> Array[1]

IDL> help, result.spccoeff.accoeff
** Structure <1d538e8>, 13 tags, length=14608, data length=14424, refs=2:
   _NAME          STRING    'accoeff'
   _ICONTYPE      STRING    ''
   _TYPE          STRING    'GROUP'
   _FILE          STRING    'amsua_metop-a.SpcCoeff.nc'
   _PATH          STRING    '/spccoeff'
   _COMMENT       STRING    ''
   A_EARTH        STRUCT    -> <Anonymous> Array[1]
   A_PLATFORM     STRUCT    -> <Anonymous> Array[1]
   A_SPACE        STRUCT    -> <Anonymous> Array[1]
   SENSOR_CHANNEL STRUCT    -> <Anonymous> Array[1]
   N_CHANNELS     STRUCT    -> <Anonymous> Array[1]
   N_FOVS         STRUCT    -> <Anonymous> Array[1]
   SENSORINFO     STRUCT    -> <Anonymous> Array[1]

IDL> help, result.spccoeff.accoeff.sensorinfo
** Structure <1e82768>, 20 tags, length=9976, data length=9876, refs=2:
   _NAME          STRING    'sensorinfo'
   _ICONTYPE      STRING    ''
   _TYPE          STRING    'GROUP'
   _FILE          STRING    'amsua_metop-a.SpcCoeff.nc'
   _PATH          STRING    '/spccoeff/accoeff'
```

```
   _COMMENT       STRING    ''
   NOISE          STRUCT    -> <Anonymous> Array[1]
   POLARIZATION_TYPE
                  STRUCT    -> <Anonymous> Array[1]
   SATELLITE_NAME  STRUCT    -> <Anonymous> Array[1]
   SENSOR_CHANNEL  STRUCT    -> <Anonymous> Array[1]
   SENSOR_ID       STRUCT    -> <Anonymous> Array[1]
   SENSOR_NAME     STRUCT    -> <Anonymous> Array[1]
   SENSOR_TYPE     STRUCT    -> <Anonymous> Array[1]
   USE_FLAG        STRUCT    -> <Anonymous> Array[1]
   WMO_SATELLITE_ID
                  STRUCT    -> <Anonymous> Array[1]
   WMO_SENSOR_ID   STRUCT    -> <Anonymous> Array[1]
   DL_STRLEN       STRUCT    -> <Anonymous> Array[1]
   N_CHANNELS      STRUCT    -> <Anonymous> Array[1]
   N_FOVS          STRUCT    -> <Anonymous> Array[1]
   SL_STRLEN       STRUCT    -> <Anonymous> Array[1]
```

And the data is there:

```
IDL> help, result.spccoeff.frequency
** Structure <1ea1388>, 18 tags, length=856, data length=848, refs=2:
   _NAME          STRING    'Frequency'
   _ICONTYPE      STRING    'binary'
   _TYPE          STRING    'DATASET'
   _FILE          STRING    'amsua_metop-a.SpcCoeff.nc'
   _PATH          STRING    '/spccoeff'
   _DATA          DOUBLE    Array[15]
   _NDIMENSIONS    LONG              1
   _DIMENSIONS     ULONG64   Array[1]
   _NELEMENTS      ULONG64                 15
   _DATATYPE       STRING    'H5T_FLOAT'
   _STORAGESIZE    ULONG             8
   _PRECISION      LONG              64
   _SIGN          STRING    ''
   LONG_NAME       STRUCT    -> <Anonymous> Array[1]
   DESCRIPTION     STRUCT    -> <Anonymous> Array[1]
   UNITS          STRUCT    -> <Anonymous> Array[1]
   _FILLVALUE      STRUCT    -> <Anonymous> Array[1]
   DIMENSION_LIST  STRUCT    -> <Anonymous> Array[1]


IDL> print, result.spccoeff.frequency._data
       23.800904       31.400728       50.300069       52.799890
       53.596155       54.400633       54.940002       55.499802
       57.290327       57.290327       57.290327       57.290327
       57.290327       57.290327       88.997000
```

Yay.

So I guess netcdf4 files are just hdf5 files with a fancier name?

cheers,

paulv
