Subject: Re: help with reading unsigned 16-bit integers Posted by dcleon@gmail.com on Sun, 09 Dec 2007 09:37:47 GMT View Forum Message <> Reply to Message

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On Dec 9, 12:28 am, te...@atmsci.msrc.sunysb.edu wrote:
> Hi,
>
> I am reading a HDF file and one of the SDS is an unsigned 16-bit
> integer. According to documentation, the bits have certain meanings.
> The bits go from 1 to 16. For example, bits 1-3 represent feature
> type (0- invalid, 1-'clean air', 2-'cloud', ...). This is data from
> NASA's Calipso Vertical Feature Mask (in case your wondering).
>
> I have no idea what's going on when I read the SDS. For example, I
> get the following ouput:
>
>> HDF SD GETDATA,sds id,Feature Classification Flags
>> FEATURE CLASSIFICATION FLAGS
                                          UINT
                                                   = Array[5515, 3744]
>
  IDL> print, FEATURE_CLASSIFICATION_FLAGS (5500:5514,3743)
                               8221 16413 16413 16413
           8221 8221 8221
    8221
  16413 16413 16413 16413
    16413 16413 16413
> Could anyone tell me what I am looking at here? Where are bits 1-3,
> etc? Do I need to do some conversion? I tried some of the stuff at:
>
Howard,
 Try using ISHFT to create a mask that you will use to determine (by
using a bitwise AND) if/where given bits are set:
 Taking your example for the 2-'cloud' bit:
 > cloudmask = ISHFT(1,2)
 > cloudy = FEATURE_CLASSIFICATION_FLAGS AND cloudmask
 The resulting "CLOUDY" variable will be nonzero where the 2-'cloud'
bit is set.
 combine with other bits as needed.
cheers
dave
```