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Subject: Reading individual bits of MODIS BRDF quality files

Posted by [emitchard](#) on Fri, 18 Sep 2009 09:54:55 GMT

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I am running IDL 7.0.6 on Windows vista (with ENVI 4.6). I am using MODIS BRDF corrected 500 m data (MCD43A4). I have successfully written a program to open the HDF files and produce the output vegetation indices I'm interested in. However, I need to filter out cloud-contaminated pixels, and am having problem reading the bit-packed quality control file (MCD43A2).

I have written a program to extract the layer I'm interested in from the HDF file and save it as a 32-bit unsigned integer. However, I really need to extract the raw values of the first 12 bits of this number (the values of the remaining fields do not matter to me). I started writing a program to list all the numbers (from 0-4294967295) that result from my required bit combination of these first 12 bits, but that approach is not going to work as there are several million 'allowable' numbers.

Is there a function in IDL that can read individual bits, or any other clever way to produce an array of 1s and 0s from a 32-bit integer?

Many thanks for your help,

Edward Mitchard

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