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Subject: Re: BYTSCL and NAN keyword

Posted by [David Fanning](#) on Tue, 02 Mar 2004 17:18:14 GMT

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Kenneth Bowman writes:

- > Has anyone else noticed this problem with BYTSCL and the NAN keyword?
- >
- > The BYTSCL function scales integers and floats into bytes between 0 and
- > 255 (or the value set by the TOP keyword). If the NAN keyword is set,
- > NANs in the input array are set to 0 in the output array. But 0 falls
- > into the valid range for good values (0 to TOP)!
- >
- > Because it is not possible to set NANs to a value outside the valid
- > range (greater than TOP), it is not possible to distinguish missing from
- > valid data.
- >
- > As best I can tell, the only solution is to not use the NAN keyword and
- > scale the valid data only by using WHERE to find all the valid values.
- > Am I missing something obvious? (Quite possible, I admit.)

Well, NANs are definitely floats (that is, they have a float-type bit pattern). So it seems reasonable to me that if you are trying to stuff it into a byte (which can only have values between 0 and 255, that 0 is a good choice. (The only possible other choice is 255, but that just turns your problem on its head.)

I think what I would do is locate the NANs and save their indices. Then scale my data into 255 colors (0 to 254), leaving color index 255 for the NAN color (whatever that is). This will take a couple of steps, but that's what IDL programs are for. :-)

Cheers,

David

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Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

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