Subject: Re: new changes to contour under IDL Version 3.1.1 (sunos sparc)
Posted by thompson on Thu, 16 Sep 1993 16:43:15 GMT
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rfinch@water.ca.gov (Ralph Finch) writes:

> patrick> 1. Get rid of /MAX_VALUE. put in code to do real handling of
> patrick> missing data.

> Right on! I asked them about doing this some months ago but never got
> a reply.

I suspect that MAX_VALUE was put in to handle a specific project whose missing data was all above a given value--perhaps Pioneer Venus, but I'm only guessing. I know that it has been a part of CONTOUR for a long, long time.

Missing data can be handled in a number of ways, but I suspect that the system I use is similar to what most people do. In my own IDL software, mainly concerned with image display, I signal missing data values with a single special value which can be set with the MISSING keyword. Actually the MISSING keyword also shows up in some of the routines in the User's Library, such as ROT or MAP_IMAGE.

FITS data files also allow for a single special value to signal missing data. In the FITS header the particular special value for that data array is given by the BLANK keyword. Pixels whose value is the same as that of BLANK are considered to have no data.

If the special value signalling missing data is larger than any value in the array, then it is consistent with IDL's MAX_VALUE keyword. However, it is often more convenient to make the special flag value smaller than any possible data value. For instance, in data arrays whose allowed values can only be positive, I often set missing pixels to -1.

I think it would be a good idea if the IDL routines that currently accept the MAX_VALUE keyword would also accept a MISSING keyword (or something like it) as an alternative. That should be a relatively easy thing to do. Various names for this keyword could be used, but I think MISSING would be the best, because it would be consistent with routines already in the IDL User's Library.

Bill Thompson