Subject: Another "Array subscript for VECTOR must have same size as source expression." problem
Posted by laura.hike on Tue, 29 Apr 2014 18:27:58 GMT
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Hi,

I know that the error above indicates that I'm trying to assign something into an array that doesn't fit the array dimensions. However, in this case, the error arises the _second_ time through a loop but not the first. I've tried several things and found that it's not the input data that's the problem, or the reinitialization of the variables. The file read statement also works properly. Any idea what's wrong?

Thanks,

Laura

Notes: bad = -9999.0
The error message is
% Array subscript for PLOTSTATS must have same size as source expression.
% Execution halted at: $MAIN$ 54
where line 54 is plotstats[*,i] = stats[0:4] about half way down in the code below.
stats[6] eq bad will not occur until the second time through the loop, but the error occurs before that happens. (I checked the values of the read variables.)

```
 ;------------------------------------------------------------ --
txt1 = ' '                              ; Dummy read variables.
site = ' '
season = ' '
n = 0
 ;------------------------------------------------------------ --
                                        ; Bar and whiskers plots for all sites individually.
nsites = 7
sites = strarr(nsites)
stats = fltarr(7)
seasons = strarr(nsites)
plotstats = fltarr(5,nsites)
means = fltarr(nsites)
npoints = intarr(nsites)

infile = indir +  'site.whiskerplot.stats.3hourly.surfrad.match.snow.LWcorr.so rt.txt'
openr, 3, infile                        ; Read past header.  Number of header lines hard wired.
for i = 0, 4 do begin
  readf, 3, txt1
endfor

for j = 0, 1 do begin                   ; For snow and all conditions.
```

```
  plotstats[*,*] = bad
  means[*] = bad
  npoints[*] = 0

  for i = 0, nsites-1 do begin

    readf, 3, format = '(A7, 7F12.2, I10, A15)', site, stats, n, season
    sites[i] = site
    seasons[i] = season
    npoints[i] = n
    means[i] = stats[5]
    plotstats[*,i] = stats[0:4]
    if (stats[6] eq bad) then begin
      plotstats[0,i] = bad                    ; Make all stat values bad.  (This would be 0 otherwise.)
      plotstats[4,i] = bad
    endif else begin
      plotstats[0,i] = means[i] - stats[6]          ; Substitute mean+/-std. dev. for max and min.
      plotstats[4,i] = means[i] + stats[6]
    endelse

  endfor

  locations = indgen(nsites)+1
;  if (j eq 0) then npoints1 = max(npoints)
  npoints1 = max(npoints)
  xwidth = npoints * 0.3 / npoints1           ; Width proportional to the number of points.
  xvals = [-1,nsites+2]
  titletext = 'Surface-CERES differences, corrected LW, ' + strtrim(seasons[0],2) + ' samples'
  dummy = boxplot(locations, plotstats, mean_values = means, ytitle = 'Irradiance differences
[Wm$^{-2}$]',yrange = [-100,80], width=x
width, thick=3, xtickname = ['', strtrim(sites,2), ' '], xtext_orientation=90, xminor = 0, xthick = 2,
ythick = 2, title = titletext)
  graphic = plot(xvals,yvals,overplot = 1,xrange = [0,nsites+1])

endfor
```

Subject: Re: Another "Array subscript for VECTOR must have same size as source expression." problem
Posted by wlandsman on Tue, 29 Apr 2014 19:17:29 GMT
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On Tuesday, April 29, 2014 2:27:58 PM UTC-4, laura...@gmail.com wrote:

> plotstats = fltarr(5,nsites)

The BOXPLOT documention says that the VALUES parameter should be dimensioned M x 5 -- it looks like you have the transpose

What make the problem hard to diagnose is that the BOXPLOT() function does not play nice with the input parameters

```
IDL> plotstats = findgen(5,12)
IDL> help,plotstats
PLOTSTATS       FLOAT     = Array[5, 12]
IDL> saa = boxplot(indgen(12),plotstats)
IDL> help,plotstats
PLOTSTATS       FLOAT     = Array[12, 5]
```

So it looks like BOXPLOT has transposed the input data, so the second time through the plotstats variable is dimensioned [12,5] whereas you are assuming that is dimensioned [5,12], giving the array subscript error. --Wayne

---

Subject: Re: Another "Array subscript for VECTOR must have same size as source expression." problem
Posted by laura.hike on Tue, 29 Apr 2014 19:46:32 GMT
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Thanks! I actually did try changing the order of the dimensions in the definition of plotstats once, but I guess I didn't change the assignment statements in the loop. I know that IDL will change the type or size of an array if you assign the wrong things to it, but this is ridiculous behavior on the part of a function/subroutine. It would make a lot more sense for the routine to crash when the wrong inputs are used.

Subject: Re: Another "Array subscript for VECTOR must have same size as source expression." problem
Posted by chris_torrence@NOSPAM on Tue, 29 Apr 2014 22:31:58 GMT
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On Tuesday, April 29, 2014 1:46:32 PM UTC-6, laura...@gmail.com wrote:
> Thanks! I actually did try changing the order of the dimensions in the definition of plotstats once, but I guess I didn't change the assignment statements in the loop. I know that IDL will change the type or size of an array if you assign the wrong things to it, but this is ridiculous behavior on the part of a function/subroutine. It would make a lot more sense for the routine to crash when the wrong inputs are used.

Hi,
This has been fixed for IDL 8.3.1. BOXPLOT will still be nice and accept your 12x5 array (for backwards compatibility) but it won't mess up your input variable.
Thanks for catching it!

Cheers,
Chris
ExelisVIS