
Subject: Re: Type conversion error: Unable to convert given STRING to Float.
Posted by [Michael Galloy](#) on Tue, 05 Jul 2011 15:55:56 GMT

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On 7/5/11 8:36 AM, Zac wrote:

> Can anyone tell me why IDL thinks that the variable in the for loop
> below is a string?

See below, but I think it is the opposite, you have an integer and are treating it like a string.

> Here's the offending part of the script. After I've opened the input
> file, I'm trying to loop over the one of the dimensions in the file
> (in this case the vertical layers of a file that contains gridded, 3-d
> aircraft emissions). I want to plot the emissions at each layer. I
> can hard code the layer number in the script and it works fine. When
> I try to implement the for loop, IDL is complaining that "lay" is a
> string.

>

> In addition, I tried to take the for loop out altogether and just add
> in a variable for the layer number, something like:

>

> lay = 2

>

> This gives the same type conversion error

>

> What am I doing wrong here?

>

> Thanks in advance, Zac

> ...

>

> ni=n_elements(lon)

> nj=n_elements(lat)

> nz=n_elements(lev)

>

> for lay=0,nz-1 do begin

> air_pl=air[*,* ,lay]

>

> myct, 1, range=[0.4,1], /reverse

>

> !P.font(0)=0

>

> minvar=0

> maxvar=1E9

>

> layr=lay+1

>

> Open_Device, /ps, /Color, filename="+outdir+'/emissions_'+sim

```
> +' _air_level_' +layr+'_' +pol+'.ps'
```

You are doing string operations above, but layr is an int.

```
> tvmap, air_pl, lon, lat, BLACK=1, NColors=225, Bottom = 20, /coasts, $
>   Title='Layer '+layr+' Aircraft '+pol+' Emissions - '+simtitle,$
>   /Continents,/Cylindrical,/SAMPLE,/isotropic, $
>   /CBAR, Divisions=3, min_valid=minvar, $
>   mindata=minvar, maxdata=maxvar, $
>   CBFORMAT='(e12.2)', CBMAX=maxvar, CBMIN=minvar,CBUNIT='molec/cm2-
> sec',$
>   /landscape, /grid, /countries, xthick=4,$
>   ythick=4, thick=1.2, charthick=2, charsize=1, csfac=0.7,
>   tcsfac=0.
> close_device
>
> endfor   ; layer loop
>
> endfor   ; pollutant loop
>
```

Mike

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Michael Galloy

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Modern IDL, A Guide to Learning IDL: <http://modernidl.idldev.com>

Research Mathematician

Tech-X Corporation

Subject: Re: Type conversion error: Unable to convert given STRING to Float.
Posted by [Zac](#) on Tue, 05 Jul 2011 19:32:32 GMT

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Ok, I see where the problem is now, but I don't know IDL syntax well enough to solve. Can you tell me how I can embed an int into a string? I would like my loop counter, which is the layer number I'm looping over, to get written to the file name.

I'm clearly not using '+layr+' correctly. So how do I get an integer type into the string file name?

```
filename="+outdir+'/emissions_'+sim+' _air_level_' +layr+'_' + pol+'.ps'
```

Subject: Re: Type conversion error: Unable to convert given STRING to Float.
Posted by [Zac](#) on Tue, 05 Jul 2011 19:56:28 GMT

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Here's the solution, convert the integer to a string before inserting into the file name:

```
layr=strcompress(string(lay +1), /REMOVE_ALL)

Open_Device, /ps, /Color, filename="+outdir+'/emissions_'+sim
+'_air_level'+layr+'_'+pol+'.ps'
tvmap, air_pl, lon, lat, BLACK=1, NColors=225, Bottom = 20, /coasts, $
  Title='Layer '+layr+' Aircraft '+pol+' Emissions - '+simtitle,$
```

Subject: Re: Type conversion error: Unable to convert given STRING to Float.
Posted by [Michael Galloy](#) on Tue, 05 Jul 2011 20:28:13 GMT
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On 7/5/11 1:56 PM, Zac wrote:

```
> Here's the solution, convert the integer to a string before inserting
> into the file name:
>
> layr=strcompress(string(lay +1), /REMOVE_ALL)
>
> Open_Device, /ps, /Color, filename="+outdir+'/emissions_'+sim
> +'_air_level'+layr+'_'+pol+'.ps'
> tvmap, air_pl, lon, lat, BLACK=1, NColors=225, Bottom = 20, /coasts, $
>   Title='Layer '+layr+' Aircraft '+pol+' Emissions - '+simtitle,$
>
```

Here's the two ways I end up using to do this. The quick and easy way:

```
layr = strtrim(lay + 1, 2)
```

STRTRIM will convert a number type to a string and also remove whitespace, here the "2" indicates to remove leading and trailing whitespace.

Or I might do something like this:

```
filename = string(outdir, sim, lay + 1, pol, $
  format='(%%s/emissions_%%s_air_level%d_%%s.ps)')
```

You can also use Fortran style format codes, I am just more familiar with the C ones.

Mike

--

Michael Galloy

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Modern IDL, A Guide to Learning IDL: <http://modernidl.idldev.com>
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Subject: Re: Type conversion error: Unable to convert given STRING to Float.
Posted by [R.G.Stockwell](#) on Tue, 05 Jul 2011 21:37:43 GMT
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> "Michael Galloy" wrote in message news:iuvc6e\$ckm\$1@dont-email.me...
>> Open_Device, /ps, /Color, filename="+outdir+'/emissions_'+sim
>> +'_air_level_'+layr+'_'+pol+'.ps'

> You are doing string operations above, but layr is an int.

just a quick fyi to the OP. IDL is trying to convert '_air_level_' to an integer, so it can be added to layr (hence the cannot convert STRING to float message). It's trying to convert all the strings in the above line.
