Subject: Re: TOTAL gives totally different result on identical array Posted by Fabzou on Fri, 08 Jul 2011 10:34:26 GMT

View Forum Message <> Reply to Message

Funny, It looks like the post I wrote a couple of days ago. You should have a look to this thread:

http://groups.google.com/group/comp.lang.idl-pvwave/browse_t hread/thread/47482e565173a127/b58f3a3ba7934b93?#b58f3a3ba793 4b93

```
On 07/08/2011 12:22 PM, M. Suklitsch wrote:
> Hi everybody,
>
>
> I don't exactly know how to start this question, so I'll probably just
  tell you the workflow which leads to a very disturbing result.
>
 I have a netCDF file which contains temperature data for a decade on
> daily time resolution. And I have two different versions of an IDL
> based evaluation tool which should read in the data and do some stuff
> with it.
>
> Now, although I read in exactly the same data (the data array has the
> same size in both IDL sessions with both versions of my tool), TOTAL
> and MEAN give completely different results. And I do not understand
> how that can be, since the data does not contain any NaN values, and
> MIN and MAX of the array are identical in both IDL sessions. The only
> difference between the two IDL sessions are different source codes
> that lead to the point where I do the stuff below. Here is what I get:
>
 Session 1:
> ======
> IDL> ncid=NCDF_OPEN('my_input_file.nc')
> IDL> ncdf_varget, ncid, 'tas', testa
> IDL> help, mean(testa), min(testa), max(testa)
> <Expression>
                  FLOAT
                                  270.284
                            =
> <Expression>
                  FLOAT
                                  232.614
> <Expression>
                  FLOAT
                            =
                                  317.723
> IDL> print, total(testa)/n_elements(testa)
      270.284
> IDL> print, n_elements(testa)
    127124400
 IDL> print, total(testa)
    3.43597e+10
>
> IDL> idx=where(testa lt 275., countidx, ncomplement=countnidx)
> IDL> help, countidx, countnidx
> COUNTIDX
                  LONG
                                22074445
> COUNTNIDX
                   LONG
                                105049955
```

```
>
>
> Session 2:
> ======
> IDL> ncid=NCDF_OPEN('my_input_file.nc')
> IDL> ncdf_varget, ncid, 'tas', testa
> IDL> help, mean(testa), min(testa), max(testa)
> <Expression>
                  FLOAT
                                 67.5711
> <Expression>
                  FLOAT
                                 232.614
> <Expression>
                  FLOAT
                                 317.723
> IDL> print, total(testa)/n_elements(testa)
      67.5711
  IDL> print, n_elements(testa)
    127124400
  IDL> print, total(testa)
    8.58993e+09
 IDL> idx=where(testa lt 275., countidx, ncomplement=countnidx)
> IDL> help, countidx, countnidx
> COUNTIDX
                  LONG
                               22074445
 COUNTNIDX
                   LONG
                               105049955
>
>
  So, the values within the arrays seem to be the same (since the
 counting gives the identical number of elements), yet the TOTAL (and
 MEAN) deviate completely from each other. How can that be? I am really
  confused right now. And insecure about any results I got so far.
>
> Regards,
> Martin
```