
Subject: Re: IDL "expert" needs help BAD!--Correction to earlier post.

Posted by [grunes](#) on Thu, 23 Jan 1997 08:00:00 GMT

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In article <davidf-ya023080002201971346190001@news.frii.com>

davidf@dfanning.com (David Fanning) writes:

> I have three vectors that represent randomly distributed
> longitude and latitude temperature data. Thus, I have three
> variables lat, lon, and temp that are all the same length
> and data type. I want to store them as a VDATA table
> in an HDF file.

>

> Then, I want to grid this data and make a regularly-spaced
> 2D array. I want to store this data in the same HDF file
> as a scientific dataset.

...

I apologize for the earlier incorrect posting (which I have since deleted). I was playing with routines wrsdf and rdsdf, and they still had errors.

I am not sure if this is helpful, since I have not tried to change the shape mid-file, as you wish to, but it may help to see a simpler example. I agree that the IDL manuals are quite deceptive, in terms of not indicating that certain calls need to be made for every variable.

Corrected versions are as follows:

```
-----File: wrsdf.pro----Cut here-----
; -----WrSDF-----
pro WrSDF,filename,a,varname,frames=frames,palette=palette
    ; Write array to HDF file in a
    ; scientific data format.
    ; (Can be read back with rdsdf.pro.)
    ; -----INPUT-----
    ; filename=Name of file to create.
    ; a=array to write to file.
    ; varname=name of variable (optional).
    ; if /frames is set, and the array
    ; is 3 dimensional (last dimension
    ; = # of frames), each frame will
    ; be written as a seperate HDF
    ; entry.
    ; (That is the usual way HDF movies
    ; are written.)
    ; if /palette is set, the current
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                                ; pallete will be added.
;Written by Mitchell R Grunes.
if n_elements(varname) eq 0 then varname='a'
if n_elements(frames) eq 0 then frames=0
if n_elements(palette) eq 0 then palette=0
if !prompt eq 'IDL> ' then begin
    sd_id=HDF_SD_Start(filename,/create)

    s=size(a)
    vt=s(n_elements(s)-2)          ; variable type
    if vt lt 1 or vt gt 5 then stop,'Bad Data type in WrHDF'
    ndim=s(0)                      ; # of dimensions
    dims=s(1:ndim)                 ; dimensions
    nFrames=1                      ; # of frames
    if ndim eq 3 and frames then begin
        nframes=s(ndim)
        dims=dims(0:1)
    endif
    print,'Adding variable ',a,' to HDF file ',filename
    help,a

    if ndim eq 3 and frames then begin
        print,'Writing array as ',nframes,' frames.'
        for i=0,nframes-1 do begin
            sds_id=HDF_SD_Create(sd_id,varname,dims,byte=vt eq 1,int=vt eq 2, $
                long=vt eq 3,float=vt eq 4,double=vt eq 5)
            HDF_SD_AddData,sds_id,reform(a(*,*,i))
            HDF_SD_EndAccess,sds_id
        endfor
    endif else begin
        sds_id=HDF_SD_Create(sd_id,varname,dims,byte=vt eq 1,int=vt eq 2, $
            long=vt eq 3,float=vt eq 4,double=vt eq 5)
        HDF_SD_AddData,sds_id,a
        HDF_SD_EndAccess,sds_id
    endelse

    HDF_SD_End,sd_id
    if palette then begin
        tvlct,/get,R,G,B
        p=transpose([R],[G],[B])
        hdf_dfp_addpal,filename,p
    endif
endif else begin
    stop,'My WrSDF stuff only works from IDL, not PV-WAVE.
endelse
end
-----Cut here-----

```

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-----File: rdsdf.pro---Cut here-----
; -----RdSDF-----
pro RdSDF,filename,a,name,number=number; Read array from HDF file in a
; scientific data format.
; -----INPUT-----
; filename=Name of file to read.
; name (optional) specifies the array
; name to read.
; Number (optional)=0-origin sequence
; number of variable in file.
; -----OUTPUT-----
; a=array to read from file
; name=name of variable.
; number=sequence number of variable.
;Written by Mitchell R Grunes.

```

```

    if n_elements(number) eq 0 then number=0
loop:
    if !prompt eq 'IDL> ' then begin
        sd_id=HDF_SD_Start(filename,/read)
        sds_id=hdf_sd_select(sd_id,number)

        HDF_SD_GetInfo,sds_id,name=name2
        print,'Sequence number=',number,' Variable Name=',name2
        if n_elements(name) gt 0 then begin
            if name ne name2 then begin
                number=number+1
                print,'Trying next sequence number.'
                HDF_SD_EndAccess,sds_id
                goto,loop
            endif
        endif
        HDF_SD_GetData,sds_id,a

        HDF_SD_EndAccess,sds_id
        HDF_SD_End,sd_id
    endif else begin
        stop,'My RdSDF stuff only works from IDL, not PV-WAVE.
    endelse
end

```

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Mitchell R Grunes, grunes@imsy1.nrl.navy.mil. Opinions are mine alone.
