
Subject: Re: How to build ASCII File

Posted by [devin.white](#) on Sat, 24 Nov 2007 16:33:54 GMT

[View Forum Message](#) <> [Reply to Message](#)

I see what you're trying to do, but there's definitely an easier way to go about it. You're attempting to create a binary ENVI Spectral Library file that contains the spectral response curves for MASTER's first 25 channels (VNIR and SWIR) from the individual SRF ASCII files. Because of how ENVI Spectral Library files are constructed, an entry for a particular channel must contain response values for the entire wavelength range of the 25 channels, combined--even if the recorded values for a channel (in a single SRF file) fall over a much smaller range. As a result, you have to provide "filler" values of 0 to compensate. Because each SRF file covers a different range and contains a variable number of entries, getting everything into one ENVI Spectral Library file is a bit challenging. The program below will build the library for you, as long as all of the individual SRF files and the associated header file (*.ph) are in the same folder on your computer. It makes liberal use of array and structure concatenation, subscripting, and the WHERE function to build the library. SORT is used in a few places to ensure that all response values end up in the right locations. The program is provided as is.

```
pro create_master_spectral_reponse_sli
  compile_opt idl2

  header_file = dialog_pickfile(title='Select Spectral Response Header
  File', filter='*.ph', $
    get_path=header_path)
  if header_file eq "" then return
  out_name = dialog_pickfile(title='Select Output Library Name',
  path=header_path)
  if out_name eq "" then return

  spec_search = file_search(header_path, '*.c*', count=spec_count)
  if spec_count ne 50 then begin
    ok = dialog_message('You must have all 50 MASTER spectral response
  curve files to proceed', $
    /error)
    return
  endif

  ;Sort response files from lowest to highest band
  spec_sort = sort(spec_search)
  spec_search = spec_search[spec_sort]

  envi_read_cols, header_file, parameters
```

```

band_nums = lindgen(25)+1
band_names = replicate('Band',25) + ' ' + strtrim(string(band_nums),
2)

;Read in spectral response files and create
;structure array to hold all returned info
spec_struct = {sensor_type:'MASTER'}
wl_array = dblarr(1)
for i=0,24 do begin
  envi_read_cols, spec_search[i], spec_data
  spec_struct = create_struct(spec_struct, band_names[i], spec_data)
  wl_array = [wl_array, reform(transpose(spec_data[0,*]))]
endfor

wl_array = wl_array[1:*]
wl_array = wl_array[sort(wl_array)]
num_measure = n_elements(wl_array)

openw, lun, out_name, /get_lun

;Write out band-specific spectral response library entries
for j=1,25 do begin
  cur_wl = (spec_struct.(j))[0,*]
  sort_cur = sort(cur_wl)
  num_cur = n_elements(cur_wl)
  where_cur = where(wl_array eq cur_wl[sort_cur[0]], where_count)
  response = reform((spec_struct.(j))[1,sort_cur])
  response_array = dblarr(num_measure)
  response_array[where_cur[0]:(where_cur[0]+num_cur-1)] = response
  writeu, lun, response_array
endfor

free_lun, lun

file_type=envi_file_type('ENVI Spectral Library')
envi_setup_head, fname=out_name, data_type=5, file_type=file_type, $
interleave=0, nb=1, ns=num_measure, $
nl=25, wl=wl_array, /write, /open, r_fid=lib_fid, $
wavelength_unit=0, spec_names=band_names

end

```

On Nov 20, 12:19 pm, Marsh...@gmu.edu wrote:

> Hi Guys:

>

> I tried to make ASCII file for Spectral Response Curves obtained

atftp://asapdata.arc.nasa.gov/MASTER/srf/May_03/however, it is not
> working. Can someone give suggestions how to build ASCII file for
> Spectral Response Curves.
>
> Best Regards,
>
> Arshad
