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Subject: Re: multiple entities in shapefile  
Posted by [Klemen](#) on Fri, 26 Nov 2010 11:52:28 GMT  
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This is an example how to write polygons (pixel positions for MODIS images). Perhaps it helps.

PRO modis\_geolocation, in\_filegeo

```
; Restore global data
global_data
restore, 'data.sav'
; Open EOS-HDF
i_fidgeo = EOS_SW_OPEN(in_filegeo, /READ)
if i_fidgeo eq -1 then begin
    print, 'The input geolocation file does not exist or is not EOS
HDF format!'
    stop
endif
i_NSwathgeo = EOS_SW_INQSWATH(in_filegeo, s_SwathListgeo)
i_swathIDgeo = EOS_SW_ATTACH(i_fidgeo, s_SwathListgeo) ;attach
object
i_status_read = EOS_SW_READFIELD(i_swathIDgeo, "Longitude", m_lon)
;read longitude
i_status_read = EOS_SW_READFIELD(i_swathIDgeo, "Latitude", m_lat)
;read latitude
i_status_read = EOS_SW_READFIELD(i_swathIDgeo, "SensorZenith",
m_zen) ;read longitude
i_status_read = EOS_SW_READFIELD(i_swathIDgeo, "SensorAzimuth",
m_azm) ;read latitude
i_status_detach = EOS_SW_DETACH(i_swathIDgeo)
i_status_close = EOS_SW_CLOSE(i_fidgeo)
i_array_size = size(m_lat)
i_col = i_array_size[1]
i_lin = i_array_size[2]

;XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
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;Define attributes of ESRI shape file
n_shp = in_filegeo + 'swath.shp' ;ime
```

```

mynewshape=OBJ_NEW('IDLffShape', n_shp, /UPDATE,
ENTITY_TYPE=5) ;nov polygon shape
mynewshape->IDLffShape::AddAttribute, 'longitude', 5, 6,
PRECISION=2 ;0
mynewshape->IDLffShape::AddAttribute, 'latitude', 5, 6,
PRECISION=2 ;1
mynewshape->IDLffShape::AddAttribute, 'sat_zenith', 5, 6,
PRECISION=2 ;2
mynewshape->IDLffShape::AddAttribute, 'sat_azimuth', 5, 6,
PRECISION=2;3
entNew = {IDL_SHAPE_ENTITY}
attrNew = mynewshape->IDLffShape::GetAttributes(/
ATTRIBUTE_STRUCTURE)
;Write shape file
indx = 0L
j1 = 500L
j2 = 600L
i1 = 1L
i2 = 1352L
m_coordinates = make_Array(i_col, i_lin, 8)
dy = make_Array(i_col)
for j=j1,j2 do begin
    print, j
    y1 = (j / 10L) * 10L
    y2 = y1 + 9L
    dy[i1:i2] = (m_lat[i1:i2,y1] - m_lat[i1:i2,y2]) / 10.
    ;for i=2L,i_col-3L do begin
    for i=i1,i2 do begin
        ;compute corner coordinates for each pixel
        m_coordinates[i,j,3] = (m_lon[i,j] + m_lon[i-1,j] + m_lon[i,j-1]
+ m_lon[i-1,j-1]) *0.25
        m_coordinates[i,j,2] = (m_lon[i,j] + m_lon[i+1,j] + m_lon[i,j-1]
+ m_lon[i+1,j-1]) *0.25
        m_coordinates[i,j,1] = (m_lon[i,j] + m_lon[i+1,j] + m_lon[i,j+1]
+ m_lon[i+1,j+1]) *0.25
        m_coordinates[i,j,0] = (m_lon[i,j] + m_lon[i-1,j] + m_lon[i,j+1]
+ m_lon[i-1,j+1]) *0.25
        m_coordinates[i,j,7] = (m_lat[i,j] + m_lat[i-1,j] + dy[i]) *0.5
        m_coordinates[i,j,6] = (m_lat[i,j] + m_lat[i+1,j] + dy[i]) *0.5
        m_coordinates[i,j,5] = (m_lat[i,j] + m_lat[i+1,j] - dy[i]) *0.5
        m_coordinates[i,j,4] = (m_lat[i,j] + m_lat[i-1,j] - dy[i]) *0.5

;SHAPE
JUMP1: entNew.ISHAPE = indx
entNew.SHAPE_TYPE = 5 ;geometry
entNew.BOUNDS[0] = min(m_coordinates[i,j,0:3])
entNew.BOUNDS[1] = min(m_coordinates[i,j,4:7])
entNew.BOUNDS[2] = 0.00000000

```

```

entNew.BOUNDS[3] = 0.00000000
entNew.BOUNDS[4] = max(m_coordinates[i,j,0:3])
entNew.BOUNDS[5] = max(m_coordinates[i,j,4:7])
entNew.BOUNDS[6] = 0.00000000
entNew.BOUNDS[7] = 0.00000000
entNew.N_VERTICES = 5
v_vertices = [reform(m_coordinates[i,j,0:3], 1,4), $
               reform(m_coordinates[i,j,4:7], 1,4)]
v_vertices = [[v_vertices], [m_coordinates[i,j,
0],m_coordinates[i,j,4]]]
p_pointer = ptr_new(v_vertices)
entNew.VERTICES = p_pointer
attrNew.ATTRIBUTE_0 = m_lon[i,j]      ;atributes
attrNew.ATTRIBUTE_1 = m_lat[i,j]
attrNew.ATTRIBUTE_2 = m_zen[i,j]
attrNew.ATTRIBUTE_3 = m_azm[i,j]
mynewshape->IDLffShape::PutEntity, entNew
mynewshape->IDLffShape::SetAttributes, indx, attrNew
indx++
endfor
endfor

;Close shapefile
OBJ_DESTROY, mynewshape

end

```

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