
Subject: storing in array

Posted by [kishore1818](#) on Sat, 10 May 2008 23:48:08 GMT

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Hi,

I am new in IDL language. For reading the CALIPSO satellite data sets in that what type of cloud type for that they provided read routine.

If I use this routine it is printing on IDL log window. How to store this information into an string array.

This is the routine

`vmf_feature_flags,36282`

The output is like this:

Bit set: 2

Bit set: 4

Bit set: 5

Bit set: 6

Bit set: 8

Bit set: 9

Bit set: 11

Bit set: 12

Bit set: 16

Feature Type : cloud

Feature Subtype : cirrus (transparent)

Feature Type QA : high

Ice/Water Phase : ice

Ice/Water Phase QA: high

Cloud/Aerosol/PSC Type QA : not confident

Horizontal averaging required for detection: 20 km

The above information i want to store in string array.

```
*****routine*****
;
pro vmf_feature_flags,val
; this routine demonstrates how to read and extract values from a
feature
; classification flag 16-bit integer value in CALIPSO Level 2
Vertical
; Feature Mask files
;
; INPUT:
; val - the feature classification flag value to be decoded
;
; OUTPUT:
; all information is printed into the IDL log window

print, val
```

```

feature_type = 0
feature_type_qa = 0
ice_water_phase = 0
ice_water_phase_qa = 0
feature_subtype = 0
cloud_aerosol_psc_type_qa = 0
horizontal_averaging = 0

for i=0,15 do begin
  if ((val and 2L^i) NE 0) then begin
    print,'Bit set: ',i+1
    case i+1 of
      1 : feature_type = feature_type + 1
      2 : feature_type = feature_type + 2
      3 : feature_type = feature_type + 4
      4 : feature_type_qa = feature_type_qa + 1
      5 : feature_type_qa = feature_type_qa + 2
      6 : ice_water_phase = ice_water_phase + 1
      7 : ice_water_phase = ice_water_phase + 2
      8 : ice_water_phase_qa = ice_water_phase_qa + 1
      9 : ice_water_phase_qa = ice_water_phase_qa + 2
      10 : feature_subtype = feature_subtype + 1
      11 : feature_subtype = feature_subtype + 2
      12 : feature_subtype = feature_subtype + 4
      13 : cloud_aerosol_psc_type_qa = cloud_aerosol_psc_type_qa + 1
      14 : horizontal_averaging = horizontal_averaging + 1
      15 : horizontal_averaging = horizontal_averaging + 2
      16 : horizontal_averaging = horizontal_averaging + 4
    else:
      endcase
    endif
  endfor

case feature_type of
  0 : print,"Feature Type : invalid (bad or missing data)"
  1 : print,"Feature Type : clear air"
  2 : begin
    print,"Feature Type : cloud"
    case feature_subtype of
      0 : print, "Feature Subtype : low overcast, transparent"
      1 : print, "Feature Subtype : low overcast, opaque"
      2 : print, "Feature Subtype : transition stratocumulus"
      3 : print, "Feature Subtype : low, broken cumulus"
      4 : print, "Feature Subtype : altocumulus (transparent)"
      5 : print, "Feature Subtype : altostratus (opaque)"
      6 : print, "Feature Subtype : cirrus (transparent)"
      7 : print, "Feature Subtype : deep convective (opaque)"
    endcase
  end
endcase

```

```

    else : print, "*** error getting Feature Subtype"
    endcase
end
3 : begin
    print, "Feature Type : aerosol"
    case feature_subtype of
    0 : print, "Feature Subtype : not determined"
    1 : print, "Feature Subtype : clean marine"
    2 : print, "Feature Subtype : dust"
    3 : print, "Feature Subtype : polluted continental"
    4 : print, "Feature Subtype : clean continental"
    5 : print, "Feature Subtype : polluted dust"
    6 : print, "Feature Subtype : smoke"
    7 : print, "Feature Subtype : other"
    else : print, "*** error getting Feature Subtype"
    endcase
end
4 : begin
    print, "Feature Type : stratospheric feature--PSC or
stratospheric aerosol"
    case feature_subtype of
    0 : print, "Feature Subtype : not determined"
    1 : print, "Feature Subtype : non-depolarizing PSC"
    2 : print, "Feature Subtype : depolarizing PSC"
    3 : print, "Feature Subtype : non-depolarizing aerosol"
    4 : print, "Feature Subtype : depolarizing aerosol"
    5 : print, "Feature Subtype : spare"
    6 : print, "Feature Subtype : spare"
    7 : print, "Feature Subtype : other"
    else : print, "*** error getting Feature Subtype"
    endcase
end
5 : print, "Feature Type : surface"
6 : print, "Feature Type : subsurface"
7 : print, "Feature Type : no signal (totally attenuated)"
else : print, "*** error getting Feature Type"
endcase

case feature_type_qa of
0 : print, "Feature Type QA : none"
1 : print, "Feature Type QA : low"
2 : print, "Feature Type QA : medium"
3 : print, "Feature Type QA : high"
else : print, "*** error getting Feature Type QA"
endcase

case ice_water_phase of
0 : print, "Ice/Water Phase : unknown/not determined"

```

```
1 : print,"Ice/Water Phase : ice"
2 : print,"Ice/Water Phase : water"
3 : print,"Ice/Water Phase : mixed phase"
else : print,"*** error getting Ice/Water Phase"
endcase

case ice_water_phase_qa of
0 : print,"Ice/Water Phase QA: none"
1 : print,"Ice/Water Phase QA: low"
2 : print,"Ice/Water Phase QA: medium"
3 : print,"Ice/Water Phase QA: high"
else : print,"*** error getting Ice/Water Phase QA"
endcase

if (cloud_aerosol_psc_type_qa eq 0) then begin
  print,"Cloud/Aerosol/PSC Type QA : not confident"
endif else begin
  print,"Cloud/Aerosol/PSC Type QA : confident"
endelse

case horizontal_averaging of
0 : print,"Horizontal averaging required for detection: not
applicable"
1 : print,"Horizontal averaging required for detection: 1/3 km"
2 : print,"Horizontal averaging required for detection: 1 km"
3 : print,"Horizontal averaging required for detection: 5 km"
4 : print,"Horizontal averaging required for detection: 20 km"
5 : print,"Horizontal averaging required for detection: 80 km"
else : print,"*** error getting Horizontal averaging"
endcase
end
```
