Subject: Simplify if statements and for loops inside for loops
Posted by morganlsilverman on Fri, 29 Mar 2013 16:07:51 GMT
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Hello,

I'm going for loop crazy and can't figure out how to simplify. It just keeps getting longer and more complicated. The gist of what I'm trying to do is match each element of mdate = string[14] to array adatea=string[74] (find matching dates). Once I know where if any place it matches I want to see if criteria are met to actually use that profile. This is where I go crazy. In some cases because there could be more than one profile on a single day, index might equal more than one location. For each of those locations I need to make sure there are at least 15 non-NaN values in the array and if so, calculate the difference between each altitude level and then if those differences do not exceed 500m I can use the profile do more calculations but if not then I just want to move onto the next matching date. Is there anyway to simplify this? Thank you.

Sincerely,
Morgan

```
for k=2,2 do begin
  indexa = where(strmatch(strmid(adatea,0,8),strmid(mdate(k),0,8)) eq 1,num)
  s = size(adatea)
  ncol = s(1)
  col = indexa mod ncol
  row = indexa/ncol
  if num eq 1 then begin ; If matches then go through profile critera
    inda = where(finite(aalta(col,row,*)), count) ; Count number of non-NaN altitudes
    l = 0
  endif else begin
  if num gt 1 then begin
    for l=0,n_elements(num)-1 do begin
      inda(l) = where(finite(aalta(col(l),row(l),*)), count)
    endfor
    if (n_elements(inda(l)) ge 15 ) then begin
      dcount=0
      diffa = fltarr(50)
      for k=0,count-2 do begin ; Calculate difference between altitude levels
        diffa(k) = aalta(col,row,inda(k+1))-aalta(col,row,inda(k))
        dcount = dcount+1
      endfor
      diffa = diffa(0:dcount-1)
      ; Only interested in profiles with altitude differences less than 500 m
      if (max(abs(diffa)) lt 500.0) then begin
        ; Calculate potential temperature for ACARS
        for m=0,49 do begin
          aThetaa(icount,jcount,m) = PotentialTemperature(apresa(col,row,m), atempa(col,row,m))
        endfor
        icount = icount + 1
```

```
      endif
    endif
endif
endfor
```