

ind

ndtooned , onedtond

ind_resolve

- **ind** - returns the indices where the input is True
- **ndtooned** – multidimensional array (nD) -> 1D
- **onedtond** – 1D -> nD
- **ind_resolve** - returns the nD indices corresponding to **ind**

Question: Given a 3D array, can **ind** and **ndtooned** be used to locate grid points which are `_FillValue`?

YES!

ind => ind_resolve

```
function getFillLoc (p, opt[1]:logical)
; return indices where p=_FillValue ; p(ntim,nlat,mlon)
begin
  rankp = dimsizes(dimsizes(p))
  if ( any( ismissing(p) ) ) then
    p1D   = ndtooned (p)
    imsg  = ind( ismissing(p1D) )
    ir    = ind_resolve( imsg, dimsizes(p)) ; 2D [npts,3]
    if (opt .and. isatt(opt,"print") .and. opt@print) then
      print ("getFillLoc: "+ir(:,0)+" "+ir(:,1)+" "+ir(:,2))
      ;print (p&time(ir(:,0))+" "+p&lat(ir(:,1))+" "+p&lon(ir(:,2)) )
    end if
  else
    ir    = new(1,"integer")           ; use NCL default for int _FillValue
    ir@info = "No FillValues"
  end if
  return(ir)
end
```