
Subject: Satellite remapping with map_patch

Posted by [Leon.Majewski](#) on Sun, 25 Jun 2006 05:03:48 GMT

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Hi

I've got a lot of satellite data (3000 MODIS passes) that I want to remap to a standard lat/lon grid. It's easy enough to do this with map_patch after setting the appropriate map projection with map_set:

```
map_set, 0, mean(area[[1,3]]), 0, /noerase,/noborder,/cylindrical,  
limit=area  
mapped = map_patch(product,lons, lats, xsize=xsz, ysize=ysz,  
xstart=xst, ystart=yst, missing=-999)
```

The disadvantages are a) generation of interpolated values b) I need to remap multiple (~15) products for each overpass (ie same transformation is calculated multiple times).

I'd like to generate an array of indices that are remapped and then use these to subscript the original data (basically generate the transform once, apply many times):

```
index = lonarr(xdim, ydim) ; same size as the input array  
transindex = map_patch(index,lons, lats, xsize=xsz, ysize=ysz,  
xstart=xst, ystart=yst, missing=-999)  
mapped0 = product0[transindex]  
mapped1 = product1[transindex]
```

This doesn't work.

Often there are points in the transindex that missing (-999) - ie the idl subscript is invalid, but this doesn't matter. A simplified example that does work (the way I think the above should, including ~missing points) is:

```
data = congrid(dist(256), dims[0], dims[1])  
index=lindgen(dims[0], dims[1])  
index2 = long(rot(congrid(index, xsize, ysize),20)) ;shink and spin to  
fake a transform  
bp = where(index2 gt 300000L AND index2 lt 400000L)  
index2[bp] = -999 ;add some ~missing values  
tv, data[index2] ;rescaled, spun array
```

So, what's the difference between transindex (map_patch) and rot/congrid of the index arrays? Have I missed something?

Cheers,
Leon
