

Posted by [aqueous0123](#) on Fri, 11 Jan 2002 20:33:48 GMT

Sorry, I'm new to this image processing stuff.

I have 2 images of different sizes and different, but overlapping, locations on the globe. E.g., 2 satellite images from different sensors.

```
| | | | | | | | | | <- IMAGE_1 = bytarr(532,532)
| ..... |
| ' |
| ' |
| ' |
| ' |
| ' |
| ' |
| ' |
| | | | | | | | | | <- IMAGE_2 = bytarr(250,200)
```

```
LATS_1 = fltarr(532)
LONS_1 = fltarr(532)
LATS_2 = fltarr(200)
LONS_2 = fltarr(250)
```

- (1) not the same # pixels in X and/or Y and
- (2) that its land coverage is not exactly the same as IMAGE_1, its range covers an area slightly to the south and east.

In summary, IMAGE_2 has smaller size in array space but covers nearly the same geographical space, just shifted a bit.

What I wish to do is create a new array IMAGE_3 that is the same array size (532,532) as IMAGE_1 AND also has the same physical location as IMAGE_1, but with IMAGE_2's data where IMAGE_1 and IMAGE_2 overlap (the 2's in the graphic below). Where they do not overlap, I'll just fill IMAGE_3 with nearest neighbor of IMAGE_2 (the 0's in the graphic below).

```
00000000000000000000 <- IMAGE_3 = bytarr(532,532)
00000000000000000000
00222222222222222222
```

```
0022222222222222
0022222222222222
0022222222222222
0022222222222222
0022222222222222
0022222222222222
```

So, it seems like I have to:

- (1) find intersections of IMAGE_1 and IMAGE_2 using each's LAT/LON arrays
- (2) extract this data from IMAGE_2, call this IMAGE_2a
- (2) congrid() this IMAGE_2a to the dimensions of IMAGE_1's subarea that IMAGE_2a 'covers', creating IMAGE_2b
- (3) Create final image and dummy fill for now: IMAGE_3 = IMAGE_1 & IMAGE_3[*,*] = 255b
- (4) Fill IMAGE_3 with IMAGE_2b, but only where IMAGE_2b overlaps (the 2's in the graphic above)
- (5) Fill rest of IMAGE_3 with nearest neighbor from subarea IMAGE_2b filled in STEP 4 (the 0's in the graphic above). Now final IMAGE_3 has same LAT/LON bounds as IMAGE_1, the same array dims as IMAGE_1, but filled with the data from IMAGE_2.

In thinking the problem, I believe my inexperience is making me over-engineer this solution. I'm not even sure how to do this all. Help is greatly appreciated. Thanks.
