
Subject: Re: find_boundary routine
Posted by [btt](#) on Thu, 18 Mar 2004 22:47:40 GMT
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Brian Frizzelle wrote:

> Let me apologize if this post is a bit lengthy. And in case it's
> important, I'm using IDL 6.0 on a Windows machine.
>
> I need help calculating the perimeters of regions. I have an input
> array of roughly 900 by 1200 cells which contains 15 different
> categories (coded 1 through 15). For each category, I need to find the
> total perimeter length among all of its regions.
>
> I found David Fanning's FIND_BOUNDARY routine and ran it on this
> array, but it seemed to stop at the first region that it found. So I
> wrote a script that subsetted each array first by category, then by
> region within the category (regions were created with LABEL_REGION).
> Running FIND_BOUNDARY again, I got an output for each category, but
> the numbers seemed off.
>
> So I resorted to creating a simple 5x5 array with two categories, one
> region each, to test the perimeter output of FIND_BOUNDARY.
> - Category 1 has 16 cells and a perimeter of 18.
> - Category 2 has 9 cells and a perimeter of 18.
> * FIND_BOUNDARY output a perimeter of 2 for each category.
> * FIND_BOUNDARY also only give me an output array with 2 X/Y
> coordinates.
>
> Has anyone else found this to be a problem? Maybe I'm passing in the
> wrong parameters. Here are the details of what I've done so far. Any
> help would be greatly appreciated.
>
> Brian Frizzelle
>
> -----
>
> arrayTest: regCat1: regCat2:
> 1 1 1 2 2 1 1 1 0 0 0 0 0 1 1
> 1 1 1 2 2 1 1 1 0 0 0 0 0 1 1
> 1 1 1 1 2 1 1 1 1 0 0 0 0 0 1
> 1 1 1 1 2 1 1 1 1 0 0 0 0 0 1
> 1 1 2 2 2 1 1 0 0 0 0 0 1 1 1
>
> IDL> bndry = find_boundary(regCat1, XSize=5, YSize=5, Perimeter=perim)
> IDL> print, perim
> 2.0000000
> IDL> print, bndry

```
> 0 0  
> 0 1
```

Hello,

I think David's FIND_BOUNDARY is looking for the 1-dimensional subscripts of the 'blob' within the image. Try...

```
index = where(arrayTest EQ 1, cnt)  
If cnt GT 0 Then $  
  bndry = find_boundary(index, XSize=5, YSize=5, Perimeter=perim) else  
  bndry = -1
```

Be careful using LABEL_REGION, it assign features that lie along the image edge to the background.

Ben
Ben
