
Subject: Coloring labelled regions (or states)

Posted by [Helder Marchetto](#) on Tue, 06 Oct 2015 12:39:46 GMT

[View Forum Message](#) <> [Reply to Message](#)

Hi,

I have an image where I identified regions (label_region). These regions are confining with one another as states do on a political map.

Can you suggest me a way to generate a colored image, so that I don't have neighboring "states" with too similar colors?

I can fill in the array values, I just dunno where to get appropriate colors or how to chose which one gets which.

I would be happy to get any information on how to do this. Something tells me that Brewer colors are the way to go, but I haven't figured out which one to use for which state...

Thanks,
Helder

PS: My problem has nothing to do with political maps, but that's a good approx. I'm not sure how many neighbors each region will have, but it should be comparable to typical values for political maps.

Subject: Re: Coloring labelled regions (or states)

Posted by [Phillip Bitzer](#) on Tue, 06 Oct 2015 14:12:14 GMT

[View Forum Message](#) <> [Reply to Message](#)

On Tuesday, October 6, 2015 at 7:39:53 AM UTC-5, Helder wrote:

> Hi,

> I have an image where I identified regions (label_region). These regions are confining with one another as states do on a political map.

> Can you suggest me a way to generate a colored image, so that I don't have neighboring "states" with too similar colors?

>

> I can fill in the array values, I just dunno where to get appropriate colors or how to chose which one gets which.

>

I always use this for help picking a palette:

<http://colorbrewer2.org/>

Sounds like you want a "qualitative" table.

Subject: Re: Coloring labelled regions (or states)

Posted by [Helder Marchetto](#) on Tue, 06 Oct 2015 15:08:12 GMT

[View Forum Message](#) <> [Reply to Message](#)

On Tuesday, October 6, 2015 at 4:12:22 PM UTC+2, Phillip Bitzer wrote:

> On Tuesday, October 6, 2015 at 7:39:53 AM UTC-5, Helder wrote:

>> Hi,

>> I have an image where I identified regions (label_region). These regions are confining with one another as states do on a political map.

>> Can you suggest me a way to generate a colored image, so that I don't have neighboring "states" with too similar colors?

>>

>> I can fill in the array values, I just dunno where to get appropriate colors or how to chose which one gets which.

>>

>

> I always use this for help picking a palette:

>

> <http://colorbrewer2.org/>

>

> Sounds like you want a "qualitative" table.

Hi,

that's a beautiful website. However, is there an easy way to automatically assign the colors?

For instance, I chose these colors (qualitative, 9 data classes, printer friendly):

228,26,28

55,126,184

77,175,74

152,78,163

255,127,0

255,255,51

166,86,40

247,129,191

153,153,153

How to I assign them? Is there an "ordered" way to do this or just from 1 to 9 looking at the result at the end?

Thanks,

Helder

Subject: Re: Coloring labelled regions (or states)

Posted by [Michael Galloy](#) on Tue, 06 Oct 2015 15:18:24 GMT

[View Forum Message](#) <> [Reply to Message](#)

On 10/6/15 9:08 am, Helder wrote:

> On Tuesday, October 6, 2015 at 4:12:22 PM UTC+2, Phillip Bitzer wrote:

>> On Tuesday, October 6, 2015 at 7:39:53 AM UTC-5, Helder wrote:

```

>>> Hi,
>>> I have an image where I identified regions (label_region). These regions are confining with
one another as states do on a political map.
>>> Can you suggest me a way to generate a colored image, so that I don't have neighboring
"states" with too similar colors?
>>>
>>> I can fill in the array values, I just dunno where to get appropriate colors or how to chose
which one gets which.
>>>
>>
>> I always use this for help picking a palette:
>>
>> http://colorbrewer2.org/
>>
>> Sounds like you want a "qualitative" table.
>
> Hi,
> that's a beautiful website. However, is there an easy way to automatically assign the colors?
> For instance, I chose these colors (qualitative, 9 data classes, printer friendly):
> 228,26,28
> 55,126,184
> 77,175,74
> 152,78,163
> 255,127,0
> 255,255,51
> 166,86,40
> 247,129,191
> 153,153,153
>
> How to I assign them? Is there an "ordered" way to do this or just
from 1 to 9 looking at the result at the end?
>
> Thanks,
> Helder
>

```

Yes, this is what indexed color mode is for:

```

r = [228, 55, 77, 152, 255, 255, 166, 247, 153]
g = [26, 126, 175, 78, 127, 255, 86, 129, 153]
b = [28, 184, 74, 163, 0, 51, 40, 191, 153]

```

```

tvlct, r, g, b
device, decomposed=0

```

Then, just use COLOR=0, COLOR=1, etc.

Deciding on which areas just which colors is another matter...

Mike

--

Michael Galloy

www.michaelgalloy.com

Modern IDL: A Guide to IDL Programming (<http://modernidl.idldev.com>)

Subject: Re: Coloring labelled regions (or states)

Posted by [David Fanning](#) on Tue, 06 Oct 2015 15:19:17 GMT

[View Forum Message](#) <> [Reply to Message](#)

Helder writes:

> that's a beautiful website. However, is there an easy way to automatically assign the colors?
> For instance, I chose these colors (qualitative, 9 data classes, printer friendly):
> 228,26,28
> 55,126,184
> 77,175,74
> 152,78,163
> 255,127,0
> 255,255,51
> 166,86,40
> 247,129,191
> 153,153,153
>
> How to I assign them? Is there an "ordered" way to do this or just from 1 to 9 looking at the
result at the end?

"He who strives for simplicity, wastes his time." - Coyote

I'd probably try it sequentially, and if that didn't look so great, I'd
probably try a bunch of random combinations, using various seeds so I
could reproduce the results. After that...I'd assign Coyote the job. ;-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>

Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: Coloring labelled regions (or states)

Posted by [Helder Marchetto](#) on Tue, 06 Oct 2015 16:01:21 GMT

[View Forum Message](#) <> [Reply to Message](#)

Hi Mike,
I was looking into how to properly sort (assign) the colors.
I'll start with Coyote's suggestion (sequentially) and see where it goes from there.
Thanks, Helder

Subject: Re: Coloring labelled regions (or states)
Posted by [Helder Marchetto](#) on Tue, 06 Oct 2015 16:05:13 GMT
[View Forum Message](#) <> [Reply to Message](#)

Thanks David, I'll try that and see. I thought that there would be some clever algorithm based on distances between center of masses and number of neighbors...
Cheers, Helder

Subject: Re: Coloring labelled regions (or states)
Posted by [David Fanning](#) on Tue, 06 Oct 2015 16:10:54 GMT
[View Forum Message](#) <> [Reply to Message](#)

Helder writes:

> Thanks David, I'll try that and see. I thought that there would be some clever algorithm based on distances between center of masses and number of neighbors...

I'm sure there is. And, it probably works about as well as assigning random colors. :-)

Cheers,

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>
Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: Coloring labelled regions (or states)
Posted by [David Fanning](#) on Tue, 06 Oct 2015 16:20:13 GMT
[View Forum Message](#) <> [Reply to Message](#)

David Fanning writes:

>
> Helder writes:

>
>> Thanks David, I'll try that and see. I thought that there would be some clever algorithm based on distances between center of masses and number of neighbors...
>
> I'm sure there is. And, it probably works about as well as assigning
> random colors. :-)

With sufficient colors and a limited number of "connections" between regions, I can envision an algorithm that removes "neighboring" colors from a list of colors, before picking one at random. This is guaranteed to be slow, though, depending upon how many regions you have. And, a lot of paperwork to keep track of. I'd definitely give random a shot first.

Maybe random with color removal? Assign a random color. Remove that from the list of colors, assign the next random color from the shortened list, etc. Rinse and repeat. I can still envision situations that it wouldn't work with.

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>
Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: Coloring labelled regions (or states)
Posted by [Fabzi](#) on Tue, 06 Oct 2015 16:38:03 GMT
[View Forum Message](#) <> [Reply to Message](#)

On 10/06/2015 06:20 PM, David Fanning wrote:
> With sufficient colors

it seems that only four are needed ;-)

https://en.wikipedia.org/wiki/Four_color_theorem

Fabien

Subject: Re: Coloring labelled regions (or states)
Posted by [wlandsman](#) on Tue, 06 Oct 2015 21:53:43 GMT
[View Forum Message](#) <> [Reply to Message](#)

On Tuesday, October 6, 2015 at 8:39:53 AM UTC-4, Helder wrote:

> Hi,
> I have an image where I identified regions (label_region). These regions are confining with one another as states do on a political map.
> Can you suggest me a way to generate a colored image, so that I don't have neighboring "states" with too similar colors?

I had a similar problem a while back

[https://groups.google.com/forum/?fromgroups&hl=en#!searchin/comp.lang.idl-pvwave/wayne\\$20brewer/comp.lang.idl-pvwave/ZKTMA2GAgmw/e7GzEbdrIUIJ](https://groups.google.com/forum/?fromgroups&hl=en#!searchin/comp.lang.idl-pvwave/wayne$20brewer/comp.lang.idl-pvwave/ZKTMA2GAgmw/e7GzEbdrIUIJ)

I never found a single optimal solution but because my display was part of a widget, I could add buttons for the user to quickly click through different color tables - click, click,click -- till they found one they liked. --Wayne
