
Subject: colour coded shaded relief DEM: go get 'm
Posted by [Bob Janssen](#) on Tue, 01 Aug 1995 07:00:00 GMT
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I recently posted a query to this newsgroup concerning colour coded shaded relief images. With help from Ray Sterner and David Stern, I produced the following procedure. It's probably not in the least monkey-proof, so beware). If the thing works, your socks are guaranteed to be blasted into orbit for awe.

PRO clr_topo, dem

```
; displays a colour coded shaded relief
; dem is a digital elevation model. US dem's may be
; retrieved from http://sun1.cr.usgs.gov
```

```
z=bytsc1(dem)
loadct,10
tvsc1,z      ; rainbow table. Tables more representative for
tvlct,r,g,b,/get ; topography are easily produced. Elevations are
; colour coded.
```

```
shades=topo(z) ; produce a monochrome shaded relief image
; topo.pro is available from Ray Sterner's
; anonymous ftp site at fermi.jhuapl.edu
```

```
; decompose the colour image into the red, green and blue channels
; and convert to hue, saturation, value sets.
```

```
rr=r(z>1) & gg=g(z>1) & bb=b(z>1)
color_convert,rr,gg,bb,hh,ss,vv,/rgb_hsv
```

```
; now, replace the value channel "vv" by "shades". This trick is
; commonly used in satellite image processing. The value channel of
; a colour satellite image contains the information that we
; perceive as topography. In our particular case,
; this information resides in "shades", the shaded relief image.
```

```
color_convert,hh,ss,shades,r1,g1,b1,/hsv_rgb
```

```
; The topographic relief information is inserted into the colour
; coded elevation image. Finally, the image is converted back to
; the rgb colour system.
```

```
c=color_quan(r1,g1,b1,r2,g2,b2,colors=256,/dither) ;for 8 bit screens
tvlct,r2,g2,b2 & tv,c ; et voila le travail !
```

```
;loadct,0 & erase  
;tv,rr,channel=1  
;tv,gg,channel=2  
;tv,bb,channel=3 ;for 24 bit screens
```

END

Yours,

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