Instituto Politécnico Nacional

Unidad Profesional Interdisciplinaria en

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Grupo: 3TM2

Practica 1: Procesamiento de imágenes

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```
file = open('./images/volcan.bmp','rb')
fileo = open('./images/celestebin.bmp','wb')
metadata = file.read(54)
fileo.write(metadata)
celeste1 = [0xFF,0xFF,0x99]
celeste2 = [0xFF,0xF9,0x7D]
celeste3 = [0xFD,0xFF,0xDF]
celeste4 = [0xFF,0xFF,0xE0]
celeste5 = [0xD0,0xD8,0x81]
celeste6 = [0xFF,0xFF,0x0F]
celeste7 = [0xF5,0xDB,0xAF]
celeste8 = [0xFF,0xFF,0xB2]
celeste9 = [0xFF,0xFF,0x94]
celeste10= [0xFF,0xFF,0x75]
celeste11= [0xFF,0xFF,0x56]
celeste12 =[0xFF,0xFF,0x37]
celeste13 =[0xFF,0xFF,0x18]
celeste14= [0xF8,0xF8,0x00]
celeste15= [0xD9,0xD9,0x00]
celeste16= [0xBA,0xBA,0xBA]
paleta = [
   celeste1, celeste2, celeste3, celeste4,
   celeste5, celeste6, celeste7, celeste8,
   celeste9, celeste10, celeste11, celeste12,
   celeste13, celeste14, celeste15, celeste16]
```

```
file.seek(54,0)
no_pix = 0
limite = (pow(2, 24)-1)/16

while(True):
   pixel_data = file.read(3)

   if(len(pixel_data) > 0):

      valor_int = int.from_bytes(bytes(pixel_data), byteorder='little')
      indice = int(valor_int / limite)

      if indice > 15:
         indice = 15
      fileo.write(bytes(paleta[indice]))

      no_pix += 1
   else:
      break

print('No Pixels: '+str(no_pix))
file.close()
fileo.close()
```

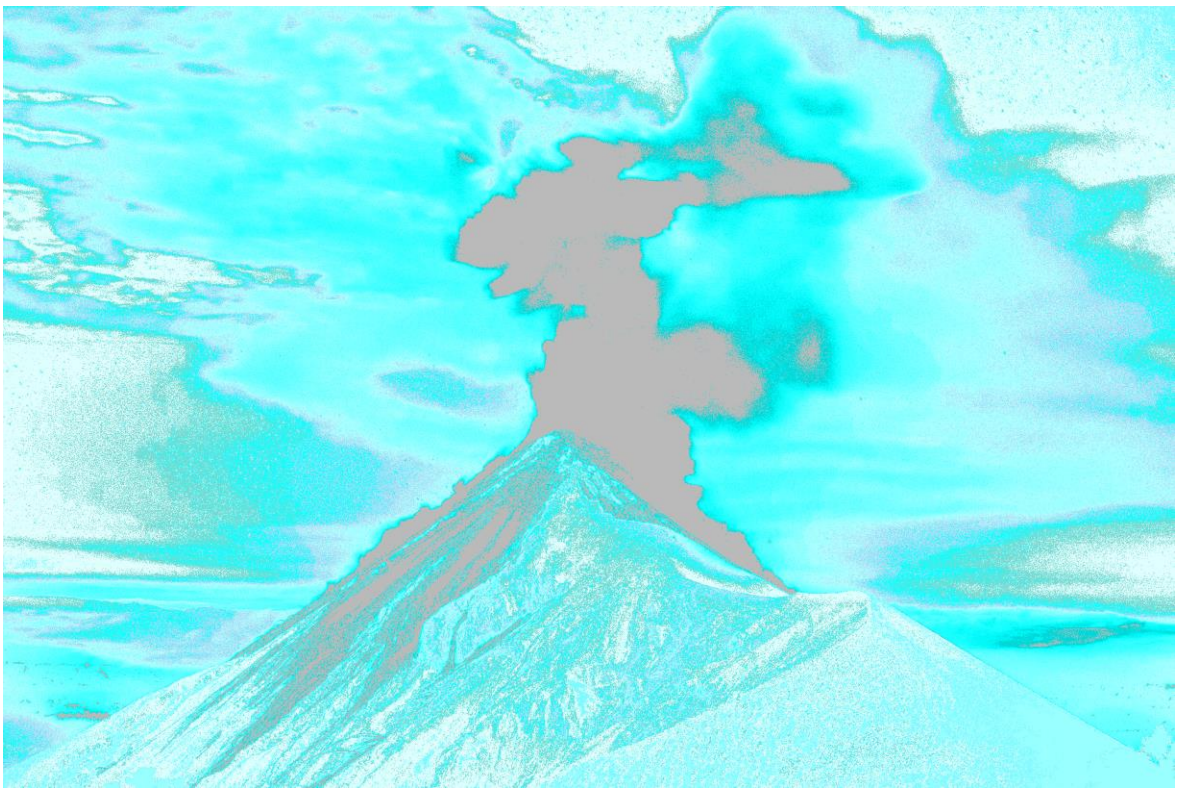

Fig1. Resultado de los 16 tonos del color Celeste aplicado a la imagen de volcan