Subject: Re: Need help in IDLgrSurface and vertical exaggeration
Posted by raval.chintan on Fri, 17 Mar 2006 10:54:15 GMT
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Dear Rick,

I have been troubling you a lot for some time but belive me each interaction (or encounter) with you has always been fruitful and broadened by knowledge of IDL thank you for that

I have not been able to take time out to build the circuit but your solution is terrific.

Anyways coming to the point, I am not using XOBJVIEW as you might have suspected , instead I have been bolder and used IDLitWindow class along with IDLgrSurface to create my own view the details are as follows:

I have used normalized coordinate system for creating the *system*
VIEWPLANE=[-0.5,-0.5,1,1]
ZCLIP=[-1,1]
EYE=1.01
Projection=2
Color = [20,50,75]

self.oSurfView = OBJ_NEW('IDLgrView', COLOR=Color,$
VIEWPLANE_RECT=viewplane, ZCLIP=zClip, projection = Projection,EYE=Eye)

Next I compute out the Convertion factors for X,Y and Z respectively.
The details for DEM are as follows

;Data dimensions are
xDemSize = 800
yDemSize = 800

;Pixel resolution is
GroundResoulution =[25,25] ;in meters
;Minimum height in the data set is
zMin = 0 ;in meters
;Maximum height is
zMax = 3500 ; in meters.

XCnv =[-0.5 , 1.0/xDemSize]
YCnv =[-0.5 , 1.0/yDemSize]
ZCnv =[zMin / (zMax-zMin) , 1.0 / (zMax-zMin)]

since the dataset can be *heavy* on system (although in our test case it is only 800x800) hence we reduce the data by congriding it and then

create a mesh of the dataset which is 10 units apart

```
DemData = congrid( origDEMData, xDemSize/10, yDemSize/10 )

nDemData=size(DemData)

xData = INDGEN(nDemData[1])*10
yData = INDGEN(nDemData[2])*10
;create the surface object
self.oSurface= OBJ_NEW('IDLgrSurface', DemData, $
        STYLE = 2, Datax=xData, Datay=yData, $
        XCOORD_CONV=XCnv , YCOORD_CONV=YCnv, $
        ZCOORD_CONV=ZCnv)

;create the model
self.oSurfModel = obj_new('IDLgrModel',name ='SurfaceModel')

;add surface to model
self.oSurfModel->Add, self.oSurface

;add the model to our view
self.oSurfView ->add,self.oSurfModel

;Draw the surface on window
self.oWin->draw,self.oSurfView
```

Hope I have not commited any mistakes here! With this code, as I mentioned, I am not getting any realistic depth perception. I belive you are right when you say

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This probably has more to do with how you are viewing the data. If you want a scene to appear realistic, you need to scale everything accordingly. You most likely have your surface at one scale, and your viewing system at another.

But I am not sure where I am setting the viewing systems scale and how it is differing from the surface scale I would appreciate if you can shed some light on this.

With regards
Chintan