How do I view image data in three dimensions geolocated to the background using standard McIDAS areas?

1) Load real-time data: click on the  button in the main toolbar for the ***Data Explorer*** .
   a) Load data: **Data Sources > Satellite > Imagery**
   b) After data is selected, click "**Add Source.**" **Caution**: Later, color filled contours over topography will be drawn. This is a memory intensive process, choosing a small subsection of data is best. In this example, the image is only 20x20 pixels.

For additional help, in loading satellite data into the data chooser, see "Displaying Satellite Imagery" in the McIDAS-V User's Guide located under the help pull down menu in the main window.

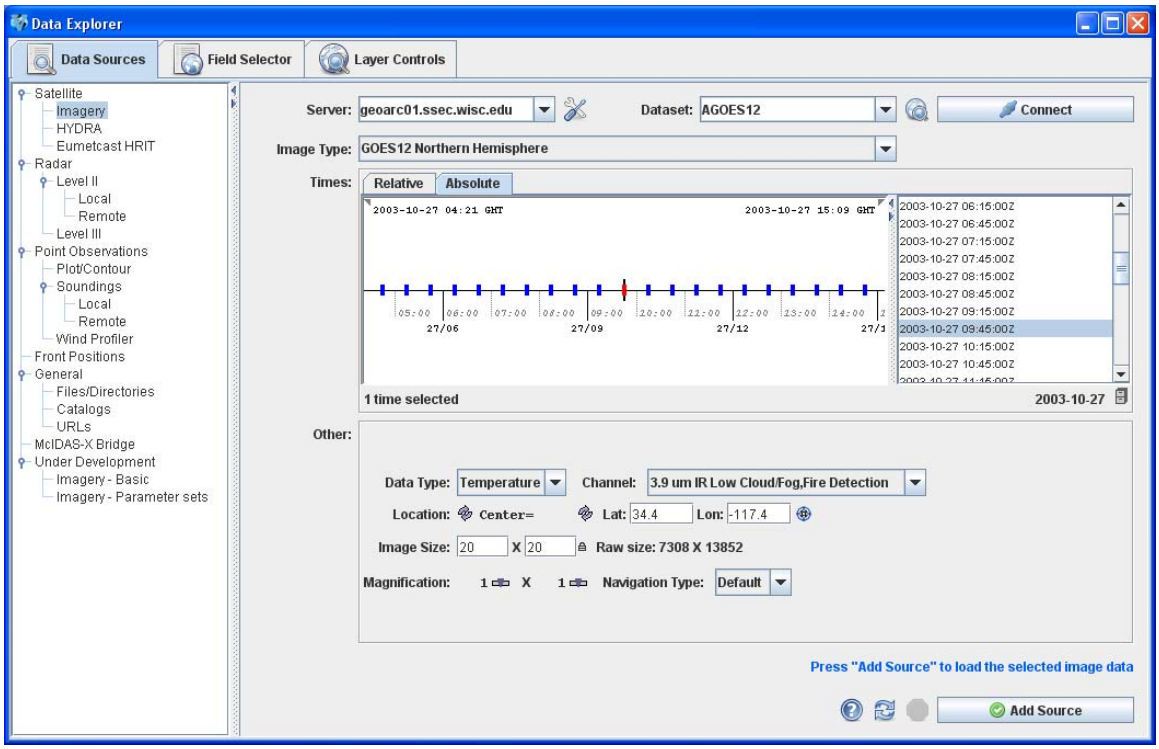

Figure 1 Load the data (Step 1).

2) Click the **Field Selector** tab.
   a) Under **Data Sources** column highlight **Formulas**
   b) Under **Fields** column, click blue circle left of word "**Miscellaneous**" for drop down menu > Highlight **Change Unit**
   c) Under **Displays** column, select blue circle left of words "**3D Surface**" > Highlight **Color-Filled Contours Over Topography**
   d) Click "**Create Display**"

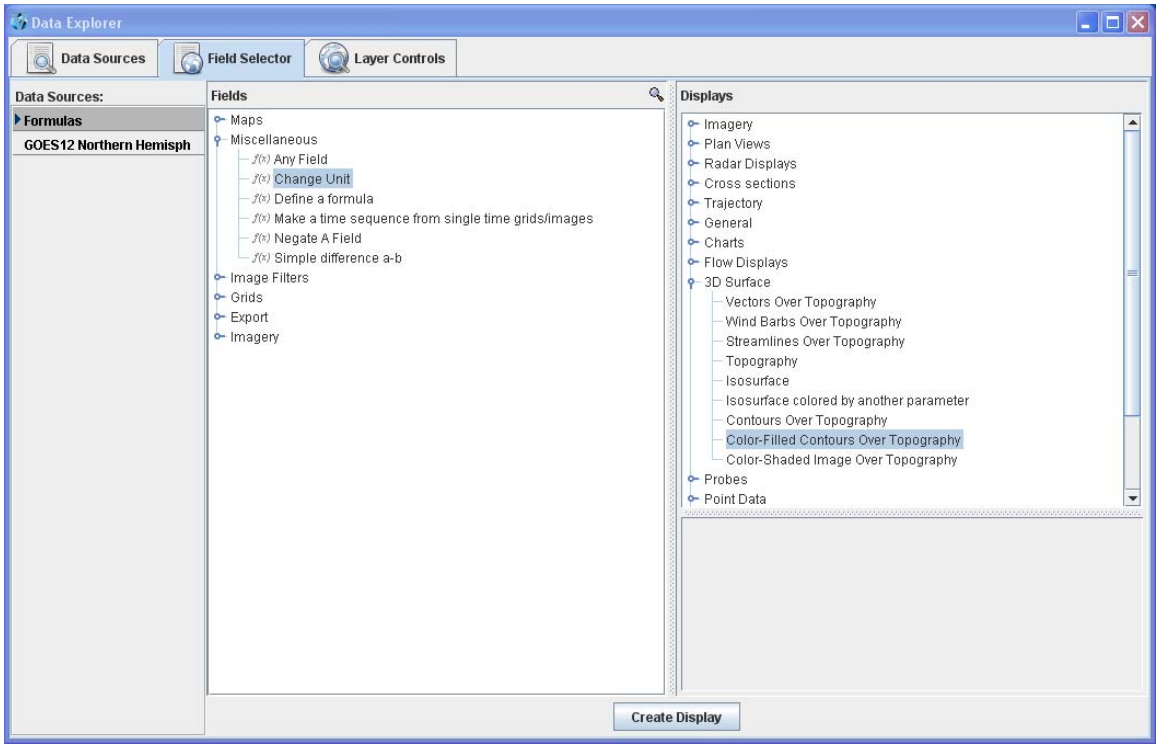

Figure 2: Selecting the color-filled contour option (Step 2).

3) In the **Field Selector** window:
   a) Click the blue circle next to **Formulas** for drop down menu.
   b) Click the blue circle next to **Miscellaneous** for drop down menu.
   c) Select “Change Field.” Click OK.

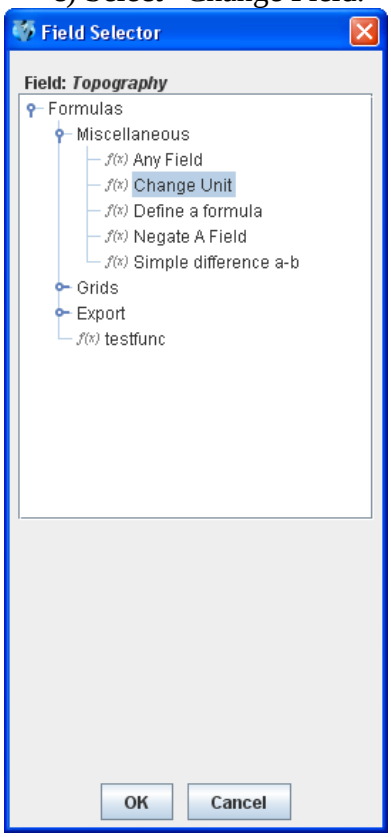

Figure 3 Changing the unit used for the topography field (Step 3)

4) The **Select Input** window appears. In the name field, select the data that should be used for the vertical coordinate (ALT, TEMP, RAD, etc). **Leave the unitSpec as "m" as McIDAS-V version1.0Beta1, the capability to redefine the unit is not functional. In this example, the user is telling McIDAS-V to map brightness temperature values (TEMP) to the topography field which is in meters** Click "**OK.**"

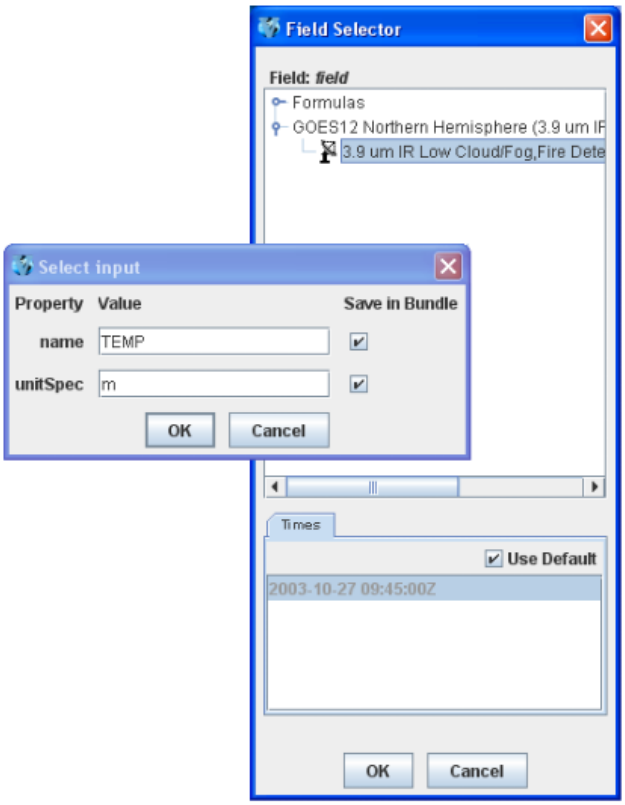

Figure 4: Change the vertical coordinate from Altitude to Brightness Temperature (Steps 3-5).

5) In the **Field Selector** window select data desired for topography field. (In this example, a 20x20 pixel subsection of the 3.9 micron GOES-12 Brightness Temperature data.) Click "**OK**"

6) a) The **Select Input** window appears again. This time, define the data field which will lay on top of the topography. In the name field, select the data that should be used to lay on top of the topography field (ALT, TEMP, RAD, etc).

b) The **Field Selector** appears again (with the heading Field: *field*), Select data desired for data field. (In this example, a 20x20 pixel subsection of the 3.9 micron GOES-12 Brightness Temperature data.) Click "**OK**"

7) In **Map Display** window, change **Vertical Scale**.
   - **View > Viewpoints > Vertical Scale**
   - Enter desired Min and Max value but leave Units as “m”.

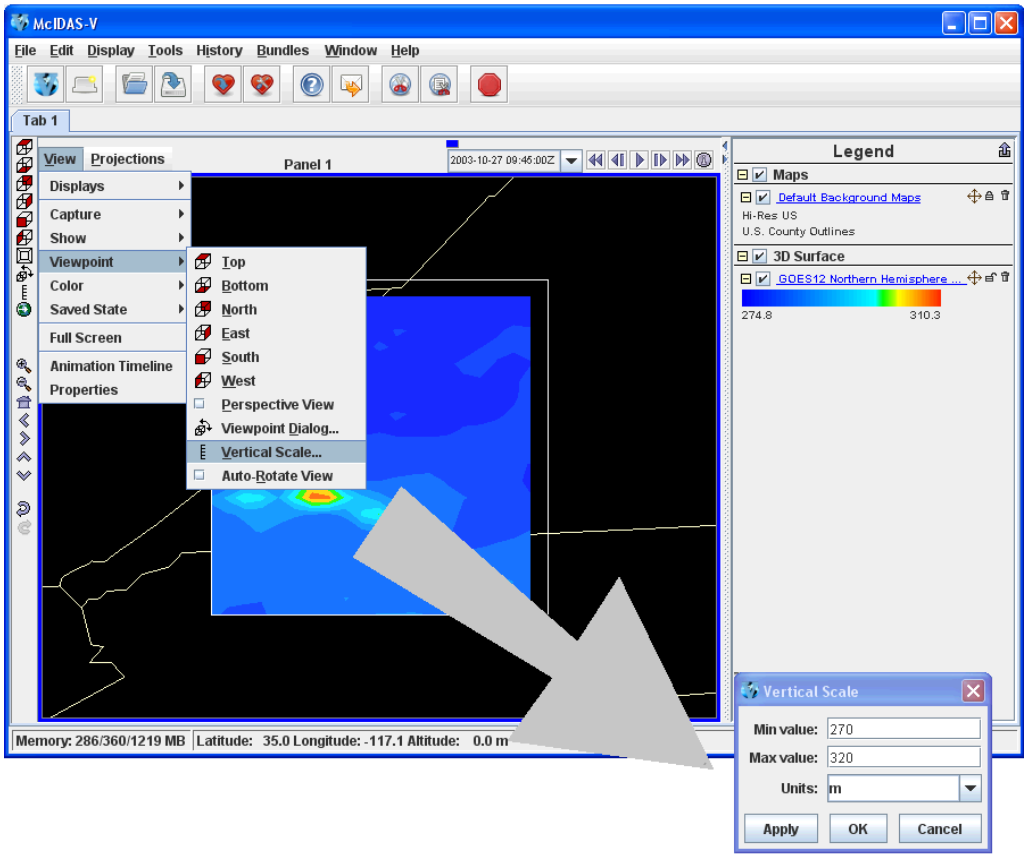

Figure 5 Change the vertical scale (Step 6).

8) **Return to Layer Controls. Either**

- click on the link to the data under the **Legend** heading (For this example that link is GOES-12 Northern Hemisphere…) OR
- click on the  button in the main toolbar and select **Layer Controls** tab amd highlight data in the left column (In this example: GOES12 Northern Hemis.)

- Click Contour: **Change**. Adjust the base contour, minimum and maximum value and contour interval in **Contour Properties Editor**. Click **OK**.
- Click Color Table: **Default.** Select desired color table (**VISAD** selected for example)
- Click **Edit > Color Table > Change Range** and change the range of the color table if desired.

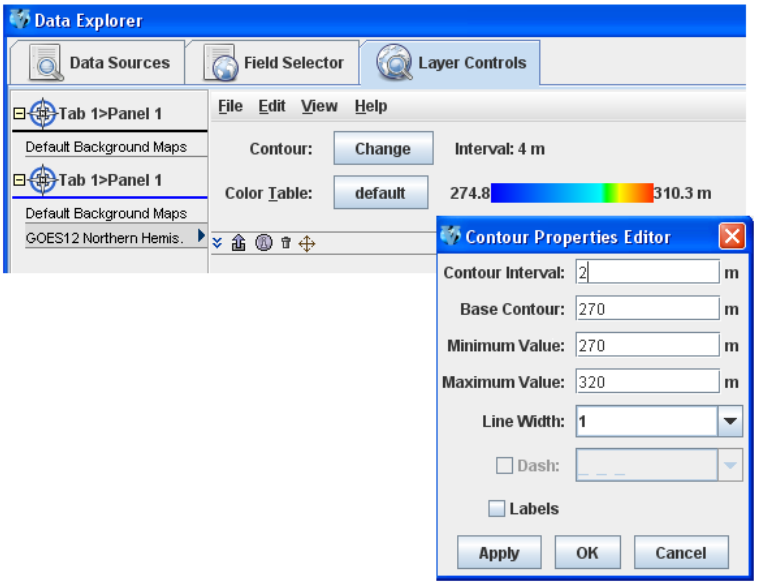

Figure 6 Adjusting the contour properties, the color table range and color table (Step 7).

9) Load data source for 2-D base layer. (In this example the same date/time satellite image with more of the pixels displayed.) Click the **Field Selector** tab.
   e) Under **Data Sources** column highlight the desired data (ex. *More Pixels GOES-12 North*)
   f) Under **Fields** column, select the desired Field (ex. *3.9 um IR Low Cloud/Fog, Fire Detection*)
   g) Under **Displays** column, select blue circle left of words "**Imagery**" > Highlight **Image Display**
   h) Click **Create Display**

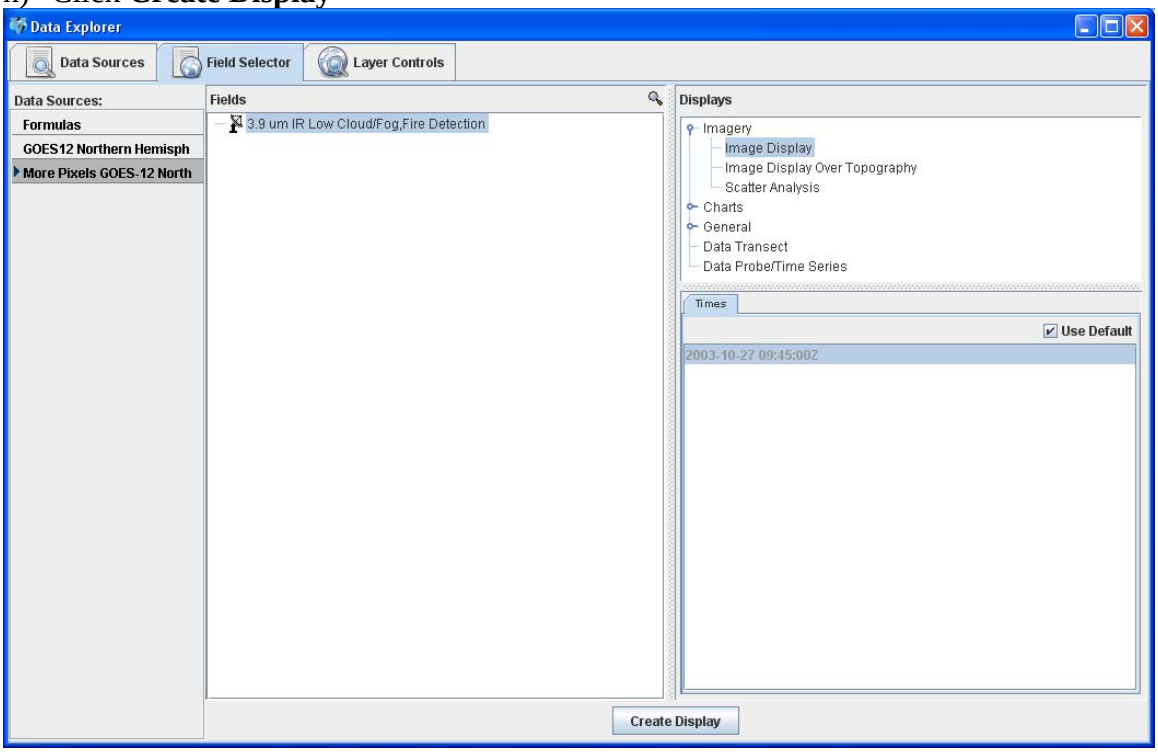

Figure 7 Adding another layer (Step 8).

10) The data is now in the projection of the last data loaded, to return to the projection of the first data source return to **Map Display** window

- **Projections > From Displays > Image (Projection from Color-Filled Contours Over Topography)**

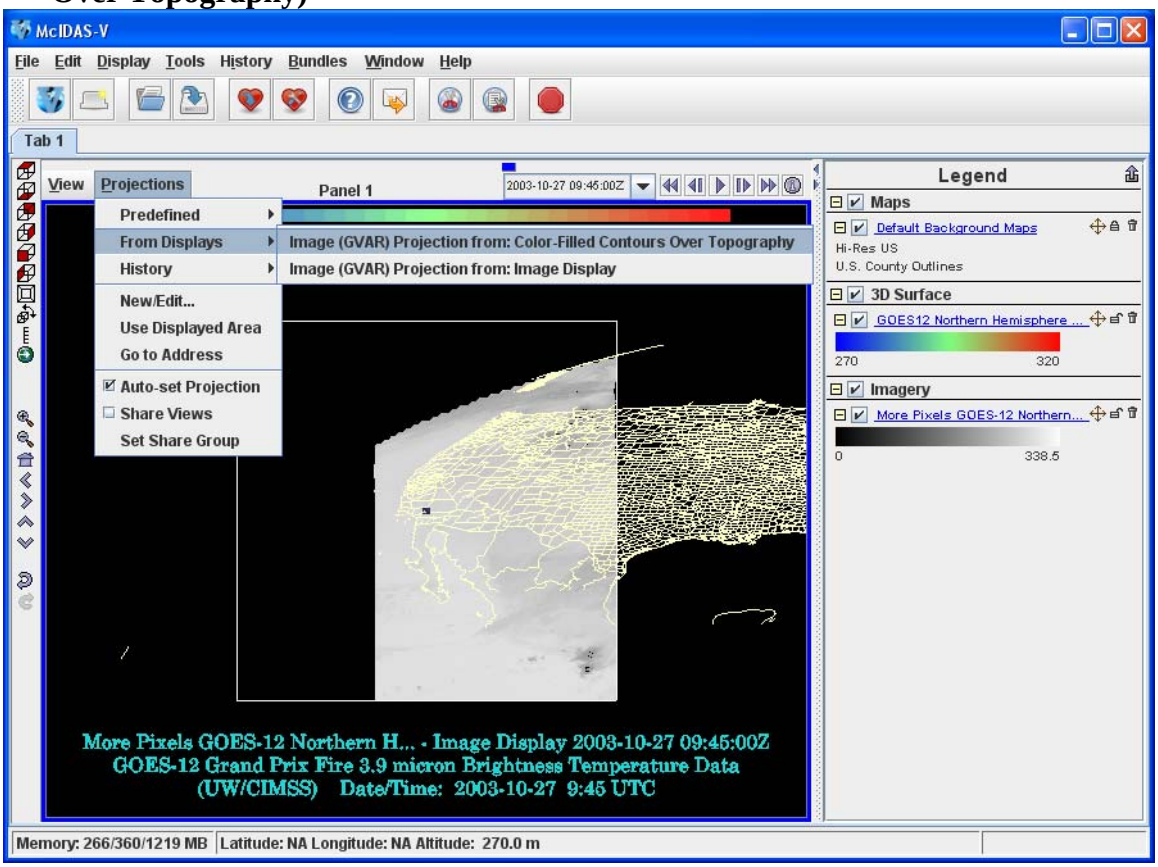

Figure 8 Return to projection of the color filled contours layer (Step 9).

11) Return to the **Layer Controls**

- Change range and Color Table of base layer (this example uses "Inverse Grayshade for the color table)
- Change display label **Edit > Properties > Settings: Display Label** for both the base layer and the color-filled contour over topography layer. When the desired title has been entered click **OK**.
- Display color bar of color-filled contours over topography. **Edit > Properties > Color Scale > Visible > OK**

12) Return to **Map Display** rotate and zoom data. See **Zooming, Panning and Rotating** in **McIDAS-V User's Guide.**

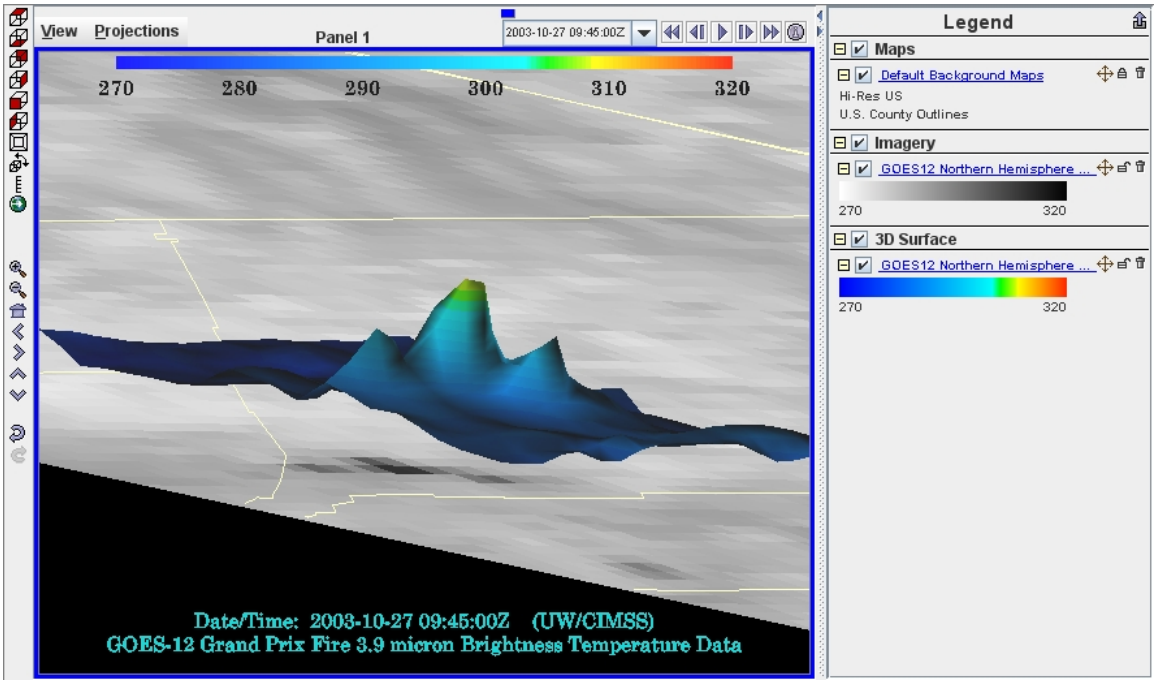

Figure 9 The Final Image