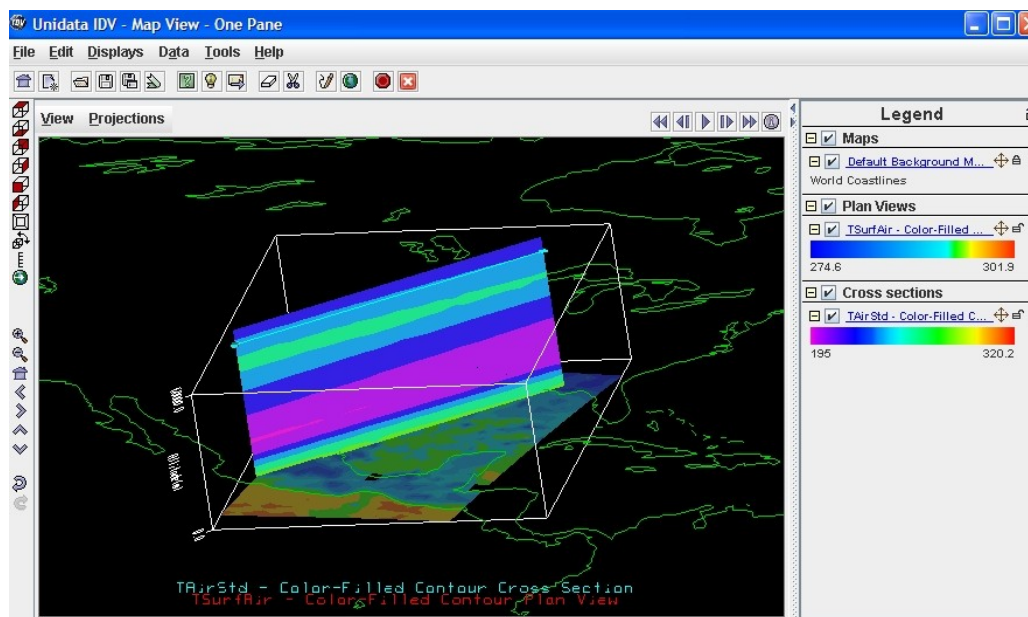


README Document for

Use of Integrated Data Viewer (IDV)

for displaying Vertical Cross Section of AIRS Level 2 data

This document briefly describes on how to utilize **Integrated Data Viewer (IDV)** to display the vertical slice of AIRS Level 2 data (in netCDF format) as seen below.



Unidata's IDV (<http://www.unidata.ucar.edu/software/idv/>) is a freely available, multiplatform visualization and analysis tool for interdisciplinary geoscience data. Users are encouraged to visit the website and to learn more about IDV. IDV supports various data formats including **netCDF**. AIRS Level 2 data can be obtained in netCDF format from [Mirador](#), a data search engine within Goddard Earth Science Data Information and Service Center (GES DISC).

Detailed procedure of displaying vertical slice of AIRS Level 2 product is as follows.

1. Visit IDV's website and download/install the IDV of your choice. [IDV Installers](#) will probably be what most users need. Choose the appropriate installer for your operating system. <http://www.unidata.ucar.edu/software/idv/docs/userguide/Starting.html>
2. Run the IDV. A splash screen appears as the IDV starts up.

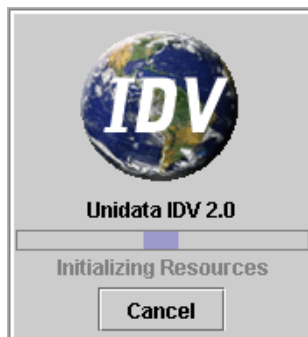


Figure 1.

Then, you will see two windows; **Dashboard window** (Figure 2) and **View window** (Figure 4).

- From **Dashboard window**, click the **Data Choosers**, navigate the directory that contains the files you are interested in, choose the data file you want to display and click **Add Source** button.

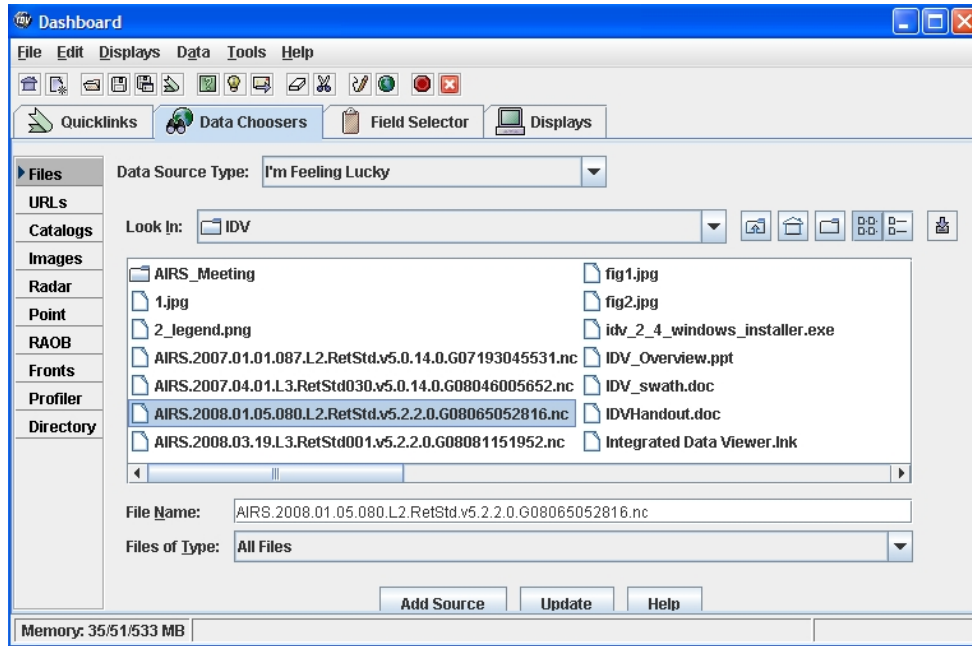


Figure 2.

- Next, click **Field Selector**, choose the field (*TsurfAir: surface air temperature*) and Display (*Color-Filled Contour Plan View*), and click **Create Display**.

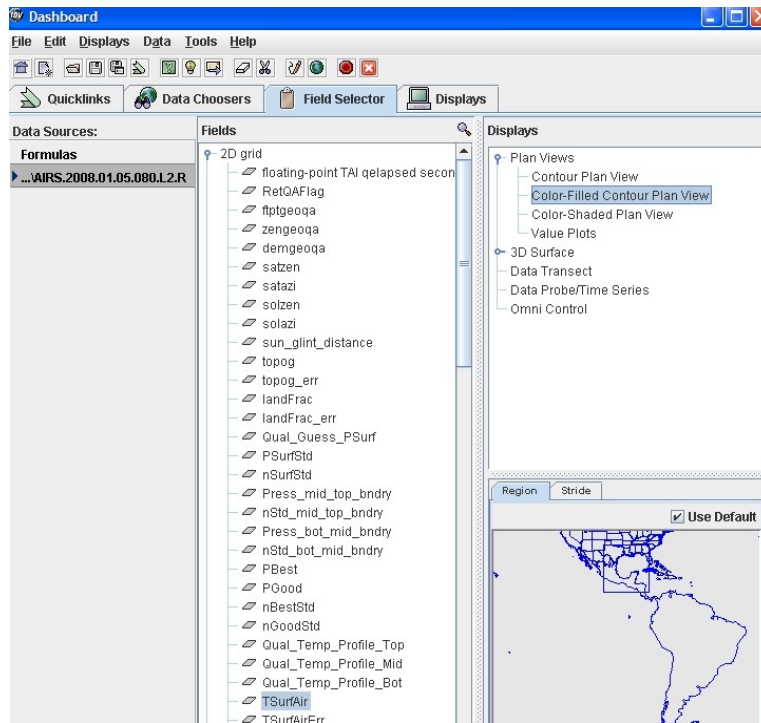


Figure 3.

5. You will see the color-filled contour plan view in a separate **View window** as below.

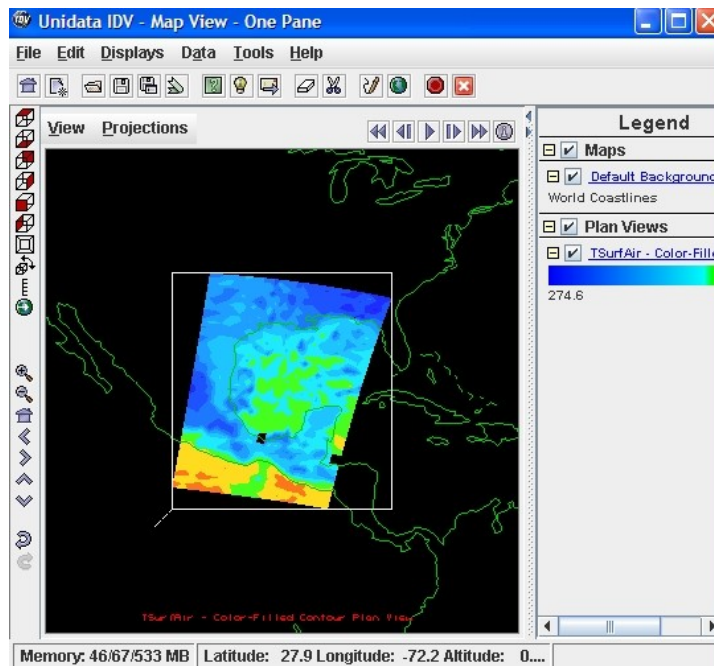


Figure 4.

6. To add vertical-slice plot, select one of 3D parameters from Field Selector (*TAirStd: Atmospheric temperature profile*), and Display (*Color-Filled Contour Vertical Cross Section*) and click **Create Display** (from **Dashboard window**)

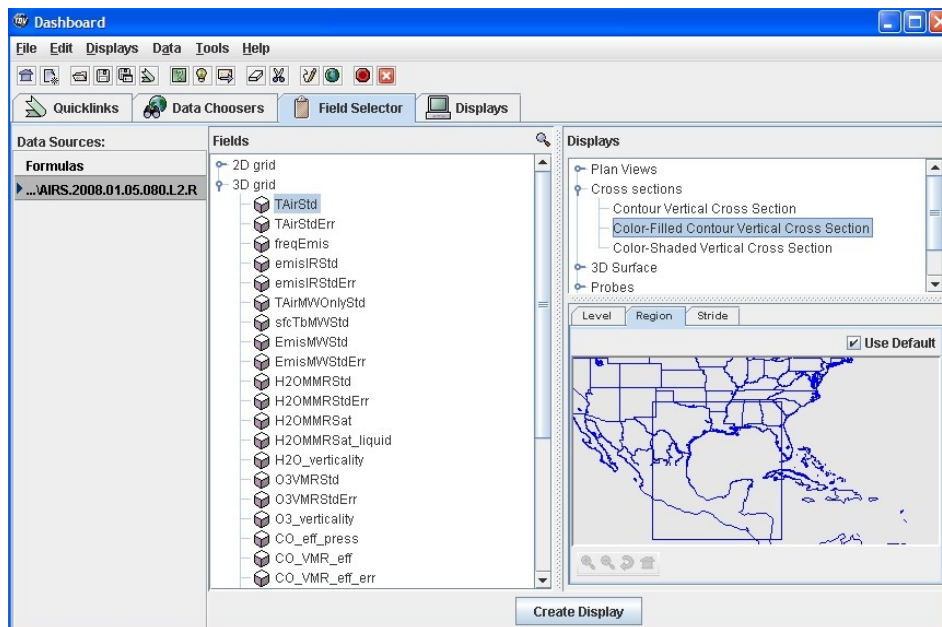


Figure 5.

7. A result plot is similar to previous one except an additional bar (light-blue color) is added.

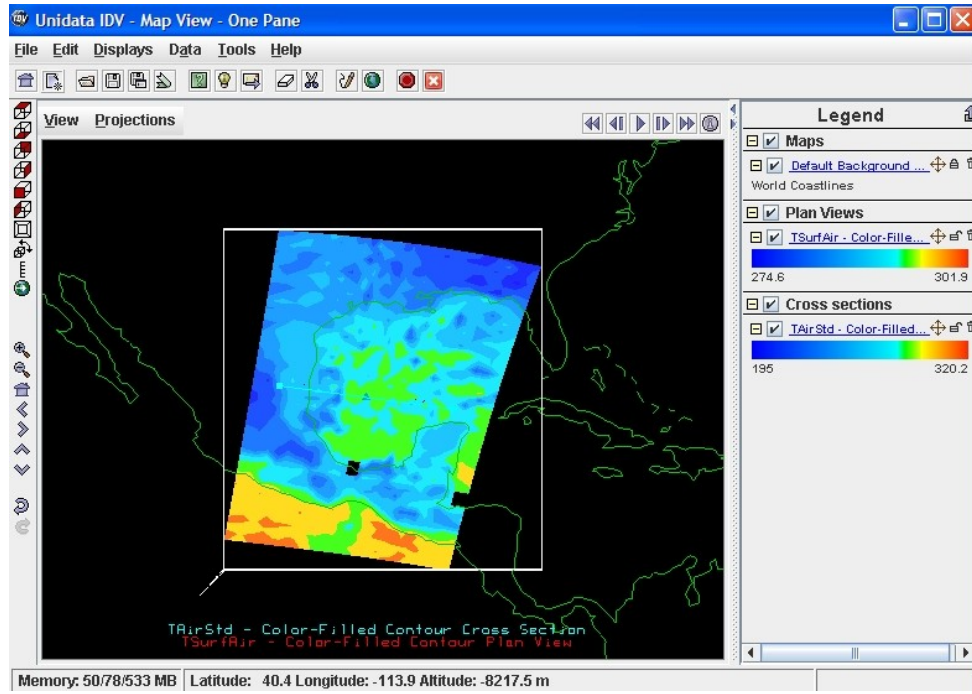


Figure 6.

8. With the right-click button pressed, move the mouse around the figure to change the orientation of the plot (from **View window**)

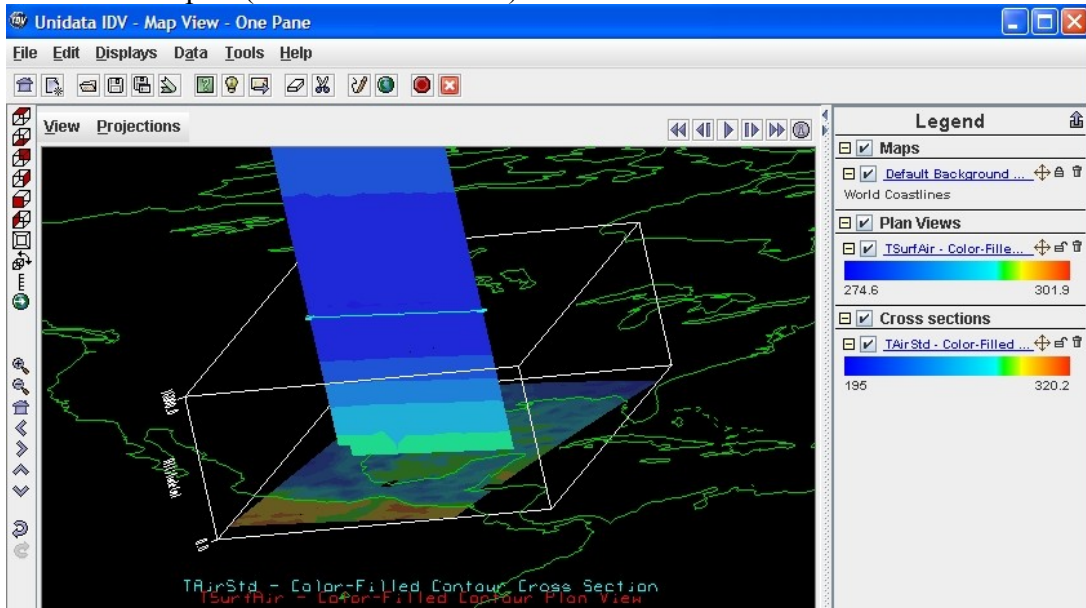


Figure 7.

9. To modify the vertical scale, Choose **Properties** under **View** and select **Vertical Scale** (from **View window**). Change the max value as 60000 and click O.K.

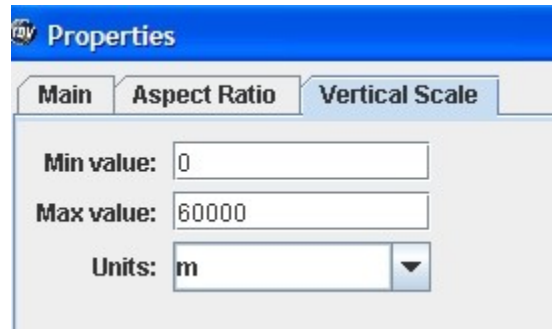


Figure 8.

The vertical-slice figure will adjust to fit with the frame box.

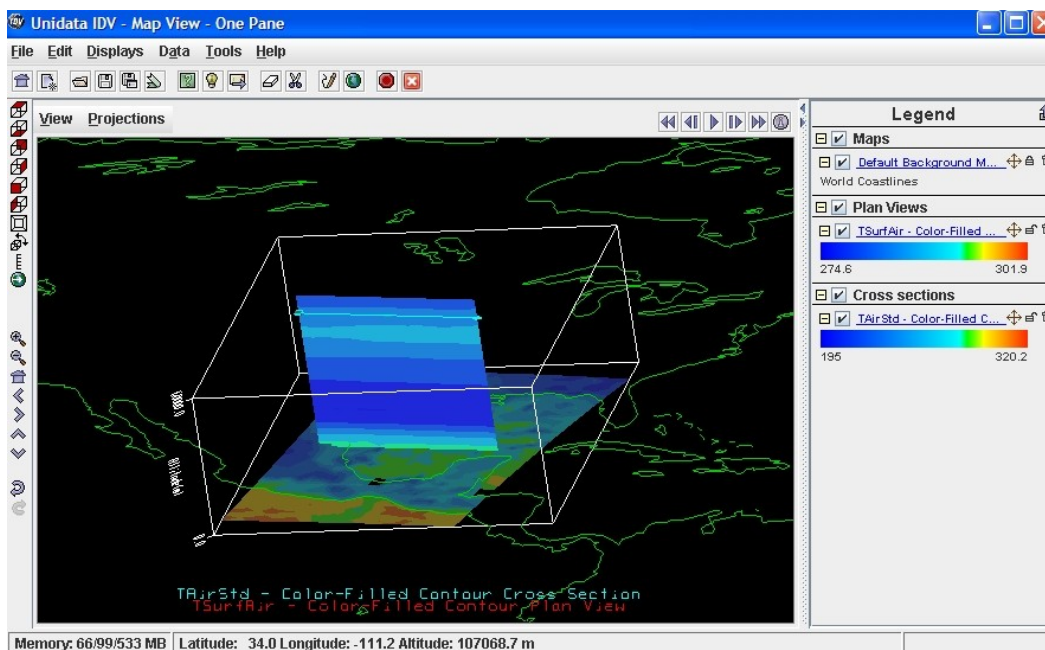


Figure 9.

*** The IDV displays pressure surfaces by converting the pressure to a height in some reference system. There are two reference systems that come standard with the IDV - the U.S. Standard Atmosphere and a logarithmic conversion (also used in Vis5D). The U.S. Standard Atmosphere only computes conversions for pressures up to about 80 km. The logarithmic coordinate system uses the following equations:

$$P = 1012.5 * e^{(H / -7.2)}$$

(^ denotes exponentiation)

$$H = -7.2 * \text{Ln}(P / 1012.5)$$

(Ln denotes natural log)

10. To change the color scale, click the parameter in the **Legend** (*TAirStd* in this case) from the above figure; the **Dashboard** window will be brought to front.

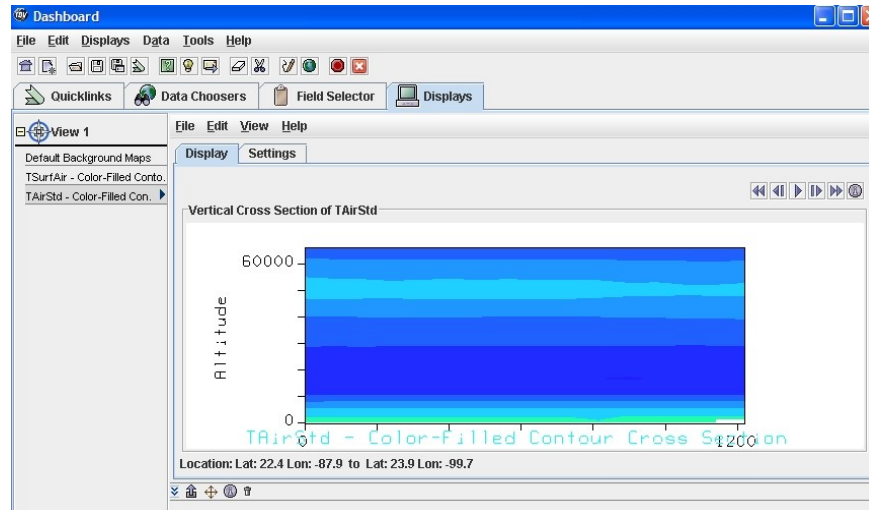


Figure 10.

11. Choose **Settings** and click **default** (of Color Table) to another table, for example **Bright38**.

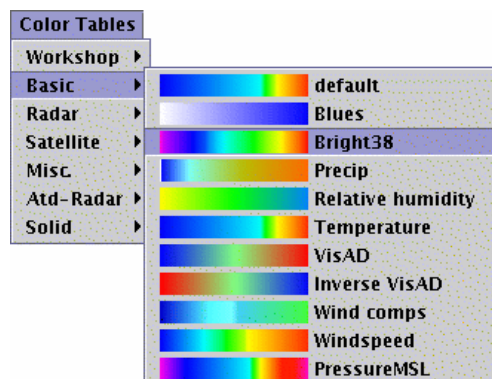
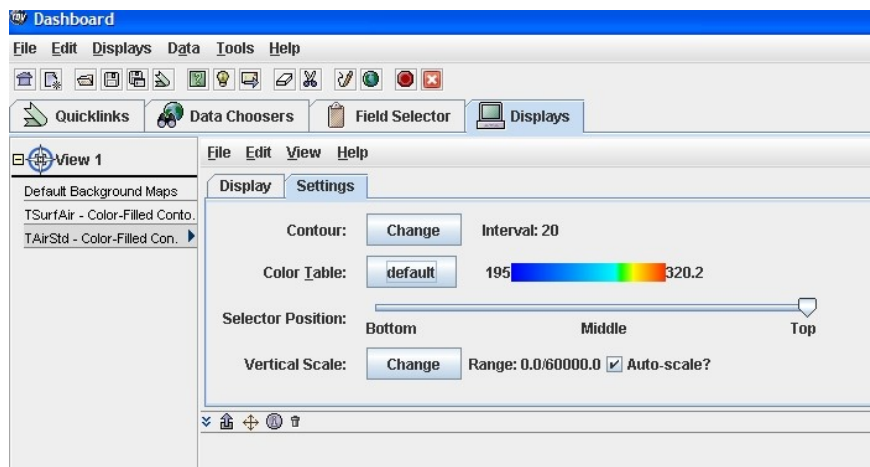
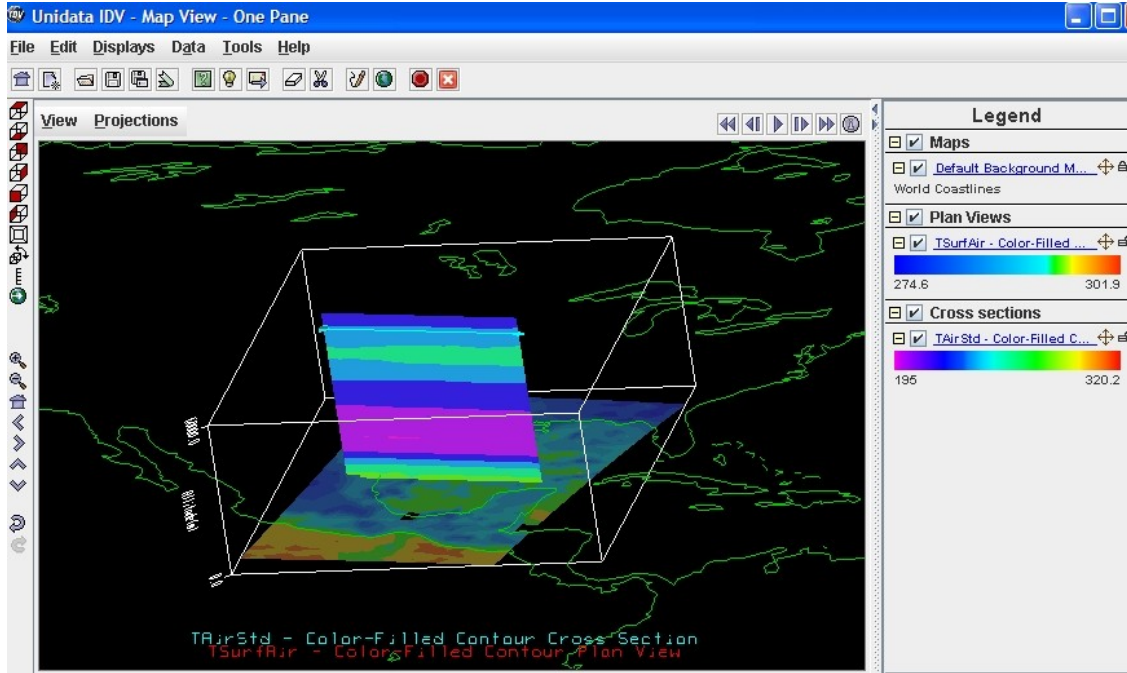
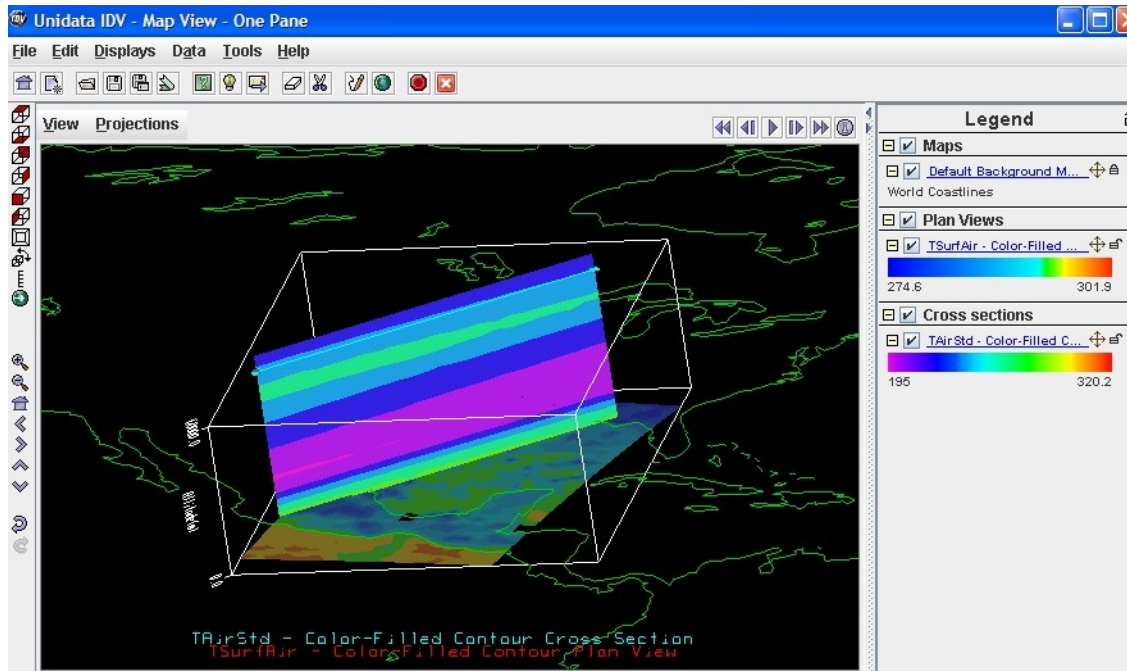


Figure 11.

The cross-section contour color will change.



12. Move the horizontal bar (light-blue color) to see the cross-section in anyway you want.



The user can capture and save the images, make movies or can change the projections (under **View** or **Projections** from the above **View window**). Please consult with IDV [user guide](#) for more details.