Calipso / CALIOP Data

There are two primary places to obtain Calipso imagery that can be easily obtained and/or converted to KML format for uses with Google Earth

1A. The Calipso-Larc site and data archive.
 Browse imagery from the most recent dates can be found here:
 http://www-calipso.larc.nasa.gov/products/lidar/browse_images/expedited/

Click on the calendar for your selected date.
Scroll through until you find the overpass you want.
Click on the colored portion of the image to bring up a set of curtain images corresponding to the portion of the orbit you have selected.
Find and click on the KML icon next to your selected image to download the file.

Older images can be found on the Calipso-Larc site here:
 http://www-calipso.larc.nasa.gov/products/lidar/browse_images/show_calendar.php/
 but they do not have corresponding KML files.   Use the browse images here to see if the
 data you want is suitable.   You can then
 use the A-Train along Cloudsat Track instance of Giovanni to generate Calipso KML
 files.

2.   A-Train along CloudSat Track
  http://gdata1.sci.gsfc.nasa.gov/daac-bin/G3/gui.cgi?instance_id=atrain
 Follow the directions below to generate a Calipso KML file.

   1. **Create a CALIPSO Vertical Profile**

   Go to http://giovanni.gsfc.nasa.gov/ and from the table in the middle of the page select "A-Train Along Cloudsat Trac" or simply use the link above.

   The map interface near the top of the page shows the orbital tracks for the CALIPSO satellite for the selected day. The Caliopo sensor aboard this satellite uses lidar to obtain vertical profiles of aerosols and clouds.
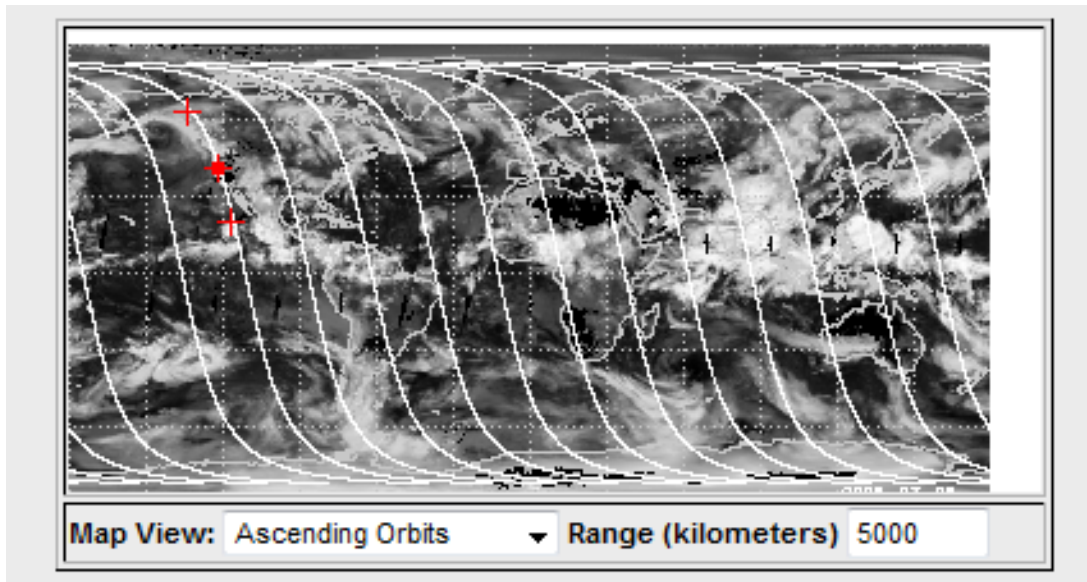
Giovanni A-Train Map Interface.

Begin by selecting the following date in the "Temporal" section at the top of the page just under the map:
**July 18, 2008 and then click "Update Map"**

The dot in the center of the three red crosses represents the position of the satellite and the span of the red markers shows the location along the orbital map where you want to retrieve data. The default length of data along the orbital path is 3000 Km. You can adjust this by typing a new number in the "Range" box under the map. The minimum range is 300 km. Position the satellite on the orbital track closest to the your selected target area..

The data products available are organized into two broad categories:
Curtains – These are all of the vertical profile products available.
Strips – These are horizontally positioned swaths of data centered underneath the curtain products.

The curtain products are further divided into three broad categories: Temperature, Water Vapor and Clouds
In the "Clouds" section select "Cloud/Aerosol Classification (Vertical Feature Mask). If you click on the name any parameter it will open a link with a description of the data product. If time permits take a minute to do this now.

Click the "Generate Visualization" button at the bottom of the page. The interface shows the progress of the visualization and will then return an image of your results.
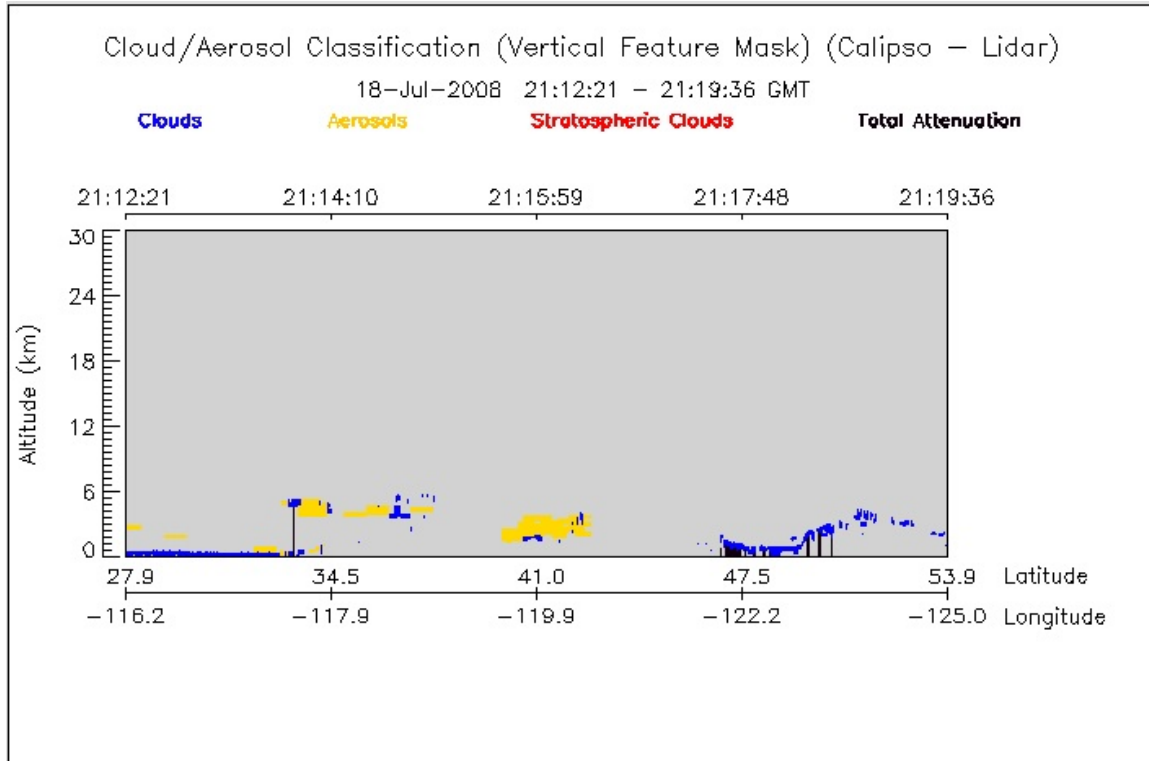
The image returned is the "Vertical Feature Mask". This is an image showing clouds, aerosols and total attenuation (areas where there is no signal returned).

2. **Refine the CALIPSO Vertical Profile Image**
   We will now use additional features of the site to adjust the image results to the exact location of the data we want to obtain.

   At the bottom of the page under "Refine Constraints" select the following times:
   Start time 21:14:00
   End time 21:17:00

   At the bottom of the page under "Edit Preferences"
   select a vertical ScaleMax of 8 Km.

   Click "Submit Refinements"

   Each time you generate a visualization or add refinements a new tab will appear at the top of the page showing the new results. You can navigate between your results by clicking on the tabs. However if you want to select additional parameters you have to go to the "home" tab.

3. **Download your Results:**
   After your results appear click on the Download Data tab neat the top of the page.

Near the bottom of the page across from where is says "Output Files" select the "KMZ" checkbox. KMZ is a Google Earth file format. *You can download each file and upload directly to Google Earth.*

Alternatively, across from where is says "Curtain Plot Renderer" click the "Download in Batch" button. The file that is returned is a zip file containing the kmz files for all of the parameters. If software is available, unzip the file to download the kmz files. You can then display them in Google Earth for analysis. To return to your Giovanni results click the "Visualization Results" tab at the top of the page.