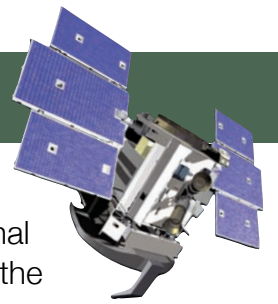


Looking Inside the Clouds with

CLOUDSAT



Take a look inside the clouds with the world's first space-borne cloud radar

CloudSat is the world's first space-borne cloud radar. It works just like a conventional weather radar, in that it sends out pulses of electromagnetic energy and "listens" for the signal to come back after having bounced off of targets in the atmosphere. The difference, however, is that CloudSat uses energy specially tuned to bounce off of liquid and frozen cloud particles rather than raindrops. That means CloudSat effectively measures the amount of water in the clouds - a quantity very important for understanding how clouds work and how they affect the world around them.

QuickLooks can be used to augment any lesson on the structure of clouds

How to get your own QuickLook

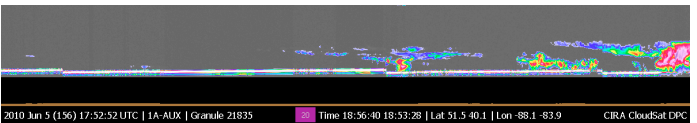
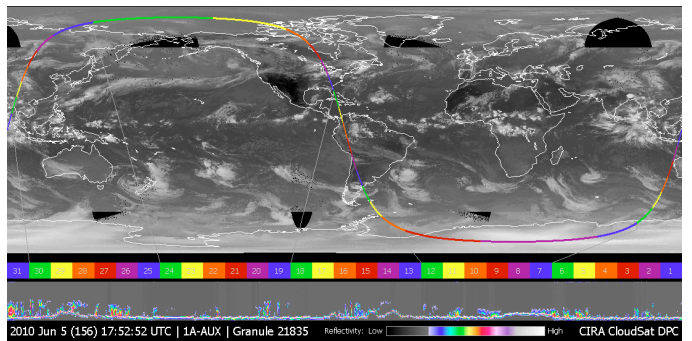
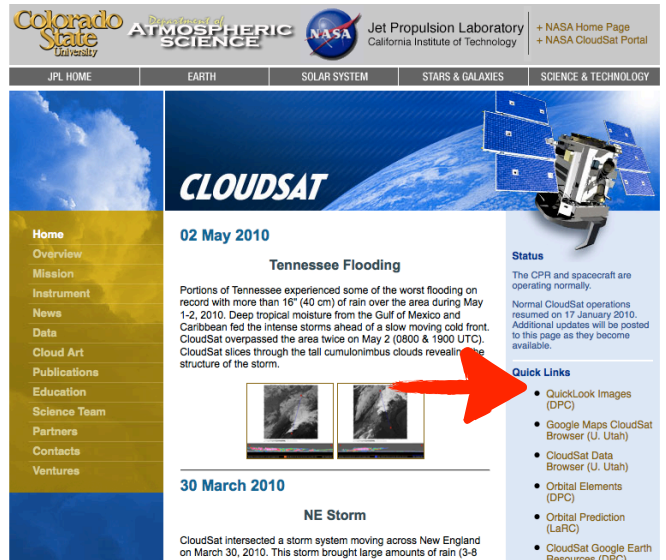
The CloudSat QuickLook is the image we use to get a first glance at what's going on inside a cloud - in essence, it's the raw data of where the water is inside the cloud. And a QuickLook is available just minutes after CloudSat has passed overhead, so it makes a great teaching tool once you know how to get one.

First, go to <http://cloudsat.atmos.colostate.edu>

Second, click on "QuickLook Images (DPC)" as indicated by the red arrow at the right.

Third, select the "granule" you are interested in. They are sorted by date and time (using UTC or GMT time). If you are looking for a particular cloud scene, it can help to know when it occurred in UTC time first. Also, granules marked with an M have MODIS images with them as well (these are more traditional satellite images matched with CloudSat's orbit).

Fourth, when you pull up the granule (see an example at the right), you can see the whole of that orbit of CloudSat. The numbered and colored boxes represent segments of that orbit as shown on the rainbow track. By clicking on a numbered box, you pull up a higher resolution image that you can use with students to discuss the structure of the clouds and to compare them to what they looked like from below.



(top) The CloudSat Homepage, (middle) a "granule" or orbit of CloudSat, (bottom) a QuickLook featuring part of a June 5, 2010 storm over the Great Lakes (on the right side of the image)

Don't forget to check the CloudSat homepage for cool QuickLooks of famous storms and hurricanes that we've observed! Learn more at the CloudSat Workshop at the GLOBE Partners Meeting in Calgary