



The goal of these hands-on exercises is to reinforce the concepts taught in the online tutorial, using simple examples, and to familiarize users with our website so they will know where to find each of the products. For each exercise, please follow along, starting from the main page of the NOAA Coral Reef Watch (CRW) website: <http://coralreefwatch.noaa.gov/satellite/>.

Coral Bleaching HotSpot product exercise

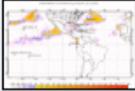
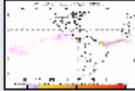
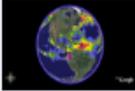
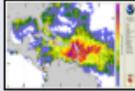
6. In question #3, you looked at a 50-km SST Anomaly image for the Caribbean region on November 1, 2007. Compare that image to the 50-km Coral Bleaching HotSpot data for the same date and area. Look for areas that are unusually warm in the anomaly image. Were they warm enough to be above the MMM? What areas had HotSpots, and where were they the highest? Were any areas above the bleaching threshold?

- a. Go back to CRW's 50-km homepage; click on **SST Anomaly** in the left-hand navigation bar. Using the SST Anomaly archives, pull up the image for the SST Anomaly in the Caribbean on November 1, 2007.
- b. In a new window, navigate back to CRW's 50-km homepage (http://coralreefwatch.noaa.gov/satellite/index_50.php). Click on **HotSpot** in the left-hand navigation bar.



- c. This takes you to the Coral Bleaching HotSpot page for the current year. Click **Image Archives**; then scroll down to "2007 HotSpots"; and click on that link.

Data Formats Available

 <p>Image Archives Regional imagery and image archives from OSDPD.</p>	 <p>Animations Data animations and downloadable animated GIF files from OSPO.</p>
 <p>Google Earth All of our satellite data products are available on Google Earth.</p>	 <p>HDF data files Raw data in Hierarchical Data Format (HDF), with free NOAA viewing software.</p>
 <p>Virtual Stations Imagery, graphs, ASCII data, and e-mail alerts for reef pixels around the world.</p>	

d. The 2007 page has an image at the top, then a table of links to archived images. Find November 1, 2007, and click on the **Caribbean** link.

e. Use this 50-km HotSpot image and the 50-km SST Anomaly image from the same date to answer these questions:

1. Look for areas that are unusually warm in the 50-km SST Anomaly image. Were they warm enough to be above the MMM? (#6 on the answer sheet)
2. What areas had 50-km HotSpots, and where were they the highest? Were any areas above the bleaching threshold? (#6 on the answer sheet)

CORAL BLEACHING HOTSPOT PRODUCT ANSWER SHEET

6. The areas that are most above normal in the 50-km SST Anomaly image (i.e. the northern Gulf Stream) are still not warm enough to be above the maximum monthly mean. In fact, there were almost no HotSpots north of 20 degrees latitude. This is not surprising, as autumn was progressing in the northern hemisphere at that time (November 1, 2007). The only HotSpots are found in the southern and eastern Caribbean Sea. The highest HotSpots are just off the northern coast of Colombia—a few pixels in this region have HotSpots greater than 1°C , meaning they are above the bleaching threshold.

