

**Using GARP to Get and Save an Image With Cloud Top Temperatures**  
**Dr. Brad Muller**  
**Embry-Riddle Aeronautical University**

Saving a GARP image that includes the information bar at the bottom takes a very specialized procedure that involves doing a screensave via the "Print Screen" key. Saving gif images out of GARP using the file>>save>>etc. procedure will not keep the information bar that includes the brightness or the "+" that you place at your brightness temperature location.

1. Reboot to linux and open a GARP window. It is **essential** that the information bar **with brightness temperature** at the bottom of the GARP window be visible in the image you ultimately print and hand in!

2. Click on the leftmost button (radar and satellite data).

3. For "Data Source" click on "GOES-13" or "GOES-15," or "ERAU."  
Note: GOES-16 data are now being received under the GOES-13 category.

4. For "Data Scale" click on "4km" if using GOES-13 or GOES-15; if using ERAU, click on CONUS or WCONUS.

5. For "Product Types" click on "IR" for your IR image or VIS for your visible (to document that there is, indeed, a cloud there. Note: For Visible image documentation of clouds, 1 km imagery is preferred).

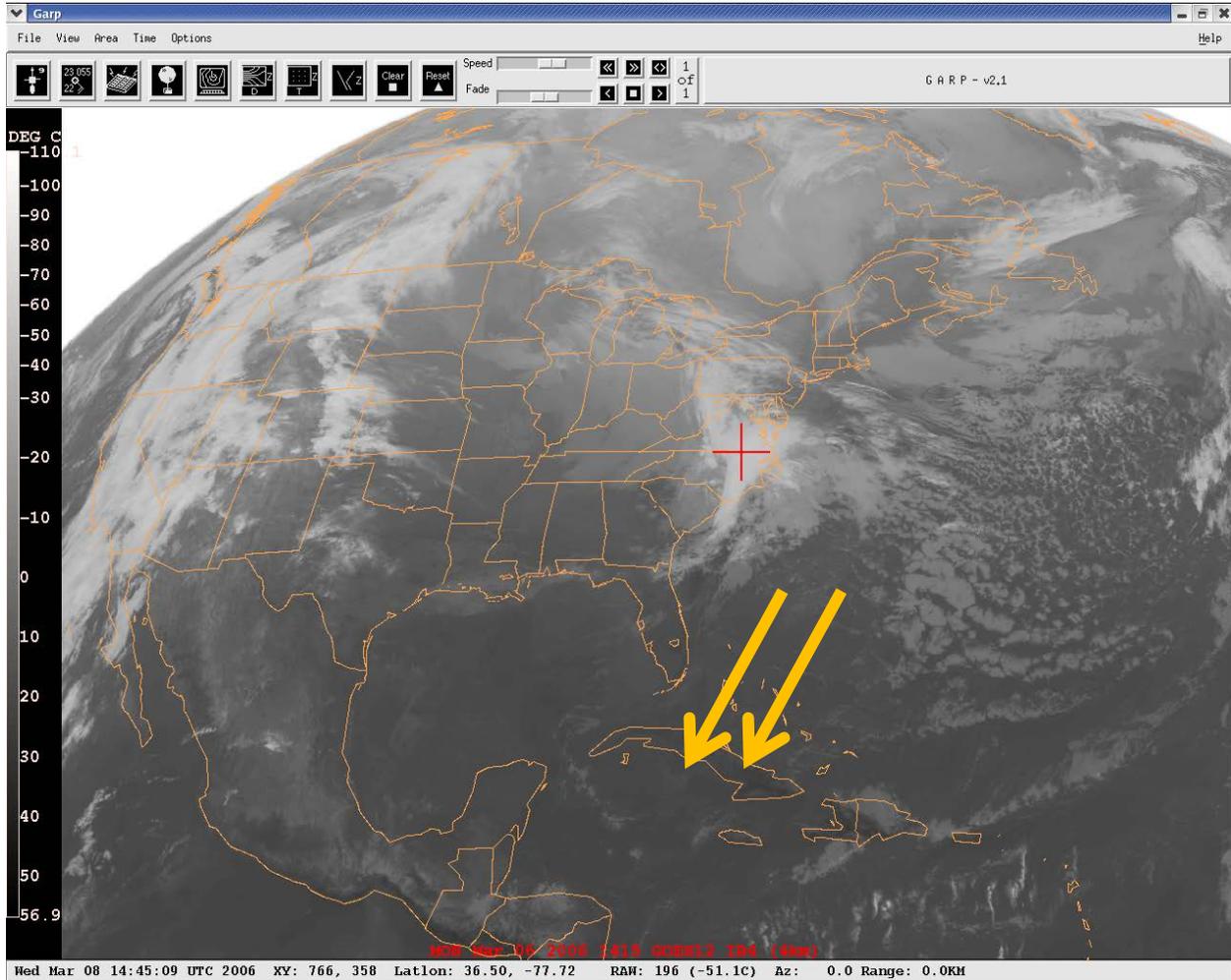
**Note: You must use those data sources to get the U.S. data that have brightness temperatures. The "WEST-CONUS" and "EAST-CONUS" buttons only have brightness *counts* or nothing, but not temperature—they *\*cannot\** be used to obtain an appropriate IR image.**

6. Pick a time then click on the "Display and Close" button.

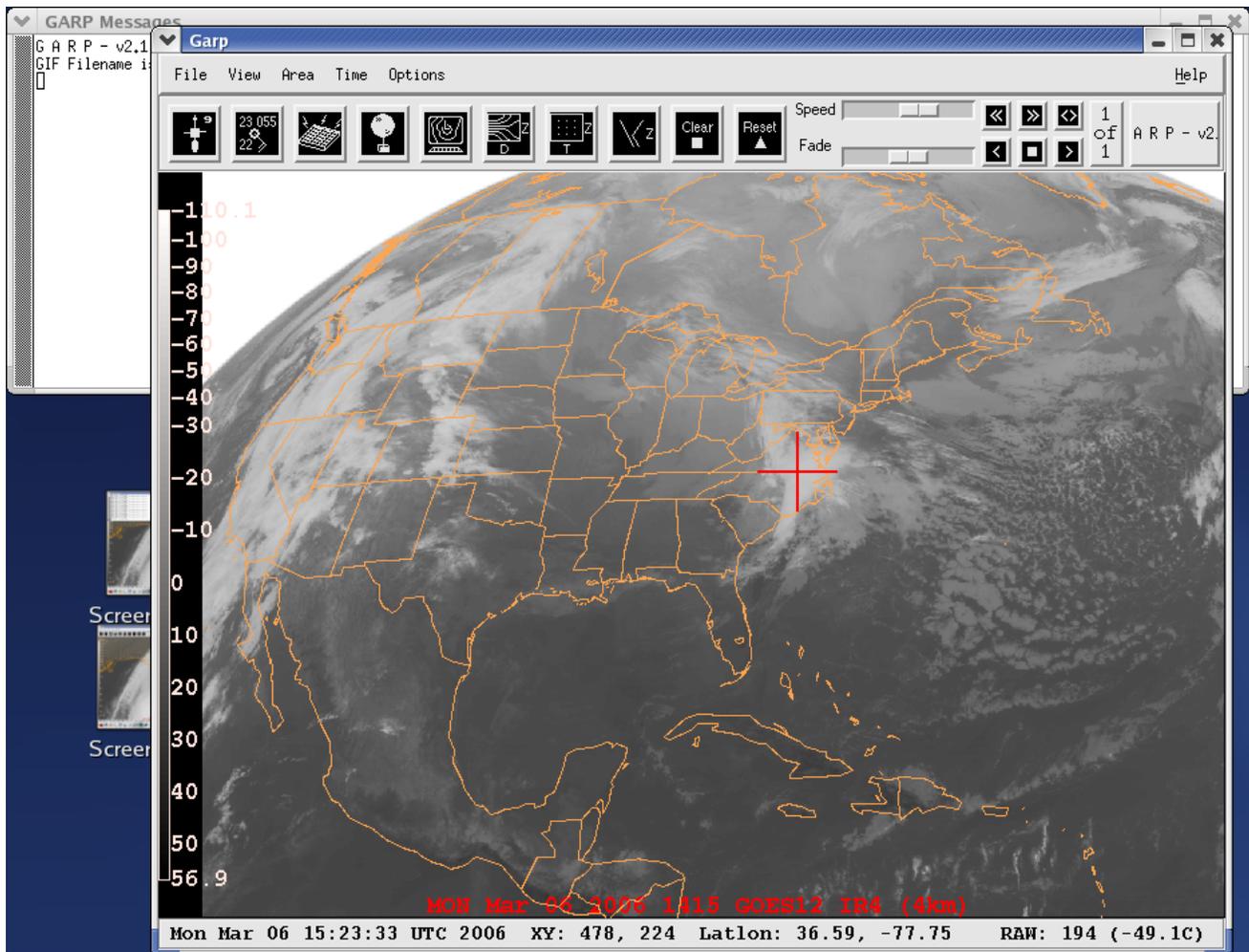
7. Use a 'rubber band box' to zoom to the area of interest. This is done by left clicking and holding down at the upper left corner of your desired box then moving the mouse to size the box. To undo the box go to "Area" at the top left of the GARP window and click, then select "DEFAULT", "Previous", or other desired area.

8. When moving your cursor over an image of this type, **brightness temperature**

and brightness counts at the cursor location are registered in the information bar at the bottom of the GARP window. They can be found just to the right of the Latlon information in a string as from the image below: RAW: 196 (-51.1C). This example shows 196 brightness counts and a brightness temperature of -51.1°C.



Note: if you resize the GARP window before saving/printing, be sure that the brightness temperature value along the bottom info bar is still visible and not off the right side of the image—that can happen if you make the window too small.



9. To save your image with brightness temperature and location marked:

- a. move the cursor to your location of interest then click to leave a red "+" and LEAVE THE CURSOR IN PLACE to register the exact brightness temperature at that location--moving the cursor changes the brightness temperature! (To move the red "+" simply click elsewhere. To **remove** the red "+" use CTRL click.

- b. press the Print Screen key on your keyboard
- c. a Save Screenshot window opens that saves to your Desktop directory by default--you can change the directory to your home directory or change the filename manually in the Save Screenshot window.
- d. the file is saved as a png (portable network graphics) file.
- e. to change the file type, open a terminal window by right-clicking on the background then click on New Terminal. This "terminal" defaults to your home directory; you can list those files by typing "ls" or "ls -la". If you saved the screenshot to your home directory, then you can type the command: "convert *filename.png filename.jpg*" then press "enter" to convert to a jpeg. If you would prefer a gif, just type the target filename as *filename.gif* . You can also convert to .pdf or .bmp (bitmap). Get rid of the terminal window by typing "exit" then pressing "enter."

[10. Note: First, realize that the following procedure interferes with the Print Screen key, so it is useless for saving your image using Print Screen. Nevertheless, if for some reason you want to leave a red plus on the image and freeze the brightness temperature in the info bar, move the cursor to your chosen location and left click. Leave the cursor at that position to register the exact brightness temperature there, then press the F10 key. This will freeze the numbers on the information bar so that you can now move the cursor off the image. Clicking anywhere will restart the information bar again, changing the brightness temperatures according to the cursor position. ]

11. The normal method for saving images in GARP is the following, **--but it does not save the info bar or the red "+"**, so it is not appropriate for Question # 3:
- a. Click on File (upper left corner of GARP window).
  - b. Click on Save.
  - c. Click in the Filename box.
  - d. Type in a filename -----.gif (if saving multiple files it will use your filename and append numbers in your image order and automatically append the .gif extension).

The files are automatically stored in your Linux home directory.

12. To transfer files to your ERAU Windows account, the simplest way is to email them to yourself:

- a. Open "Ernie" in a browser by clicking on the "world with a mouse" icon:

<http://ernie.erau.edu/>

- b. go to Ernie and log in.
- c. Click on the Online Services tab.
- d. Under ERAU Tools click on "Email (OWA)"
- e. Open a new message, address it to yourself, then use the "paper clip" to attach the file to your email to send it to yourself.

13. If you want to transfer more than one file at a time to your computer you can use MobaXterm—more on this soon!