

Date: 9/20/02 11:40 PM
To: Bulletins
From: Luis Soltero
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Subject: Weather Part III - Grib files

Hello All,

In the last two bulletins we discussed receiving and viewing weather received via the nws weather robot ftpmail.

We now turn our attention to a receiving and viewing a totally different kind of weather product called a "Grib".

A "Grib" file is a graphical weather product extracted from the NWS data bank in "vectorized" format that contains prediction information for the desired area. Grib is vectorized as opposed to rasterized which is what wefaxes are. By vectorizing the data grib files can be made much smaller than regular wefaxes. They can be displayed over charts and manipulated in much the same way as vectorized electronic charts can be in say the Nobeltec mapping program.

There are several advantages to grib files vs. regular wefaxes.

The main advantages are:

size, size, size, size, and size. grib files are small. They e-mail very well. They can also be tailored to include exactly the region of interest.

There are some real disadvantages to grib files and they are

- a) They are extracted directly from the output of computer generated models with no human interpretation. You need to know how to interpret "raw" weather to use these.
- b) they require special viewing software that will "draw" the vectorized data over a chart so that you can interpret the scale.
- c) The procedure required to request, get, and display the grib file is a bit more complex than with regular wefax data.

Typical grib files run between 5K to 20K. They can be much larger if you request a large area and more than just pressure and wind direction and strength. Most of you will be downloading simple grib files and the size will be small.

Requesting grib files...

Grib files are requested in much the same way that nws weather is. A request is made via e-mail to a mail robot which in turn mails you a grib file as an attachment. The easiest mail robot to use that supports grib files is sponsored by our friends at SailMail and is called saildocs.com. Saildocs.com is run as a public service for any one who needs its services. There is no charge and no registration required to use it. Again the interesting thing here is that most SailMail users can not use this service to download grib files do to the time and size limitation constraints placed on them by SailMail. Go figure....

Like the ftpmail robot, saildocs expects mail sent to it to contain an empty subject line and a list of commands in the body of the mesg. The simplest mesg is the a query for help.

Sending a mail mesg to info@saildocs.com will result in a 5K help file being e-mailed back to you. The help file describes in detail how to use saildocs. Note that the content of the mesg sent to info@saildocs.com is totally ignored. You can send a "blank" mesg if you like.

To request a grib file you would send an e-mail to query@saildocs.com
the subject is left blank and the body contains

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send grib:10N,50N,10W,100W
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where the format is grib:Lat1,Lat2,Lon1,Lon2 with no spaces. The saildoc help file describes variations on this basic format.

NOTE: Again, it's important to disable your signature when interacting with the saildocs robot.

In the return mail you will find a grib file as an attachment.

Note that a calypso template can be created to automate the download of grib files just like we did in the textual weather example in the previous bulletin.

Viewing grib files...

As I mentioned above a special grib viewer program is required to display the grib files. The good news is that there is one available for free. The bad news is that it's about 40Mbytes in size. If you have access to the Internet you can download a copy from

<http://www.raymarine.com/raymarine/default.asp?site=1§ion=3&page=145&Parent=0>

Actually we have a link to this site in our weather links at www.marinenet.net so no need to member the convoluted name.

For most of you out there downloading a 40 Mb file will be impossible. The good news is that many hams have a copy this already since they also download and display grib files. Some SailMail users may have it as well although as mentioned in a previous bulletin wx via mail robot is not practical for them given the limitation on their time and content size. Anyway, ask around. Some one out there is bound to have a copy. I got my copy from Gene Ferris on Pangaea, Thanks Gene...

Install the and run the program.

The ray tech software is a full featured program that does a lot more than just display grib files. So, next we will do some configuration to simplify the display before we actually try to do weather. These changes that we are about to make are a one time thing. Follow the these instructions carefully.

On start up you should see lot's of buttons and a map of Africa. The first thing to do is get rid of all the stuff we don't need. Move your mouse to the top of the screen and in the gray area to the right of the menu (make sure you are in the gray area and that there are no menu items under your mouse) right mouse click. A menu should pop up. Uncheck every thing in this menu except "Standard toolbar" and "Weather toolbar". Weather tool bar is the last item on the menu.

On the left side of the display click on the "x" next to navigator===== to remove the navigator window.

Finally grab the

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bar to the left of the "weather toolbar" (it's the thing that says pressure, wind, temperature, and currents) and move it up and right so that it lands to the right of the standard tool bar and release it.

Now move the cursor to Brazil and click. Then move the cursor to the Caribbean and click again. Or move to your geographical location by using multiple mouse moves and clicks.

We are almost done with the setup. Now click on "Layers" on the toolbar and double click weather. Select "Scaled Arrows" under Wind waves, wind, swell and wind waves, and swell". Select barbs under ocean currents.

Now exit the program.

Back in calypso find the e-mail with the attached grib file and open it. Right mouse click on the attachment and select "Save As..." now save the grib file in a location you wont forget. The "desktop" is a good place. You are now done with calypso so exit the program.

Now we are going to display the grib file.

Run raychart.

Bang on Layers in toolbar and the double click on weather. now hit the browse button and find the grib file. Look on the desktop if that is where you located it. Highlight the file and click OK. Hit OK again to exit the weather section and the cancel to get back to the chart. The grib data should now be displayed overlaid on the chart.

If you are using my sample grib file above you should see a weather chart for the entire N Atlantic. Push the "pressure" and "wind" buttons on the tool bar to make the pressure lines and wind arrows display. Zoom in and out to view more/less detail.

And that's all folks....

--luis

