Math 483 Homework 11

Run the non-linear dtdm for latitudes 0, 30 and 60 degrees. Record the diffusion coefficients you obtain.

1)Compare the u-w diagrams (noon, sunrise and midnight) (obtained using seabreeze.gs) for the three latitudes with the results of the corresponding linear case (which you already did for hw 10). Discuss the results.

2) Compare the Hovemöller diagrams for the linear and nonlinear cases for the three latitudes.

Run the linear dtdm for a latitude of 0 degrees for 10 days. (Note that this takes probably ~20 minutes).

3) Plot u and the circulation as functions of time (in separate graphs). Discuss your results.

Note if a land breeze appears. If so when?

Useful Information:

The seabreeze.gs and seabreeze_hov.gs script can always be edited to refer to the variable you want. Just make sure to always keep a copy of the original so that you do not loose track.

You can edit a script that collects a group of commands in order to simplify your life. For example I have a script called start.gs which includes

```
'set mproj off'
'set grads off'
'set t 1 289'
'set z 1'
'set x 100'
'set xaxis 0 24 3'
'set vrange -25 25'
```

One can then just edit the values as needed. To this script one could add the commands to draw titles and axis labels.