



GrADS

(Gridded Analysis Display Software)

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GrADS Overview



- GrADS - Gridded Analysis Display System
 - Displays 5-D data sets
 - X, Y, Z, time, and variables
 - XY plots, 1-D graphs, time series, cross sections, time-height cross section, Hovmoller plots, etc.
 - Interactive Command line/GUI interface
 - Batch Jobs (Scripting)
 - UNIX, LINUX, Windows 2000/XP, FreeBSD (Macintosh)
 - Freeware (No cost)
- Developed at the Center for Ocean-Land-Atmosphere (COLA) studies
- <http://www.iges.org/grads/>



Why Use GrADS?



Similar applications

- MatLab^a, Interactive Data Language (IDL)^a, GEMPAK^b**
1. Good at manipulating and displaying data
 2. Runs under a variety of operating systems
 3. Can use native grid formats e.g. GRIB, NetCDF, HDF-SDS, DODS, and binary
 4. **Freeware ☺**

^aCommercial (\$)

^bMust use Linux/Unix and requires a specific grid format



Introductory Tutorial



Prerequisites

- 1. Ability to ask questions and/or for help*
- 2. 100% Participation*

Tutorial Instructions

- 1. Start GrADS**

Start->All Programs->Win32e GrADS->GradsNC
Press Enter for landscape mode

- 2. Open a web browser and go to**

<http://grads.iges.org/grads/gadoc/tutorial.html>

- 3. Follow tutorial instructions**

“The only dumb question is the question you didn’t ask”



GrADS Scripting



- What is a GrADS script?
 - A list of multiple GrADS commands
- Why use GrADS scripts?
 - Simplifies complex tasks e.g. 4-panel and Skew-T plots
 - Scripts are reusable
- Uses of GrADS scripts?
 - Automated image generation
 - Customer configurable
 - Research applications



GrADS Scripting Mechanics^a



- GrADS scripts are created in a text editor
- Each line of the script acts as a command
- Simple arithmetic can be performed in a script
 - Addition/Subtraction
 - Multiplication/Division
- Simple looping/logical operators
 - while (looping)
 - if (logical)
- Intrinsic and input/out functionality
- Scripts can run other scripts

^aDetails of the GrADS scripting language can be found in the documentation



Example of a GrADS Script^a



```
#Comments start with a #  
'reinit'           #GrADS commands are in single quotes  
'open model.ctl'  
'set gxout contour'  
'set lev 500'  
'set lat 20 50'  
'set lon -120 -90'  
i = 1              #Scripting doesn't use quotes  
while (i<10)  
'set t 'i         #Mixing GrADS commands with scripting  
'd hcurl(u,v)'  
i = i +2  
endwhile
```

^aThis will display every other time step in model.ctl of the hcurl



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