This project is from the WMO Training Seminar on Information Technology Related to the Internet held in Nairobi, Kenya from 1-5 December 2003.

GRADS Projects for Contouring

NOTE: All bold italicizied words are commands to type in the comptuer.

To Run GrADS

Be In c:\pcgrads\msdos
grads

Press Y when it asks for landscape or portrait.

set mpdset hires
open saftest.ctl
open bsgrid.ctl
d oacres(z.2,tx) Max temperature analysis
d oacres(z.2,tn) Min temperature analysis
d oacres(z.2,p) Precipitation analysis

Southern Africa	South Africa
set lon 0 60	***set lon 15 35***
set lat –45 0	***set lat –45 0***

To print to file

While in GrADs …

enable print *<filenamne>*
print
disable print

When out of GrADS
gxps <filename> <filename.ps>

i.e gxps safp safp.ps
Then *copy <filename.ps> lpt1:*

Project 1: Simple display and analysis

Make sure these files are in the c:\pcgrads\msdos directory

Safjan.ctl
Safjan.bin
Safjan.map
Bogus.ctl

Jangrid.ctl
Jangrid.dat

Saf01dly.ctl
Saf01dly.bin
Saf01dly.map

In Grads

Open safjan.ctl **(the .ctl is optional)**

Opens station dataset

Set lon 15 35
Set lat –35 –20

Set mpdset hires

Sets latitude, longitude, and high resolution map

q file
querys the file. This is important to find out what the variables are of the dataset.
This dataset has these variables

ax 0 99 Average TMax
an 0 99 Average TMin
av 0 99 Average Tmp
hx 0 99 Highest TMax
ln 0 99 Lowest TMax
tn 0 99 Temp Departure
p 0 99 Rainfall
pp 0 99 Percent of Normal rainfall
pm 0 99 Normal Rainfall
tm 0 99 Normal Temperature

d p
displays the monthly rainfall

c
clears the display

trying display some other variables. Clear the display before each command.

Now,

d p
open bogus
Opens grid control file to set grid at every 0.5 degrees.

q file 2
shows the contents of the 2nd opened file

set ccolor rainbow
sets the contour levels to a rainbow of colors

d oacres(p.2,p)
Analyzes using the grid from file 2 on the variable p (rainfall).

c
Clear the display

To increase the size of the numbers,

Set digsize 0.1

Now,
d p
set ccolor rainbow
d oacres(p.2,p)

How well does the analysis work?? Analyze some other variables.

Project 2: Grid size does matter

c
Clear the display

Open model.ctl
Open a another grid control file.

d p
set ccolor rainbow

d oacres(p.3,p)

What happened??? This is not the same analysis.

Now,
c

set gxout grid
Sets the graphic output to display grids

d oacres(p.3,p)
displays the grids from Model.ctl which are defined at every 5 degrees of Latitude and longitude

d oacres(p.2,p)
displays the grids from bogus.ctl which are defined at every 0.5 degrees of Latitude and longitude

Project 3: Gridded datasets

reinit
reinitializes GRADS

open jangrid.ctl
Set lon 15 35
Set lat –35 –20
Set mpdset hires

d p
This file is a gridded version of safjan.ctl

Set lat -30
Set the latitude at 30 S

d p
Makes a crosssection of the gridded data at 30S latitude

set lat –35 -20
c

set clevs 0 100 200 300 400 500 600 700
Sets contour levels

d (p/pm)*100
Calculates percent of normal

d pp
Why are the analyses different?? Shouldn't the analysis based on the station data (pp) be the same as the analysis of the gridded values of
P/pm??? Which way is better????

For temperature,
c
d av-tm
d tn

Project 4: Daily data for a month

reinit
open saf01dly.ctl
set lon 15 35
set lat –35 –20
set mpdset hires
d p

set t 1 31
setting the time variable from 1 to 31

d p
Animation!

c
set lon 30
set lat –30
d p(stid= 68368)
displays time series of rainfall for station 68368
Try a few other stations and variables

set lon 15 35
set lat –35 –20
set t 1
d p
back to normal

c
d stnave(tx,t=1,t=31,-m 1)
Averages station data from time 1 to 31, with at least 1 valid observation for each station

c
d stnmax(tx,t=1,t=31,-m 1)
Computes the maximum per station

```
c
d stnmin(tn,t=1,t=31,-m 1)
Computes the minimum per station

c
open bogus
d oacres(p.2,stnmin(tn,t=1,t=31,-m 1))
```

GRADS Documentation

The following links provide additional information on GRADS documentation.

GRADS Documentation Page
http://grads.iges.org/grads/gadoc/grads.html

GRADS USER Guide
http://grads.iges.org/grads/gadoc/users.html

GRADS Index of Commands
http://grads.iges.org/grads/gadoc/gadocindex.html

Compressed file of GRADS index (To download on your PC)
ftp://grads.iges.org/grads/gadoc_files.tar.Z

Geographic Information Systems (GIS)

Information on Free Downloads and other GIS materials

Download ArcExplorer (Free)
http://www.esri.com/software/arcexplorer/aedownload.html

ArcExplorer Web (Internet)
http://www.esri.com/software/arcexplorer/overview_aeweb.html

Using ArcView 3.1 with AWIPS (Ken Waters, Iris Shockley, and Scott Shipley)
Arcview 3.1 tutorial
http://www.nws.noaa.gov/geodata/tutorial/avtutor.htm

AWIPS Map Database Home
Many shapefiles are available for download (entirely US and North America)
http://www.nws.noaa.gov/geodata