Building a command-driven shell-script to plot your maps

- I like to be able to make nice maps of my study areas quickly without having to edit my scripts.

- To achieve that, I use the same script for every map I draw, but call it with command-line options

- For instance, to plot a map of Western North America with seismicity ranging from $4 < magnitude < 9$ and $0 < depth < 100km$ I use:

  ```
  run.noam -a 7 -s 1 4 9 0 100
  ```

- To plot a map of Central and Easter US with seismicity ranging from $6 < magnitude < 9$ and $0 < depth < 100km$ and with topography I use:

  ```
  run.noam -a 1 -s 1 6 9 0 100 -t y
  ```

Passing arguments to csh scripts

```csh
#!/bin/csh -f

# DEFINE DEFAULTS
set plot_topo = n
set area = 1

# USAGE:
if ($#argv < 1) then
  echo "Usage: run.map -a area"
  exit
endif

# READ USER INPUT
foreach a ($argv)
switch ($a)
  case -a:
    set area = $argv[2]
    breaksw
endsw
shift
end

echo PLOTTING AREA $area
```

Passing arguments to csh scripts

Now pass arguments to define display of seismicity:
type magmin magmax depthmin depthmax

```
# READ USER INPUT
foreach a ($argv)
switch ($a)
  case -a:
    set area = $argv[2]
    breaksw
  case -s:
    set plot_sismi = $argv[2]
    set mm = $argv[3]; set mM = $argv[4]
    set dm = $argv[5]; set dM = $argv[6]
    breaksw
endsw
shift
end
```

Make sure that you are passing the correct arguments to your script!

Passing arguments to csh scripts

- Download script `run.map` from the class web site

- Make sure it is executable: `chmod +x run.map`

- Try it, you get:

```
Usage: run.noam -a area [-s plot_sismi mm mM dm dM] [-t plot_topo]
 -a   geographic area to plot:
     1  --> Central + Eastern US
     2  --> Western US
 -s   plot seismicity: 1 => size = f(mag)
                       2 => equal size [n]
     then give limits: magmin, magmax, depthmin, depthmax
 -p   plot topo, y/n [n]
```

- Now let's look at what's inside...