Cheyenne Quick Start

ssh -X / -Y userid@cheyenne.ucar.edu

/glade/p/cesm/tutorial

cesm2.1.1_tutorial

tcshrc and bashrc

Cheyenne Quick Start

Important changes from yellowstone:

1. PBS batch system (qsub, qdel, qstat)

```
#PBS -N ice_averages
#PBS -q regular
#PBS -l select=8:ncpus=4:mpiprocs=4
#PBS -l walltime=01:00:00
#PBS -A UCGD0005
```

2. Compile on compute notes using qcmd

qcmd -- ./case.build (note the double dash)

3. Modules are your friend.

```
module spider
module avail
module list
module load netcdf
```

https://www2.cisl.ucar.edu/resources/computational-systems/cheyenne/quick-start-cheyenne

Casper Quick Start

Important changes from old geyser/caldera:

1. SLURM batch system (sbatch, scancel, squeue)

```
#SBATCH -J getrest
#SBATCH -n 1
#SBATCH -N 1
#SBATCH --ntasks-per-node=16
#SBATCH -t 12:00:00
#SBATCH -A UCGD0005
#SBATCH -p dav
#SBATCH -e getrest.err.%J
#SBATCH -o getrest.out.%J
```

2. New scripts to access Casper nodes:

execdav -a account -n ncores -t hh:mm:ss -m memory -g gpu (generic)

https://www2.cisl.ucar.edu/resources/computational-systems/casper

Exercises

Your first step is to log into cheyenne:

ssh –X/-Y userid@cheyenne.ucar.edu

You can then copy the relevant materials from the PCWG space:

cp –r /glade/p/cesm/pcwg/PWS2019 ~

You should use the tcsh/bash settings from the files:

~/PWS2019/day1/tcshrc or bashrc

Exercise

1. Set up “out of the box” case from CESM2 tutorial tag.
2. You can use my ascii instructions in: ~/PWS2019/day1/polar1.txt
3. Build and run for 5 days (default).
4. Set up a second “out of the box” case from CESM2 tutorial tag.
5. You can use my ascii instructions in: ~/PWS2019/day1/polar2.txt
6. Note the second case will include namelist and code modifications (increase the incoming LW to the sea ice by 50%).

Questions

1. Where is the short-term archive? That is, where are your history and restart files after your run completes?
2. What is the cost for your 5 day runs? Hint: Look in the timing subdirectory of $CASEROOT. What would the cost be in PE-HOURS for a full year of simulation?
3. What is the amount of disk space for 5 days of history output? How much would this be for a year?
4. How do these numbers compare to the CESM timing table?

https://csegweb.cgd.ucar.edu/timing/cgi-bin/timings.cgi