

## Exercise 6:

Branch from Exercise.6. Include all Exercise 6 modifications.  
 Also, double the CO2 and N2O values and change orbital parameters to match what was used in Exercise 5.  
 Remember that CO2 needs to be consistent across model components.  
 Run 1 month.  
 Hint: Some things can be modified via env\_conf.xml and others post configure.  
 Be sure to update your README.case file to keep track of your changes.  
 The model will run regardless of whether or not you remember to include all of your changes. Check your buildnml scripts and the processed namelist files (\$RUNDIR/<model>\_in files) to make sure all changes are included.  
 If you like, resubmit and continue the run for 1 more month.

1. `create_newcase -case ~/b.day2.7 -res T31_gx3v7 -mach bluefire -compset B_1850_CN`  
`cd ~/b.day2.7`
2. `xmlchange -file env_run.xml -id STOP_N -val 1`  
`xmlchange -file env_run.xml -id STOP_OPTION -val nmonths`
3. `xmlchange -file env_conf.xml -id CCSM_CO2_PPMV -val 569.4`
4. `xmlchange -file env_conf.xml -id CAM_NAMELIST_OPTS -val dtime=1200,n2ovmr=550.e-9`
5. `xmlchange -file env_conf.xml -id CLM_NAMELIST_OPTS -val dtime=1200,rtm_nsteps=9`
6. `xmlchange -file env_conf.xml -id ATM_NCPL -val 72`
7. `xmlchange -file env_conf.xml -id RUN_TYPE -val branch`
8. `xmlchange -file env_conf.xml -id RUN_REFCASE -val b.day2.6`
9. `xmlchange -file env_conf.xml -id RUN_REFDATE -val 0001-02-01`
10. `xmlchange -file env_conf.xml -id GET_REFCASE -val FALSE`
10. `configure -case`
11. Edit Buildconf/cpl.buildnml.csh and
  - a. removed "orb\_iyear" and "orb\_iyear\_align"
  - b. change "orb\_mode" to orb\_mode = 'fixed\_parameters'
  - c. add orb\_eccen = 0., orb\_obliq = 23., and orb\_mvlp = 0. to namelist
12. Update README.case
13. `b.day2.7.bluefire.build`
14. `cp /glade/scratch/$LOGNAME/archive/b.day2.6/rest/0001-02-01-0000/rpointer* /glade/scratch/$LOGNAME/b.day2.7/run/.`  
`cp /glade/scratch/$LOGNAME/archive/b.day2.6/rest/0001-02-01-00000/b.day2.6* /glade/scratch/$LOGNAME/b.day2.7/run/.`
15. Edit b.day2.7.bluefire.run and check the following to BSUB lines:
  - a) `#BSUB -P 37591064`  
 Note this is for tutorial purposes ONLY.
16. `b.day2.7.bluefire.submit`

Notes: restart files may still be in exercise 6 rundir, you can copy them from this space too. Also, if the students are branching from a different date, the date stamp will be different than the above example.