Lessons Learned (as of Oct. 2019)

Running CESM

Problem: WACCM keeps crashing midway through runs because of 'crossing lagrangian levels' in the atmospheric component.

Solution: In user_nl_cam, change nspltrac =2 and nspltvrm =2 to nspltrac =4 and nspltvrm =4. Should change back shortly after run is successful. These changes must satisfy:
nsplit/nspltrac = m
nspltrac/nspltvrm = n
where m and n are positive integers (either or both can be 1).

Problem: There is a bug in the code which means that WACCM runs do not automatically resubmit even if you change the resubmit value.

Solution: Need to go into the case.run file and change
cd $RUNDIR; $CASETOOLS/st_archive.sh
to
cd $RUNDIR; $CASETOOLS/st_archive.sh ; cd $CASEROOT

Problem: When editing variables in an .nc file, wasn't able to overwrite variables. It gave no errors but when read in matlab, nothing had changed.

Solution: Make sure in get info, permissions that the file is not read only!

Problem: Problem when building new case on Cheyenne (B-COMP)
Got this error in the build log
ccsm_comp_mod.F90:(.text+0x512): additional relocation overflows omitted from the output
/glade/u/home/mre2126/cases_cheyenne/b.e11.f19_g16.B20_WA_001/Tools/Makefile:629: recipe for target
'/glade/scratch/mre2126/b.e11.f19_g16.B20_WA_001/bld/cesm.exe' failed

Solution: https://bb.cgd.ucar.edu/cesm-1221-cesmsetup-module-issue-cheyenne

Had to change the pio and update some of the modules in /cesm1_2_2_1/scripts/ccsm_utils/Machines/vi env_mach_specific.cheyenne After this I then had to start a new case.

Problem: When built on Cheyenne, CESM 1.2.2.1 looks for restart files which look like 'b40.1955-2005.2deg.wcm.002.cam.r.1985-01-01-00000.nc' but I have 'b40.1955-2005.2deg.wcm.002.cam2.r.1985-01-01-00000.nc.

Solution: Create a symbolic link using 'ln -s FILENAME DESIRED_FILENAME'

Problem: When running an atmosphere only model (WACCM) with prescribed SSTs and sea ice, I ran into this error in the ocean log file '(shr_sys_abort) ERROR: (shr_stream_getCalendar) ERROR: nf90_inq_varid'

Solution: The time coordinate of the SST and sea ice variables in the file to be read in the stream must be entitled 'time'. Originally I had it as 'month', and only found the difference by comparing to files I knew that gave no issues.

Problem: When running CESM, and my home directory fills up during the run, the run will not submit and this error message will show XML::Lite:A closing tag (</config_definition>) was found with no corresponding start tag at position 6056 in your XML file.

Solution: The issue is in 'env_run.xml'. This becomes corrupted and a large amount of the file is deleted. The solution is to use the snapshot feature https://www2.cisl.ucar.edu/resources/storage-and-file-systems/glade/recovering-files-snapshots and replace env_run.xml with a previous version. If you are just starting a run and don't have a backup, the easiest thing may be to just delete the run and start completely again.