

Changing Dates of a Run

Tell CESM which date to start from and when to stop the simulation:

Either use the `xmlchange` function or open the `env_run.xml` and edit directly to alter:

```
./xmlchange RUN_STARTDATE=$run_start
./xmlchange STOP_OPTION=$stop_option
./xmlchange STOP_N=$stop_n
```

Default values are: `RUN_STARTDATE` = 2005-01-01, `STOP_OPTION` = ndays, and `STOP_N` = 5, the recommended "out-of-the-box" test set-up.

`RUN_STARTDATE` has format YYYY-MM-DD.

`STOP_OPTION` has many options including ndays, nmonths, or nyears (see `env_run.xml` for more options).

`STOP_N` will stop after the specified number of `STOP_OPTION` increments. For example the default values will stop simulations after 5 days.



Tip for New Users:

Depending on your set-up and computational resources, it is usually recommended to run 6 to 12 months at a time, after the testing phase with 5-days is complete and the experimental runs are begun.

You're not done yet! There are 5 important components to check and harmonize when changing dates:

1. If using "Nudging" be sure to check that you have the [appropriate meteorological files for nudging](#), and have 'nudge_end_year' set to an appropriate date in `atm_in` (`user_nl_cam`).
2. Ensure [emissions](#) cover the dates specified. Default emissions can be determined by looking at the `CaseDocs/atm_in` file.
3. You will also need to point to **initialization** files by updating the path by adding the following to `user_nl_cam`:

```
&cam_initfiles_nl
  ncdata = '$path_to_init_file'
/
```

as well as the land initialization in `user_nl_clm`:

```
finidat = '$path_to_init_file'
use_init_interp = .true.
```

Initialization files are written out from a previous CESM simulation and specify initial states of chemical fields, instead of spinning up from zero. Another option is to use the default initialization file, perform a one-year spin up and re-initialize with the output from that simulation to minimize the initial condition influence.

4. SST: If running for recent dates, the sea surface temperature file may not cover your interested dates and you may need to change it. If you need to change it, the most recent version is described below.

Check the default file in the `env_run.xml`, and if necessary change to:

```
<entry id="SSTICE_DATA_FILENAME" value="/glade/work/tilmes/inputdata/sst/sst_HadOIB1_bc_0.9x1.
25_1850_2020_c200122.nc">
<entry id="SSTICE_GRID_FILENAME" value="$DIN_LOC_ROOT/share/domains/domain.ocn.fv0.9x1.25_gx1v7.151020.nc">
<entry id="SSTICE_YEAR_END" value="2020">
```

5. LBC: If running for recent dates, the lower boundary condition file may also not cover your interested dates and you may need to change it. If you need to change it, the most recent version is described below.

Check the default in the [CaseDocs/atm_in](#) file, and if necessary add to the [user_nl_cam](#):

```
&chem_surfvals_nl  
  flbc_file = '/glade/p/cesmdata/cseg/inputdata/atm/waccm/lb/LBC_17500116-  
25001216_CMIP6_SSP585_0p5degLat_c20200824.nc'  
/
```