

Stage-1-2.6

Create initial cut of cam_comp

Ideal engineering time: 3 days

Start Sep/1st

First checkin: cam3_2_22 – Sep/20/2005 4000 lines of code

Branch checkin: cam3_2_22_brnchT_chghilev_9 Sep/22/2005

Final checkin: cam3_2_24 Oct/3/2005

I had 2.5 days of vacation

Load factor: 4.2

This was significantly underestimated, there really was more work and difficulties with getting SCAM to work here.

200lpd

Create an initial cut of cam_comp. Put dynamics specific stuff inside a layer to hide it from cam_comp.F90 in control (stepon module)

Also put timers inside routines rather than in the main drivers.

Some of the following details are taken from the subrtize branch.

- Make stepon a module with an initial, run1, run2, and final methods
 - Make stepon local data module data with a save statement
 - Move stepon initialization to stepon_init
 - Create cam_comp module with cam_init1, cam_init2, cam_init3, cam_run1, cam_run2, and cam_final methods
 - Create phys_final method for physpkg.
 - Move phys_state allocate and deallocs to phys_init, and phys_final
 - Move do-loop in stepon up to cam.F90 driver level.
- The initialization in cam.F90 looks like...

```
.... gptl initialization stuff
call seq_ccsm_printlogheader()
call cam_init1( surface_state2d, srfflx_state2d )
... CCSM and surface restart stuff
call clm_camInit( srfflx_parm2d_lnd, srfflx_state2d )
call ocn_init( srfflx_parm2d_ocn, srfflx_state2d )
call ice_init( surface_state2d, srfflx_parm2d_ice, srfflx_state2d )
call camhub_init( srfflx_state2d, srfflx_parm2d_lnd, &
                 srfflx_parm2d_ocn, srfflx_parm2d_ice )
call cam_init2()
```

SCAM initialization then can look similar to the above without the cam_init2 and print header calls. scam_init1 is changed to an initial module like the initial modules in each dynamics. The Filepath will choose to compile the initial module in scm_init. The time loop in cam.F90 replacing stepon looks like...

```
do while ( .not. nlend )
  call atm_run1( srfflx_state2d, surface_state2d )
#ifdef COUP_CSM
  call camhub_run1( surface_state2d, srfflx_state2d, &
                  srfflx_parm2d_ocn, srfflx_parm2d_ice, &
                  srfflx_parm2d_lnd)
  call lnd_run( surface_state2d, srfflx_parm2d_lnd )
  call ocn_run( surface_state2d, srfflx_parm2d_ocn, srfflx_state2d )
  call ice_run( surface_state2d, srfflx_parm2d_ice, srfflx_state2d )
  call hub_merge( surface_state2d, srfflx_state2d, &
                 srfflx_parm2d_ocn, srfflx_parm2d_ice, &
                 srfflx_parm2d_lnd)
#else
  call ccsm_run( surface_state2d, srfflx_state2d )
#endif
  call atm_run2( surface_state2d, srfflx_state22 )
end do
```

cam_comp is in control and dynamics specific information is hidden in the dynamics directory because:

- stepon_init method replaces dynamics specific initialization currently in stepon.
- stepon module is in each dycore as is currently