CCSM-ESMF Stage 2 Release schedule

CCSM/ESMF Stage-2 Release Schedule

- CCSM-ESMF Stage 1 Release schedule

Milestone 1 – Move to cam3_4_00

- Update csm_share to latest, put on csm_share trunk (DONE) share3_070220
- Update csm_share_emodules branch to share3_070220 DONE (need to add frozen branch tag)
- Make sure csm_share unit tests work. DONE
- Add ability to transfer the following variables to/from an ESMF state: (NOT DONE)

```
    CCSMInit%single_column
    CCSMInit%scmlat
    CCSMInit%scmlon
    CCSMInit%logFilePostFix (DONE)
    CCSMInit%outPathRoot     (DONE)
```

- Update the csm_share unit tests to make sure the above works. (NOT DONE)
- Update clm ESMF branch from clm3_expa_76 to clm3_expa_91. Move changes that occur in lnd_comp_mct.F90 to lnd_comp_esmf.F90. Changes include:timing changes. (Samson) (NOT checked in)
- Update cam from cam3_3_38 to cam3_4_00, use the new clm and csm_share tag created above. Changes include: single phase for atm, timing changes. (NOT checked in)
- Put in redist functionality in map_atmice_esmf.F90 and map_atmocn_esmf.F90 (rather than using explicit copying)
- We think we have everything up to this point – need to have it checked in. It's bit-for-bit with the MCT version (using ESMF time-manager in both cases) only up to time-step 3 when it diverges to roundoff. That indicates one of the surface models has an albedo that diverges to roundoff.
- **Test that everything works for cam3_4_00 version (using test_driver.sh script)- must have ESMF and MCT version be bfb for the tests (see BL_ROOT in testing scripts) - need to use ESMF library for time manager in both cases**

Milestone 2 – Move to cam3_5_01

- * NEXT STEPS MUST STILL BE DECIDED*
- Create drv/seq_esmf module with branches, branch_tags, trunk, and trunk_tags directories, create as drv_1_0_1 merge to be equivalent to drv_1_0_10. Move driver to seq_esmf directory.
- Update clm esmf branch from clm3_expa_91 to clm3_5_00, just to make next merge easier. Move changes that occur in lnd_comp_mct.F90 to lnd_comp_esmf.F90
- Update csm_share emodules branch to share3_070321
- Update csm_share emodules branch to cpl709_share3_070410. Add ability to convert the following to/from the ESMF state:

```
    logical                  :: dead_comps
    logical                  :: lnd_present
    logical                  :: ice_present
    logical                  :: ocn_present
    logical                  :: prog_atm
    logical                  :: prog_ocn
    logical                  :: userest_atm
    logical                  :: userest_lnd
    logical                  :: userest_ocn
    logical                  :: userest_ice
```

- Add eshr_estate_sum and eshr_estate_avg methods to csm_share emodules
- Update the csm_share unit tests to make sure the above works.
- Figure out how driver externals will work
- Figure out how the fractional component will work
- Update drv to drvseq1_0_32, add COUP_SOM to mrg_ocn, update domain checking, add dead logic, add rtm component, seq_flds moved- Create fractional component.
- Update clm to clm3_5_03
- **cam3_4_14: Update cam esmf branch to seqflxave16_cam3_4_12, new drv module, SVN externals moved up a directory, and ocn called after cam.**
- Update csm_share, drv, and clm to latest tags
- Move csm_share to trunk
- Move drv to trunk
- Move clm to trunk
- Move cam to trunk with above tags

Milestone 3 – Update ESMF components for general Sequential CCSM

- Allow ocn/ice and atm/lnd on different grids
- Create dead ESMF components
- Create d????7 ESMF components
- Create stub components – for CLM
- Get stub option for ESMF working in CLM

- Get dead and d???7 ESMF components working in CLM and CAM
- Update mappers to do regridding
- Update components to do time-averaging
- Update driver to operate at different coupling intervals for ocean
- Turn POP, D???7, CICE into ESMF components