

CLM Upcoming Tags

NOTE: This page is being replaced by the Trello page:...

[Trello CLM Upcoming Tags Page](#)

Tags in process:

Trunk tags:

The following upcoming tags should all be moved over to the Trello page and then deleted....

Tags after the CESM1_2 release

- **clm4_5_??** () (erik) Miscellaneous changes.
 - Requirements: fix bug 1623, 1543, 1634, 1625, 1598, 1597
- **clm4_5_??** () (erik) Bring in changes on cesm1_2_rel release branch to trunk.
- **clm4_5_??** () (erik) Bring in PTCLM changes and tower run script from Keith Oleson. Have clm and mksurfd data check mapping files for consistency.
- **clm4_5_??** () (muszala) Remove use statements and move to procedure interfaces with intents (Refactor-infrastructure)
 - In cases where we use a 'use statement' to bring in a derived type, refactor so that the derived-type is passed via explicit interface.
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- **clm4_5_??** Bring pnuptake branch from Quinn Thomas.
- **clm4_5_??** Bring riverine transport from Cindy Nevison.
- **clm4_5_??** () (oleson/erik) history files for multiple urban density types.
- **clm4_5_??** () (erik) 1x1_tropicAtl.I20TR. get interpinic and CN spinup testing working. Add tests for interpinic running model.
- **clm4_5_??** () - Bring in 1D vector processing script. Add ability to set lake to 100% in mksurfd data. Add in pot-veg dataset from Peter L.
- **clm4_5_??** (?) - Add in domain files for: ne4np4, ne16np4 and add ability to use them in scripts. Add in CO2 ramp capability to datm. Add sparkling lake WL as supported single-point to datm and CLM. Remove CNZeroFluxes (only zero fields that will be summed). Remove DustDryDep code as not needed. Work on getting more tests to work. Work on optimizing the new datm8 for use with CLM I cases. Remove atm_grid files? Always set everything to NaN convert from spval on I/O?
- **clm4_5_??** (?) - Fix file limit on streams. Make sure c2l_scale_type is set for some history fields. Some minor issues: dynamics LU change dataset for US-UMB. Add some infrastructure for unit testing. Rework mksurfd data to have build-namelist like clm's build-namelist. Add version dates for PTCLM forcing files. More work on _FillValue for restart files.
- more work on tests, work on mksurfd data, work on build-namelist to make sure new variables are only set when should be
- add in bombspike dataset for use_c14, add Sparkling-Lake testing
- Make nlevcan a variable that can increment in jumps, stored on restart files
- **clm4_5_??** () (mvertens?) Remove calls to albedo routines in initialization, replace with simpler initialization of albedo values
 - Proposed 6-27-13 by Mariana as a way to clean up initialization code
 - Once this is done, the calls to SurfaceAlbedo and UrbanAlbedo from the driver should be changed back to using the standard filters, rather than the "inactive_and_active" version of the filters: They are only using the inactive_and_active version for consistency with the calls in initialization. When that is done, remove the comments in the SurfaceAlbedo and UrbanAlbedo routines saying that they are called with the inactive_and_active version of the filters.

Future tags:

Software engineering changes (Slated in as available)

- **clm4_????** - Fix NaN bug for CN.
- **clm4_????** - Work on optimizing datm especially for single-point and high resolution
- **clm4_????** - make snow emissivity a single constant shared by Urban, and Lake.
- **clm4_????** - Change code to catch missing values on input? Interpolate finidat files to other resolutions
- **clm4_????** - Output some fields in vector format as default.
- **clm4_????** - Check for NaNs on input as well as output.
- **clm4_????** - Move nitrogen-deposition read into datm8?
- **clm4_????** - Work with CN-spinup so options for fewer fields (wind,rain,snow,calc ptem).

- clm4_???? - Change model to allow for multiple ensembles (by moving instance of clm3 type to Ind_comp_mct and passing structures down, and restricting level that structures go down).
- clm4_???? - Move bgc infrastructure branch to trunk. Infrastructure change from Peter T. adds infrastructure for above and below ground BGC (cn_casa_soil is a new BGC option that compiles but does not run as it dies with a carbon balance error)?
- clm4_???? - Work on pftdyn 10x15 tests. Look into RTM time-step if need to be set if recalculated.
- clm4_???? - Change voc parameters, read in VOC rather than elsewhere.

Science changes:

Science beyond CLM4.5

- clm4_???? --- Riverine transport of Nitrogen nutrients and sediments, lateral movement of water below ground
- clm4_???? --- Phosphorous, Water isotopes, 3D canopy
- clm4_???? --- Add feature from Dave L. that if for organic file is missing on a CN run -- you use soil carbon from CN
- clm4_???? --- Sync up stability equations for DUST and rest of model
- clm4_???? --- Changes to stability functions (Keith O. and CCSM) (coordinate with CCSM)
- clm4_???? --- capr factor for soil/snow temperature should probably vary with snow layer thickness
- clm4_???? --- Changes from Beth for Nitrogen soil out-gassing?
- clm4_???? --- Variable soil depth
- clm4_???? --- Pine beetle outbreak modeling
- clm4_???? --- Ozone
- clm4_???? --- VOC code: remove locally hardwired sla and root depths
- clm4_???? --- Update stability equations for 10m winds for dust model to current CLM formulation
- clm4_???? --- Clarify what FGR means in CLM4. It is combination of FGR+light penetrating through surface layer of snow. New FGR term required?
- clm4_???? --- Re-derive direct/diffuse partitioning in offline model with more realistic partitioning coming out of CAM5 RRTM
- clm4_???? --- Higher albedo in Amazonia in CLM4CN with higher LAI, annual cycle of albedo is out of phase in CLM4; possibly indicating excessive soil albedo-soil wetness relationship

Tags done:

- **clm4_5_38** () (sacks) Change irrigation to be pft-level
 - Change irrigation to be pft-level
 - Update scripts to add an ERS_Ly5 test with crop & irrigation, at f10 resolution
- **clm4_5_37** () (muszala) Modifications to bring clm up to date with major driver refactoring in drvseq5_0_01
- **clm4_5_36** (Oct 4) (sacks) New surface datasets, and other minor fixes (changes answers)
 - New surface datasets for ALL resolutions for CLM4.5. These get rid of the zero-ing out of soil properties in grid cells that are mostly / entirely glacier
 - New initial conditions for irrigOn
 - Update scripts external to fix/rework some tests
 - Bugs fixed:
 - 1827 / 1830: testmods don't work right for multi-instance tests (fix via scripts update)
 - 1829: PCT_SAND, PCT_CLAY and SOIL_COLOR are incorrect for some grid cells (fix via new surface datasets)
 - 1831: turning on irrigation leads to death in initialization (fix via a new initial conditions file)
 - Note about testing: There will be a few new / changed tests here. However, since answers will change for all CLM4.5 configurations anyway, I don't think it's necessary to generate baselines for these tests from an older tag.
- **clm4_5_35** () (sacks) Port to edison
- **clm4_5_34** (erik) Fix PTCLM and some bugs.
- **clm4_5_33** () (muszala) Clean up a mistake in clm4_5_32...I added a trunk dir in the root of clm4_5_32.
- **clm4_5_32** () (muszala) The first bug fix tag. Fixed bugs 1798 and 1810
- **clm4_5_31** (Sept 25) (sacks) Fix crop bug 1820 (changes answers for crop cases)
 - This should fix the following PET tests:
 - PET_P15x2_Lm25.f10_f10.ICLM45BGCDVCROP.yellowstone_intel
 - PET_P15x2_Ly3.f10_f10.ICLM45BGCCROP.yellowstone_intel
- **clm4_5_30** (Sept 24) (sacks) Fix decomp init performance bug
- **clm4_5_29** (Sept 24) (sacks) Get threading working in CLM4.5 (bfb for non-threaded cases)
 - Big refactor of subroutine calls / subroutine array arguments
 - Misc fixes to threading
 - Performance improvement in SurfaceAlbedo
- **clm4_5_28** (Ready to go) (sacks) Fix FracH2OSfc bug (bug 1811) (changes answers)
- **clm4_5_27** (Ready to go) (sacks) Fix crop nyrs bug (bug 1815) (potentially changes answers for crop cases)
- **clm4_5_26** () (muszala) bug fixes nonBFB (Science)
 - BGCCROP fix for SMS_Ly1 tests
 - Jinyun Tang - two water balance fixes. Note - in the end needed only one fix which was from Sean Swenson.
- **clm4_5_25** (Sep 9th) (kluzek) Trunk tag that goes with Tony Craig driver refactor.

- **clm4_5_24** (Sept 3) (sacks) Update externals
- **clm4_5_23** (Aug. 16) (muszala) Methane Parameters (Refactor-functionality and infrastructure)
 - Bring methane constant parameter file in.
 - merge old fpftcon file with params file. new namelist var is 'paramfile'
 - rename instances of 'const' with params' so we now refer to these as parameters consistently
- **clm4_5_22** () (muszala) new scripts testlists.
- **clm4_5_21** (July 20) (mvertens/muszala) Preprocessor Removal in CLM and introduce bounds derived type (Refactor-functionality and infrastructure)
 - Remove CN and CNDV #ifdef's replace with namelist control.
 - Remove PERGRO outright.
 - Remove C13 code on the CLM4.0 side.
 - Remove _NOIO/NOFIRE.
 - Make MEXICOCITY/VANCOUVER/SNICAR_FRC into namelist items.
 - Investigate if CROP #ifdef can be removed.
 - move all ifdef assignments to main/controlMod.F90
 - still need to do work to connect with namelist
- **clm4_5_20** (July 18) (muszala) [std-test] CN Constants (Refactor-functionality and infrastructure)
 - Bring CN constant parameter file in.
- **clm4_5_19** (July 17) (sacks) Bug fix for bd in iniTimeConst
 - Fix bug 1763
- **clm4_5_18** (July 9) (sacks) Rework urban parameter derived type
 - bfb
- **clm4_5_17** (July 3) (sacks) bit-for-bit cleanup following from the above tags
 - Remove most of the npatch and maxpatch variables from clm_varpar
 - Change mksurdata_map error tolerance for CH4 parameter, to fix bug 1754
 - Make 1x1_tropicAtl datasets
 - Bugs fixed:
 - 1747 (need 1x1_tropicAtl datasets)
 - 1754 (mksurdata_map problem making CH4 parameters for ne240 CLM4.5 surface dataset)
 - Testing:
 - Standard tests
 - Tools tests
- **clm4_5_16** (July 2) (sacks) make most filters just operate over active points (bfb)
- **clm4_5_15** () (muszala) [std-test]- Pointer clean-up (Refactor-infrastructure)
 - Change pointers to associate where possible
- **clm4_5_14** () (muszala) [std-test]- Pre-Pointer clean-up (Refactor-infrastructure)
 - prep. work for modifying associate
 - refactor subgridAveMod.F90 to accept upper and lower bounds
 - remove duplicate pointer uses
 - remove inicPerpMod.F90 and is_perpetual use
- **clm4_5_13**() (andre) [std-test]-jinyun hydrology reordering
- **clm4_5_12** () (muszala) [std-test]- random fixes (Refactor-infrastructure & science)
 - Fix ERS_D.f10_f10.ICLM45BGCSNoVS.yellowstone_intel.clm-rootlit error
 - Make some additional NAG port modifications
 - Remove use of TWS from BiogeophysRestMod.F90
 - update to rtm1_0_29
- **clm4_5_11** (June 12) (sacks) Change how pct_pft is specified (roundoff-level changes for all CLM4.5 runs)
 - Changes to mksurdata_map for pct_pft
 - Remake all CLM4.5 surface datasets & pftdyn datasets
 - Remake out-of-the-box initial conditions using interpinic
 - Changes to CLM to use new surface dataset format
 - Fix interpinic:
 - Change crop index
 - Fix urban
 - May need to remake initial conditions (mainly because of new 0-weight urban points in column-level arrays)
 - Bugzilla bugs to fix:
 - interpinic bug for urban (1702)
 - normalization issue (1621)
 - error tolerance in reweightMod (1675)
 - Testing:
 - standard CLM tests
 - tools tests (because of interpinic change)
 - Expected baseline differences
 - Roundoff-level for everything
 - Greater than roundoff for any CLM4.5 compset using initial conditions, due to urban bug in interpinic
- **clm4_5_10** () (muszala) [std-test]- clmtype refactor (Refactor-infrastructure)
 - refactor of clmType so there is only one level of indirection

- **clm4_5_09** () (muszala) [std-test]-VIC hydro mods and volr correction (Science)
 - Add in small maoyi fix for VIC hydro
 - Add in volr correction in lnd_comp_mct and rof_comp_mct to take area into account
 - make rtm1_0_28 for volr correction
 - update mct to use santos tag that works with parallel NAG runs
- **clm4_5_08** () (muszala) [std-test]-NAG port for CLM (Refactor-infrastructure)
 - Bring NAG branch to trunk.
- **clm4_5_07** (May 30th) (erik)
 - Bring in new spinup finidat files (f09_g16@1850 for SP and BGC). interpinic to 2deg, hcru_hcru and ne30.
 - New spinup finidat files for BGCCROP and BGCDV (f19 and f09 respectively)
 - New spinup finidat files for 2000 (f09_g16 for SP and BGC)
 - Update RTM to bring in finidat_rtm files for either 1850 or 2000.
 - Update scripts, Machines, pio
 - scripts includes update for CLM40CRU hybrid startup
 - Turn drydep off by default
 - Do a lot of work on getting PTCLM working and tools working for single-point.
- **clm4_5_06** (May 15th) (erik) [critical-test-level]
 - More work on README files and documentation
 - Fix from Danica/Bill for transient simulations
 - Fix from Zack for Lake output variables
 - Another multi-instance script fix.** **Fix tropixAtl pftdyn filename.**** Requirements: Fix bug: 1697, 1691, 1675, fix tropicAtl pftdyn file, minimal testing on yellowstone
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- **clm4_5_05** (May 14) (muszala) [std-test]-hcru_hcru_I_2000_CRUFRC_CLM45_CN bug fix (Science-critical bug fix)
 - fix hcru_hcru_I_2000_CRUFRC_CLM45_CN problem with restart
 - fix hcru_hcru_I_2000_CRUFRC_CLM45_CN problem where it crashes when run with anything other than 15 pes.
- **clm4_5_04** (May 13th) (erik)
 - Needed bug fixes from clm4_5_04 tag.
- **clm4_5_03** (May 10th) [limited] (erik)
 - a. Work on ChangeLog files, README files. (done for now)
 - b. Fix PTS_MODE to read 2D finidat files from John Truesdale. (implemented, John is looking at a problem with it)
 - c. Fix history change number of tapes on startup issue. (done)
 - d. Bring in urban single pt surface datasets and single pt test: mexicocityMEX (done), vancouverCAN (done), urbanc_alpha (done), 1x1_tropicAtl (done), 1x1_smallvilleIA (done) (DONE)
 - e. Drydep use before defined problem (done)
 - f. Always bypass first two time-steps for CN/BGC. (done)
 - g. Fix gregorian calendar on history files. (done)
 - h. Remove two fields on clm45 pftdata file as per Gordon. (done)
 - i. ncd_pio fix from Jim Edwards/Mariana V. (done)
 - j. set nsegspec=20 for HOMME and high resolution grids. (done)
 - k. Change documentation on CLM build-namelist-drydep, but keep it default on (will change to off in next tag) (done)
 - l. Remove a bunch of datm/drv fields in namelist_definition. (done)
 - m. Fix some issues with Crop and DV that Sam found. (done)
 - n. Fix a scripts issue with multi-instance (done)
 - o. Update RTM (multi-instance fix, allow null grid). (done)
 - p. Update test list so that CLM45/DV/CROP are exercised. (done)
 - q. Update scripts/machines tag because of multiple problems (done)
- 1. #* Requirements: fix bug 1488, 1673, 1677, 1682, 1653, 1689, 1690, 1687, 1688, 1685, 1691
- **clm4_5_02** (May 7th) [tools testing] (sacks)
 - a. Make separate 'shared' tools directory, move some tools from the clm4_5 directory into there.
 - b. Change interpinic so that htop and hbot are skipped, like others.
 - c. Change mkmapdata to use shared mapping tools.
 - d. Change Makefile.common files in tools to use ifort by default on yellowstone, so users can just type 'gmake' without needing to do 'gmake USER_FC=ifort'.
 - e. Fix minor mksrdata.pl bugs (1669, 1681).
 - f. Requirements: fix bug 1669, 1681*
- **clm4_5_01** (May 6th) [std-test] (muszala) Update externals to cesm1_2_alpha08b versions.
- **clm4_5_00** (May 2nd) [doc] (erik) Tag end of CLM45 development. Documentation tag same as clm4_0_81.
- **clm4_0_81** (Apr 29th) [std-test] (andre/ckoven) CLM4.5 changes from Charlie Koven. Answer changing. Variable aggregation and revised cryoturbation profile. And STNDRD_BSW_FOR_SOILPSI_CALC always OFF. So configure option to vsoil_centbgc "no-stnd-bsw" is now removed, and CLMSP and CLMCN now also run with the same BSW soil psi calculation as for CLMBGC.
- **clm4_0_80** (Apr 25th) [std-test] (erik/slevis) CLM4.5 science updates.
 - Bring Fang Li fire model in. lightning, pop-density on streams like ndep
 - done - up to date with clm4_0_79 (yellowstone testing complete, expected fails+anoxia_wt [which we can remove]) (test list needs to be updated -- will do in a later, scripts tag)
 - New surface datasets for:
 - 4x5, (2000 and 1850-2000 - Bill Sacks) (done)
 - 10x15, (2000 and 1850-2000 - Bill Sacks) (done)

- hcru, (done except for rcp2.6, rcp4.5, rcp6) (done)
 - f09, (done except for rcp2.6, rcp4.5, rcp6) (done)
 - f19, (done except for rcp2.6, rcp4.5, rcp6) (done)
 - ne30, (done except for rcp2.6, rcp4.5, rcp6) (done)
 - T31, (done except for rcp2.6, rcp4.5, rcp6) (done)
 - 1x1_brazil, (done)
 - 5x5_amazon, (done)
 - 1x1_numalA, (done)
 - 1x1_camdenNJ, (done)
- Also bring in hcru IC file. (done)
- Require new data on surface files, for configurations that use it, new pft-physiology file with fire parameters (done) (this and below changed answers, which didn't expect, but not enough to worry about)
- CHANGE FROM SAM TO FIX Non-Irrigated CROP SIMULATIONS (Sam just got a fix now)
- Fix from Bill Sacks for error tolerance on glc_mec in surfdrMod (clm4_0 and clm4_5) (done)** might change answers slightly for glc_mec cases for clm4_0 and clm4_5 (rare enough that we aren't going to worry about it)
 - **Requirements: new datasets that fix bug 1641****
- **clm4_0_79** (Apr 25th) [std-test] (muszala)
 - Don't re-weight pftdyn if weights are essentially identical (Both CLM40 AND CLM45).
 - Turn wasteheat to "ON" in CLM45. (namelist change)
 - Change from Sam Levis for CROP to pft-physiology file so that CROP parameter is in Kelvin rather than Celsius (both CLM40 and CLM45).
 - Change datm so that LWDN is NOT read from files for CRUNCEP. (one line change in datm)
 - Requirements: fix bug 1621
- **clm4_0_78** (Apr 23rd) [std-test] (fvitt/muszala) Bring CHEM branch tag from Francis. CPL log/hist files will be different for dry deposition fields, MEG_fields will be different.
- clm4_0_77 (Apr 23rd) [critical] (sacks) Fix Carbon balance error for transient simulations, and out of bounds issue.
- clm4_0_76 (Apr 22nd) [std-test] (andre/muszala) CLM4.5 science updates. Changes from Charlie to make spinup easier, more flexible more robust. Change to C13 history fields when use_c13/use_c14 on. Non-answer changing. Fix SNOW_DEPTH on restart files.
- clm4_0_75 (Apr 17th) [critical-no tests] (muszala) run propset on trunk to update externals.
- clm4_0_74 (Apr 17th) [std-test] (muszala) snow depth changes for sean...should be bfb. Some changes from Bill Sacks for mksurdata_map.
- clm4_0_73 (Apr 12th) [std-test] (sacks/slevis) Work on mksurdata_map for clm4.5. Add new fields in. Add ability to process new data in mksurdata_map (lake, runoff, fire). runoff OFF, SLOPE, topo std dev on mksurdat. (SLOPE, MAXVOLR on rtm-direction file)? Fire: GDP, peat, abm (month), Lake: lake-depth (from 3min mksrf_Lake file). 6 VIC fields from Maoyi at f09 resolution. LAKEFETCH and ETALAKE will remain in the CLM code as data that a user can add to their surfdata files after mksurdata_map -- but will remain outside of mksurdata_map (we don't have data for it). Inversion coefficients: ZWT0, F0, and P3 from Charlie. Remove -new_woodharv option from CLM45 mksurdata.pl and assume it is true. Set the option to true by default on the CLM40 side. And remove the old mksrf_vegtyp dataset for ngwh=off from namelist_defaults_clm4_5_tools.xml for rcp=6/8.5 so ngwh=on are the only datasets available. Add ability to run glc_nec=36.
 - Requirements: tools tests, and build-namelist test (to catch any accidental changes to CLM's namelist), fix bug: 1641
- clm4_0_72 (Apr 11th) [std-test] (muszala) VIC bug-fix.
- clm4_0_71 (April 10th) [std-test] (muszala) Update externals to use new compset scheme
- clm4_0_70 (Mar 28th) [std-test] (muszala) Bring in Maoyi's VIC branch to trunk. Remove changes to Makefile.common. Add tests for VIC to test_system. Make sure origflag can NOT be 1 when VICHYDRO on. Change VICHYDRO CPP into a CPP handled similarly to other CPPs.
 - **Requirements: Add vic tests for CLM45 and CLM45-vrtlay, normal testing protocol
- clm4_0_69 (Mar 27th) [critical] (muszala) Fix restart issues from clm4_0_67 (remove hydro reorder, leave in photosynthesis mods), and CME test.
 - Requirements: Fix bug 1644
- clm4_0_68 (Mar 16th) [critical] (erik) Bring in ne120fix branch to trunk. This fixes some issues in mksurdata_map for generation of ne120np surface data file. Put error back in CLM if weights don't sum to 100. Add in Keith's photosynthesis change.
 - Requirements: tools test, yellowstone batch, fix bug 1632
- clm4_0_67 (Mar 7) [std-test] (muszala) CLM4.5 science updates, move BeTR_M_SCI branch to clm4_5 trunk. Jinyun reordering . And new photosynthesis solution.
 - Requirements: Only F90 source modes in 4_5 physics so only ran std-tests plus yellowstone lcompset plus yellowstone interactive.
- clm4_0_66 (Mar 7) [critical] (sacks) Change from Sean Swenson so that std-elev is NOT applied over GLC-MEC lanunits. Changes answers for GLC-NEC cases.
 - Requirements: cesm tests, make sure GLC test goes, Run all baselines to prepare to 66 tag.
- clm4_0_65 (Mar 7) [critical] (sacks) Back out machines externals to get IG cases to compile
- clm4_0_64 (Mar 5) [critical] (muszala) Update externals, with change so that CLM45 compsets do NOT use CLM40 initial conditions. Update externals only. scripts to scripts4_130227b. update rtm to rtm1_0_20. update all other externals to latest.. This should also allow basic functionality of PTCLM to work.
 - Requirements: Since no code, input file or script changes will only run cesm tests, and lcompset tests, don't worry about baselines.
- clm4_0_63 (Mar 4) [critical] (muszala) Fix for getting CN to work past one year in 4_0 physics.
 - Requirements: Fix bug 1635, don't worry about baselines
- clm4_0_62 (Feb 24) [std-test] (sacks) Refactoring to support dynamic landunits: change subgrid weighting convention, add 'active' flags; also refactor urban routines in initGridCellsMod. Update cism external (as well as drv, scripts, machines to support new cism)
- clm4_0_61 (Feb 20th) [std-test] (muszala) rtm and drv update. RTM and CPL to pass VOLR. Add total water storage variable (should be WA+H2OSNO+H2OCAN+SOILLIQ+SOILICE+VOLR). VOLR needs to be mapped from RTM to CLM grid. Remove WT ("total water storage") or call it something else. Some hydrology changes from Sean. New ne120np4 surf/pftdyn datasets from Erik.
- clm4_0_60 (Feb/11) [std-test] (erik/mvertens) - Bring in CLM4.5 branch as additional directories. Change directory structure, so there are shared files and utilities for both CLM4.0 and CLM4.5 and files that are different for each. Update compsets in scripts in order to work in this paradigm. Get PTCLM closer to working.
- clm4_0_59 (Dec 20/2012) [std-test] (mvertens/erik) - restructure clmtype and all pointer references, new directory structure
- clm4_0_58 (Dec 14/2012) [std-test] (erik) - Add WRF datasets back in. Fix mkprocdta. Add testing to frankfurt. Move testing to yellowstone /frankfurt.
- clm4_0_57 (Nov 30th) [std-test] (muszala) - Bring in mods from release branch. Fix CLM testing that is broken in 55. Add vel. namelist for Sean. Add a few flood tests
- clm4_0_56 (Nov 26) [std-test] (sacks) - Fix s2x tsrf (bug 1590); add glc-related diagnostic fields
- clm4_0_55 (Nov) (stefan) [critical] Bring in Tony's coupler mods for flooding. Bring in rtmflood mods for flooding. Add reverse maps for rtm->atm to mkmapdata script. Create reverse maps for rtm for all standard resolutions.

- clm4_0_54 (Oct/9) (erik) **critical** Fix _E problem with carma mod
- clm4_0_53 (Oct 3rd) - (erik) [std-test] [Change Answers T31, f05, IG change answers: T31,f19, f09] Add in new datasets for half-degree (finidat, fptdyn). Add in new datasets for T31 (finidat, fsurdatt). finidat for ne30. New datasets for ne120 (finidat, fsurdatt). New 6/8.5 rcp's for f09/f19 with new good wood harvest. New 20th C transient datasets for ne30, ne60, ne240. Add in new high resolution organic soil and 1/8th degree fmax datasets for mksurfdatt. Fix test_system testlists for Tony's changes. (sacks) New surface datasets for all glc_mec runs. New default glc grid option (gland5UM) (changes answers for glc_mec runs; BG1850CN compset will be broken due to incompatibility with initial conditions file)
 - Requirements: test on bluefire (CESM, int, bat), lynx/pgi (int,bat), mirage
- clm4_0_52 (Sep 27th) [critical; only requires tests of tools] (sacks) New high-res pct_glacier and topo files, and associated changes to mksurfdatt_map.
 - Requirements: test on bluefire (test_driver.sh -i)
- clm4_0_51 (Sep 26th) (stefan) [critical] - Add 3x3min_USGS and 3x3min_LandScan2004 back in for mkmapdata.sh. Namelist mods for F05 SCRIP file bug. Changes from Jim for PIO performance issue. Bills clm.buildnml.csh fix. Work on 10th degree RTM issues.
- clm4_0_50 (Sep 24) (stefan) [standard] - Rtmcomp and rtm maps. Bring rtmcomp branch from mvertens to trunk.
 - Requirements: test on bluefire (CESM, int, bat), lynx/pgi (int,bat), mirage
- clm4_0_49 (Sep/15/2012) - (erik) [standard] Create CLM specific tests-lists, user_nl_dir, and compset files to handle most CLM testing
 - Requirements: test on bluefire (CESM, int, bat), lynx/pgi (int,bat) Fix bugs:
- clm4_0_48 (Sep) [std-test] (stefan) - Test framework modifications and bug fixes. Add xFail capability to tests. Normalize all CLM test output. Requirements: Test on bluefire (CESM, int, bat), lynx/pgi (int,bat) Fix bugs: 1436,1500,1521,1537
- clm4_0_47 (Aug 23) [std-test] (stefan) - Bug fixes and build system. test on bluefire (CESM, int, bat), lynx/pgi (int,bat),mirage Fix bugs: 1534,1533,1507,1444,1538
- clm4_0_46 (Aug 8) [std-test] (stefan) - New high resolution tenth degree RTM direction dataset, and maps to all standard resolutions for it. Verify high resolution dataset doesn't have pools over land, figure out what missing datapoints are on the dataset. Make sure works running coupled. Get ne240_g16 l case working. Update externals to cesm1_1_beta16e. Requirements: test on bluefire (CESM, int, bat), lynx/pgi (int,bat), mirage.
- clm4_0_45 (Jul, 20th) [std-test] (sacks/stefan) - Bug fix for glcmec virtual column. Change albice for glc_mec runs. Fix dust calculation for glc_mec. Add an instance of istcrop. New urban dataset extend mksurfdatt to work with multi-density using dominate density class. Refer to correct scrip grid files for f05, f09, f19; and a few new mapping files for those resolutions. Fix ordering of corners in mkscripgrid.ncl. Add src_grid_dims and dst_grid_dims in mkunitymap.ncl. Add mapping files needed for single-point cases. (changes answers for glcmec simulations, and maybe for crop) Requirements: test on bluefire (CESM, int, bat), lynx/pgi (int,bat), mirage. Fix bugs: 1492, 1515
- clm4_0_44 (Jul/9th) [std-test] (erik) - set nsegspec=1 for all ne grids. Update to latest externals and new datm. Latest externals have ALL components using a build-namelist, and user_nl.\$COMP files are created for you. Env files changed most fields in env_conf moved to env_run and secondly env_build. env_mach_pes moved to env_configure. env_conf removed. Add ne4, ne16, ne60 datasets. Add in ne16, ne30, ne120 20th Century datasets. Change of templates to have clm.buildnml.csh and clm.buildexe.csh copied to Buildconf. Have -chk_res option to build-namelist to check for resolution/mask, -note option to include (or not) note on the bottom of the namelist. Expand build-namelist unit test.
- -* Requirements: test on bluefire (CESM, int, bat)
- clm4_0_43 (Apr 6th) [std-test] (sacks) - Move changes from Bill Lipscomb for glc_mec. New diagnostic fields from Keith Oleson to examine snow. Changes from Dave L. to averaging of some history variables. Update scripts and esmf_wrf_timemgr. Changes in clm.cpl7.template from Tony. Add in unit_testers for build-namelist. Update to nsegspec branch. New qtr-degree RTM file, updates to mkmapdata.sh so requires -r if -f set, build-namelist changes to ensure rtm and glc options consistent, and updates of documentation to the latest cesm1_0_4 release tag. Sets nsegspec in the namelist and for ne30_g16 sets it to 5.
 - Requirements: test on bluefire (CESM,int,bat), lynx/pgi (int,bat). Fix perf bug 1485, Fix ne30 issue 1488, Fix history dimension issue 1489
- clm4_0_42 (Mar 27th) [std-test] - Bring in Francis Vitt's MEGAN changes. Update Machines to version with Darwin support. Fix stand-alone testing on lynx.
 - Requirements: test on bluefire (CESM, int, bat), lynx/pgi (int,bat), mirage
- clm4_0_41 (Mar 13th) [std-test] (erik) [Change Answers for f02 RTM] - Get working with latest scripts and have clm template call build-namelist directly. Move rmfmesh/rtmmap branch to trunk. Remove CASA completely. Start using RTM mapping files. Allow bigger tolerance for mksurfdatt_map frac up to 1.e-5 so can work for f4x5. New half-degree mapping files. Remove code to calculate RTM mapping. Remove ability to set maxpatch_pft to something different than numpt in CLM configure. Remove -ad_spinup/-exit_spinup options in configure make generic -spinup option with a few allowed values (similar to the clm45sci version of configure). New 1850 fsurdatt dataset for ne240np4. Update externals to the latest, get test_driver working.
 - Requirements: test on bluefire (CESM,int,bat), lynx/pgi (int,bat), mirage, template calls build-namelist. Fix 1477, 1476, 1467
- clm4_0_40 (Feb/15) [critical] (erik) - Backout update of T31 datasets. Add in script to generate history fieldnames.
- clm4_0_39 (Feb/1) - standard -- Move newgrid branch from Mariana to trunk. Add ne4np4, ne16np4, ne240np4 surface datasets. Add domain file for ne240np4. Replace all T31 surface datasets. Requirements: run on lynx-pgi/bluefire/mirage-intel, fix bugs: 1446X, 1444X, 1442X, 1404X, 1430X, 1425X, 1420X
- clm4_0_38 (Jan/23/2011) - critical -- Update externals to new version of scripts/Machines. Fix some bugs. Add in maps for: ne4np4, ne16np4, ne60np4, and ne240np4 resolutions. Begin adding _FillValue/missing_value to restart files. Start adding in new high-resolution datasets for mksurfdatt. Add an option to mksurfdatt.pl to run at hi-res let default be standard half-degree datasets. Add in 3x3min PFT dataset for 2000, and 5x5min organic. Add in maps for 3x3min and 5x5min_ISRIC_WISE to output grids. Separate out wetland and lake datasets, add in 3x3min lake dataset. Get mksurfdatt to work with T31, fix maps. Have both mksurfdatt_map and clm check files for consistencies. Add initial version of a script to check that maps in the XML database are correct. Make sure keywords are set in tools, and OPT correctly added to meta-data. Update gen_domain. Correct some typo's in filenames. Remove some unused data in clmtype.F90. Update documentation to cesm1_0_4. Requirements: bluefire-only, Fix bugs: 1432 (part X), 1424X, 1423X, 1401 (part)X, 1309, mksurfdatt works at regular and hi-res and for f09, and at regular for: 128x256, 512x1024, ne4np4, ne16np4, ne30np4, ne60np4, and ne240np4 resolutions, T31 and T31 mksurfdatt rcp's work
- clm4_0_37 (Sep/26/2011) [critical] - Comment out code for writing out fine-mesh lat/lon for unstructured grids. This caused the code to blow up when running for HOMME grids such as ne30np4.
- clm4_0_36 (Sep/22/2011) [critical] - Comment out the RTM mapping files for f09/f19 so answers are the same as clm4_0_34 and as the f19 mapping files cause the fully coupled model to blow up in POP. Add "mv" option to mksurfdatt.pl and make -nomv the default so it doesn't try to copy files by default. Increase length of filename strings for mksurfdatt pftdyn files. Add some metadata for some restart file variables. Add "new good wood harvest" datasets and option (-new_woodharv) to mksurfdatt.pl from Peter Lawrence so can make surface datasets with either set of files. New good wood harvest applies to rcp6 and rcp8.5. Also add in some new mapping files for: 512x1024,128x256, 64x128,32x64,8x16,0.23x0.31,5x5_amazon.

Add SCRIP grid files for: ne4np4, ne16np4, ne60np4, ne240np4. Add 3x3min resolution and 3x3min SCRIP grid file which will be used for high resolution surface dataset creation in the future. Use new surface datasets with old fatmgrid values for f09_g16 for 1850 and 2000 so that answers can be identical to clm4_0_34 without requiring the fatmgrid file.

- clm4_0_35 (Sep/13/2011) - Move Mariana's new non-2D branch to trunk. Extensive changes to mksurfdm, allows 1D-vector surface datasets. Mariana change mksurfdm to add unstructured grid format using SCRIP weights. Won't work with PTCLM and mksurfdm won't be able to create single-pt/regional surface datasets. Fix reverse coordinates on VOC/irrig mksurfdm input file. Update scripts and datm with HOMME grids. Add in half-degree pftdyn historical dataset. Partial fix to PTSMODE restart problem.
- clm4_0_34 (Aug/18/2011) [E-2,A-4] - Remove -pftlc to mksurfdm.pl. Correct units of H2OSNOTOP, HC, and HCSOI history fields. Remove fget_archdev. Fix single point restarts from Brenden. Fix pio error when clm is running at same grid as RTM. Move Tony's "tcens" DART ensemble branch to trunk. Add save statement to ncio. Have chkdatmfiles.ncl check both grid and frac files. Update pio/MCT/scripts/dtm /PTCLM/csm_share.
- clm4_0_33 (Jul/25/2011)[E-2A-4] - Move changes from release branch over to trunk. Update README files and documentation. Add new tools testing. Use if masterproc and iulog for output. Move pft mksurfdm into inputdata. rh files are t-1. All clm tools namelist items in XML database. Fix tools Makefiles. Survey testlists, move tests around. Remove clm* from path, add quotes in test scripts, remove CLM_CESMBLD. Remove getfil in mksurfdm, make fdynuse optional. Add -nomv to getregional. Cleanup help and improve documentation in scripts and XML database. Update datm8/scripts/drv/cism/csm_share. Update pergro data. Changes answers because of drv update to cesm1_0_beta22 version (answers should be identical to cesm1_0_beta22).
- clm4_0_32 (May/19/2011) - Update datm and scripts so can run I1850SPINUPCN compset with MOAR data. Fix CN units. Fix some documentation for crop. Add attribute that notes that flux variables are NOT multiplied by landfrac. Change align year for I4804 and I4804CN compsets, add append/warn option to xmlchange. Some clarifications to clm namelist. build-namelist can run list options without a config_cache file. Add comment/title to output files. Remove the 2.65x3.33 grid, no longer supported. Work on test lists a bit.
- clm4_0_31 (May, 13, 2011) [critical] - Fix interpinic test with finidat files. Fix CNPrecisionControl so answers with transient CN are same as clm4_0_26 without crop.
- clm4_0_30 (May 11, 2011) [critical] - Externals update, fix some PTCLM problems. New finidat/fsurdat files for T31, make sure works.
- clm4_0_29 (May 5/2011) [critical] - Backout interpinic to Mariana's non2dgrid version. Won't work for new files (have to remove fields to get it to work). Add more comparison tests for tools and add cpnrc. scripts to compare files that don't have a time-axis.
- clm4_0_28 (May/3/2011) [critical] Update drv to branch version, fix ram1/fv issue (remove DUST/PROGSSLT #ifdef's in Ind_comp.*). Answers will then be identical to clm4_0_26 (except air density sent to cpl). Don't allow both -irrig and -crop to be on at same time in scripts.
- clm4_0_27 (May/2/2011) - Move crop branch to trunk. Add crop and noio options to configure. maxpft option to configure can now only be a number (removing numpft+1 option to it). Add datasets for crop. Add T31 historical and rcp2.6 transient dynpft datasets. Remove some of the CPP tokens (DUST, PROGSSLT, etc.) Bring Marian Vertensteins version of interpinic over to the trunk as well. This version is faster and is able to run for higher resolution cases. Remove scaled_harvest and carbon_only namelist options and add supl_nitro option (supplemental Nitrogen which can be: NONE, PROG_CROP_ONLY, or ALL). Add number parameters for the different nsrest settings, and have only one copy of is_restart in clm_time_manager. Update to ESMF interface from Tony. (slevi/erik)
- clm4_0_26 (Mar 23/2011) - Update externals to latest pre-cesm1_0_beta17 version. driver to beyond cesm1_0_beta16 version -- so answers change. Always update ndep_interp in clm_driver -- so restarts are exact. Bring in Francis Vitt drydep changes. Add rcp2.6 T31 pftdyn dataset, remove rcp4.5,6,8,5 T31 pftdyn files as incorrect. Fix interpinic_var bug. Remove HIRES from bld. Change tools Makefile's so that you can set env variables. Change test_driver to use newer version of cpnrc.
- clm4_0_25 (Mar, 22, 2011) - Move history namelist information to restart history files and always output them. Add attributes and meta-data to the restart history files. Fix urbanc_alpha test site surface dataset. Fix datm namelist for urban cases. Use new crop pft-physiology file. Update scripts and csm_share. Changes from Keith O on SNOWLIQ/SNOWICE so goes to zero rather than missing value. Update 2.5x3.33 datasets. Fix dvoldrt units documentation, call mksoifmaxinit.
- clm4_0_24 (Feb/9/2011) - Fix mksurfdm for urban. Add soil_fmz to mksurfdm. Add attributes to surface datasets that tell you the special namelist settings (such as all_urban, soil_, pft_). Add -irrig as option to mksurfdm.pl. Update datm with new datasets for urbanc_alpha. Add new frac dataset for urbanc_alpha. Update documentation to cesm1_0_rel_09_cim4_0_14 tag. Change test_driver from jaguar to jaguarpf.
- clm4_0_23 (Feb/3/2010) [standard] Add in new datasets and use-cases for glc_mec to support glc_nec=10 for 1850, 2000, 1850-2000, and 1850-2100 for all 4 rcp's. Standardize naming convention for use-cases. Use scripts branch that has new compsets in it that access the new use-cases. Make sure ncio is used for all I/O. Work with PTCLM a bit, and PTCLM testing. Change precedence for build-namelist so that use-case is lower after user_nl_clm.
- clm4_0_22 (Jan 20th) [standard] Move cpl_* directories up a level, add cpl_shr directory. Update driver, move coupler field indices to clm, and allow fields to be passed in driver with just names added to namelist. Make is_restart() public in clm_time_manager.F90. Fix PTS_MODE. Don't pass SI_landfrac to driver in run-phase.
- clm4_0_21 (Jan 12th) [standard] (Jim Edwards) Remove misc.h/preproc.h, update SNICARMod to use ncio_pio calls rather than NetCDF directly. Stand-alone testing on bluefire, and jaguar, CESM test on bluefire.
- clm4_0_20 (Jan 11th) [standard] - Update externals, fix in datm speeds up single-point simulations, update for esmf metadata capability. Update documentation from Release branch. Fix documentation of qflx_evap_tot. Fix ndepregid/aerdepregrid scripts. Fix threading problem with CNDV.
- clm4_0_19 (Dec 8th) [std-test] - Move irrigation branch to trunk. Go to single pft-physiology file in NetCDF (rather than an additional one for CNDV, and an additional one for CROP as well). Irrig surfdm files for 1x1_brazil, f09, f19, f10. Remove concurrent directives and UNICOS stuff. Remove clm_comp and split out RTM into RTMMod/Map. (slevi/erik/dlawren/mvertens)
- clm4_0_18 (Nov 21st) - Fix a minor problem with the clm template from the last tag. Update scripts to fix a problem with linking with ESMF.
- clm4_0_17 (Nov/20th) - Update driver, datm, esmf_wrf, csm_share to version that changes answers to roundoff. Update pio to new pio drv namelist, remove pio namelist in clm. Remove samegrids, just use downscale. Add in new T341 datasets.
- clm4_0_16 (Oct/27th) -- Fix bug 1230, that caused problems with runoff to the ocean when running fully coupled. The global integrals of runoff fields was the same in the coupler -- but the values were roundoff different. This caused problems both in testing for bit-for-bit with the previous version and with restarts. The problem was that in the downscaling changes made in clm4_0_15 the areal scaling factor asca needed to be copied from adomain into ldomain is no downscaling is taking place.
- clm4_0_15 (Oct 24th) - Move pio branch to trunk. Update driver to pass U10 field to.
- clm4_0_14 (Oct 19th) [critical] - Fix finidat file for T31 sim_year=2000 cases
- clm4_0_13 (Oct 15th)[standard] - Bring in PTCLM work. Update externals for scripts, datm, drv. Get mksurfdm to have options to override soil /PFT with user input values. Fix some issues with getregional_datasets.pl. Remove old stand-alone CLM Makefile (always use CESM Macro's files and Makefile). More removal of ndepsrc in build-namelist. Turn off ice_runoff for T31. Add in T31 finidat file.
- clm4_0_12 (Sep 10)[std-test] - Update to latest cesm1 release branch. Change SPMD from spmd to use mpiserial in configure. Remove old aerdep and ndepdat/dyn files from code and scripts. Change ccsd in scripts to cesm. Add in new U10 field to history files, change old name to U10_DUST. Some updates from PTCLM branch for XML database. Also perturb initial conditions read in from file by pertlim.
- clm4_0_11 (Aug 27)[critical] - Add in ndep and pftdyn files for rcp=6.0, and add in a half-degree transient 20thC pftdyn file. Fix MPI bug that Art Mirin found.

- clm4_0_10 (Aug 4)[standard] - Use nn instead of copy for CO2 patch file. Update documentation to latest cesm version 05. Update externals. Some changes to build-namelist for generic single-point simulations. Move tools XML files to clm_tools namelist_default file. Add 4x5 drydep test, work with testing a bit. Add tests for getregional.pl and mksurdata.pl scripts. Add: usname, nomv and pftdata options to mksurdata.pl. Get RCP's working in getregional script. Update getregional to handle ndep and aerdep streams, also get it to run in a different directory. XML query wont test variables that don't match when -var option is specified. Convert test table to xhtml. Move glc_nec to physics. Add option for ndepmapalgo. Get faerdep and fndep streams files working right in namelist_defaults_usrdat.xml file.
- clm4_0_09 (Jun 14)[std-test] - Work on documentation for CESM1.0 release, with glcec changes, and namelist changes. Run testing and fix bugs. Move documentation changes from release branch to trunk. Fix getregional script for transient. Remove "At point 2" from lnd log files. Update csm_share, and scripts version so can now run testing with lahey compiler. Get CO2 patch file working.
- clm4_0_08 (Jun 4) [critical] - SnowHydrology bug fix from Keith Oleson. For test-suite, make default to send aerosol data through datm. Update version of cism, drv and scripts. Remove some of the old aerdep stuff from the XML database as we now are using presaero from datm (leave 1-deg and 2-deg).
- clm4_0_07 (Jun 3)[standard] - Fix mksurdata.pl, to correctly create 1000-1004 test datasets. Fix drydep for OpenMP. Update 1x1_tropicAtl_1000-1004 test fsurdat file. Move glc_grid from configure to build-namelist. Add in alb_ice to namelist. Start adding in the capability to handle mksurdata from 0850-1850AD, put all mksrf_fvegtyp files in XML database (remove some of the sample pftdyn text files). New RTM field on history output from Sean (VOLR and VOLR_ICE, only VOLR output by default). Allow use of aerosol data from datm for l cases in the clm test suite. Split out datm-build-namelist from clm build-namelist (put in bld/namelist_files).
- clm4_0_06 (May26th)[critical] - Changes from jwolve to lnd_comp* subroutines to exchange cism fields. Requires an update to the driver for the index of the fieldnames passed. Change paths of ggic glc_grid files from ggic to cism. Make stream the default for all resolutions for ndepsrc.
- clm4_0_05 (May 24th)[critical] - Move branch that treats ndepdyn files as streams to trunk. Change csm_share to have a simpler normalization for coszen scaling (from dlawren/kauff in datm/csm_share). Fix fragile code in clm_atmlnd, from Mariana. Update to datm8 that can set streams for aerosols. Fix template so that CLM_BLDNML_OPTS is active. Update scripts and get in other new finidat files, change clm test list, include _E test and IG f19 test.
- clm4_0_04 (May 20th)[critical] - Redo all fndepdyn datasets for f19. Add namelist option to turn off ice-flow and send it to liquid runoff: ice_runoff (by default .true.). Add new coefficients for harvest from Johann, and add ability to trigger it on and off for backwards compatibility (scaled_harvest, by default .false.). Change SUPLN from CPP token to carbon_only namelist item. Add in new RTM variable to history files from Sean. Add in T31 1850/2000 CN/non-CN and 2-deg 2000 CNDV finidat files. Turn off reading of aerosol/dust at initialization rather than run time, so files aren't even opened if CAM is passing data to clm. Update lnd_comp_esmf to same as mct interface.
- clm4_0_03 (May 17th)[critical] - Changes from Francis Vitt and Jean-Francois Lamarque for VOC and drydep. Add a scaling factor for VOC isoprene. Get annual LAI and differences from CLMSP even when CLMCN is on when sending drydep to atm, as need LAI monthly differences to estimate season index. Get these changes to work with CN on and off and also get it to work with DEBUG mode on. Use clm veg indicies in pftvarcon and abort drydep if don't find a wesley veg type index. Fix ndeplintInterp.ncl script for rcp=999.9 historical (bug 1153). Add in quarter degree gx1v6 fraction dataset.
- clm4_0_02 (May 12th)[critical] - Make sure dtime is initialized before it is used in lnd_run_mct/lnd_run_esmf so that results are consistent. This bug has been around since clm3_6_36 where doalb logic was changed. However, until clm4_0_01 results seemed to have been consistent, but with clm4_0_01 results were inconsistent, and usually incorrect for nstep=1 (in calculating calday1 and hence doalb).
- clm4_0_01 (May 11th) - Add ability to handle glacier multiple elevation classes (glc_mec) in clm, so that we can interact with the active glacier component (glc). Adds glacier elevation classes to the surface datasets and requires they be read in when glacier multiple elevation classes are active. New namelist options for glc_mec include glc_smb and glc_dyntopo. At build-time the number of glc_mec classes is set (can be 0, 1, 3, 5, or 10). The model also interacts with the mask of valid glacier points that the active glacier model determined (input with the fglcmask file), and set by glc_grid (which can be gland5, gland10, or gland20 for 5-20km resolution over Greenland). glc_grid is set at build time, but should be moved to the build-namelist.
- clm4_0_0 (May 4th) [doc] - Double tag of clm3_7_15. Update on changes since, clm3_5. This is the CCSM4.0 release.
- clm3_8_00 (May 4th) [doc] - Double tag of clm3_7_15, just documenting changes since clm3_7_00.
- clm3_7_15 (Apr 27th)[std-test] - Fix all urban single-point datasets (mexicocity, urbanc_alpha), fix get_regional script to work. Add more documentation on mksurdata to users-guide, add pergro procedure examples, more to testing section. Remove "moving the sun" warning. Fix ndeplintInterp.ncl script (bug 1144).
- clm3_7_14 (Apr 8th)[critical] - Fix rcp=4.5/2.6 fndepdyn filenames.
- clm3_7_13 (Apr 8th)[critical] - Add in missing use cases for rcp=4.5 and rcp=6 transient future scenarios. Fix syntax errors in the namelist_defaults_clm file.
- clm3_7_12 (Apr 8th)[critical] - Add in urban single-point surfdata files. Add in regridded ndepdyn/aerdep files: f09, f45, f10, f25. Fix name of f05, 1850 fsurdat file, add in new urban single point datasets, add back urbanc_alpha grid/frac files. Put rcp in filenames for aerdep/ndep regridd scripts. chomp frac filename in mksurdata.pl, for urban single-point files. Make OPT=TRUE default for mksurdata. Lengthen allowed gridname for mksurdata.
- clm3_7_11 (Apr 7th)[doc] - Documentation updates, for users guide and namelist and configure xml files (rel04 to rel05 update). Fix missing deallocate (bug 1133), and line length for NEE. Changes in mksurdata so that will run for qtr-degree. New rcp datasets for 4.5 and 2.6, aerdep (only f19)/ndepdyn/pftdyn datasets. Fix CN spinup test, fix test name for bluefire tests. Add in qtr-degree and T85 surfdata files.
- clm3_7_10 (Mar 22nd)[critical] - Update externals, fix drydep bug (so that BMOZ case will run bug 1132). Add 10x15 and 4x5 finidat files, so that bluefire.clm.auxtest PET and PST cases will work. Fix documentation on transient CO2.
- clm3_7_09 (Mar 21st)[critical] - Fix snow enthalpy bug from Dave Lawrence. Add rcp to mksurdata.pl. Add new 2006 datasets for pftdyn files for mksurdata. Fix history bug. New rcp 8.5 1-degree pftdyn dataset. Duplicate all cn datasets for cndv. pergro use cases output in double precision. Some work on documentation.
- clm3_7_08 (Mar 12th) - This one line change enabled the vast majority of the CCSM tests to pass. Verified that ERI 20th century tests in CCSM test suite for ccsm4_0_beta46 now passed with this changed
- clm3_7_07 (Mar 10th)[critical] - Use surfdata weights and stop if finidat file weights are too different. Use ccsm4init datasets for finidat files for 1-deg and 2-deg. In l compsets, setup for special l case finidat files. Update scripts. Drydep changes from Francis. Change cell_method to cell_methods. Allow clm_start_type to be overridden if on use_case. Only set orb_iyearad for standalone clm testing. Allow vars on use_cases to not be set for some configs. Make sure all BGC modes are set for variables on use_cases. Set cold-start for pergro cases. Update documentation.
- clm3_7_06 (Mar 10th) - Bring CNDV branch to trunk cndv16_clm3_7_05 (erik/slevis). Fix bug 978 for Sam (nl option for branch). Put CROP part of CNDV branch on it's own branch. Add a couple more history fields (LAND_USE_FLUX, and LAND_UPTAKE). Add HTOP to default output. SNICAR_FRC fix, test SNICAR_FRC. Fix VOC by making sure fsun240 is between 0 and 1. Fix CO2 PPMV for l cases. Add in script to create CO2 streams file that can be used by datm8. Update VOC documentation. Get in updates from ccsm4_0_rel branch. Remove 360x720 grid, files with gx3v5/gx1v5 masks. Fix bug 1120, by initializing displavegc+ for CN, Change start_type to clm_start_type, don't allow both

fndepdat and fndepdyn. Don't allow spinup modes with supln, and don't allow both ad_spinup and exit_spinup. Move testing from gx3v5 to gx3v7 mask

- clm3_7_05 (Feb 24th) - Move VOC branch over to trunk (vocemis-drydep19_clm3_7_04), this includes source code changes for VOC and drydep. Ensure answers for f09, f19, f10 are identical to clm3_7_02 (other than VOC fields). Split users guide into separate files by chapter. Remove dublin. Fix mexicocity case so will work. Add rcp option to get_regional dataset script.
- clm3_7_04 (Feb 17th) - Move VOC branch (vocemis-drydep18_clm3_7_03) to trunk for support functionality, tools, testing, everything but the code changes. This includes optimization of mksurdata, adding new tests, adding drydep to build, listen to cpl flag if aerosols are sent, update documentation about configure variables, remove pio and carbon_aero config options (always build with pio), remove local Macro's files for Darwin (yong_g95, and breeze_intel), and remove gx1v3, gx1v4 masks, and 1x1.25 and 2x2.5 grids. All NCL regrid scripts to be able to use GRDFIL env variable to set location of a grid file just created. turn rtm off if PTS_MODE is TRUE. mksurdata optimization includes: create subroutines for landuse normalization, add OpenMP parallelism, optimize memory so deallocate when done, and put OMP threads, veg filenames and optimization level on mksurdata files. Move shr_drydepInputMod.F90 to drv/shr/seq_drydepMod.F90 (from csm_share to drv). Update externals. Work on documentation using output logs from scripts and moving documentation into separate chapters.
- clm3_7_03 (Feb 10th)[critical] - Add in pftdyn dataset for 1-degree rcp-8.5. Add in interpolated aerdep/ndepdyn scenario files for f10, f09. Add in code change from Keith O. for average of top soil layers. Add in rcp for ndep and aerdep regrid scripts. Allow 2000-2100 sim_year_range for 1-degree resolution, and have a aerdep dataset for 1-degree for 2000-2100 (copy other 1850-2100 datasets). There is also a 1-degree 1850-2100 aerosol dataset, but the file is large (~9GB).
- clm3_7_02 (Feb 6th) - New pftdyn, ndep and aerdep files for rcp=8.5 future scenario 2005+ . Need to have the ability to handle four future scenarios: minicam (rcp4.5), aim (rcp 6), image (rcp2.6), and message (rcp8.5). Add in ndepdat datasets for rcp2.6 for future decades. Add in ndepdyn, pftdyn, aerdep datasets for rcp8.5, and ndepdyn for rcp4.5 (f19) and pftdyn for f10 as well. Some changes to scripts, remove CLM_DEMAND, add CLM_NML_USE_CASE, CLM_CO2_TYPE and user namelist. Add user_nl to clm.cpl7.template, remove CLM_DEMAND add CLM_CO2_TYPE and CLM_NML_USE_CASE (in favor of use_case's.). Make sure driver/scripts updated with this change. Update documentation Users-Guide with comments from Keith and Sam. Remove clm copy of mkSrcfiles/mkDepends. Remove run-ibm. Remove following options from configure and config_definition: clm_exe, clm_exedir, and clm_bld. Remove CASE/CCSM/CAM tests from test_driver.sh. Add some tests for new rcp=8.5.
- clm3_7_01 (Jan 29th) - Changes to ndeplntInterp script to add the ability to generate ndepdyn datasets for future scenarios 2005+. Add rcp as input to build-namelist and add use-cases with different rcp's. Small bug-fixes to mksurdata. Add lists for 1850-2100 for the rcp's. Update drv and scripts to latest. Update documentation. Fix from Mariana on OpenMP problem in pftdyn. Remove lightning from tests, start adding in edinburgh.
- clm3_7_00 (Jan 22nd)[doc] - Double tag of clm3_6_64, with documentation on changes since clm3_6_00.
- clm3_6_64 (Jan 22nd) - Setup makefiles for docbook UsersGuide to output both pdf and html formats. Work on documentation of new _esmf driver files. Work on documentation. Make sure documentation of clm xml variables is good. Add note about CASA NOT being supported. Work on README/Quickstart files, and move the files from the top level to clm doc directory, but leave a file at top level pointing to these files. Make large file support default, remove LND_CDF64. Add in VOC surdata files from voc branch: T42, T31, T21, T5, 4x5, 10x15-pftdyn. Add in new 2x5x3.33_gx3v7 frac file. Make default mask for 4x5 gx3v7.
- clm3_6_63 (Jan 9th)[critical] - Get answers to be identical to ccsm4_0_beta38 for both 1 and 2 degree transient cases. Update scripts to very latest. Tweak test_suite for CN so that can run with finidat file (this was critical in finding the bug), and can run interactive on dublin by turning CCSM_BLD to off.
- clm3_6_62 (Jan 8th)[critical] - Fix startup of PFT transient cases so properly use data from pftdyn file rather than finidat file.
- clm3_6_61 (Jan 7th)[critical] - Most of our finidat files have weights incompatible with our new surdata files. Hence, we went back to allowing the weights to be different and to using the finidat weights so that answers would be the same as before. Also hardwire the logfile for datm and clm so that can run testsuite on jaguar. Also add in cppdef required for breeze.
- clm3_6_60 (Jan 6th)[critical] - Fix the broken clm template. Update externals for very latest scripts tag.
- clm3_6_59 (Jan 5th)[critical] - changes needed for beta34 ESMF upgrade. Use new datm8 model which is more flexible and has new options as well as parallel IO. Add in 4x5_gx3v7 frac file. Remove use for ESMF_mod. Abort if finidat weights are significantly different from surdata file weights. Change name of driver and initializeMod to have a clm_ prefix. Convert UG outline from html to DocBook. Make changes to code documentation for high level subroutines. New files from Tony for esmf interface. Alpha release testing will start with this version.
- clm3_6_58 (Dec 8th) - Fix write of rpointer.lnd files. Fix for CO2 returned from clm (Keith Lindsay). Change so can work on intrepid.
- clm3_6_57 (Nov 20th)[critical] - Changes to prevent slow water leak from going to ocean.
- clm3_6_56 (Nov 10) - Add in new ndepdat, and ndepdyn datasets (f09,f19,f05,f02,f10,f45,f03,single point, all but 48x96, and 64x128). Update scripts, csm_share, drv, and datm to beta33 versions. Get changes from Sam so that NDEP field is a proper grid-cell average. Check units on fndepdat/fndepdyn files and if NOT correct abort. Add glacier_mec use-case so that glcec scripts branch can come to the trunk. New surdat /pftdyn datasets for f19, f03 as they were invalid.
- clm3_6_55 (Nov 5) - Fix tool to create Nitrogen deposition datasets. Change configure so can remove copy of CCSM Top level Makefile. Start removing old documentation and adding new.
- clm3_6_54 (Oct 28th) - Make: GC_ICE2, GC_LIQ2, GC_HEAT2 output history fields off by default. Add in 2.5x3.33 resolution.Changes for bug 1050, put in env variables for CODE_ROOT and COMP_INTERFACE. Update pio, MCT, timing, sgcl, sice, socn, datm, scripts, csm_share to beta30 versions. Update scripts so CLM_USRDAT_NAME can be set in scripts and used by datm and clm (also add in DATM_CO2 suite of variables so can be added to datm later). Start using VOC version of the surdata datasets: non-opt mksurf versions for f09, f10, and f19. New finidat files for f09, f19 with CN for 1850 (year 400 of b40.1850.track1.1deg.006) . Remove bIAK8 test. Change Template to include: COMP_INTERFACE logic in csm_share.buildlib. Formatting changes for some comments in the code to comply with ProTex documentation standard as a step to move toward automatic documentation using doxygen where I have script to convert from ProTex to doxygen comments. New fndepdyn files that fix a dip near 1855 and 2000, and fix the script that creates it.
- clm3_6_53 (Sep 22nd) - Add new optics file from Mark Flanner. Fix so T31_gx3v7 file included. Change testing for 48x96 to gx3v7. Update datm so that pt1_pt1 res works. Fix clm template so that RTM is turned off for pt1_pt1 resolution.
- clm3_6_52 (Sep 17th) - Add T31_gx3v7 files needed. Read organic fields from fsurdat file, remove fororganic file. Add in script to extract regional datasets. Change CN output fields list, add NBP (Net Biome Production field). New Urban/Rural fields from Keith. Update bluefire compiler to XLF12.
- clm3_6_51 (Sep 1st) - Update fndepdyn and aerdep datasets (f02,f05,f09,f10) (1850,2000 and transient). Turn on CCSM_BLD for dublin. Update scripts and get Macro's for dublin, have PTS_MODE auto flip 1-PE and USE_MPI SERIAL.
- clm3_6_50 (Aug 28th) - Fix aer and n deposition dataset regridder. Get CN to work for SCM mode. New half (2000), 10x15 (2000) and qtr (1850,2000) degree surf dataset. Fix interpinic lahey error
- clm3_6_49 (Aug 25th) - Fix fndepdyn ncl interpolation scripts. Use old clm3_6_47 fndepdyn datasets (until updated in next tag). Update scripts, drv, and csm_share to latest. Turn on CLM_CCSM_BLD mode for bluefire, and jaguar. Add scm-mode tests to test lists. Update Makefile to fix pio ifort bug. Changes from Dani Coleman to clm_time_manager to make compatible with ESMF3. Fix lahey compiler problem for scm_mode.
- clm3_6_48 (Aug 12th) - Add in 0.47x0.63, 0.9x1.25 finidat file for CN and 1850, and 0.47x0.63 surface dataset. Add in datasets at f09, f10, f05, f02 for aerosol (excepting f02 and f05) and nitrogen deposition from J-F. Work with mksurdata so that 0.23x0.31 dataset will work (Forrest). Update csm_share, and get scam working. Add scam tests in. Add clm_usr_name option for personal datasets to build-namelist. Add a noOrganicSoilDataset use-case so it won't add in fororganic file. Work on using ccsm build files for stand-alone testing. Get testing going on dublin.

- clm3_6_47 (Aug 3rd) -- Fix hybrid bug for dynpft case, update externals. Require get_clump_bounds to be called in threaded regions and get_proc_bounds to be called in non-threaded regions. Remove unneeded get_proc_bounds calls, and pass down begg stuff as needed. Make loop in initSurfAlb Open-MP. Begin adding testing for dublin, and add lightning_pgi testing. Add new pftdyn test datasets for 1x1_tropicAtl. Update testing to beta20, default for lightning is ifort, add lightning_pgi testing. Change hist varnames of 3D_Time_constants_vars* to Time_constant_3Dvars*. Remove use of LSMLAT/LSMLON cpp tokens, by default set lsmlat/lsmlon to 1.
- clm3_6_46 (July 22nd) -- Work with build-namelist to make 20th-Century a use-case so that ndepdyn files will be included if found, but can still work without them (20thC_transient, 2000_control, and 1850_control use cases). Fix more bugs and tests, report on testing status for each machine. Add files needed for 1.9x2.5_tx1v1 grid and new 10x15 surface dataset. Reconcile grids for single-point datasets so consistent (lon within 0-360 rather than -180-180). Get new single-point datasets for aerosol and nitrogen-deposition. Work with pftdyntest2raw.ncl so will work. Work with mkSURFdata.pl script so will append needed grid data on urban point datasets. Add in CLM1PT mode for datm7 and use datm7 streams template for testing. Listen to LND_CDF64 env variable from template, remove CLM_ARB_IC.
- clm3_6_45 (July 10th) - Fix some simple bugs from clm3_6_44, remove f09_g16 finidat file NOT consistent with surface dataset.
- clm3_6_44 (July 9th) - Fix C13 nflds bug, update scripts, drv, datm. Add domain files for idmap atm-ocn grids for datm. Remove SEQ_MCT, add new ESMF env vars to template. Work with ndeplintInterp to enable using J-F's new Nitrogen deposition files for transient 20th Century simulations. SCAM fixes from John Truesdale. Add indices for PFT types. New surface datasets with adjustments from Johann/Peter L. for 0.9x1.25 and 1.9x2.5.
- clm3_6_43 (June 10th) -- Add src/main/cpl_esmf,src/main/cpl_mct directories, change configure to build either way, add -comp_intf option. Remove SEQ_#ifdef's, simplify some of the logic associated with the old options (cpl6 and program_off). Brian K -- fix nans, enable openMP again. Allow first history tape to be 1D. Fix template co2_ppmv error. Remove SPMD #ifdef from RTM. Fix driver pftdyn bug. Fix bug on writing out 3D time-constant fields.
- clm3_6_42 (June 2nd) Bring CN changes for mkharvest in from Peter T. (thornton) C13 #ifdef's from Sam. Create transient fndepdyn datasets from 1850 and 2000 end -points using ncl script for annual time interpolation (for 1.9x2.5 and 0.9x1.25). Create new surface datasets and aerosol datasets for 1.9x2.5 and 0.9x1.25 with clm3_6_40. Change several default masks to USGS, increase wastheat limit from 40 to 100 W/m2. Let sum of percent types match to 100 within small value rather than an exact match.
- clm3_6_41 (May 29th)[critical] Limit shrub height for CN. Fix hybrid bug for CN.
- clm3_6_40 (May 28th)[critical] Fix hybrid/open-MP mode bug, and testing for hybrid/open-MP. Add ncl script to time-interpolate between 1850 and 2000 for fndepdat dataset, for fndepdyn version. Fix interpinic for urban and cndv (jet/oleson/slevis). Update aerdepregrid.ncl and ndepregrid.ncl scripts. Add mkharvest fields to mkSURFdata. Remove furbinp and just use fsurdat (leave for organic, so can remove to turn off). Begin to add an option to build with ccsn makefiles, for test-suite. Remove archiving, branching and resub from last run script in models/lnd/clm/bld. New spin-up files for 1850 and 2000 for 1.9x2.5 and 1850 for CN. Make sure CLAMP is turned on for either CASA or CN. Change testing years to 2002-2003 so same as for ccsn tests. (erik)
- clm3_6_39 (May 7th)[critical] -- bug fixes for scripts so default for CLM_DEMAND is correct, and so that default maxpft is numpft+1 as should be.
- clm3_6_38 (May 6th) -- new surfdata for all resolutions, and new pftdyn test datasets (1x1 and 10x15). Make sure furbinp/for organic/fsurdata consistent. New 1850 and 2000 spin-up for 1.9x2.5. Add in field to restart files needed for urban interpinic. Change deep wetlands to bedrock. Remove some output for urban and aerdep. fcov changes from Sean. Bring in history change from Dave (so only output static 3D fields on first h0 file). Bug fix for RTM bug from Keith O. Add in ncl script to time-interpolate ndep data. Have clm test suite use CCSM Makefile, and remove run-lightning, and run-pc scripts. Start phasing out clm's own build/run scripts. New datm from mariana (nextsw_cday, irad, time-stepping).
- clm3_6_37 (April 27th) - Update faerdep dataset for 1.9x2.5 to point to version cice is using for 1850 and 2000
- clm3_6_36 (April 27th) -- changes so can do aerosol transient time-series (1850-2000) (kauff). New surfdata datasets for 1.9x2.5 and 0.9x1.25 (1850 and 2000). New 1850-2000 pftdyn dataset for 1.9x2.5. New aerosol and ndep for 1.9x2.5 (1850 and 2000). Change to doalb from Mariana. Make maxpatchpft=numpft+1 the default and remove all finidat files.
- clm3_6_35 (April 20th) -- Fix some logic errors for pftdyn for mkSURFdata. (erik)
- clm3_6_34 (April 19th) -- Fix to an urban issue on bangkok (oleson)
- clm3_6_33 (Apr 16th) - Bring new pftdyn mode from cbgc branch to trunk.
- clm3_6_32 (Apr 10th) - Work with mkSURFdata for pftdyn mode. Add in mkirrig from Dave L. Tweak pio option. Tweak urban 1-pt datasets.
- clm3_6_31 (Apr 1) - New surface datasets for 1850,2000. sim_year can be 1850 or 2000 (1870 no longer supported), support for 0.9x1.25_gx1v6. Demand furbinp (urban always on), wasteheat=ON_WASTEHEAT by default. . Change cpl7 template so can either do a cold start or require a finidat file (cold or startup), as well as test_suite also. New pft-physiology file for CN used by everything. Update scripts so remove some CLM_env_conf vars: CLM_BGC, CLM_DYNNDEP, CLM_DYNPFT, CLM_CO2_TYPE, remove CLMNCEP from scripts/datm (keeping CLM_QIAN mode). Change final CN loop to go over soil filter -- so CN,CASA,DGVM can work with urban. Remove traffic_flux array as it's subscript was out of bounds on breeze.
- clm3_6_30 (Mar 19th) -- Simple urban fix from Keith O.
- clm3_6_29 (Mar 19th) -- SAI and get_rad_dtime fix from John Truesdale/Keith Oleson. CN fix from Forrest
- clm3_6_28 (Mar 17th) -- urban testing fix
- clm3_6_27 (Mar 16th) - Keith Oleson fix for urban
- clm3_6_26 (Mar 14th) - Peter Thornton checkin CN changes to the trunk. CN restart files are smaller, time-stepping different for CN.
- clm3_6_25 (Mar 13) - mkSURFdata changes from Dlawren. 1% threshold for lake/wetland, vmax daylength change, mkSURFdata faster for testing, remove elev from surf file. Get more tests to work. CN tests are all cold starts. Update scripts to add F_CAMDOM_CN compset.
- clm3_6_24 (Mar 9) - Fix testing for urban model. Create new netCDF files for urban input for all urban test cases. fix rh for urban.
- clm3_6_23 (Mar 8th) - Prune history fields and change to snowdp threshold for solar radiation penetration into snow
- clm3_6_22 (Mar) - Missed tag.
- clm3_6_21 (Mar 4th) - History file changes and finish testing on tags clm3_6_19 and clm3_6_20
- clm3_6_20 (Mar 4th) -- Matt Rothstein - Change 1890 to 1870 in clm.cpl7.template
- clm3_6_19 (Feb 27th) -- Keith Oleson Work on Urban Air-conditioning.
- clm3_6_18 (Feb 26th) -- Brian K., Add in gx1v6 land mask for 1.9x2.5 (with finidat file) and 1870 option for 1.9x2.5 (with finidat file).
- clm3_6_17 (Feb 20th) -- Urban input files are in netCDF format from Keith O.
- clm3_6_16 (Feb 12th) - Fix inputdata generation for T42_gx3v5, T42_gx1v5, T31_gx3v5, and create new input files. Fix more bugs, get more tests to pass. Dave L. -- get changes for mkSURFdata needed for glimmer onto trunk (3 10-layer new fields). Keith O. urban fixes.
- clm3_6_15 (Jan 16)[reg-test] - Move clm36sci30 to trunk. Test on all machines.
- clm3_6_14 (Oct 10th) - Some urban fixes, and allow compile-only. Fix pftdyn tests.
- clm3_6_13 (Oct 1st) - Update to new ccsm4_alpha35 scripts. Remove prestaging from clm.cpl7.template. Add ability to do single point with cpl7 scripts. Get new version of csm_share, scripts and datm7 on trunks (that also work with clm36sci branch).
- clm3_6_12 (Sep 21th) - Fix urban model restarts. Includes forcing height changes. (move urban24 branch to trunk). (5,6-10days) (10)
- clm3_6_11 (Aug 27) - Some fixes from Dave L. for ice stream. Add in fake Gregorian calendar (repeats calday 366 as 365).
- clm3_6_10 (Aug 15) - Changes from Tony for ice-flow.
- clm3_6_09 (Aug 11) - Bug fix for ccsn_seq cpl7 hybrid and branch cases.

- clm3_6_08 (Aug 6) - iyear_ad=1990, build-namelist changes for inputdata repo
- clm3_6_07 (Jul 8) - Update configure and build-namelist to use new CAM paradigm from Mariana. Update for bluefire. Add bgp change. Remove offline mode. Change clm/bld default iyear_AD to 1990 from 2000 so consistent with CCSM. Fix scripts for 6-HOURLY. Add breeze with ifort as testing platform, add -c compile-only option to test_driver.sh
- clm3_6_06 (May 30th) - Small problems for ccsm4_alpha30, fix ATM_GRID == OCN_GRID, update scripts, and fix 2.65x3.33.
- clm3_6_05 (May 27th) - Fix to compile on bangkok with PGI-6, update scripts, fix cpl7.template for new scripts LND_GRID. Fix 2.65x3.33 frac dataset.
- clm3_6_04 (May 20th) - Update scripts/datm version to fix cpl7 script issues. Remove all mct permutes. Change scripts/datm to allow various number of years. Remove offline mode! Fix stop time bug. Move use statements in clm_comp_mct to individual subroutines. Remove phoenix, tempest unsupported platforms. Update perl5lib. Remove source statements in clm.cpl7.template.csh file.
- clm3_6_03 (May 8th) - Update cprnc. Remove utils/timing from -ccsm build Filepath. Update UpDateChangeLog script. Fix doalb calculation.
- clm3_6_02 (Mar 24th) - Get rid of perl5lib extra copy in models/lnd/clm/bld. Fix configure issue for seq-mode (from tcrag).
- clm3_6_01 (Mar 20th) - Add in atm forcing height change.
- clm3_6_00 (Mar 20th)-- Same as clm3_5_20 - but document work since clm3_5_00. (2) (actual 3)
- clm3_5_20 (Mar 17th) - Update a few script issues, get testing all working, namelist to set version, username, hostname, get changes from ccsm4a01-ccsm4a04 in.
- clm3_5_19 (Mar 5th) - Regression testing - make sure everything works. Change directory structure to mimic ccsm. Make sure all cpl7 scripts / features work. NaNs fixes into interpinic. (1,2-3days) (3) (actual 10)

```

bld
models
models/atm
models/atm/datm7
models/lnd
models/lnd/clm
models/lnd/clm/bld
models/lnd/clm/src
models/lnd/clm/test/system
models/ice
models/ice/sice
models/ocn
models/ocn/socn
scripts

```

- clm3_5_18 (Feb 21st) - Update to changes on head of ccsm4_alpha. Get CAM testing working again. Changes answers (adds in area correction, and time-stepping off by a time-step). Move cpl modules and datastructures to ONLY at top-level (atm_comp_mct) and NOT below. (5,6-10days) (10) (actual-11)
- clm3_5_17 (Feb 6th) - Check in Tony's fmi branch work on pio (fmi_clm3_5_16), reducing the debug level in some initialization routines, fixing a few diagnostics, updating timers, improve the write_diagnostic performance, update of rtm init to improve scaling and performance. Add 2.65x3.33 datasets.(4,5-7days) (9) (actual-7)
- clm3_5_16 (Jan 28th) - Get initial single-point version of urban model in. (can't handle global data, and can't restart)
- clm3_5_15 (Dec 19th)-- Change configure so it will work with the ccsm4_alpha directory structure (especially for the test suite), add test for create_croplandunit. Add in large-file support for main code as well as tools. Add test for large-files, urban (that fails), and change so restarts change tasks/threads. Get interpinic to work for half degree. Add tool to interpolate ndep files.
- clm3_5_14 - Remove long-term archiving from clm. Use Mat's long-term and short-term archiving scripts like cam. Short term script runs at the end of your run script - then the long-term archiving script is submitted to the batch queue at the end. Update to newer version of csm_share that doesn't have any mss_ options. Tune usage of build-namelist. Make streams file on the fly. Remove references to get_env and \$HEADURL\$. Fix interpinic for CASA and RTM (from Sam). Change some tests from being done in offline mode to seq_ccsm mode. Add in HCSOI and HCSOISNO from Dave Lawrence. Add PERGRO test to test suite. Simple PERGRO fix from Jerry Olson. Use branch driver for seq-ccsm removing archiving. Add in lnd_comp_mct changes from ccsm4.alpha series.
 - Bug fixes: history,restart-override,missing-vars on input datasets,more-grids,intel-compile,add-g95,remove getenv,add version,hostname etc. to files from CCSMinit namelist,add auto-restart option,GREGORIAN bug,fix create_croplandunit bug.
- clm3_5_13 - New file needed for ccsm3_5_beta18
- clm3_5_12 - Tag with new datasets needed for ccsm tag.
- clm3_5_11 - Tag needed for 20th Century simulation for ccsm. Just adds some new datasets to the DefaultsCLM_INPARMnamelist.xml file.
- clm3_5_10 - Mods for SCAM mode from John Truesdale. Update version of cam and ccsm testing. Update csm_share for SCAM. Fewer SCAM mods and SCAM impact in CLM.
- clm3_5_09 - Tag needed for ccsm3_5_beta12. Get in more updates on datm7 and drv.
- clm3_5_08 - Changes from Tony for PIO, clean-up, move to logUnit.
- clm3_5_07 - Add mkdatadomain tool, change newcprnc to cprnc
- clm3_5_06 - Interpolation changes, co2_ppmv, fix many bugs revamp testing, add build-namelist
- clm3_5_05 - Fixes from Tony for sequential CCSM mode with stub ice/ocn.
- clm3_5_04 - Changes from Mariana for hourly coupling with latest CAM version
- clm3_5_03 - Tony's fixes for memory scaling
- clm3_5_02 - Merge sequential hourly flux code from branch to head
- clm3_5_01 - Move newcn06 to clm trunk. Use query for namelist datasets.
- clm3_5_00 ---- Version of model ready for public release (change documentation or whatever else is necessary - double tag of clm3_4_2)
- clm3_4_2 ---- Bug fixes and minor changes - use new surface datasets
- clm3_4_1 - Updates to documentation, set keywords needed in output NetCDF files, add xml file that CAM can use to build namelist
- clm3_expa_99 - mklai fix, TKFRZ fix from Keith O., change scripts to use correct surfdata set for CN, tweak DUST, fix CASA', run scripts at T42 NOT T31, add Copyright and README files
- clm3_expa_98 - Move externals to top, use new NCEP data tweak testing, change name of setlatlonidx to scam_setlatlonidx, remove SOM4 (making it the default, use new ndep dataset names)
- clm3_expa_97 - Remove #ifdef SPMD, fix msrpf for last file, fix mkgrid, mksurf, improve interpinic from Sam, John T. changes, add more tests, Pat Worley changes, remove COUP_CAM use SEQ_MCT and SEQ_ESMF, Remove bluesky and tempest build/testing
- clm3_expa_96 - Fix finemesh, add more tests
- clm3_expa_95 - Nitrogen limitation fix from Peter (put newcn05 to trunk)

- clm3_expa_94 - BTRAN change
- clm3_expa_93 - Reduce memory (tcraig)
- clm3_expa_92 - Changes for Mat driver change
- clm3_expa_91 - Get SCAM working with CLM
- clm3_expa_90 - Dataset change
- clm3_expa_89 - Drainage change