CABLE functionality for easy single site run with biogeochemistry, including full spinup using repeated site data; transient simulation with repeated site met data and actual CO2 and Ndep; historic simulation with acutla met data, CO2 and Ndep.

New Files

Site.F90

Modified files

Cable_driver.F90

- Use CABLE_site
- Introduce koffset_met
- New variables site, metyear, Y, LOYtmp
- Call site_init
- Track metyear and koffset_met
- Write_output uses ktau_tot for 'site' met_type

Cable_define_types.F90

- Create Pdep as met input variable (similar to Ndep)

Casa_cable.F90
Overwrite casa ndep and pdep with met values when met_type is 'site'

Cable_input.F90
Changed condition around: "! IF A CERTAIN PERIOD IS DESIRED AND WE ARE NOT RUNNING ON GSWP DATA or special site expt
! RECALCULATE STARTING AND ENDING INDICES"

Makefile_offline
Include site.F90 and its dependencies

Steps for single site C-cycle enabled run.

Example scripts, site.nml and cable.nml template files are in attached file site_spinup_scripts.tar:

Edit site.nml for your site

1. Edit site.nml.spinup, for site-specific met input and date-range.
2. Calculate startyear and endyear of ~ 30 y spinup based on integral number of repeats over met record (see algorithm below).
3. Edit the startyear and endyear in the following cable.nml files :

    a. cable.nml.cable_casa_POP_from_zero (first step of initialization…biomass starts from zero to ensure POP and CASA biomass are synchronised)
    b. cable.nml.cable_casa_POP_dump (dumps casa forcing to .nc files)
    c. cable.nml.spin_casa_analytic (fast CASA spin-up)
4. Edit cable.nml.cable_casa_POP_transient (transient run == run with repeated met and varying CO2, Ndep; Pdep) with start and endy years of transient simulations.
5. Edit cable.nml.cable_casa_POP_historic with start and end year for historic simulation
6. Ensure required CO2 and N deposition forcing are available in .csv file (see eg AmaFACE_co2npdepforcing_1850_2100_AMB.csv)
7. Check *.slurm file for required .bash scripts
8. Edit .bash scripts for required file-names
9. Edit .slurm file for your batch system.
10. Submit batch job!