Mid-Holocene set up

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Project: Purdue Portal CESM1 Use Case

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Background for CESM1 Mid-Holocene simulation.

The Mid-Holocene (6ka BP) simulation has a complex history. It was initially branched from year 863 of a 1300 year Pre-Industrial control simulation (b40.1850.track1.1deg.006). We ran this branch case to test the carbon pool stability under the newly imposed GHG and climate forcings for the Mid-Holocene. We decided we needed to run an I-case (atm/land only) simulation to rapidly spin up the carbon pools (i40.mh6ka.1deg.001). We used the output from the I-case simulation to initialize the land component of the Mid-Holocene simulation. The ocean, ice and atmosphere were initialized from year 801 of the Pre-Industrial control.

CESM model version: cesm1_0_beta05

Compset: B1850CN

Restart Files: /glade/proj3/cseg/inputdata/ccsm4_init/b40.mh6ka.1deg.003/0801-01-01

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CESM setup:
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create CASEDIR: ./create_newcase

-case /<mypath>/<myCaseName>

-compset B1850CN

-res f09_g16

-mach <myMachine>

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Pre-Configuration Changes:
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-- env_conf.xml

Runtype: hybrid

RUN_STARTDATE = 0801
RUN_REFCASE =

LND: i40.mh6ka.1deg.001 yr 1250-01-01

OCN/ICE/ATM: b40.1850.track1.1deg.006 yr 0801-01-01
RUN_REFDATE = 0801
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xmlchange -file env_conf.xml -id RUN_STARTDATE -val 0801-01-01
xmlchange -file env_conf.xml -id RUN_REFDATE -val 0801-01-01
xmlchange -file env_conf.xml -id CCSM_CO2_PPMV -val 280.0

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Post-Configuration Changes
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-- Buildconf/clm.buildnml.csh

OLD: urban_hac = 'ON_WASTEHEAT'
NEW: urban_hac = 'OFF'

-- Buildconf/cam.buildnml.csh

OLD:
ch4vmr = 791.6e-9
co2vmr = 280.0e-6
f11vmr = 12.48e-12
f12vmr = 0.0
n2ovmr = 275.68e-9

NEW:

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            ch4vmr         = 650.0e-9
            co2vmr         = 280.0e-6
            f11vmr         = 0.0
            f12vmr         = 0.0
            n2ovmr         = 270.0e-9

 -- Buildconf/cpl.buildnml.csh

      OLD:    orb_iyear_ad  =   1990
      NEW:    orb_iyear_ad  =  -4050

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SourceMods Information -- None
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