

Coastal Act Team - 4/25/2020

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Google Drive: https://drive.google.com/open?id=17x2E6kGo9s5xejh_jUMprsaNdzk3-_pauv1LZAt70Nw
<https://drive.google.com/drive/u/0/folders/1JI-7z0A1hXSt38MnuwjeFCgPo-ZW8H-7>

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This is a brain storm document about the run-time work flow of executing NEMS.x

1) Original work flow -- <https://drive.google.com/drive/u/0/folders/1JI-7z0A1hXSt38MnuwjeFCgPo-ZW8H-7>

2) Original scripts -- https://github.com/moghimis/cpl_tools

3) User stories about running coupled models with NEMS to find the <RUN_DIR> unique path

Happy path use case:

on this date we want to run NEMS.x in run-dir for event-x with components=comp1, comp2, ...

date - depends on date-time

NEMS.x - depends on components, model_configure, nems.configure

run-dir - must be a unique name, depends on event-x, components, model scenarios, date-time ???

Other use case :

on this day we want to run NEMS.x for more than one event ... [Y| N]

on this day we want to run NEMS.x for one event with a different model combination

- a subset of models

on this day we want to run NEMS.x for more than one event with a different model combination. [Y| N]

on this day we want to run NEMS.x for an event with a different model scenario, for more than one model

- multiple runs with the same model components for the same event - to use for ensemble modeling.

4) Model scenarios runs as relates to the final product.

5) Ambiguous

a) Where is the startup location(i.e. is script dir)

b) where and who changes the contents of nems.configure, model_configure, nsem.job

c) egg or chicken? while programming, get this feeling - why?

6) Schematic of work flow -

Assumptions: no hard coded path, user expected to start at this dir if building and installing,
override NEMS.x

Questions: 1) where the start_wrkflow should be?

2) if two steps (build/install) do we need copy of start_wrkflow in RUN_DIR?

3) a copy of build.sh and install.sh to be produced in both dirs?

4) is user module constant?

5) no room for nems.job

PRJ_DIR (a.k.a BUILD_DIR) is expected to be where at least this structure exists:

parm/	scripts/	source/	exec/
--- nems.cfg	--- build1.sh	--- NEMS	--- NEMS.x
--- model_cfg	--- pyenv.sh	--- MODEL1/	
--- module.usr	--- start_wrkflw.py	--- MODEL2/	
	---	--- MODELn/	

However, for portability, by DEFAULT the user's current working directory is set in the build script as such:

PRJ_DIR = BUILD_DIR = os.getcwd()

SRC_DIR = BUILD_DIR + 'source'

SCR_DIR = BUILD_DIR + 'scripts'

Assumptions: no hard coded path, user expected to start at this dir if only installing a built system,

Questions: 1) What does install.sh do? 2) name job1 after run1? 3) rename NEMS.x per run?

3) rename nems.cfg, model_cfg? 4)

RUN_DIR (a.k.a. INSTALL_DIR) is expected to be where at least this structure exists:

jobs/	scripts/	model_data/	parm/	exec/
--- nsem.job	--- start_wrkflw.py	--- run1	--- nems.cfg	--- NEMS.x
--- job2	--- install.sh	--- data1	--- model_cfg	
			--- atm	
			--- adc	
			--- ww3	
			--- nwm	
			--- namelist	
			--- inputfiles	
		--- run2		

7) Files:

nsem.job --> script
model_configure --> manual
nems.configure --> manual

8) Paths

ROOTDIR vs. RUNDIR, SCRDIR, SRCDIR, DOCDIR, ECFDIR, FIXDIR, JOBDIR, STARTDIR