Saeed Moghimi - NOAA Affiliate <saeed.moghimi@n

NEMS app testing

50 messages

Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> Mon, Jul 12, 2021 at
To: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>
Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>

Hi Andre,

The updated NEMS app is on the github repo:
https://github.com/noaa-ocs-modeling/ADC-WW3-NWM-NEMS.git feature/pahm

I am using the command
git clone https://github.com/noaa-ocs-modeling/ADC-WW3-NWM-NEMS.git -b feature/pahm --recurse-submodules

Note that this ADC-WW3-NWM-NEMS also contains the latest stable NEMS source, (release/public-v2).

If possible, could you please run the application using ATMESH+WW3 and the PaHM
generated winds?

I have run it successfully using ATMESH+ADCIRC and the PaHM generated winds for Sandy,
Florence for the Shinnecock Inlet test case.

Testing the PaHM NUOPC Cap now.

It seems that all issues are resolved.

If you want I can set a google meet in case my help is needed on compiling/running the application.

Thank you
Takis

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Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> Mon, Jul 12, 2021 at
To: Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov>
Cc: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>

Hi Takis,

I think I am confused. If we are using PahM to provide atm forcing, why do we need to have ATMESH?

Thanks,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Service.
Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
Phone: (240) 847-8230

To: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>
Cc: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>

Hi Saeed,

Yes, also the PAHM+ADCIRC setup works the same when using pre-prepared winds (NetCDF)
Tested both configurations, same results.
Testing the direct exchange of the fields from PaHM to ADCIRC.
The PaHM Cap supports both configs, the reason is that we may want to use
externally prepared wind fields (an example: a NetCDF file that contains blended background fields + PaHM fields)

So, ATMESH+ADCIRC+PaHM winds or PAHM+ADCIRC+PaHM winds work the same with pre-prepared winds.

Takis

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Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> Tue, Jul 13, 2021 a
To: Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov>
Cc: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>

Hi Takis,

Thanks for clarification.

Best,
-Saeed

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Phone: (240) 847-8230

The contents of this message are mine personally and do not necessarily reflect any position of NOAA.

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Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> Tue, Jul 13, 2021 a
To: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>
Cc: Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov>

Hi Takis,

Thanks for this. I'll test it over the next few days. After I do ATMESH+WW3 (with the PaHM-generated .nc), could I also try ATMESH+ADCIRC+WW3, for example for Florence?

Andre

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--
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Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> Tue, Jul 13, 2021 at
To: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>
Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>

Hi Andre,

You should be able to do it. WW3 should compile just fine with the intel compilers. WW3 (the version that is in the app) has some issues (argument mismatches) when the compiler is gfortran (version 10*). I haven't check if the same issue still exists with the latest version, might see into this in the future.

Either ATMESH+ADCIRC+PaHM winds or PAHM+ADCIRC+PaHM winds should work just fine.

Thanks
Takis

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To: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>
Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>

Hi Andre,

I think if you use the same configuration as in the AMS simulations that will compile/run fine I believe.
Curious to see how it goes.

Takis

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National Ocean and Atmospheric Administration
National Ocean Service

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Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> Fri, Jul 16, 2021 at
To: Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov>
Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>

Hi Takis,

I tried to clone the pahm feature branch today, but it failed while checking out the NEMS dependency. I used your recommended command:

```
git clone https://github.com/noaa-ocs-modeling/ADC-WW3-NWM-NEMS.git -b feature/pahm --recurse-submodules
```

and it gave the following error that it couldn't find the correct hash for NEMS:

```
...
fatal: remote error: upload-pack: not our ref 4c61cc4ea73e407784ddbd6b8affc99d20474e1b
fatal: The remote end hung up unexpectedly
Fetched in submodule path 'NEMS', but it did not contain 4c61cc4ea73e407784ddbd6b8affc99d20474e1b. Direc
fetching of that commit failed.
```

I added the full log in the attachments. Any suggestions?

Andre

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clone_log.txt
5K

Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> Fri, Jul 16, 2021 at
To: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>
Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Andre,

It is fixed now. I checked the cloning on my computer and it works now.
I had forgotten to push the NEMS changes.

Please try again.

Takis

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Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Takis,

Thanks, it works now. I'm now busy building it on Hera. So the following Hera modules are needed, correct?

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Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Yes, Zach built it with those modules as defined in the modulefile for hera.

Takis

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Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> Fri, Jul 16, 2021 at
To: Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov>
Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Takis,

More progress, but still not success. I get the following build error:

```
...
make[1]: Entering directory `/scratch2/COASTAL/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-
NEMS/src'
GNUmakefile:16: /scratch2/COASTAL/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/test-results.mk: No such file or directory
Components in linker order: WW3 ATMESH ADCIRC
WW3: include
GNUmakefile:70: : component WW3 makefile fragment is missing
ATMESH: include
GNUmakefile:70: : component ATMESH makefile fragment is missing
ADCIRC: include
GNUmakefile:70: : component ADCIRC makefile fragment is missing
make[1]: *** No rule to make target `/scratch2/COASTAL/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-
NWM-NEMS/NEMS/src/conf/test-results.mk'.  Stop.
make[1]: Leaving directory `/scratch2/COASTAL/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-
NEMS/src'
rm -f /scratch2/COASTAL/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NEMS/NEMS/exe/NEMS.x
/scratch2/COASTAL/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NEMS/NEMS/src/conf/configure.
NUOPC
rm -f /scratch2/COASTAL/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/configure.nems /scratch2/COASTAL/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NEMS/NEM
/conf/externals.nems /scratch2/COASTAL/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NEMS/NEM
/conf/modules.nems /scratch2/COASTAL/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NEMS/NEMS/
/ESMFVersionDefine.h /scratch2/COASTAL/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NEMS/NEM
/conf/modules.nems.sh /scratch2/COASTAL/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NEMS/NEM
/conf/modules.nems.csh /scratch2/COASTAL/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NEMS/
NEMS/src/conf/test-results.mk
rm -f /scratch2/COASTAL/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/components.mk
rm -f /scratch2/COASTAL/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/test_results.mk

compileNems :: Compiling: make  -f GNUmakefile build COMPONENTS="ADCIRC ATMESH WW3"
NOTE: Skipping appbuilder.mk creation; no appbuilder file in use.
echo 'ADCIRC ATMESH WW3' > "/scratch2/COASTAL/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-
NEMS/src/conf/components.mk"
NEMS_BUILDOPT_IS
```

```
NEMS/modulefiles/hera/ESMF_NUOPC', needed by `/scratch2/COASTAL/coastal/save/Andre.VanderWesthuysen/OCS-
NEMS/ADC-WW3-NWM-NEMS/NEMS/src/conf/modules.nems'.  Stop.
```

I'll investigate further, but let me know if you have any suggestions.

Andre

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Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> Fri, Jul 16, 2021 at
To: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>
Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Andre,

components ADCIRC, ATMESH, WW3 are in NEMS/src/incmake (checked the github repo)
You shouldn't be getting: .../ADC-WW3-NWM-NEMS/modulefiles/hera/ESMF_NUOPC error
because I have removed these files and in the NEMS/src/incmake/buildenv.mk I have commended the
lines 63 to 68 out (where these modules are called).
So, please do first:
build.sh --plat hera --component "ATMESH ADCIRC WW3" --clean 2
rm -rf ALLBIN_INSTALL
These will clean everything. Then,
build.sh --compiler intel --plat hera --component "ATMESH ADCIRC WW3"
to build the NEMS executable.
Better instead of ATMESH, use PAHM, for your configuration should work the same,
assuming that you already have generated the PaHM winds.

Please keep the logs so we can check all warning/error messages.

Takis

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Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> Mon, Jul 19, 2021 at
To: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>
Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Andre,

Zach tried to re-compile on hera and he experienced the same problem.
I am checking to see what happened between commits.
I'll update you all as soon as possible.

Thanks
Takis

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Project Lead - Coastal Coupling
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Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Andre,

Somehow, the NEMS submodule in feature/pahm was one commit behind.
It has been fixed now. Zach compiled the application successfully on hera.
A "git submodule update NEMS" should update your local NEMS submodule.
If not, you may clone the app again.

Please, let me know if the compilation goes as expected.

Thanks
Takis

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Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> Tue, Jul 20, 2021 at
To: Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov>
Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Takis,

I tried a clean (re-) cloning of the repo, but ran into issues again. I used:

```
$ git clone https://github.com/noaa-ocs-modeling/ADC-WW3-NWM-NEMS.git -b feature/pahm --recurse-submodules
```

But got a similar error as before:

```
...
Submodule path 'NEMS/tests/produtil/NCEPLIBS-pyprodutil': checked out 'ca171b95095db4fcd0fc7b01c23d07
3d90becd99'
Submodule path 'NWM': checked out '3bc401d298070515cb6171a585d2d19646afd650'
fatal: remote error: upload-pack: not our ref 2c148ca1ed6a6c6c2b2446f455a8745e5c1518e9
fatal: The remote end hung up unexpectedly
Fetched in submodule path 'PAHM', but it did not contain 2c148ca1ed6a6c6c2b2446f455a8745e5c1518e9. Direc
fetching of that commit failed.
```

Any suggestions about this failure in the PAHM part?

Andre

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Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> Tue, Jul 20, 2021 at
To: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>
Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Andre,

Sorry for all these issues NEMS/PAHM.
Let us fix these and make sure the repos are synchronized.
Tomorrow morning I hope that everything will be in order.
I'll let you know

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Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> Wed, Jul 21, 2021 at
To: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>
Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Good morning Andre,

You may now clone the feature/pahm, everything is ok.
The problem was with updates we did to use the large file system (lfs).

Takis

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Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> Wed, Jul 21, 2021 at
To: Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov>
Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Takis,

Thanks, it cloned fine now. I'll proceed with building it, and will let you know how it goes.

Andre

[Quoted text hidden]

Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> Mon, Jul 26, 2021 at
To: Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov>
Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Takis,

Here's an update on my testing: I managed to clone and build the app code fine now. As before, I started by building with only the ATMESH forcing, to see if I could recreate previous results (e.g. Florence with HWRF forcing):

```
./build.sh --component "ADCIRC ATMESH WW3" --plat hera --compiler intel --clean -2
```

For my first test, I tried the unit test of forcing ADCIRC with ATMESH only (workflow RUN_TYPE=atm2ocn). Software-wise this succeeded, I think, since it got past the various initialization stages and started time stepping. However, it failed on the second time of the simulation. Here is an extract from the log file of one of the ADCIRC nodes:

```
$ tail -30 PET001.ESMF_LogFile
20210726 145300.307 INFO             PET001   EARTH grid component01: begin -------> RunSequence.
20210726 145300.307 INFO             PET001     EARTH grid component01: RunSequence event loopLevel=   1  levelMember=   1
 loopIteration=   1, current time: 2018  9  9  6  0  0   0
20210726 145300.308 INFO             PET001     ATM-TO-OCN: Run intro.
20210726 145300.308 INFO             PET001       >>>ATM-TO-OCN entered Run (phase=RunPhase1)
```

```
20210726 145300.438 INFO             PET001        (adc_cap:ModelAdvance) --- no wave forcing exchange / waves are not all co
---
20210726 145300.443 INFO             PET001        (adc_cap:ModelAdvance) --- meteo forcing exchange OK / atm feilds are all
connected --- / Model advances
20210726 145300.746 INFO             PET001        (adc_cap:ModelAdvance) --- run phase 2 called ---
20210726 145309.028 INFO             PET001        (adc_cap:ModelAdvance) --- run phase 3 called ---  nCplADC =         1800
20210726 145309.028 INFO             PET001        (adc_cap:ModelAdvance) --- no surge forcing for wave. 1way coupled WW3 ->
 ---
20210726 145309.029 INFO             PET001       OCN: time step-loop ending,   current time: 2018  9  9  7  0  0   0
20210726 145309.029 INFO             PET001       <<<OCN: leaving Run (phase=RunPhase1) with current time: 2018  9  9  7  0
20210726 145309.029 INFO             PET001     OCN: Run extro.
20210726 145309.029 INFO             PET001     EARTH grid component01: RunSequence event loopLevel=   1  levelMember=   1
 loopIteration=   2, current time: 2018  9  9  7  0  0   0
20210726 145309.030 INFO             PET001     ATM-TO-OCN: Run intro.
20210726 145309.030 INFO             PET001       >>>ATM-TO-OCN entered Run (phase=RunPhase1)
20210726 145309.031 INFO             PET001       ATM-TO-OCN: called default label_ExecuteRouteHandle
20210726 145309.032 INFO             PET001       <<<ATM-TO-OCN leaving Run (phase=RunPhase1)
20210726 145309.032 INFO             PET001     ATM-TO-OCN: Run extro.
20210726 145309.033 INFO             PET001     OCN: Run intro.
20210726 145309.033 INFO             PET001       >>>OCN: entered Run (phase=RunPhase1) with current time: 2018  9  9  7  0
20210726 145309.035 INFO             PET001       OCN: time step-loop starting, current time: 2018  9  9  7  0  0   0
20210726 145309.035 INFO             PET001        (adc_cap:ModelAdvance) --- no wave forcing exchange / waves are not all co
---
20210726 145309.035 INFO             PET001        (adc_cap:ModelAdvance) --- meteo forcing exchange OK / atm feilds are all
connected --- / Model advances
20210726 145309.153 INFO             PET001        (adc_cap:ModelAdvance) --- run phase 2 called ---
```

When I look at ADCIRC runtime output, I see extreme elevations and velocities:

```
 ELMAX =  5.1773E+001 AT NODE   763996  SPEEDMAX =  1.3704E+001 AT NODE   697083  ON MYPROC =  309   ** WARNING:
Elevation.gt.WarnElev **
 TIME STEP =  543159     ITERATIONS =    0     TIME =  0.10863180E+07
  ELMAX =  8.8111E+002 AT NODE   681482  SPEEDMAX =  1.0964E+002 AT NODE   679812  ON MYPROC =  255   ** WARNING:
Elevation.gt.WarnElev **
 TIME STEP =  543159     ITERATIONS =    0     TIME =  0.10863180E+07
  ELMAX =  5.2052E+001 AT NODE   763996  SPEEDMAX =  1.3335E+001 AT NODE   697083  ON MYPROC =  309   ** WARNING:
Elevation.gt.WarnElev **
 TIME STEP =  543160     ITERATIONS =    0     TIME =  0.10863200E+07
  ELMAX =  9.0369E+002 AT NODE   679811  SPEEDMAX =  1.1204E+002 AT NODE   679812  ON MYPROC =  255   ** WARNING:
Elevation.gt.WarnElev **
 TIME STEP =  543160     ITERATIONS =    0     TIME =  0.10863200E+07
  ELMAX =  5.1569E+001 AT NODE   763996  SPEEDMAX =  1.3591E+001 AT NODE   799211  ON MYPROC =  309   ** WARNING:
Elevation.gt.WarnElev **
 TIME STEP =  543161     ITERATIONS =    0     TIME =  0.10863220E+07
  ELMAX =  9.3271E+002 AT NODE   679811  SPEEDMAX =  1.0869E+002 AT NODE   679812  ON MYPROC =  255   ** WARNING:
Elevation.gt.WarnElev **
 TIME STEP =  543161     ITERATIONS =    0     TIME =  0.10863220E+07
  ELMAX =  5.0354E+001 AT NODE   763996  SPEEDMAX =  1.4152E+001 AT NODE   799211  ON MYPROC =  309   ** WARNING:
Elevation.gt.WarnElev **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+07
  ELMAX =  1.0146E+003 AT NODE   678170  SPEEDMAX =  1.0262E+002 AT NODE   679811  ON MYPROC =  255   ** WARNING:
Elevation.gt.WarnElev **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+07
  ELMAX =  1.0146E+003 AT NODE   678170  SPEEDMAX =  1.0262E+002 AT NODE   679811  ON MYPROC =  255
  ** ERROR: Elevation.gt.ErrorElev, ADCIRC stopping. **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+07
  ELMAX =  4.8473E+001 AT NODE   763996  SPEEDMAX =  1.4509E+001 AT NODE   799211  ON MYPROC =  309   ** WARNING:
Elevation.gt.WarnElev **
srun: Job step aborted: Waiting up to 32 seconds for job step to finish.
slurmstepd: error: *** STEP 21020412.0 ON h32m13 CANCELLED AT 2021-07-26T15:38:10 ***
slurmstepd: error: *** JOB 21020412 ON h32m13 CANCELLED AT 2021-07-26T15:38:10 ***
```

This run was preceded by the standard 12.5 day tidal spinup, and uses a 5-day wind ramp. I need to do further analysis, but I was wondering if you or Zach got any of this in your testing? Did you apply a limitation on the first hour of ATMESH input, to avoid the b data at this initial time step we've seen in the past? If you want to check my run, it is here on Hera:

[Quoted text hidden]

Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> Mon, Jul 26, 2021 at
To: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>
Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Andre,

No, I haven't seen these in my simulations. Are you using the 120m HSOFS mesh?

Takis

Panagiotis Velissariou, Ph.D., P.E.
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I am testing on orion using the more coarse HSOFS mesh.
I'll let you know how it goes.

Takis

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Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Takis,

No, I started with our standard HSOFS mesh. But I'll test with the 120 m mesh also.

Andre

[Quoted text hidden]

Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> Mon, Jul 26, 2021 at
To: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>
Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Andre,

Ok, I am testing on Orion to see what happens

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Cc: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Takis and Andre,

The HSOFS2016 fort.15 is not compatible with v55. Zach has the updated fort.15 for HSOFS2016 as well. So we need to update th template for it.

For now, please use the 120 m (HSOFS2020) for this test.

Thanks,
-Saeed

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[Quoted text hidden]

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Cc: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Thank you Saeed.
I am using the files (fort.15) on orion from:
/work/noaa/nosofs/share/working/hera/nems_adcirc/run_20210720_large_ensemble/
Are these ok?
I don't have access to HSOFS2020 data.

Takis

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Takis

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Cc: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Takis,

Make sure these are the ones Zach tested. Otherwise stick to the 120 m (HSOFS2020) one.

Thanks,
-Saeed

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Cc: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Saeed,

Yes, these are from Zach, I had asked him to upload these on orion from hera.

Takis

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Hi Takis and Saeed

[Quoted text hidden]

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Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Andre,

Attached are the fort.15 files.

Takis

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3 attachments

- **nems_adcirc-hera-fort.15**
  151K
- **hsofs120m-fort.15**
  78K
- **hsofs250m-fort.15**
  96K

Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> Tue, Jul 27, 2021 at
To: Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov>
Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Takis,

Just focusing on the 120 m mesh, the files I've been testing with are indeed different from those you shared yesterday. For example fort.13 I have from June 9 only contains 4 quantities:

```
$ more fort.13
OceanMesh2D
5803941
4
primitive_weighting_in_continuity_equation
unitless
1
3.000000000e-02
mannings_n_at_sea_floor
unitless
1
2.200000000e-02
internal_tide_friction
local_dir, C_it =0.21884,Nb, D250
3
0.000000000e+00 0.000000000e+00 0.000000000e+00
subgrid_barrier
unitless
1
0.000000000e+04
```

```
751858 5.000000000e-03
...
```

Could you please share the fort.13 that you are testing with now (path on Hera if possible)?

Also, just to make sure I understand - the fort.15 files you shared yesterday are:
hsofs120m-fort.15 - Tidal spinup
nems_adcirc-hera-fort.15 - Wind-only run with Generalized Asymmetric Holland Model

Is this correct? For the latter, I assume that when we connect PaHM via NEMS, the NWS type will change from 20 to 17 (wind only
517 (wind+waves). Correct?

Andre

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Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> Tue, Jul 27, 2021 at
To: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>
Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Andre,

Let me get the fort.13 files from orion.
Yes, as you say for hsofs120m-fort.15, nems_adcirc-hera-fort.15
For PaHM you just change to NWS=17, correct

Takis

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Cc: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Andre,

Sorry for being radio silence. Would you please see if you can use this test case. This is a subset mesh for Florence. The NEMS se
best track is included. You may need to up data nems.configure and put together fort.15 templates for spin up and main run.

/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs_subset

Best,
-Saeed

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Phone: (240) 847-8230

To: Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov>
Cc: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Takis,

I also copied the same test case here on Orion:

/work/noaa/nosofs/archive/COASTAL_ACT/florence_subset/

Best,
-Saeed

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Cc: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Thanks Saeed.

Andre, do you still need the fort.13 files?
I believe the test case Saeed pointed to contains all the info needed.
I'll do similar tests on Orion as well.

Takis

Panagiotis Velissariou, Ph.D., P.E.
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[Quoted text hidden]

Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> Tue, Jul 27, 2021 at
To: Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov>
Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Saeed, thanks very much for these files.

Takis, yes, what Saeed shared will be enough to get me started.

One more question: I see that for the forecast run the NRAMP has been updated from 1 (simple hyperbolic tangent) to 8. Should I c this over for running with ATMESH and PaHM, or is this just for best track wind forcing?

Andre

[Quoted text hidden]

Hi Andre,

We are using NRAMP=8
Also check the DRAMP values as well.

Takis

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Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Takis,

Yes, will do. Can I use the DRAMP line as is, if I'm staying with a 12.5 day spinup?

```
12.500 0.000 0.000 0.000 12.500 12.500 1.000 0.000 12.500
```

Andre

[Quoted text hidden]

Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> Tue, Jul 27, 2021 at
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Cc: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Andre,

Yes, just keep these values for DRAMP.

Takis

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Hi Saeed and Takis,

I set up the Florence case that Saeed shared as a template in the workflow, including the updated fort.13 file (with 5 fields). This ra
for the tidal spinup. However, this does not contain the full HSOFS 120 m mesh (5803941 nodes). It only has 633974 nodes:

```
3 -7.7549421612299994E+01 3.5834698053300002E+01 -9.2522099999999998E+00
4 -7.7541916701900007E+01 3.5835456465900002E+01 -1.0394100000000000E+01
5 -7.7552007930100004E+01 3.5825088089700003E+01 -1.0484900000000000E+01
6 -7.7547475583799994E+01 3.5826092459199998E+01 -7.3492300000000004E+00
...
```

This case also does not contain the fort.13 file on the full HSOFS 120m mesh (5803941 nodes), only 633974 nodes:

```
$ more fort.13
NOMAD mesh v1e MSL nodal attributes
633974
5
mannings_n_at_sea_floor
meters
1
2.0000000000000000E-02
primitive_weighting_in_continuity_equation
unitless
1
2.9999999999999999E-02
surface_canopy_coefficient
unitless
1
1.0000000000000000E+00
surface_directional_effective_roughness_length
meters
12
0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000
00E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
surface_submergence_state
unitless
1
0.0000000000000000E+00
mannings_n_at_sea_floor
263078
1 0.2
2 0.18
3 0.1
...
```

Before updating the WW3 component, I would like to verify the new app with ADCv55 on the full HSOFS 120 m mesh, e.g. for the Florence case including:
1) Tidal spinup (12.5 days)
2) Wind forcing (run type = atm2ocn), with the ATMESH file "Florence_HWRF_HRRR_EA120m.nc" on the full HSOFS 120m mesh.

A few questions/requests:
- Could you please share the latest fort.13 that is defined over the complete HSOFS 120 m mesh?
- Takis, are the fort.15 files for spinup and wind forcing you shared yesterday defined over the full 120 m mesh, and are these the m recent versions of these input files?
- Just to double check, I have a fort.14 for the HSOFS 120 m mesh dated June 9. Is this still current?

Thanks,
Andre

[Quoted text hidden]

Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> Tue, Jul 27, 2021 at

To: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>
Cc: Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Andre,
See here:

Best,
-Saeed

Saeed Moghimi, PhD
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Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> Wed, Jul 28, 2021 at
To: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>
Cc: Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Saeed,

Thanks for sharing the path to Yuji's runs. These are the ones I compared to back in June, but I recall that he used older modules (legacy ones we had in the workflow) and a somewhat older code to what we have now. These also still have the old fort.13 with onl fields, and the old fort.15 with NRAMP=1/DRAMP=5.0. For example:

```
$ pwd
/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.tide_spinup.20210617/run
[Andre.VanderWesthuysen@hfe01 run]$ more fort.13
OceanMesh2D
5803941
4
primitive_weighting_in_continuity_equation
unitless
1
3.000000000e-02
mannings_n_at_sea_floor
unitless
1
2.200000000e-02
internal_tide_friction
local_dir, C_it =0.21884,Nb, D250
3
0.000000000e+00 0.000000000e+00 0.000000000e+00
subgrid_barrier
unitless
1
9.999900000e+04
primitive_weighting_in_continuity_equation
200530
745338 5.000000000e-03
751856 5.000000000e-03
751857 5.000000000e-03
751858 5.000000000e-03
751859 5.000000000e-03
751860 5.000000000e-03
751960 5.000000000e-03
...
```

and

```
$ pwd
/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.atm2ocn.20210621.atmea120m/run
[Andre.VanderWesthuysen@hfe01 run]$ more fort.15
```

```
20                ! ICS - COORDINATE SYSTEM SELECTION PARAMETER
511112            ! IM - MODEL SELECTION PARAMETER
1                 ! NOLIBF - BOTTOM FRICTION TERM SELECTION PARAM; before NWP==1, '2' was used
2                 ! NOLIFA - FINITE AMPLITUDE TERM SELECTION PARAMETER
1                 ! NOLICA - SPATIAL DERIVATIVE CONVECTIVE SELECTION PARAMETER
1                 ! NOLICAT - TIME DERIVATIVE CONVECTIVE TERM SELECTION PARAMETER
4                 ! NWP
primitive_weighting_in_continuity_equation
mannings_n_at_sea_floor
internal_tide_friction
subgrid_barrier
1                 ! NCOR - VARIABLE CORIOLIS IN SPACE OPTION PARAMETER
1                 ! NTIP - TIDAL POTENTIAL OPTION PARAMETER
17              ! NWS - WIND STRESS AND BAROMETRIC PRESSURE OPTION PARAMETER
1                 ! NRAMP - RAMP FUNCTION OPTION
9.81              ! G - ACCELERATION DUE TO GRAVITY - DETERMINES UNITS
-3                ! TAU0 - WEIGHTING FACTOR IN GWCE; original, 0.005
2.0               ! DT - TIME STEP (IN SECONDS)
0.00              ! STATIM - STARTING TIME (IN DAYS)
0.00              ! REFTIM - REFERENCE TIME (IN DAYS)
3600  3600    ! WTIMINC - meteorological data time increment, RSTIMINC wave forcing increment
20.5   ! RNDAY - TOTAL LENGTH OF SIMULATION (IN DAYS)
5.0            ! DRAMP - DURATION OF RAMP FUNCTION (IN DAYS)
0 1 0             ! TIME WEIGHTING FACTORS FOR THE GWCE EQUATION
0.1 0 0 0.01      ! H0, NODEDRYMIN, NODEWETRMP, VELMIN
-81.603414 32.182098 ! SLAM0,SFEA0 - CENTER OF CPP PROJECTION (NOT USED IF ICS=1, NTIP=0, NCOR=0)
0.0001            ! FFACTOR
-0.050000         ! ESL - LATERAL EDDY VISCOSITY COEFFICIENT; IGNORED IF NWP =1
0.0               ! CORI - CORIOLIS PARAMETER - IGNORED IF NCOR = 1
8                 ! NUMBER OF TIDAL POTENTIAL CONSTITUENTS BEING FORCED starting 2008082300
Q1                ! ALPAHANUMERIC DESCRIPTION OF TIDAL POTENTIAL CONSTIT.
  0.019256  0.000064958541129  0.695  0.91252     131.29
O1
  0.100514  0.000067597744151  0.695  0.91252     1.32
P1
  0.046843  0.000072522945975  0.706  1.00000     24.07
K1
  0.141565  0.000072921158358  0.736  0.94621     147.91
...
```

Did Yuji rerun this with your latest version and build of the app? If you could share the updated 5-field fort.13 file for the full 120 m n could update the NWP and NRAMP in the fort.15 and retest on my side.

Thanks,
Andre

On Tue, Jul 27, 2021 at 6:29 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> Andre,
> See here:
>
> These were shared by Yuji a while ago based on 120m mesh.
> /scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m
>
> The example I shared was a smaller setup tested for v55.
>
> Best,
> -Saeed
>
> _____
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Servic
> Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
> Phone: (240) 847-8230

Hi Saeed and Takis,

I set up the Florence case that Saeed shared as a template in the workflow, including the updated fort.13 file (with 5 fields). Thi
fine for the tidal spinup. However, this does not contain the full HSOFS 120 m mesh (5803941 nodes). It only has 633974 node

$ more fort.14

```
NOMAD mesh v1e MSL
1222455 633974
1 -7.7547572700700002E+01 3.5839343178900002E+01 -9.2613500000000002E+00
2 -7.7551062012200006E+01 3.5829987009200003E+01 -7.8063300000000000E+00
3 -7.7549421612299994E+01 3.5834698053300002E+01 -9.2522099999999998E+00
4 -7.7541916701900007E+01 3.5835456465900002E+01 -1.0394100000000000E+01
5 -7.7552007930100004E+01 3.5825088089700003E+01 -1.0484900000000000E+01
6 -7.7547475583799994E+01 3.5826092459199998E+01 -7.3492300000000004E+00
...
```

This case also does not contain the fort.13 file on the full HSOFS 120m mesh (5803941 nodes), only 633974 nodes:

$ more fort.13

```
NOMAD mesh v1e MSL nodal attributes
633974
5
mannings_n_at_sea_floor
meters
1
2.0000000000000000E-02
primitive_weighting_in_continuity_equation
unitless
1
2.9999999999999999E-02
surface_canopy_coefficient
unitless
1
1.0000000000000000E+00
surface_directional_effective_roughness_length
meters
12
0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
0.00000000000000
00E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
surface_submergence_state
unitless
1
0.0000000000000000E+00
mannings_n_at_sea_floor
263078
1 0.2
2 0.18
3 0.1
...
```

Before updating the WW3 component, I would like to verify the new app with ADCv55 on the full HSOFS 120 m mesh, e.g. for
Florence case including:
1) Tidal spinup (12.5 days)
2) Wind forcing (run type = atm2ocn), with the ATMESH file "Florence_HWRF_HRRR_EA120m.nc" on the full HSOFS 120m m

A few questions/requests:
- Could you please share the latest fort.13 that is defined over the complete HSOFS 120 m mesh?
- Takis, are the fort.15 files for spinup and wind forcing you shared yesterday defined over the full 120 m mesh, and are these t
most recent versions of these input files?
- Just to double check, I have a fort.14 for the HSOFS 120 m mesh dated June 9. Is this still current?

Thanks,
Andre

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Tue, Jul 27, 2021 at 2:50 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

Hi Takis,

Yes, will do. Can I use the DRAMP line as is, if I'm staying with a 12.5 day spinup?

```
12.500 0.000 0.000 0.000 12.500 12.500 1.000 0.000 12.500
```

Andre

On Tue, Jul 27, 2021 at 3:32 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

We are using NRAMP=8
Also check the DRAMP values as well.

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Tue, Jul 27, 2021 at 2:24 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> w

Saeed, thanks very much for these files.

Takis, yes, what Saeed shared will be enough to get me started.

One more question: I see that for the forecast run the NRAMP has been updated from 1 (simple hyperbolic tangent) t
Should I copy this over for running with ATMESH and PaHM, or is this just for best track wind forcing?

Andre

On Tue, Jul 27, 2021 at 2:58 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

Thanks Saeed.

Andre, do you still need the fort.13 files?
I believe the test case Saeed pointed to contains all the info needed.
I'll do similar tests on Orion as well.

Takis

Panagiotis Velissariou, Ph.D., P.E.
UCAR Scientist
National Ocean and Atmospheric Administration
National Ocean Service

On Tue, Jul 27, 2021 at 1:54 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

Hi Takis,

I also copied the same test case here on Orion:

/work/noaa/nosofs/archive/COASTAL_ACT/florence_subset/

Best,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA Nationa
Ocean Service.
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On Tue, Jul 27, 2021 at 2:46 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

Hi Andre,

Sorry for being radio silence. Would you please see if you can use this test case. This is a subset mesh for Flo
The NEMS setup for best track is included. You may need to up data nems.configure and put together fort.15
templates for spin up and main run.

/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs_subset

Best,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
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Ocean Service.
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On Tue, Jul 27, 2021 at 2:22 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> w

Hi Andre,

Let me get the fort.13 files from orion.
Yes, as you say for hsofs120m-fort.15, nems_adcirc-hera-fort.15
For PaHM you just change to NWS=17, correct

Takis

Panagiotis Velissariou, Ph.D., P.E.
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email: panagiotis.velissariou@noaa.gov

yesterday. For example, the fort.13 I have from June 9 only contains 4 quantities:

```
$ more fort.13
OceanMesh2D
5803941
4
primitive_weighting_in_continuity_equation
unitless
1
3.000000000e-02
mannings_n_at_sea_floor
unitless
1
2.200000000e-02
internal_tide_friction
local_dir, C_it =0.21884,Nb, D250
3
0.000000000e+00 0.000000000e+00 0.000000000e+00
subgrid_barrier
unitless
1
9.999900000e+04
primitive_weighting_in_continuity_equation
200530
745338 5.000000000e-03
751856 5.000000000e-03
751857 5.000000000e-03
751858 5.000000000e-03
...
```

Could you please share the fort.13 that you are testing with now (path on Hera if possible)?

Also, just to make sure I understand - the fort.15 files you shared yesterday are:
hsofs120m-fort.15 - Tidal spinup
nems_adcirc-hera-fort.15 - Wind-only run with Generalized Asymmetric Holland Model

Is this correct? For the latter, I assume that when we connect PaHM via NEMS, the NWS type will change 20 to 17 (wind only) and 517 (wind+waves). Correct?

Andre

On Mon, Jul 26, 2021 at 5:35 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gc wrote:

> Hi Andre,
>
> Attached are the fort.15 files.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
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> email: panagiotis.velissariou@noaa.gov
>
> On Mon, Jul 26, 2021 at 4:20 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:
>
> > Hi Takis and Saeed,
> >
> > Thanks for this info. Could you please share the location of these fort.15 files on Hera (with Zach's hel

wrote:

Saeed,

Yes, these are from Zach, I had asked him to upload these on orion from hera.

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Mon, Jul 26, 2021 at 3:40 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wr

Hi Takis,

Make sure these are the ones Zach tested. Otherwise stick to the 120 m (HSOFS2020) one.

Thanks,
-Saeed

Saeed Moghimi, PhD
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NOAA National Ocean Service.
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The contents of this message are mine personally and do not necessarily reflect any position of NO

On Mon, Jul 26, 2021 at 4:35 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@
gov> wrote:

In Orion we have the 120m/250m meshes at:
/work/noaa/nosofs/share/models/meshes/hsofs/
with corresponding fort.15 files
I believe these should work.

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Mon, Jul 26, 2021 at 3:21 PM Panagiotis Velissariou - NOAA Affiliate
<panagiotis.velissariou@noaa.gov> wrote:

Thank you Saeed.
I am using the files (fort.15) on orion from:
/work/noaa/nosofs/share/working/hera/nems_adcirc/run_20210720_large_ensemble/
Are these ok?
I don't have access to HSOFS2020 data.

Takis

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On Mon, Jul 26, 2021 at 3:01 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.g
wrote:

> Hi Takis and Andre,
>
> The HSOFS2016 fort.15 is not compatible with v55. Zach has the updated fort.15 for HSOF
> as well. So we need to update the template for it.
>
> For now, please use the 120 m (HSOFS2020) for this test.
>
> Thanks,
> -Saeed

Saeed Moghimi, PhD
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The contents of this message are mine personally and do not necessarily reflect any positior
NOAA.

On Mon, Jul 26, 2021 at 3:52 PM Panagiotis Velissariou - NOAA Affiliate
<panagiotis.velissariou@noaa.gov> wrote:

> Hi Andre,
>
> Ok, I am testing on Orion to see what happens.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
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>
> On Mon, Jul 26, 2021 at 2:30 PM Andre Van der Westhuysen - NOAA Affiliate
> <andre.vanderwesthuysen@noaa.gov> wrote:
>
> > Hi Takis,
> >
> > No, I started with our standard HSOFS mesh. But I'll test with the 120 m mesh also.
> >
> > Andre
> >
> > On Mon, Jul 26, 2021 at 1:05 PM Panagiotis Velissariou - NOAA Affiliate
> > <panagiotis.velissariou@noaa.gov> wrote:
> >
> > > Hi Andre,
> > >
> > > No, I haven't seen these in my simulations. Are you using the 120m HSOFS mesh?
> > >
> > > Takis
> > >
> > > Panagiotis Velissariou, Ph.D., P.E.
> > > UCAR Scientist

email: panagiotis.velissariou@noaa.gov

On Mon, Jul 26, 2021 at 11:59 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis,
>
> Here's an update on my testing: I managed to clone and build the app code fine n
> before, I started by building with only the ATMESH forcing, to see if I could recreat
> previous results (e.g. Florence with HWRF forcing):
>
> ```
> ./build.sh --component "ADCIRC ATMESH WW3" --plat hera --compiler
> --clean -2
> ```
>
> For my first test, I tried the unit test of forcing ADCIRC with ATMESH only (workflo
> RUN_TYPE=atm2ocn). Software-wise this succeeded, I think, since it got past the
> various initialization stages and started time stepping. However, it failed on the se
> time step of the simulation. Here is an extract from the log file of one of the ADCIF
> nodes:
>
> ```
> $ tail -30 PET001.ESMF_LogFile
> 20210726 145300.307 INFO             PET001   EARTH grid component01: begin --
> RunSequence.
> 20210726 145300.307 INFO             PET001     EARTH grid component01: RunSeq
> event loopLevel=   1  levelMember=   1  loopIteration=   1, current time: 2018
>  6  0  0   0
> 20210726 145300.308 INFO             PET001     ATM-TO-OCN: Run intro.
> 20210726 145300.308 INFO             PET001       >>>ATM-TO-OCN entered Run
> (phase=RunPhase1)
> 20210726 145300.432 INFO             PET001       ATM-TO-OCN: called default
> label_ExecuteRouteHandle
> 20210726 145300.432 INFO             PET001       <<<ATM-TO-OCN leaving Run
> (phase=RunPhase1)
> 20210726 145300.432 INFO             PET001     ATM-TO-OCN: Run extro.
> 20210726 145300.433 INFO             PET001     OCN: Run intro.
> 20210726 145300.435 INFO             PET001       >>>OCN: entered Run
> (phase=RunPhase1) with current time: 2018  9  9  6  0  0   0
> 20210726 145300.437 INFO             PET001       OCN: time step-loop starting
> current time: 2018  9  9  6  0  0   0
> 20210726 145300.438 INFO             PET001        (adc_cap:ModelAdvance) ---
> forcing exchange / waves are not all connected ---
> 20210726 145300.443 INFO             PET001        (adc_cap:ModelAdvance) ---
> forcing exchange OK / atm feilds are all connected --- / Model advances
> 20210726 145300.746 INFO             PET001        (adc_cap:ModelAdvance) ---
> phase 2 called ---
> 20210726 145309.028 INFO             PET001        (adc_cap:ModelAdvance) ---
> phase 3 called ---  nCplADC =         1800
> 20210726 145309.028 INFO             PET001        (adc_cap:ModelAdvance) ---
> surge forcing for wave. 1way coupled WW3 -> ADC  ---
> 20210726 145309.029 INFO             PET001       OCN: time step-loop ending,
> current time: 2018  9  9  7  0  0   0
> 20210726 145309.029 INFO             PET001       <<<OCN: leaving Run
> (phase=RunPhase1) with current time: 2018  9  9  7  0  0   0
> 20210726 145309.029 INFO             PET001     OCN: Run extro.
> 20210726 145309.029 INFO             PET001     EARTH grid component01: RunSeq
> event loopLevel=   1  levelMember=   1  loopIteration=   2, current time: 2018
>  7  0  0   0
> 20210726 145309.030 INFO             PET001     ATM-TO-OCN: Run intro.
> 20210726 145309.030 INFO             PET001       >>>ATM-TO-OCN entered Run
> (phase=RunPhase1)
> 20210726 145309.031 INFO             PET001       ATM-TO-OCN: called default
> label_ExecuteRouteHandle
> 20210726 145309.032 INFO             PET001       <<<ATM-TO-OCN leaving Run
> (phase=RunPhase1)
> 20210726 145309.032 INFO             PET001     ATM-TO-OCN: Run extro.
> ```

```
forcing exchange / waves are not all connected ---
20210726 145309.035 INFO             PET001        (adc_cap:ModelAdvance) ---
forcing exchange OK / atm feilds are all connected --- / Model advances
20210726 145309.153 INFO             PET001        (adc_cap:ModelAdvance) ---
phase 2 called ---
```

When I look at ADCIRC runtime output, I see extreme elevations and velocities:

```
 ELMAX =  5.1773E+001 AT NODE   763996  SPEEDMAX =  1.3704E+001 AT NODE   6970
MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543159     ITERATIONS =    0     TIME =  0.10863180E+07
  ELMAX =  8.8111E+002 AT NODE   681482  SPEEDMAX =  1.0964E+002 AT NODE   679
MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543159     ITERATIONS =    0     TIME =  0.10863180E+07
  ELMAX =  5.2052E+001 AT NODE   763996  SPEEDMAX =  1.3335E+001 AT NODE   697
MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543160     ITERATIONS =    0     TIME =  0.10863200E+07
  ELMAX =  9.0369E+002 AT NODE   679811  SPEEDMAX =  1.1204E+002 AT NODE   679
MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543160     ITERATIONS =    0     TIME =  0.10863200E+07
  ELMAX =  5.1569E+001 AT NODE   763996  SPEEDMAX =  1.3591E+001 AT NODE   799
MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543161     ITERATIONS =    0     TIME =  0.10863220E+07
  ELMAX =  9.3271E+002 AT NODE   679811  SPEEDMAX =  1.0869E+002 AT NODE   679
MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543161     ITERATIONS =    0     TIME =  0.10863220E+07
  ELMAX =  5.0354E+001 AT NODE   763996  SPEEDMAX =  1.4152E+001 AT NODE   799
MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+07
  ELMAX =  1.0146E+003 AT NODE   678170  SPEEDMAX =  1.0262E+002 AT NODE   679
MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+07
  ELMAX =  1.0146E+003 AT NODE   678170  SPEEDMAX =  1.0262E+002 AT NODE   679
MYPROC =  255
  ** ERROR: Elevation.gt.ErrorElev, ADCIRC stopping. **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+07
  ELMAX =  4.8473E+001 AT NODE   763996  SPEEDMAX =  1.4509E+001 AT NODE   799
MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
srun: Job step aborted: Waiting up to 32 seconds for job step to finish.
slurmstepd: error: *** STEP 21020412.0 ON h32m13 CANCELLED AT 2021-07-26T15:38
slurmstepd: error: *** JOB 21020412 ON h32m13 CANCELLED AT 2021-07-26T15:38:10
```

This run was preceded by the standard 12.5 day tidal spinup, and uses a 5-day wi ramp. I need to do further analysis, but I was wondering if you or Zach got any of t your testing? Did you apply a limitation on the first hour of ATMESH input, to avoic bad data at this initial time step we've seen in the past? If you want to check my ru here on Hera:

`/scratch2/NCEPDEV/stmp1/Andre.VanderWesthuysen/data/florence.atm2ocn.20210726.fail_extreme_wl/run`

Andre

On Wed, Jul 21, 2021 at 11:39 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis,
>
> Thanks, it cloned fine now. I'll proceed with building it, and will let you know how goes.
>
> Andre

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Tue, Jul 20, 2021 at 7:17 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Hi Andre,
>
> Sorry for all these issues NEMS/PAHM.
> Let us fix these and make sure the repos are synchronized.
> Tomorrow morning I hope that everything will be in order.
> I'll let you know
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
> USM - Stennis Space Center
> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov
>
> On Tue, Jul 20, 2021 at 5:09 PM Andre Van der Westhuysen - NOAA Affilia <andre.vanderwesthuysen@noaa.gov> wrote:
>
> > Hi Takis,
> >
> > I tried a clean (re-) cloning of the repo, but ran into issues again. I used:
> > `$ git clone https://github.com/noaa-ocs-modeling/ADC-WW3-NWM-NEMS.git -b feature/pahm --recurse-submodules`
> >
> > But got a similar error as before:
> >
> > ```
> > ...
> > Submodule path 'NEMS/tests/produtil/NCEPLIBS-pyprodutil':
> > checked out 'ca171b95095db4fcd0fc7b01c23d073d90becd99'
> > Submodule path 'NWM': checked out '
> > 3bc401d298070515cb6171a585d2d19646afd650'
> > fatal: remote error: upload-pack: not our ref
> > 2c148ca1ed6a6c6c2b2446f455a8745e5c1518e9
> > fatal: The remote end hung up unexpectedly
> > Fetched in submodule path 'PAHM', but it did not contain
> > 2c148ca1ed6a6c6c2b2446f455a8745e5c1518e9. Direct fetching
> > that commit failed.
> > ```
> >
> > Any suggestions about this failure in the PAHM part?
> >
> > Andre
> >
> > On Mon, Jul 19, 2021 at 11:56 AM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

Please, let me know if the compilation goes as expected.

Thanks
Takis

Panagiotis Velissariou, Ph.D., P.E.
UCAR Scientist
National Ocean and Atmospheric Administration
National Ocean Service
Office of Coast Survey CSDL/CMMB
Project Lead - Coastal Coupling
USM - Stennis Space Center
cell: (205) 227-9141
email: panagiotis.velissariou@noaa.gov

On Mon, Jul 19, 2021 at 10:18 AM Panagiotis Velissariou - NOAA Affili
<panagiotis.velissariou@noaa.gov> wrote:

> Hi Andre,
>
> Zach tried to re-compile on hera and he experienced the same probl
> I am checking to see what happened between commits.
> I'll update you all as soon as possible.
>
> Thanks
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
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> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov
>
> On Fri, Jul 16, 2021 at 4:30 PM Panagiotis Velissariou - NOAA Affilia
> <panagiotis.velissariou@noaa.gov> wrote:
>
> > Hi Andre,
> >
> > components ADCIRC, ATMESH, WW3 are in NEMS/src/incmake
> > (checked the github repo)
> > You shouldn't be getting: .../ADC-WW3-NWM-NEMS/modulefiles/h
> > /ESMF_NUOPC error
> > because I have removed these files and in the NEMS/src/incmake
> > /buildenv.mk I have commended the
> > lines 63 to 68 out (where these modules are called).
> > So, please do first:
> > build.sh --plat hera --component "ATMESH ADCIRC WW3" --clear
> > rm -rf ALLBIN_INSTALL
> > These will clean everything. Then,
> > build.sh --compiler intel --plat hera --component "ATMESH ADCIR
> > WW3"
> > to build the NEMS executable.
> > Better instead of ATMESH, use PAHM, for your configuration shou
> > work the same,
> > assuming that you already have generated the PaHM winds.
> >
> > Please keep the logs so we can check all warning/error messages
> >
> > Takis
> >
> > Panagiotis Velissariou, Ph.D., P.E.
> > UCAR Scientist

email: panagiotis.velissariou@noaa.gov

On Fri, Jul 16, 2021 at 3:51 PM Andre Van der Westhuysen - NOA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis,
>
> More progress, but still not success. I get the following build erro
>
> ```
> ...
> make[1]: Entering directory `/scratch2/COASTAL/coas
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NE
> NEMS/src'
> GNUmakefile:16: /scratch2/COASTAL/coastal/
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NE
> NEMS/src/conf/test-results.mk: No such file or directo
> Components in linker order: WW3 ATMESH ADCIRC
> WW3: include
> GNUmakefile:70: : component WW3 makefile fragment i
> missing
> ATMESH: include
> GNUmakefile:70: : component ATMESH makefile fragmen
> missing
> ADCIRC: include
> GNUmakefile:70: : component ADCIRC makefile fragmen
> missing
> make[1]: *** No rule to make target `/scratch2/COAS
> /coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-W
> NWM-NEMS/NEMS/src/conf/test-results.mk'.  Stop.
> make[1]: Leaving directory `/scratch2/COASTAL/coast
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NE
> NEMS/src'
> rm -f /scratch2/COASTAL/coastal/
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NE
> NEMS/exe/NEMS.x /scratch2/COASTAL/coastal/
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NE
> NEMS/src/conf/configure.nems.NUOPC
> rm -f /scratch2/COASTAL/coastal/
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NE
> NEMS/src/conf/configure.nems /scratch2/COASTAL/coas
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NE
> NEMS/src/conf/externals.nems /scratch2/COASTAL/coas
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NE
> NEMS/src/conf/modules.nems /scratch2/COASTAL/coasta
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NE
> NEMS/src/ESMFVersionDefine.h /scratch2/COASTAL/coas
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NE
> NEMS/src/conf/modules.nems.sh /scratch2/COASTAL/coas
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NE
> NEMS/src/conf/modules.nems.csh /scratch2/COASTAL
> /coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-W
> NWM-NEMS/NEMS/src/conf/test-results.mk
> rm -f /scratch2/COASTAL/coastal/
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NE
> NEMS/src/conf/components.mk
> rm -f /scratch2/COASTAL/coastal/
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NE
> NEMS/src/conf/test_results.mk
>
> compileNems :: Compiling: make  -f GNUmakefile buil
> COMPONENTS="ADCIRC ATMESH WW3"
> NOTE: Skipping appbuilder.mk creation; no appbuilder
> in use.
> echo 'ADCIRC ATMESH WW3' > "/scratch2/COASTAL/coast
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NE
> ```

```
NWM-NEMS/NEMS/src/conf/configure.nems
cat /dev/null > /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-NE
NEMS/src/conf/externals.nems
make: *** No rule to make target `/scratch2/COASTAL
/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC-W
NWM-NEMS/modulefiles/hera/ESMF_NUOPC', needed by
`/scratch2/COASTAL/coastal/save/Andre.VanderWesthuy
OCS-NEMS/ADC-WW3-NWM-NEMS/NEMS/src/conf/modules.nem
Stop.
```

I'll investigate further, but let me know if you have any suggestio

Andre

On Fri, Jul 16, 2021 at 3:34 PM Panagiotis Velissariou - NOAA A
<panagiotis.velissariou@noaa.gov> wrote:

> Yes, Zach built it with those modules as defined in the module
> hera.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
> USM - Stennis Space Center
> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov
>
> On Fri, Jul 16, 2021 at 2:20 PM Andre Van der Westhuysen -
> Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:
>
>> Takis,
>>
>> Thanks, it works now. I'm now busy building it on Hera. So t
>> following Hera modules are needed, correct?
>>
>> 1) intel/18.0.5.274 2) impi/2018.0.4 3) szip/2.1 4) hdf5_parallel/1.10.6.release 5
>> netcdf_parallel/4.7.4.release 6) esmf/8.1.0bs25g_ParallelNetCDF.release
>>
>> Andre
>>
>> On Fri, Jul 16, 2021 at 3:07 PM Panagiotis Velissariou - NO
>> Affiliate <panagiotis.velissariou@noaa.gov> wrote:
>>
>>> Hi Andre,
>>>
>>> It is fixed now. I checked the cloning on my computer and
>>> works now.
>>> I had forgotten to push the NEMS changes.
>>>
>>> Please try again.
>>>
>>> Takis
>>>
>>> Panagiotis Velissariou, Ph.D., P.E.
>>> UCAR Scientist
>>> National Ocean and Atmospheric Administration
>>> National Ocean Service
>>> Office of Coast Survey CSDL/CMMB
>>> Project Lead - Coastal Coupling
>>> USM - Stennis Space Center
>>> cell: (205) 227-9141

I tried to clone the pahm feature branch today, but it fail
while checking out the NEMS dependency. I used your
recommended command:

```
git clone https://github.com/noaa-ocs-modeling/ADC
WW3-NWM-NEMS.git -b feature/pahm --recurse
submodules
```

and it gave the following error that it couldn't find the cc
hash for NEMS:

```
...
fatal: remote error: upload-pack: not our re
4c61cc4ea73e407784ddbd6b8affc99d20474e1b
fatal: The remote end hung up unexpectedly
Fetched in submodule path 'NEMS', but it did
contain 4c61cc4ea73e407784ddbd6b8affc99d2047
Direct fetching of that commit failed.
```

I added the full log in the attachments. Any suggestions

Andre

On Tue, Jul 13, 2021 at 3:01 PM Panagiotis Velissariou
NOAA Affiliate <panagiotis.velissariou@noaa.gov> wro

> Hi Andre,
>
> I think if you use the same configuration as in the AM
> simulations that will compile/run
> fine I believe.
> Curious to see how it goes.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
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> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov
>
> On Tue, Jul 13, 2021 at 8:58 AM Panagiotis Velissari
> NOAA Affiliate <panagiotis.velissariou@noaa.gov> w
>
> > Hi Andre,
> >
> > You should be able to do it. WW3 should compile
> > fine with the intel
> > compilers. WW3 (the version that is in the app) has
> > issues (argument mismatches)
> > when the compiler is gfortran (version 10*). I haver
> > check if the same issue
> > still exists with the latest version, might see into thi
> > future.
> >
> > Either ATMESH+ADCIRC+PaHM winds or
> > PAHM+ADCIRC+PaHM winds should work
> > just fine.
> >
> > Thanks
> > Takis

Project Lead - Coastal Coupling
USM - Stennis Space Center
cell: (205) 227-9141
email: panagiotis.velissariou@noaa.gov

On Tue, Jul 13, 2021 at 8:51 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis,
>
> Thanks for this. I'll test it over the next few days. do ATMESH+WW3 (with the PaHM-generated .r could I also try ATMESH+ADCIRC+WW3, for ex for Florence?
>
> Andre
>
> On Tue, Jul 13, 2021 at 9:11 AM Saeed Moghim NOAA Affiliate <saeed.moghimi@noaa.gov> wrc
>
> > Hi Takis,
> >
> > Thanks for clarification.
> >
> > Best,
> > -Saeed
> >
> > _____
> > _____
> > Saeed Moghimi, PhD
> > **UCAR/NOAA - NOS Storm Surge Modeling T Lead**
> > Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Surv NOAA National Ocean Service.
> > Address: 1315 East West Hwy, Room 6607, Si Spring, Maryland 20910
> > Phone: (240) 847-8230
> >
> > The contents of this message are mine persona do not necessarily reflect any position of NOAA
> >
> > On Tue, Jul 13, 2021 at 1:08 AM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
> >
> > > Hi Saeed,
> > >
> > > Yes, also the PAHM+ADCIRC setup works t same when using pre-prepared winds (NetC Tested both configurations, same results. Testing the direct exchange of the fields fror PaHM to ADCIRC.
> > > The PaHM Cap supports both configs, the r is that we may want to use
> > > externally prepared wind fields (an example NetCDF file that contains blended backgrou fields + PaHM fields)
> > >
> > > So, ATMESH+ADCIRC+PaHM winds
> > > or PAHM+ADCIRC+PaHM winds work the s with pre-prepared winds.
> > >
> > > Takis

USM - Stennis Space Center
cell: (205) 227-9141
email: panagiotis.velissariou@noaa.gov

On Mon, Jul 12, 2021 at 5:06 PM Saeed Mo
NOAA Affiliate <saeed.moghimi@noaa.gov>
wrote:

> Hi Takis,
>
> I think I am confused. If we are using Pah
> provide atm forcing, why do we need to ha
> ATMESH?
>
> Thanks,
> -Saeed
>
> _____
> _____
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surge Modeli**
> **Team Lead**
> Coastal Marine Modeling Branch, Coast Su
> Development Laboratory, Office of Coast
> at NOAA National Ocean Service.
> Address: 1315 East West Hwy, Room
> 6607, Silver Spring, Maryland 20910
> Phone: (240) 847-8230
>
> The contents of this message are mine pe
> and do not necessarily reflect any position
> NOAA.

On Mon, Jul 12, 2021 at 5:25 PM Panagio
Velissariou - NOAA Affiliate
<panagiotis.velissariou@noaa.gov> wrote

> Hi Andre,
>
> The updated NEMS app is on the githul
> https://github.com/noaa-ocs-modeling/A
> WW3-NWM-NEMS.git feature/pahm
>
> I am using the command
> git clone https://github.com/noaa-ocs-
> modeling/ADC-WW3-NWM-NEMS.git -
> feature/pahm --recurse-submodules
>
> Note that this ADC-WW3-NWM-NEMS
> contains the latest stable NEMS source
> (release/public-v2).
>
> If possible, could you please run the
> application using ATMESH+WW3 and t
> PaHM
> generated winds?
>
> I have run it successfully using
> ATMESH+ADCIRC and the PaHM gene
> winds for Sandy,
> Florence for the Shinnecock Inlet test c
>
> Testing the PaHM NUOPC Cap now.
>
> It seems that all issues are resolved.

Panagiotis Velissariou, Ph.D., P.E.
UCAR Scientist
National Ocean and Atmospheric Administration
National Ocean Service
Office of Coast Survey CSDL/CMMB
Project Lead - Coastal Coupling
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cell: (205) 227-9141
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--
Andre J. van der Westhuysen, PhD
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--
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--
Andre J. van der Westhuysen, PhD
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IMSG at NWS/NCEP/Environmental Modeling Center
National Oceanic and Atmospheric Administration
5830 University Research Court
College Park, Maryland 20740, USA

Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> Wed, Jul 28, 2021 at
To: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>, Yuji Funakoshi - NOAA Affiliate <yuji.funakoshi@noaa.gov>
Cc: Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov>, Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

HI Andre

I am 90% sure that this is the120m with v55 and NEMS. @Yuji Funakoshi - NOAA Affiliate , please confirm.

/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.atm2ocn.20210621.atmea120m/run

Best,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Service.
Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
Phone: (240) 847-8230

On Wed, Jul 28, 2021 at 10:09 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Saeed,
>
> Thanks for sharing the path to Yuji's runs. These are the ones I compared to back in June, but I recall that he used older module
> legacy ones we had in the workflow) and a somewhat older code to what we have now. These also still have the old fort.13 with
> fields, and the old fort.15 with NRAMP=1/DRAMP=5.0. For example:

```
$ pwd
/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.tide_spinup.20210617/run
[Andre.VanderWesthuysen@hfe01 run]$ more fort.13
OceanMesh2D
5803941
4
primitive_weighting_in_continuity_equation
unitless
1
3.000000000e-02
mannings_n_at_sea_floor
unitless
1
2.200000000e-02
internal_tide_friction
local_dir, C_it =0.21884,Nb, D250
3
0.000000000e+00 0.000000000e+00 0.000000000e+00
subgrid_barrier
unitless
1
9.999900000e+04
primitive_weighting_in_continuity_equation
200530
745338 5.000000000e-03
751856 5.000000000e-03
751857 5.000000000e-03
751858 5.000000000e-03
751859 5.000000000e-03
751860 5.000000000e-03
751960 5.000000000e-03
```

```
[Andre.VanderWesthuysen@hfe01 run]$ more fort.15
HSOFS 120m_Releasev2.1 ! 32 CHARACTER ALPHANUMERIC RUN DESCRIPTION
Tidal spin-up 2018-08-27 18:00:00 UTC   ! 24 CHARACTER ALPANUMERIC RUN IDENTIFICATION
1                ! NFOVER - NONFATAL ERROR OVERRIDE OPTION
0                ! NABOUT - ABREVIATED OUTPUT OPTION PARAMETER
-1000            ! NSCREEN - UNIT 6 OUTPUT OPTION PARAMETER
567            ! IHOT - HOT START PARAMETER
20               ! ICS - COORDINATE SYSTEM SELECTION PARAMETER
511112           ! IM - MODEL SELECTION PARAMETER
1                ! NOLIBF - BOTTOM FRICTION TERM SELECTION PARAM; before NWP==1, '2' was used
2                ! NOLIFA - FINITE AMPLITUDE TERM SELECTION PARAMETER
1                ! NOLICA - SPATIAL DERIVATIVE CONVECTIVE SELECTION PARAMETER
1                ! NOLICAT - TIME DERIVATIVE CONVECTIVE TERM SELECTION PARAMETER
4                ! NWP
primitive_weighting_in_continuity_equation
mannings_n_at_sea_floor
internal_tide_friction
subgrid_barrier
1                ! NCOR - VARIABLE CORIOLIS IN SPACE OPTION PARAMETER
1                ! NTIP - TIDAL POTENTIAL OPTION PARAMETER
17             ! NWS - WIND STRESS AND BAROMETRIC PRESSURE OPTION PARAMETER
1                ! NRAMP - RAMP FUNCTION OPTION
9.81             ! G - ACCELERATION DUE TO GRAVITY - DETERMINES UNITS
-3               ! TAU0 - WEIGHTING FACTOR IN GWCE; original, 0.005
2.0              ! DT - TIME STEP (IN SECONDS)
0.00             ! STATIM - STARTING TIME (IN DAYS)
0.00             ! REFTIM - REFERENCE TIME (IN DAYS)
3600  3600   ! WTIMINC - meteorological data time increment, RSTIMINC wave forcing increment
20.5   ! RNDAY - TOTAL LENGTH OF SIMULATION (IN DAYS)
5.0           ! DRAMP - DURATION OF RAMP FUNCTION (IN DAYS)
0 1 0            ! TIME WEIGHTING FACTORS FOR THE GWCE EQUATION
0.1 0 0 0.01     ! H0, NODEDRYMIN, NODEWETRMP, VELMIN
-81.603414 32.182098 ! SLAM0,SFEA0 - CENTER OF CPP PROJECTION (NOT USED IF ICS=1, NTIP=0, NCOR=0)
0.0001           ! FFACTOR
-0.050000        ! ESL - LATERAL EDDY VISCOSITY COEFFICIENT; IGNORED IF NWP =1
0.0              ! CORI - CORIOLIS PARAMETER - IGNORED IF NCOR = 1
8                ! NUMBER OF TIDAL POTENTIAL CONSTITUENTS BEING FORCED starting 2008082300
Q1               ! ALPAHANUMERIC DESCRIPTION OF TIDAL POTENTIAL CONSTIT.
  0.019256  0.000064958541129  0.695  0.91252     131.29
O1
  0.100514  0.000067597744151  0.695  0.91252     1.32
P1
  0.046843  0.000072522945975  0.706  1.00000     24.07
K1
  0.141565  0.000072921158358  0.736  0.94621     147.91
...
```

Did Yuji rerun this with your latest version and build of the app? If you could share the updated 5-field fort.13 file for the full 120 m mesh, I could update the NWP and NRAMP in the fort.15 and retest on my side.

Thanks,
Andre

On Tue, Jul 27, 2021 at 6:29 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> Andre,
> See here:
>
> These were shared by Yuji a while ago based on 120m mesh.
> /scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m
>
> The example I shared was a smaller setup tested for v55.
>
> Best,

Phone: (240) 847-8230

On Tue, Jul 27, 2021 at 6:23 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

Hi Saeed and Takis,

I set up the Florence case that Saeed shared as a template in the workflow, including the updated fort.13 file (with 5 fields). T ran fine for the tidal spinup. However, this does not contain the full HSOFS 120 m mesh (5803941 nodes). It only has 63397 nodes:

$ more fort.14

```
NOMAD mesh v1e MSL
1222455 633974
1 -7.7547572700700002E+01 3.5839343178900002E+01 -9.2613500000000002E+00
2 -7.7551062012200006E+01 3.5829987009200003E+01 -7.8063300000000000E+00
3 -7.7549421612299994E+01 3.5834698053300002E+01 -9.2522099999999998E+00
4 -7.7541916701900007E+01 3.5835456465900002E+01 -1.0394100000000000E+01
5 -7.7552007930100004E+01 3.5825088089700003E+01 -1.0484900000000000E+01
6 -7.7547475583799994E+01 3.5826092459199998E+01 -7.3492300000000004E+00
...
```

This case also does not contain the fort.13 file on the full HSOFS 120m mesh (5803941 nodes), only 633974 nodes:

$ more fort.13

```
NOMAD mesh v1e MSL nodal attributes
633974
5
mannings_n_at_sea_floor
meters
1
2.0000000000000000E-02
primitive_weighting_in_continuity_equation
unitless
1
2.9999999999999999E-02
surface_canopy_coefficient
unitless
1
1.0000000000000000E+00
surface_directional_effective_roughness_length
meters
12
0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
0.00000000000000
00E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
surface_submergence_state
unitless
1
0.0000000000000000E+00
mannings_n_at_sea_floor
263078
1 0.2
2 0.18
3 0.1
...
```

Before updating the WW3 component, I would like to verify the new app with ADCv55 on the full HSOFS 120 m mesh, e.g. f Florence case including:
1) Tidal spinup (12.5 days)
2) Wind forcing (run type = atm2ocn), with the ATMESH file "Florence_HWRF_HRRR_EA120m.nc" on the full HSOFS 120m mesh

Thanks,
Andre

On Tue, Jul 27, 2021 at 4:06 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
Hi Andre,

Yes, just keep these values for DRAMP.

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Tue, Jul 27, 2021 at 2:50 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wro
Hi Takis,

Yes, will do. Can I use the DRAMP line as is, if I'm staying with a 12.5 day spinup?

```
12.500 0.000 0.000 0.000 12.500 12.500 1.000 0.000 12.500
```

Andre

On Tue, Jul 27, 2021 at 3:32 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
Hi Andre,

We are using NRAMP=8
Also check the DRAMP values as well.

Takis

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On Tue, Jul 27, 2021 at 2:24 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>
Saeed, thanks very much for these files.

Takis, yes, what Saeed shared will be enough to get me started.

One more question: I see that for the forecast run the NRAMP has been updated from 1 (simple hyperbolic tangent)
Should I copy this over for running with ATMESH and PaHM, or is this just for best track wind forcing?

Andre

On Tue, Jul 27, 2021 at 2:58 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
Thanks Saeed.

Andre, do you still need the fort.13 files?

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On Tue, Jul 27, 2021 at 1:54 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> Hi Takis,
>
> I also copied the same test case here on Orion:
>
> /work/noaa/nosofs/archive/COASTAL_ACT/florence_subset/
>
> Best,
> -Saeed
>
> _____
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA Natic
> Ocean Service.
> Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
> Phone: (240) 847-8230
>
> The contents of this message are mine personally and do not necessarily reflect any position of NOAA.

On Tue, Jul 27, 2021 at 2:46 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> Hi Andre,
>
> Sorry for being radio silence. Would you please see if you can use this test case. This is a subset mesh for Florence. The NEMS setup for best track is included. You may need to up data nems.configure and put toget fort.15 templates for spin up and main run.
>
> /scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs_subset
>
> Best,
> -Saeed
>
> _____
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA Na
> Ocean Service.
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On Tue, Jul 27, 2021 at 2:22 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov>

> Hi Andre,
>
> Let me get the fort.13 files from orion.
> Yes, as you say for hsofs120m-fort.15, nems_adcirc-hera-fort.15
> For PaHM you just change to NWS=17, correct
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist

email: panagiotis.velissariou@noaa.gov

On Tue, Jul 27, 2021 at 1:15 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@gov> wrote:

> Hi Takis,
>
> Just focusing on the 120 m mesh, the files I've been testing with are indeed different from those you sha yesterday. For example, the fort.13 I have from June 9 only contains 4 quantities:
>
> ```
> $ more fort.13
> OceanMesh2D
> 5803941
> 4
> primitive_weighting_in_continuity_equation
> unitless
> 1
> 3.000000000e-02
> mannings_n_at_sea_floor
> unitless
> 1
> 2.200000000e-02
> internal_tide_friction
> local_dir, C_it =0.21884,Nb, D250
> 3
> 0.000000000e+00 0.000000000e+00 0.000000000e+00
> subgrid_barrier
> unitless
> 1
> 9.999900000e+04
> primitive_weighting_in_continuity_equation
> 200530
> 745338 5.000000000e-03
> 751856 5.000000000e-03
> 751857 5.000000000e-03
> 751858 5.000000000e-03
> ...
> ```
>
> Could you please share the fort.13 that you are testing with now (path on Hera if possible)?
>
> Also, just to make sure I understand - the fort.15 files you shared yesterday are:
> hsofs120m-fort.15 - Tidal spinup
> nems_adcirc-hera-fort.15 - Wind-only run with Generalized Asymmetric Holland Model
>
> Is this correct? For the latter, I assume that when we connect PaHM via NEMS, the NWS type will chang 20 to 17 (wind only) and 517 (wind+waves). Correct?
>
> Andre

On Mon, Jul 26, 2021 at 5:35 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa. wrote:

> Hi Andre,
>
> Attached are the fort.15 files.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
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Thanks for this info. Could you please share the location of these fort.15 files on Hera (with Zach's h
would like to confirm that I have the correct ones in the workflow (at least for the 120 m mesh).

Andre

On Mon, Jul 26, 2021 at 4:42 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@n
gov> wrote:

Saeed,

Yes, these are from Zach, I had asked him to upload these on orion from hera.

Takis

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On Mon, Jul 26, 2021 at 3:40 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> w

Hi Takis,

Make sure these are the ones Zach tested. Otherwise stick to the 120 m (HSOFS2020) one.

Thanks,
-Saeed

Saeed Moghimi, PhD
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The contents of this message are mine personally and do not necessarily reflect any position of N

On Mon, Jul 26, 2021 at 4:35 PM Panagiotis Velissariou - NOAA Affiliate
<panagiotis.velissariou@noaa.gov> wrote:

In Orion we have the 120m/250m meshes at:
/work/noaa/nosofs/share/models/meshes/hsofs/
with corresponding fort.15 files
I believe these should work.

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Mon, Jul 26, 2021 at 3:21 PM Panagiotis Velissariou - NOAA Affiliate
<panagiotis.velissariou@noaa.gov> wrote:

Takis

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On Mon, Jul 26, 2021 at 3:01 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa wrote:

> Hi Takis and Andre,
>
> The HSOFS2016 fort.15 is not compatible with v55. Zach has the updated fort.15 for HSOFS2016 as well. So we need to update the template for it.
>
> For now, please use the 120 m (HSOFS2020) for this test.
>
> Thanks,
> -Saeed
>
> _____
> Saeed Moghimi, PhD
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>
>
>
> On Mon, Jul 26, 2021 at 3:52 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
>
> > Hi Andre,
> >
> > Ok, I am testing on Orion to see what happens.
> >
> > Takis
> >
> > Panagiotis Velissariou, Ph.D., P.E.
> > UCAR Scientist
> > National Ocean and Atmospheric Administration
> > National Ocean Service
> > Office of Coast Survey CSDL/CMMB
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> >
> > On Mon, Jul 26, 2021 at 2:30 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:
> >
> > > Hi Takis,
> > >
> > > No, I started with our standard HSOFS mesh. But I'll test with the 120 m mesh also.
> > >
> > > Andre
> > >
> > > On Mon, Jul 26, 2021 at 1:05 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

Panagiotis Velissariou, Ph.D., P.E.
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On Mon, Jul 26, 2021 at 11:59 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

Hi Takis,

Here's an update on my testing: I managed to clone and build the app code fine As before, I started by building with only the ATMESH forcing, to see if I could re previous results (e.g. Florence with HWRF forcing):

```
./build.sh --component "ADCIRC ATMESH WW3" --plat hera --compile
intel --clean -2
```

For my first test, I tried the unit test of forcing ADCIRC with ATMESH only (work RUN_TYPE=atm2ocn). Software-wise this succeeded, I think, since it got past t various initialization stages and started time stepping. However, it failed on the s time step of the simulation. Here is an extract from the log file of one of the ADC nodes:

```
$ tail -30 PET001.ESMF_LogFile
20210726 145300.307 INFO             PET001   EARTH grid component01: begin
-------> RunSequence.
20210726 145300.307 INFO             PET001     EARTH grid component01: RunS
event loopLevel=   1  levelMember=   1  loopIteration=   1, current time: 20
 9  6  0  0   0
20210726 145300.308 INFO             PET001     ATM-TO-OCN: Run intro.
20210726 145300.308 INFO             PET001       >>>ATM-TO-OCN entered Run
(phase=RunPhase1)
20210726 145300.432 INFO             PET001       ATM-TO-OCN: called default
label_ExecuteRouteHandle
20210726 145300.432 INFO             PET001       <<<ATM-TO-OCN leaving Run
(phase=RunPhase1)
20210726 145300.432 INFO             PET001     ATM-TO-OCN: Run extro.
20210726 145300.433 INFO             PET001     OCN: Run intro.
20210726 145300.435 INFO             PET001       >>>OCN: entered Run
(phase=RunPhase1) with current time: 2018  9  9  6  0  0   0
20210726 145300.437 INFO             PET001       OCN: time step-loop starti
current time: 2018  9  9  6  0  0   0
20210726 145300.438 INFO             PET001        (adc_cap:ModelAdvance) --
wave forcing exchange / waves are not all connected ---
20210726 145300.443 INFO             PET001        (adc_cap:ModelAdvance) --
forcing exchange OK / atm feilds are all connected --- / Model advances
20210726 145300.746 INFO             PET001        (adc_cap:ModelAdvance) --
phase 2 called ---
20210726 145309.028 INFO             PET001        (adc_cap:ModelAdvance) --
phase 3 called ---  nCplADC =         1800
20210726 145309.028 INFO             PET001        (adc_cap:ModelAdvance) --
surge forcing for wave. 1way coupled WW3 -> ADC  ---
20210726 145309.029 INFO             PET001       OCN: time step-loop ending
current time: 2018  9  9  7  0  0   0
20210726 145309.029 INFO             PET001       <<<OCN: leaving Run
(phase=RunPhase1) with current time: 2018  9  9  7  0  0   0
20210726 145309.029 INFO             PET001     OCN: Run extro.
20210726 145309.029 INFO             PET001     EARTH grid component01: RunS
event loopLevel=   1  levelMember=   1  loopIteration=   2, current time: 20
 9  7  0  0   0
```

```
(phase=RunPhase1)
20210726 145309.032 INFO             PET001     ATM-TO-OCN: Run extro.
20210726 145309.033 INFO             PET001     OCN: Run intro.
20210726 145309.033 INFO             PET001       >>>OCN: entered Run
(phase=RunPhase1) with current time: 2018  9  9  7  0  0   0
20210726 145309.035 INFO             PET001       OCN: time step-loop starti
current time: 2018  9  9  7  0  0   0
20210726 145309.035 INFO             PET001        (adc_cap:ModelAdvance) --
wave forcing exchange / waves are not all connected ---
20210726 145309.035 INFO             PET001        (adc_cap:ModelAdvance) --
forcing exchange OK / atm feilds are all connected --- / Model advances
20210726 145309.153 INFO             PET001        (adc_cap:ModelAdvance) --
phase 2 called ---
```

When I look at ADCIRC runtime output, I see extreme elevations and velocities:

```
 ELMAX =  5.1773E+001 AT NODE   763996  SPEEDMAX =  1.3704E+001 AT NODE   69
 ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543159     ITERATIONS =    0     TIME =  0.10863180E+07
  ELMAX =  8.8111E+002 AT NODE   681482  SPEEDMAX =  1.0964E+002 AT NODE   6
 ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543159     ITERATIONS =    0     TIME =  0.10863180E+07
  ELMAX =  5.2052E+001 AT NODE   763996  SPEEDMAX =  1.3335E+001 AT NODE   6
 ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543160     ITERATIONS =    0     TIME =  0.10863200E+07
  ELMAX =  9.0369E+002 AT NODE   679811  SPEEDMAX =  1.1204E+002 AT NODE   6
 ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543160     ITERATIONS =    0     TIME =  0.10863200E+07
  ELMAX =  5.1569E+001 AT NODE   763996  SPEEDMAX =  1.3591E+001 AT NODE   7
 ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543161     ITERATIONS =    0     TIME =  0.10863220E+07
  ELMAX =  9.3271E+002 AT NODE   679811  SPEEDMAX =  1.0869E+002 AT NODE   6
 ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543161     ITERATIONS =    0     TIME =  0.10863220E+07
  ELMAX =  5.0354E+001 AT NODE   763996  SPEEDMAX =  1.4152E+001 AT NODE   7
 ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+07
  ELMAX =  1.0146E+003 AT NODE   678170  SPEEDMAX =  1.0262E+002 AT NODE   6
 ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+07
  ELMAX =  1.0146E+003 AT NODE   678170  SPEEDMAX =  1.0262E+002 AT NODE   6
 ON MYPROC =  255
  ** ERROR: Elevation.gt.ErrorElev, ADCIRC stopping. **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+07
  ELMAX =  4.8473E+001 AT NODE   763996  SPEEDMAX =  1.4509E+001 AT NODE   7
 ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
srun: Job step aborted: Waiting up to 32 seconds for job step to finish.
slurmstepd: error: *** STEP 21020412.0 ON h32m13 CANCELLED AT 2021-07-26T15:
***
slurmstepd: error: *** JOB 21020412 ON h32m13 CANCELLED AT 2021-07-26T15:38:
```

This run was preceded by the standard 12.5 day tidal spinup, and uses a 5-day
ramp. I need to do further analysis, but I was wondering if you or Zach got any c
in your testing? Did you apply a limitation on the first hour of ATMESH input, to
the bad data at this initial time step we've seen in the past? If you want to check
run, it is here on Hera:

```
/scratch2/NCEPDEV/stmp1/Andre.VanderWesthuysen/data/
florence.atm2ocn.20210726.fail_extreme_wl/run
```

Andre

On Wed. Jul 21. 2021 at 11:39 AM Andre Van der Westhuvsen - NOAA Affiliate

Andre

On Wed, Jul 21, 2021 at 11:11 AM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Good morning Andre,
>
> You may now clone the feature/pahm, everything is ok.
> The problem was with updates we did to use the large file system (lfs).
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
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> email: panagiotis.velissariou@noaa.gov
>
> On Tue, Jul 20, 2021 at 7:17 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
>
> > Hi Andre,
> >
> > Sorry for all these issues NEMS/PAHM.
> > Let us fix these and make sure the repos are synchronized.
> > Tomorrow morning I hope that everything will be in order.
> > I'll let you know
> >
> > Takis
> >
> > Panagiotis Velissariou, Ph.D., P.E.
> > UCAR Scientist
> > National Ocean and Atmospheric Administration
> > National Ocean Service
> > Office of Coast Survey CSDL/CMMB
> > Project Lead - Coastal Coupling
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> > cell: (205) 227-9141
> > email: panagiotis.velissariou@noaa.gov
> >
> > On Tue, Jul 20, 2021 at 5:09 PM Andre Van der Westhuysen - NOAA Affi <andre.vanderwesthuysen@noaa.gov> wrote:
> >
> > > Hi Takis,
> > >
> > > I tried a clean (re-) cloning of the repo, but ran into issues again. I usec
> > > `$ git clone` https://github.com/noaa-ocs-modeling/ADC-WW3-NWM
> > > NEMS.git `-b feature/pahm --recurse-submodules`
> > >
> > > But got a similar error as before:
> > >
> > > ```
> > > ...
> > > Submodule path 'NEMS/tests/produtil/NCEPLIBS-pyprodutil'
> > > checked out 'ca171b95095db4fcd0fc7b01c23d073d90becd99'
> > > Submodule path 'NWM': checked out '
> > > 3bc401d298070515cb6171a585d2d19646afd650'
> > > fatal: remote error: upload-pack: not our ref
> > > 2c148ca1ed6a6c6c2b2446f455a8745e5c1518e9
> > > fatal: The remote end hung up unexpectedly
> > > Fetched in submodule path 'PAHM', but it did not contain
> > > 2c148ca1ed6a6c6c2b2446f455a8745e5c1518e9. Direct fetchin
> > > that commit failed.
> > > ```

On Mon, Jul 19, 2021 at 11:56 AM Panagiotis Velissariou - NOAA Affili
<panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

Somehow, the NEMS submodule in feature/pahm was one commit b
It has been fixed now. Zach compiled the application successfully on
A "git submodule update NEMS" should update your local NEMS
submodule.
If not, you may clone the app again.

Please, let me know if the compilation goes as expected.

Thanks
Takis

Panagiotis Velissariou, Ph.D., P.E.
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cell: (205) 227-9141
email: panagiotis.velissariou@noaa.gov

On Mon, Jul 19, 2021 at 10:18 AM Panagiotis Velissariou - NOAA Af
<panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

Zach tried to re-compile on hera and he experienced the same prc
I am checking to see what happened between commits.
I'll update you all as soon as possible.

Thanks
Takis

Panagiotis Velissariou, Ph.D., P.E.
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email: panagiotis.velissariou@noaa.gov

On Fri, Jul 16, 2021 at 4:30 PM Panagiotis Velissariou - NOAA Aff
<panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

components ADCIRC, ATMESH, WW3 are in NEMS/src/incmak
(checked the github repo)
You shouldn't be getting: .../ADC-WW3-NWM-NEMS/modulefiles
/ESMF_NUOPC error
because I have removed these files and in the NEMS/src/incmak
/buildenv.mk I have commended the
lines 63 to 68 out (where these modules are called).
So, please do first:
build.sh --plat hera --component "ATMESH ADCIRC WW3" --cle
rm -rf ALLBIN_INSTALL
These will clean everything. Then,
build.sh --compiler intel --plat hera --component "ATMESH ADC
WW3"
to build the NEMS executable

Takis

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On Fri, Jul 16, 2021 at 3:51 PM Andre Van der Westhuysen - NC
Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis,
>
> More progress, but still not success. I get the following build e
>
> ```
> ...
> make[1]: Entering directory `/scratch2/COASTAL/co
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-
> NEMS/src'
> GNUmakefile:16: /scratch2/COASTAL/coastal/
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-
> NEMS/src/conf/test-results.mk: No such file or direct
> Components in linker order: WW3 ATMESH ADCIRC
> WW3: include
> GNUmakefile:70: : component WW3 makefile fragment
> missing
> ATMESH: include
> GNUmakefile:70: : component ATMESH makefile fragm
> missing
> ADCIRC: include
> GNUmakefile:70: : component ADCIRC makefile fragm
> missing
> make[1]: *** No rule to make target `/scratch2/CO
> /coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC
> NWM-NEMS/NEMS/src/conf/test-results.mk'.  Stop.
> make[1]: Leaving directory `/scratch2/COASTAL/coa
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-
> NEMS/src'
> rm -f /scratch2/COASTAL/coastal/
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-
> NEMS/exe/NEMS.x /scratch2/COASTAL/coastal/
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-
> NEMS/src/conf/configure.nems.NUOPC
> rm -f /scratch2/COASTAL/coastal/
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-
> NEMS/src/conf/configure.nems /scratch2/COASTAL/co
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-
> NEMS/src/conf/externals.nems /scratch2/COASTAL/co
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-
> NEMS/src/conf/modules.nems /scratch2/COASTAL/coas
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-
> NEMS/src/ESMFVersionDefine.h /scratch2/COASTAL/co
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-
> NEMS/src/conf/modules.nems.sh /scratch2/COASTAL
> /coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC
> NWM-NEMS/NEMS/src/conf/modules.nems.csh /scratch2
> /COASTAL/coastal/save/Andre.VanderWesthuysen/OCS-
> NEMS/ADC-WW3-NWM-NEMS/NEMS/src/conf/test-results.mk
> rm -f /scratch2/COASTAL/coastal/
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-
> NEMS/src/conf/components.mk
> ```

```
NOTE: Skipping appbuilder.mk creation; no appbuilde
file in use.
echo 'ADCIRC ATMESH WW3' > "/scratch2/COASTAL/coa
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-
NEMS/src/conf/components.mk"
NEMS_BUILDOPT IS
cp /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-
conf/configure.nems.hera.intel /scratch2/COASTAL
/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC
NWM-NEMS/NEMS/src/conf/configure.nems
cat /dev/null > /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NWM-
NEMS/src/conf/externals.nems
make: *** No rule to make target `/scratch2/COAST
/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/ADC
NWM-NEMS/modulefiles/hera/ESMF_NUOPC', needed by
`/scratch2/COASTAL/coastal/save/Andre.VanderWesth
OCS-NEMS/ADC-WW3-NWM-NEMS/NEMS/src/conf/modules.n
Stop.
```

I'll investigate further, but let me know if you have any sugges

Andre

On Fri, Jul 16, 2021 at 3:34 PM Panagiotis Velissariou - NOA/ Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Yes, Zach built it with those modules as defined in the modu for hera.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
> USM - Stennis Space Center
> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov
>
> On Fri, Jul 16, 2021 at 2:20 PM Andre Van der Westhuysen NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrot
>
> > Takis,
> >
> > Thanks, it works now. I'm now busy building it on Hera. S following Hera modules are needed, correct?
> >
> > 1) intel/18.0.5.274 2) impi/2018.0.4 3) szip/2.1 4) hdf5_parallel/1.10.6.release netcdf_parallel/4.7.4.release 6) esmf/8.1.0bs25g_ParallelNetCDF.release
> >
> > Andre
> >
> > On Fri, Jul 16, 2021 at 3:07 PM Panagiotis Velissariou - N Affiliate <panagiotis.velissariou@noaa.gov> wrote:
> >
> > > Hi Andre,
> > >
> > > It is fixed now. I checked the cloning on my computer a works now.
> > > I had forgotten to push the NEMS changes.
> > >
> > > Please try again.

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On Fri, Jul 16, 2021 at 1:15 PM Andre Van der Westhu
NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>

Hi Takis,

I tried to clone the pahm feature branch today, but it f
while checking out the NEMS dependency. I used yo
recommended command:

```
git clone https://github.com/noaa-ocs-modeling/AI
WW3-NWM-NEMS.git -b feature/pahm --recur
submodules
```

and it gave the following error that it couldn't find the
hash for NEMS:

```
...
fatal: remote error: upload-pack: not our
4c61cc4ea73e407784ddbd6b8affc99d20474e1b
fatal: The remote end hung up unexpectedly
Fetched in submodule path 'NEMS', but it d
not contain 4c61cc4ea73e407784ddbd6b8affc9
9d20474e1b. Direct fetching of that commit
failed.
```

I added the full log in the attachments. Any suggestic

Andre

On Tue, Jul 13, 2021 at 3:01 PM Panagiotis Velissari
NOAA Affiliate <panagiotis.velissariou@noaa.gov> w

Hi Andre,

I think if you use the same configuration as in the A
simulations that will compile/run
fine I believe.
Curious to see how it goes.

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Tue, Jul 13, 2021 at 8:58 AM Panagiotis Veliss
NOAA Affiliate <panagiotis.velissariou@noaa.gov>

Hi Andre,

You should be able to do it. WW3 should compil
fine with the intel
compilers. WW3 (the version that is in the app) h

Either ATMESH+ADCIRC+PaHM winds or PAHM+ADCIRC+PaHM winds should work just fine.

Thanks
Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Tue, Jul 13, 2021 at 8:51 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis,
>
> Thanks for this. I'll test it over the next few day
> After I do ATMESH+WW3 (with the PaHM-ger
> .nc), could I also try ATMESH+ADCIRC+WW3
> example for Florence?
>
> Andre
>
> On Tue, Jul 13, 2021 at 9:11 AM Saeed Moghi
> NOAA Affiliate <saeed.moghimi@noaa.gov> v
>
> > Hi Takis,
> >
> > Thanks for clarification.
> >
> > Best,
> > -Saeed
> >
> > _____
> > _____
> > Saeed Moghimi, PhD
> > **UCAR/NOAA - NOS Storm Surge Modeling Lead**
> > Coastal Marine Modeling Branch, Coast Surv
> > Development Laboratory, Office of Coast Su
> > at NOAA National Ocean Service.
> > Address: 1315 East West Hwy, Room 6607, S
> > Spring, Maryland 20910
> > Phone: (240) 847-8230
> >
> > The contents of this message are mine persc
> > and do not necessarily reflect any position of
>
> On Tue, Jul 13, 2021 at 1:08 AM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
>
> > Hi Saeed,
> >
> > Yes, also the PAHM+ADCIRC setup work
> > same when using pre-prepared winds (Ne
> > Tested both configurations, same results.
> > Testing the direct exchange of the fields fr
> > PaHM to ADCIRC.

So, ATMESH+ADCIRC+PaHM winds
or PAHM+ADCIRC+PaHM winds work the
with pre-prepared winds.

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Mon, Jul 12, 2021 at 5:06 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> Hi Takis,
>
> I think I am confused. If we are using Pa
> provide atm forcing, why do we need to
> ATMESH?
>
> Thanks,
> -Saeed
>
> _____
> _____
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surge Mod**
> **Team Lead**
> Coastal Marine Modeling Branch, Coast
> Development Laboratory, Office of Coa
> Survey at NOAA National Ocean Service
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> 6607, Silver Spring, Maryland 20910
> Phone: (240) 847-8230
>
>

On Mon, Jul 12, 2021 at 5:25 PM Panag Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wr

> Hi Andre,
>
> The updated NEMS app is on the gitl
> repo:
> https://github.com/noaa-ocs-modeling
> WW3-NWM-NEMS.git feature/pahm
>
> I am using the command
> git clone https://github.com/noaa-ocs-
> modeling/ADC-WW3-NWM-NEMS.gi
> feature/pahm --recurse-submodules
>
> Note that this ADC-WW3-NWM-NEM
> contains the latest stable NEMS sour
> (release/public-v2).
>
> If possible, could you please run the

generated winds for Sandy,
Florence for the Shinnecock Inlet test

Testing the PaHM NUOPC Cap now.

It seems that all issues are resolved.

If you want I can set a google meet in
my help is needed on compiling/runni
application.

Thank you
Takis

Panagiotis Velissariou, Ph.D., P.E.
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National Ocean and Atmospheric
Administration
National Ocean Service
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--
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The contents of this message are mine personally and do not necessa
reflect any position of NOAA.

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Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> Wed, Jul 28, 2021 at
To: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>
Cc: Yuji Funakoshi - NOAA Affiliate <yuji.funakoshi@noaa.gov>, Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noa
Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Saeed,

Yes, I also believe that path is for ADCv55 on the 120 m mesh. That's the fort.15 file I listed out above. It however still has the old 4 fort.13 and NRAMP=1/DRAMP=5.0. Were the changes in fort.13 and NRAMP/DRAMP since Yuji's June runs made in order to impr model stability or accuracy? As I described on Monday in this thread, when I tried a setup similar to Yuji's with our new NEMS app I failed on the second time step into the atm2ocn run. So I was wondering whether you have a working example with the new build/u inputs that I could compare to.

Andre

On Wed, Jul 28, 2021 at 10:24 AM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> HI Andre
>
> I am 90% sure that this is the120m with v55 and NEMS. @Yuji Funakoshi - NOAA Affiliate , please confirm.
>
> /scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.atm2ocn.20210621.atmea120m/ru
>
> Best,
> -Saeed
>
> _____
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Servic
> Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
> Phone: (240) 847-8230
>
> The contents of this message are mine personally and do not necessarily reflect any position of NOAA.
>
> On Wed, Jul 28, 2021 at 10:09 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:
>
> > Hi Saeed,
> >
> > Thanks for sharing the path to Yuji's runs. These are the ones I compared to back in June, but I recall that he used older modu (the legacy ones we had in the workflow) and a somewhat older code to what we have now. These also still have the old fort.1 only 4 fields, and the old fort.15 with NRAMP=1/DRAMP=5.0. For example:
> >
> > ```
> > $ pwd
> > /scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.tide_spinup.20210617/run
> > [Andre.VanderWesthuysen@hfe01 run]$ more fort.13
> > OceanMesh2D
> > 5803941
> > 4
> > ```

```
1
2.200000000e-02
internal_tide_friction
local_dir, C_it =0.21884,Nb, D250
3
0.000000000e+00 0.000000000e+00 0.000000000e+00
subgrid_barrier
unitless
1
9.999900000e+04
primitive_weighting_in_continuity_equation
200530
745338 5.000000000e-03
751856 5.000000000e-03
751857 5.000000000e-03
751858 5.000000000e-03
751859 5.000000000e-03
751860 5.000000000e-03
751960 5.000000000e-03
...
```

and

```
$ pwd
/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.atm2ocn.20210621.atmea120m/run
[Andre.VanderWesthuysen@hfe01 run]$ more fort.15
HSOFS 120m_Releasev2.1 ! 32 CHARACTER ALPHANUMERIC RUN DESCRIPTION
Tidal spin-up 2018-08-27 18:00:00 UTC   ! 24 CHARACTER ALPANUMERIC RUN IDENTIFICATION
1                ! NFOVER - NONFATAL ERROR OVERRIDE OPTION
0                ! NABOUT - ABREVIATED OUTPUT OPTION PARAMETER
-1000            ! NSCREEN - UNIT 6 OUTPUT OPTION PARAMETER
567            ! IHOT - HOT START PARAMETER
20               ! ICS - COORDINATE SYSTEM SELECTION PARAMETER
511112           ! IM - MODEL SELECTION PARAMETER
1                ! NOLIBF - BOTTOM FRICTION TERM SELECTION PARAM; before NWP==1, '2' was used
2                ! NOLIFA - FINITE AMPLITUDE TERM SELECTION PARAMETER
1                ! NOLICA - SPATIAL DERIVATIVE CONVECTIVE SELECTION PARAMETER
1                ! NOLICAT - TIME DERIVATIVE CONVECTIVE TERM SELECTION PARAMETER
4                ! NWP
primitive_weighting_in_continuity_equation
mannings_n_at_sea_floor
internal_tide_friction
subgrid_barrier
1                ! NCOR - VARIABLE CORIOLIS IN SPACE OPTION PARAMETER
1                ! NTIP - TIDAL POTENTIAL OPTION PARAMETER
17             ! NWS - WIND STRESS AND BAROMETRIC PRESSURE OPTION PARAMETER
1                ! NRAMP - RAMP FUNCTION OPTION
9.81             ! G - ACCELERATION DUE TO GRAVITY - DETERMINES UNITS
-3               ! TAU0 - WEIGHTING FACTOR IN GWCE; original, 0.005
2.0              ! DT - TIME STEP (IN SECONDS)
0.00             ! STATIM - STARTING TIME (IN DAYS)
0.00             ! REFTIM - REFERENCE TIME (IN DAYS)
3600  3600   ! WTIMINC - meteorological data time increment, RSTIMINC wave forcing increment
20.5   ! RNDAY - TOTAL LENGTH OF SIMULATION (IN DAYS)
5.0           ! DRAMP - DURATION OF RAMP FUNCTION (IN DAYS)
0 1 0            ! TIME WEIGHTING FACTORS FOR THE GWCE EQUATION
0.1 0 0 0.01     ! H0, NODEDRYMIN, NODEWETRMP, VELMIN
-81.603414 32.182098 ! SLAM0,SFEA0 - CENTER OF CPP PROJECTION (NOT USED IF ICS=1, NTIP=0, NCOR=0)
0.0001           ! FFACTOR
-0.050000        ! ESL - LATERAL EDDY VISCOSITY COEFFICIENT; IGNORED IF NWP =1
0.0              ! CORI - CORIOLIS PARAMETER - IGNORED IF NCOR = 1
8                ! NUMBER OF TIDAL POTENTIAL CONSTITUENTS BEING FORCED starting 2008082300
Q1               ! ALPAHANUMERIC DESCRIPTION OF TIDAL POTENTIAL CONSTIT.
  0.019256  0.000064958541129  0.695  0.91252     131.29
O1
```

...

Did Yuji rerun this with your latest version and build of the app? If you could share the updated 5-field fort.13 file for the full 120 mesh, I could update the NWP and NRAMP in the fort.15 and retest on my side.

Thanks,
Andre

On Tue, Jul 27, 2021 at 6:29 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> Andre,
> See here:
>
> These were shared by Yuji a while ago based on 120m mesh.
> /scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m
>
> The example I shared was a smaller setup tested for v55.
>
> Best,
> -Saeed
> _____
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Se
> Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
> Phone: (240) 847-8230
>
> The contents of this message are mine personally and do not necessarily reflect any position of NOAA.

On Tue, Jul 27, 2021 at 6:23 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Saeed and Takis,
>
> I set up the Florence case that Saeed shared as a template in the workflow, including the updated fort.13 file (with 5 fields) ran fine for the tidal spinup. However, this does not contain the full HSOFS 120 m mesh (5803941 nodes). It only has 633 nodes:
>
> $ more fort.14
> ```
> NOMAD mesh v1e MSL
> 1222455 633974
> 1 -7.7547572700700002E+01 3.5839343178900002E+01 -9.2613500000000002E+00
> 2 -7.7551062012200006E+01 3.5829987009200003E+01 -7.8063300000000000E+00
> 3 -7.7549421612299994E+01 3.5834698053300002E+01 -9.2522099999999998E+00
> 4 -7.7541916701900007E+01 3.5835456465900002E+01 -1.0394100000000000E+01
> 5 -7.7552007930100004E+01 3.5825088089700003E+01 -1.0484900000000000E+01
> 6 -7.7547475583799994E+01 3.5826092459199998E+01 -7.3492300000000004E+00
> ...
> ```
>
> This case also does not contain the fort.13 file on the full HSOFS 120m mesh (5803941 nodes), only 633974 nodes:
>
> $ more fort.13
> ```
> NOMAD mesh v1e MSL nodal attributes
> 633974
> 5
> mannings_n_at_sea_floor
> meters
> 1
> 2.0000000000000000E-02
> primitive_weighting_in_continuity_equation
> unitless
> 1
> 2.9999999999999999E-02
> surface_canopy_coefficient
> ```

```
0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
0.00000000000000
00E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
surface_submergence_state
unitless
1
0.0000000000000000E+00
mannings_n_at_sea_floor
263078
1 0.2
2 0.18
3 0.1
...
```

Before updating the WW3 component, I would like to verify the new app with ADCv55 on the full HSOFS 120 m mesh, e.g the Florence case including:
1) Tidal spinup (12.5 days)
2) Wind forcing (run type = atm2ocn), with the ATMESH file "Florence_HWRF_HRRR_EA120m.nc" on the full HSOFS 12(mesh.

A few questions/requests:
- Could you please share the latest fort.13 that is defined over the complete HSOFS 120 m mesh?
- Takis, are the fort.15 files for spinup and wind forcing you shared yesterday defined over the full 120 m mesh, and are the most recent versions of these input files?
- Just to double check, I have a fort.14 for the HSOFS 120 m mesh dated June 9. Is this still current?

Thanks,
Andre

On Tue, Jul 27, 2021 at 4:06 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Hi Andre,
>
> Yes, just keep these values for DRAMP.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
> USM - Stennis Space Center
> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov
>
> On Tue, Jul 27, 2021 at 2:50 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> w
>
> > Hi Takis,
> >
> > Yes, will do. Can I use the DRAMP line as is, if I'm staying with a 12.5 day spinup?
> >
> > ```
> > 12.500 0.000 0.000 0.000 12.500 12.500 1.000 0.000 12.500
> > ```
> >
> > Andre
> >
> > On Tue, Jul 27, 2021 at 3:32 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
> >
> > > Hi Andre,
> > >
> > > We are using NRAMP=8
> > > Also check the DRAMP values as well.
> > >
> > > Takis

Project Lead - Coastal Coupling
USM - Stennis Space Center
cell: (205) 227-9141
email: panagiotis.velissariou@noaa.gov

On Tue, Jul 27, 2021 at 2:24 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.go
wrote:

> Saeed, thanks very much for these files.
>
> Takis, yes, what Saeed shared will be enough to get me started.
>
> One more question: I see that for the forecast run the NRAMP has been updated from 1 (simple hyperbolic tange
> 8. Should I copy this over for running with ATMESH and PaHM, or is this just for best track wind forcing?
>
> Andre

On Tue, Jul 27, 2021 at 2:58 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wro

> Thanks Saeed.
>
> Andre, do you still need the fort.13 files?
> I believe the test case Saeed pointed to contains all the info needed.
> I'll do similar tests on Orion as well.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
> USM - Stennis Space Center
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> email: panagiotis.velissariou@noaa.gov

On Tue, Jul 27, 2021 at 1:54 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> Hi Takis,
>
> I also copied the same test case here on Orion:
>
> /work/noaa/nosofs/archive/COASTAL_ACT/florence_subset/
>
> Best,
> -Saeed
>
> _____
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA Na
> Ocean Service.
> Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
> Phone: (240) 847-8230
>
> The contents of this message are mine personally and do not necessarily reflect any position of NOAA.

On Tue, Jul 27, 2021 at 2:46 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> Hi Andre,
>
> Sorry for being radio silence. Would you please see if you can use this test case. This is a subset mesh fo
> Florence. The NEMS setup for best track is included. You may need to up data nems.configure and put to
> fort.15 templates for spin up and main run.

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Service.
Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
Phone: (240) 847-8230

On Tue, Jul 27, 2021 at 2:22 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.go wrote:

> Hi Andre,
>
> Let me get the fort.13 files from orion.
> Yes, as you say for hsofs120m-fort.15, nems_adcirc-hera-fort.15
> For PaHM you just change to NWS=17, correct
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
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> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov
>
> On Tue, Jul 27, 2021 at 1:15 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:
>
> > Hi Takis,
> >
> > Just focusing on the 120 m mesh, the files I've been testing with are indeed different from those you sl yesterday. For example, the fort.13 I have from June 9 only contains 4 quantities:
> >
> > ```
> > $ more fort.13
> > OceanMesh2D
> > 5803941
> > 4
> > primitive_weighting_in_continuity_equation
> > unitless
> > 1
> > 3.000000000e-02
> > mannings_n_at_sea_floor
> > unitless
> > 1
> > 2.200000000e-02
> > internal_tide_friction
> > local_dir, C_it =0.21884,Nb, D250
> > 3
> > 0.000000000e+00 0.000000000e+00 0.000000000e+00
> > subgrid_barrier
> > unitless
> > 1
> > 9.999000000e+04
> > primitive_weighting_in_continuity_equation
> > 200530
> > 745338 5.000000000e-03
> > 751856 5.000000000e-03
> > 751857 5.000000000e-03
> > 751858 5.000000000e-03
> > ```

nems_adcirc-hera-fort.15 - Wind-only run with Generalized Asymmetric Holland Model

Is this correct? For the latter, I assume that when we connect PaHM via NEMS, the NWS type will cha
from 20 to 17 (wind only) and 517 (wind+waves). Correct?

Andre

On Mon, Jul 26, 2021 at 5:35 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noa
wrote:

> Hi Andre,
>
> Attached are the fort.15 files.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
> USM - Stennis Space Center
> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov
>
> On Mon, Jul 26, 2021 at 4:20 PM Andre Van der Westhuysen - NOAA Affiliate
> <andre.vanderwesthuysen@noaa.gov> wrote:
>
> > Hi Takis and Saeed,
> >
> > Thanks for this info. Could you please share the location of these fort.15 files on Hera (with Zach's
> > help)? I would like to confirm that I have the correct ones in the workflow (at least for the 120 m m
> >
> > Andre
> >
> > On Mon, Jul 26, 2021 at 4:42 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@
> > gov> wrote:
> >
> > > Saeed,
> > >
> > > Yes, these are from Zach, I had asked him to upload these on orion from hera.
> > >
> > > Takis
> > >
> > > Panagiotis Velissariou, Ph.D., P.E.
> > > UCAR Scientist
> > > National Ocean and Atmospheric Administration
> > > National Ocean Service
> > > Office of Coast Survey CSDL/CMMB
> > > Project Lead - Coastal Coupling
> > > USM - Stennis Space Center
> > > cell: (205) 227-9141
> > > email: panagiotis.velissariou@noaa.gov
> > >
> > > On Mon, Jul 26, 2021 at 3:40 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov
> > > wrote:
> > >
> > > > Hi Takis,
> > > >
> > > > Make sure these are the ones Zach tested. Otherwise stick to the 120 m (HSOFS2020) one.
> > > >
> > > > Thanks,
> > > > -Saeed
> > > >
> > > > _____
> > > > Saeed Moghimi, PhD
> > > > UCAR/NOAA - NOS Storm Surge Modeling Team Lead

NOAA.

On Mon, Jul 26, 2021 at 4:35 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> In Orion we have the 120m/250m meshes at:
> /work/noaa/nosofs/share/models/meshes/hsofs/
> with corresponding fort.15 files
> I believe these should work.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
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> email: panagiotis.velissariou@noaa.gov
>
> On Mon, Jul 26, 2021 at 3:21 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
>
>> Thank you Saeed.
>> I am using the files (fort.15) on orion from:
>> /work/noaa/nosofs/share/working/hera/nems_adcirc/run_20210720_large_ensemble/
>> Are these ok?
>> I don't have access to HSOFS2020 data.
>>
>> Takis
>>
>> Panagiotis Velissariou, Ph.D., P.E.
>> UCAR Scientist
>> National Ocean and Atmospheric Administration
>> National Ocean Service
>> Office of Coast Survey CSDL/CMMB
>> Project Lead - Coastal Coupling
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>> email: panagiotis.velissariou@noaa.gov
>>
>> On Mon, Jul 26, 2021 at 3:01 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:
>>
>>> Hi Takis and Andre,
>>>
>>> The HSOFS2016 fort.15 is not compatible with v55. Zach has the updated fort.15 for HSOFS2016 as well. So we need to update the template for it.
>>>
>>> For now, please use the 120 m (HSOFS2020) for this test.
>>>
>>> Thanks,
>>> -Saeed
>>>
>>> _____
>>> Saeed Moghimi, PhD
>>> **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
>>> Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coa
>>> Survey at NOAA National Ocean Service.
>>> Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
>>> Phone: (240) 847-8230
>>>
>>> The contents of this message are mine personally and do not necessarily reflect any pos
>>> of NOAA.

Ok, I am testing on Orion to see what happens.

Takis

Panagiotis Velissariou, Ph.D., P.E.
UCAR Scientist
National Ocean and Atmospheric Administration
National Ocean Service
Office of Coast Survey CSDL/CMMB
Project Lead - Coastal Coupling
USM - Stennis Space Center
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email: panagiotis.velissariou@noaa.gov

On Mon, Jul 26, 2021 at 2:30 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis,
>
> No, I started with our standard HSOFS mesh. But I'll test with the 120 m mesh als
>
> Andre
>
> On Mon, Jul 26, 2021 at 1:05 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
>
> > Hi Andre,
> >
> > No, I haven't seen these in my simulations. Are you using the 120m HSOFS me
> >
> > Takis
> >
> > Panagiotis Velissariou, Ph.D., P.E.
> > UCAR Scientist
> > National Ocean and Atmospheric Administration
> > National Ocean Service
> > Office of Coast Survey CSDL/CMMB
> > Project Lead - Coastal Coupling
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> > cell: (205) 227-9141
> > email: panagiotis.velissariou@noaa.gov
> >
> > On Mon, Jul 26, 2021 at 11:59 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:
> >
> > > Hi Takis,
> > >
> > > Here's an update on my testing: I managed to clone and build the app code fi
> > > now. As before, I started by building with only the ATMESH forcing, to see if I
> > > recreate previous results (e.g. Florence with HWRF forcing):
> > >
> > > ```
> > > ./build.sh --component "ADCIRC ATMESH WW3" --plat hera --compi
> > > intel --clean -2
> > > ```
> > >
> > > For my first test, I tried the unit test of forcing ADCIRC with ATMESH only (wc
> > > RUN_TYPE=atm2ocn). Software-wise this succeeded, I think, since it got pas
> > > various initialization stages and started time stepping. However, it failed on th
> > > second time step of the simulation. Here is an extract from the log file of one
> > > ADCIRC nodes:
> > >
> > > ```
> > > $ tail -30 PET001.ESMF_LogFile
> > > 20210726 145300.307 INFO             PET001   EARTH grid component01: begi
> > > -------> RunSequence.
> > > 20210726 145300.307 INFO             PET001     EARTH grid component01:
> > > RunSequence event loopLevel=   1  levelMember=   1  loopIteration=   1, cu
> > > time: 2018  9  9  6  0  0   0
> > > ```

```
(phase=RunPhase1)
20210726 145300.432 INFO             PET001     ATM-TO-OCN: Run extro.
20210726 145300.433 INFO             PET001     OCN: Run intro.
20210726 145300.435 INFO             PET001       >>>OCN: entered Run
(phase=RunPhase1) with current time: 2018  9  9  6  0  0   0
20210726 145300.437 INFO             PET001       OCN: time step-loop star
current time: 2018  9  9  6  0  0   0
20210726 145300.438 INFO             PET001       (adc_cap:ModelAdvance)
wave forcing exchange / waves are not all connected ---
20210726 145300.443 INFO             PET001       (adc_cap:ModelAdvance)
meteo forcing exchange OK / atm feilds are all connected --- / Model advan
20210726 145300.746 INFO             PET001       (adc_cap:ModelAdvance)
run phase 2 called ---
20210726 145309.028 INFO             PET001       (adc_cap:ModelAdvance)
run phase 3 called ---  nCplADC =         1800
20210726 145309.028 INFO             PET001       (adc_cap:ModelAdvance)
surge forcing for wave. 1way coupled WW3 -> ADC  ---
20210726 145309.029 INFO             PET001       OCN: time step-loop endi
current time: 2018  9  9  7  0  0   0
20210726 145309.029 INFO             PET001       <<<OCN: leaving Run
(phase=RunPhase1) with current time: 2018  9  9  7  0  0   0
20210726 145309.029 INFO             PET001     OCN: Run extro.
20210726 145309.029 INFO             PET001     EARTH grid component01:
RunSequence event loopLevel=   1  levelMember=   1  loopIteration=   2, cu
time: 2018  9  9  7  0  0   0
20210726 145309.030 INFO             PET001     ATM-TO-OCN: Run intro.
20210726 145309.030 INFO             PET001       >>>ATM-TO-OCN entered Ru
(phase=RunPhase1)
20210726 145309.031 INFO             PET001       ATM-TO-OCN: called defau
label_ExecuteRouteHandle
20210726 145309.032 INFO             PET001       <<<ATM-TO-OCN leaving Ru
(phase=RunPhase1)
20210726 145309.032 INFO             PET001     ATM-TO-OCN: Run extro.
20210726 145309.033 INFO             PET001     OCN: Run intro.
20210726 145309.033 INFO             PET001       >>>OCN: entered Run
(phase=RunPhase1) with current time: 2018  9  9  7  0  0   0
20210726 145309.035 INFO             PET001       OCN: time step-loop star
current time: 2018  9  9  7  0  0   0
20210726 145309.035 INFO             PET001       (adc_cap:ModelAdvance)
wave forcing exchange / waves are not all connected ---
20210726 145309.035 INFO             PET001       (adc_cap:ModelAdvance)
meteo forcing exchange OK / atm feilds are all connected --- / Model advan
20210726 145309.153 INFO             PET001       (adc_cap:ModelAdvance)
run phase 2 called ---
```

When I look at ADCIRC runtime output, I see extreme elevations and velocitie

```
 ELMAX =  5.1773E+001 AT NODE   763996  SPEEDMAX =  1.3704E+001 AT NODE
 ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543159     ITERATIONS =    0     TIME =  0.10863180E+07
  ELMAX =  8.8111E+002 AT NODE   681482  SPEEDMAX =  1.0964E+002 AT NODE
679812  ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543159     ITERATIONS =    0     TIME =  0.10863180E+07
  ELMAX =  5.2052E+001 AT NODE   763996  SPEEDMAX =  1.3335E+001 AT NODE
697083  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543160     ITERATIONS =    0     TIME =  0.10863200E+07
  ELMAX =  9.0369E+002 AT NODE   679811  SPEEDMAX =  1.1204E+002 AT NODE
679812  ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543160     ITERATIONS =    0     TIME =  0.10863200E+07
  ELMAX =  5.1569E+001 AT NODE   763996  SPEEDMAX =  1.3591E+001 AT NODE
799211  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543161     ITERATIONS =    0     TIME =  0.10863220E+07
  ELMAX =  9.3271E+002 AT NODE   679811  SPEEDMAX =  1.0869E+002 AT NODE
679812  ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
```

```
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+07
  ELMAX =  1.0146E+003 AT NODE   678170  SPEEDMAX =  1.0262E+002 AT NODE
679811  ON MYPROC =  255
  ** ERROR: Elevation.gt.ErrorElev, ADCIRC stopping. **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+07
  ELMAX =  4.8473E+001 AT NODE   763996  SPEEDMAX =  1.4509E+001 AT NODE
799211  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
srun: Job step aborted: Waiting up to 32 seconds for job step to finish.
slurmstepd: error: *** STEP 21020412.0 ON h32m13 CANCELLED AT
2021-07-26T15:38:10 ***
slurmstepd: error: *** JOB 21020412 ON h32m13 CANCELLED AT 2021-07-26T15:3
***
```

This run was preceded by the standard 12.5 day tidal spinup, and uses a 5-da ramp. I need to do further analysis, but I was wondering if you or Zach got any this in your testing? Did you apply a limitation on the first hour of ATMESH inp avoid the bad data at this initial time step we've seen in the past? If you want check my run, it is here on Hera:

```
/scratch2/NCEPDEV/stmp1/Andre.VanderWesthuysen/data/
florence.atm2ocn.20210726.fail_extreme_wl/run
```

Andre

On Wed, Jul 21, 2021 at 11:39 AM Andre Van der Westhuysen - NOAA Affilia <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis,
>
> Thanks, it cloned fine now. I'll proceed with building it, and will let you know goes.
>
> Andre
>
> On Wed, Jul 21, 2021 at 11:11 AM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
>
> > Good morning Andre,
> >
> > You may now clone the feature/pahm, everything is ok.
> > The problem was with updates we did to use the large file system (lfs).
> >
> > Takis
> >
> > Panagiotis Velissariou, Ph.D., P.E.
> > UCAR Scientist
> > National Ocean and Atmospheric Administration
> > National Ocean Service
> > Office of Coast Survey CSDL/CMMB
> > Project Lead - Coastal Coupling
> > USM - Stennis Space Center
> > cell: (205) 227-9141
> > email: panagiotis.velissariou@noaa.gov
> >
> > On Tue, Jul 20, 2021 at 7:17 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
> >
> > > Hi Andre,
> > >
> > > Sorry for all these issues NEMS/PAHM.
> > > Let us fix these and make sure the repos are synchronized.
> > > Tomorrow morning I hope that everything will be in order.
> > > I'll let you know
> > >
> > > Takis

Project Lead - Coastal Coupling
USM - Stennis Space Center
cell: (205) 227-9141
email: panagiotis.velissariou@noaa.gov

On Tue, Jul 20, 2021 at 5:09 PM Andre Van der Westhuysen - NOAA A
<andre.vanderwesthuysen@noaa.gov> wrote:

Hi Takis,

I tried a clean (re-) cloning of the repo, but ran into issues again. I us

```
$ git clone https://github.com/noaa-ocs-modeling/ADC-WW3-NW
NEMS.git -b feature/pahm --recurse-submodules
```

But got a similar error as before:

```
...
Submodule path 'NEMS/tests/produtil/NCEPLIBS-pyprodutil
checked out 'ca171b95095db4fcd0fc7b01c23d073d90becd99'
Submodule path 'NWM': checked out '
3bc401d298070515cb6171a585d2d19646afd650'
fatal: remote error: upload-pack: not our ref
2c148ca1ed6a6c6c2b2446f455a8745e5c1518e9
fatal: The remote end hung up unexpectedly
Fetched in submodule path 'PAHM', but it did not contai
2c148ca1ed6a6c6c2b2446f455a8745e5c1518e9. Direct fetchi
that commit failed.
```

Any suggestions about this failure in the PAHM part?

Andre

On Mon, Jul 19, 2021 at 11:56 AM Panagiotis Velissariou - NOAA Af
<panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

Somehow, the NEMS submodule in feature/pahm was one commi
behind.
It has been fixed now. Zach compiled the application successfully
hera.
A "git submodule update NEMS" should update your local NEMS
submodule.
If not, you may clone the app again.

Please, let me know if the compilation goes as expected.

Thanks
Takis

Panagiotis Velissariou, Ph.D., P.E.
UCAR Scientist
National Ocean and Atmospheric Administration
National Ocean Service
Office of Coast Survey CSDL/CMMB
Project Lead - Coastal Coupling
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email: panagiotis.velissariou@noaa.gov

On Mon, Jul 19, 2021 at 10:18 AM Panagiotis Velissariou - NOAA
Affiliate <panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

Takis

Panagiotis Velissariou, Ph.D., P.E.
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email: panagiotis.velissariou@noaa.gov

On Fri, Jul 16, 2021 at 4:30 PM Panagiotis Velissariou - NOAA A
<panagiotis.velissariou@noaa.gov> wrote:

> Hi Andre,
>
> components ADCIRC, ATMESH, WW3 are in NEMS/src/incm
> (checked the github repo)
> You shouldn't be getting: .../ADC-WW3-NWM-NEMS/
> modulefiles/hera/ESMF_NUOPC error
> because I have removed these files and in the NEMS/src/incm
> /buildenv.mk I have commended the
> lines 63 to 68 out (where these modules are called).
> So, please do first:
> build.sh --plat hera --component "ATMESH ADCIRC WW3" --
> rm -rf ALLBIN_INSTALL
> These will clean everything. Then,
> build.sh --compiler intel --plat hera --component "ATMESH AD
> WW3"
> to build the NEMS executable.
> Better instead of ATMESH, use PAHM, for your configuration
> work the same,
> assuming that you already have generated the PaHM winds.
>
> Please keep the logs so we can check all warning/error messa
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
> USM - Stennis Space Center
> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov
>
> On Fri, Jul 16, 2021 at 3:51 PM Andre Van der Westhuysen -
> Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:
>
> > Hi Takis,
> >
> > More progress, but still not success. I get the following build
> >
> > ...
> > make[1]: Entering directory `/scratch2/COASTAL
> > /coastal/save/Andre.VanderWesthuysen/OCS-NEMS/A
> > WW3-NWM-NEMS/NEMS/src'
> > GNUmakefile:16: /scratch2/COASTAL/coastal/
> > save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NW
> > NEMS/NEMS/src/conf/test-results.mk: No such file or
> > directory
> > Components in linker order: WW3 ATMESH ADCIRC
> > WW3: include

```
GNUmakefile:70: : component ADCIRC makefile fra
is missing
make[1]: *** No rule to make target `/scratch2
/COASTAL/coastal/save/Andre.VanderWesthuysen/OC
NEMS/ADC-WW3-NWM-NEMS/NEMS/src/conf/test-results.mk
Stop.
make[1]: Leaving directory `/scratch2/COASTAL
/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/A
WW3-NWM-NEMS/NEMS/src'
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NW
NEMS/NEMS/exe/NEMS.x /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NW
NEMS/NEMS/src/conf/configure.nems.NUOPC
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NW
NEMS/NEMS/src/conf/configure.nems /scratch2/COA
/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/A
WW3-NWM-NEMS/NEMS/src/conf/externals.nems /scra
/COASTAL/coastal/save/Andre.VanderWesthuysen/OC
NEMS/ADC-WW3-NWM-NEMS/NEMS/src/conf/modules.nem
/scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NW
NEMS/NEMS/src/ESMFVersionDefine.h /scratch2/COA
/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/A
WW3-NWM-NEMS/NEMS/src/conf/modules.nems.sh /scra
/COASTAL/coastal/save/Andre.VanderWesthuysen/OC
NEMS/ADC-WW3-NWM-NEMS/NEMS/src/conf/modules.nem
/scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NW
NEMS/NEMS/src/conf/test-results.mk
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NW
NEMS/NEMS/src/conf/components.mk
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NW
NEMS/NEMS/src/conf/test_results.mk

compileNems :: Compiling: make  -f GNUmakefile
COMPONENTS="ADCIRC ATMESH WW3"
NOTE: Skipping appbuilder.mk creation; no appbuil
file in use.
echo 'ADCIRC ATMESH WW3' > "/scratch2/COASTAL
/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/A
WW3-NWM-NEMS/NEMS/src/conf/components.mk"
NEMS_BUILDOPT IS
cp /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NW
NEMS/conf/configure.nems.hera.intel /scratch2/C
/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/A
WW3-NWM-NEMS/NEMS/src/conf/configure.nems
cat /dev/null > /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NW
NEMS/NEMS/src/conf/externals.nems
make: *** No rule to make target `/scratch2/COA
/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/A
WW3-NWM-NEMS/modulefiles/hera/ESMF_NUOPC', need
`/scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-NW
NEMS/NEMS/src/conf/modules.nems'.  Stop.
```

I'll investigate further, but let me know if you have any suggestions.

Andre

Takis

Panagiotis Velissariou, Ph.D., P.E.
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National Ocean and Atmospheric Administration
National Ocean Service
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Project Lead - Coastal Coupling
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email: panagiotis.velissariou@noaa.gov

On Fri, Jul 16, 2021 at 2:20 PM Andre Van der Westhuys
NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> w

> Takis,
>
> Thanks, it works now. I'm now busy building it on Hera.
> following Hera modules are needed, correct?
>
> 1) intel/18.0.5.274 2) impi/2018.0.4 3) szip/2.1 4) hdf5_parallel/1.10.6.rele
> netcdf_parallel/4.7.4.release 6) esmf/8.1.0bs25g_ParallelNetCDF.release
>
> Andre
>
> On Fri, Jul 16, 2021 at 3:07 PM Panagiotis Velissariou
> NOAA Affiliate <panagiotis.velissariou@noaa.gov> wro
>
> > Hi Andre,
> >
> > It is fixed now. I checked the cloning on my computer
> > works now.
> > I had forgotten to push the NEMS changes.
> >
> > Please try again.
> >
> > Takis
> >
> > Panagiotis Velissariou, Ph.D., P.E.
> > UCAR Scientist
> > National Ocean and Atmospheric Administration
> > National Ocean Service
> > Office of Coast Survey CSDL/CMMB
> > Project Lead - Coastal Coupling
> > USM - Stennis Space Center
> > cell: (205) 227-9141
> > email: panagiotis.velissariou@noaa.gov
> >
> > On Fri, Jul 16, 2021 at 1:15 PM Andre Van der Westh
> > - NOAA Affiliate <andre.vanderwesthuysen@noaa.g
> > wrote:
> >
> > > Hi Takis,
> > >
> > > I tried to clone the pahm feature branch today, but
> > > while checking out the NEMS dependency. I used
> > > recommended command:
> > >
> > > `git clone https://github.com/noaa-ocs-modeling/`
> > > `WW3-NWM-NEMS.git -b feature/pahm --recu`
> > > `submodules`
> > >
> > > and it gave the following error that it couldn't find th
> > > correct hash for NEMS:
> > >
> > > . . .

failed.

I added the full log in the attachments. Any sugges

Andre

On Tue, Jul 13, 2021 at 3:01 PM Panagiotis Veliss
NOAA Affiliate <panagiotis.velissariou@noaa.gov>

> Hi Andre,
>
> I think if you use the same configuration as in the
> simulations that will compile/run
> fine I believe.
> Curious to see how it goes.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
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>
> On Tue, Jul 13, 2021 at 8:58 AM Panagiotis Veli
> - NOAA Affiliate <panagiotis.velissariou@noaa.g
> wrote:
>
> > Hi Andre,
> >
> > You should be able to do it. WW3 should com
> > just fine with the intel
> > compilers. WW3 (the version that is in the app
> > some issues (argument mismatches)
> > when the compiler is gfortran (version 10*). I h
> > check if the same issue
> > still exists with the latest version, might see int
> > in the future.
> >
> > Either ATMESH+ADCIRC+PaHM winds or
> > PAHM+ADCIRC+PaHM winds should work
> > just fine.
> >
> > Thanks
> > Takis
> >
> > Panagiotis Velissariou, Ph.D., P.E.
> > UCAR Scientist
> > National Ocean and Atmospheric Administratio
> > National Ocean Service
> > Office of Coast Survey CSDL/CMMB
> > Project Lead - Coastal Coupling
> > USM - Stennis Space Center
> > cell: (205) 227-9141
> > email: panagiotis.velissariou@noaa.gov
> >
> > On Tue, Jul 13, 2021 at 8:51 AM Andre Van de
> > Westhuysen - NOAA Affiliate
> > <andre.vanderwesthuysen@noaa.gov> wrote:
> >
> > > Hi Takis,
> > >
> > > Thanks for this. I'll test it over the next few d

On Tue, Jul 13, 2021 at 9:11 AM Saeed Mo
NOAA Affiliate <saeed.moghimi@noaa.gov>
wrote:

> Hi Takis,
>
> Thanks for clarification.
>
> Best,
> -Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeli
Team Lead
Coastal Marine Modeling Branch, Coast S
Development Laboratory, Office of Coast
at NOAA National Ocean Service.
Address: 1315 East West Hwy, Room
6607, Silver Spring, Maryland 20910
Phone: (240) 847-8230

On Tue, Jul 13, 2021 at 1:08 AM Panagio
Velissariou - NOAA Affiliate
<panagiotis.velissariou@noaa.gov> wrote

> Hi Saeed,
>
> Yes, also the PAHM+ADCIRC setup wo
> same when using pre-prepared winds
> (NetCDF)
> Tested both configurations, same result
> Testing the direct exchange of the fields
> PaHM to ADCIRC.
> The PaHM Cap supports both configs, t
> reason is that we may want to use
> externally prepared wind fields (an exar
> NetCDF file that contains blended back
> fields + PaHM fields)
>
> So, ATMESH+ADCIRC+PaHM winds
> or PAHM+ADCIRC+PaHM winds work t
> same with pre-prepared winds.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric
> Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
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> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov

On Mon, Jul 12, 2021 at 5:06 PM Saee
Moghimi - NOAA Affiliate

Thanks,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Mo
Team Lead
Coastal Marine Modeling Branch, Coa
Survey Development Laboratory, Offi
Coast Survey at NOAA National Ocea
Service.
Address: 1315 East West Hwy, Room
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Phone: (240) 847-8230

On Mon, Jul 12, 2021 at 5:25 PM Par
Velissariou - NOAA Affiliate
<panagiotis.velissariou@noaa.gov> v

> Hi Andre,
>
> The updated NEMS app is on the g
> repo:
> https://github.com/noaa-ocs-
> modeling/ADC-WW3-NWM-NEMS.
> feature/pahm
>
> I am using the command
> git clone https://github.com/noaa-oc
> modeling/ADC-WW3-NWM-NEMS.
> feature/pahm --recurse-submodule
>
> Note that this ADC-WW3-NWM-NE
> also contains the latest stable NEM
> source, (release/public-v2).
>
> If possible, could you please run th
> application using ATMESH+WW3 a
> PaHM
> generated winds?
>
> I have run it successfully using
> ATMESH+ADCIRC and the PaHM
> generated winds for Sandy,
> Florence for the Shinnecock Inlet te
> case.
>
> Testing the PaHM NUOPC Cap nov
>
> It seems that all issues are resolve
>
> If you want I can set a google meet
> case my help is needed on
> compiling/running the application.
>
> Thank you
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist

cell: (205) 227-9141
email: panagiotis.velissariou@noaa

--
Andre J. van der Westhuysen, PhD
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College Park, Maryland 20740, USA
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--
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--
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--
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The contents of this message are mine personally and do not neces
reflect any position of NOAA.

--
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--
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position of NOAA.

--
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--
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--
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--
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--
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Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> Wed, Jul 28, 2021 at
To: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>
Cc: Yuji Funakoshi - NOAA Affiliate <yuji.funakoshi@noaa.gov>, Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noa
Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Andre,

I would like to ask you if you may try that smaller example for Florence as the first step or we can wait for Zach and look into that a
next week when he returns to office.

I think @Zachary Burnett - NOAA Affiliate has both 250 and 120 m setups on Hera however I am not sure where to find them.

Thanks,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Service.
Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
Phone: (240) 847-8230

On Wed, Jul 28, 2021 at 10:45 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Saeed,
>
> Yes, I also believe that path is for ADCv55 on the 120 m mesh. That's the fort.15 file I listed out above. It however still has the old
> 4-field fort.13 and NRAMP=1/DRAMP=5.0. Were the changes in fort.13 and NRAMP/DRAMP since Yuji's June runs made in ord
> improve model stability or accuracy? As I described on Monday in this thread, when I tried a setup similar to Yuji's with our new N
> app build, it failed on the second time step into the atm2ocn run. So I was wondering whether you have a working example with t
> new build/updated inputs that I could compare to.
>
> Andre
>
> On Wed, Jul 28, 2021 at 10:24 AM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:
>
> > HI Andre
> >
> > I am 90% sure that this is the120m with v55 and NEMS. @Yuji Funakoshi - NOAA Affiliate , please confirm.
> >
> > /scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.atm2ocn.20210621.atmea120m/
> >
> > Best,
> > -Saeed
> >
> > Saeed Moghimi, PhD
> > **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> > Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Serv
> > Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
> > Phone: (240) 847-8230
> >
> >

Thanks for sharing the path to Yuji's runs. These are the ones I compared to back in June, but I recall that he used older mo
(the legacy ones we had in the workflow) and a somewhat older code to what we have now. These also still have the old fort
with only 4 fields, and the old fort.15 with NRAMP=1/DRAMP=5.0. For example:

```
$ pwd
/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.tide_spinup.20210617/run
[Andre.VanderWesthuysen@hfe01 run]$ more fort.13
OceanMesh2D
5803941
4
primitive_weighting_in_continuity_equation
unitless
1
3.000000000e-02
mannings_n_at_sea_floor
unitless
1
2.200000000e-02
internal_tide_friction
local_dir, C_it =0.21884,Nb, D250
3
0.000000000e+00 0.000000000e+00 0.000000000e+00
subgrid_barrier
unitless
1
9.999900000e+04
primitive_weighting_in_continuity_equation
200530
745338 5.000000000e-03
751856 5.000000000e-03
751857 5.000000000e-03
751858 5.000000000e-03
751859 5.000000000e-03
751860 5.000000000e-03
751960 5.000000000e-03
...
```

and

```
$ pwd
/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.atm2ocn.20210621.atmea120m/run
[Andre.VanderWesthuysen@hfe01 run]$ more fort.15
HSOFS 120m_Releasev2.1 ! 32 CHARACTER ALPHANUMERIC RUN DESCRIPTION
Tidal spin-up 2018-08-27 18:00:00 UTC   ! 24 CHARACTER ALPANUMERIC RUN IDENTIFICATION
1                ! NFOVER - NONFATAL ERROR OVERRIDE OPTION
0                ! NABOUT - ABREVIATED OUTPUT OPTION PARAMETER
-1000            ! NSCREEN - UNIT 6 OUTPUT OPTION PARAMETER
567            ! IHOT - HOT START PARAMETER
20               ! ICS - COORDINATE SYSTEM SELECTION PARAMETER
511112           ! IM - MODEL SELECTION PARAMETER
1                ! NOLIBF - BOTTOM FRICTION TERM SELECTION PARAM; before NWP==1, '2' was used
2                ! NOLIFA - FINITE AMPLITUDE TERM SELECTION PARAMETER
1                ! NOLICA - SPATIAL DERIVATIVE CONVECTIVE SELECTION PARAMETER
1                ! NOLICAT - TIME DERIVATIVE CONVECTIVE TERM SELECTION PARAMETER
4                ! NWP
primitive_weighting_in_continuity_equation
mannings_n_at_sea_floor
internal_tide_friction
subgrid_barrier
1                ! NCOR - VARIABLE CORIOLIS IN SPACE OPTION PARAMETER
1                ! NTIP - TIDAL POTENTIAL OPTION PARAMETER
17             ! NWS - WIND STRESS AND BAROMETRIC PRESSURE OPTION PARAMETER
1                ! NRAMP - RAMP FUNCTION OPTION
9.81             ! G - ACCELERATION DUE TO GRAVITY - DETERMINES UNITS
-3               ! TAU0 - WEIGHTING FACTOR IN GWCE: original 0.005
```

```
0 1 0            ! TIME WEIGHTING FACTORS FOR THE GWCE EQUATION
0.1 0 0 0.01     ! H0, NODEDRYMIN, NODEWETRMP, VELMIN
-81.603414 32.182098 ! SLAM0,SFEA0 - CENTER OF CPP PROJECTION (NOT USED IF ICS=1, NTIP=0, NCOR=0)
0.0001           ! FFACTOR
-0.050000        ! ESL - LATERAL EDDY VISCOSITY COEFFICIENT; IGNORED IF NWP =1
0.0              ! CORI - CORIOLIS PARAMETER - IGNORED IF NCOR = 1
8                ! NUMBER OF TIDAL POTENTIAL CONSTITUENTS BEING FORCED starting 2008082300
Q1               ! ALPAHANUMERIC DESCRIPTION OF TIDAL POTENTIAL CONSTIT.
  0.019256  0.000064958541129  0.695  0.91252     131.29
O1
  0.100514  0.000067597744151  0.695  0.91252     1.32
P1
  0.046843  0.000072522945975  0.706  1.00000     24.07
K1
  0.141565  0.000072921158358  0.736  0.94621     147.91
...
```

Did Yuji rerun this with your latest version and build of the app? If you could share the updated 5-field fort.13 file for the full 1 mesh, I could update the NWP and NRAMP in the fort.15 and retest on my side.

Thanks,
Andre

On Tue, Jul 27, 2021 at 6:29 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> Andre,
> See here:
>
> These were shared by Yuji a while ago based on 120m mesh.
> /scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m
>
> The example I shared was a smaller setup tested for v55.
>
> Best,
> -Saeed
> _____
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Service.
> Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
> Phone: (240) 847-8230
>
> The contents of this message are mine personally and do not necessarily reflect any position of NOAA.
>
> On Tue, Jul 27, 2021 at 6:23 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wro
> > Hi Saeed and Takis,
> >
> > I set up the Florence case that Saeed shared as a template in the workflow, including the updated fort.13 file (with 5 fiel
> > This ran fine for the tidal spinup. However, this does not contain the full HSOFS 120 m mesh (5803941 nodes). It only h
> > 633974 nodes:
> >
> > $ more fort.14
> > NOMAD mesh v1e MSL
> > 1222455 633974
> > 1 -7.7547572700700002E+01 3.5839343178900002E+01 -9.2613500000000002E+00
> > 2 -7.7551062012200006E+01 3.5829987009200003E+01 -7.8063300000000000E+00
> > 3 -7.7549421612299994E+01 3.5834698053300002E+01 -9.2522099999999998E+00
> > 4 -7.7541916701900007E+01 3.5835456465900002E+01 -1.0394100000000000E+01
> > 5 -7.7552007930100004E+01 3.5825088089700003E+01 -1.0484900000000000E+01
> > 6 -7.7547475583799994E+01 3.5826092459199998E+01 -7.3492300000000004E+00
> > ...

```
5
mannings_n_at_sea_floor
meters
1
2.0000000000000000E-02
primitive_weighting_in_continuity_equation
unitless
1
2.9999999999999999E-02
surface_canopy_coefficient
unitless
1
1.0000000000000000E+00
surface_directional_effective_roughness_length
meters
12
0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
0.00000000000000
00E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
surface_submergence_state
unitless
1
0.0000000000000000E+00
mannings_n_at_sea_floor
263078
1 0.2
2 0.18
3 0.1
...
```

Before updating the WW3 component, I would like to verify the new app with ADCv55 on the full HSOFS 120 m mesh, e the Florence case including:
1) Tidal spinup (12.5 days)
2) Wind forcing (run type = atm2ocn), with the ATMESH file "Florence_HWRF_HRRR_EA120m.nc" on the full HSOFS 1 mesh.

A few questions/requests:
- Could you please share the latest fort.13 that is defined over the complete HSOFS 120 m mesh?
- Takis, are the fort.15 files for spinup and wind forcing you shared yesterday defined over the full 120 m mesh, and are the most recent versions of these input files?
- Just to double check, I have a fort.14 for the HSOFS 120 m mesh dated June 9. Is this still current?

Thanks,
Andre

On Tue, Jul 27, 2021 at 4:06 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Hi Andre,
>
> Yes, just keep these values for DRAMP.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
> USM - Stennis Space Center
> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov
>
> On Tue, Jul 27, 2021 at 2:50 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>

Andre

On Tue, Jul 27, 2021 at 3:32 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

We are using NRAMP=8
Also check the DRAMP values as well.

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Tue, Jul 27, 2021 at 2:24 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.g wrote:

Saeed, thanks very much for these files.

Takis, yes, what Saeed shared will be enough to get me started.

One more question: I see that for the forecast run the NRAMP has been updated from 1 (simple hyperbolic tan to 8. Should I copy this over for running with ATMESH and PaHM, or is this just for best track wind forcing?

Andre

On Tue, Jul 27, 2021 at 2:58 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> w

Thanks Saeed.

Andre, do you still need the fort.13 files?
I believe the test case Saeed pointed to contains all the info needed.
I'll do similar tests on Orion as well.

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Tue, Jul 27, 2021 at 1:54 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

Hi Takis,

I also copied the same test case here on Orion:

/work/noaa/nosofs/archive/COASTAL_ACT/florence_subset/

Best,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at

On Tue, Jul 27, 2021 at 2:46 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

Hi Andre,

Sorry for being radio silence. Would you please see if you can use this test case. This is a subset mesh Florence. The NEMS setup for best track is included. You may need to up data nems.configure and put together fort.15 templates for spin up and main run.

/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs_subset

Best,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
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Phone: (240) 847-8230

On Tue, Jul 27, 2021 at 2:22 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.g wrote:

Hi Andre,

Let me get the fort.13 files from orion.
Yes, as you say for hsofs120m-fort.15, nems_adcirc-hera-fort.15
For PaHM you just change to NWS=17, correct

Takis

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On Tue, Jul 27, 2021 at 1:15 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

Hi Takis,

Just focusing on the 120 m mesh, the files I've been testing with are indeed different from those you shared yesterday. For example, the fort.13 I have from June 9 only contains 4 quantities:

```
$ more fort.13
OceanMesh2D
5803941
4
primitive_weighting_in_continuity_equation
unitless
1
3.000000000e-02
mannings_n_at_sea_floor
unitless
1
```

```
unitless
1
9.999900000e+04
primitive_weighting_in_continuity_equation
200530
745338 5.000000000e-03
751856 5.000000000e-03
751857 5.000000000e-03
751858 5.000000000e-03
...
```

Could you please share the fort.13 that you are testing with now (path on Hera if possible)?

Also, just to make sure I understand - the fort.15 files you shared yesterday are:
hsofs120m-fort.15 - Tidal spinup
nems_adcirc-hera-fort.15 - Wind-only run with Generalized Asymmetric Holland Model

Is this correct? For the latter, I assume that when we connect PaHM via NEMS, the NWS type will c from 20 to 17 (wind only) and 517 (wind+waves). Correct?

Andre

On Mon, Jul 26, 2021 at 5:35 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@n gov> wrote:

> Hi Andre,
>
> Attached are the fort.15 files.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
> USM - Stennis Space Center
> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov
>
> On Mon, Jul 26, 2021 at 4:20 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:
>
> > Hi Takis and Saeed,
> >
> > Thanks for this info. Could you please share the location of these fort.15 files on Hera (with Zac help)? I would like to confirm that I have the correct ones in the workflow (at least for the 120 m mesh).
> >
> > Andre
> >
> > On Mon, Jul 26, 2021 at 4:42 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
> >
> > > Saeed,
> > >
> > > Yes, these are from Zach, I had asked him to upload these on orion from hera.
> > >
> > > Takis
> > >
> > > Panagiotis Velissariou, Ph.D., P.E.
> > > UCAR Scientist
> > > National Ocean and Atmospheric Administration
> > > National Ocean Service
> > > Office of Coast Survey CSDL/CMMB

On Mon, Jul 26, 2021 at 3:40 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.g
wrote:

Hi Takis,

Make sure these are the ones Zach tested. Otherwise stick to the 120 m (HSOFS2020) on

Thanks,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast S
at NOAA National Ocean Service.
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On Mon, Jul 26, 2021 at 4:35 PM Panagiotis Velissariou - NOAA Affiliate
<panagiotis.velissariou@noaa.gov> wrote:

In Orion we have the 120m/250m meshes at:
/work/noaa/nosofs/share/models/meshes/hsofs/
with corresponding fort.15 files
I believe these should work.

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Mon, Jul 26, 2021 at 3:21 PM Panagiotis Velissariou - NOAA Affiliate
<panagiotis.velissariou@noaa.gov> wrote:

Thank you Saeed.
I am using the files (fort.15) on orion from:
/work/noaa/nosofs/share/working/hera/nems_adcirc/run_20210720_large_ensemble/
Are these ok?
I don't have access to HSOFS2020 data.

Takis

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On Mon, Jul 26, 2021 at 3:01 PM Saeed Moghimi - NOAA Affiliate
<saeed.moghimi@noaa.gov> wrote:

Hi Takis and Andre,

The HSOFS2016 fort.15 is not compatible with v55. Zach has the updated fort.15 fo

Saeed Moghimi, PhD
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The contents of this message are mine personally and do not necessarily reflect any p
of NOAA.

On Mon, Jul 26, 2021 at 3:52 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Hi Andre,
>
> Ok, I am testing on Orion to see what happens.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
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> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov
>
> On Mon, Jul 26, 2021 at 2:30 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:
>
> > Hi Takis,
> >
> > No, I started with our standard HSOFS mesh. But I'll test with the 120 m mesh a
> >
> > Andre
> >
> > On Mon, Jul 26, 2021 at 1:05 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
> >
> > > Hi Andre,
> > >
> > > No, I haven't seen these in my simulations. Are you using the 120m HSOFS r
> > >
> > > Takis
> > >
> > > Panagiotis Velissariou, Ph.D., P.E.
> > > UCAR Scientist
> > > National Ocean and Atmospheric Administration
> > > National Ocean Service
> > > Office of Coast Survey CSDL/CMMB
> > > Project Lead - Coastal Coupling
> > > USM - Stennis Space Center
> > > cell: (205) 227-9141
> > > email: panagiotis.velissariou@noaa.gov
> > >
> > > On Mon, Jul 26, 2021 at 11:59 AM Andre Van der Westhuysen - NOAA Affiliat <andre.vanderwesthuysen@noaa.gov> wrote:
> > >
> > > > Hi Takis,
> > > >
> > > > Here's an update on my testing: I managed to clone and build the app code
> > > > now. As before, I started by building with only the ATMESH forcing, to see i
> > > > could recreate previous results (e.g. Florence with HWRF forcing):

got past the various initialization stages and started time stepping. Howeve failed on the second time step of the simulation. Here is an extract from the of one of the ADCIRC nodes:

```
$ tail -30 PET001.ESMF_LogFile
20210726 145300.307 INFO             PET001   EARTH grid component01: be
-------> RunSequence.
20210726 145300.307 INFO             PET001     EARTH grid component01:
RunSequence event loopLevel=   1  levelMember=   1  loopIteration=   1,
current time: 2018  9  9  6  0  0   0
20210726 145300.308 INFO             PET001     ATM-TO-OCN: Run intro.
20210726 145300.308 INFO             PET001       >>>ATM-TO-OCN entered
(phase=RunPhase1)
20210726 145300.432 INFO             PET001       ATM-TO-OCN: called def
label_ExecuteRouteHandle
20210726 145300.432 INFO             PET001       <<<ATM-TO-OCN leaving
(phase=RunPhase1)
20210726 145300.432 INFO             PET001     ATM-TO-OCN: Run extro.
20210726 145300.433 INFO             PET001     OCN: Run intro.
20210726 145300.435 INFO             PET001       >>>OCN: entered Run
(phase=RunPhase1) with current time: 2018  9  9  6  0  0   0
20210726 145300.437 INFO             PET001       OCN: time step-loop
starting, current time: 2018  9  9  6  0  0   0
20210726 145300.438 INFO             PET001        (adc_cap:ModelAdvance
no wave forcing exchange / waves are not all connected ---
20210726 145300.443 INFO             PET001        (adc_cap:ModelAdvance
meteo forcing exchange OK / atm feilds are all connected --- / Model adv
20210726 145300.746 INFO             PET001        (adc_cap:ModelAdvance
run phase 2 called ---
20210726 145309.028 INFO             PET001        (adc_cap:ModelAdvance
run phase 3 called ---  nCplADC =         1800
20210726 145309.028 INFO             PET001        (adc_cap:ModelAdvance
no surge forcing for wave. 1way coupled WW3 -> ADC  ---
20210726 145309.029 INFO             PET001       OCN: time step-loop en
  current time: 2018  9  9  7  0  0   0
20210726 145309.029 INFO             PET001       <<<OCN: leaving Run
(phase=RunPhase1) with current time: 2018  9  9  7  0  0   0
20210726 145309.029 INFO             PET001     OCN: Run extro.
20210726 145309.029 INFO             PET001     EARTH grid component01:
RunSequence event loopLevel=   1  levelMember=   1  loopIteration=   2,
current time: 2018  9  9  7  0  0   0
20210726 145309.030 INFO             PET001     ATM-TO-OCN: Run intro.
20210726 145309.030 INFO             PET001       >>>ATM-TO-OCN entered
(phase=RunPhase1)
20210726 145309.031 INFO             PET001       ATM-TO-OCN: called def
label_ExecuteRouteHandle
20210726 145309.032 INFO             PET001       <<<ATM-TO-OCN leaving
(phase=RunPhase1)
20210726 145309.032 INFO             PET001     ATM-TO-OCN: Run extro.
20210726 145309.033 INFO             PET001     OCN: Run intro.
20210726 145309.033 INFO             PET001       >>>OCN: entered Run
(phase=RunPhase1) with current time: 2018  9  9  7  0  0   0
20210726 145309.035 INFO             PET001       OCN: time step-loop
starting, current time: 2018  9  9  7  0  0   0
20210726 145309.035 INFO             PET001        (adc_cap:ModelAdvance
no wave forcing exchange / waves are not all connected ---
20210726 145309.035 INFO             PET001        (adc_cap:ModelAdvance
meteo forcing exchange OK / atm feilds are all connected --- / Model adv
20210726 145309.153 INFO             PET001        (adc_cap:ModelAdvance
run phase 2 called ---
```

When I look at ADCIRC runtime output, I see extreme elevations and veloc

```
 ELMAX =  5.1773E+001 AT NODE   763996  SPEEDMAX =  1.3704E+001 AT NODE
697083  ON MYPROC =  309   ** WARNING: Elevation at WarnElev **
```

```
 TIME STEP =  543160     ITERATIONS =    0     TIME =  0.10863200E+07
  ELMAX =  9.0369E+002 AT NODE   679811  SPEEDMAX =  1.1204E+002 AT NODE
679812  ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543160     ITERATIONS =    0     TIME =  0.10863200E+07
  ELMAX =  5.1569E+001 AT NODE   763996  SPEEDMAX =  1.3591E+001 AT NODE
799211  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543161     ITERATIONS =    0     TIME =  0.10863220E+07
  ELMAX =  9.3271E+002 AT NODE   679811  SPEEDMAX =  1.0869E+002 AT NODE
679812  ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543161     ITERATIONS =    0     TIME =  0.10863220E+07
  ELMAX =  5.0354E+001 AT NODE   763996  SPEEDMAX =  1.4152E+001 AT NODE
799211  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+07
  ELMAX =  1.0146E+003 AT NODE   678170  SPEEDMAX =  1.0262E+002 AT NODE
679811  ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+07
  ELMAX =  1.0146E+003 AT NODE   678170  SPEEDMAX =  1.0262E+002 AT NODE
679811  ON MYPROC =  255
  ** ERROR: Elevation.gt.ErrorElev, ADCIRC stopping. **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+07
  ELMAX =  4.8473E+001 AT NODE   763996  SPEEDMAX =  1.4509E+001 AT NODE
799211  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
srun: Job step aborted: Waiting up to 32 seconds for job step to finish.
slurmstepd: error: *** STEP 21020412.0 ON h32m13 CANCELLED AT
2021-07-26T15:38:10 ***
slurmstepd: error: *** JOB 21020412 ON h32m13 CANCELLED AT 2021-07-26T15
***
```

This run was preceded by the standard 12.5 day tidal spinup, and uses a 5-
wind ramp. I need to do further analysis, but I was wondering if you or Zach
any of this in your testing? Did you apply a limitation on the first hour of ATM
input, to avoid the bad data at this initial time step we've seen in the past? I
want to check my run, it is here on Hera:

```
/scratch2/NCEPDEV/stmp1/Andre.VanderWesthuysen/data/
florence.atm2ocn.20210726.fail_extreme_wl/run
```

Andre

On Wed, Jul 21, 2021 at 11:39 AM Andre Van der Westhuysen - NOAA Affi
<andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis,
>
> Thanks, it cloned fine now. I'll proceed with building it, and will let you kno
> it goes.
>
> Andre
>
> On Wed, Jul 21, 2021 at 11:11 AM Panagiotis Velissariou - NOAA Affiliate
> <panagiotis.velissariou@noaa.gov> wrote:
>
>> Good morning Andre,
>>
>> You may now clone the feature/pahm, everything is ok.
>> The problem was with updates we did to use the large file system (lfs).
>>
>> Takis
>>
>> Panagiotis Velissariou, Ph.D., P.E.
>> UCAR Scientist
>> National Ocean and Atmospheric Administration
>> National Ocean Service
>> Office of Coast Survey CSDL/CMMB
>> Project Lead - Coastal Coupling

<panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

Sorry for all these issues NEMS/PAHM.
Let us fix these and make sure the repos are synchronized.
Tomorrow morning I hope that everything will be in order.
I'll let you know

Takis

Panagiotis Velissariou, Ph.D., P.E.
UCAR Scientist
National Ocean and Atmospheric Administration
National Ocean Service
Office of Coast Survey CSDL/CMMB
Project Lead - Coastal Coupling
USM - Stennis Space Center
cell: (205) 227-9141
email: panagiotis.velissariou@noaa.gov

On Tue, Jul 20, 2021 at 5:09 PM Andre Van der Westhuysen - NOA/
Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

Hi Takis,

I tried a clean (re-) cloning of the repo, but ran into issues again. I
`$ git clone` https://github.com/noaa-ocs-modeling/ADC-WW3-N
NEMS.git `-b feature/pahm --recurse-submodules`

But got a similar error as before:

```
...
Submodule path 'NEMS/tests/produtil/NCEPLIBS-pyprodut
checked out 'ca171b95095db4fcd0fc7b01c23d073d90becd99
Submodule path 'NWM': checked out '
3bc401d298070515cb6171a585d2d19646afd650'
fatal: remote error: upload-pack: not our ref
2c148ca1ed6a6c6c2b2446f455a8745e5c1518e9
fatal: The remote end hung up unexpectedly
Fetched in submodule path 'PAHM', but it did not cont
2c148ca1ed6a6c6c2b2446f455a8745e5c1518e9. Direct fetc
of that commit failed.
```

Any suggestions about this failure in the PAHM part?

Andre

On Mon, Jul 19, 2021 at 11:56 AM Panagiotis Velissariou - NOAA
Affiliate <panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

Somehow, the NEMS submodule in feature/pahm was one comi
behind.
It has been fixed now. Zach compiled the application successfull
hera.
A "git submodule update NEMS" should update your local NEMS
submodule.
If not, you may clone the app again.

Please, let me know if the compilation goes as expected.

Thanks
Takis

USM - Stennis Space Center
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email: panagiotis.velissariou@noaa.gov

On Mon, Jul 19, 2021 at 10:18 AM Panagiotis Velissariou - NOA
Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Hi Andre,
>
> Zach tried to re-compile on hera and he experienced the
> same problem.
> I am checking to see what happened between commits.
> I'll update you all as soon as possible.
>
> Thanks
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
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>
> On Fri, Jul 16, 2021 at 4:30 PM Panagiotis Velissariou - NOA/
> Affiliate <panagiotis.velissariou@noaa.gov> wrote:
>
>> Hi Andre,
>>
>> components ADCIRC, ATMESH, WW3 are in NEMS/src/in
>> (checked the github repo)
>> You shouldn't be getting: .../ADC-WW3-NWM-NEMS/
>> modulefiles/hera/ESMF_NUOPC error
>> because I have removed these files and in the NEMS/src/in
>> /buildenv.mk I have commended the
>> lines 63 to 68 out (where these modules are called).
>> So, please do first:
>> build.sh --plat hera --component "ATMESH ADCIRC WW3"
>> 2
>> rm -rf ALLBIN_INSTALL
>> These will clean everything. Then,
>> build.sh --compiler intel --plat hera --component "ATMESH
>> ADCIRC WW3"
>> to build the NEMS executable.
>> Better instead of ATMESH, use PAHM, for your configuratio
>> should work the same,
>> assuming that you already have generated the PaHM winds
>>
>> Please keep the logs so we can check all warning/error
>> messages.
>>
>> Takis
>>
>> Panagiotis Velissariou, Ph.D., P.E.
>> UCAR Scientist
>> National Ocean and Atmospheric Administration
>> National Ocean Service
>> Office of Coast Survey CSDL/CMMB
>> Project Lead - Coastal Coupling
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>> email: panagiotis.velissariou@noaa.gov

```
...
make[1]: Entering directory `/scratch2/COASTAI
/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/
WW3-NWM-NEMS/NEMS/src'
GNUmakefile:16: /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-N
NEMS/NEMS/src/conf/test-results.mk: No such file
directory
Components in linker order: WW3 ATMESH ADCIRC
WW3: include
GNUmakefile:70: : component WW3 makefile fragm
is missing
ATMESH: include
GNUmakefile:70: : component ATMESH makefile
fragment is missing
ADCIRC: include
GNUmakefile:70: : component ADCIRC makefile
fragment is missing
make[1]: *** No rule to make target `/scratch2
/COASTAL/coastal/save/Andre.VanderWesthuysen/C
NEMS/ADC-WW3-NWM-NEMS/NEMS/src/conf/test-results.
Stop.
make[1]: Leaving directory `/scratch2/COASTAL
/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/
WW3-NWM-NEMS/NEMS/src'
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-N
NEMS/NEMS/exe/NEMS.x /scratch2/COASTAL/coastal
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-N
NEMS/NEMS/src/conf/configure.nems.NUOPC
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-N
NEMS/NEMS/src/conf/configure.nems /scratch2/CC
/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/
WW3-NWM-NEMS/NEMS/src/conf/externals.nems /scr
/COASTAL/coastal/save/Andre.VanderWesthuysen/C
NEMS/ADC-WW3-NWM-NEMS/NEMS/src/conf/modules.ne
/scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-N
NEMS/NEMS/src/ESMFVersionDefine.h /scratch2/CC
/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/
WW3-NWM-NEMS/NEMS/src/conf/modules.nems.sh /scr
/COASTAL/coastal/save/Andre.VanderWesthuysen/C
NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/modules.nems.csh /scratch2/COASTAL/coast
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-N
NEMS/NEMS/src/conf/test-results.mk
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-N
NEMS/NEMS/src/conf/components.mk
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-N
NEMS/NEMS/src/conf/test_results.mk

compileNems :: Compiling: make  -f GNUmakefile
build COMPONENTS="ADCIRC ATMESH WW3"
NOTE: Skipping appbuilder.mk creation; no appbu
file in use.
echo 'ADCIRC ATMESH WW3' > "/scratch2/COASTAL
/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/
WW3-NWM-NEMS/NEMS/src/conf/components.mk"
NEMS_BUILDOPT IS
cp /scratch2/COASTAL/coastal/
```

```
NEMS/NEMS/src/conf/externals.nems
make: *** No rule to make target `/scratch2/CO
/coastal/save/Andre.VanderWesthuysen/OCS-NEMS/
WW3-NWM-NEMS/modulefiles/hera/ESMF_NUOPC', nee
by `/scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3-N
NEMS/NEMS/src/conf/modules.nems'.  Stop.
```

I'll investigate further, but let me know if you have any suggestions.

Andre

On Fri, Jul 16, 2021 at 3:34 PM Panagiotis Velissariou - N Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Yes, Zach built it with those modules as defined in the modulefile for hera.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
> USM - Stennis Space Center
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> email: panagiotis.velissariou@noaa.gov
>
> On Fri, Jul 16, 2021 at 2:20 PM Andre Van der Westhu NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>
>
> > Takis,
> >
> > Thanks, it works now. I'm now busy building it on Her the following Hera modules are needed, correct?
> >
> > 1) intel/18.0.5.274 2) impi/2018.0.4 3) szip/2.1 4) hdf5_parallel/1.10.6.r netcdf_parallel/4.7.4.release 6) esmf/8.1.0bs25g_ParallelNetCDF.release
> >
> > Andre
> >
> > On Fri, Jul 16, 2021 at 3:07 PM Panagiotis Velissario NOAA Affiliate <panagiotis.velissariou@noaa.gov> w
> >
> > > Hi Andre,
> > >
> > > It is fixed now. I checked the cloning on my compu it works now.
> > > I had forgotten to push the NEMS changes.
> > >
> > > Please try again.
> > >
> > > Takis
> > >
> > > Panagiotis Velissariou, Ph.D., P.E.
> > > UCAR Scientist
> > > National Ocean and Atmospheric Administration
> > > National Ocean Service
> > > Office of Coast Survey CSDL/CMMB
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I tried to clone the pahm feature branch today, b
failed while checking out the NEMS dependency
used your recommended command:

```
git clone https://github.com/noaa-ocs-modeling/ADC-WW3-NWM-NEMS.git -b feature/pahm --recurse-submodules
```

and it gave the following error that it couldn't find
correct hash for NEMS:

```
...
fatal: remote error: upload-pack: not c
ref 4c61cc4ea73e407784ddbd6b8affc99d204
fatal: The remote end hung up unexpecte
Fetched in submodule path 'NEMS', but i
not contain 4c61cc4ea73e407784ddbd6b8a1
9d20474e1b. Direct fetching of that com
failed.
```

I added the full log in the attachments. Any
suggestions?

Andre

On Tue, Jul 13, 2021 at 3:01 PM Panagiotis Veli
- NOAA Affiliate <panagiotis.velissariou@noaa.g
wrote:

> Hi Andre,
>
> I think if you use the same configuration as in
> AMS simulations that will compile/run
> fine I believe.
> Curious to see how it goes.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administratio
> National Ocean Service
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> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov
>
> On Tue, Jul 13, 2021 at 8:58 AM Panagiotis
> Velissariou - NOAA Affiliate
> <panagiotis.velissariou@noaa.gov> wrote:
>
> > Hi Andre,
> >
> > You should be able to do it. WW3 should cc
> > just fine with the intel
> > compilers. WW3 (the version that is in the a
> > has some issues (argument mismatches)
> > when the compiler is gfortran (version 10*).
> > haven't check if the same issue
> > still exists with the latest version, might see
> > this in the future.
> >
> > Either ATMESH+ADCIRC+PaHM winds or
> > PAHM+ADCIRC+PaHM winds should work
> > just fine.

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On Tue, Jul 13, 2021 at 8:51 AM Andre Van Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wro

> Hi Takis,
>
> Thanks for this. I'll test it over the next few After I do ATMESH+WW3 (with the PaHM generated .nc), could I also try ATMESH+ADCIRC+WW3, for example fo Florence?
>
> Andre
>
> On Tue, Jul 13, 2021 at 9:11 AM Saeed M - NOAA Affiliate <saeed.moghimi@noaa.g wrote:
>
> > Hi Takis,
> >
> > Thanks for clarification.
> >
> > Best,
> > -Saeed
> >
> > _____
> > _____
> > Saeed Moghimi, PhD
> > **UCAR/NOAA - NOS Storm Surge Mod Team Lead**
> > Coastal Marine Modeling Branch, Coast Development Laboratory, Office of Coa Survey at NOAA National Ocean Service
> > Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
> > Phone: (240) 847-8230
> >
> > The contents of this message are mine personally and do not necessarily reflect position of NOAA.
> >
> > On Tue, Jul 13, 2021 at 1:08 AM Panag Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wr
> >
> > > Hi Saeed,
> > >
> > > Yes, also the PAHM+ADCIRC setup v the same when using pre-prepared w (NetCDF)
> > > Tested both configurations, same res Testing the direct exchange of the fiel from PaHM to ADCIRC.
> > > The PaHM Cap supports both configs reason is that we may want to use externally prepared wind fields (an ex a NetCDF file that contains blended background fields + PaHM fields)

Panagiotis Velissariou, Ph.D., P.E.
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On Mon, Jul 12, 2021 at 5:06 PM Sae Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> Hi Takis,
>
> I think I am confused. If we are usir PahM to provide atm forcing, why c need to have ATMESH?
>
> Thanks,
> -Saeed
>
> _____
>
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> Coastal Marine Modeling Branch, C Survey Development Laboratory, O of Coast Survey at NOAA National (Service.
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>
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On Mon, Jul 12, 2021 at 5:25 PM Panagiotis Velissariou - NOAA Affil <panagiotis.velissariou@noaa.gov wrote:

> Hi Andre,
>
> The updated NEMS app is on the github repo:
> https://github.com/noaa-ocs-modeling/ADC-WW3-NWM-NEM feature/pahm
>
> I am using the command
> git clone https://github.com/noaa- modeling/ADC-WW3-NWM-NEM -b feature/pahm --recurse-submo
>
> Note that this ADC-WW3-NWM-I also contains the latest stable NE source, (release/public-v2).
>
> If possible, could you please run application using ATMESH+WW3

Florence for the Shinnecock Inle
case.

Testing the PaHM NUOPC Cap r

It seems that all issues are resol

If you want I can set a google me
case my help is needed on
compiling/running the application

Thank you
Takis

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--
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--
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--
Andre J. van der Westhuysen, PhD
Ocean Task Lead
IMSG at NWS/NCEP/Environmental Modeling Center

> > > The contents of this message are mine personally and do not necessarily reflect any position of NOAA.
>
> --
> Andre J. van der Westhuysen, PhD
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Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> Wed, Jul 28, 2021 at
To: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>
Cc: Yuji Funakoshi - NOAA Affiliate <yuji.funakoshi@noaa.gov>, Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noa
Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Saeed,

Sure, I will try running on the subset 120 m mesh for now. The only issue is that our ATMESH is defined on the full 120 m mesh, so `remapMethod=redist` method won't work in the nems.configure.

Takis, remind me of the alternative method you used when the meshes differ between the components. Was it nearest neighbor? W the keyword?

Thanks,
Andre

On Wed, Jul 28, 2021 at 10:56 AM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> Hi Andre,
>
> I would like to ask you if you may try that smaller example for Florence as the first step or we can wait for Zach and look into that next week when he returns to office.
>
> I think @Zachary Burnett - NOAA Affiliate has both 250 and 120 m setups on Hera however I am not sure where to find them.
>
> Thanks,
> -Saeed
>
> _____
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Servic
> Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910

On Wed, Jul 28, 2021 at 10:45 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

Hi Saeed,

Yes, I also believe that path is for ADCv55 on the 120 m mesh. That's the fort.15 file I listed out above. It however still has the 4-field fort.13 and NRAMP=1/DRAMP=5.0. Were the changes in fort.13 and NRAMP/DRAMP since Yuji's June runs made in o improve model stability or accuracy? As I described on Monday in this thread, when I tried a setup similar to Yuji's with our new NEMS app build, it failed on the second time step into the atm2ocn run. So I was wondering whether you have a working exam with the new build/updated inputs that I could compare to.

Andre

On Wed, Jul 28, 2021 at 10:24 AM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

HI Andre

I am 90% sure that this is the120m with v55 and NEMS. @Yuji Funakoshi - NOAA Affiliate , please confirm.

/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.atm2ocn.20210621.atmea120

Best,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
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Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
Phone: (240) 847-8230

On Wed, Jul 28, 2021 at 10:09 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrot

Hi Saeed,

Thanks for sharing the path to Yuji's runs. These are the ones I compared to back in June, but I recall that he used older modules (the legacy ones we had in the workflow) and a somewhat older code to what we have now. These also still have old fort.13 with only 4 fields, and the old fort.15 with NRAMP=1/DRAMP=5.0. For example:

```
$ pwd
/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.tide_spinup.20210617/run
[Andre.VanderWesthuysen@hfe01 run]$ more fort.13
OceanMesh2D
5803941
4
primitive_weighting_in_continuity_equation
unitless
1
3.000000000e-02
mannings_n_at_sea_floor
unitless
1
2.200000000e-02
internal_tide_friction
local_dir, C_it =0.21884,Nb, D250
3
0.000000000e+00 0.000000000e+00 0.000000000e+00
subgrid_barrier
unitless
1
9.999900000e+04
primitive_weighting_in_continuity_equation
200530
```

```
751960 5.000000000e-03
...
```

and

```
$ pwd
/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.atm2ocn.20210621.atmea120m/run
[Andre.VanderWesthuysen@hfe01 run]$ more fort.15
HSOFS 120m_Releasev2.1 ! 32 CHARACTER ALPHANUMERIC RUN DESCRIPTION
Tidal spin-up 2018-08-27 18:00:00 UTC   ! 24 CHARACTER ALPANUMERIC RUN IDENTIFICATION
1                ! NFOVER - NONFATAL ERROR OVERRIDE OPTION
0                ! NABOUT - ABREVIATED OUTPUT OPTION PARAMETER
-1000            ! NSCREEN - UNIT 6 OUTPUT OPTION PARAMETER
567            ! IHOT - HOT START PARAMETER
20               ! ICS - COORDINATE SYSTEM SELECTION PARAMETER
511112           ! IM - MODEL SELECTION PARAMETER
1                ! NOLIBF - BOTTOM FRICTION TERM SELECTION PARAM; before NWP==1, '2' was used
2                ! NOLIFA - FINITE AMPLITUDE TERM SELECTION PARAMETER
1                ! NOLICA - SPATIAL DERIVATIVE CONVECTIVE SELECTION PARAMETER
1                ! NOLICAT - TIME DERIVATIVE CONVECTIVE TERM SELECTION PARAMETER
4                ! NWP
primitive_weighting_in_continuity_equation
mannings_n_at_sea_floor
internal_tide_friction
subgrid_barrier
1                ! NCOR - VARIABLE CORIOLIS IN SPACE OPTION PARAMETER
1                ! NTIP - TIDAL POTENTIAL OPTION PARAMETER
17             ! NWS - WIND STRESS AND BAROMETRIC PRESSURE OPTION PARAMETER
1                ! NRAMP - RAMP FUNCTION OPTION
9.81             ! G - ACCELERATION DUE TO GRAVITY - DETERMINES UNITS
-3               ! TAU0 - WEIGHTING FACTOR IN GWCE; original, 0.005
2.0              ! DT - TIME STEP (IN SECONDS)
0.00             ! STATIM - STARTING TIME (IN DAYS)
0.00             ! REFTIM - REFERENCE TIME (IN DAYS)
3600  3600   ! WTIMINC - meteorological data time increment, RSTIMINC wave forcing increment
20.5   ! RNDAY - TOTAL LENGTH OF SIMULATION (IN DAYS)
5.0            ! DRAMP - DURATION OF RAMP FUNCTION (IN DAYS)
0 1 0            ! TIME WEIGHTING FACTORS FOR THE GWCE EQUATION
0.1 0 0 0.01     ! H0, NODEDRYMIN, NODEWETRMP, VELMIN
-81.603414 32.182098 ! SLAM0,SFEA0 - CENTER OF CPP PROJECTION (NOT USED IF ICS=1, NTIP=0, NCOR=0)
0.0001           ! FFACTOR
-0.050000        ! ESL - LATERAL EDDY VISCOSITY COEFFICIENT; IGNORED IF NWP =1
0.0              ! CORI - CORIOLIS PARAMETER - IGNORED IF NCOR = 1
8                ! NUMBER OF TIDAL POTENTIAL CONSTITUENTS BEING FORCED starting 2008082300
Q1               ! ALPAHANUMERIC DESCRIPTION OF TIDAL POTENTIAL CONSTIT.
  0.019256  0.000064958541129  0.695  0.91252     131.29
O1
  0.100514  0.000067597744151  0.695  0.91252     1.32
P1
  0.046843  0.000072522945975  0.706  1.00000     24.07
K1
  0.141565  0.000072921158358  0.736  0.94621     147.91
...
```

Did Yuji rerun this with your latest version and build of the app? If you could share the updated 5-field fort.13 file for the full m mesh, I could update the NWP and NRAMP in the fort.15 and retest on my side.

Thanks,
Andre

On Tue, Jul 27, 2021 at 6:29 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> Andre,
> See here:

Best,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocea
Service.
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On Tue, Jul 27, 2021 at 6:23 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> w

> Hi Saeed and Takis,
>
> I set up the Florence case that Saeed shared as a template in the workflow, including the updated fort.13 file (with 5 fi
> This ran fine for the tidal spinup. However, this does not contain the full HSOFS 120 m mesh (5803941 nodes). It only
> 633974 nodes:
>
> $ more fort.14
> ```
> NOMAD mesh v1e MSL
> 1222455 633974
> 1 -7.7547572700700002E+01 3.5839343178900002E+01 -9.2613500000000002E+00
> 2 -7.7551062012200006E+01 3.5829987009200003E+01 -7.8063300000000000E+00
> 3 -7.7549421612299994E+01 3.5834698053300002E+01 -9.2522099999999998E+00
> 4 -7.7541916701900007E+01 3.5835456465900002E+01 -1.0394100000000000E+01
> 5 -7.7552007930100004E+01 3.5825088089700003E+01 -1.0484900000000000E+01
> 6 -7.7547475583799994E+01 3.5826092459199998E+01 -7.3492300000000004E+00
> ...
> ```
>
> This case also does not contain the fort.13 file on the full HSOFS 120m mesh (5803941 nodes), only 633974 nodes:
>
> $ more fort.13
> ```
> NOMAD mesh v1e MSL nodal attributes
> 633974
> 5
> mannings_n_at_sea_floor
> meters
> 1
> 2.0000000000000000E-02
> primitive_weighting_in_continuity_equation
> unitless
> 1
> 2.9999999999999999E-02
> surface_canopy_coefficient
> unitless
> 1
> 1.0000000000000000E+00
> surface_directional_effective_roughness_length
> meters
> 12
> 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
> 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
> 0.00000000000000
> 00E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
> surface_submergence_state
> unitless
> 1
> 0.0000000000000000E+00
> mannings_n_at_sea_floor
> 263078
> 1 0.2
> 2 0.18
> ```

2) Wind forcing (run type = atm2ocn), with the ATMESH file "Florence_HWRF_HRRR_EA120m.nc" on the full HSOFS mesh.

A few questions/requests:
- Could you please share the latest fort.13 that is defined over the complete HSOFS 120 m mesh?
- Takis, are the fort.15 files for spinup and wind forcing you shared yesterday defined over the full 120 m mesh, and ar these the most recent versions of these input files?
- Just to double check, I have a fort.14 for the HSOFS 120 m mesh dated June 9. Is this still current?

Thanks,
Andre

On Tue, Jul 27, 2021 at 4:06 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

Yes, just keep these values for DRAMP.

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Tue, Jul 27, 2021 at 2:50 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.go wrote:

Hi Takis,

Yes, will do. Can I use the DRAMP line as is, if I'm staying with a 12.5 day spinup?

```
12.500 0.000 0.000 0.000 12.500 12.500 1.000 0.000 12.500
```

Andre

On Tue, Jul 27, 2021 at 3:32 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wro

Hi Andre,

We are using NRAMP=8
Also check the DRAMP values as well.

Takis

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On Tue, Jul 27, 2021 at 2:24 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noa wrote:

Saeed, thanks very much for these files.

Takis, yes, what Saeed shared will be enough to get me started.

On Tue, Jul 27, 2021 at 2:58 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov>
Thanks Saeed.

Andre, do you still need the fort.13 files?
I believe the test case Saeed pointed to contains all the info needed.
I'll do similar tests on Orion as well.

Takis

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On Tue, Jul 27, 2021 at 1:54 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:
Hi Takis,

I also copied the same test case here on Orion:

/work/noaa/nosofs/archive/COASTAL_ACT/florence_subset/

Best,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
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On Tue, Jul 27, 2021 at 2:46 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:
Hi Andre,

Sorry for being radio silence. Would you please see if you can use this test case. This is a subset mes
Florence. The NEMS setup for best track is included. You may need to up data nems.configure and pu
together fort.15 templates for spin up and main run.

/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs_subset

Best,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Service.
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For PaHM you just change to NWS=17, correct

Takis

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On Tue, Jul 27, 2021 at 1:15 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis,
>
> Just focusing on the 120 m mesh, the files I've been testing with are indeed different from those y
> shared yesterday. For example, the fort.13 I have from June 9 only contains 4 quantities:
>
> ```
> $ more fort.13
> OceanMesh2D
> 5803941
> 4
> primitive_weighting_in_continuity_equation
> unitless
> 1
> 3.000000000e-02
> mannings_n_at_sea_floor
> unitless
> 1
> 2.200000000e-02
> internal_tide_friction
> local_dir, C_it =0.21884,Nb, D250
> 3
> 0.000000000e+00 0.000000000e+00 0.000000000e+00
> subgrid_barrier
> unitless
> 1
> 9.999900000e+04
> primitive_weighting_in_continuity_equation
> 200530
> 745338 5.000000000e-03
> 751856 5.000000000e-03
> 751857 5.000000000e-03
> 751858 5.000000000e-03
> ...
> ```
>
> Could you please share the fort.13 that you are testing with now (path on Hera if possible)?
>
> Also, just to make sure I understand - the fort.15 files you shared yesterday are:
> hsofs120m-fort.15 - Tidal spinup
> nems_adcirc-hera-fort.15 - Wind-only run with Generalized Asymmetric Holland Model
>
> Is this correct? For the latter, I assume that when we connect PaHM via NEMS, the NWS type wil
> change from 20 to 17 (wind only) and 517 (wind+waves). Correct?
>
> Andre
>
> On Mon, Jul 26, 2021 at 5:35 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@
> gov> wrote:
>
> > Hi Andre,

National Ocean and Atmospheric Administration
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On Mon, Jul 26, 2021 at 4:20 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis and Saeed,
>
> Thanks for this info. Could you please share the location of these fort.15 files on Hera (with Z help)? I would like to confirm that I have the correct ones in the workflow (at least for the 120 mesh).
>
> Andre

On Mon, Jul 26, 2021 at 4:42 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Saeed,
>
> Yes, these are from Zach, I had asked him to upload these on orion from hera.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
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On Mon, Jul 26, 2021 at 3:40 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa wrote:

> Hi Takis,
>
> Make sure these are the ones Zach tested. Otherwise stick to the 120 m (HSOFS2020) c
>
> Thanks,
> -Saeed
>
> _____
>
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
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>
>

On Mon, Jul 26, 2021 at 4:35 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> In Orion we have the 120m/250m meshes at:
> /work/noaa/nosofs/share/models/meshes/hsofs/
> with corresponding fort.15 files
> I believe these should work.

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On Mon, Jul 26, 2021 at 3:21 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Thank you Saeed.
> I am using the files (fort.15) on orion from:
> /work/noaa/nosofs/share/working/hera/nems_adcirc/run_20210720_large_ensemble
> Are these ok?
> I don't have access to HSOFS2020 data.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
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>
> On Mon, Jul 26, 2021 at 3:01 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:
>
>> Hi Takis and Andre,
>>
>> The HSOFS2016 fort.15 is not compatible with v55. Zach has the updated fort.15 HSOFS2016 as well. So we need to update the template for it.
>>
>> For now, please use the 120 m (HSOFS2020) for this test.
>>
>> Thanks,
>> -Saeed
>>
>> _____
>> Saeed Moghimi, PhD
>> **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
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>> Survey at NOAA National Ocean Service.
>> Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
>> Phone: (240) 847-8230
>>
>> The contents of this message are mine personally and do not necessarily reflect an
>> position of NOAA.
>>
>> On Mon, Jul 26, 2021 at 3:52 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
>>
>>> Hi Andre,
>>>
>>> Ok, I am testing on Orion to see what happens.
>>>
>>> Takis
>>>
>>> Panagiotis Velissariou, Ph.D., P.E.
>>> UCAR Scientist
>>> National Ocean and Atmospheric Administration
>>> National Ocean Service
>>> Office of Coast Survey CSDL/CMMB
>>> Project Lead - Coastal Coupling
>>> USM - Stennis Space Center

Hi Takis,

No, I started with our standard HSOFS mesh. But I'll test with the 120 m mesh

Andre

On Mon, Jul 26, 2021 at 1:05 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Hi Andre,
>
> No, I haven't seen these in my simulations. Are you using the 120m HSOFS mesh?
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
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> National Ocean and Atmospheric Administration
> National Ocean Service
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>
> On Mon, Jul 26, 2021 at 11:59 AM Andre Van der Westhuysen - NOAA Affil <andre.vanderwesthuysen@noaa.gov> wrote:
>
> > Hi Takis,
> >
> > Here's an update on my testing: I managed to clone and build the app co now. As before, I started by building with only the ATMESH forcing, to see could recreate previous results (e.g. Florence with HWRF forcing):
> >
> > ```
> > ./build.sh --component "ADCIRC ATMESH WW3" --plat hera
> > --compiler intel --clean -2
> > ```
> >
> > For my first test, I tried the unit test of forcing ADCIRC with ATMESH only (workflow RUN_TYPE=atm2ocn). Software-wise this succeeded, I think, got past the various initialization stages and started time stepping. Howe failed on the second time step of the simulation. Here is an extract from t file of one of the ADCIRC nodes:
> >
> > ```
> > $ tail -30 PET001.ESMF_LogFile
> > 20210726 145300.307 INFO             PET001   EARTH grid component01:
> > -------> RunSequence.
> > 20210726 145300.307 INFO             PET001     EARTH grid component01
> > RunSequence event loopLevel=   1  levelMember=   1  loopIteration=   1
> > current time: 2018  9  9  6  0  0   0
> > 20210726 145300.308 INFO             PET001     ATM-TO-OCN: Run intro.
> > 20210726 145300.308 INFO             PET001       >>>ATM-TO-OCN entere
> > (phase=RunPhase1)
> > 20210726 145300.432 INFO             PET001       ATM-TO-OCN: called c
> > label_ExecuteRouteHandle
> > 20210726 145300.432 INFO             PET001       <<<ATM-TO-OCN leavir
> > (phase=RunPhase1)
> > 20210726 145300.432 INFO             PET001     ATM-TO-OCN: Run extro.
> > 20210726 145300.433 INFO             PET001     OCN: Run intro.
> > 20210726 145300.435 INFO             PET001       >>>OCN: entered Run
> > (phase=RunPhase1) with current time: 2018  9  9  6  0  0   0
> > 20210726 145300.437 INFO             PET001       OCN: time step-loop
> > starting, current time: 2018  9  9  6  0  0   0
> > 20210726 145300.438 INFO             PET001        (adc_cap:ModelAdvar
> > --- no wave forcing exchange / waves are not all connected ---
> > 20210726 145300.443 INFO             PET001        (adc_cap:ModelAdvar
> > ```

```
20210726 145309.028 INFO             PET001        (adc_cap:ModelAdvar
--- no surge forcing for wave. 1way coupled WW3 -> ADC  ---
20210726 145309.029 INFO             PET001       OCN: time step-loop
ending,   current time: 2018  9  9  7  0  0   0
20210726 145309.029 INFO             PET001       <<<OCN: leaving Run
(phase=RunPhase1) with current time: 2018  9  9  7  0  0   0
20210726 145309.029 INFO             PET001     OCN: Run extro.
20210726 145309.029 INFO             PET001     EARTH grid component01
RunSequence event loopLevel=   1  levelMember=   1  loopIteration=   2
current time: 2018  9  9  7  0  0   0
20210726 145309.030 INFO             PET001     ATM-TO-OCN: Run intro.
20210726 145309.030 INFO             PET001       >>>ATM-TO-OCN entere
(phase=RunPhase1)
20210726 145309.031 INFO             PET001       ATM-TO-OCN: called c
label_ExecuteRouteHandle
20210726 145309.032 INFO             PET001       <<<ATM-TO-OCN leavir
(phase=RunPhase1)
20210726 145309.032 INFO             PET001     ATM-TO-OCN: Run extro.
20210726 145309.033 INFO             PET001     OCN: Run intro.
20210726 145309.033 INFO             PET001       >>>OCN: entered Run
(phase=RunPhase1) with current time: 2018  9  9  7  0  0   0
20210726 145309.035 INFO             PET001       OCN: time step-loop
starting, current time: 2018  9  9  7  0  0   0
20210726 145309.035 INFO             PET001        (adc_cap:ModelAdvar
--- no wave forcing exchange / waves are not all connected ---
20210726 145309.035 INFO             PET001        (adc_cap:ModelAdvar
--- meteo forcing exchange OK / atm feilds are all connected --- / Moc
advances
20210726 145309.153 INFO             PET001        (adc_cap:ModelAdvar
--- run phase 2 called ---
```

When I look at ADCIRC runtime output, I see extreme elevations and vel

```
 ELMAX =  5.1773E+001 AT NODE   763996  SPEEDMAX =  1.3704E+001 AT NOI
697083  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543159     ITERATIONS =    0     TIME =  0.10863180E+07
  ELMAX =  8.8111E+002 AT NODE   681482  SPEEDMAX =  1.0964E+002 AT NO
679812  ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543159     ITERATIONS =    0     TIME =  0.10863180E+07
  ELMAX =  5.2052E+001 AT NODE   763996  SPEEDMAX =  1.3335E+001 AT NO
697083  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543160     ITERATIONS =    0     TIME =  0.10863200E+07
  ELMAX =  9.0369E+002 AT NODE   679811  SPEEDMAX =  1.1204E+002 AT NO
679812  ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543160     ITERATIONS =    0     TIME =  0.10863200E+07
  ELMAX =  5.1569E+001 AT NODE   763996  SPEEDMAX =  1.3591E+001 AT NO
799211  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543161     ITERATIONS =    0     TIME =  0.10863220E+07
  ELMAX =  9.3271E+002 AT NODE   679811  SPEEDMAX =  1.0869E+002 AT NO
679812  ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543161     ITERATIONS =    0     TIME =  0.10863220E+07
  ELMAX =  5.0354E+001 AT NODE   763996  SPEEDMAX =  1.4152E+001 AT NO
799211  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+07
  ELMAX =  1.0146E+003 AT NODE   678170  SPEEDMAX =  1.0262E+002 AT NO
679811  ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+07
  ELMAX =  1.0146E+003 AT NODE   678170  SPEEDMAX =  1.0262E+002 AT NO
679811  ON MYPROC =  255
  ** ERROR: Elevation.gt.ErrorElev, ADCIRC stopping. **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+07
  ELMAX =  4.8473E+001 AT NODE   763996  SPEEDMAX =  1.4509E+001 AT NO
799211  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
srun: Job step aborted: Waiting up to 32 seconds for job step to finis
```

wind ramp. I need to do further analysis, but I was wondering if you or Za any of this in your testing? Did you apply a limitation on the first hour of ATMESH input, to avoid the bad data at this initial time step we've seen i past? If you want to check my run, it is here on Hera:

```
/scratch2/NCEPDEV/stmp1/Andre.VanderWesthuysen/data/
florence.atm2ocn.20210726.fail_extreme_wl/run
```

Andre

On Wed, Jul 21, 2021 at 11:39 AM Andre Van der Westhuysen - NOAA A <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis,
>
> Thanks, it cloned fine now. I'll proceed with building it, and will let you k how it goes.
>
> Andre
>
> On Wed, Jul 21, 2021 at 11:11 AM Panagiotis Velissariou - NOAA Affili <panagiotis.velissariou@noaa.gov> wrote:
>
> > Good morning Andre,
> >
> > You may now clone the feature/pahm, everything is ok.
> > The problem was with updates we did to use the large file system (lf
> >
> > Takis
> >
> > Panagiotis Velissariou, Ph.D., P.E.
> > UCAR Scientist
> > National Ocean and Atmospheric Administration
> > National Ocean Service
> > Office of Coast Survey CSDL/CMMB
> > Project Lead - Coastal Coupling
> > USM - Stennis Space Center
> > cell: (205) 227-9141
> > email: panagiotis.velissariou@noaa.gov
> >
> > On Tue, Jul 20, 2021 at 7:17 PM Panagiotis Velissariou - NOAA Affil <panagiotis.velissariou@noaa.gov> wrote:
> >
> > > Hi Andre,
> > >
> > > Sorry for all these issues NEMS/PAHM.
> > > Let us fix these and make sure the repos are synchronized.
> > > Tomorrow morning I hope that everything will be in order.
> > > I'll let you know
> > >
> > > Takis
> > >
> > > Panagiotis Velissariou, Ph.D., P.E.
> > > UCAR Scientist
> > > National Ocean and Atmospheric Administration
> > > National Ocean Service
> > > Office of Coast Survey CSDL/CMMB
> > > Project Lead - Coastal Coupling
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> > > cell: (205) 227-9141
> > > email: panagiotis.velissariou@noaa.gov
> > >
> > > On Tue, Jul 20, 2021 at 5:09 PM Andre Van der Westhuysen - NO Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:
> > >
> > > > Hi Takis

But got a similar error as before:

```
...
Submodule path 'NEMS/tests/produtil/NCEPLIBS-
pyprodutil': checked out 'ca171b95095db4fcd0fc7b01c
3d90becd99'
Submodule path 'NWM': checked out '
3bc401d298070515cb6171a585d2d19646afd650'
fatal: remote error: upload-pack: not our ref
2c148ca1ed6a6c6c2b2446f455a8745e5c1518e9
fatal: The remote end hung up unexpectedly
Fetched in submodule path 'PAHM', but it did not co
2c148ca1ed6a6c6c2b2446f455a8745e5c1518e9. Direct
fetching of that commit failed.
```

Any suggestions about this failure in the PAHM part?

Andre

On Mon, Jul 19, 2021 at 11:56 AM Panagiotis Velissariou - NOA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Hi Andre,
>
> Somehow, the NEMS submodule in feature/pahm was one co behind.
> It has been fixed now. Zach compiled the application successf hera.
> A "git submodule update NEMS" should update your local NE submodule.
> If not, you may clone the app again.
>
> Please, let me know if the compilation goes as expected.
>
> Thanks
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
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>
> On Mon, Jul 19, 2021 at 10:18 AM Panagiotis Velissariou - NC Affiliate <panagiotis.velissariou@noaa.gov> wrote:
>
> > Hi Andre,
> >
> > Zach tried to re-compile on hera and he experienced the same problem.
> > I am checking to see what happened between commits.
> > I'll update you all as soon as possible.
> >
> > Thanks
> > Takis
> >
> > Panagiotis Velissariou, Ph.D., P.E.
> > UCAR Scientist
> > National Ocean and Atmospheric Administration
> > National Ocean Service
> > Office of Coast Survey CSDL/CMMB

On Fri, Jul 16, 2021 at 4:30 PM Panagiotis Velissariou - NO Affiliate <panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

components ADCIRC, ATMESH, WW3 are in NEMS/src /incmake (checked the github repo)
You shouldn't be getting: .../ADC-WW3-NWM-NEMS/ modulefiles/hera/ESMF_NUOPC error
because I have removed these files and in the NEMS/src /incmake/buildenv.mk I have commended the
lines 63 to 68 out (where these modules are called).
So, please do first:
build.sh --plat hera --component "ATMESH ADCIRC WW3 --clean 2
rm -rf ALLBIN_INSTALL
These will clean everything. Then,
build.sh --compiler intel --plat hera --component "ATMESH ADCIRC WW3"
to build the NEMS executable.
Better instead of ATMESH, use PAHM, for your configura should work the same,
assuming that you already have generated the PaHM win

Please keep the logs so we can check all warning/error messages.

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Fri, Jul 16, 2021 at 3:51 PM Andre Van der Westhuys NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wr

Hi Takis,

More progress, but still not success. I get the following error:

```
...
make[1]: Entering directory `/scratch2/COAST
/coastal/save/Andre.VanderWesthuysen/OCS-
NEMS/ADC-WW3-NWM-NEMS/NEMS/src'
GNUmakefile:16: /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3
NEMS/NEMS/src/conf/test-results.mk: No such fil
directory
Components in linker order: WW3 ATMESH ADCIR
WW3: include
GNUmakefile:70: : component WW3 makefile fra
is missing
ATMESH: include
GNUmakefile:70: : component ATMESH makefile
fragment is missing
ADCIRC: include
GNUmakefile:70: : component ADCIRC makefile
fragment is missing
make[1]: *** No rule to make target `/scratc
/COASTAL/coastal/save/Andre.VanderWesthuysen
```

```
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3
NEMS/NEMS/exe/NEMS.x /scratch2/COASTAL/coast
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3
NEMS/NEMS/src/conf/configure.nems.NUOPC
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3
NEMS/NEMS/src/conf/configure.nems /scratch2
/COASTAL/coastal/save/Andre.VanderWesthuysen
NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/externals.nems /scratch2/COASTAL/coast
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3
NEMS/NEMS/src/conf/modules.nems /scratch2/CO
/coastal/save/Andre.VanderWesthuysen/OCS-
NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/ESMFVersionDefine.h /scratch2/COASTAL/coast
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3
NEMS/NEMS/src/conf/modules.nems.sh /scratch2
/COASTAL/coastal/save/Andre.VanderWesthuysen
NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/modules.nems.csh /scratch2/COASTAL/coa
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3
NEMS/NEMS/src/conf/test-results.mk
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3
NEMS/NEMS/src/conf/components.mk
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3
NEMS/NEMS/src/conf/test_results.mk

compileNems :: Compiling: make  -f GNUmakefi
build COMPONENTS="ADCIRC ATMESH WW3"
NOTE: Skipping appbuilder.mk creation; no
appbuilder file in use.
echo 'ADCIRC ATMESH WW3' > "/scratch2/COASTA
/coastal/save/Andre.VanderWesthuysen/OCS-
NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/components.mk"
NEMS_BUILDOPT IS
cp /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3
NEMS/conf/configure.nems.hera.intel /scratch
/COASTAL/coastal/save/Andre.VanderWesthuysen
NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/configure.nems
cat /dev/null > /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-WW3
NEMS/NEMS/src/conf/externals.nems
make: *** No rule to make target `/scratch2
/COASTAL/coastal/save/Andre.VanderWesthuysen
NEMS/ADC-WW3-NWM-NEMS/modulefiles/hera
/ESMF_NUOPC', needed by `/scratch2/COASTAL
/coastal/save/Andre.VanderWesthuysen/OCS-
NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/modules.nems'.  Stop.
```

I'll investigate further, but let me know if you have any suggestions.

Andre

On Fri, Jul 16, 2021 at 3:34 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrc

> Yes, Zach built it with those modules as defined in th modulefile for hera

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On Fri, Jul 16, 2021 at 2:20 PM Andre Van der Westh
- NOAA Affiliate <andre.vanderwesthuysen@noaa.g
wrote:

> Takis,
>
> Thanks, it works now. I'm now busy building it on H
> So the following Hera modules are needed, correc
>
> 1) intel/18.0.5.274 2) impi/2018.0.4 3) szip/2.1 4) hdf5_parallel/1.10
> 5) netcdf_parallel/4.7.4.release 6) esmf/8.1.0bs25g_ParallelNetCDF.re
>
> Andre
>
> On Fri, Jul 16, 2021 at 3:07 PM Panagiotis Velissa
> NOAA Affiliate <panagiotis.velissariou@noaa.gov>
>
> > Hi Andre,
> >
> > It is fixed now. I checked the cloning on my comp
> > and it works now.
> > I had forgotten to push the NEMS changes.
> >
> > Please try again.
> >
> > Takis
> >
> > Panagiotis Velissariou, Ph.D., P.E.
> > UCAR Scientist
> > National Ocean and Atmospheric Administration
> > National Ocean Service
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> > email: panagiotis.velissariou@noaa.gov
> >
> > On Fri, Jul 16, 2021 at 1:15 PM Andre Van der
> > Westhuysen - NOAA Affiliate
> > <andre.vanderwesthuysen@noaa.gov> wrote:
> >
> > > Hi Takis,
> > >
> > > I tried to clone the pahm feature branch today,
> > > failed while checking out the NEMS dependen
> > > used your recommended command:
> > >
> > > `git clone https://github.com/noaa-ocs-modeling/ADC-WW3-NWM-NEMS.git -b feature/pahm --recurse-submodules`
> > >
> > > and it gave the following error that it couldn't fi
> > > correct hash for NEMS:
> > >
> > > ```
> > > ...
> > > fatal: remote error: upload-pack: not
> > > ref 4c61cc4ea73e407784ddbd6b8affc9
> > > 9d20474e1b
> > > fatal: The remote end hung up unexpec
> > > Fetched in submodule path 'NEMS', but
> > > ```

Andre

On Tue, Jul 13, 2021 at 3:01 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Hi Andre,
>
> I think if you use the same configuration as i
> AMS simulations that will compile/run
> fine I believe.
> Curious to see how it goes.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administra
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
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>
> On Tue, Jul 13, 2021 at 8:58 AM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
>
> > Hi Andre,
> >
> > You should be able to do it. WW3 should
> > compile just fine with the intel
> > compilers. WW3 (the version that is in the
> > has some issues (argument mismatches)
> > when the compiler is gfortran (version 10*
> > haven't check if the same issue
> > still exists with the latest version, might se
> > this in the future.
> >
> > Either ATMESH+ADCIRC+PaHM winds o
> > PAHM+ADCIRC+PaHM winds should wor
> > just fine.
> >
> > Thanks
> > Takis
> >
> > Panagiotis Velissariou, Ph.D., P.E.
> > UCAR Scientist
> > National Ocean and Atmospheric Administ
> > National Ocean Service
> > Office of Coast Survey CSDL/CMMB
> > Project Lead - Coastal Coupling
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> > cell: (205) 227-9141
> > email: panagiotis.velissariou@noaa.gov
> >
> > On Tue, Jul 13, 2021 at 8:51 AM Andre Va Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> w
> > > Hi Takis,
> > >
> > > Thanks for this. I'll test it over the next f
> > > days. After I do ATMESH+WW3 (with th
> > > PaHM-generated, nc), could I also try

On Tue, Jul 13, 2021 at 9:11 AM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

Hi Takis,

Thanks for clarification.

Best,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Mo
Team Lead
Coastal Marine Modeling Branch, Coa
Survey Development Laboratory, Offi
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personally and do not necessarily refle
position of NOAA.

On Tue, Jul 13, 2021 at 1:08 AM Pan Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> v

Hi Saeed,

Yes, also the PAHM+ADCIRC setu
works the same when using pre-
prepared winds (NetCDF)
Tested both configurations, same re
Testing the direct exchange of the f
from PaHM to ADCIRC.
The PaHM Cap supports both confi
reason is that we may want to use
externally prepared wind fields (an
example: a NetCDF file that contair
blended background fields + PaHM

So, ATMESH+ADCIRC+PaHM win
or PAHM+ADCIRC+PaHM winds w
same with pre-prepared winds.

Takis

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email: panagiotis.velissariou@noaa

On Mon, Jul 12, 2021 at 5:06 PM S Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote

Thanks,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surg
Modeling Team Lead
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of Coast Survey at NOAA Nationa
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On Mon, Jul 12, 2021 at 5:25 PM
Panagiotis Velissariou - NOAA A
<panagiotis.velissariou@noaa.g
wrote:

> Hi Andre,
>
> The updated NEMS app is on
> github repo:
> https://github.com/noaa-ocs-modeling/ADC-WW3-NWM-NEMS.git feature/pahm
>
> I am using the command
> git clone https://github.com/noa
> modeling/ADC-WW3-NWM-NE
> git -b feature/pahm --recurse-submodules
>
> Note that this ADC-WW3-NWM
> NEMS also contains the latest
> NEMS source, (release/public-
>
> If possible, could you please ru
> application using ATMESH+W
> and the PaHM
> generated winds?
>
> I have run it successfully using
> ATMESH+ADCIRC and the Pa
> generated winds for Sandy,
> Florence for the Shinnecock In
> case.
>
> Testing the PaHM NUOPC Ca
>
> It seems that all issues are res
>
> If you want I can set a google
> case my help is needed on
> compiling/running the applicati
>
> Thank you
> Takis
>
> Panagiotis Velissariou, Ph.D.,

USM - Stennis Space Center
cell: (205) 227-9141
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gov

--
Andre J. van der Westhuysen, PhD
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The contents of this message are mine personally and do not necessarily reflect any position of NOAA.

--
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--
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--
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--
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--

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Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> Wed, Jul 28, 2021 at
To: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>
Cc: Yuji Funakoshi - NOAA Affiliate <yuji.funakoshi@noaa.gov>, Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noa
Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Andre

Please change it to the nearest. It will work. It may take more time.

See here:
https://github.com/noaa-ocs-modeling/CoastalApp/issues/39#issuecomment-858656203

-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Service.
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On Wed, Jul 28, 2021 at 11:19 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Saeed,
>
> Sure, I will try running on the subset 120 m mesh for now. The only issue is that our ATMESH is defined on the full 120 m mesh, `remapMethod=redist` method won't work in the nems.configure.
>
> Takis, remind me of the alternative method you used when the meshes differ between the components. Was it nearest neighbor? is the keyword?
>
> Thanks,
> Andre

On Wed, Jul 28, 2021 at 10:56 AM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> Hi Andre,

Thanks,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Serv
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On Wed, Jul 28, 2021 at 10:45 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

Hi Saeed,

Yes, I also believe that path is for ADCv55 on the 120 m mesh. That's the fort.15 file I listed out above. It however still has th 4-field fort.13 and NRAMP=1/DRAMP=5.0. Were the changes in fort.13 and NRAMP/DRAMP since Yuji's June runs made in to improve model stability or accuracy? As I described on Monday in this thread, when I tried a setup similar to Yuji's with ou NEMS app build, it failed on the second time step into the atm2ocn run. So I was wondering whether you have a working ex with the new build/updated inputs that I could compare to.

Andre

On Wed, Jul 28, 2021 at 10:24 AM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

HI Andre

I am 90% sure that this is the120m with v55 and NEMS. @Yuji Funakoshi - NOAA Affiliate , please confirm.

/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.atm2ocn.20210621.atmea120m/run

Best,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Service.
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On Wed, Jul 28, 2021 at 10:09 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> w

Hi Saeed,

Thanks for sharing the path to Yuji's runs. These are the ones I compared to back in June, but I recall that he used older modules (the legacy ones we had in the workflow) and a somewhat older code to what we have now. These also still ha old fort.13 with only 4 fields, and the old fort.15 with NRAMP=1/DRAMP=5.0. For example:

```
$ pwd
/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.tide_spinup.20210617/run
[Andre.VanderWesthuysen@hfe01 run]$ more fort.13
OceanMesh2D
5803941
4
primitive_weighting_in_continuity_equation
unitless
```

```
internal_tide_friction
local_dir, C_it =0.21884,Nb, D250
3
0.000000000e+00 0.000000000e+00 0.000000000e+00
subgrid_barrier
unitless
1
9.999900000e+04
primitive_weighting_in_continuity_equation
200530
745338 5.000000000e-03
751856 5.000000000e-03
751857 5.000000000e-03
751858 5.000000000e-03
751859 5.000000000e-03
751860 5.000000000e-03
751960 5.000000000e-03
...
```

and

```
$ pwd
/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.atm2ocn.20210621.atmea120m/run
[Andre.VanderWesthuysen@hfe01 run]$ more fort.15
HSOFS 120m_Releasev2.1 ! 32 CHARACTER ALPHANUMERIC RUN DESCRIPTION
Tidal spin-up 2018-08-27 18:00:00 UTC   ! 24 CHARACTER ALPANUMERIC RUN IDENTIFICATION
1                ! NFOVER - NONFATAL ERROR OVERRIDE OPTION
0                ! NABOUT - ABREVIATED OUTPUT OPTION PARAMETER
-1000            ! NSCREEN - UNIT 6 OUTPUT OPTION PARAMETER
567             ! IHOT - HOT START PARAMETER
20               ! ICS - COORDINATE SYSTEM SELECTION PARAMETER
511112           ! IM - MODEL SELECTION PARAMETER
1                ! NOLIBF - BOTTOM FRICTION TERM SELECTION PARAM; before NWP==1, '2' was used
2                ! NOLIFA - FINITE AMPLITUDE TERM SELECTION PARAMETER
1                ! NOLICA - SPATIAL DERIVATIVE CONVECTIVE SELECTION PARAMETER
1                ! NOLICAT - TIME DERIVATIVE CONVECTIVE TERM SELECTION PARAMETER
4                ! NWP
primitive_weighting_in_continuity_equation
mannings_n_at_sea_floor
internal_tide_friction
subgrid_barrier
1                ! NCOR - VARIABLE CORIOLIS IN SPACE OPTION PARAMETER
1                ! NTIP - TIDAL POTENTIAL OPTION PARAMETER
17              ! NWS - WIND STRESS AND BAROMETRIC PRESSURE OPTION PARAMETER
1                ! NRAMP - RAMP FUNCTION OPTION
9.81             ! G - ACCELERATION DUE TO GRAVITY - DETERMINES UNITS
-3               ! TAU0 - WEIGHTING FACTOR IN GWCE; original, 0.005
2.0              ! DT - TIME STEP (IN SECONDS)
0.00             ! STATIM - STARTING TIME (IN DAYS)
0.00             ! REFTIM - REFERENCE TIME (IN DAYS)
3600  3600   ! WTIMINC - meteorological data time increment, RSTIMINC wave forcing increment
20.5   ! RNDAY - TOTAL LENGTH OF SIMULATION (IN DAYS)
5.0            ! DRAMP - DURATION OF RAMP FUNCTION (IN DAYS)
0 1 0            ! TIME WEIGHTING FACTORS FOR THE GWCE EQUATION
0.1 0 0 0.01     ! H0, NODEDRYMIN, NODEWETRMP, VELMIN
-81.603414 32.182098 ! SLAM0,SFEA0 - CENTER OF CPP PROJECTION (NOT USED IF ICS=1, NTIP=0, NCOR=0)
0.0001           ! FFACTOR
-0.050000        ! ESL - LATERAL EDDY VISCOSITY COEFFICIENT; IGNORED IF NWP =1
0.0              ! CORI - CORIOLIS PARAMETER - IGNORED IF NCOR = 1
8                ! NUMBER OF TIDAL POTENTIAL CONSTITUENTS BEING FORCED starting 2008082300
Q1               ! ALPAHANUMERIC DESCRIPTION OF TIDAL POTENTIAL CONSTIT.
  0.019256  0.000064958541129  0.695  0.91252     131.29
O1
  0.100514  0.000067597744151  0.695  0.91252     1.32
P1
```

Did Yuji rerun this with your latest version and build of the app? If you could share the updated 5-field fort.13 file for the t
m mesh, I could update the NWP and NRAMP in the fort.15 and retest on my side.

Thanks,
Andre

On Tue, Jul 27, 2021 at 6:29 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> Andre,
> See here:
>
> These were shared by Yuji a while ago based on 120m mesh.
> /scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m
>
> The example I shared was a smaller setup tested for v55.
>
> Best,
> -Saeed
> _____
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Oc
> Service.
> Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
> Phone: (240) 847-8230
>
> The contents of this message are mine personally and do not necessarily reflect any position of NOAA.

On Tue, Jul 27, 2021 at 6:23 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>

> Hi Saeed and Takis,
>
> I set up the Florence case that Saeed shared as a template in the workflow, including the updated fort.13 file (with 5
> fields). This ran fine for the tidal spinup. However, this does not contain the full HSOFS 120 m mesh (5803941 node
> only has 633974 nodes:
>
> $ more fort.14
> ```
> NOMAD mesh v1e MSL
> 1222455 633974
> 1 -7.7547572700700002E+01 3.5839343178900002E+01 -9.2613500000000002E+00
> 2 -7.7551062012200006E+01 3.5829987009200003E+01 -7.8063300000000000E+00
> 3 -7.7549421612299994E+01 3.5834698053300002E+01 -9.2522099999999998E+00
> 4 -7.7541916701900007E+01 3.5835456465900002E+01 -1.0394100000000000E+01
> 5 -7.7552007930100004E+01 3.5825088089700003E+01 -1.0484900000000000E+01
> 6 -7.7547475583799994E+01 3.5826092459199998E+01 -7.3492300000000004E+00
> ...
> ```
>
> This case also does not contain the fort.13 file on the full HSOFS 120m mesh (5803941 nodes), only 633974 nodes
>
> $ more fort.13
> ```
> NOMAD mesh v1e MSL nodal attributes
> 633974
> 5
> mannings_n_at_sea_floor
> meters
> 1
> 2.0000000000000000E-02
> primitive_weighting_in_continuity_equation
> unitless
> 1
> 2.9999999999999999E-02
> surface_canopy_coefficient
> unitless
> ```

```
0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
0.00000000000000
00E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
surface_submergence_state
unitless
1
0.0000000000000000E+00
mannings_n_at_sea_floor
263078
1 0.2
2 0.18
3 0.1
...
```

Before updating the WW3 component, I would like to verify the new app with ADCv55 on the full HSOFS 120 m me
e.g. for the Florence case including:
1) Tidal spinup (12.5 days)
2) Wind forcing (run type = atm2ocn), with the ATMESH file "Florence_HWRF_HRRR_EA120m.nc" on the full HSOFS 120m mesh.

A few questions/requests:
- Could you please share the latest fort.13 that is defined over the complete HSOFS 120 m mesh?
- Takis, are the fort.15 files for spinup and wind forcing you shared yesterday defined over the full 120 m mesh, and these the most recent versions of these input files?
- Just to double check, I have a fort.14 for the HSOFS 120 m mesh dated June 9. Is this still current?

Thanks,
Andre

On Tue, Jul 27, 2021 at 4:06 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Hi Andre,
>
> Yes, just keep these values for DRAMP.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
> USM - Stennis Space Center
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> email: panagiotis.velissariou@noaa.gov

On Tue, Jul 27, 2021 at 2:50 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.g
wrote:

> Hi Takis,
>
> Yes, will do. Can I use the DRAMP line as is, if I'm staying with a 12.5 day spinup?
>
> ```
> 12.500 0.000 0.000 0.000 12.500 12.500 1.000 0.000 12.500
> ```
>
> Andre

On Tue, Jul 27, 2021 at 3:32 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> w

> Hi Andre,
>
> We are using NRAMP=8
> Also check the DRAMP values as well.
>
> Takis

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On Tue, Jul 27, 2021 at 2:24 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@no gov> wrote:

Saeed, thanks very much for these files.

Takis, yes, what Saeed shared will be enough to get me started.

One more question: I see that for the forecast run the NRAMP has been updated from 1 (simple hyperbolic tangent) to 8. Should I copy this over for running with ATMESH and PaHM, or is this just for best track wind forcing?

Andre

On Tue, Jul 27, 2021 at 2:58 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.go wrote:

Thanks Saeed.

Andre, do you still need the fort.13 files?
I believe the test case Saeed pointed to contains all the info needed.
I'll do similar tests on Orion as well.

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Tue, Jul 27, 2021 at 1:54 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

Hi Takis,

I also copied the same test case here on Orion:

/work/noaa/nosofs/archive/COASTAL_ACT/florence_subset/

Best,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Service.
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On Tue, Jul 27, 2021 at 2:46 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote

Hi Andre,

Sorry for being radio silence. Would you please see if you can use this test case. This is a subset m Florence. The NEMS setup for best track is included. You may need to up data nems.configure and together fort.15 templates for spin up and main run

-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Service.
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On Tue, Jul 27, 2021 at 2:22 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

Let me get the fort.13 files from orion.
Yes, as you say for hsofs120m-fort.15, nems_adcirc-hera-fort.15
For PaHM you just change to NWS=17, correct

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Tue, Jul 27, 2021 at 1:15 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

Hi Takis,

Just focusing on the 120 m mesh, the files I've been testing with are indeed different from those shared yesterday. For example, the fort.13 I have from June 9 only contains 4 quantities:

```
$ more fort.13
OceanMesh2D
5803941
4
primitive_weighting_in_continuity_equation
unitless
1
3.000000000e-02
mannings_n_at_sea_floor
unitless
1
2.200000000e-02
internal_tide_friction
local_dir, C_it =0.21884,Nb, D250
3
0.000000000e+00 0.000000000e+00 0.000000000e+00
subgrid_barrier
unitless
1
9.999900000e+04
primitive_weighting_in_continuity_equation
200530
745338 5.000000000e-03
751856 5.000000000e-03
```

Also, just to make sure I understand - the fort.15 files you shared yesterday are:
hsofs120m-fort.15 - Tidal spinup
nems_adcirc-hera-fort.15 - Wind-only run with Generalized Asymmetric Holland Model

Is this correct? For the latter, I assume that when we connect PaHM via NEMS, the NWS type v
change from 20 to 17 (wind only) and 517 (wind+waves). Correct?

Andre

On Mon, Jul 26, 2021 at 5:35 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Hi Andre,
>
> Attached are the fort.15 files.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
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> email: panagiotis.velissariou@noaa.gov
>
> On Mon, Jul 26, 2021 at 4:20 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:
>
> > Hi Takis and Saeed,
> >
> > Thanks for this info. Could you please share the location of these fort.15 files on Hera (with
> > Zach's help)? I would like to confirm that I have the correct ones in the workflow (at least fo
> > 120 m mesh).
> >
> > Andre
> >
> > On Mon, Jul 26, 2021 at 4:42 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
> >
> > > Saeed,
> > >
> > > Yes, these are from Zach, I had asked him to upload these on orion from hera.
> > >
> > > Takis
> > >
> > > Panagiotis Velissariou, Ph.D., P.E.
> > > UCAR Scientist
> > > National Ocean and Atmospheric Administration
> > > National Ocean Service
> > > Office of Coast Survey CSDL/CMMB
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> > >
> > > On Mon, Jul 26, 2021 at 3:40 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:
> > >
> > > > Hi Takis,
> > > >
> > > > Make sure these are the ones Zach tested. Otherwise stick to the 120 m (HSOFS2020
> > > >
> > > > Thanks,
> > > > -Saeed

Phone: (240) 847-8230

The contents of this message are mine personally and do not necessarily reflect any po:
of NOAA.

On Mon, Jul 26, 2021 at 4:35 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

In Orion we have the 120m/250m meshes at:
/work/noaa/nosofs/share/models/meshes/hsofs/
with corresponding fort.15 files
I believe these should work.

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Mon, Jul 26, 2021 at 3:21 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

Thank you Saeed.
I am using the files (fort.15) on orion from:
/work/noaa/nosofs/share/working/hera/nems_adcirc/run_20210720_large_enseml
Are these ok?
I don't have access to HSOFS2020 data.

Takis

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On Mon, Jul 26, 2021 at 3:01 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

Hi Takis and Andre,

The HSOFS2016 fort.15 is not compatible with v55. Zach has the updated fort.1
HSOFS2016 as well. So we need to update the template for it.

For now, please use the 120 m (HSOFS2020) for this test.

Thanks,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office
Coast Survey at NOAA National Ocean Service.
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Phone: (240) 847-8230

<panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

Ok, I am testing on Orion to see what happens.

Takis

Panagiotis Velissariou, Ph.D., P.E.
UCAR Scientist
National Ocean and Atmospheric Administration
National Ocean Service
Office of Coast Survey CSDL/CMMB
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On Mon, Jul 26, 2021 at 2:30 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

Hi Takis,

No, I started with our standard HSOFS mesh. But I'll test with the 120 m me also.

Andre

On Mon, Jul 26, 2021 at 1:05 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

No, I haven't seen these in my simulations. Are you using the 120m HSO mesh?

Takis

Panagiotis Velissariou, Ph.D., P.E.
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National Ocean and Atmospheric Administration
National Ocean Service
Office of Coast Survey CSDL/CMMB
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On Mon, Jul 26, 2021 at 11:59 AM Andre Van der Westhuysen - NOAA A <andre.vanderwesthuysen@noaa.gov> wrote:

Hi Takis,

Here's an update on my testing: I managed to clone and build the app fine now. As before, I started by building with only the ATMESH forcing see if I could recreate previous results (e.g. Florence with HWRF forcir

```
./build.sh --component "ADCIRC ATMESH WW3" --plat hera
--compiler intel --clean -2
```

For my first test, I tried the unit test of forcing ADCIRC with ATMESH o (workflow RUN_TYPE=atm2ocn). Software-wise this succeeded, I thin since it got past the various initialization stages and started time steppi However, it failed on the second time step of the simulation. Here is an extract from the log file of one of the ADCIRC nodes:

```
$ tail -30 PET001.ESMF_LogFile
```

```
20210726 145300.308 INFO             PET001       >>>ATM-TO-OCN ente
Run (phase=RunPhase1)
20210726 145300.432 INFO             PET001       ATM-TO-OCN: callec
default label_ExecuteRouteHandle
20210726 145300.432 INFO             PET001       <<<ATM-TO-OCN leav
Run (phase=RunPhase1)
20210726 145300.432 INFO             PET001     ATM-TO-OCN: Run exti
20210726 145300.433 INFO             PET001     OCN: Run intro.
20210726 145300.435 INFO             PET001       >>>OCN: entered Ru
(phase=RunPhase1) with current time: 2018  9  9  6  0  0   0
20210726 145300.437 INFO             PET001       OCN: time step-loc
starting, current time: 2018  9  9  6  0  0   0
20210726 145300.438 INFO             PET001        (adc_cap:ModelAdv
--- no wave forcing exchange / waves are not all connected ---
20210726 145300.443 INFO             PET001        (adc_cap:ModelAdv
--- meteo forcing exchange OK / atm feilds are all connected --- / M
advances
20210726 145300.746 INFO             PET001        (adc_cap:ModelAdv
--- run phase 2 called ---
20210726 145309.028 INFO             PET001        (adc_cap:ModelAdv
--- run phase 3 called ---  nCplADC =         1800
20210726 145309.028 INFO             PET001        (adc_cap:ModelAdv
--- no surge forcing for wave. 1way coupled WW3 -> ADC  ---
20210726 145309.029 INFO             PET001       OCN: time step-loc
ending,   current time: 2018  9  9  7  0  0   0
20210726 145309.029 INFO             PET001       <<<OCN: leaving Ru
(phase=RunPhase1) with current time: 2018  9  9  7  0  0   0
20210726 145309.029 INFO             PET001     OCN: Run extro.
20210726 145309.029 INFO             PET001     EARTH grid component
RunSequence event loopLevel=   1  levelMember=   1  loopIteration=
current time: 2018  9  9  7  0  0   0
20210726 145309.030 INFO             PET001     ATM-TO-OCN: Run inti
20210726 145309.030 INFO             PET001       >>>ATM-TO-OCN ente
Run (phase=RunPhase1)
20210726 145309.031 INFO             PET001       ATM-TO-OCN: callec
default label_ExecuteRouteHandle
20210726 145309.032 INFO             PET001       <<<ATM-TO-OCN leav
Run (phase=RunPhase1)
20210726 145309.032 INFO             PET001     ATM-TO-OCN: Run exti
20210726 145309.033 INFO             PET001     OCN: Run intro.
20210726 145309.033 INFO             PET001       >>>OCN: entered Ru
(phase=RunPhase1) with current time: 2018  9  9  7  0  0   0
20210726 145309.035 INFO             PET001       OCN: time step-loc
starting, current time: 2018  9  9  7  0  0   0
20210726 145309.035 INFO             PET001        (adc_cap:ModelAdv
--- no wave forcing exchange / waves are not all connected ---
20210726 145309.035 INFO             PET001        (adc_cap:ModelAdv
--- meteo forcing exchange OK / atm feilds are all connected --- / M
advances
20210726 145309.153 INFO             PET001        (adc_cap:ModelAdv
--- run phase 2 called ---
```

When I look at ADCIRC runtime output, I see extreme elevations and velocities:

```
 ELMAX =  5.1773E+001 AT NODE   763996  SPEEDMAX =  1.3704E+001 AT N
697083  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543159     ITERATIONS =    0     TIME =  0.10863180E+(
  ELMAX =  8.8111E+002 AT NODE   681482  SPEEDMAX =  1.0964E+002 AT
679812  ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543159     ITERATIONS =    0     TIME =  0.10863180E+(
  ELMAX =  5.2052E+001 AT NODE   763996  SPEEDMAX =  1.3335E+001 AT
697083  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543160     ITERATIONS =    0     TIME =  0.10863200E+(
```

```
  ELMAX =  9.3271E+002 AT NODE   679811  SPEEDMAX =  1.0869E+002 AT
679812  ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543161     ITERATIONS =    0     TIME =  0.10863220E+(
  ELMAX =  5.0354E+001 AT NODE   763996  SPEEDMAX =  1.4152E+001 AT
799211  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+(
  ELMAX =  1.0146E+003 AT NODE   678170  SPEEDMAX =  1.0262E+002 AT
679811  ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+(
  ELMAX =  1.0146E+003 AT NODE   678170  SPEEDMAX =  1.0262E+002 AT
679811  ON MYPROC =  255
  ** ERROR: Elevation.gt.ErrorElev, ADCIRC stopping. **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E+(
  ELMAX =  4.8473E+001 AT NODE   763996  SPEEDMAX =  1.4509E+001 AT
799211  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
srun: Job step aborted: Waiting up to 32 seconds for job step to fir
slurmstepd: error: *** STEP 21020412.0 ON h32m13 CANCELLED AT
2021-07-26T15:38:10 ***
slurmstepd: error: *** JOB 21020412 ON h32m13 CANCELLED AT
2021-07-26T15:38:10 ***
```

This run was preceded by the standard 12.5 day tidal spinup, and uses 5-day wind ramp. I need to do further analysis, but I was wondering if y Zach got any of this in your testing? Did you apply a limitation on the fi hour of ATMESH input, to avoid the bad data at this initial time step we seen in the past? If you want to check my run, it is here on Hera:

```
/scratch2/NCEPDEV/stmp1/Andre.VanderWesthuysen/data/
florence.atm2ocn.20210726.fail_extreme_wl/run
```

Andre

On Wed, Jul 21, 2021 at 11:39 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis,
>
> Thanks, it cloned fine now. I'll proceed with building it, and will let you how it goes.
>
> Andre
>
> On Wed, Jul 21, 2021 at 11:11 AM Panagiotis Velissariou - NOAA Af <panagiotis.velissariou@noaa.gov> wrote:
>
> > Good morning Andre,
> >
> > You may now clone the feature/pahm, everything is ok.
> > The problem was with updates we did to use the large file system
> >
> > Takis
> >
> > Panagiotis Velissariou, Ph.D., P.E.
> > UCAR Scientist
> > National Ocean and Atmospheric Administration
> > National Ocean Service
> > Office of Coast Survey CSDL/CMMB
> > Project Lead - Coastal Coupling
> > USM - Stennis Space Center
> > cell: (205) 227-9141
> > email: panagiotis.velissariou@noaa.gov
> >
> > On Tue, Jul 20, 2021 at 7:17 PM Panagiotis Velissariou - NOAA A <panagiotis.velissariou@noaa.gov> wrote:

Takis

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On Tue, Jul 20, 2021 at 5:09 PM Andre Van der Westhuysen - N
Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis,
>
> I tried a clean (re-) cloning of the repo, but ran into issues aga
> used:
> `$ git clone https://github.com/noaa-ocs-modeling/ADC-W\`
> `NWM-NEMS.git -b feature/pahm --recurse-submodules`
>
> But got a similar error as before:
>
> ```
> ...
> Submodule path 'NEMS/tests/produtil/NCEPLIBS-
> pyprodutil': checked out '
> ca171b95095db4fcd0fc7b01c23d073d90becd99'
> Submodule path 'NWM': checked out '
> 3bc401d298070515cb6171a585d2d19646afd650'
> fatal: remote error: upload-pack: not our ref
> 2c148ca1ed6a6c6c2b2446f455a8745e5c1518e9
> fatal: The remote end hung up unexpectedly
> Fetched in submodule path 'PAHM', but it did not
> contain 2c148ca1ed6a6c6c2b2446f455a8745e5c1518e9.
> Direct fetching of that commit failed.
> ```
>
> Any suggestions about this failure in the PAHM part?
>
> Andre

On Mon, Jul 19, 2021 at 11:56 AM Panagiotis Velissariou - NC
Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Hi Andre,
>
> Somehow, the NEMS submodule in feature/pahm was one
> behind.
> It has been fixed now. Zach compiled the application
> successfully on hera.
> A "git submodule update NEMS" should update your local N
> submodule.
> If not, you may clone the app again.
>
> Please, let me know if the compilation goes as expected.
>
> Thanks
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB

On Mon, Jul 19, 2021 at 10:18 AM Panagiotis Velissariou - Affiliate <panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

Zach tried to re-compile on hera and he experienced the same problem.
I am checking to see what happened between commits.
I'll update you all as soon as possible.

Thanks
Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Fri, Jul 16, 2021 at 4:30 PM Panagiotis Velissariou - N Affiliate <panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

components ADCIRC, ATMESH, WW3 are in NEMS/s /incmake (checked the github repo)
You shouldn't be getting: .../ADC-WW3-NWM-NEMS/ modulefiles/hera/ESMF_NUOPC error
because I have removed these files and in the NEMS/s /incmake/buildenv.mk I have commended the
lines 63 to 68 out (where these modules are called).
So, please do first:
build.sh --plat hera --component "ATMESH ADCIRC W --clean 2
rm -rf ALLBIN_INSTALL
These will clean everything. Then,
build.sh --compiler intel --plat hera --component "ATME ADCIRC WW3"
to build the NEMS executable.
Better instead of ATMESH, use PAHM, for your configu should work the same,
assuming that you already have generated the PaHM v

Please keep the logs so we can check all warning/erro messages.

Takis

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email: panagiotis.velissariou@noaa.gov

On Fri, Jul 16, 2021 at 3:51 PM Andre Van der Westhu NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>

Hi Takis,

More progress, but still not success. I get the followir

```
GNUmakefile:16: /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-W
NWM-NEMS/NEMS/src/conf/test-results.mk: No su
file or directory
Components in linker order: WW3 ATMESH ADC
WW3: include
GNUmakefile:70: : component WW3 makefile
fragment is missing
ATMESH: include
GNUmakefile:70: : component ATMESH makefil
fragment is missing
ADCIRC: include
GNUmakefile:70: : component ADCIRC makefil
fragment is missing
make[1]: *** No rule to make target `/scra
/COASTAL/coastal/save/Andre.VanderWesthuys
OCS-NEMS/ADC-WW3-NWM-NEMS/NEMS/src/conf/tes
results.mk'.  Stop.
make[1]: Leaving directory `/scratch2/COAS
/coastal/save/Andre.VanderWesthuysen/OCS-
NEMS/ADC-WW3-NWM-NEMS/NEMS/src'
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-W
NWM-NEMS/NEMS/exe/NEMS.x /scratch2/COASTAL
/coastal/save/Andre.VanderWesthuysen/OCS-
NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/configure.nems.NUOPC
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-W
NWM-NEMS/NEMS/src/conf/configure.nems /scr
/COASTAL/coastal/save/Andre.VanderWesthuys
OCS-NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/externals.nems /scratch2/COASTAL/coa
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-W
NWM-NEMS/NEMS/src/conf/modules.nems /scrat
/COASTAL/coastal/save/Andre.VanderWesthuys
OCS-NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/ESMFVersionDefine.h /scratch2/COASTAL/coa
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-W
NWM-NEMS/NEMS/src/conf/modules.nems.sh /scr
/COASTAL/coastal/save/Andre.VanderWesthuys
OCS-NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/modules.nems.csh /scratch2/COASTAL
/coastal/save/Andre.VanderWesthuysen/OCS-
NEMS/ADC-WW3-NWM-NEMS/NEMS/src/conf/test-res
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-W
NWM-NEMS/NEMS/src/conf/components.mk
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-W
NWM-NEMS/NEMS/src/conf/test_results.mk

compileNems :: Compiling: make  -f GNUmake
build COMPONENTS="ADCIRC ATMESH WW3"
NOTE: Skipping appbuilder.mk creation; no
appbuilder file in use.
echo 'ADCIRC ATMESH WW3' > "/scratch2/COAS
/coastal/save/Andre.VanderWesthuysen/OCS-
NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/components.mk"
NEMS_BUILDOPT IS
cp /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC-W
NWM-NEMS/conf/configure.nems.hera.intel
```

```
make: *** No rule to make target `/scratch
/COASTAL/coastal/save/Andre.VanderWesthuys
OCS-NEMS/ADC-WW3-NWM-NEMS/modulefiles/hera
/ESMF_NUOPC', needed by `/scratch2/COASTAL
/coastal/save/Andre.VanderWesthuysen/OCS-
NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/modules.nems'.  Stop.
```

I'll investigate further, but let me know if you have any suggestions.

Andre

On Fri, Jul 16, 2021 at 3:34 PM Panagiotis Velissario NOAA Affiliate <panagiotis.velissariou@noaa.gov> w

> Yes, Zach built it with those modules as defined in modulefile for hera.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
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> Project Lead - Coastal Coupling
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> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov
>
> On Fri, Jul 16, 2021 at 2:20 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:
>
> > Takis,
> >
> > Thanks, it works now. I'm now busy building it or
> > So the following Hera modules are needed, corr
> >
> > 1) intel/18.0.5.274 2) impi/2018.0.4 3) szip/2.1 4) hdf5_parallel/1.10.6.release 5) netcdf_parallel/4.7.4.release 6) esmf/8.1.0bs25g_ParallelNetCDF.release
> >
> > Andre
> >
> > On Fri, Jul 16, 2021 at 3:07 PM Panagiotis Velis NOAA Affiliate <panagiotis.velissariou@noaa.go wrote:
> >
> > > Hi Andre,
> > >
> > > It is fixed now. I checked the cloning on my co and it works now.
> > > I had forgotten to push the NEMS changes.
> > >
> > > Please try again.
> > >
> > > Takis
> > >
> > > Panagiotis Velissariou, Ph.D., P.E.
> > > UCAR Scientist
> > > National Ocean and Atmospheric Administratio
> > > National Ocean Service
> > > Office of Coast Survey CSDL/CMMB
> > > Project Lead - Coastal Coupling
> > > USM - Stennis Space Center

<andre.vanderwesthuysen@noaa.gov> wrote:

Hi Takis,

I tried to clone the pahm feature branch tod
it failed while checking out the NEMS depen
I used your recommended command:

```
git clone https://github.com/noaa-ocs-modeling/ADC-WW3-NWM-NEMS.git -b feature/pahm --recurse-submodules
```

and it gave the following error that it couldn'
the correct hash for NEMS:

```
...
fatal: remote error: upload-pack: n
our ref 4c61cc4ea73e407784ddbd6b8af
9d20474e1b
fatal: The remote end hung up
unexpectedly
Fetched in submodule path 'NEMS', b
did not contain
4c61cc4ea73e407784ddbd6b8affc9
9d20474e1b. Direct fetching of that
commit failed.
```

I added the full log in the attachments. Any suggestions?

Andre

On Tue, Jul 13, 2021 at 3:01 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

I think if you use the same configuration a
the AMS simulations that will compile/run
fine I believe.
Curious to see how it goes.

Takis

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On Tue, Jul 13, 2021 at 8:58 AM Panagio Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote

Hi Andre,

You should be able to do it. WW3 shou
compile just fine with the intel
compilers. WW3 (the version that is in t
app) has some issues (argument mism
when the compiler is gfortran (version 1
haven't check if the same issue

Thanks
Takis

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email: panagiotis.velissariou@noaa.gov

On Tue, Jul 13, 2021 at 8:51 AM Andre der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>
> Hi Takis,
>
> Thanks for this. I'll test it over the nex days. After I do ATMESH+WW3 (with PaHM-generated .nc), could I also try ATMESH+ADCIRC+WW3, for examp Florence?
>
> Andre

On Tue, Jul 13, 2021 at 9:11 AM Sae Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:
> > Hi Takis,
> >
> > Thanks for clarification.
> >
> > Best,
> > -Saeed
> >
> > _____
> > _____
> > Saeed Moghimi, PhD
> > **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> > Coastal Marine Modeling Branch, C Survey Development Laboratory, O of Coast Survey at NOAA National (Service.
> > Address: 1315 East West Hwy, Roor 6607, Silver Spring, Maryland 2091
> > Phone: (240) 847-8230
> >
> >

On Tue, Jul 13, 2021 at 1:08 AM Panagiotis Velissariou - NOAA Affil <panagiotis.velissariou@noaa.gov wrote:
> > Hi Saeed,
> >
> > Yes, also the PAHM+ADCIRC se works the same when using pre-

the reason is that we may want t
externally prepared wind fields (a
example: a NetCDF file that cont
blended background fields + PaH
fields)

So, ATMESH+ADCIRC+PaHM w
or PAHM+ADCIRC+PaHM winds
the same with pre-prepared wind

Takis

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On Mon, Jul 12, 2021 at 5:06 PM
Saeed Moghimi - NOAA Affiliate
<saeed.moghimi@noaa.gov> wr

> Hi Takis,
>
> I think I am confused. If we are
> PahM to provide atm forcing, w
> we need to have ATMESH?
>
> Thanks,
> -Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Su
Modeling Team Lead
Coastal Marine Modeling
Branch, Coast Survey Developr
Laboratory, Office of Coast Su
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6607, Silver Spring, Maryland
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On Mon, Jul 12, 2021 at 5:25 P
Panagiotis Velissariou - NOAA
Affiliate
<panagiotis.velissariou@noaa.
wrote:

> Hi Andre,
>
> The updated NEMS app is o
> github repo:
> https://github.com/noaa-ocs-
> modeling/ADC-WW3-NWM-

feature/pahm --recurse-submodules

Note that this ADC-WW3-NW NEMS also contains the late stable NEMS source, (release/public-v2).

If possible, could you please the application using ATMESH+WW3 and the Pal generated winds?

I have run it successfully usi ATMESH+ADCIRC and the generated winds for Sandy, Florence for the Shinnecock test case.

Testing the PaHM NUOPC C now.

It seems that all issues are resolved.

If you want I can set a googl in case my help is needed o compiling/running the applic

Thank you
Takis

Panagiotis Velissariou, Ph.D
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--
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--
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The contents of this message are mine pers
and do not necessarily reflect any position o
NOAA.

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The contents of this message are mine personally and do not necessarily reflect any position of NOAA.

--
Andre J. van der Westhuysen, PhD
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To: Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov>
Cc: Yuji Funakoshi - NOAA Affiliate <yuji.funakoshi@noaa.gov>, Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noa
Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Saeed,

Thanks. I will try with `remapMethod=nearest_stod`.

Andre

On Wed, Jul 28, 2021 at 11:29 AM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> Hi Andre
>
> Please change it to the nearest. It will work. It may take more time.
>
> See here:
> https://github.com/noaa-ocs-modeling/CoastalApp/issues/39#issuecomment-858656203
>
> -Saeed
>
> _____
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Servic
> Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
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On Wed, Jul 28, 2021 at 11:19 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Saeed,
>
> Sure, I will try running on the subset 120 m mesh for now. The only issue is that our ATMESH is defined on the full 120 m mesh
> the `remapMethod=redist` method won't work in the nems.configure.
>
> Takis, remind me of the alternative method you used when the meshes differ between the components. Was it nearest neighbo
> What is the keyword?
>
> Thanks,
> Andre

On Wed, Jul 28, 2021 at 10:56 AM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> Hi Andre,
>
> I would like to ask you if you may try that smaller example for Florence as the first step or we can wait for Zach and look into
> again next week when he returns to office.
>
> I think @Zachary Burnett - NOAA Affiliate has both 250 and 120 m setups on Hera however I am not sure where to find ther
>
> Thanks,
> -Saeed
>
> _____
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Se
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order to improve model stability or accuracy? As I described on Monday in this thread, when I tried a setup similar to Yuji's our new NEMS app build, it failed on the second time step into the atm2ocn run. So I was wondering whether you have a working example with the new build/updated inputs that I could compare to.

Andre

On Wed, Jul 28, 2021 at 10:24 AM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> HI Andre
>
> I am 90% sure that this is the120m with v55 and NEMS. @Yuji Funakoshi - NOAA Affiliate , please confirm.
>
> /scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.atm2ocn.20210621.atmea120m/run
>
> Best,
> -Saeed
>
> _____
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocea Service.
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>
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>
> On Wed, Jul 28, 2021 at 10:09 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:
>
> > Hi Saeed,
> >
> > Thanks for sharing the path to Yuji's runs. These are the ones I compared to back in June, but I recall that he used old modules (the legacy ones we had in the workflow) and a somewhat older code to what we have now. These also still I the old fort.13 with only 4 fields, and the old fort.15 with NRAMP=1/DRAMP=5.0. For example:
> >
> > ```
> > $ pwd
> > /scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.tide_spinup.20210617/run
> > [Andre.VanderWesthuysen@hfe01 run]$ more fort.13
> > OceanMesh2D
> > 5803941
> > 4
> > primitive_weighting_in_continuity_equation
> > unitless
> > 1
> > 3.000000000e-02
> > mannings_n_at_sea_floor
> > unitless
> > 1
> > 2.200000000e-02
> > internal_tide_friction
> > local_dir, C_it =0.21884,Nb, D250
> > 3
> > 0.000000000e+00 0.000000000e+00 0.000000000e+00
> > subgrid_barrier
> > unitless
> > 1
> > 9.999900000e+04
> > primitive_weighting_in_continuity_equation
> > 200530
> > 745338 5.000000000e-03
> > 751856 5.000000000e-03
> > 751857 5.000000000e-03
> > ```

and

```
$ pwd
/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.atm2ocn.20210621.atmea120m/run
[Andre.VanderWesthuysen@hfe01 run]$ more fort.15
HSOFS 120m_Releasev2.1 ! 32 CHARACTER ALPHANUMERIC RUN DESCRIPTION
Tidal spin-up 2018-08-27 18:00:00 UTC   ! 24 CHARACTER ALPANUMERIC RUN IDENTIFICATION
1                ! NFOVER - NONFATAL ERROR OVERRIDE OPTION
0                ! NABOUT - ABREVIATED OUTPUT OPTION PARAMETER
-1000            ! NSCREEN - UNIT 6 OUTPUT OPTION PARAMETER
567            ! IHOT - HOT START PARAMETER
20               ! ICS - COORDINATE SYSTEM SELECTION PARAMETER
511112           ! IM - MODEL SELECTION PARAMETER
1                ! NOLIBF - BOTTOM FRICTION TERM SELECTION PARAM; before NWP==1, '2' was used
2                ! NOLIFA - FINITE AMPLITUDE TERM SELECTION PARAMETER
1                ! NOLICA - SPATIAL DERIVATIVE CONVECTIVE SELECTION PARAMETER
1                ! NOLICAT - TIME DERIVATIVE CONVECTIVE TERM SELECTION PARAMETER
4                ! NWP
primitive_weighting_in_continuity_equation
mannings_n_at_sea_floor
internal_tide_friction
subgrid_barrier
1                ! NCOR - VARIABLE CORIOLIS IN SPACE OPTION PARAMETER
1                ! NTIP - TIDAL POTENTIAL OPTION PARAMETER
17             ! NWS - WIND STRESS AND BAROMETRIC PRESSURE OPTION PARAMETER
1                ! NRAMP - RAMP FUNCTION OPTION
9.81             ! G - ACCELERATION DUE TO GRAVITY - DETERMINES UNITS
-3               ! TAU0 - WEIGHTING FACTOR IN GWCE; original, 0.005
2.0              ! DT - TIME STEP (IN SECONDS)
0.00             ! STATIM - STARTING TIME (IN DAYS)
0.00             ! REFTIM - REFERENCE TIME (IN DAYS)
3600  3600   ! WTIMINC - meteorological data time increment, RSTIMINC wave forcing increment
20.5   ! RNDAY - TOTAL LENGTH OF SIMULATION (IN DAYS)
5.0           ! DRAMP - DURATION OF RAMP FUNCTION (IN DAYS)
0 1 0            ! TIME WEIGHTING FACTORS FOR THE GWCE EQUATION
0.1 0 0 0.01     ! H0, NODEDRYMIN, NODEWETRMP, VELMIN
-81.603414 32.182098 ! SLAM0,SFEA0 - CENTER OF CPP PROJECTION (NOT USED IF ICS=1, NTIP=0, NCOR=0)
0.0001           ! FFACTOR
-0.050000        ! ESL - LATERAL EDDY VISCOSITY COEFFICIENT; IGNORED IF NWP =1
0.0              ! CORI - CORIOLIS PARAMETER - IGNORED IF NCOR = 1
8                ! NUMBER OF TIDAL POTENTIAL CONSTITUENTS BEING FORCED starting 2008082300
Q1               ! ALPAHANUMERIC DESCRIPTION OF TIDAL POTENTIAL CONSTIT.
  0.019256  0.000064958541129  0.695  0.91252     131.29
O1
  0.100514  0.000067597744151  0.695  0.91252     1.32
P1
  0.046843  0.000072522945975  0.706  1.00000     24.07
K1
  0.141565  0.000072921158358  0.736  0.94621     147.91
...
```

Did Yuji rerun this with your latest version and build of the app? If you could share the updated 5-field fort.13 file for th 120 m mesh, I could update the NWP and NRAMP in the fort.15 and retest on my side.

Thanks,
Andre

On Tue, Jul 27, 2021 at 6:29 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> Andre,
> See here:
>
> These were shared by Yuji a while ago based on 120m mesh.
> /scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m

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On Tue, Jul 27, 2021 at 6:23 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.go
wrote:

> Hi Saeed and Takis,
>
> I set up the Florence case that Saeed shared as a template in the workflow, including the updated fort.13 file (witl
> fields). This ran fine for the tidal spinup. However, this does not contain the full HSOFS 120 m mesh (5803941 no
> only has 633974 nodes:
>
> $ more fort.14
> ```
> NOMAD mesh v1e MSL
> 1222455 633974
> 1 -7.7547572700700002E+01 3.5839343178900002E+01 -9.2613500000000002E+00
> 2 -7.7551062012200006E+01 3.5829987009200003E+01 -7.8063300000000000E+00
> 3 -7.7549421612299994E+01 3.5834698053300002E+01 -9.2522099999999998E+00
> 4 -7.7541916701900007E+01 3.5835456465900002E+01 -1.0394100000000000E+01
> 5 -7.7552007930100004E+01 3.5825088089700003E+01 -1.0484900000000000E+01
> 6 -7.7547475583799994E+01 3.5826092459199998E+01 -7.3492300000000004E+00
> ...
> ```
>
> This case also does not contain the fort.13 file on the full HSOFS 120m mesh (5803941 nodes), only 633974 nod
>
> $ more fort.13
> ```
> NOMAD mesh v1e MSL nodal attributes
> 633974
> 5
> mannings_n_at_sea_floor
> meters
> 1
> 2.0000000000000000E-02
> primitive_weighting_in_continuity_equation
> unitless
> 1
> 2.9999999999999999E-02
> surface_canopy_coefficient
> unitless
> 1
> 1.0000000000000000E+00
> surface_directional_effective_roughness_length
> meters
> 12
> 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+0
> 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+0
> 0.00000000000000
> 00E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
> surface_submergence_state
> unitless
> 1
> 0.0000000000000000E+00
> mannings_n_at_sea_floor
> 263078
> 1 0.2
> 2 0.18
> 3 0.1
> ```

A few questions/requests:
- Could you please share the latest fort.13 that is defined over the complete HSOFS 120 m mesh?
- Takis, are the fort.15 files for spinup and wind forcing you shared yesterday defined over the full 120 m mesh, ar these the most recent versions of these input files?
- Just to double check, I have a fort.14 for the HSOFS 120 m mesh dated June 9. Is this still current?

Thanks,
Andre

On Tue, Jul 27, 2021 at 4:06 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wro

Hi Andre,

Yes, just keep these values for DRAMP.

Takis

Panagiotis Velissariou, Ph.D., P.E.
UCAR Scientist
National Ocean and Atmospheric Administration
National Ocean Service
Office of Coast Survey CSDL/CMMB
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email: panagiotis.velissariou@noaa.gov

On Tue, Jul 27, 2021 at 2:50 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noa wrote:

Hi Takis,

Yes, will do. Can I use the DRAMP line as is, if I'm staying with a 12.5 day spinup?

```
12.500 0.000 0.000 0.000 12.500 12.500 1.000 0.000 12.500
```

Andre

On Tue, Jul 27, 2021 at 3:32 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov>

Hi Andre,

We are using NRAMP=8
Also check the DRAMP values as well.

Takis

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On Tue, Jul 27, 2021 at 2:24 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@ gov> wrote:

Saeed, thanks very much for these files.

Takis, yes, what Saeed shared will be enough to get me started.

One more question: I see that for the forecast run the NRAMP has been updated from 1 (simple hyperbo tangent) to 8. Should I copy this over for running with ATMESH and PaHM, or is this just for best track w

wrote:

Thanks Saeed.

Andre, do you still need the fort.13 files?
I believe the test case Saeed pointed to contains all the info needed.
I'll do similar tests on Orion as well.

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Tue, Jul 27, 2021 at 1:54 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote

Hi Takis,

I also copied the same test case here on Orion:

/work/noaa/nosofs/archive/COASTAL_ACT/florence_subset/

Best,
-Saeed

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On Tue, Jul 27, 2021 at 2:46 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrc

Hi Andre,

Sorry for being radio silence. Would you please see if you can use this test case. This is a subset
for Florence. The NEMS setup for best track is included. You may need to up data nems.configure
put together fort.15 templates for spin up and main run.

/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs_subset

Best,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
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For PaHM you just change to NWS=17, correct

Takis

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email: panagiotis.velissariou@noaa.gov

On Tue, Jul 27, 2021 at 1:15 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis,
>
> Just focusing on the 120 m mesh, the files I've been testing with are indeed different from tho shared yesterday. For example, the fort.13 I have from June 9 only contains 4 quantities:
>
> ```
> $ more fort.13
> OceanMesh2D
> 5803941
> 4
> primitive_weighting_in_continuity_equation
> unitless
> 1
> 3.000000000e-02
> mannings_n_at_sea_floor
> unitless
> 1
> 2.200000000e-02
> internal_tide_friction
> local_dir, C_it =0.21884,Nb, D250
> 3
> 0.000000000e+00 0.000000000e+00 0.000000000e+00
> subgrid_barrier
> unitless
> 1
> 9.999900000e+04
> primitive_weighting_in_continuity_equation
> 200530
> 745338 5.000000000e-03
> 751856 5.000000000e-03
> 751857 5.000000000e-03
> 751858 5.000000000e-03
> ...
> ```
>
> Could you please share the fort.13 that you are testing with now (path on Hera if possible)?
>
> Also, just to make sure I understand - the fort.15 files you shared yesterday are:
> hsofs120m-fort.15 - Tidal spinup
> nems_adcirc-hera-fort.15 - Wind-only run with Generalized Asymmetric Holland Model
>
> Is this correct? For the latter, I assume that when we connect PaHM via NEMS, the NWS typ change from 20 to 17 (wind only) and 517 (wind+waves). Correct?
>
> Andre
>
> On Mon, Jul 26, 2021 at 5:35 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
>
> > Hi Andre,

National Ocean and Atmospheric Administration
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On Mon, Jul 26, 2021 at 4:20 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis and Saeed,
>
> Thanks for this info. Could you please share the location of these fort.15 files on Hera (w Zach's help)? I would like to confirm that I have the correct ones in the workflow (at least 120 m mesh).
>
> Andre
>
> On Mon, Jul 26, 2021 at 4:42 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
>
> > Saeed,
> >
> > Yes, these are from Zach, I had asked him to upload these on orion from hera.
> >
> > Takis
> >
> > Panagiotis Velissariou, Ph.D., P.E.
> > UCAR Scientist
> > National Ocean and Atmospheric Administration
> > National Ocean Service
> > Office of Coast Survey CSDL/CMMB
> > Project Lead - Coastal Coupling
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> > email: panagiotis.velissariou@noaa.gov
> >
> > On Mon, Jul 26, 2021 at 3:40 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:
> >
> > > Hi Takis,
> > >
> > > Make sure these are the ones Zach tested. Otherwise stick to the 120 m (HSOFS20 one.
> > >
> > > Thanks,
> > > -Saeed
> > >
> > > Saeed Moghimi, PhD
> > > **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> > > Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of C Survey at NOAA National Ocean Service.
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> > >
> > > The contents of this message are mine personally and do not necessarily reflect any p of NOAA.
> > >
> > > On Mon, Jul 26, 2021 at 4:35 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
> > >
> > > > In Orion we have the 120m/250m meshes at:
> > > > /work/noaa/nosofs/share/models/meshes/hsofs/
> > > > with corresponding fort.15 files
> > > > I believe these should work

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On Mon, Jul 26, 2021 at 3:21 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Thank you Saeed.
> I am using the files (fort.15) on orion from:
> /work/noaa/nosofs/share/working/hera/nems_adcirc/run_20210720_large_ense
> Are these ok?
> I don't have access to HSOFS2020 data.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
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>
> On Mon, Jul 26, 2021 at 3:01 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:
>
> > Hi Takis and Andre,
> >
> > The HSOFS2016 fort.15 is not compatible with v55. Zach has the updated for HSOFS2016 as well. So we need to update the template for it.
> >
> > For now, please use the 120 m (HSOFS2020) for this test.
> >
> > Thanks,
> > -Saeed
> > _____
> > Saeed Moghimi, PhD
> > **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> > Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Offi
> > Coast Survey at NOAA National Ocean Service.
> > Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
> > Phone: (240) 847-8230
> >
> > The contents of this message are mine personally and do not necessarily reflec
> > position of NOAA.
> >
> > On Mon, Jul 26, 2021 at 3:52 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
> >
> > > Hi Andre,
> > >
> > > Ok, I am testing on Orion to see what happens.
> > >
> > > Takis
> > >
> > > Panagiotis Velissariou, Ph.D., P.E.
> > > UCAR Scientist
> > > National Ocean and Atmospheric Administration
> > > National Ocean Service
> > > Office of Coast Survey CSDL/CMMB
> > > Project Lead - Coastal Coupling

<andre.vanderwesthuysen@noaa.gov> wrote:

Hi Takis,

No, I started with our standard HSOFS mesh. But I'll test with the 120 m r
also.

Andre

On Mon, Jul 26, 2021 at 1:05 PM Panagiotis Velissariou - NOAA Affiliate
<panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

No, I haven't seen these in my simulations. Are you using the 120m HS
mesh?

Takis

Panagiotis Velissariou, Ph.D., P.E.
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National Ocean and Atmospheric Administration
National Ocean Service
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On Mon, Jul 26, 2021 at 11:59 AM Andre Van der Westhuysen - NOAA
Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

Hi Takis,

Here's an update on my testing: I managed to clone and build the ap
fine now. As before, I started by building with only the ATMESH forci
see if I could recreate previous results (e.g. Florence with HWRF for

```
./build.sh --component "ADCIRC ATMESH WW3" --plat hera
--compiler intel --clean -2
```

For my first test, I tried the unit test of forcing ADCIRC with ATMESH
(workflow RUN_TYPE=atm2ocn). Software-wise this succeeded, I th
since it got past the various initialization stages and started time step
However, it failed on the second time step of the simulation. Here is a
extract from the log file of one of the ADCIRC nodes:

```
$ tail -30 PET001.ESMF_LogFile
20210726 145300.307 INFO             PET001   EARTH grid component
begin -------> RunSequence.
20210726 145300.307 INFO             PET001     EARTH grid compone
RunSequence event loopLevel=   1  levelMember=   1  loopIteration=
current time: 2018  9  9  6  0  0   0
20210726 145300.308 INFO             PET001     ATM-TO-OCN: Run in
20210726 145300.308 INFO             PET001       >>>ATM-TO-OCN en
Run (phase=RunPhase1)
20210726 145300.432 INFO             PET001       ATM-TO-OCN: call
default label_ExecuteRouteHandle
20210726 145300.432 INFO             PET001       <<<ATM-TO-OCN le
Run (phase=RunPhase1)
20210726 145300.432 INFO             PET001     ATM-TO-OCN: Run ex
20210726 145300.433 INFO             PET001     OCN: Run intro.
20210726 145300.435 INFO             PET001       >>>OCN: entered
(phase=RunPhase1) with current time: 2018  9  9  6  0  0   0
20210726 145300.437 INFO             PET001       OCN: time step-1
starting, current time: 2018  9  9  6  0  0   0
20210726 145300.438 INFO             PET001
```

```
 (adc_cap:ModelAdvance) --- run phase 2 called ---
20210726 145309.028 INFO             PET001
 (adc_cap:ModelAdvance) --- run phase 3 called ---  nCplADC =
1800
20210726 145309.028 INFO             PET001
 (adc_cap:ModelAdvance) --- no surge forcing for wave. 1way couple
-> ADC  ---
20210726 145309.029 INFO             PET001       OCN: time step-
ending,   current time: 2018  9  9  7  0  0   0
20210726 145309.029 INFO             PET001       <<<OCN: leaving
(phase=RunPhase1) with current time: 2018  9  9  7  0  0   0
20210726 145309.029 INFO             PET001     OCN: Run extro.
20210726 145309.029 INFO             PET001     EARTH grid compone
RunSequence event loopLevel=   1  levelMember=   1  loopIteration=
current time: 2018  9  9  7  0  0   0
20210726 145309.030 INFO             PET001     ATM-TO-OCN: Run in
20210726 145309.030 INFO             PET001       >>>ATM-TO-OCN en
Run (phase=RunPhase1)
20210726 145309.031 INFO             PET001       ATM-TO-OCN: call
default label_ExecuteRouteHandle
20210726 145309.032 INFO             PET001       <<<ATM-TO-OCN le
Run (phase=RunPhase1)
20210726 145309.032 INFO             PET001     ATM-TO-OCN: Run ex
20210726 145309.033 INFO             PET001     OCN: Run intro.
20210726 145309.033 INFO             PET001       >>>OCN: entered
(phase=RunPhase1) with current time: 2018  9  9  7  0  0   0
20210726 145309.035 INFO             PET001       OCN: time step-
starting, current time: 2018  9  9  7  0  0   0
20210726 145309.035 INFO             PET001
 (adc_cap:ModelAdvance) --- no wave forcing exchange / waves are n
connected ---
20210726 145309.035 INFO             PET001
 (adc_cap:ModelAdvance) --- meteo forcing exchange OK / atm feilds
all connected --- / Model advances
20210726 145309.153 INFO             PET001
 (adc_cap:ModelAdvance) --- run phase 2 called ---
```

When I look at ADCIRC runtime output, I see extreme elevations and velocities:

```
 ELMAX =  5.1773E+001 AT NODE   763996  SPEEDMAX =  1.3704E+001 AT
  697083  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543159     ITERATIONS =    0     TIME =  0.10863180E
  ELMAX =  8.8111E+002 AT NODE   681482  SPEEDMAX =  1.0964E+002 A
  679812  ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543159     ITERATIONS =    0     TIME =  0.10863180E
  ELMAX =  5.2052E+001 AT NODE   763996  SPEEDMAX =  1.3335E+001 A
  697083  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543160     ITERATIONS =    0     TIME =  0.10863200E
  ELMAX =  9.0369E+002 AT NODE   679811  SPEEDMAX =  1.1204E+002 A
  679812  ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543160     ITERATIONS =    0     TIME =  0.10863200E
  ELMAX =  5.1569E+001 AT NODE   763996  SPEEDMAX =  1.3591E+001 A
  799211  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543161     ITERATIONS =    0     TIME =  0.10863220E
  ELMAX =  9.3271E+002 AT NODE   679811  SPEEDMAX =  1.0869E+002 A
  679812  ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543161     ITERATIONS =    0     TIME =  0.10863220E
  ELMAX =  5.0354E+001 AT NODE   763996  SPEEDMAX =  1.4152E+001 A
  799211  ON MYPROC =  309   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E
  ELMAX =  1.0146E+003 AT NODE   678170  SPEEDMAX =  1.0262E+002 A
  679811  ON MYPROC =  255   ** WARNING: Elevation.gt.WarnElev **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.10863240E
```

```
srun: Job step aborted: Waiting up to 32 seconds for job step to
slurmstepd: error: *** STEP 21020412.0 ON h32m13 CANCELLED AT
2021-07-26T15:38:10 ***
slurmstepd: error: *** JOB 21020412 ON h32m13 CANCELLED AT
2021-07-26T15:38:10 ***
```

This run was preceded by the standard 12.5 day tidal spinup, and us
5-day wind ramp. I need to do further analysis, but I was wondering i
or Zach got any of this in your testing? Did you apply a limitation on t
hour of ATMESH input, to avoid the bad data at this initial time step v
seen in the past? If you want to check my run, it is here on Hera:

```
/scratch2/NCEPDEV/stmp1/Andre.VanderWesthuysen/data/
florence.atm2ocn.20210726.fail_extreme_wl/run
```

Andre

On Wed, Jul 21, 2021 at 11:39 AM Andre Van der Westhuysen - NO/
Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis,
>
> Thanks, it cloned fine now. I'll proceed with building it, and will let y
> know how it goes.
>
> Andre
>
> On Wed, Jul 21, 2021 at 11:11 AM Panagiotis Velissariou - NOAA
> Affiliate <panagiotis.velissariou@noaa.gov> wrote:
>
>> Good morning Andre,
>>
>> You may now clone the feature/pahm, everything is ok.
>> The problem was with updates we did to use the large file syste
>>
>> Takis
>>
>> Panagiotis Velissariou, Ph.D., P.E.
>> UCAR Scientist
>> National Ocean and Atmospheric Administration
>> National Ocean Service
>> Office of Coast Survey CSDL/CMMB
>> Project Lead - Coastal Coupling
>> USM - Stennis Space Center
>> cell: (205) 227-9141
>> email: panagiotis.velissariou@noaa.gov
>>
>> On Tue, Jul 20, 2021 at 7:17 PM Panagiotis Velissariou - NOAA
>> Affiliate <panagiotis.velissariou@noaa.gov> wrote:
>>
>>> Hi Andre,
>>>
>>> Sorry for all these issues NEMS/PAHM.
>>> Let us fix these and make sure the repos are synchronized.
>>> Tomorrow morning I hope that everything will be in order.
>>> I'll let you know
>>>
>>> Takis
>>>
>>> Panagiotis Velissariou, Ph.D., P.E.
>>> UCAR Scientist
>>> National Ocean and Atmospheric Administration
>>> National Ocean Service
>>> Office of Coast Survey CSDL/CMMB
>>> Project Lead - Coastal Coupling
>>> USM - Stennis Space Center

NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

Hi Takis,

I tried a clean (re-) cloning of the repo, but ran into issues a
used:

```
$ git clone https://github.com/noaa-ocs-modeling/ADC-
NWM-NEMS.git -b feature/pahm --recurse-submodul
```

But got a similar error as before:

```
...
Submodule path 'NEMS/tests/produtil/NCEPLIBS-
pyprodutil': checked out '
ca171b95095db4fcd0fc7b01c23d073d90becd99'
Submodule path 'NWM': checked out '
3bc401d298070515cb6171a585d2d19646afd650'
fatal: remote error: upload-pack: not our ref
2c148ca1ed6a6c6c2b2446f455a8745e5c1518e9
fatal: The remote end hung up unexpectedly
Fetched in submodule path 'PAHM', but it did not
contain 2c148ca1ed6a6c6c2b2446f455a8745e5c1518e
Direct fetching of that commit failed.
```

Any suggestions about this failure in the PAHM part?

Andre

On Mon, Jul 19, 2021 at 11:56 AM Panagiotis Velissariou - I
Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Hi Andre,
>
> Somehow, the NEMS submodule in feature/pahm was on
> commit behind.
> It has been fixed now. Zach compiled the application
> successfully on hera.
> A "git submodule update NEMS" should update your loca
> NEMS submodule.
> If not, you may clone the app again.
>
> Please, let me know if the compilation goes as expected.
>
> Thanks
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
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> email: panagiotis.velissariou@noaa.gov
>
> On Mon, Jul 19, 2021 at 10:18 AM Panagiotis Velissariou
> NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote
>> Hi Andre,
>>
>> Zach tried to re-compile on hera and he experienced th
>> same problem.
>> I am checking to see what happened between commits
>> I'll update you all as soon as possible.

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cell: (205) 227-9141
email: panagiotis.velissariou@noaa.gov

On Fri, Jul 16, 2021 at 4:30 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrc

> Hi Andre,
>
> components ADCIRC, ATMESH, WW3 are in NEMS /incmake (checked the github repo)
> You shouldn't be getting: .../ADC-WW3-NWM-NEMS/ modulefiles/hera/ESMF_NUOPC error
> because I have removed these files and in the NEMS /incmake/buildenv.mk I have commended the
> lines 63 to 68 out (where these modules are called).
> So, please do first:
> build.sh --plat hera --component "ATMESH ADCIRC --clean 2
> rm -rf ALLBIN_INSTALL
> These will clean everything. Then,
> build.sh --compiler intel --plat hera --component "ATM ADCIRC WW3"
> to build the NEMS executable.
> Better instead of ATMESH, use PAHM, for your configuration should work the same,
> assuming that you already have generated the PaHM winds.
>
> Please keep the logs so we can check all warning/err messages.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
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> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov

On Fri, Jul 16, 2021 at 3:51 PM Andre Van der Westh - NOAA Affiliate <andre.vanderwesthuysen@noaa.g wrote:

> Hi Takis,
>
> More progress, but still not success. I get the follov build error:
>
> ```
> ...
> make[1]: Entering directory `/scratch2/C
> /coastal/save/Andre.VanderWesthuysen/OCS-
> NEMS/ADC-WW3-NWM-NEMS/NEMS/src'
> GNUmakefile:16: /scratch2/COASTAL/coasta
> save/Andre.VanderWesthuysen/OCS-NEMS/ADC-
> NWM-NEMS/NEMS/src/conf/test-results.mk: No s
> file or directory
> Components in linker order: WW3 ATMESH A
> WW3: include
> ```

```
GNUmakefile:70: : component ADCIRC makef
fragment is missing
make[1]: *** No rule to make target `/sc
/COASTAL/coastal/save/Andre.VanderWesthu
OCS-NEMS/ADC-WW3-NWM-NEMS/NEMS/src/conf/
results.mk'.  Stop.
make[1]: Leaving directory `/scratch2/CO
/coastal/save/Andre.VanderWesthuysen/OCS
NEMS/ADC-WW3-NWM-NEMS/NEMS/src'
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC
NWM-NEMS/NEMS/exe/NEMS.x /scratch2/COAST
/coastal/save/Andre.VanderWesthuysen/OCS
NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/configure.nems.NUOPC
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC
NWM-NEMS/NEMS/src/conf/configure.nems
/scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC
NWM-NEMS/NEMS/src/conf/externals.nems
/scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC
NWM-NEMS/NEMS/src/conf/modules.nems /scr
/COASTAL/coastal/save/Andre.VanderWesthu
OCS-NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/ESMFVersionDefine.h /scratch2/COASTAL
/coastal/save/Andre.VanderWesthuysen/OCS
NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/modules.nems.sh /scratch2/COASTAL
/coastal/save/Andre.VanderWesthuysen/OCS
NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/modules.nems.csh /scratch2/COASTAL
/coastal/save/Andre.VanderWesthuysen/OCS
NEMS/ADC-WW3-NWM-NEMS/NEMS/src/conf/test-
results.mk
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC
NWM-NEMS/NEMS/src/conf/components.mk
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC
NWM-NEMS/NEMS/src/conf/test_results.mk

compileNems :: Compiling: make  -f GNUmal
build COMPONENTS="ADCIRC ATMESH WW3"
NOTE: Skipping appbuilder.mk creation; no
appbuilder file in use.
echo 'ADCIRC ATMESH WW3' > "/scratch2/CO
/coastal/save/Andre.VanderWesthuysen/OCS
NEMS/ADC-WW3-NWM-NEMS/NEMS/src
/conf/components.mk"
NEMS_BUILDOPT IS
cp /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC
NWM-NEMS/conf/configure.nems.hera.intel
/scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/ADC
NWM-NEMS/NEMS/src/conf/configure.nems
cat /dev/null > /scratch2/COASTAL/coasta
save/Andre.VanderWesthuysen/OCS-NEMS/ADC
NWM-NEMS/NEMS/src/conf/externals.nems
make: *** No rule to make target `/scrat
/COASTAL/coastal/save/Andre.VanderWesthu
OCS-NEMS/ADC-WW3-NWM-NEMS/modulefiles/he
```

suggestions.

Andre

On Fri, Jul 16, 2021 at 3:34 PM Panagiotis Velissa NOAA Affiliate <panagiotis.velissariou@noaa.gov>

> Yes, Zach built it with those modules as defined modulefile for hera.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
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> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov
>
> On Fri, Jul 16, 2021 at 2:20 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:
>
> > Takis,
> >
> > Thanks, it works now. I'm now busy building it Hera. So the following Hera modules are need correct?
> >
> > 1) intel/18.0.5.274 2) impi/2018.0.4 3) szip/2.1 4) hdf5_parallel/1.10.6.release 5) netcdf_parallel/4.7.4.release 6) esmf/8.1.0bs25g_ParallelNetCDF.release
> >
> > Andre
> >
> > On Fri, Jul 16, 2021 at 3:07 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
> >
> > > Hi Andre,
> > >
> > > It is fixed now. I checked the cloning on my computer and it works now.
> > > I had forgotten to push the NEMS changes.
> > >
> > > Please try again.
> > >
> > > Takis
> > >
> > > Panagiotis Velissariou, Ph.D., P.E.
> > > UCAR Scientist
> > > National Ocean and Atmospheric Administra
> > > National Ocean Service
> > > Office of Coast Survey CSDL/CMMB
> > > Project Lead - Coastal Coupling
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> > > cell: (205) 227-9141
> > > email: panagiotis.velissariou@noaa.gov
> > >
> > > On Fri, Jul 16, 2021 at 1:15 PM Andre Van d Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wro
> > >
> > > > Hi Takis,

```
git clone https://github.com/noaa-ocs-modeling/ADC-WW3-NWM-NEMS.git -b feature/pahm --recurse-submodules
```

and it gave the following error that it could the correct hash for NEMS:

```
...
fatal: remote error: upload-pack: our ref 4c61cc4ea73e407784ddbd6b8 9d20474e1b
fatal: The remote end hung up unexpectedly
Fetched in submodule path 'NEMS', it did not contain 4c61cc4ea73e407784ddbd6b8affc9 9d20474e1b. Direct fetching of th commit failed.
```

I added the full log in the attachments. An suggestions?

Andre

On Tue, Jul 13, 2021 at 3:01 PM Panagio Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote

> Hi Andre,
>
> I think if you use the same configuratior the AMS simulations that will compile/ru fine I believe.
> Curious to see how it goes.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
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> Project Lead - Coastal Coupling
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> email: panagiotis.velissariou@noaa.gov
>
> On Tue, Jul 13, 2021 at 8:58 AM Panag Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wr
>
> > Hi Andre,
> >
> > You should be able to do it. WW3 sh compile just fine with the intel compilers. WW3 (the version that is i app) has some issues (argument mismatches)
> > when the compiler is gfortran (versior haven't check if the same issue still exists with the latest version, mig into this in the future.
> >
> > Either ATMESH+ADCIRC+PaHM win PAHM+ADCIRC+PaHM winds shoulc

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National Ocean and Atmospheric Administration
National Ocean Service
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Project Lead - Coastal Coupling
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cell: (205) 227-9141
email: panagiotis.velissariou@noaa.g

On Tue, Jul 13, 2021 at 8:51 AM And der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.go wrote:

> Hi Takis,
>
> Thanks for this. I'll test it over the n days. After I do ATMESH+WW3 (w PaHM-generated .nc), could I also ATMESH+ADCIRC+WW3, for exar for Florence?
>
> Andre

On Tue, Jul 13, 2021 at 9:11 AM Sa Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote

> Hi Takis,
>
> Thanks for clarification.
>
> Best,
> -Saeed
>
> ---
>
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surg Modeling Team Lead**
> Coastal Marine Modeling Branch, Survey Development Laboratory, of Coast Survey at NOAA Nationa Ocean Service.
> Address: 1315 East West Hwy, R 6607, Silver Spring, Maryland 2(
> Phone: (240) 847-8230
>
> The contents of this message are personally and do not necessarily any position of NOAA.

On Tue, Jul 13, 2021 at 1:08 AM Panagiotis Velissariou - NOAA A <panagiotis.velissariou@noaa.g wrote:

> Hi Saeed,
>
> Yes, also the PAHM+ADCIRC works the same when using pr prepared winds (NetCDF)
> Tested both configurations, sa results.
> Testing the direct exchange of

blended background fields + P
fields)

So, ATMESH+ADCIRC+PaHM
or PAHM+ADCIRC+PaHM win
work the same with pre-
prepared winds.

Takis

Panagiotis Velissariou, Ph.D.,
UCAR Scientist
National Ocean and Atmosphe
Administration
National Ocean Service
Office of Coast Survey CSDL/C
Project Lead - Coastal Couplin
USM - Stennis Space Center
cell: (205) 227-9141
email: panagiotis.velissariou@
gov

On Mon, Jul 12, 2021 at 5:06 F
Saeed Moghimi - NOAA Affilia
<saeed.moghimi@noaa.gov> w

> Hi Takis,
>
> I think I am confused. If we a
> using PahM to provide atm f
> why do we need to have ATI
>
> Thanks,
> -Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm S
Modeling Team Lead
Coastal Marine Modeling
Branch, Coast Survey Develo
Laboratory, Office of Coast
at NOAA National Ocean Ser
Address: 1315 East West Hw
Room 6607, Silver Spring,
Maryland 20910
Phone: (240) 847-8230

On Mon, Jul 12, 2021 at 5:2
Panagiotis Velissariou - NOA
Affiliate
<panagiotis.velissariou@noa
gov> wrote:

> Hi Andre,
>
> The updated NEMS app is
> the github repo:
> https://github.com/noaa-oc
> modeling/ADC-WW3-NWI

feature/pahm --recurse-submodules

Note that this ADC-WW3-
NEMS also contains the la
stable NEMS source,
(release/public-v2).

If possible, could you plea
the application using
ATMESH+WW3 and the F
generated winds?

I have run it successfully u
ATMESH+ADCIRC and th
PaHM generated winds fo
Sandy,
Florence for the Shinneco
test case.

Testing the PaHM NUOPC
now.

It seems that all issues are
resolved.

If you want I can set a goc
meet in case my help is ne
on compiling/running the
application.

Thank you
Takis

Panagiotis Velissariou, Ph
P.E.
UCAR Scientist
National Ocean and Atmos
Administration
National Ocean Service
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--
Andre J. van der Westhuysen, PhD
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The contents of this message are mine personally and do not necessarily reflect a position of NOAA.

--
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--
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--
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--
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--
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--
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--
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Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> Wed, Jul 28, 2021 at
To: Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov>
Cc: Yuji Funakoshi - NOAA Affiliate <yuji.funakoshi@noaa.gov>, Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noa
Zachary Burnett - NOAA Affiliate <zachary.burnett@noaa.gov>

Hi Andre,

I will generate an issue on github for our conversation here. Let's continue this over there.

Thanks,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Service.
Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
Phone: (240) 847-8230

On Wed, Jul 28, 2021 at 11:35 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Saeed,
>
> Thanks. I will try with `remapMethod=nearest_stod`.
>
> Andre
>
> On Wed, Jul 28, 2021 at 11:29 AM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:
>
> > Hi Andre
> >
> > Please change it to the nearest. It will work. It may take more time.
> >
> > See here:
> > https://github.com/noaa-ocs-modeling/CoastalApp/issues/39#issuecomment-858656203
> >
> > -Saeed
> >
> > Saeed Moghimi, PhD
> > **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> > Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Serv
> > Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
> > Phone: (240) 847-8230
> >
> >

Takis, remind me of the alternative method you used when the meshes differ between the components. Was it nearest neigh
What is the keyword?

Thanks,
Andre

On Wed, Jul 28, 2021 at 10:56 AM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

Hi Andre,

I would like to ask you if you may try that smaller example for Florence as the first step or we can wait for Zach and look in again next week when he returns to office.

I think @Zachary Burnett - NOAA Affiliate has both 250 and 120 m setups on Hera however I am not sure where to find th

Thanks,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Ocean Service.
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On Wed, Jul 28, 2021 at 10:45 AM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> w

Hi Saeed,

Yes, I also believe that path is for ADCv55 on the 120 m mesh. That's the fort.15 file I listed out above. It however still ha old 4-field fort.13 and NRAMP=1/DRAMP=5.0. Were the changes in fort.13 and NRAMP/DRAMP since Yuji's June runs in order to improve model stability or accuracy? As I described on Monday in this thread, when I tried a setup similar to with our new NEMS app build, it failed on the second time step into the atm2ocn run. So I was wondering whether you h working example with the new build/updated inputs that I could compare to.

Andre

On Wed, Jul 28, 2021 at 10:24 AM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

HI Andre

I am 90% sure that this is the120m with v55 and NEMS. @Yuji Funakoshi - NOAA Affiliate , please confirm.

/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.atm2ocn.20210621.atmea120m/run

Best,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA National Oc Service.
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modules (the legacy ones we had in the workflow) and a somewhat older code to what we have now. These also sti
the old fort.13 with only 4 fields, and the old fort.15 with NRAMP=1/DRAMP=5.0. For example:

```
$ pwd
/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.tide_spinup.20210617/run
[Andre.VanderWesthuysen@hfe01 run]$ more fort.13
OceanMesh2D
5803941
4
primitive_weighting_in_continuity_equation
unitless
1
3.000000000e-02
mannings_n_at_sea_floor
unitless
1
2.200000000e-02
internal_tide_friction
local_dir, C_it =0.21884,Nb, D250
3
0.000000000e+00 0.000000000e+00 0.000000000e+00
subgrid_barrier
unitless
1
9.999900000e+04
primitive_weighting_in_continuity_equation
200530
745338 5.000000000e-03
751856 5.000000000e-03
751857 5.000000000e-03
751858 5.000000000e-03
751859 5.000000000e-03
751860 5.000000000e-03
751960 5.000000000e-03
...
```

and

```
$ pwd
/scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m/florence.atm2ocn.20210621.atmea120m/run
[Andre.VanderWesthuysen@hfe01 run]$ more fort.15
HSOFS 120m_Releasev2.1 ! 32 CHARACTER ALPHANUMERIC RUN DESCRIPTION
Tidal spin-up 2018-08-27 18:00:00 UTC   ! 24 CHARACTER ALPANUMERIC RUN IDENTIFICATION
1                ! NFOVER - NONFATAL ERROR OVERRIDE OPTION
0                ! NABOUT - ABREVIATED OUTPUT OPTION PARAMETER
-1000            ! NSCREEN - UNIT 6 OUTPUT OPTION PARAMETER
567            ! IHOT - HOT START PARAMETER
20               ! ICS - COORDINATE SYSTEM SELECTION PARAMETER
511112           ! IM - MODEL SELECTION PARAMETER
1                ! NOLIBF - BOTTOM FRICTION TERM SELECTION PARAM; before NWP==1, '2' was used
2                ! NOLIFA - FINITE AMPLITUDE TERM SELECTION PARAMETER
1                ! NOLICA - SPATIAL DERIVATIVE CONVECTIVE SELECTION PARAMETER
1                ! NOLICAT - TIME DERIVATIVE CONVECTIVE TERM SELECTION PARAMETER
4                ! NWP
primitive_weighting_in_continuity_equation
mannings_n_at_sea_floor
internal_tide_friction
subgrid_barrier
1                ! NCOR - VARIABLE CORIOLIS IN SPACE OPTION PARAMETER
1                ! NTIP - TIDAL POTENTIAL OPTION PARAMETER
17             ! NWS - WIND STRESS AND BAROMETRIC PRESSURE OPTION PARAMETER
1                ! NRAMP - RAMP FUNCTION OPTION
9.81             ! G - ACCELERATION DUE TO GRAVITY - DETERMINES UNITS
-3               ! TAU0 - WEIGHTING FACTOR IN GWCE; original, 0.005
2.0              ! DT - TIME STEP (IN SECONDS)
```

```
0 1 0            ! TIME WEIGHTING FACTORS FOR THE GWCE EQUATION
0.1 0 0 0.01     ! H0, NODEDRYMIN, NODEWETRMP, VELMIN
-81.603414 32.182098 ! SLAM0,SFEA0 - CENTER OF CPP PROJECTION (NOT USED IF ICS=1, NTIP=0, NCOR=0)
0.0001           ! FFACTOR
-0.050000        ! ESL - LATERAL EDDY VISCOSITY COEFFICIENT; IGNORED IF NWP =1
0.0              ! CORI - CORIOLIS PARAMETER - IGNORED IF NCOR = 1
8                ! NUMBER OF TIDAL POTENTIAL CONSTITUENTS BEING FORCED starting 2008082300
Q1               ! ALPAHANUMERIC DESCRIPTION OF TIDAL POTENTIAL CONSTIT.
  0.019256  0.000064958541129  0.695  0.91252     131.29
O1
  0.100514  0.000067597744151  0.695  0.91252     1.32
P1
  0.046843  0.000072522945975  0.706  1.00000     24.07
K1
  0.141565  0.000072921158358  0.736  0.94621     147.91
...
```

Did Yuji rerun this with your latest version and build of the app? If you could share the updated 5-field fort.13 file for 120 m mesh, I could update the NWP and NRAMP in the fort.15 and retest on my side.

Thanks,
Andre

On Tue, Jul 27, 2021 at 6:29 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

> Andre,
> See here:
>
> These were shared by Yuji a while ago based on 120m mesh.
> /scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs120m
>
> The example I shared was a smaller setup tested for v55.
>
> Best,
> -Saeed
> _____
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Survey at NOAA Nationa
> Ocean Service.
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>
> The contents of this message are mine personally and do not necessarily reflect any position of NOAA.

On Tue, Jul 27, 2021 at 6:23 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.g
wrote:

> Hi Saeed and Takis,
>
> I set up the Florence case that Saeed shared as a template in the workflow, including the updated fort.13 file (w
> fields). This ran fine for the tidal spinup. However, this does not contain the full HSOFS 120 m mesh (5803941
> It only has 633974 nodes:
>
> $ more fort.14
> NOMAD mesh v1e MSL
> 1222455 633974
> 1 -7.7547572700700002E+01 3.5839343178900002E+01 -9.2613500000000002E+00
> 2 -7.7551062012200006E+01 3.5829987009200003E+01 -7.8063300000000000E+00
> 3 -7.7549421612299994E+01 3.5834698053300002E+01 -9.2522099999999998E+00
> 4 -7.7541916701900007E+01 3.5835456465900002E+01 -1.0394100000000000E+01
> 5 -7.7552007930100004E+01 3.5825088089700003E+01 -1.0484900000000000E+01
> 6 -7.7547475583799994E+01 3.5826092459199998E+01 -7.3492300000000004E+00

```
633974
5
mannings_n_at_sea_floor
meters
1
2.0000000000000000E-02
primitive_weighting_in_continuity_equation
unitless
1
2.9999999999999999E-02
surface_canopy_coefficient
unitless
1
1.0000000000000000E+00
surface_directional_effective_roughness_length
meters
12
0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E
0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E
0.00000000000000
00E+00 0.0000000000000000E+00 0.0000000000000000E+00 0.0000000000000000E+00
surface_submergence_state
unitless
1
0.0000000000000000E+00
mannings_n_at_sea_floor
263078
1 0.2
2 0.18
3 0.1
...
```

Before updating the WW3 component, I would like to verify the new app with ADCv55 on the full HSOFS 120 m
e.g. for the Florence case including:
1) Tidal spinup (12.5 days)
2) Wind forcing (run type = atm2ocn), with the ATMESH file "Florence_HWRF_HRRR_EA120m.nc" on the full HSOFS 120m mesh.

A few questions/requests:
- Could you please share the latest fort.13 that is defined over the complete HSOFS 120 m mesh?
- Takis, are the fort.15 files for spinup and wind forcing you shared yesterday defined over the full 120 m mesh, are these the most recent versions of these input files?
- Just to double check, I have a fort.14 for the HSOFS 120 m mesh dated June 9. Is this still current?

Thanks,
Andre

On Tue, Jul 27, 2021 at 4:06 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> w

> Hi Andre,
>
> Yes, just keep these values for DRAMP.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
> USM - Stennis Space Center
> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov

```
12.500 0.000 0.000 0.000 12.500 12.500 1.000 0.000 12.500
```

Andre

On Tue, Jul 27, 2021 at 3:32 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.go
wrote:

> Hi Andre,
>
> We are using NRAMP=8
> Also check the DRAMP values as well.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
> USM - Stennis Space Center
> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov
>
> On Tue, Jul 27, 2021 at 2:24 PM Andre Van der Westhuysen - NOAA Affiliate
> <andre.vanderwesthuysen@noaa.gov> wrote:
>
> > Saeed, thanks very much for these files.
> >
> > Takis, yes, what Saeed shared will be enough to get me started.
> >
> > One more question: I see that for the forecast run the NRAMP has been updated from 1 (simple hyper
> > tangent) to 8. Should I copy this over for running with ATMESH and PaHM, or is this just for best track
> > forcing?
> >
> > Andre
> >
> > On Tue, Jul 27, 2021 at 2:58 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noa
> > wrote:
> >
> > > Thanks Saeed.
> > >
> > > Andre, do you still need the fort.13 files?
> > > I believe the test case Saeed pointed to contains all the info needed.
> > > I'll do similar tests on Orion as well.
> > >
> > > Takis
> > >
> > > Panagiotis Velissariou, Ph.D., P.E.
> > > UCAR Scientist
> > > National Ocean and Atmospheric Administration
> > > National Ocean Service
> > > Office of Coast Survey CSDL/CMMB
> > > Project Lead - Coastal Coupling
> > > USM - Stennis Space Center
> > > cell: (205) 227-9141
> > > email: panagiotis.velissariou@noaa.gov
> > >
> > > On Tue, Jul 27, 2021 at 1:54 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wro
> > >
> > > > Hi Takis,
> > > >
> > > > I also copied the same test case here on Orion:
> > > >
> > > > /work/noaa/nosofs/archive/COASTAL_ACT/florence_subset/
> > > >
> > > > Best
```
```

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On Tue, Jul 27, 2021 at 2:46 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> w

> Hi Andre,
>
> Sorry for being radio silence. Would you please see if you can use this test case. This is a subs
> mesh for Florence. The NEMS setup for best track is included. You may need to up data
> nems.configure and put together fort.15 templates for spin up and main run.
>
> /scratch2/COASTAL/coastal/save/NAMED_STORMS/Florence_ADCIRC/hsofs_subset
>
> Best,
> -Saeed
>
> _____
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Surge Modeling Team Lead**
> Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office of Coast Surve
> NOAA National Ocean Service.
> Address: 1315 East West Hwy, Room 6607, Silver Spring, Maryland 20910
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>
> The contents of this message are mine personally and do not necessarily reflect any position of N
>
> On Tue, Jul 27, 2021 at 2:22 PM Panagiotis Velissariou - NOAA Affiliate
> <panagiotis.velissariou@noaa.gov> wrote:
>
> > Hi Andre,
> >
> > Let me get the fort.13 files from orion.
> > Yes, as you say for hsofs120m-fort.15, nems_adcirc-hera-fort.15
> > For PaHM you just change to NWS=17, correct
> >
> > Takis
> >
> > Panagiotis Velissariou, Ph.D., P.E.
> > UCAR Scientist
> > National Ocean and Atmospheric Administration
> > National Ocean Service
> > Office of Coast Survey CSDL/CMMB
> > Project Lead - Coastal Coupling
> > USM - Stennis Space Center
> > cell: (205) 227-9141
> > email: panagiotis.velissariou@noaa.gov
> >
> > On Tue, Jul 27, 2021 at 1:15 PM Andre Van der Westhuysen - NOAA Affiliate
> > <andre.vanderwesthuysen@noaa.gov> wrote:
> >
> > > Hi Takis,
> > >
> > > Just focusing on the 120 m mesh, the files I've been testing with are indeed different from t
> > > you shared yesterday. For example, the fort.13 I have from June 9 only contains 4 quantitie
> > >
> > > ```
> > > $ more fort.13
> > > OceanMesh2D
> > > 5803941
> > > 4
> > > primitive_weighting_in_continuity_equation
> > > unitless
> > > ```

```
internal_tide_friction
local_dir, C_it =0.21884,Nb, D250
3
0.000000000e+00 0.000000000e+00 0.000000000e+00
subgrid_barrier
unitless
1
9.999900000e+04
primitive_weighting_in_continuity_equation
200530
745338 5.000000000e-03
751856 5.000000000e-03
751857 5.000000000e-03
751858 5.000000000e-03
...
```

Could you please share the fort.13 that you are testing with now (path on Hera if possible)?

Also, just to make sure I understand - the fort.15 files you shared yesterday are:
hsofs120m-fort.15 - Tidal spinup
nems_adcirc-hera-fort.15 - Wind-only run with Generalized Asymmetric Holland Model

Is this correct? For the latter, I assume that when we connect PaHM via NEMS, the NWS ty
change from 20 to 17 (wind only) and 517 (wind+waves). Correct?

Andre

On Mon, Jul 26, 2021 at 5:35 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Hi Andre,
>
> Attached are the fort.15 files.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
> USM - Stennis Space Center
> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov
>
> On Mon, Jul 26, 2021 at 4:20 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:
>
> > Hi Takis and Saeed,
> >
> > Thanks for this info. Could you please share the location of these fort.15 files on Hera
> > Zach's help)? I would like to confirm that I have the correct ones in the workflow (at lea
> > the 120 m mesh).
> >
> > Andre
> >
> > On Mon, Jul 26, 2021 at 4:42 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:
> >
> > > Saeed,
> > >
> > > Yes, these are from Zach, I had asked him to upload these on orion from hera.
> > >
> > > Takis

USM - Stennis Space Center
cell: (205) 227-9141
email: panagiotis.velissariou@noaa.gov

On Mon, Jul 26, 2021 at 3:40 PM Saeed Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wrote:

Hi Takis,

Make sure these are the ones Zach tested. Otherwise stick to the 120 m (HSOFS2 one.

Thanks,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, Office o Survey at NOAA National Ocean Service.
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Phone: (240) 847-8230

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On Mon, Jul 26, 2021 at 4:35 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

In Orion we have the 120m/250m meshes at:
/work/noaa/nosofs/share/models/meshes/hsofs/
with corresponding fort.15 files
I believe these should work.

Takis

Panagiotis Velissariou, Ph.D., P.E.
UCAR Scientist
National Ocean and Atmospheric Administration
National Ocean Service
Office of Coast Survey CSDL/CMMB
Project Lead - Coastal Coupling
USM - Stennis Space Center
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email: panagiotis.velissariou@noaa.gov

On Mon, Jul 26, 2021 at 3:21 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

Thank you Saeed.
I am using the files (fort.15) on orion from:
/work/noaa/nosofs/share/working/hera/nems_adcirc/run_20210720_large_en
Are these ok?
I don't have access to HSOFS2020 data.

Takis

Panagiotis Velissariou, Ph.D., P.E.
UCAR Scientist
National Ocean and Atmospheric Administration
National Ocean Service
Office of Coast Survey CSDL/CMMB
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email: panagiotis.velissariou@noaa.gov

for HSOFS2016 as well. So we need to update the template for it.

For now, please use the 120 m (HSOFS2020) for this test.

Thanks,
-Saeed

Saeed Moghimi, PhD
UCAR/NOAA - NOS Storm Surge Modeling Team Lead
Coastal Marine Modeling Branch, Coast Survey Development Laboratory, O
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On Mon, Jul 26, 2021 at 3:52 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Hi Andre,
>
> Ok, I am testing on Orion to see what happens.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
> Project Lead - Coastal Coupling
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> cell: (205) 227-9141
> email: panagiotis.velissariou@noaa.gov
>
> On Mon, Jul 26, 2021 at 2:30 PM Andre Van der Westhuysen - NOAA Afl <andre.vanderwesthuysen@noaa.gov> wrote:
>
> > Hi Takis,
> >
> > No, I started with our standard HSOFS mesh. But I'll test with the 120 r
> > also.
> >
> > Andre
> >
> > On Mon, Jul 26, 2021 at 1:05 PM Panagiotis Velissariou - NOAA Affilia <panagiotis.velissariou@noaa.gov> wrote:
> >
> > > Hi Andre,
> > >
> > > No, I haven't seen these in my simulations. Are you using the 120m
> > > mesh?
> > >
> > > Takis
> > >
> > > Panagiotis Velissariou, Ph.D., P.E.
> > > UCAR Scientist
> > > National Ocean and Atmospheric Administration
> > > National Ocean Service
> > > Office of Coast Survey CSDL/CMMB
> > > Project Lead - Coastal Coupling
> > > USM - Stennis Space Center
> > > cell: (205) 227-9141
> > > email: panagiotis.velissariou@noaa.gov

code fine now. As before, I started by building with only the ATME
forcing, to see if I could recreate previous results (e.g. Florence wi
HWRF forcing):

```
./build.sh --component "ADCIRC ATMESH WW3" --plat her
--compiler intel --clean -2
```

For my first test, I tried the unit test of forcing ADCIRC with ATME
(workflow RUN_TYPE=atm2ocn). Software-wise this succeeded, I
since it got past the various initialization stages and started time st
However, it failed on the second time step of the simulation. Here i
extract from the log file of one of the ADCIRC nodes:

```
$ tail -30 PET001.ESMF_LogFile
20210726 145300.307 INFO             PET001   EARTH grid compon
begin -------> RunSequence.
20210726 145300.307 INFO             PET001     EARTH grid
component01: RunSequence event loopLevel=   1  levelMember=   1
 loopIteration=   1, current time: 2018  9  9  6  0  0   0
20210726 145300.308 INFO             PET001     ATM-TO-OCN: Run
20210726 145300.308 INFO             PET001       >>>ATM-TO-OCN
entered Run (phase=RunPhase1)
20210726 145300.432 INFO             PET001       ATM-TO-OCN: c
default label_ExecuteRouteHandle
20210726 145300.432 INFO             PET001       <<<ATM-TO-OCN
leaving Run (phase=RunPhase1)
20210726 145300.432 INFO             PET001     ATM-TO-OCN: Run
20210726 145300.433 INFO             PET001     OCN: Run intro.
20210726 145300.435 INFO             PET001       >>>OCN: enter
(phase=RunPhase1) with current time: 2018  9  9  6  0  0   0
20210726 145300.437 INFO             PET001       OCN: time ste
starting, current time: 2018  9  9  6  0  0   0
20210726 145300.438 INFO             PET001
 (adc_cap:ModelAdvance) --- no wave forcing exchange / waves ar
all connected ---
20210726 145300.443 INFO             PET001
 (adc_cap:ModelAdvance) --- meteo forcing exchange OK / atm fei
all connected --- / Model advances
20210726 145300.746 INFO             PET001
 (adc_cap:ModelAdvance) --- run phase 2 called ---
20210726 145309.028 INFO             PET001
 (adc_cap:ModelAdvance) --- run phase 3 called ---  nCplADC =
1800
20210726 145309.028 INFO             PET001
 (adc_cap:ModelAdvance) --- no surge forcing for wave. 1way cou
WW3 -> ADC  ---
20210726 145309.029 INFO             PET001       OCN: time ste
ending,   current time: 2018  9  9  7  0  0   0
20210726 145309.029 INFO             PET001       <<<OCN: leavi
(phase=RunPhase1) with current time: 2018  9  9  7  0  0   0
20210726 145309.029 INFO             PET001     OCN: Run extro.
20210726 145309.029 INFO             PET001     EARTH grid
component01: RunSequence event loopLevel=   1  levelMember=   1
 loopIteration=   2, current time: 2018  9  9  7  0  0   0
20210726 145309.030 INFO             PET001     ATM-TO-OCN: Run
20210726 145309.030 INFO             PET001       >>>ATM-TO-OCN
entered Run (phase=RunPhase1)
20210726 145309.031 INFO             PET001       ATM-TO-OCN: c
default label_ExecuteRouteHandle
20210726 145309.032 INFO             PET001       <<<ATM-TO-OCN
leaving Run (phase=RunPhase1)
20210726 145309.032 INFO             PET001     ATM-TO-OCN: Run
20210726 145309.033 INFO             PET001     OCN: Run intro.
20210726 145309.033 INFO             PET001       >>>OCN: enter
(phase=RunPhase1) with current time: 2018  9  9  7  0  0   0
```

```
 (adc_cap:ModelAdvance) --- meteo forcing exchange OK / atm fei
all connected --- / Model advances
20210726 145309.153 INFO             PET001
 (adc_cap:ModelAdvance) --- run phase 2 called ---
```

When I look at ADCIRC runtime output, I see extreme elevations a velocities:

```
 ELMAX =  5.1773E+001 AT NODE   763996  SPEEDMAX =  1.3704E+001
NODE   697083  ON MYPROC =  309   ** WARNING: Elevation.gt.Warnl
 TIME STEP =  543159     ITERATIONS =    0     TIME =  0.108631
  ELMAX =  8.8111E+002 AT NODE   681482  SPEEDMAX =  1.0964E+00
NODE   679812  ON MYPROC =  255   ** WARNING: Elevation.gt.Warnl
 TIME STEP =  543159     ITERATIONS =    0     TIME =  0.108631
  ELMAX =  5.2052E+001 AT NODE   763996  SPEEDMAX =  1.3335E+00
NODE   697083  ON MYPROC =  309   ** WARNING: Elevation.gt.Warnl
 TIME STEP =  543160     ITERATIONS =    0     TIME =  0.108632
  ELMAX =  9.0369E+002 AT NODE   679811  SPEEDMAX =  1.1204E+00
NODE   679812  ON MYPROC =  255   ** WARNING: Elevation.gt.Warnl
 TIME STEP =  543160     ITERATIONS =    0     TIME =  0.108632
  ELMAX =  5.1569E+001 AT NODE   763996  SPEEDMAX =  1.3591E+00
NODE   799211  ON MYPROC =  309   ** WARNING: Elevation.gt.Warnl
 TIME STEP =  543161     ITERATIONS =    0     TIME =  0.108632
  ELMAX =  9.3271E+002 AT NODE   679811  SPEEDMAX =  1.0869E+00
NODE   679812  ON MYPROC =  255   ** WARNING: Elevation.gt.Warnl
 TIME STEP =  543161     ITERATIONS =    0     TIME =  0.108632
  ELMAX =  5.0354E+001 AT NODE   763996  SPEEDMAX =  1.4152E+00
NODE   799211  ON MYPROC =  309   ** WARNING: Elevation.gt.Warnl
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.108632
  ELMAX =  1.0146E+003 AT NODE   678170  SPEEDMAX =  1.0262E+00
NODE   679811  ON MYPROC =  255   ** WARNING: Elevation.gt.Warnl
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.108632
  ELMAX =  1.0146E+003 AT NODE   678170  SPEEDMAX =  1.0262E+00
NODE   679811  ON MYPROC =  255
  ** ERROR: Elevation.gt.ErrorElev, ADCIRC stopping. **
 TIME STEP =  543162     ITERATIONS =    0     TIME =  0.108632
  ELMAX =  4.8473E+001 AT NODE   763996  SPEEDMAX =  1.4509E+00
NODE   799211  ON MYPROC =  309   ** WARNING: Elevation.gt.Warnl
srun: Job step aborted: Waiting up to 32 seconds for job step t
finish.
slurmstepd: error: *** STEP 21020412.0 ON h32m13 CANCELLED AT
2021-07-26T15:38:10 ***
slurmstepd: error: *** JOB 21020412 ON h32m13 CANCELLED AT
2021-07-26T15:38:10 ***
```

This run was preceded by the standard 12.5 day tidal spinup, and 5-day wind ramp. I need to do further analysis, but I was wonderin or Zach got any of this in your testing? Did you apply a limitation o first hour of ATMESH input, to avoid the bad data at this initial time we've seen in the past? If you want to check my run, it is here on H

```
/scratch2/NCEPDEV/stmp1/Andre.VanderWesthuysen/data/
florence.atm2ocn.20210726.fail_extreme_wl/run
```

Andre

On Wed, Jul 21, 2021 at 11:39 AM Andre Van der Westhuysen - N Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis,
>
> Thanks, it cloned fine now. I'll proceed with building it, and will le know how it goes.

You may now clone the feature/pahm, everything is ok.
The problem was with updates we did to use the large file sys
(lfs).

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Tue, Jul 20, 2021 at 7:17 PM Panagiotis Velissariou - NOA
Affiliate <panagiotis.velissariou@noaa.gov> wrote:

> Hi Andre,
>
> Sorry for all these issues NEMS/PAHM.
> Let us fix these and make sure the repos are synchronized.
> Tomorrow morning I hope that everything will be in order.
> I'll let you know
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administration
> National Ocean Service
> Office of Coast Survey CSDL/CMMB
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> email: panagiotis.velissariou@noaa.gov
>
> On Tue, Jul 20, 2021 at 5:09 PM Andre Van der Westhuyse
> NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrot
>
> > Hi Takis,
> >
> > I tried a clean (re-) cloning of the repo, but ran into issues
> > I used:
> > `$ git clone https://github.com/noaa-ocs-modeling/AD(`
> > `WW3-NWM-NEMS.git -b feature/pahm --recurse-`
> > `submodules`
> >
> > But got a similar error as before:
> >
> > ```
> > ...
> > Submodule path 'NEMS/tests/produtil/NCEPLIBS-
> > pyprodutil': checked out '
> > ca171b95095db4fcd0fc7b01c23d073d90becd99'
> > Submodule path 'NWM': checked out '
> > 3bc401d298070515cb6171a585d2d19646afd650'
> > fatal: remote error: upload-pack: not our ref
> > 2c148ca1ed6a6c6c2b2446f455a8745e5c1518e9
> > fatal: The remote end hung up unexpectedly
> > Fetched in submodule path 'PAHM', but it did r
> > contain 2c148ca1ed6a6c6c2b2446f455a8745e5c1518
> > Direct fetching of that commit failed.
> > ```
> >
> > Any suggestions about this failure in the PAHM part?

NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote
Hi Andre,

Somehow, the NEMS submodule in feature/pahm was
commit behind.
It has been fixed now. Zach compiled the application
successfully on hera.
A "git submodule update NEMS" should update your lo
NEMS submodule.
If not, you may clone the app again.

Please, let me know if the compilation goes as expecte

Thanks
Takis

Panagiotis Velissariou, Ph.D., P.E.
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National Ocean and Atmospheric Administration
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On Mon, Jul 19, 2021 at 10:18 AM Panagiotis Velissari
NOAA Affiliate <panagiotis.velissariou@noaa.gov> wro
Hi Andre,

Zach tried to re-compile on hera and he experienced
same problem.
I am checking to see what happened between comm
I'll update you all as soon as possible.

Thanks
Takis

Panagiotis Velissariou, Ph.D., P.E.
UCAR Scientist
National Ocean and Atmospheric Administration
National Ocean Service
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email: panagiotis.velissariou@noaa.gov

On Fri, Jul 16, 2021 at 4:30 PM Panagiotis Velissario
NOAA Affiliate <panagiotis.velissariou@noaa.gov> w
Hi Andre,

components ADCIRC, ATMESH, WW3 are in NEM
/incmake (checked the github repo)
You shouldn't be getting: .../ADC-WW3-NWM-NEM
modulefiles/hera/ESMF_NUOPC error
because I have removed these files and in the NEI
/incmake/buildenv.mk I have commended the
lines 63 to 68 out (where these modules are called
So, please do first:
build.sh --plat hera --component "ATMESH ADCIR
WW3" --clean 2
rm -rf ALLBIN_INSTALL
These will clean everything. Then,
build.sh --compiler intel --plat hera --component "A

Please keep the logs so we can check all warning/ messages.

Takis

Panagiotis Velissariou, Ph.D., P.E.
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National Ocean and Atmospheric Administration
National Ocean Service
Office of Coast Survey CSDL/CMMB
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email: panagiotis.velissariou@noaa.gov

On Fri, Jul 16, 2021 at 3:51 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

> Hi Takis,
>
> More progress, but still not success. I get the foll build error:

```
...
make[1]: Entering directory `/scratch2
/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/NEMS/src'
GNUmakefile:16: /scratch2/COASTAL/coast
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/NEMS/src/conf/test-results.mk
such file or directory
Components in linker order: WW3 ATMESH
ADCIRC
WW3: include
GNUmakefile:70: : component WW3 makefil
fragment is missing
ATMESH: include
GNUmakefile:70: : component ATMESH make
fragment is missing
ADCIRC: include
GNUmakefile:70: : component ADCIRC make
fragment is missing
make[1]: *** No rule to make target
`/scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/NEMS/src/conf/test-results.mk
Stop.
make[1]: Leaving directory `/scratch2
/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/NEMS/src'
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/NEMS/exe/NEMS.x /scratch2
/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/NEMS/src/conf/configure.ne
NUOPC
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/NEMS/src/conf/configure.ne
/scratch2/COASTAL/coastal/
```

```
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/NEMS/src/ESMFVersionDefine
/scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/NEMS/src/conf/modules.nems
/scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/NEMS/src/conf/modules.nems
/scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/NEMS/src/conf/test-results.mk
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/NEMS/src/conf/components.m
rm -f /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/NEMS/src/conf/test_results.ml

compileNems :: Compiling: make  -f
GNUmakefile build COMPONENTS="ADCIRC AT
WW3"
NOTE: Skipping appbuilder.mk creation; nc
appbuilder file in use.
echo 'ADCIRC ATMESH WW3' > "/scratch2
/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/NEMS/src/conf/components.m
NEMS_BUILDOPT IS
cp /scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/conf/configure.nems.hera.i
/scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/NEMS/src/conf/configure.ne
cat /dev/null > /scratch2/COASTAL/coast
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/NEMS/src/conf/externals.ne
make: *** No rule to make target `/scra
/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/modulefiles/hera/ESMF_NUOP
needed by `/scratch2/COASTAL/coastal/
save/Andre.VanderWesthuysen/OCS-NEMS/AI
WW3-NWM-NEMS/NEMS/src/conf/modules.nems
Stop.
```

I'll investigate further, but let me know if you hav
suggestions.

Andre

On Fri, Jul 16, 2021 at 3:34 PM Panagiotis Velis
NOAA Affiliate <panagiotis.velissariou@noaa.go
wrote:

> Yes, Zach built it with those modules as define
> modulefile for hera.
>
> Takis
>
> Panagiotis Velissariou, Ph.D., P.E.
> UCAR Scientist
> National Ocean and Atmospheric Administratio
> National Ocean Service
> Office of Coast Survey CSDL/CMMB

On Fri, Jul 16, 2021 at 2:20 PM Andre Van der Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> wrote:

Takis,

Thanks, it works now. I'm now busy building Hera. So the following Hera modules are ne correct?

1) intel/18.0.5.274 2) impi/2018.0.4 3) szip/2.1 4) hdf5_parallel/1.10.6.release 5) netcdf_parallel/4.7.4.release esmf/8.1.0bs25g_ParallelNetCDF.release

Andre

On Fri, Jul 16, 2021 at 3:07 PM Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa.gov> wrote:

Hi Andre,

It is fixed now. I checked the cloning on m computer and it works now.
I had forgotten to push the NEMS change

Please try again.

Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Fri, Jul 16, 2021 at 1:15 PM Andre Va Westhuysen - NOAA Affiliate <andre.vanderwesthuysen@noaa.gov> w

Hi Takis,

I tried to clone the pahm feature branch but it failed while checking out the NEM dependency. I used your recommendec command:

```
git clone https://github.com/noaa-oc
modeling/ADC-WW3-NWM-NEMS.git -
feature/pahm --recurse-submodule
```

and it gave the following error that it cou find the correct hash for NEMS:

```
...
fatal: remote error: upload-pacl
our ref
4c61cc4ea73e407784ddbd6b8affc9
9d20474e1b
fatal: The remote end hung up
unexpectedly
Fetched in submodule path 'NEMS
it did not contain
4c61cc4ea73e407784ddbd6b8affc9
```

Andre

On Tue, Jul 13, 2021 at 3:01 PM Panag
Velissariou - NOAA Affiliate
<panagiotis.velissariou@noaa.gov> wr
Hi Andre,

I think if you use the same configurati
in the AMS simulations that will comp
fine I believe.
Curious to see how it goes.

Takis

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On Tue, Jul 13, 2021 at 8:58 AM Pan
Velissariou - NOAA Affiliate
<panagiotis.velissariou@noaa.gov> v
Hi Andre,

You should be able to do it. WW3 s
compile just fine with the intel
compilers. WW3 (the version that is
app) has some issues (argument
mismatches)
when the compiler is gfortran (versi
10*). I haven't check if the same iss
still exists with the latest version, m
see into this in the future.

Either ATMESH+ADCIRC+PaHM w
PAHM+ADCIRC+PaHM winds shou
work
just fine.

Thanks
Takis

Panagiotis Velissariou, Ph.D., P.E.
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On Tue, Jul 13, 2021 at 8:51 AM A
Van der Westhuysen - NOAA Affilia
<andre.vanderwesthuysen@noaa.
wrote:
Hi Takis

Andre

On Tue, Jul 13, 2021 at 9:11 AM Moghimi - NOAA Affiliate <saeed.moghimi@noaa.gov> wr

> Hi Takis,
>
> Thanks for clarification.
>
> Best,
> -Saeed
>
> ---
> Saeed Moghimi, PhD
> **UCAR/NOAA - NOS Storm Su**
> **Modeling Team Lead**
> Coastal Marine Modeling
> Branch, Coast Survey Develop
> Laboratory, Office of Coast Su
> NOAA National Ocean Service.
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> 6607, Silver Spring, Maryland
> Phone: (240) 847-8230
>
> The contents of this message a
> personally and do not necessar
> reflect any position of NOAA.

On Tue, Jul 13, 2021 at 1:08 A Panagiotis Velissariou - NOAA Affiliate <panagiotis.velissariou@noaa. wrote:

> Hi Saeed,
>
> Yes, also the PAHM+ADCIR
> works the same when using
> prepared winds (NetCDF)
> Tested both configurations, s
> results.
> Testing the direct exchange
> fields from PaHM to ADCIR(
> The PaHM Cap supports bo
> configs, the reason is that w
> want to use
> externally prepared wind fiel
> example: a NetCDF file that
> contains blended backgroun
> fields + PaHM fields)
>
> So, ATMESH+ADCIRC+Pal
> winds or PAHM+ADCIRC+P
> winds work the same with pr
> prepared winds.
>
> Takis
>
> Panagiotis Velissariou, Ph.D
> UCAR Scientist
> National Ocean and Atmospl
> Administration
> National Ocean Service

gov

On Mon, Jul 12, 2021 at 5:0
Saeed Moghimi - NOAA Affil
<saeed.moghimi@noaa.gov
wrote:

> Hi Takis,
>
> I think I am confused. If w
> using PahM to provide atn
> forcing, why do we need t
> ATMESH?
>
> Thanks,
> -Saeed

Saeed Moghimi, PhD
**UCAR/NOAA - NOS Storn
Modeling Team Lead**
Coastal Marine Modeling
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Development Laboratory,
of Coast Survey at NOAA N
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On Mon, Jul 12, 2021 at 5
Panagiotis Velissariou - N
Affiliate
<panagiotis.velissariou@r
gov> wrote:

> Hi Andre,
>
> The updated NEMS app
> the github repo:
> https://github.com/noaa-
> modeling/ADC-WW3-NW
> NEMS.git feature/pahm
>
> I am using the comman
> git clone https://github.c
> /noaa-ocs-modeling/AD
> WW3-NWM-NEMS.git
> feature/pahm --recurse-
> submodules
>
> Note that this ADC-WW
> NWM-NEMS also conta
> latest stable NEMS sou
> (release/public-v2).
>
> If possible, could you pl
> run the application using
> ATMESH+WW3 and the

Florence for the Shinne
Inlet test case.

Testing the PaHM NUOI
now.

It seems that all issues
resolved.

If you want I can set a g
meet in case my help is
needed on compiling/ru
the application.

Thank you
Takis

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