Agenda and Notes

CC CoP Webinar
November 2, 2021, 1:30-3:00 pm CT
Hangouts Meet: meet.google.com/vxf-uodt-wvm
Join by phone: (US) +1 515-705-3824 PIN: 828 466 031#

Meeting Purpose and Objectives:
- Provide an overview of some coupling technical modeling updates from our community members
- Discuss future efforts and activities with the audience

Outline
1. Introduction and set the stage
2. Yu Zhang (University of Texas at Arlington) - Using an NWM-Delft3D coupled modeling system for assessing interactions between riverine and coastal waters during major TC-induced flooding events along the SE Texas Coast
3. Matt Bilskie (University of Georgia) - Enhancing Flood Hazard Assessments in Coastal Louisiana Through Coupled Hydrologic and Surge Processes
4. Patrick Tripp (RPS Group) Cloud Sandbox Updates
5. Future engagement opportunities

Attendees

Cayla Dean	Dina Sang	Kelly Knee
Brenna Sweetman	Felix Santiago-Collazo	Kendra Dresback
Lauren Stewart	Hamed Moftakhari	Lei Shi
Yu Zhang	Rostamkhani	Liv Herdman
Tom Foster	Hassan Mashriqui	Marouane Temimi
Patrick Tripp	Henok Kefelegn	Michaela van Berkel
Arezoo RafieeiNasab	Hoda El Safty	Philip Orton
Berina Mina Kilicarslan	J Arnold	Rick Luettich
Blake Goodwin	James McManus	Robert Hetland
Bill Saunders	Jason Ducker	Steve Dykstra
Camaron George	Jon Allen	Trey Flowers
Celso Ferreira	Jongkwan Kim	Virginia Dentler
Cheryl Ann Blain	Julio Zyserman	Yongshan Wan
Claudia Womble	Jun-Whan Lee	Zeli Tan

Notes:

Questions for Yu Zhang:

Bill Saunders 2:02 PM
Did you establish a reduced domain (e.g. Neches River/Sabine Pass) for this analysis or use the entire CONUS NWM? How much did the coupling with Delft-3D affect model performance?
Cut TX portion from NWM parameters/forcing for area of interest. Did NOT run CONUS NWM.

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Cheryl Ann Blain 2:03 PM
What exactly is Delft3D rain-on-grid?
Function that models runoff rainfall time series. Simulates infiltration capacity with storms.

philip orton 2:05 PM
Could you please give a little more detail on the NWM-D3D coupling (or review what was said -- sorry if you already said it) -- Are the models tightly coupled during simulation? If so, where does D3D end and NWM begin? If not, please discuss how the coupling works)

Conducting loose coupling. Identify the reaches that intercept the domain and ingest the reanalysis. The NWM in the Delft3D model is not being actively used. Developed schematic mechanism for coupling. NWM current version only uses 1D channel routing and does not account for variable flow paths.

Liv Herdman
Yu- does the rainfall in deltf3d account for infiltration? How sensitive is flooding to infiltration rate?

Steve Dykstra 2:10 PM
Dr. Zhang, Thanks for sharing. Your results were very similar to a paper I just published (WRR) studying compound flooding with observations in nearby Alabama, always nice to see others getting complimentary results. You said surge reached 35 km inland but was early for compounding with river flooding, however, river water levels can still be rising early on even if it didn't peak, potentially extending the flooded duration. Did you find any regions that were more susceptible to compounding?

Yu Zhang 2:53 PM
Steve Dykstra: very good point. Compounding effects could be present upstream of Neches/Sabine. My sense is that the location where the impacts peak are way upstream of Neches.
J. Arnold 2:20 PM
I could have missed the slide - did you compare the NWMv1 forecasts for the storm event to the measurements made in your domain? And did you incorporate any error constraints for that when coupling w/Delft 3-D? Thx.

Yu Zhang 2:51 PM
We did compare NWM v1 (reanalysis) for gauging stations along Neches/Sabine for Harvey. We did not incorporate error constraints yet, but it is something to consider if we are able to come up with a credible scheme to appraise the error ranges along ungauged locations.

Henok Kefelegn - NOAA Affiliate 2:12 PM
What does the Delft-3D Rain-on-grid pass to the coupled Delft-3D Flexible Mesh + SWAN?

No comment. Delft-3D on track to be open source.

Questions for Tom Foster:
Cheryl Ann Blain 2:15 PM
For Tom Foster: What type of data is assimilated?
"Data assimilation is no excuse for a bad model." The foundation has to be a quality model. Water levels (surge, riverflow, waves), but it ultimately depends on the processes of the specific sites.
Cheryl Ann Blain 2:24 PM

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What are the pieces of information included on your Flood Alert products?
Varies site to site.

Questions for Patrick Tripp:

Request for presentation links:
- https://github.com/ioos/Cloud-Sandbox
- https://ioos.github.io/Cloud-Sandbox
- https://github.com/ioos/nosofs-NCO