



Integrated Coastal Modeling

Simulation of Compound Flooding using River-Ocean Two-way Coupled E3SM Ensemble on Variable-resolution Meshes

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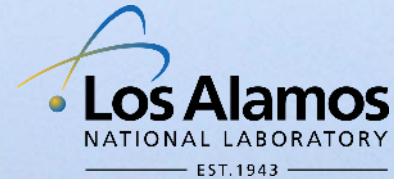
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ESMD group



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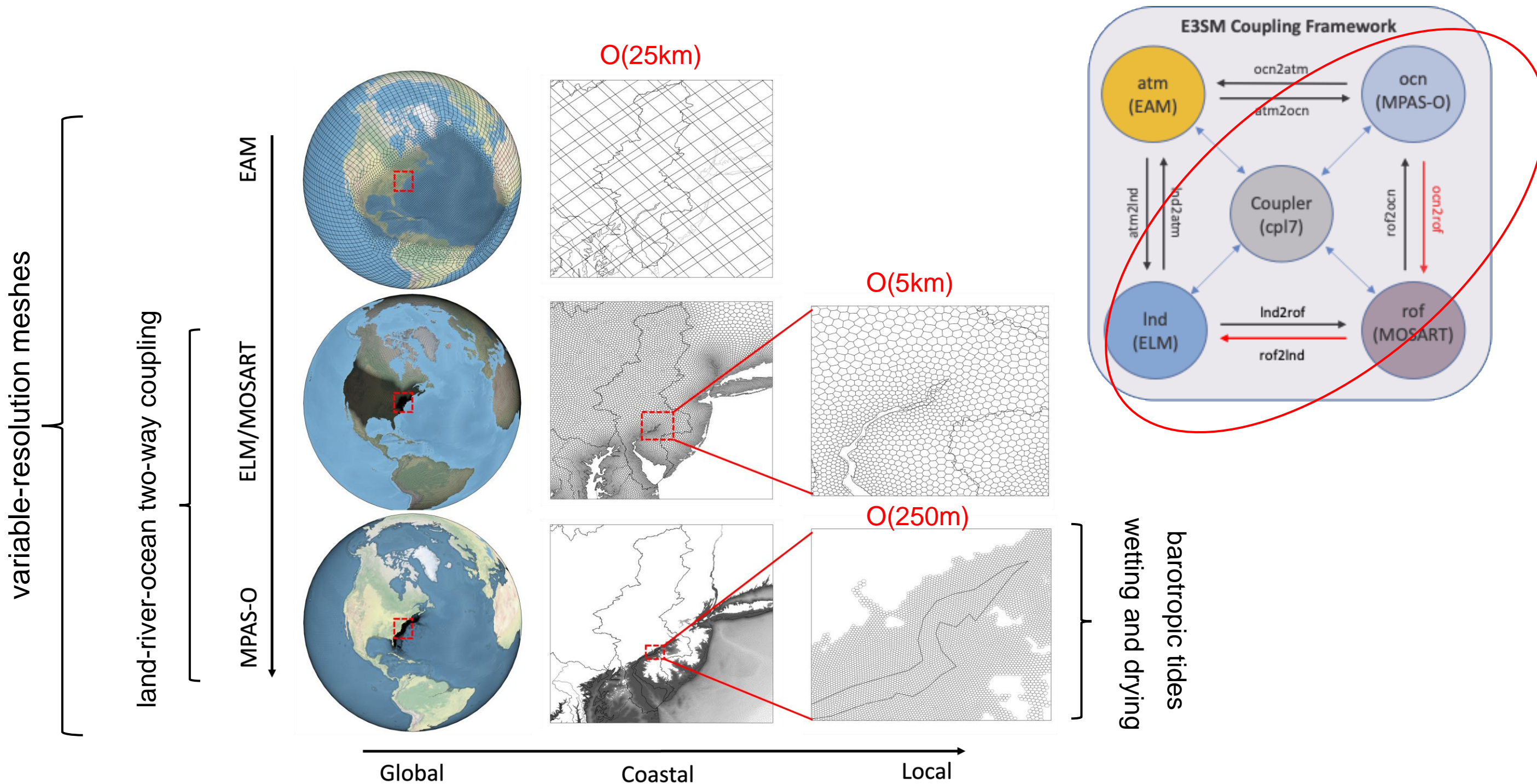


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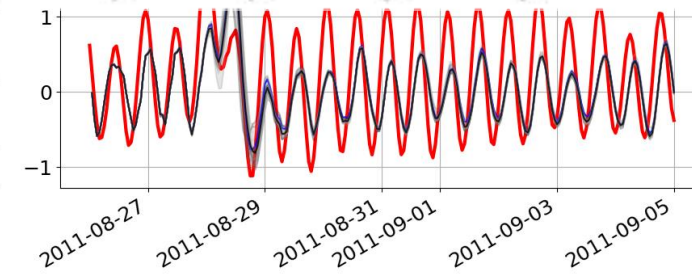
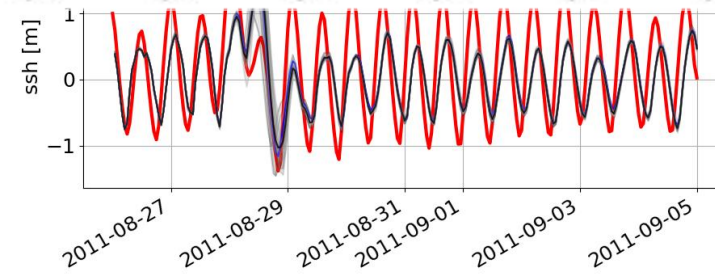
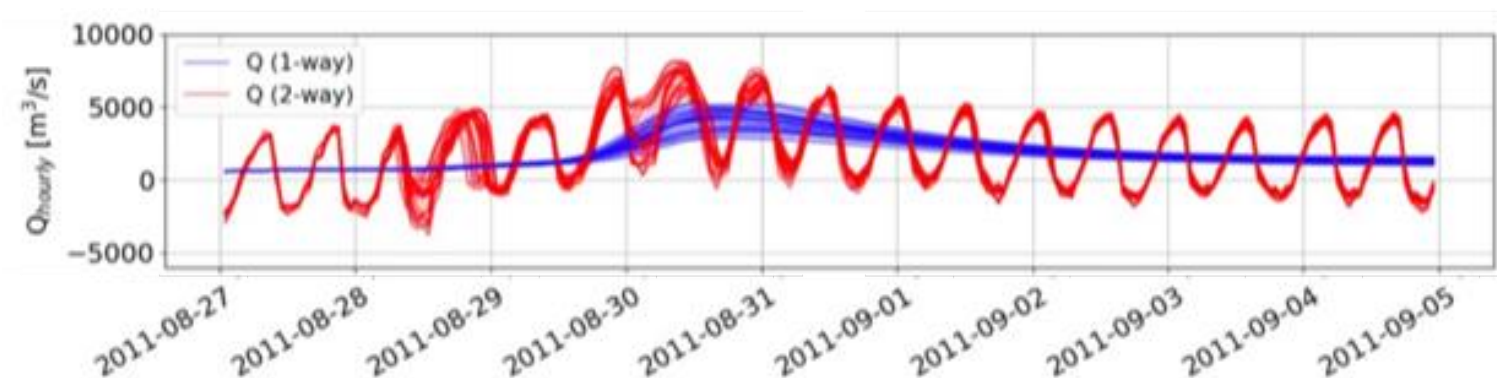
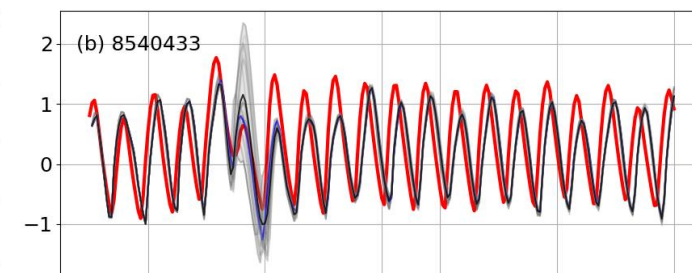
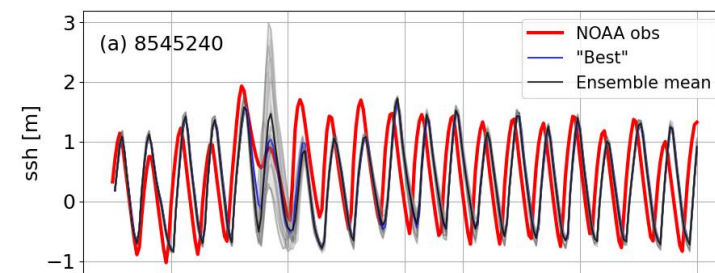
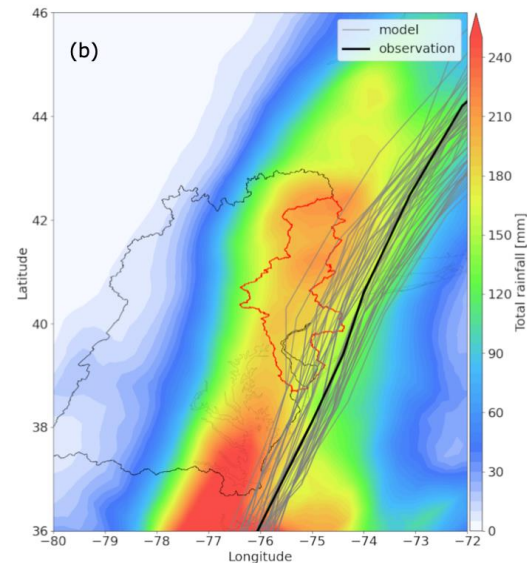
Coupled E3SM framework for coastal extremes



Resolved river-estuary-ocean dynamics in TCs

- Perform multi-ensemble E3SM simulations to assess an extreme TC in the Mid-Atlantic region

- The novel E3SM configuration improves the simulation of river discharge and SSH.
- The two-way river-ocean coupling improves the representation of coastal backwater effects at the river-ocean interface.



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Thank you

