H45N

Development of a Continental Scale Coastal Flood Model Using a Sub-Setting Approach

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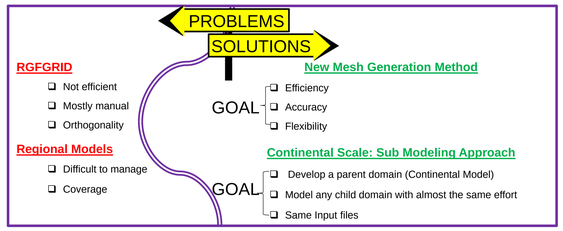
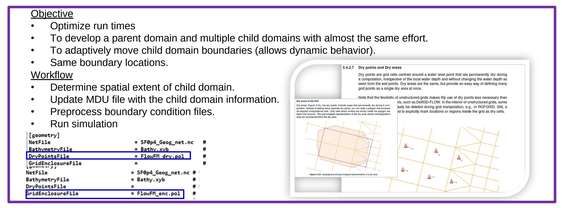
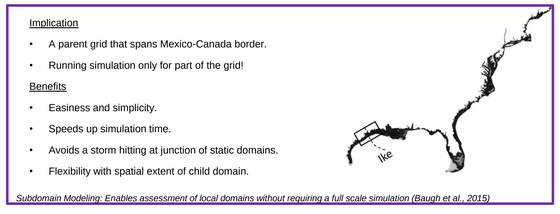
INTRODUCTION

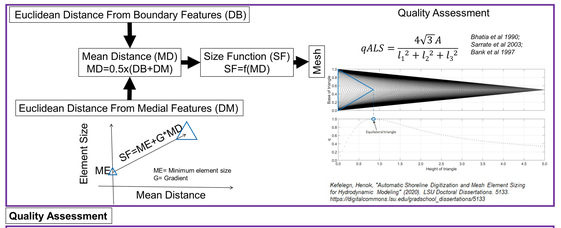


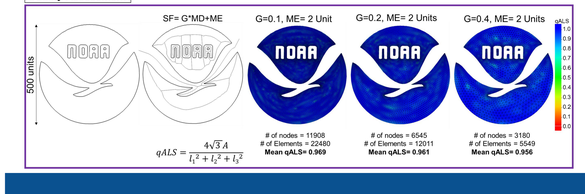
SUB-SETTING APPROACH



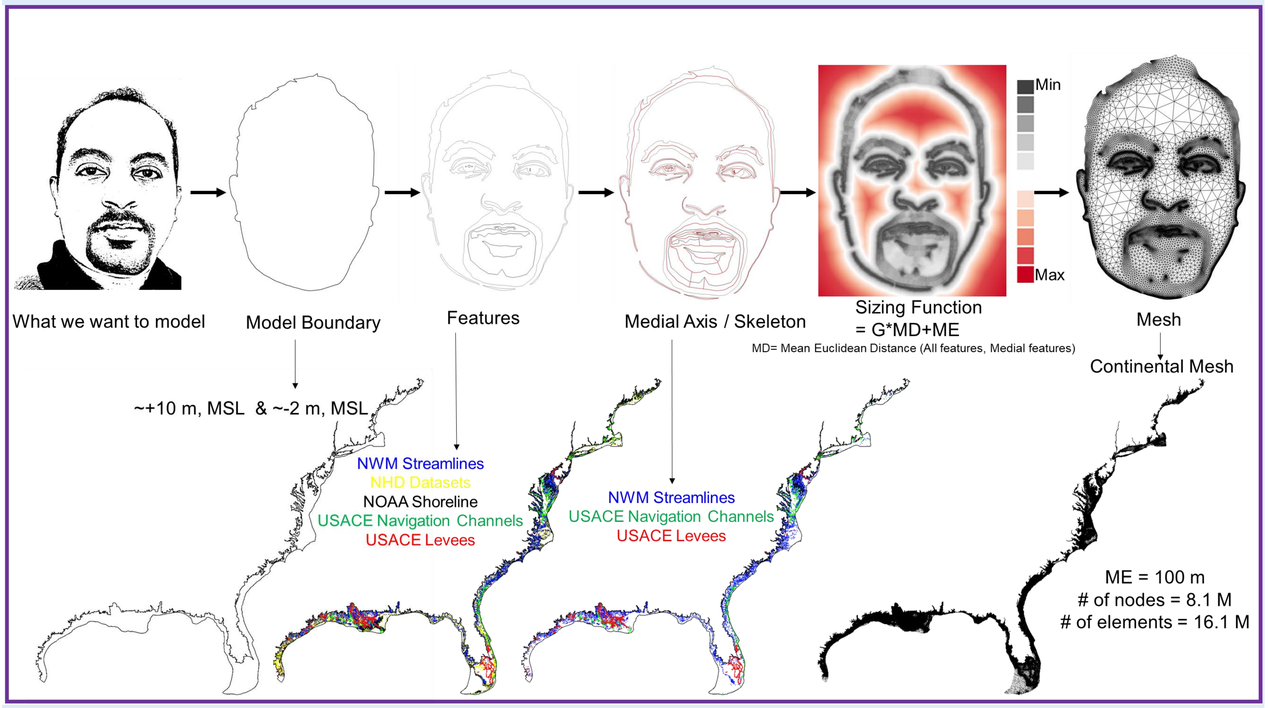


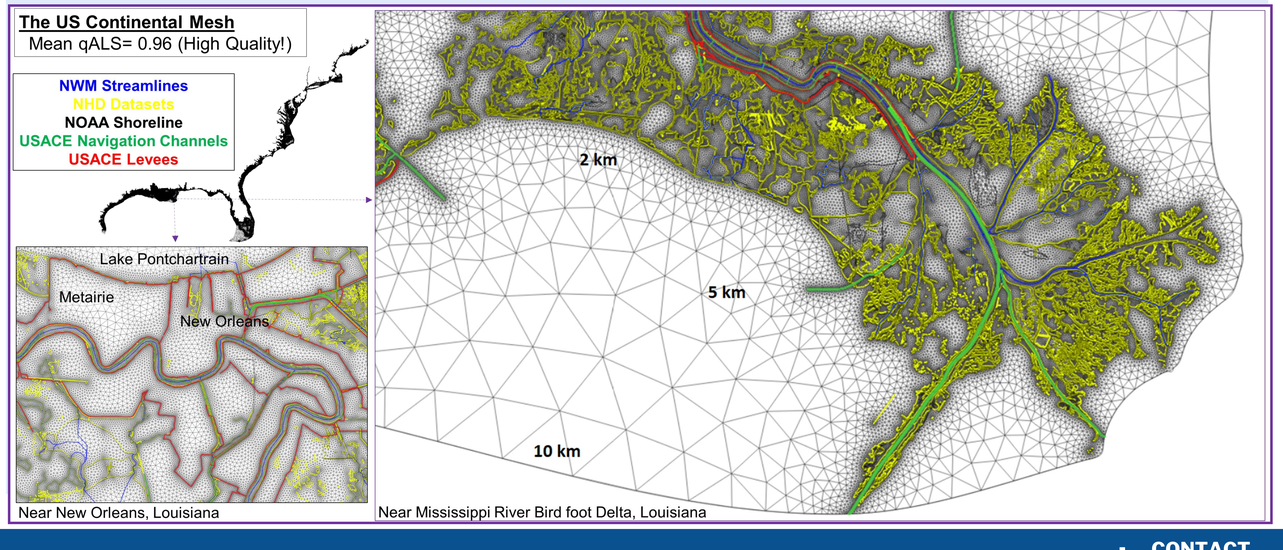
MESH GENERATION METHOD



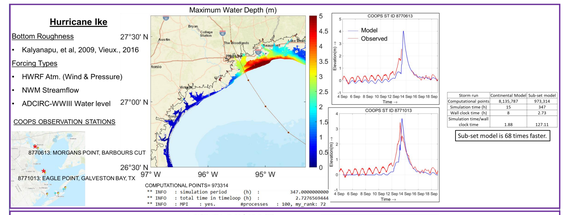


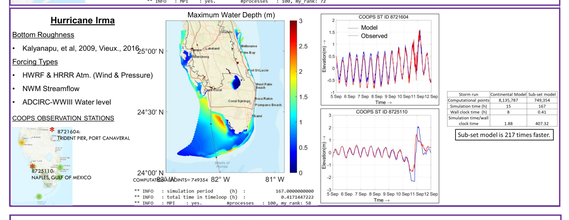
Our methods, mesh generation and sub-setting approach, improve runtimes by up to 200 times.

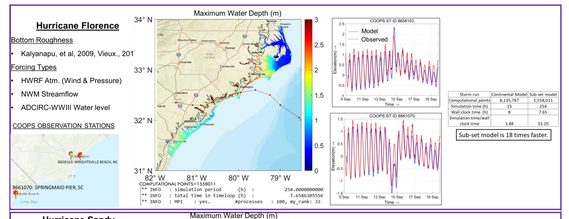


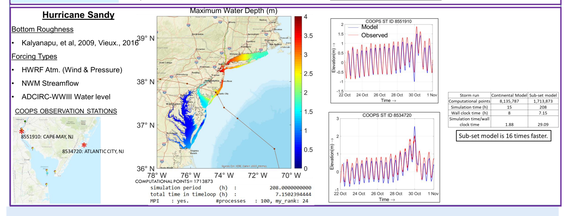


APPLICATION: MODEL RUNS









CONCLUSIONS

- Developed a high quality 2D unstructured mesh using a sizing function that assigns element sizes based on proximities of coastal features at given spatial locations.
- Developed continental domain model that covers the US Gulf and Atlantic Coasts, extending from the US-Canada border to the US-Mexico border.
- Domain sub-setting reduces runtimes significantly without loss of accuracy.

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