

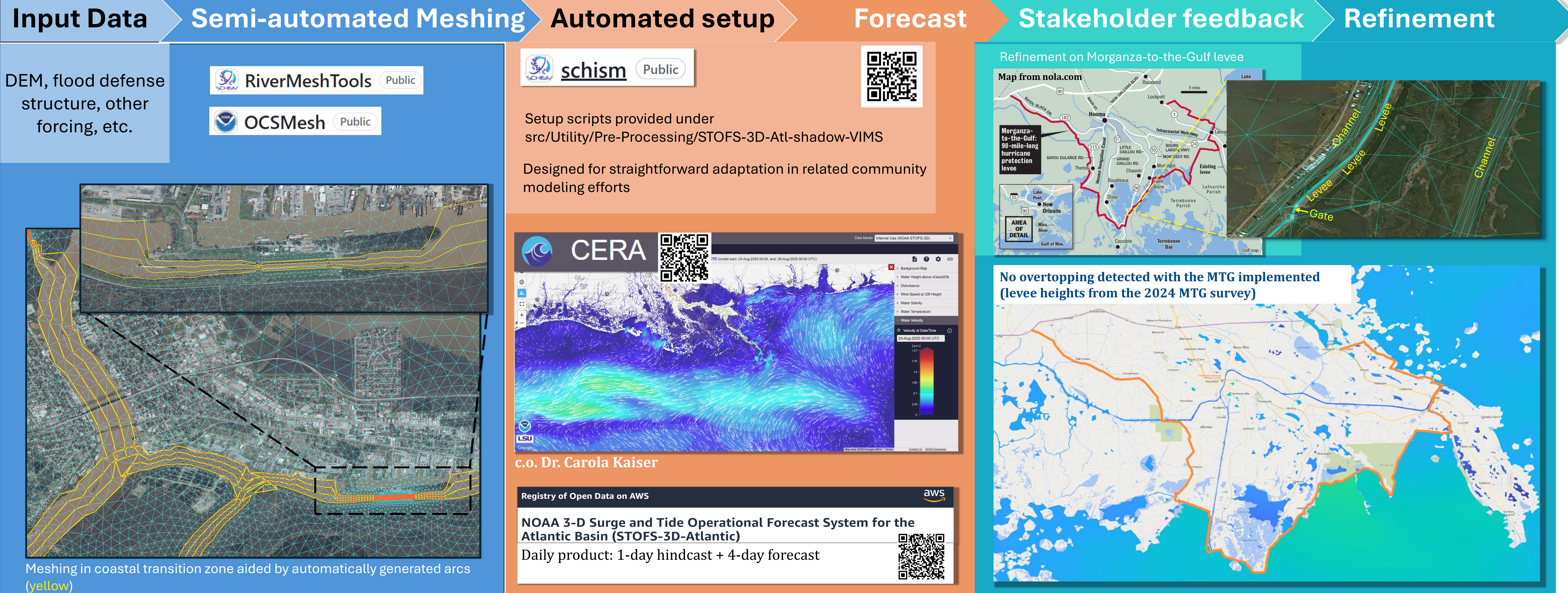
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Introduction

- NOAA's Surge and Tide Operational Forecast System for the Atlantic (STOFS-3D-Atlantic) provides 3D forecasts of storm surge, tide, and flooding.
- New emphasis: **reproducible, flexible, semi- or fully automated workflows.**
- Challenge: need to serve diverse users (scientists, planners, communities) with both **domain-wide coverage** and **local refinements.**
- Goal: empower communities by creating workflows that improve flood resilience and risk communication.

Method

- **Automated Mesh Generation:**
 - RiverMapper, OCSMesh, and related tools for reproducible domain-wide setup.
 - Targeted refinement for rivers, levees, barrier islands, and stakeholder-specified areas.
- **Flexible Workflows:**
 - Automated setup allows both national-scale and community-specific applications.
 - Automatic evaluation and dissemination of daily product
- **Stakeholder Collaboration:**
 - End-user feedback integrated into design (e.g., levee representation in Morganza to the Gulf, navigation channel refinements requested by CG-SAR, breakwaters, etc.).



Conclusion

- Flexible, semi-automated workflows **empower both model developers and communities.**
- Shared tools promote reproducibility, transparency, and stakeholder trust.
- STOFS-3D-Atlantic evolving into a **collaborative platform** for coastal resilience planning, risk communication, and decision support (including navigation)