2026 IOOS Modeling Community of Practice Workshop

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FINAL AGENDA

July 28-30, 2026

Reservoir Center for Water Solutions
301 Water St SE, Washington, DC 20003

Pre-Workshop Webinar Summary; Workshop Day 1; Workshop Day 2; Workshop Day 3

Meeting goal: Bring together the IOOS modeling community, including participants from NOAA, IOOS Regional Associations, academic institutions, industry, national centers, and other federal agencies, to share modeling systems and technical advancements. Through interactive sessions, the workshop aims to develop a shared understanding of community and NOAA priorities and identify areas of alignment. Key discussions will focus on technological advancements and innovation, workforce development, and integrated modeling, while facilitating sustained collaboration and knowledge sharing. By building upon the 2021 workshop's outcomes, this event will transition from foundational discussions toward coordinated strategy, actionable pathways for research-to-operations (R2O) integration—including with the Unified Forecast System (UFS)—and implementable next steps for long-term community success.

Meeting outcomes:

- Provide an avenue for the community to showcase systems, products, innovation, and engagement strategies.
- Discuss key focus areas: technological innovation, workforce development, and integrated modeling.
- Build a shared set of community priorities throughout the workshop and explore how they align with NOAA priorities, including opportunities to support one another.
- Develop strategies for research-to-operations and operations-to-research (R2O2R) and integration with NOAA systems (e.g., UFS).
- Foster sustained collaboration and knowledge sharing across NOAA, federal, academic, and industry partners.
- Define implementable next steps to ensure long-term community success and effective support structures.

Workshop Day 1

Date/Time: Tuesday July 28, 2026 from 8:30AM - 4:30PM ET
Location: Online/Reservoir Center

Time	Agenda item, format, objective	Moderator
8:30 am	**Check-In & Breakfast (Breakfast Provided)**	Planning Committee
9:00 am	**Welcome and Opening Remarks** *Read-Aheads:* IOOS Modeling Terms and Definitions ; 2021 Coastal Ocean Community Modeling Workshop Summary	Breanna Vanderplow Pat Burke
9:30 am	**Introduction to the IOOS Modeling Community of Practice** *Presenters:* 1. **Clarissa Anderson**, *SCCOOS* 2. **John Wilkin**, *Rutgers University* 3. **Marjy Friedrichs**, *Virginia Institute of Marine Science* *Objectives:* 1. Provide an overview of the IOOS modeling community, including showcasing the breadth of community modeling efforts and highlighting how community-developed models, applications, and products address regional user needs and complement and expand NOAA operational modeling capabilities. 2. Planning team members share perspectives on model and product development, research-to-operations, stakeholder engagement, emerging modeling capabilities, and opportunities to strengthen coordination across the IOOS Modeling Community of Practice. 3. Introduce the process for identifying shared community priorities throughout the workshop and discuss opportunities for coordination between NOS and the broader modeling community. *Priorities will be revisited during the final session to help inform future Community of Practice activities.* *Read-Aheads:* IOOS Modeling Community of Practice Models and Products Inventory	Breanna Vanderplow
10:15 am	**BREAK**	
10:30 am	**NOS Core Model Evaluation Process & Feedback Session** *Remarks:* **Rachael Dempsey, NOS Deputy Assistant Administrator** *Small Group Facilitators:* 1. **Pat Burke,** *NOAA NOS* 2. **Steve Smith,** *NOAA NOS* 3. **Joanna Peth,** *NOAA NOS* & **Lucila Houttuijn Bloemendaal,** *NOAA IOOS* 4. **Breanna Vanderplow,** *NOAA IOOS* (Virtual Facilitator) *Objectives:*	Pat Burke Steve Smith

Time	Agenda item, format, objective	Moderator
	1. Continue the discussion of NOS modeling priorities, model evaluation efforts, and future directions introduced during the pre-workshop webinar. 2. Engage participants in small-group discussions on future modeling capabilities, modernization, collaboration, and operational transition challenges. 3. Facilitate community dialogue on model evaluation, modernization, and operational considerations. *Read-Aheads:* NOAA NOS Model Evaluation Request for Information (RFI)	
12:00 pm	**LUNCH (provided)**	
1:15 pm	**Research-to-Operations (R2O): Current Practices and Opportunities for Improvement** *Presenters:* 1. **Jiangtao Xu,** *NOAA CO-OPS* 2. **Lonnie Gonsalves,** *NOAA NCCOS* *Small Group Facilitators:* 1. **Tarang Khangaonkar,** *University of Washington* 2. **Joseph Zhang,** *Virginia Institute of Marine Science* 3. **Minna Ho,** *University of California Los Angeles* (Virtual Facilitator) *Objectives:* 1. Provide an overview of current research-to-operations and operations-to-research (R2O2R) approaches across the coastal and ocean modeling community, including pathways used by regional, academic, and federal modeling efforts. 2. Identify opportunities to improve and streamline R2O2R processes for a variety of model types by discussing common challenges, successful practices, and potential mechanisms for advancing collaboration, transition, and sustained operations.	Lucila Houttuijn Bloemendaal
2:45 pm	**BREAK**	
3:00 pm	**Community Showcase: Emerging Projects, Tools, and Applications** *Presenters:* 1. **Lucila Houttuijn Bloemendaal,** *NOAA IOOS* | The Next Generation Evaluation Tools for NOS Operational Forecast Systems 2. **Analise Keeney,** *NOAA CO-OPS* | CORA & Applications 3. **Lakshitha Prematilake,** *University of Washington* | Enhancing Salish Sea Operational Forecasts with SSCOFS-DART Coupling 4. **Nabi Allahdadi,** *Florida Gulf Coast University* | Implementation of a High-Resolution Circulation Model for South Florida Estuaries: Studying Physical and Biogeochemical Processes	Breanna Vanderplow

Time	Agenda item, format, objective	Moderator
	5. **Kate Pereira,** *Colorado School of Mines/ UCAR WINGS Fellow* | Great Lakes Wave Modeling Winter Validation with Spotter Buoys and SWOT 2D Altimetry Data 6. **Yifan Zhu,** *University of Connecticut* | High-Resolution Regional Model Hindcast for Pacific Northwest Coastal Waters 7. **Merrick Haller,** *Oregon State University* | Development of a one-way coupled wave forecasting model for the Mouth of the Columbia River *Objectives:* 1. Highlight emerging projects, tools, applications, and products from across the coastal and ocean modeling community, demonstrating the breadth of ongoing activities and innovations.	
4:15 pm	**Wrap Up & Group Photo**	Planning Committee
4:30 pm	**Conclude**	

Workshop Day 2

Date/Time: Wednesday July 29, 2026 from 8:30AM - 4:30PM ET

Location: Online/Reservoir Center

Time	Agenda item, format, objective	Lead
8:30 am	**Check-In & Breakfast (Breakfast Provided)**	Planning Committee
9:00 am	**Community Showcase: Stakeholder Engagement** *Presenters:* 1. **Michael C. Maddox,** *University of Maryland - Hydronet* | Stakeholder Guided Earth Science and Applications 2. **Yonggang Liu,** *University of South Florida* | Applications of the Florida Coastal Ocean Circulation Models in Marine Environmental Issues of Societal Importance 3. **Tom Shyka,** *NERACOOS* | Connecting Users and Models: NERACOOS's Stakeholder Engagement Approach 4. **Jan Newton,** *NANOOS* | Applications of NANOOS Models for Stakeholder and Decision-Making Needs *Objectives:* 1. Highlight approaches for engaging stakeholders in the development, evaluation, communication, and application of coastal and ocean modeling products.	Breanna Vanderplow Marjy Friedrichs

10:00 am	**Stakeholder Engagement Discussion** *Objectives:* 1. Build on the stakeholder engagement showcase by discussing successful engagement approaches, persistent challenges, and opportunities to strengthen collaboration between model developers, operational partners, and end users. *Read-Aheads:* A Model of Service Delivery for the NOAA Water Initiative; Meeting Regional: Coastal and Ocean User Needs With Tailored Data Products: A Stakeholder-Driven Process	Breanna Vanderplow Marjy Friedrichs
11:00 am	**BREAK**	
11:15 am	**Data Infrastructure and Cloud Computing: Current Practices and Future Directions** *Panelists:* 1. **Micah Wengren**, *NOAA IOOS* 2. **Kelly Knee**, *Tetra Tech* 3. **Max Jones**, *Development Seed* 4. Pre-recorded remarks from **Rich Signell**, *Open Science Computing, LLC* *Objectives:* 1. Discuss opportunities and challenges related to data standards, access, interoperability, and archiving to support efficient, scalable, and sustainable modeling systems. 2. Explore the evolving role of cloud infrastructure in coastal and ocean modeling, including examples of cloud-enabled workflows, optimization strategies, and operational applications.	Pat Burke
12:15 pm	**LUNCH (provided)**	
1:15 pm	**Integrated Modeling Panel: Current Status and Future Directions** *Panelists:* 1. **Saeed Moghimi**, *NOAA OCS* 2. **Brian Cosgrove**, NOAA *NWS/OWP* 3. **Sam Siedlecki**, *University of Connecticut* 4. **Heather Welch**, *University of California Santa Cruz, NOAA SWFSC* 5. **Sarah Giddings**, *Scripps Institute of Oceanography* *Objectives:* 1. *Explore the current state and future direction of integrated modeling, including efforts to couple physical, biogeochemical, ecological, hydrologic, and atmospheric systems.* 2. *Discuss opportunities, challenges, and priorities for advancing cross-domain modeling capabilities and collaboration to support forecasting, decision-making, and societal needs.* *Definition of Integrated Modeling:* The integration of physical, biogeochemical,	Clarissa Anderson

	ecological, hydrologic, atmospheric, and human systems modeling across scales and domains to support more holistic forecasting and decision-making.	
2:45 pm	**BREAK**	
3:00 pm	**Product Showcase: Coastal Hazards, Forecasting, and Decision Support** *Presenters:* 1. **Muhammad Hajj,** *Stevens Institute of Technology* | Stevens Flood Advisory System: A Probabilistic High-Resolution 4-Day Forecasting System 2. **Alex Kurapov,** *NOAA NOS* | Alaska Ice-Ocean Coupled Modeling 3. **Rick Luettich,** *University of North Carolina at Chapel Hill* | NOAA's STOFS 2D+ Global: A Geoid Referenced Total Water Level Model: From Oceans to Streets 4. **Charles Seaton**, *Columbia River Inter-Tribal Fish Commission* | STOFS-3D-Pacific: Research-to-Operations and Forecast Applications 5. **Greg Seroka**, *NOAA NOS* | STOFS and S-104/S-111 Navigation Products 6. **Pierre St-Laurent,** *Virginia Institute of Marine Science* | A Data-Assimilative Model Forecast of Biogeochemistry for the Mid-Atlantic Bight (Doppio-BGC) 7. **Fatima-Zahra Miahmi,** *PacIOOS* | East Babeldaob, Palau: Wave-Driven Flooding with Sea Level Rise Viewer *Objectives:* 1. *Highlight examples of coastal hazards, forecasting, and decision-support products that translate modeling capabilities into actionable information for end users.* 2. *Explore future priorities and opportunities for advancing forecasting and decision-support products to better address stakeholder needs, emerging challenges, and evolving operational requirements.*	Clarissa Anderson
4:15 pm	Wrap Up	Planning Committee
4:30 pm	**Conclude**	

Workshop Day 3

Date/Time: Thursday July 30, 2026 from 8:30AM - 2:45PM ET

Location: Online/Reservoir Center

Time	Agenda item, format, objective	Lead

8:30 am	**Check-In & Breakfast (Breakfast Provided)**	Planning Committee
9:00 am	**Technology Roundtable: Emerging Technologies and Future Directions** *Presenters:* 1. **Z. George Xue**, *Louisiana State University* 2. **Ruoying He**, *North Carolina State University* 3. **Alex Kurapov**, *NOAA OCS* 4. **Aaron Bever**, *FlowWest* *Objectives:* 1. *Explore the current status and future potential of emerging technologies—including data assimilation, artificial intelligence, and cloud computing—to advance coastal and ocean modeling capabilities.* 2. *Identify opportunities for the modeling community to strategically adopt and integrate new technologies while addressing challenges related to implementation, workforce capacity, infrastructure, and long-term sustainability.*	John Wilkin
10:15 am	**BREAK**	
10:30 am	**Community Discussion: Collaboration, Workforce, and Innovation** *Objectives:* 1. *Explore opportunities for collaboration and coordination across the coastal and ocean modeling community to accelerate innovation and the adoption of emerging technologies.* 2. *Identify workforce development needs, capacity gaps, and potential community actions to support a sustainable, skilled, and adaptable modeling workforce.*	John Wilkin Pat Burke
12:00 pm	**LUNCH (provided)**	
1:15 pm	**Final Discussion, Reflection, & Moving Forward** *Objectives:* 1. *Synthesize key themes and recommendations from the workshop and draft community priorities to identify areas of consensus, refinement, and future focus.* 2. *Compare and contrast NOS and community priorities to identify areas of alignment, collaboration, and how we can support one another.* 3. *Discuss next steps for the Community of Practice, including opportunities for innovation, collaboration, and long-term strategic directions for coastal and ocean modeling among the community and NOAA.*	Breanna Vanderplow Pat Burke Clarissa Anderson
2:45 pm	**Wrap Up & Conclude**	