

Coastal Coupling Community of Practice Webinar Series

October 23, 2020

11:00 am - 1:00 pm CT

www.weather.gov/watercommunity

Outline

1. Opening Remarks by RDML Timothy Gallaudet
2. Greg Dusek (NOAA/NOS/CO-OPS) - NOAA AI strategy and implementation plan
3. Grey Nearing (University of Alabama) - Deep learning for rainfall-runoff modeling research
4. Future engagement opportunities

RDML Timothy Gallaudet, Ph.D.



- Assistant Secretary of Commerce for Oceans and Atmosphere and Deputy NOAA Administrator
- 32 years in U.S. Navy - Oceanographer of the Navy
- B.S. from the U.S. Naval Academy, M.S. and Ph.D. from Scripps Institution of Oceanography



Coastal Coupling Community of Practice Workshop - Advancing Artificial Intelligence

***Tim Gallaudet, Ph.D., Rear Admiral, U.S. Navy (Ret.)
Assistant Secretary of Commerce for Oceans and Atmosphere /
Deputy NOAA Administrator***

October 23, 2020



NOAA Priorities



Wx Model



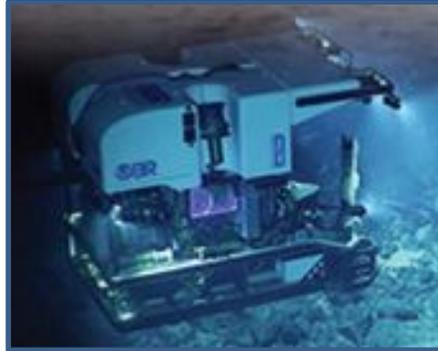
Blue Economy



Space Innovation



Blue Economy



Ocean Mapping & Exploration



Seafood Competitiveness



Marine Transportation



Tourism and Recreation



Coastal Resilience

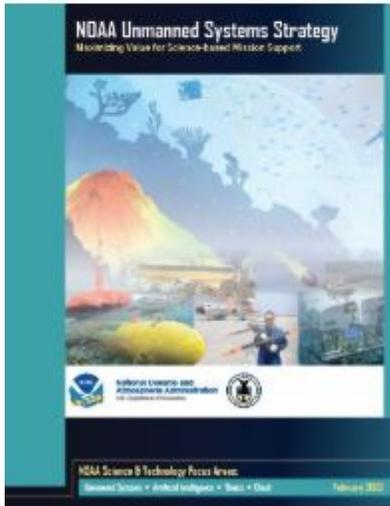


Collaboration to Advance AI





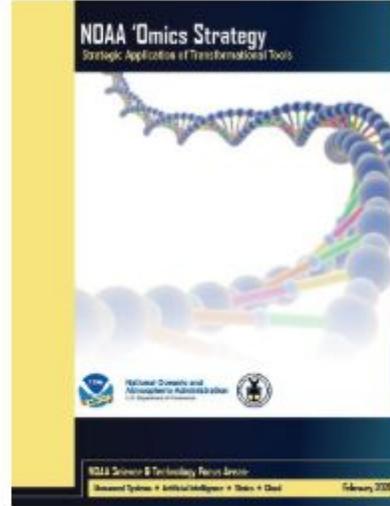
NOAA's Science & Technology Strategies



Uncrewed Systems



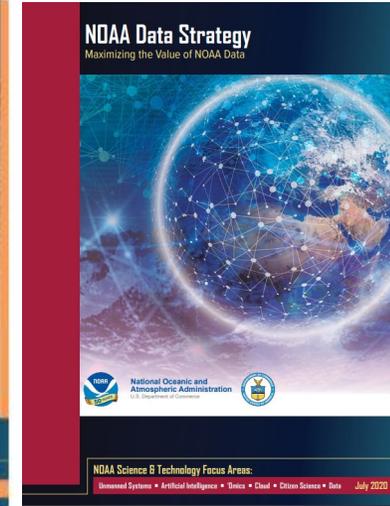
Artificial Intelligence



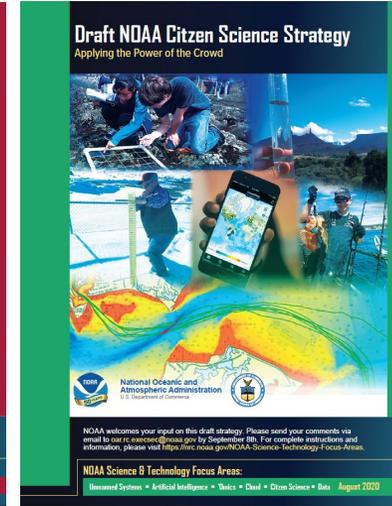
'Omics



Cloud



Data



Citizen Science

<https://nrc.noaa.gov/NOAA-Science-Technology-Focus-Areas>



Community Modeling Approach

Researchers aim to improve coastal storm surge forecasting

Collaborative report, depending on how well models perform, will be out in a year or two

By Margaret Bauman - October 4, 2020

Improving Marine Forecasts in Chesapeake Bay & Gulf of Maine

Where Modeling Meets Observations: Improving the Great Lakes Operational Forecast System

NEWS RELEASE 16-SEP-2020

New Great Lakes model improves operational forecast system

MICHIGAN TECHNOLOGICAL UNIVERSITY

Thank you!



Advancing AI at NOAA: The NOAA AI Strategy and Implementation Plan



- Greg Dusek, Ph.D.
- Senior Scientist, National Ocean Service Center for Operational Oceanographic Products and Services
- Research focuses on coastal oceanographic product development through the intersection of data science with coastal hazards
- Lead on the subcommittee developing the NOAA AI strategy and implementation plan
- gregory.dusek@noaa.gov

Deep Learning for Rainfall-Runoff Modeling



- Grey Nearing, Ph.D.
- Assistant Professor at the University of Alabama Department of Geological Sciences
- Visiting scientist at Google Research
- Professional experience: hydrological model development teams at NASA and NCAR.
- Research: science-informed machine learning.
- gsnearing@ua.edu

Future engagements

Date	Engagement	Location	Other information
~Bi-monthly	Webinar series	Virtual	Looking for speakers
Dec 1-17	2020 AGU Fall Meeting	Virtual	Scientific session CoP town hall NWC town hall
Feb 8-11	Coastal GeoTools	Virtual	coastalgeotools.org
Late Nov	COMT proposal call		Due end of Feb

www.weather.gov/watercommunity - Please let me know if there is anything that you would like highlighted - presentations, publications, projects, news, events, etc.

Although COMT priorities are still in review, some topics of consideration at this time include:

- Improvements to coastal physics representation in community models
- Coupling the National Water Model with ocean circulation models
- Improvements to data assimilation algorithms
- Model evaluation of operational models within NOAA's portfolio
- Efficient approaches to transition ecosystem models to existing physical modeling frameworks
- Performance evaluation of competitive forecast model approaches
- Cloud computing, data management and usage

Coastal & Ocean Modeling Testbed (+HS)

Launch FY2018 COMT Awards (5)

Base: 4 Projects. + Cyberinfrastructure

Water Initiative: 1 Project

Launch FY2018 Hurr Supp Awards (2)

HS2018: 2 Projects (Based on COMT proposals) MARACOOS/Rutgers + SECOORA/NCSU

Launch FY2019 Hurricane Supp Award

HS2019: 1 Project - MARACOOS/Rutgers

Publish FY2021 NOFO

Beginning with requirements gathering in March 2020, compile a NOFO that supports NOS transition goals and solicit input from other programs.

COMT FY2018 Themes

1. NOS Operational Ocean Forecasting
2. Coastal Coupling with the National Water Model
3. Ecoforecasting



Thank you!

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