

**DR. YONGGANG LIU**

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*Associate Research Professor*  
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**PROFESSIONAL EXPERIENCE**

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State Committee, SECOORA Southeast Ocean & Coastal Assessment (SECOORA) 2022 -~~present~~  
AGU Book Board Committee, Ocean Network 2020 -~~present~~  
Editorial Site: 2010 -2012

Guest Editor, *Deep-Sea Research, Part II*

2022 – present

NASA Postdoc Program	2016, 2017, 2018, 2019
Department of Energy (DOE)	2022, 2023
AAAS Research Competitiveness Program	2015
Israel Science Foundation (ISF)	2017
Israel Ministry of Science & Technology (MOST)	2017, 2018, 2019, 2023
National Sciences and Engineering Research Council (NSERC) of Canada	2024
Book Proposal Reviewer:	
Institution of Engineering and Technology (IET)	2019
Elsevier (Academic Press)	2015
Scientific Research Publishing (SCIRP)	2014
Reviewer for Professional Journals (selected):	
<i>Adv. Space Res.; Cont. Shelf Res.; Deep-Sea Res. Part I &amp; Part II; Dyn. Atmos. Oceans; Est. Coast &amp; Shelf Sci.; IEEE J. Ocean Engineering; J. Atmos. Oceanic Technol.; J. Geophys. Res. Oceans; J. Phys. Oceanogr.; Limnol. &amp; Oceanogr.; Marine Pollution Bulletin; Ocean Dynamics; Ocean Modell.; Progr. Oceanogr.; Remote Sensing Environ.; Scientific Reports</i>	
Evaluator, NOAA Northern Gulf of Mexico Operational Forecast System	05/18/2020
Expert Judge:	
Spoonbill Bowl – NOSB Florida Regional Competition	2006, 2010, 2021, 2022
Pinellas Regional Science & Engineering Fair	02/02/2019
Services within USF:	
High Performance Computing Executive Committee, USF	2021
Physical Oceanography Faculty Search Committee, College of Marine Science, USF	2014
Non-Tenure Track Faculty Professional Development Leave Peer Review Committee, College of Marine Science, USF	2010
Media Reports (selected):	
<a href="#">Here's some good red tide news if you're going to the beach</a> ..., <i>Tampa Bay Times</i>	3/31/2023
<a href="#">Here's the aerial view as red tide blooms off Pinellas County</a> ..., <i>Tampa Bay Times</i>	3/10/2023
<a href="#">Here's how Tampa Bay-area scientists can forecast red tide</a> , <i>WTSP 10 Tampa Bay</i>	3/6/2023
<a href="#">Red tide is back (again) in Pinellas County</a> , <i>Tampa Bay Newspapers</i>	2/28/2023
<a href="#">Heading to the beach this weekend? Red tide blooms are declining</a> ..., <i>Tampa Bay Times</i>	2/3/2023
<a href="#">Here's the latest red tide forecast as bloom persists around Anna</a> ..., <i>Bradenton Herald</i>	1/13/2023
<a href="#">We flew above the Red Tide blooms offshore of Tampa Bay...</a> , <i>Tampa Bay Times</i>	12/19/2022
<a href="#">Respiratory problems from Red Tide possible at some Pinellas</a> ..., <i>Tampa Bay Times</i>	12/8/2022
<a href="#">Red tide research gets a \$840K funding boost from FWC</a> , <i>Wink News</i>	11/29/2022
<a href="#">Small amounts of Red Tide were just measured in Tampa Bay...</a> <i>Tampa Bay Times</i>	11/18/2022
<a href="#">Red Tide reached Anna Maria this week. Will Tropical Storm ...?</a> , <i>Tampa Bay Times</i>	11/9/2022
<a href="#">How scientists are keeping their eyes on the oil spill</a> , <i>ZD Net</i>	6/3/2010
<a href="#">Researchers track path of oil from rig spill</a> , <i>Nature</i>	6/1/2010
<a href="#">Shift in Gulf could benefit Florida</a> , <i>Herald-Tribune</i>	5/22/2010
<a href="#">Ecologists brace for oil spill damage</a> , <i>Nature</i>	5/3/2010

## RESEARCH GRANTS

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(The \$ amounts are the portions for USF Ocean Circulation Lab only, not the total project costs.)

### Pending Proposals:

- PI, Coastal Ocean Responses and Feedbacks to Hurricane Ian, \$470,617, U.S. Coastal Research Program, 9/30/2024 – 9/29/2026 (*pending*)

- PI, Advancing Coastal Ocean Modeling, Analysis and Applications for the West Florida Shelf, \$677,438, NOAA COMT, 9/1/2024 – 8/31/2027 (*pending*)
- Co-PI, Inflation Reduction Act, \$79,698, NOAA IOOS through SECOORA (PI, C. Hu), 8/1/2024 – 7/31/2029 (*pending*)
- USF PI, ECOHAB24 Targeted



- PI, Monitoring and Modeling the Deepwater Horizon Oil Spill, **\$10,000**, BOEM, 2011

Awards to Students (I served as PI):

- 2023 *Vembu Subramanian Ocean Scholars Award* - Samantha D'Angelo, **\$1,250**, SECOORA, 11/6/2023 – 5/15/2024
- 2022 *Vembu Subramanian Ocean Scholars Award* – Luis Sorinas, **\$1,250**, SECOORA, 10/15/2022 – 2/15/2023

High Performance Computing Resources:

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- Seminar, University of Texas at Austin (UTIG), 9/24/2010
- Keynote Speaker, SECOORA Annual Board & Member Meeting, Savanna, GA, 4/12/2010
- Guest Speaker, The Greater Plant City Chamber of Commerce, FL, 6/9/2010
- Panelist, Offshore Drilling Town Hall Meeting, City of Gulfport, Florida, 2009
- Seminar, Xiamen University (MEL), China, 1/2/2009
- Seminar, Oregon State University (COISS), Corvallis, OR, 11/6/2007
- Seminar, University of Washington, Seattle, WA, 4/25/2007
- Seminar, Naval Research Laboratory, Stennis Space Center, LA, 5/23/2006

## **PUBLICATIONS**

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### Books

- **Liu, Y.,** H. Kerkering, Weisberg, R.H. (Eds) (2015) *Coastal Ocean Observing Systems*, 461 PP., ISBN 978-0-12-802022-7. Elsevier, London, UK.
- **Liu, Y.,** A. MacFadyen, Z.-G. Ji, Weisberg, R.H. (Eds) (2011) *Monitoring and Modeling the*  
*DZ 0 TdnETBT/P 0 0 li8akc8dnETBa, zo12.9 2.6.,11. (2 (R5.9 S(2 (/P 0 6b2 ((2 ( b2 (gTJ Al)2.6H#9.3 co6nTJrd*

- N. Alvarado, and P. Wang (2023), Hydrodynamic response to bathymetry changes in Tampa Bay, Florida, *Deep-Sea Research Part II*, 212, 105344, <https://doi.org/10.1016/j.dsr2.2023.105344>
6. \*Sorinas, L., R.H. Weisberg, **Y. Liu**, and J. Law (2023), Ocean-atmosphere heat exchange seasonal cycle on the West Florida Shelf derived from long term moored data, *Deep-Sea Research Part II*, 212, 105341, <https://doi.org/10.1016/j.dsr2.2023.105341>
  7. **Liu, Y.**, R.H. Weisberg, L. Zheng, K.A. Hubbard, E.G. Muhlbach, M.J. Garrett, C. Hu, J.P. Cannizzaro, Y. Xie, J. Chen, S. John, and L.Y. Liu (2023), Short-term forecast of *Karenia brevis* trajectory on the West Florida Shelf, *Deep-Sea Research Part II*, 211, 105335, <https://doi.org/10.1016/j.dsr2.2023.105335>
  8. \*Vasbinder, K., C., Ainsworth, **Y. Liu**, and R.H. Weisberg (2023), Gulf of Mexico larval dispersal: Combining concurrent sampling, behavioral, and hydrodynamic data to inform end-to-end modeling efforts through a Lagrangian dispersal model, *Deep-Sea Research Part II*, 211, 105323, <https://doi.org/10.1016/j.dsr2.2023.105323>
  9. Chen, J., R.H. Weisberg, **Y. Liu**, L. Zheng, J. Law, S. Gilbert, and S. Murawski (2023), A Tampa Bay Coastal Ocean Model nowcast/forecast system, *Deep-Sea Research Part II*, 211, 105322, <https://doi.org/10.1016/j.dsr2.2023.105322>
  10. \*Nickerson, A.K., R.H. Weisberg, L. Zheng, and **Y. Liu** (2023), Sea surface temperature trends for Tampa Bay, West Florida Shelf and the deep Gulf of Mexico, *Deep-Sea Research Part II*, 211, 105321, <https://doi.org/10.1016/j.dsr2.2023.105321>
  11. Yang, Y., G. Fu, X.S. Liang, R.H. Weisberg, and **Y. Liu** (2023), Causal relations between the Loop Current penetration and the Florida Current, *Deep-Sea Research Part II*, 211, 105319, <https://doi.org/10.1016/j.dsr2.2023.105319>

18. Beck, M., A. Altieri, C. Angelini, M.C. Burke, J. Chen, D.W. Chin, J. Gardiner, C. Hu, K.A. Hubbard, **Y. Liu**, C. Lopez, M. Medina, E. Morrison, E.J. Philips, G.E. Raulerson, S. Sclaro, E.T. Sherwood., D. Tomasko, R.H. Weisberg, and J. Whalen (2022), Initial estuarine response to inorganic nutrient inputs from a legacy mining facility adjacent to Tampa Bay, Florida, *Marine Pollution Bulletin*, 178, 113598, <https://doi.org/10.1016/j.marpolbul.2022.113598>
19. \*Zhang, Y., C. Hu, V.H. Kourafalou, **Y. Liu**, D.J. McGillicuddy, Jr., B.B. Barnes, and J.M. Hummon (2022), Physical characteristics and evolution of a long-lasting mesoscale cyclonic eddy in the Straits of Florida, *Frontiers in Marine Science*, 9, 779450, <https://doi.org/10.3389/fmars.2022.779450>
20. Zang, Z., R. Ji, **Y. Liu**, C. Chen, Y. Li, S. Li, and C.S. Davis (2022), Deep Scotian Shelf water inflow regulates spring phytoplankton bloom magnitude in the Gulf of Maine, *Limnology and Oceanography Letters*, <https://doi.org/10.1002/lo2.10245>
21. V.H. Kourafalou, G. Mariotti, S. He, R.H. Weisberg, Y. Androulidakis, C. Barker, A. Bracco, B. Dzwonkowski, C. Hu, H. Huang, G. Jacobs, M. Le Henaff, **Y. Liu**, S. Morey, J. Nittrouer, E. Overton, C.B. Paris, B.J. Roberts, K. Rose, A. \_\_\_\_\_ and J. Wiggert (2022), Transport processes in the Gulf of Mexico along the r e s ocean continuum: A review of research from the Gulf of Mexico Research Initiative, *Estuaries and Coasts*, 45, 621-657, <https://doi.org/10.1007/s12237-021-01005-1>
22. Solo-Gabriele, H., T. Fiddaman, C. Mauritzen, C. Ainsworth, D.M. Abramson, I. Berenshtein, E.G. Chassignet, S.S. Chen, R.N. Conmy, C.D. Court, W.K. Dewar, J.W. Farrington, M.G. Feldmann, A.C. Ferguson, E. Fetherston-Resch, D. French- McCay, C. Hale, R. He, V.H. Kourafalou, K. Lee, **Y. Liu**, M. Masi, E.S. Maung-Douglass, S.L. Morey, S.A. Murawski, C.B. Paris, N. Perlin, E.L. Pulster, A. Quigg, D.J. Reed, J.J. Ruzicka, P.A. Sandifer, J.G. Shepherd, B.H. Singer, M.R. Stukel, T.T. Sutton, R.H. Weisberg, D. Wiesenburg, C.A. Wilson, M. Wilson, K.M. Wolk, C. Yanoff, and D. Yoskowitz (2021), Towards integrated modeling of the Long-term impacts of oil spills, *Marine Policy*, 131, 104554, <https://doi.org/10.1016/j.marpol.2021.104554>
23. Anisworth, C.H, E.P. Chassignet, D. French-McCay, C.J. Beegle-Krause, I. Berenshtein, J. Englehardt, T. Fiddaman, H. Huang, M. Huettel, D. Justic, V.H. Kourafalou, **Y. Liu**, C. Mauritzen, S. Murawski, S. Morey, T. Ozgokmen, C.B. Paris, J. Ruzicka, S. Saul, J. Shepherd, S. Socolofsky, H. Solo-Gabriele, T. Sutton, R.H. Weisberg, C. Wilson, L. Zheng, and Y. Zheng (2021), Ten years of modeling the Deepwater Horizon oil spill, *Environmental Modelling and Software*, 142, 105070, <https://doi.org/10.1016/j.envsoft.2021.105070>
24. **Liu, Y.**, C.R. Merz, R.H. Weisberg, L.K. Shay, S. Glenn, and M. Smith (2021), Evaluation of altimetry and model products in the Straits of Florida with high-frequency radar radial currents. *Ocean Remote Sensing Technologies: HF, Marine and GNSS-Based Radar*, IET, edited by Huang, W. and Gill, E., 117-144, [https://doi.org/10.1049/SBRA537E\\_ch5](https://doi.org/10.1049/SBRA537E_ch5)
25. Merz, C.R., **Y. Liu**, and R.H. Weisberg (2021), Sea surface current mapping with HF radar: A premier, *Ocean Remote Sensing Technologies: HF, Marine and GNSS-Based Radar*, IET, edited by Huang, W. and Gill, E., 95-116, [https://doi.org/10.1049/SBRA537E\\_ch4](https://doi.org/10.1049/SBRA537E_ch4)
26. \*Huang, M., X. Liang, Y. Zhu, **Y. Liu**, and R.H. Weisberg (2021), Eddies connect the tropical Atlantic Ocean and the Gulf of Mexico, *Geophysical Research Letters*, 48, e2020GL091277, <https://doi.org/10.1029/2020GL091277>
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28. Yang, Y., R.H. Weisberg, **Y. Liu**, and X.S. Liang (2020), Instabilities and multiscale interactions  
in a fully developed turbulent flow. *Journal of Fluid Mechanics*, 942, 1-17. doi:10.1017/jfm.2020.466

42. Weisberg, R.H., L. Zheng, and **Y. Liu** (2016), West Florida Shelf upwelling: Origins and pathways, *Journal of Geophysical Research Oceans*, 121, 5672-5681,

56. **Liu, Y.**, and R.H. Weisberg (2011), Evaluation of trajectory modeling in different dynamic regions using normalized cumulative Lagrangian separation, *Journal of Geophysical Research*, 116, C09013, <https://doi.org/10.1029/2010JC006837>

69. **Liu, Y.,** X.S. Liang, and R.H. Weisberg (2007), Rectification of the bias in the wavelet power spectrum, *Journal of Atmospheric and Oceanic Technology*, 24(12), 2093–2102, <https://doi.org/10.1175/2007JTECHO511.1>
70. **Liu, Y.,** and R.H. Weisberg (2007), Ocean currents and sea surface heights estimated across the West Florida Shelf, *Journal of Physical Oceanography*, 37(6), 1697-1713, <https://doi.org/10.1175/JPO3083.1>
71. **Liu, Y.,** R.H. Weisberg, and L.K. Shay (2007), Current patterns on the West Florida Shelf from joint self-organizing map analyses of HF radar and ADCP data, *Journal of Atmospheric and Oceanic Technology*, 24, 702–712, <https://doi.org/10.1175/JTECH1999.1>
72. Hong, Y., Y.-M. Chiang, **Y. Liu,** K.-L. Hsu, and S. Sorooshian (2006), Satellite-based precipitation estimation using watershed segmentation and growing hierarchical self-organizing map, *International Journal of Remote Sensing*, 27(23), 5165–5184, <https://doi.org/10.1080/01431160600763428>
73. **Liu, Y.,** R.H. Weisberg, and C.N.K Mooers (2006), Performance evaluation of the Self-Organizing Map for feature extraction, *Journal of Geophysical Research*, 111, C05018, <https://doi.org/10.1029/2005jc003117>
74. **Liu, Y.,** R.H. Weisberg, and R. He (2006), Sea surface temperature patterns on the West Florida Shelf using Growing Hierarchical Self-Organizing Maps, *J*



10. Merz, C.R., R.H. Weisberg, and **Y. Liu** (2012), Evolution of the USF/CMS CODAR and WERA HF radar network, *Proc. MTS/IEEE Ocean 2012*
11. **Liu, Y.**, A. MacFadyen, Z.-G. Ji, and R.H. Weisberg (2011), Preface, in *Monitoring and Modeling the Deepwater Horizon Oil Spill: A Record-Breaking Enterprise*, *Geophys. Monogr. Ser.*, 195, AGU/geopress, Washington, D.C. <https://doi.org/10.1029/2011GM001146>
12. **Liu, Y.**, A. MacFadyen, Z.-G. Ji, and R.H. Weisberg (2011), Introduction to monitoring and modeling the Deepwater Horizon oil spill, in *Monitoring and Modeling the Deepwater Horizon Oil Spill: A Record-Breaking Enterprise*, *Geophys. Monogr. Ser.*, 195, 1-7, AGU/geopress, Washington, D.C. <https://doi.org/10.1029/2011GM001147>
13. **Liu, Y.**, and R.H. Weisberg (2011), A review of Self-Organizing Map applications in meteorology and oceanography, in *Self-Organizing Maps - Applications and Novel Algorithm Design*, edited by J. I. Mwasiagi, InTech, Rijeka, Croatia, ISBN 978-953-307-546-4, pp 253-272, <https://doi.org/10.5772/13146>
14. **Liu, Y.**, R.H. Weisberg, C. Hu, and L. Zheng (2011), Combining numerical ocean circulation models with satellite observations in a trajectory forecast system: a rapid response to the Deepwater Horizon oil spill, *Proc. SPIE* 8030, 80300K. <https://doi.org/10.1117/12.887983>
15. **Liu, Y.**, R.H. Weisberg, C. Hu, and L. Zheng (2011), Satellites, models combine to track Deepwater Horizon oil spill, *SPIE Newsroom*. <https://doi.org/10.1117/2.1201104.003575>
16. **Liu, Y.**, Y. Yuan, T. Shiga, et al. (2000), Circulation southeast of the Ryukyu Islands. In *Proceedings of China-Japan Joint Symposium on CSSCS*, China Ocean Press, Beijing, pp 23-37
17. Shiga, T., D. Ueno, Y. Takatsuki and **Y. Liu** (2000), Variations of oceanic conditions east of the Ryukyu Islands in 1997. In *Proceedings of China-Japan Joint Symposium on CSSCS*, China Ocean Press, Beijing, pp 57-65
18. **Liu, Y.**, 10.1029/2011GM001146



16. **Liu, Y.**, Weisberg, R.H., Law, J., Chen, J., Zheng, L., Mayer, D.A., Hu, C., Zhang, Y. (2023), Coastal ocean response to Hurricane Ian as revealed by a coordinated coastal o

Imaging FlowCytobot (IFCB) during the 2020-2021 *Karenia brevis*

45. **Liu, Y.**, R.H. Weisberg, and L. Zheng, 2018: Northeastern Gulf of Mexico coastal ocean response to Hurricane Michael, 2018 AGU Fall Meeting, Washington DC, December 2018. (poster)
46. (*Invited talk*) **Liu, Y.**, R.H. Weisberg, J.M. Lenes, L. Zheng, K. Hubbard, and J.J. Walsh, 2017: An altimetry-



73. **Liu, Y.**, and R.H. Weisberg, 2004: Ocean current spatial patterns from West Florida Shelf velocity time series using the Self