

Curriculum Vitae

Chuanmin Hu

1. Address

College of Marine Science (CMS), University of South Florida (USF)
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2. Professional Preparation

Ph.D. in Physics, 1997, University of Miami, Coral Gables, Florida, U.S.A.
M.S. in Physics, 1992, Institute of Physics, Academia Sinica, Beijing, China
B.S. in Physics, 1989, University of Sci. and Tech. of China, Hefei, China

3. Professional Appointments

2014 – present, Professor, University of South Florida
2009 – 2014, Associate Professor, University of South Florida
2006 – 2008, Associate Research Professor, University of South Florida
2001 – 2005, Assistant Research Professor, University of South Florida
1998 – 2000, Post-doctorate Research Associate, University of South Florida

4. Honors & Awards

2022 Outstanding Faculty Award, University of South Florida
2021 Fellow, American Association for the Advancement of Science (AAAS)
2020 Member, Academy of Science, Engineering & Medicine of Florida
2019 Outstanding Graduate Faculty Mentor Award, University of South Florida
2016 Global Achievement Group Award, University of South Florida
2014 Faculty Outstanding Research Achievement Award, University of South Florida
2014 Outstanding Faculty Award, University of South Florida
2013 Group Achievement Honor Award, NASA Ames Research Center
2013 Gulf Guardian Award, U.S. Environmental Protection Agency
2013 STEM Collaborative Partnership Award, ARCS

5. Refereed Publications (as of 03/07/2024)

Total: 361 journal articles and 20 book chapters; Hu as first author: 64 journal articles and 6 book chapters; 12 appears on journal covers, many highlighted by AGU, NASA, and IOCCG through press releases

Google Scholar citation (03/07/2024): total citations: 27,790; h-index: 88.

a. Professional Refereed Journals

Underlined authors are students or postdocs

2024

- 361 **Hu, C.** (2024) A depth-invariant index to map floating algae: a conceptual design, Remote Sensing Letters, 15:1, 1-9, DOI: 10.1080/2150704X.2023.2294746
- 360 Liu, Y., R. H. Weisberg, L. Zheng, Y. Sun, J. Chen, J. A. Law, **C. Hu**, J. P. Cannizzaro, T. K. Frazer (2024). A tracer model nowcast/forecast study of the Tampa Bay, Piney

Point effluent plume: Rapid response to an environmental hazard. *Marine Pollution Bulletin*, 198, 115840, <https://doi.org/10.1016/j.marpolbul.2023.115840>

- 359 Yao, Y., **C. Hu**, J. P. Cannizzaro, S. Zhang, B. B. Barnes, Y. Xie, L. Qi, C. Armstrong, and Z. Chen (2024). Detecting Cyanobacterial Blooms in the Caloosahatchee River and Estuary Using PlanetScope Imagery and Deep Learning. *IEEE Trans. Geosci. & Remote Sens.*, 62, 4202513, doi:10.1109/TGRS.2024.3354211.
- 358 Zhang, Y., **C. Hu**, D. J. McGillicuddy, Jr., B. B. Barnes, Y. Liu, V. H. Kourafalou, S. Zhang, and F. J. Hernandez (2024). Pelagic Sargassum in the Gulf of Mexico driven by ocean currents and eddies. *Harmful Algae*, 132, 102566, <https://doi.org/10.1016/j.hal.2023.102566>.
- 357 Zhang, L., Z. Xin, Q. Guan, L. Feng, **C. Hu**, C. Zhang, and H. Zhou (2024). Monitoring and understanding chlorophyll-a concentration changes in lakes in northeastern China using MERIS and OLCI satellite data. *GIScience & Remote Sensing*, 61(1), 2285166, <https://doi.org/10.1080/15481603.2023.2285166>

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- 356 Brewin, R. J. W., S. Sathyendranath, G. Kulk, et al. (2023). Ocean carbon from space: Current status and priorities for the next decade. *Earth-Science Reviews*, 240, 104386, <https://doi.org/10.1016/j.earscirev.2023.104386>
- 355 Bunson S and **Hu C** (2023) Did tsunamis lead to changes in ocean properties? a revisit. *Front. Mar. Sci.* 10:1275445. doi: 10.3389/fmars.2023.1275445
- 354 Cao, Z., **C. Hu**, R. Ma, H. Duan, M. Liu, S. Loiselle, K. Song, M. Shen, D. Liu, and K. Xue (2023). MODIS observations reveal decrease in lake suspended particulate matter across China over the past two decades. *Remote Sens. Environ.*, 295, 113724, <https://doi.org/10.1016/j.rse.2023.113724>
- 353 Dai, Y., S. Yang, D. Zhao, **C. Hu**, W. Xu, et al. (2023). Coastal phytoplankton blooms expand and intensify in the 21st century. *Nature*, 280(615), <https://doi.org/10.1038/s41586-023-05760-y>
- 352 **Hu, C.** (2023). Ocean optics illuminates aquatic algae. *Physics Today*, 76 (7), 26–32; <https://doi.org/10.1063/PT.3.5269>
- 351 **Hu, C.**, L. Qi, D. C. English, M. Wang, K. Mikelsons, B. B. Barnes, M. M. Pawlik, and D. Ficek (2023). Pollen in the Baltic Sea as viewed from space. *Remote Sens. Environ.*, 284, 113337, <https://doi.org/10.1016/j.rse.2022.113337>.
- 350 **Hu, C.**, L. Qi, L. Hu, T. Cui, Q. Xing, M. He, N. Wang, Y. Xiao, D. Sun, Y. Lu, C. Yuan, M. Wu, C. Wang, Y. Chen, H. Xu, L. Sun, M. Guo, and M. Wang (2023). Mapping *Ulva prolifera* green tides from space: A revisit on algorithm design and data products. *International Journal of Applied Earth Observations and Geoinformation*. 116, 103173, <https://doi.org/10.1016/j.jag.2022.103173>.
- 349 **Hu, C.**, S. Zhang, B. B. Barnes, Y. Xie, M. Wang, J. P. Cannizzaro, and D. C. English (2023). Mapping and quantifying pelagic Sargassum in the Atlantic Ocean using multi-band medium-resolution satellite data and deep learning. *Remote Sens. Environ.*, 113515, <https://doi.org/10.1016/j.rse.2023.113515>.

- 348 **Hu, C.**, L. Qi, M. Wang, and Y-J. Park (2023). Floating Debris in the Northern Gulf of Mexico after Hurricane Katrina. *Environmental Science & Technology*, 57,10373-10381, <https://doi.org/10.1021/acs.est.3c01689>
- 347 Jiao, J., Y. Lu, and **C. Hu** (2023). Optical interpretation of oil emulsions in the ocean - Part III: A three-dimensional unmixing model to quantify oil concentration. *Remote Sens. Environ.*, 296, 113719, <https://doi.org/10.1016/j.rse.2023.113719>
- 346 Lapointe (2023). Nutrient and arsenic biogeochemistry of Sargassum in the western Atlantic. *Nature Communications*. 14:6205, <https://doi.org/10.1038/s41467-023-41904-4>
- 345 Lee Z, Zhao L, **Hu C**, Wang D, Lin J, Shang S. Absorption Coefficient and Chlorophyll Concentration of Oceanic Waters Estimated from Band Difference of Satellite Measured Remote Sensing Reflectance. *J. Remote Sens.* 2023;3:Article 0063. <https://doi.org/10.34133/remotesensing.0063>
- 344 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: Topical Studies in Oceanography*, 212, 105335, <https://doi.org/10.1016/j.dsr2.2023.105335>
- 343 Liu, Y., Y. Pu, X. Hu, Y. Dong, W. Wu, **C. Hu**, Y. Zhang, and S. Wang (2023). Global declines of offshore gas flaring inadequate to meet the 2030 goal. *Nature Sustainability*, <https://doi.org/10.1038/s41893-023-01125-5>.
- 342 McGillicuddy, D. J. Jr., P. L. Morton, R. A. Brewton, C. Hu, T. B. Kelly, A. R. Solow, and B. E. Lapointe (2023). Nutrient and arsenic biogeochemistry of Sargassum in the western Atlantic. *Nature Communications*. 14:6205, <https://doi.org/10.1038/s41467-023-41904-4>
- 341 Merten, W., S. Zhang, **C. Hu**, M. Rodrigues, R. Appeldoorn, and N. Jimenez (2023). Increase in Dolphinfish (*Coryphaena hippurus*) Fishing Success Off the North Coast of Puerto Rico during Hurricane Leslie. *Caribbean Journal of Science*, 53:336-352. <https://doi.org/10.18475/cjos.v53i2.a15>
- 340 Putman, N. F., R. T. Beyea, L. A. R. Iporac, et al. (2023). Improving satellite monitoring of coastal inundations of pelagic Sargassum algae with wind and citizen science data. *Aquatic Botany*, 188, 103672, <https://doi.org/10.1016/j.aquabot.2023.103672>.
- 339 Qi, L., M. Wang, and **C. Hu** (2023). Uncertainties in MODIS-Derived *Ulva Prolifera* Amounts in the Yellow Sea: A Systematic Evaluation Using Sentinel-2/MSI Observations. *IEEE Geosciences and Remote Sens. Lett*, 20, 1501805, doi:10.1109/LGRS.2023.3272889.
- 338 Qi L, **Hu C M**, Lu Y C and Ma R H. 2023. Spectral analysis and identification of floating algal blooms in oceans and lakes based on HY-1C/D CZI observations. *National Remote Sensing Bulletin*, 27(1): 157-170 DOI: 10.11834/jrs.20235009.
- 337 Qi, L., P. Cheng, M. Wang, **C. Hu**, Y. Xie, and K. Mao (2023). Where does floating Sargassum in the East China Sea come from? *Harmful Algae*, 129, 102523, <https://doi.org/10.1016/j.hal.2023.102523>

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- 335 Schaeffer, B. A., P. Whitman, R. Vandermeulen, **C. Hu**, A. Mannino, J. Salisbury, B. Efremova, R. Conmy, M. Coffey, W. Salls, H. Ferriby, and N. Reynolds (2023). Assessing potential of the Geostationary Littoral Imaging and Monitoring Radiometer (GLIMR) for water quality monitoring across the coastal United States. *Marine Pollution Bulletin*. 196, 115558, <https://doi.org/10.1016/j.marpolbul.2023.115558>
- 334 Shi, J., and **C. Hu** (2023). South Florida estuaries are warming faster than global oceans. *Environ. Res. Lett.* 18, 014003, <https://doi.org/10.1088/1748-9326/aca8ba>.
- 333 Valente, A., S. Sathyendranath, V. Brotas, et al. (2023). A compilation of global bio-optical in situ data for ocean colour satellite applications – version three. *Earth Syst. Sci. Data*, 14, 5737–5770, <https://doi.org/10.5194/essd-14-5737-2022>.
- 332 Xu, M., Barnes, B. B., **Hu, C.**, Carlson, P. R., and Yarbrow, L. A. (2023). Water clarity monitoring in complex coastal environments: Leveraging seagrass light requirement toward more functional satellite ocean color algorithms. *Remote Sens. Environment*, 286, 113418, <https://doi.org/10.1016/j.rse.2022.113418>.
- 331 Yao, Y., **C. Hu**, and B. B. Barnes (2023). Mysterious increases of whiting events in the Bahama Banks. *Remote Sens. Environ.*, 285, 113389, <https://doi.org/10.1016/j.rse.2022.113389>.
- 330 Yao Y., **C. Hu**, J. P. Cannizzaro, B. B. Barnes, D. C. English, Y. Xie, K. Hubbard, and M. Wang (2023). Detection of *Karenia brevis* red tides on the West Florida Shelf using VIIRS observations: Accounting for spatial coherence with artificial intelligence. *Remote Sensing of Environment*, 298, 113833, <https://doi.org/10.1016/j.rse.2023.113833>
- 329 Zhang, Y., **Hu, C.**, Barnes, B. B., Liu, Y., Kourafalou, V. H., McGillicuddy, D. J. Jr., et al. (2023). Bio-optical, physical, and chemical properties of a Loop Current Eddy in the Gulf of Mexico. *Journal of Geophysical Research: Oceans*, 128, e2022JC018726. <https://doi.org/10.1029/2022JC018726>

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- 328 Beck, M. W., 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. Phelps, G. E. Raulerson, S. Scolaro, 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>.
- 327 Barnes, B. B., S. W. Bailey, **C. Hu**, and B. A. Franz (2022). Vicarious Calibration of the Long Near Infrared Band: Cross-Sensor Differences in Sensitivity. *IEEE Trans. Geosci. & Remote Sens.*, 60, 4208109, doi:10.1109/TGRS.2022.3185932.
- 326 Dong, Y., Y. Liu, **C. Hu**, I. R. MacDonald, and Y. Lu (2022). Chronic oiling in global oceans. *Science*, 376:1300-1304. Doi: 10.1126/science.abm5940.

- 325 Gilerson A, Herrera-Estrella E, Foster R, Agagliate J, **Hu C**, Ibrahim A and Franz B (2022) Determining the Primary Sources of Uncertainty in Retrieval of Marine Remote Sensing Reflectance From Satellite Ocean Color Sensors. *Front. Remote Sens.* 3:857530. doi: 10.3389/frsen.2022.857530
- 324 Hou, X., L. Feng, Y. Dai, **C. Hu**, L. Gibson, J. Tang, Z. Lee, Y. Wang, X. Cai, J. Liu, Y. Zheng, and C. Zheng (2022). Global mapping reveals increase in lacustrine algal blooms over the past decade. *Nature Geoscience*, <https://doi.org/10.1038/s41561-021-00887-x>
- 323 **Hu, C.** (2022). Remote detection of marine debris using Sentinel-2 imagery: A cautious note on spectral interpretations. *Marine Pollution Bulletin*, 183, 114082, <https://doi.org/10.1016/j.marpolbul.2022.114082>.
- 322 **Hu, C.** (2022). Sea Snots in the Marmara Sea as Observed From Medium-Resolution Satellites. *IEEE Geosci. & Remote Sens. Lett.*, 19, 1504905, doi:10.1109/LGRS.2022.3173997.
- 321 **Hu, C.** (2022). Hyperspectral reflectance spectra of floating matters derived from Hyperspectral Imager for the Coastal Ocean (HICO) observations. *Earth Syst. Sci. Data*, 14, 1183–1192, <https://doi.org/10.5194/essd-14-1183-2022>.
- 320 **Hu, C.**, L. Qi, Y. Xie, S. Zhang, and B. B. Barnes (2022). Spectral characteristics of sea snot reflectance observed from satellites: Implications for remote sensing of marine debris. *Remote Sens., Environ*, 269, 112842, <https://doi.org/10.1016/j.rse.2021.112842>
- 319 **Hu, C.**, Y. Yao, J. P. Cannizzaro, M. Garrett, M. Harper, L. Markley, C. Villac, and K. Hubbard (2022). *Karenia brevis* bloom patterns on the west Florida shelf between 2003 and 2019: Integration of field and satellite observations. *Harmful Algae*, 117, 102289, <https://doi.org/10.1016/j.hal.2022.102289>
- 318 Putman, N. F., & **Hu, C.** (2022). Sinking Sargassum. *Geophysical Research Letters*, 49, e2022GL100189. <https://doi.org/10.1029/2022GL100189>
- 317 Qi, L., **C. Hu**, J. Liu, R. Ma, Y. Zhang, and S. Zhang (2022). Noctiluca blooms in the East China Sea bounded by ocean fronts. *Harmful Algae*, 112, 102172, <https://doi.org/10.1016/j.hal.2022.102172>
- 316 Qi, L., **Hu, C.**, Barnes, B. B., Lapointe, B. E., Chen, Y., Xie, Y., & Wang, M. (2022). Climate and anthropogenic controls of seaweed expansions in the East China Sea and Yellow Sea. *Geophysical Research Letters*, 49, e2022GL098185. <https://doi.org/10.1029/2022GL098185>
- 315 Qi, L., M. Wang, **C. Hu**, and B. Holt (2022). On the capacity of Sentinel-1 synthetic aperture radar in detecting floating macroalgae and other floating matters. *Remote Sens. Environ.*, 280, 113188, <https://doi.org/10.1016/j.rse.2022.113188>.
- 314 Roberts, K.E.; Garrison, L.P.; Ortega-Ortiz, J.; **Hu, C.**; Zhang, Y.; Sasso, C.R.; Lamont, M.; Hart, K.M. The Influence of Satellite-Derived Environmental and Oceanographic Parameters on Marine Turtle Time at Surface in the Gulf of Mexico. *Remote Sens.* 2022, 14, 4534. <https://doi.org/10.3390/rs14184534>
- 313 Rodriguez-Martinez, R. E., E. Jordan-Dahlgren, and **C. Hu** (2022). Spatio-temporal variability of pelagic Sargassum landings on the northern Mexican Caribbean. *Remote*

Sensing Applications: Society and Environment. 27, 100767,
<https://doi.org/10.1016/j.rsase.2022.100767>.

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- 311 Xu, M., **C. Hu**, R. G. Najjar, M. Herrmann, H. Briceno, B. B. Barnes, J. O. R. Johansson, and D. English (2022). Estimating estuarine primary production using satellite data and machine learning. *International Journal of Applied Earth Observations and Geoinformation*, 110, 102821, <https://doi.org/10.1016/j.jag.2022.102821>.
- 310 Zhang, L., Z. Xin, L. Feng, **C. Hu**, H. Zhou, Y. Wang, C. Song, and C. Zhang (2022). Turbidity dynamics of large lakes and reservoirs in northeastern China in response to natural factors and human activities. 368, 133148, <https://doi.org/10.1016/j.jclepro.2022.133148>.
- 309 Zhang, S., **C. Hu**, B. B. Barnes, and T. N. Harrison (2022). Monitoring Sargassum Inundation on Beaches and Nearshore Waters Using PlanetScope/Dove Observations. *IEEE Geosci. & Remote Sens. Lett.*, 19, 1503605, doi:10.1109/LGRS.2022.3148684.
- 308 Zhang, Y., **Hu, C.**, Kourafalou, V.H., Liu, Y., McGillicuddy, D.J., Barnes, B.B., Hummon, J.M. (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>.

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- 307 Barnes, B. B., **C. Hu**, S. W. Bailey, N. Pahlevan, B. A. Franz (2021). Cross-calibration of MODIS and VIIRS long near infrared bands for ocean color science and applications. *Remote Sens. Environ.*, 260, 112439, <https://doi.org/10.1016/j.rse.2021.112439>
- 306 Cawse-Nicholson, K., P. A. Townsend, D. Schimel, et al. (2021). NASA's surface biology and geology designated observable: A perspective on surface imaging algorithms. *Remote Sens. Environ.*, 257, 112349, <https://doi.org/10.1016/j.rse.2021.112349>
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- 304 **Hu, C.** (2021). Remote detection of marine debris using satellite observations in the visible and near infrared spectral range: Challenges and potentials. *Remote Sens. Environ.*, 259, 112414, <https://doi.org/10.1016/j.rse.2021.112414>
- 303 **Hu, C.**, M. Wang, B. E. Lapointe, R. A. Brewton, and F. J. Hernandez (2021). On the Atlantic pelagic Sargassum's role in carbon fixation and sequestration. *Science of the Total Environment*, 781, 146801, <https://doi.org/10.1016/j.scitotenv.2021.146801>
- 302 **Hu, C.**, Y. Lu, S. Sun, and Y. Liu (2021). Optical Remote Sensing of Oil Spills in the Ocean: What Is Really Possible? *J. Remote Sens.*, 2021, 9141902, <https://doi.org/10.34133/2021/9141902>.

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- 300 Justić, D., V. Kourafalou, G. Mariotti, et al. (2021). Transport Processes in the Gulf of
Mexico Along the River-Estuary-Shelf-Ocean Continuum: a Review of Research from
the Gulf of Mexico Research Initiative. *Estuaries and Coasts*,
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- 299 Lapointe, B. E., R. A. Brewton, L. W. Herren, **M. Wang**, **C. Hu**, D. J. McGillicuddy, Jr.,
S. Lindell, F. J. Hernandez, and P. L. Morton (2021). Nutrient content and stoichiometry
of pelagic Sargassum reflects increasing nitrogen availability in the Atlantic Basin.
Nature Communications. 12:3060, <https://doi.org/10.1038/s41467-021-23135-7>
- 298 Le, C., Chen, Y., Lehrter, J. C., **Hu, C.**, Bouman, H., Cai, W.-J., & Qi, L. (2021).
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study in the Strait of Georgia. *Geophysical Research Letters*, 48, e2020GL092126.
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separated in satellite imagery? *Harmful Algae*, 103,
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- 295 Qi, L., **Y. Yao**, D. E. English, R. Ma, J. Luft, and **C. Hu** (2021). Remote sensing of brine
shrimp cysts in salt lakes. *Remote Sens. Environ.*, 266, 112695,
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- 294 **Shi, J.**, and **C. Hu** (2021). Evaluation of ECOSTRESS Thermal Data over South Florida
Estuaries. *Sensors*, 21,4341. <https://doi.org/10.3390/s21134341>
- 293 Sun, D., T. Pan, S. Wang, and **C. Hu** (2021). Linking phytoplankton absorption to
community composition in Chinese marginal seas. *Progress in Oceanography*, 192,
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Sargassum inundation potential for coastal communities. *J. Operational Oceanography*,
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- 291 Triñanes, J., **C. Hu**, N.F. Putman, M.J. Olascoaga, F.J. Beron-Vera, S. Zhang, and G.J.
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Observing: Documenting Ecosystems, Understanding Environmental Changes,
Forecasting Hazards*. E.S. Kappel, S.K. Juniper, S. Seeyave, E. Smith, and M. Visbeck,
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- 290 **Wang, M.**, and **C. Hu** (2021). Satellite remote sensing of pelagic Sargassum macroalgae:
The power of high resolution and deep learning. *Remote Sens. Environ.*, 264, 112631,
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- MODIS Measurements. *IEEE Trans. Geosci. & Remote Sens.*,
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- 286 Cook, A., A. M. Bernard, K. M. Boswell, H. Bracken-Grissom, M. D’Elia, S. Derada, C. G. Easson, D. English, R. I. Eytan, T. Frank, C. Hu, et al. (2020). A Multidisciplinary Approach to Investigate Deep-Pelagic Ecosystem Dynamics in the Gulf of Mexico following Deepwater Horizon. *Frontiers in Marine Science*, 7:548880, doi:10.3389/fmars.2020.548880.
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- 3 **Hu, C.**, Carder, K. L., and Muller-Karger, F. E. (2000), Atmospheric correction of SeaWiFS imagery: assessment of the use of alternative bands, *Appl. Opt.* 39:3573-3581. (cover article)

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b. Refereed Book Chapters or Proceedings

- 20 Murk, A. J., Hollander, D. J., Chen, **S.**, **Hu, C.**, Liu, Y., Vonk, S. M., ... & Foekema, E. M. (2020). A Predictive Strategy for Mapping Locations Where Future MOSSFA Events Are Expected. In *Scenarios and Responses to Future Deep Oil Spills* (pp. 355-368). Springer, Cham.
- 19 Cannizzaro, J., I. Soto, and C. Hu (2018). Remote sensing as a monitoring and modeling tool. In Steidinger, K.A. and Meave del Castillo, M.E. [Eds.] *Guide to the Identification of Harmful Microalgae in the Gulf of Mexico*. St. Petersburg, FL, USA, Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute. pp 523-246.
- 18 **Hu, C.**, S. Sathyendranath, J. D. Shutler, C. W. Brown, T. S. Moore, S.E. Craig, I. Soto, and A. Subramaniam (2014). Detection of Dominant Algal Blooms by Remote Sensing. In: IOCCG (2014). *Phytoplankton Functional Types from Space*. Sathyendranath, S. (ed.), Reports of the International Ocean-Colour Coordinating Group, No. 15, IOCCG, Dartmouth, Canada.
- 17 **Hu, C.**, and J. Campbell (2014). Oceanic chlorophyll-a content. In: *Biophysical applications of satellite remote sensing* (J. M. Hanes Eds), Springer Remote Sensing/Photogrammetry. Springer-Verlag Berlin Heidelberg 2014.
- 16 Zhang, M., **C. Hu**, and G. Amu (2014). Real-world problem solving in entry-level programming courses: A case study on the Deepwater Horizon oil spill. *Frontiers in Education Conference, 2013 IEEE*, 343 – 348, doi: 10.1109/FIE.2013.6684845
- 15 **Hu, C.** (2012). South Florida marine environments can be assessed with satellite remote sensing. pp. 134-135. In: Kruczynski, W.L. and P.J. Fletcher (eds.). 2012. *Tropical Connections: South Florida's marine environment*. IAN Press, University of Maryland Center for Environmental Science, Cambridge, Maryland. 492 pp.
- 14 Liu, Y., R. H. Weisberg, **C. Hu**, and L. Zheng (2011), Trajectory forecast as a rapid response to the *Deepwater Horizon* oil spill, in *Monitoring and Modeling the Deepwater Horizon Oil Spill: A Record-Breaking Enterprise*, Geophys. Monogr. Ser., vol. 195, edited by Y. Liu et al., pp. 153–165, AGU, Washington, D. C., doi:10.1029/2011GM001121.
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- 11 He, M.-X., J. Liu, F. Yu, D. Li, and **C. Hu** (2011). Monitoring green tides in Chinese marginal seas. In: Morales, J., V. Stuart, T. Platt, and S. Sathyendranath (Eds.) (2011). *Handbook of Satellite Remote Sensing Image Interpretation: Applications for Marine Living Resources Conservation and Management*, EU PRESPO and IOCCG, Dartmouth, Canada. p111 – 124.
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- 8 **Hu, C.**, I-I Lin, and C-C Lien (2010). Introduction to SeaWiFS/MODIS chlorophyll data products and data analysis tools. p620-624. In: *Carbon and Nutrient Fluxes in Continental Margins: A Global Synthesis*. Eds., K.-K. Liu, L. Atkinson, R. Quinones, and L. Talaue-McManus, IGBP Book Series. Springer, Berlin, 744 p + XXVIII.
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- 4 Andréfouët, S., E. J. Hochberg, C. Chevillon, F. E. Muller-Karger, J. C. Brock, and **C. Hu** (2005). Multi-scale remote sensing of coral reefs. In: *Remote Sensing of Aquatic Coastal Environments* (R. L. Miller, C. E. Del Castillom, and B. A. McKee eds.), Springer-Verlag, New York, pp 297-315.

- 3 Biggs, D. C., A. E. Jochens, M. K. Howard, S. F. DiMarco, K. D. Mullin, R. R. Leben, F. E. Muller-Karger, and C. Hu (2005). Eddy forced variations in on-margin and off-margin summertime circulation along the 1000 m isobath of the northern Gulf of Mexico, 2000-2003, and links with sperm whale distributions along the middle shelf. *AGU Geophys Monogr.* (New Developments in the circulation of the Gulf of Mexico), p71-85.
- 2 Neely, M. B., et al. (2004). Florida's black water event. *Harmful Algae 2002. Proceedings of the Xth International Conference on Harmful Algae.* Steidinger, K. A., Landsberg, J. H., Tomas, C. R., and Vargo, G. A. (Eds.). Florida Fish and Wildlife Conservation Commission, Intergovernmental Oceanographic Commission of UNESCO, Florida Institute of Oceanography, pp377-379.
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6. *Non-Refereed Publications (updated 1/1/2015)*

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- 28 Qi, L., C. Hu, H. Duan, et al. (2014). A novel algorithm to derive cyanobacterial phycocyanin pigment concentrations in a eutrophic lake from MERIS measurements: Theoretical basis and practical considerations. Oct 27 – 31, 2014, Ocean Optics XXII, Portland, Maine, USA.
- 27 English, D., M. Zhang, and C. Hu et al. (2014). Hyperspectral remote sensing of shallow coastal waters in the Florida Keys using Unmanned Aircraft Systems (UAS): Initial results from atmospheric correction and glint correction. Oct 27 – 31, 2014, Ocean Optics XXII, Portland, Maine, USA.
- 26 Johannessen, J. A., M.-X. He, W. Alpers, G. Chen, J.-F. Piolle, Z. Liu, L. Shao, K.-F. Dagestad, B. Chapron, L. Wan, C. Hu, and L. Guan (2013). Dragon in support to harmonizing european and chinese marine monitoring for environment and security system. European Space Agency, (Special Publication) ESA SP Volume 704 SP, 2013, 8p. Dragon 2 Final Results and Dragon 3 Kick-Off Symposium; Beijing; China; 25 June 2012 through 29 June 2012.
- 25 Pahlevan, N., Z. Lee, C. Hu, and J. R. Schott (2013). Analyzing radiometric requirements for diurnal observations of coastal/oceanic waters from geostationary orbits. *Proc. SPIE* 8724, Ocean Sensing and Monitoring V, 87240K (June 3, 2013); doi:10.1117/12.2016279
- 24 Jochens, A. E., M. K. Howard, L. Campbell, R. Mullins-Perry, G. Kirkpatrick, B. Kirkpatrick, C. Simoniello, C. Hu, R. H. Weisberg, C. Lembke, A. Corcoran, J. Ivey, and S. H. Wolfe (2012). Integrating Observing Systems to benefit stakeholders: A case study in the Gulf of Mexico. Oceans 2012 MTS/IEEE: Harnessing the Power of the Ocean. Virginia Beach, VA; United States, 14 – 19 October 2012.

- 23 Santhyendranath, S., B. Brewin, D. Mueller, et al. (2012). Ocean colour climate change initiative – Approach and initial results. Geoscience and Remote Sensing Symposium (IGARSS), 2012 IEEE International, p2024-2027.
- 22 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. doi:10.1117/12.887983
- 21 **Hu, C.**, 2011: Observing MODIS ocean color patterns under severe sun glint. *Proc. SPIE* 8030, 80300M. doi:101117/12.803021.
- 20 Lee, Z., R. Arnone, **C. Hu**, P. J. Werdell, and B. Lubac. 2011. Quantification of uncertainties in remotely derived optical properties of coastal and oceanic waters. *Proc. SPIE* 7678, 767802.
- 19 He, M-X., S. He, Q. Yang, Y. Wang, Z. Liu, J. Sha, and **C. Hu** (2010). Overview of Chinese spaceborne ocean observing systems, onboard sensors and data products (1988 - 2025). DRAGONESS Symposium. 12pp.
- 18 Johannessen, J. A., M-X. He, W. Alpers, G. Chen, J-F Piolle, Z. Liu, L. Shao, K-F Dagestad, B. Chapron, L. Wan, **C. Hu**, and L. Guan (2010). Dagon in support to harmonizing European and Chinese marine monitoring for environment and security system (DRAGONESS). DRAGONESS Symposium, 8pp.
- 17 **Hu, C.**, Z. Chen, F. Muller-Karger, M. Luther, and C. Kovach (2009). High Temporal Resolution Assessments of Tampa Bay Water Quality Using Satellites. Proceedings of the 5th Bay Area Scientific Information Symposium. 20-23 October 1999. Tampa, Florida. 13 pp.
- 16 English, D., **C. Hu**, C. Lembke, R. Weisberg, D. Edwards, L. Lorenzoni, G. Gonzalez, and F. Muller-Karger (2009). Observing the 3-dimensional distribution of bio-optical properties of West Florida Shelf waters using gliders and autonomous platforms. 7pp. Oct 26-29, MTS/IEEE Oceans'09 conference, Biloxi, Mississippi. Paper published in conference proceedings (ISBN CD-ROM: 978-0-933957-38-1).
- 15 Cheng, W., L. O. Hall, D. B. Goldgof, I. Soto, and **C. Hu** (2009). Automatic red tide detection from MODIS satellite images. IEEE International Conference on Systems, Man and Cybernetics, 2009. ISSN: 1062-922X, p1864-1868. DOI 10.1109/ICSMC.2009.5346189
- 14 Gramer, L. J., E. M. Johns, J. C. Hendee, and **C. Hu** (2009). Characterization of biologically significant hydrodynamic anomalies on the Florida Reef Tract. Proceedings of the 11th International Coral Reef Symposium, Ft. Lauderdale.
- 13 He, M-X., Y. Wang, L. Hu, Q. Yang, S. He, **C. Hu**, and R. Doerffer (2008). Detection of red tides using MERIS 681 nm and 709 nm bands in the East China Sea: A case study. Proc. Dragon 1 Programme Final Results 2004-2007, Beijing, P. R. China, 21-25 April 2008 (ESA SP-655, April 2008).
- 12 **Hu, C.**, and F. E. Muller-Karger (2008). On the connectivity and “black water” phenomena near the FKNMS: A remote sensing perspective. In: Connectivity – Science, People and Policy in the FKNMS (B. D. Keller and F. C. Wilmot eds, 263pp). 47-55.

- 11 Lee., Z. P., **C. Hu**, et al., MERIS-derived bio-optical properties of the US coastal waters. ENVISAT Symposium proceedings, 23-27 April 2007, Montreux, Switzerland.
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- 9 **Hu, C.**, Y. Wang, Q. Yang, S. He, L. Hu, and M. X. He. Comparison of ocean color data products from MERIS, MODIS, and SeaWiFS: Preliminary results for the East China Seas. ENVISAT Symposium proceedings, 23-27 April 2007, Montreux, Switzerland.
- 8 Dogliotti, A. I., O. Ulloa, F. E. Muller-Karger, **C. Hu**, B. Murch, et al. (2005). The Antares observation network. SPIE proceedings 5885. DOI: 10.1117/12.617971, (Remote sensing of the coastal oceanic environment, edited by R. J. Frouin, M. Barbin, and S. Sathyendranath), p182-187.
- 7 **Hu, C.**, and F. E. Muller-Karger (2003). MODIS monitors Florida's ocean dispersal of the Piney Point phosphate treated wastewater. *The Earth Observer* (NASA), 15(6):21-23.
- 6 **Hu, C.**, Z.P. Lee, F. E. Muller-Karger, and K. L. Carder (2003). Application of an optimization algorithm to satellite ocean color imagery: A case study in Southwest Florida coastal waters. SPIE proceedings 4892. (*Ocean Remote Sensing and Applications*, edited by R. J. Frouin, Y. Yuan, and H. Kawamura. SPIE, Bellingham, WA, 2003), p 70-79.
- 5 **Hu, C.** (2003). A simple instrument for measurement of remote sensing reflectance in coastal environment. SPIE Proceedings 4897 (*Multispectral and Hyperspectral Remote Sensing Instruments and Applications*, edited by Allen M. Larar, Qingxi Tong, and Makoto Suzuki. SPIE, Bellingham, WA, 2003), p. 219-226.
- 4 **Hu, C.**, I-I Lin, and S. Shang (2002). Ocean color climatology using multiple sensors. Proceedings of the Fifth cross-strait symposium, 14-16 May 2002, Taipei, Taiwan. pp259-261.
- 3 Gasch, J., T. Arvidson, S. N. Goward, S. Andrefouet, **C. Hu**, and F. E. Muller-Karger (2000). Assessment of Landsat 7/ETM+ coverage of coral reefs worldwide. DIG INT GEOSCI REMOTE SENS SYMP(IGARSS), 6:2687-2689.
- 2 **Hu, C.**, K. L. Carder, and F. E. Muller-Karger (2000). Preliminary algorithm to derive chlorophyll pigment concentration and DOM absorption in turbid coastal waters from SeaWiFS imagery. Proceedings of the 4th Pacific Ocean Remote Sensing Conference, Qingdao, China, 28–31 July. P78-82.
- 1 **Hu, C.**, and K. J. Voss (1997). Solar-stimulated inelastic light scattering in clear seawater. *Proc. SPIE* 2963, Ocean Optics XIII, 266 (February 6, 1997); doi:10.1117/12.266453, p266-271.

7. *Invited Talks (updated 2/28/2023)*

Hu, C. (2022, invited talk), A few notes on marine debris detection using passive optical remote sensing. IOCCG workshop on marine litter remote sensing, March 7-8, 2022.

- Hu, C. (2022, invited seminar). Thinking out of the box: How two coastal events led to a new algorithm concept for global ocean biology. University of Miami, Physics Department, March 2, 2022.
- Hu, C. (2022, invited talk). Sargassum Watch from Space, Ocean Decade Laboratories. Laboratory 4: “A Safe Ocean”. April 6, 2022.
- Hu, C. (2021, invited online seminar), Rising green tides and golden tides. University of Florida seminar, September 1, 2021.
- Hu, C. (2021, invited online seminar), Rising green tides and golden tides: An oceanographic regime shift? Sun Yat-Sen University, School of Marine Science, October 14, 2021.
- Hu, C. (2021, invited talk), Monitoring floating macroalgae from space: Current status and challenges. EuroSea workshop “Towards a coordinated European Observing System for marine macroalgae”, November 23 – 25, 2021
- Hu, C. (2021, invited talk), Remote detection of marine debris using vis-NIR satellite observations: challenges and potentials, Remote Sensing and Smart Tech for Marine Litter - Ocean Decade Laboratory Satellite Activity, November 18 – 19, 2021.
- Wang, M., and C. Hu (2020, invited talk). Monitoring Sargassum using satellite imagery. OBPS Workshop IV, September 2020.
- Hu, C. (2020, invited talk). *Sargassum* Watch from Space. The 6th High-Level Industry-Science-Government Dialogue on Atlantic Interactions. October 8, 2020.
- Hu, C. (2020, invited talk). The Great Atlantic Sargassum Belt as observed from satellites. Technical Webinar on Atlantic Sargassum Belt, sponsored by the European Algae Biomass Association (EABA). November 3-24, 2020.
- Hu, C., et al. (Plenary talk). Rising green tides and golden tides: An oceanographic regime shift? International Ocean Color Science (IOCS) conference, 9-12 April 2019, Busan, South Korea.
- Hu, C., et al. (Plenary talk). Rising green tides and golden tides. Annual Meeting at the Mexican Geophysical Union (RAUGM) 2019, Oct 28 – Nov 1, 2019, Puerto Vallarta, Jalisco, Mexico
- Hu, C. (2019, invited talk). *Sargassum* Watch from Space.
- Hu, C. (2019, invited talk). Brown tides are coming. State of Science, 23 September 2019, St. Petersburg, Florida.
- Hu, C. (2019), invited talk). Remote sensing of Atlantic Basin Sargassum blooms. IAEA Interregional Workshop on the Use of Nuclear Techniques for Sargassum Control. 5-7 November 2019, Kingston, Jamaica.
- Hu, C., et al. (2018). EO monitoring of Sargassum aggregations and movements: opportunities and applications. Workshop on Utilising Earth Observation to support Blue Growth & Risk Management in the Caribbean 23 - 26 January, 2018, St. Lucia.
- Hu, C. (2018). SaWS system: potential tailored applications. EO monitoring of Sargassum aggregations and movements: opportunities and applications. Workshop on Utilising Earth Observation to support Blue Growth & Risk Management in the Caribbean 23 - 26 January, 2018, St. Lucia.
- Hu, C. (2018). The Satellite-based Sargassum Watch System (SaWS). Workshop Sargassum and Oil Spills Monitoring Pilot Project for the Caribbean and Adjacent Regions. 2 – 4 May 2018, Mexico D.F., Mexico.

Hu, C. (2017). The beauty of subtraction: new concepts in algorithm development. 11/1/2017 – 11/3/2017, 17th Chinese Ocean Color Remote Sensing Symposium, Xiamen, China.

January 27, 2016, NOAA Coastal Watch workshop, NOAA/AOML, Miami, Florida
Presentation: Near real-time data products at USF by C. Hu

3/21/2016 – 3/22/2016, Sargasso Sea Commission workshop, Key West, Florida,
Presentation: “Remote sensing of Sargassum blooms” by C. Hu

9/13/2016 – 9/14/2016, Conferencia Internacional Maritima Oceanografica (CIMO) 2016,
Santo Dominica Republic
Presentation: “Sargassum Watch from Space” by C. Hu

10/5/2016, Invited seminar at University of Maryland Baltimore County
Presentation: “From green tides, oil spills, to global ocean biology: How two coastal events led to a new remote sensing algorithm concept for the global ocean” by C. Hu

Sept 28, 2015, Invited seminar at Texas A&M University Dept of Oceanography & Dept of Atmosphere. “From green tides, oil spills, to global ocean biology: How two coastal events led to a new remote sensing algorithm concept.”

April 27, 2015, Invited talk to celebrate Dr. Howard Gordon’s retirement at University of Miami, Physics Department: “The beauty of subtraction.”

June 4, 2014, Invited talk at Wuhan University, Wuhan, China: “Satellite based virtual buoy system” by C. Hu.

June 10, 2014, Invited seminar at Nanjing Institute of Geography and Limnology, Nanjing, China: “Satellite remote sensing of coastal environment” by C. Hu

September 25, 2013. Invited seminar at University of Massachusetts at Boston: “Remote sensing of coastal water quality and blooms – from research to management decision support”

February 16, 2012. Invited presentation for Sarasota Power & Sail Squadron, Sarasota, Florida: “Monitoring the coastal ocean using optical remote sensing.”

March 8, 2011. Invited seminar at TAMU Galveston: “Satellite remote sensing of coastal environments: New applications using old concepts”

May 16-17, 2011, SECOORA annual meeting, Jacksonville, Florida, Invited talk: “SECOORA satellite remote sensing component”

Dec 13 – 17, 2010, AGU Fall Meeting, San Francisco, California, USA. Invited talk by Weisberg, R.H., Y. Liu, L. Zheng, C. Hu, and C. Lembke: “Rapid Response to Deepwater Horizon Oil Spill from University of South Florida: Numerical Models, Remote Sensing, and In-situ Observations”

Oct 28 – 29, 2010, Hongkong, China, Second International Conference on Global Change and the Environment in Asia and Pacific (GCEAP, 28-29 Oct 2010). Plenary talk: "A remote sensing view of aquatic hazards in East China and the US Gulf Coast"

Oct 14 – 17, 2010, CSDMS Meeting, San Antonio, Texas, USA, Invited keynote talk by Weisberg, R.H., Y. Liu, L. Zheng, and C. Hu: “The Oil Trajectory: How it behaved in the Gulf of Mexico and why, and where might residual oil be heading?”

- Sept 27 – Oct 1, 2010, Ocean Optics XX conference, Anchorage, Alaska. Invited talk: “One index, many applications”
- May 12 – 13, 2010, Southeast Coastal Ocean Observing Regional Association (SECOORA) 2010 Annual Board & Member Meeting, Savannah, Georgia, USA, Invited keynote talk by Liu, Y., R.H. Weisberg, L. Zheng, and C. Hu: “Tracking Gulf of Mexico Oil Spill with Numerical Models and Satellite Imagery”.
- March 5, 2010, Invited seminar at Dalhousie University, Department of Oceanography, Canada, “Satellite remote sensing of coastal environments: Maximizing the power of MODIS”
- Feb 4, 2010, Estuarine Nutrient Criteria Workshop, FWCC, St. Petersburg, Florida. Invited talk: “Satellite Chl in Near-shore Waters of the West Florida: Influence of River Discharge”
- Dec 18-19, 2009, The 9th National Symposium on Ocean Color Remote Sensing of Case-II Waters, Nanchang, China, invited presentation: “Assessment of blue-green algae blooms in two freshwater lakes of China using MODIS”
- Dec 8-10, 2009, NASA Applied Sciences Gulf Workshop, New Orleans, Louisiana, Invited presentation: “An overview of NASA ocean color data products”
- Sept 22-24, 2009, NASA GEO-CAPE working group meeting, Columbia, Maryland, Invited presentation: “GEO-CAPE requirements on measurement sensitivity, saturation, and solar angles”
- May 6-8, 2009, NASA Ocean Color Research Team meeting, Westin New York at Times Square Hotel, New York, invited presentation: “Coastal ocean color from space: where are we and what’s next”

8. *Projects and Grants (9/1/2009 – 10/04/2023)*

Number of projects: 65 (PI on 34)

Amount to C. Hu: \$17.1M.

80: Developing an operational Sargassum HAB monitoring and forecasting system for the southeastern US and US Caribbean waters

PI: B. Barnes (USF). Co-PIs: C. Hu and others

Agency: NOAA; Duration: 9/1/2023 – 8/31/2028; Total budget: \$3,224,393; Hu’s portion: ~\$400,000

79: Operationalizing the West Florida Shelf ecosystem model and application to red tides, stock assessment, and catch advice for Gulf of Mexico reef fish

PI: D. Chagaris (UF). Co-PIs: C. Hu and others

Agency: NOAA; Duration: 10/1/2023 – 9/30/2028; Total budget: ~\$2,500,000; Hu’s portion: \$488,548

78: NPP VIIRS calibration/validation

PI: C. Hu

Agency: NOAA; Duration: 6/1/2019 – 5/31/2024; Total budget: \$819,385; Hu’s portion: \$819,385

77: Water quality around Qatar

- PI: C. Hu
Agency: Exxon/Mobil; Duration: 4/2/2022 – 4/1/2023; Total budget: \$100,000; Hu's portion: \$100,000
- 76: Monitoring and forecasting pelagic Sargassum in the South Atlantic Bight
PI: C. Hu
Agency: NOAA/SECOORA; Duration: 7/1/2021 – 6/30/2026; Total budget: \$250,000; Hu's portion: \$220,000
- 75: Linking biogeochemical and optical water quality in coastal and inland waters: Data synthesis, algorithm development, and effective product delivery
PI: B. Barnes (USF); co-PI: C. Hu
Agency: NASA; Duration: 9/1/2022 – 8/31/2025; Total budget: \$587,389; Hu's portion: \$200,000
- 74: Evaluation of Airbus X-band SAR data in remote sensing of marine debris
PI: C. Hu
Agency: NASA; Duration: 6/1/2021 – 5/31/2024; Total budget: \$99,993; Hu's portion: \$99,993
- 73: Remote sensing of marine debris: potentials and limitations
PI: C. Hu
Agency: NASA; Duration: 1/1/2021 – 12/31/2023; Total budget: \$497,231; Hu's portion: \$497,231
- 72: Cooperative red tide research program - Reduction of harmful impacts from red tide - Red tide mitigation and technology development initiative
PI: K. Buck (USF), co-PIs: **C. Hu et al.**
Agency: FWC/FWRI; Duration: 7/1/2020 – 6/30/2025; Total budget: \$2,600,000, Hu's portion: \$600K
- 71: Deciphering Sargassum physics, biology, and physiology through PACE measurements: Implications to ocean ecology, biogeochemistry, and management decision support
PI: **C. Hu**
Agency: NASA; Duration: 4/1/2020 – 3/31/2023; Total budget: \$682,367, Hu's portion: \$500K
- 70: Spectral matching inversion algorithms for PACE application in optically shallow waters: an assessment using HICO and PRISM data
PI: B. Barnes, co-PI: **C. Hu**
Agency: NASA; Duration: 4/1/2020 – 3/31/2023; Total budget: \$532,509, Hu's portion: ~50K.
- 69: Using ecosystem modeling to understand the impacts of seagrass restoration and red tides on sea turtles, marine mammals and seabirds of the West Florida Shelf
PI: C. Ainsworth; Co-PIs: **C. Hu** and others
Agency: Florida Institute of Oceanography
Duration: 4/1/2020 – 3/31/2023; Co-Hu's portion: \$50K
- 68: Retrospective Analysis of *Karenia brevis* Blooms on the West Florida Shelf
PI: **C. Hu**
Agency: NOAA (through UM/CIMAS),

- Duration: 6/1/2019 – 3/31/2020; Total budget: \$54,920
- 67: Remote sensing support of red tide studies
PI: **C. Hu**
Agency: Florida Fish and Wildlife Conservation Commission
Duration: 10/3/2019 – 6/30/2020; Total budget: \$175,000
- 66: Thermal stress in South Florida estuaries: A multi-sensor assessment
PI: **C. Hu**
Agency: NASA; Duration: 11/1/2019 – 10/31/2022; Total budget: \$306,639
- 65: Geostationary Littoral Imaging and Monitoring Radiometer (GLIMR)
PI: Joe Salisbury (Univ New Hampshire), USF PI: C. Hu
Agency: NASA; Duration: 1/1/2021 – 12/31/2019; C. Hu's portion: 849,912
- 64: Precipitation, water management, and algae blooms in South Florida estuaries
PI: C. Hu
Agency: NASA; Duration: 7/15/2019 – 7/14/2022; Total budget: \$1,174,015
Effort: 1.0 month/year
- 63: On the capacity of commercial high-resolution satellite data in mapping and quantifying macroalgae and microalgae in aquatic environments
PI: C. Hu
Agency: NASA; Duration: 1/1/2019 – 12/31/2019; Total budget: \$98,329
Effort: 0.5 month/year
- 62: Southeastern Gulf of Mexico processes affecting basin-wide connectivity and hydrocarbon transport: the role of mesoscale eddies and upwelling near Cuba.
PI: Villy Kourafalou (Univ Miami), Co-PIs: C. Hu, others
Agency: GoMRI, Duration: 1/1/2018 – 12/31/2019; Hu's portion: \$132,522
Effort: 0.5 month/year
- 61: Center for Integrated Modeling and Analysis of Gulf Ecosystems-C-IMAGE (III)
PI: Steve Murawski (USF), co-PIs: C. Hu, others
Agency: GoMRI, Duration: 1/1/2018 – 12/31/2019; Hu's portion: \$89,998
Effort: 0.5 month/year
- 60: Linking habitat to recruitment: evaluating the importance of pelagic Sargassum to fisheries management in the Gulf of Mexico
PI: Frank Hernandez; Co-PI: C. Hu and others
Agency: NOAA; Duration: 7/1/2017 – 6/30/2020; C. Hu's portion: \$316,174
Effort: 1 month/Year
- 59: Response of carbon cycling in two North American subtropical estuaries to climatic and anthropogenic perturbations.
PI: Ray Najjar (Penn State U.), co-PI: C. Hu and H. Brinco (Florida Int. U)
Agency: NASA; Duration: 2/24/2017 – 2/23/2020; C Hu's portion: \$222,314
Effort: 0.5 month/Year
- 58: Forecasts of pelagic Sargassum blooms and transports in the Intra-Americas Sea and Tropical Atlantic: Improving a prototype decision-making tool
PI: C. Hu
Agency: NASA; Duration: 5/1/2017 – 4/20/2021; C. Hu's portion: \$455,939

Effort: 1 month/Year

- 57: Distribution and abundance of pelagic Sargassum and their linkage with environmental changes in the Intra-Americas Sea and Tropical Atlantic: An interdisciplinary assessment
PI: C. Hu; Co-PI: B. Lapointe (FAU)
Agency: NASA; Duration: 10/1/2016 – 9/30/2019; C. Hu's portion: \$431,363
Effort: 1 month/Year
- 56: Title: Synergistic multi-sensor calibration for global and coastal observations of the aquatic environments
PI: B. Barnes (USF), Co-PI: C. Hu
Agency: NASA; Duration: 10/1/2016 – 9/30/2019; C. Hu's portion: \$443,698
Effort: 1 month/year
- 55: Title: The development of a water clarity index for the Great Lakes as a climate indicator.
PI: Scoot Sheridan (Kent State Univ), Co-PIs: B. Barnes and C. Hu and others
Agency: NASA; Duration: 5/1/2016 – 4/30/2019; C. Hu's portion: \$179,433
Effort: 0.25 month/year
- 54: Title: Influence of river induced fronts on hydrocarbon transport.
PI: V. Kourafalou (UM/RSMAS), Co-PIs: C. Hu and others
Agency: GOMRI; Duration: 1/1/2016 – 12/31/2018; C. Hu's portion: \$229,481
Effort: 0.5 month/year
- 53 Title: NPP VIIRS calibration/validation
PI: C. Hu
Agency: NOAA; Duration: 9/1/2015 – 5/31/2020; Budget: \$514,231
Effort: 0.5 month/year
52. Title: Florida GEBF Restoration Strategy – Submerged Habitat Assessment (FL)
Institutional PI: C. Hu
Agency: FWCC; Duration: 10/1/2015 – 12/31/2016; C. Hu's portion: \$159,963
Effort: 0.5 month/year
51. Title: North Atlantic Aerosol and Marine Ecosystems Study (NAAMES)
PI: Mike Behrenfeld (Oregon State University)
Agency: NASA; Duration: 1/1/2015 – 12/31/2019; C. Hu's portion: \$431,039
Effort: 1 month/year
50. Title: Refine and Improve Suomi NPP Chlorophyll a and Other Ocean Color Data Products Using a Novel Algorithm Concept
PI: C. Hu
Agency: NASA; Duration: 10/1/2014 – 9/30/2017; C. Hu's portion: \$433,543
Effort: 1 month/year
49. Title: Deep-Pelagic Nekton Dynamics of the Gulf of Mexico (DEEPEND)
PI: Tracy Sutton (Nova Southeastern Univ)
Agency: Gulf of Mexico Research Initiative; Duration (1/1/2015 – 12/31/2017); C. Hu's portion: \$396,142
Effort: 1 month/year

48. Title: Multi-sensor assessment of diurnal changes of *Karenia brevis* blooms in the Gulf of Mexico
PI: C. Hu
Agency: NASA; Duration: 1/1/2015 – 12/31/2015; C. Hu's portion: \$89,820
Effort: 0.25 month/year
47. Title: Center for Integrated Modeling and Analysis of Gulf Ecosystems-C-IMAGE (II)
PI: S. Murawski
Agency: Gulf of Mexico Research Initiative; Duration: 1/1/2015 – 12/31/2017; C. Hu's portion: \$450,000
Effort: 1 month/year
46. Title: Establish a multi-sensor climate data record of ocean chlorophyll-a concentrations using a novel algorithm
PI: C. Hu
Agency: NASA; Duration: 10/1/2014 – 9/30/2017; C. Hu's portion: \$419,521
Effort: 1 month/year
45. Title: Maximize MODIS potentials for near real-time ocean applications through developing and refining novel algorithms and products.
PI: C. Hu
Agency: NASA; Duration: 10/1/2014 – 9/30/2017; C. Hu's portion: \$497,966
Effort: 1 month/year
44. Title: Detect and Quantify Methane and Carbon Dioxide Emissions for Marine and Terrestrial Environments Using Airborne SWIR & TIR Remote Sensing: A Collaborative NASA / ESA Calibration and Validation Project.
PI: Ira Leifer (Bubblenology Inc.); co-PIs: C. Hu (USF) and others
Agency: NASA. Duration: 10/1/2013 – 9/30/2015. C. Hu's portion: \$60,142.
43. Title: Calibration/Validation support for NPP VIIRS data product continuity.
PI: C. Hu
Agency: NOAA. Duration: 7/1/2013 – 5/31/2015; C. Hu's portion: \$167,142.
42. Title: Development of a Water Clarity Index for the Southeastern U.S. as a Climate Indicator.
PI: S. Sheridan (Kent State Univ), co-PI: C. Hu
Agency: NASA. Duration: 9/1/2013 – 2/28/2015; C. Hu's portion: \$77,581
41. Title: Characterization and Correction of land adjacency effects on ocean color imagery over near-shore and inland waters.
PI: C. Hu
Agency: NASA; Duration: 10/1/2013 – 9/30/2016; C. Hu's portion: \$395,869.
40. Title: Removing bottom effects and restoring water-column properties in optically shallow waters: Algorithm development, evaluation, and application. (Approved, award pending)
PI: Z. Lee (Univ. Massachusetts at Boston), co-PI: C. Hu
Agency: NASA. Duration: 9/1/2013 – 8/31/2016; C. Hu's portion: \$163,485
39. Title: A multi-sensor assessment of the Deepwater Horizon oil spill: Surface oil volume and impact on marine algae.

- PI: C. Hu; collaborator: Zbigniew Otremba (Poland)
Agency: NASA. Duration: 1/1/2013 – 12/31/2014; C. Hu's portion: \$344,815.
38. Title: West Florida Shelf glider deployments and data dissemination for GCOOS-RA.
PI: C. Hu; co-PI: C. Lembke (USF)
Agency: GCOOS/NOAA IOOS. Duration: 4/1/2012 – 12/31/2012. C. Hu's portion: \$25,000.
37. Title: Weathering and Advection Model for Oil Spill Tracking (WAMOST).
PI: I. MacDonald (FSU), co-PIs: M. Bourassa, D. Dukhovskoy, O. Garcia-Pineda, S. Morey, C. Hu (USF)
Agency: BOEM (formerly MMS). Duration: 8/15/2012 – 8/14/2015; C. Hu's portion: \$120,000.
36. Title: Hyperspectral imaging spectroscopic investigation of California natural and anthropogenic fossil methane emissions in the short-wave and thermal infrared.
PI: Ira Leifer (Bubblenology Inc.); co-PIs: C. Hu (USF), C. Miller, D. Tratt, J. Margolis, B. Luyendyk, Y. Hsu
Agency: NASA. Duration: 10/1/2012 – 9/30/2015; C. Hu's portion: \$171,393.
35. Title: Error tolerance and uncertainty estimates for GEO-CAPE ocean reflectance and IOPs.
PI: C. Hu
Agency: NASA. Duration: 1/1/2013 – 12/31/2014; C. Hu's portion: \$83,638.
34. Title: Center for Integrated Modeling and Analysis of the Gulf Ecosystem (C-IMAGE).
PI: Steve Murawski; co-PIs: J. Dixon, D. Hollander, K. Daly, and many others
Agency: GoM Research Initiative. Duration: 10/1/2011 – 9/30/2014; C. Hu's portion: \$100,000
33. Title: Hyperspectral assessment of benthic productivity dynamics in coastal ecosystems using low-altitude UAVs: development of tools and methods for assessing Earth process impacts.
PI: Stan Herwitz (UAV Collaborative); co-PIs: F. Muller-Karger (USF), C. Hu, Kim Yates (USGS), P. Carlson (FWC), L. Yarbrow (FWC)
Agency: NASA. Duration: 10/1/2011 – 9/30/2014; C. Hu's portion: \$269,937.
32. Title: Bio-optical and taxonomy measurements in the upper Chesapeake Bay to assist GEO-CAPE mission
PI: C. Hu
Agency: NASA. Duration: 7/1/2011 – 6/30/2013. Amount: \$32,946.
31. Title: NASA GEO-CAPE missing planning
PI: C. Hu; co-PI: P. Coble (USF)
Agency: NASA; Duration: 7/1/2010 – 1/9/2013. Amount: \$97,304 (C. Hu's portion: \$47,685).
30. Title: Harmful Algal Bloom (HAB) monitoring and event response: Technical support and service.
PI: C. Hu
Agency: Florida Fish and Wildlife Conservation Commission; Duration: 9/19/2009 – 6/30/2013. Amount: \$401,575

29. Title: Mapping water-quality parameters using satellites in the Florida Keys.
USF PI: C. Hu
Agency: EPA (through FWC subcontract); Duration: 4/05/2010 – 4/04/2014; Amount: \$122,826.
28. Title: A Decision Support System for Ecosystem-Based Management of Tropical Coral Reef Environments.
PI: F. Muller-Karger (USF); co-PIs: M. Eaken (NOAA), L. Guild (NASA) and R. Nemani (NASA), C. Hu.
Agency: NASA; Duration: 4/1/2010 – 3/31/2014; C. Hu's portion: \$46,677.
27. Title: Mapping and Forecasting of Pelagic Sargassum Drift Habitat in the Gulf of Mexico and South Atlantic Bight for Decision Support.
PI: C. Hu; co-PIs: T. Linton (Texas A&M), F. Muller-Karger and D. Chambers (USF).
Agency: NASA; Duration: 10/1/2010 – 9/30/2013; Amount: \$386,484 (C. Hu's portion: ~\$250K).
26. Title: Enhancing Estuarine Water Quality Management Through Integrating Earth Science Research Results: A Targeted Project for Tampa Bay.
PI: C. Hu; co-PI: C. Kovach (Florida DEP)
Agency: NASA; Duration: 9/1/2009 – 12/31/2012. Amount: \$380,997 (C. Hu's portion: ~\$330K).
25. Title: Physics-based ocean color algorithms for coastal and inland waters.
PI: Z. Lee (Univ Massachusetts at Boston); co-PIs: C. Hu, J. Acker (NASA), etc.
Agency: NASA; Duration: 8/21/2009 – 8/20/2014; C. Hu's portion: \$244,054.
24. Title: Remote sensing decision support for water quality and seagrass.
PI: P. Carlson (FWC); co-PI: C. Hu
Agency: NASA (through FWC subcontract); Duration: 4/12/2010 – 7/31/2012; C. Hu's portion: \$182,837.
23. Title: Evaluation of Marine Productivity Study for the OCS Planning Areas
USF PI: C. Hu
Agency: MMS (through subcontract of CSA International, Inc.); Duration: 10/30/2009 – 10/29/2010; Amount: \$62,823.
22. Title: Nutrient linkages between South Florida rivers and coastal habitats.
PI: B. Lapointe (Florida Atlantic Univ); Co-PI: C. Hu
Agency: NASA (through FAU subcontract); Duration: 12/1/2009 – 11/30/2012; C. Hu's portion: \$120,936.
21. Title: SECOORA Regional Coastal Ocean Observing System (RCOOS) Support
USF PI: M. Luther; co-PIs: C. Hu, F. Muller-Karger (USF), and V. Subramanian (USF)
Agency: South Carolina Sea Grant Consortium. Duration: 2007 – 2012; Amount: ~\$250K (C. Hu's portion: ~\$90K).
20. Title: Gulf of Mexico Coastal Ocean Observing System (GCOOS) data node support.
USF PI: M. Luther; co-PIs: C. Hu, F. Muller-Karger (USF), and V. Subramanian (USF)
Agency: NOAA (through Texas A&M subcontract). Duration: 2007 – 2013; Amount: \$150K (C. Hu's portion: ~\$50K).

19. Title: ECOHAB: Remote detection of harmful algal blooms in the eastern Gulf of Mexico.
 PI: C. Hu; co-PIs: Z. Lee (Univ Massachusetts at Boston) and K. Carder (USF)
 Agency: NASA. Duration: 1/10/2009 – 7/9/2013; Amount: \$499, 465 (C. Hu's portion: \$384,042).
18. Title: HABSOS binational workshops on Harmful Algal Blooms and environmental measurements.
 PI: K. Steidinger (FIO); co-PI: C. Hu, S. Vargo and J. Wolny (FIO)
 Agency: EPA; Duration: 2008 – 2011; Amount: \$329,766 (C. Hu's portion: ~\$100K).
17. Title: A Binational Gulf of Mexico HAB Risk Assessment and Communications Partnership. PI: C. Hu, co-PIs: K. Steidinger (FIO) and F. Muller-Karger (Univ. Massachusetts Dartmouth)
 Agency: EPA; Duration: 08/01/2007 – 07/31/2011; Amount: \$426,236 (C. Hu's portion: ~\$350K).
16. Title: Atmospheric correction of ocean color imagery over turbid coastal waters: A self tuning approach.
 PI: C. Hu
 Agency: NOAA; Duration: 4/1/2006 – 2/26/2009; Amount: \$200,290.

===== listed below are projects funded to C. Hu as a research faculty at USF/CMS =====

15. Title: Remote sensing support of the TAMRF project: "A Cooperative Research Study on Sperm Whales and their Response to Seismic Exploration in the Gulf of Mexico", US Mineral Management Service
 USF PI: C. Hu
 Agency: MMS (through Texas A&M Univ Research Foundation); Duration: 2005-2008; Amount: \$29,134.
14. Title: The Influence of the Amazon and Orinoco River Plumes on the Tropical Atlantic Climate.
 PI: K. Cook (Cornell Univ); Co-PIs: P. Baker (Duke Univ) and C. HU
 Agency: NASA; Duration: 2005-2008; Amount: \$661,095 (C. Hu's portion: \$160,233).
13. Title: The Oceanography of Intermittent Harmful Algal Blooms (HAB) off the Caloosahatchee River, FL: Satellite remote sensing component.
 USF PI: C. Hu
 Agency: Florida Fish and Wildlife Conservation Commission; Duration: 2005-2006; Amount: \$50,504.
12. Title: EAGLE-EYE: Ecological Assessment of Generalized Littoral Environments – an Integrated EOS DB/Real-Time MODIS Science Applications Project.
 PI: F. Muller-Karger, co-PI: C. Hu
 Agency: NASA; Duration, 2004-2009; Amount: \$555,026 (C. Hu's portion: ~\$200K)
11. Title: Environmental Assessments of Coral Reef Ecosystems: Interdisciplinary Research Using EOS Platforms and Numerical Models.

- PI: F. Muller-Karger; co-PIs: S. Andrefouet (IRD, France), J. Sheng (Dalhouse Univ, Canada), and C. Hu
 Agency: NASA; Duration: 2004-2008; Amount: \$943,499 (C. Hu's portion: ~\$150K)
10. Title: An Assessment of Global Organic Carbon Flux Along Continental Margins.
 PI: F. Muller-Karger; Co-PIs: C. Hu and J. Walsh (USF)
 Agency: NASA; Duration: 2004-2008; Amount: \$907,661 (C. Hu's portion: ~\$200K)
 9. Title: Long-Term Measurement of Physical, Chemical and Biological Water Column Properties in the South Florida Coastal Ecosystem.
 USF PI: C. Hu, USF co-PI: F. Muller-Karger
 Agency: NOAA (through subcontract from NOAA/AOML), Duration: 2004-2006, Amount \$33,734 (C. Hu's portion: \$33,734).
 8. Title: Remote sensing support of SEA-COOS, ONR (through subcontract from UNC), USF PI: F. Muller-Karger (USF), USF co-PI: C. Hu
 Agency, ONR (through subcontract of U. North Carolina); Duration: 2004-2006; Amount: \$282,403 (C. Hu's portion: \$140K).
 7. Title: Rapid Prototyping of NASA Data Within NOAA Coral Reef Decision Support Tools.
 PI: F. Muller-Karger (USF), Co-PI: C. Hu
 Agency: NASA; Duration: 2005-2006; Amount: \$52,415 (C. Hu's portion: \$25K)
 6. Title: Coastal remote sensing with the Station Hyperspectral Ocean Research Experiment (SHORE)
 PI: C. Hu, co-PI: F. Muller-Karger (USF)
 Agency: Florida Space Research Institute; Duration: 2003-2004; Amount: \$39,838 (C. Hu's portion: ~\$38K)
 5. Title: A feasibility study of the high-resolution MODIS bands in estuarine monitoring.
 PI: C. Hu
 Agency: Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET, U. New Hampshire and NOAA), Duration, 2003-2004, Amount: \$19,682,
 4. Title: Monitoring of the Piney Point discharge on the West Florida Shelf with satellite remote sensing.
 PI: C. Hu, Co-PI: F. Muller-Karger (USF)
 Agency: Florida Department of Environmental Protection; Duration: 2003-2004; Amount: \$103,225 (C. Hu's portion: ~\$100K)
 3. Title: Use of remote-sensing satellites to monitor water quality and sediment dynamics in Chesapeake Bay and Tampa Bay.
 PI: C. Hu, Co-PI: Frank Muller-Karger (USF)
 Agency, USGS, Duration, 2002 – 2006, Amount: \$187,875 (C. Hu's portion: ~\$180K)
 2. Title: Development of a simple remote-sensing instrument for aquatic applications.
 PI: C. Hu
 Agency: Florida Space Grant Consortium; Duration, 10/1/2002 – 9/30/2003; Amount: \$18,958.
 1. Title: Impacts of large river plumes on carbon and salt fluxes in the surface ocean.

PI: C. Hu; Co-PIs: Frank Muller-Karger (USF) and Douglas Biggs (Texas A&M).
 Agency: NASA; Duration: 5/1/2001 – 4/30/2005; Amount: \$392,725 (C. Hu’s portion:
 ~\$350K)

9. Graduate Education and Mentoring

Courses Taught

OCE6934, Ref#90356, Practical IDL Programming	Spring 2003
OCE6934, Ref# 17172, Optical Oceanography	Spring 2010
OCE6934, Ref# 90356, Practical IDL Programming	Fall 2010
OCE6934, Ref# 16698, Environ. Optics & Remote Sens.	Spring 2011
*OCE4930, Ref# 92020, Deepwater Horizon: Whole Story (UG)	Fall 2011
*OCE6934, Ref# 91966, Remote Sensing in Oceanography	Fall 2011
*OCE6934, Ref# 86692, Deepwater Horizon: Whole Story (G)	Fall 2011
OCE6934, Ref# 21613, Marine Resource Remote Sensing	Spring 2012
OCE6934, Ref# 15656, Optical Oceanography	Fall 2013
OCE6934, Practical IDL Programming	Spring 2014
OCE6934, Readings in Optical Oceanography	Fall 2014
OCE6934, Ref# 94911, Marine Resource Remote Sensing	Fall 2015
OCE6934, Optical Oceanography	Fall 2016
OCE6934, Practical IDL Programming	Spring 2017
OCE6934, Readings in Optical Oceanography	Fall 2017
*OCE6934, Biological Oceanography	Fall 2017
OCE6934, Marine Resource Remote Sensing	Spring 2018
OCE6934, Optical Oceanography	Fall 2019
*OCE6934, Biological Oceanography	Fall 2019
OCE6934, Marine Resource Remote Sensing	Spring 2020
OCE6934, Optical Oceanography	Fall 2021
*OCE6934, Biological Oceanography	Spring 2022
OCE6934, Marine Resource Remote Sensing	Fall 2022
OCE6934, Optical Oceanography	Fall 2023

Many Directed Research, Independent Study, MS Thesis, and PhD Dissertation courses from Spring 2009 to fall 2023

*courses taught by others where Hu gave lectures

Master's Thesis Advisory Committees

Hu as major or co-major advisor

Junpeng Liu (**graduated at OUC**, co-major advisor: Ming-Xia He of Ocean University of China): Spring 2007 – Fall 2010, thesis title: “A multi-satellite

service system to monitor *Ulva prolifera* blooms and their marine environment off Qingdao, China”. 86pp, in Chinese with English abstract.

Feng Yu (**graduated at OUC**, co-major advisor: Ming-Xia He of Ocean University of China): Spring 2007 – Fall 2010, thesis title: “Satellite remote sensing of *Ulva prolifera* in coastal waters off Qingdao, China”. 73 pp, in Chinese with English abstract.

Daniel Sensi (**graduated at USF/CMS**): Fall 2010 – Fall 2012, thesis title: “Optical Detection and Classification of Phytoplankton Taxa through Spectral Analysis”, 71 pp. Manuscript in preparation.

Ryan Lloyd (**graduated at USF/CMS**): Fall 2010 – Fall 2012, thesis title: “Remote Sensing of Whittings in the Bahamas”, 117 pp. Manuscript in preparation.

Robert Hardy (**graduated at USF/CMS**): Spring 2010 – Fall 2014, thesis title: “Assessments of Surface-Pelagic Drift Communities and Behavior of Early Juvenile Sea Turtles in the Northern Gulf of Mexico”. Published 3 papers as co-author and made 2 presentations. Won the Outstanding Thesis and Dissertation (OTD) Award from USF for the 2014-2015 academic year.

Jacqueline Long (**graduated at USF/CMS**): Fall 2013 – Fall 2016, thesis title: Whittings in SW Florida coastal waters. Published 3 papers as 1st author. Recipient of Sackett Prize award (one student per year) in 2018.

Chih-Wei Huang (**graduated at USF/CMS**): Fall 2016 – Spring 2019.

Sarah Sullivan (**In progress at USF/CMS**): Fall 2021 – present.

Samuel Bunson (**in progress at USF/CMS**): Fall 2021 – present.

Brad Nemeth (**in progress at USF/CMS**): Fall 2023 – present.

Hu as thesis committee member

Ana Odriozola (**graduated at USF/CMS**, major advisor: Frank Muller-Karger of USF), Spring 2003 – Spring 2006, thesis title: “On the Orinoco River plume in the Caribbean”. Published 1 paper as 1st author (Odriozola et al., 2007) and another one as coauthor.

Haiying Zhang (**graduated at USF/CMS**, major advisor: Frank Muller-Karger of USF), Spring 2004 – Fall 2006, thesis title “Remote detection of red tides using a fuzzy k-mean classification”. Manuscript published in a conference proceeding.

Bredan O’Connor (**graduated at USF/CMS**, major advisor: Frank Muller-Karger of USF), Fall 2011 – Summer 2013, thesis title: “Assessment of the Mississippi River diversions and characterization of the oil from the Deepwater Horizon oil spill”. Made a presentation at the GoMRI conference in New Orleans, January 2013.

Lewis Stewart (**graduated at USF/CMS, Dec 2017**), major advisor: David Naar of USF).

Doctor's Dissertation Advisory Committees

Hu as major or co-major advisor

- Kun Yu (**graduated at Nanjing Univ., visiting student at USF 2009 - 2011**, co-major advisor: Ying Wang of Nanjing University, China): Fall 2007 - Spring 2012, dissertation title: “Different lowland plain wetlands formation and a decadal vegetation coverage”. 160 pp, in Chinese with English abstract. Published 2 papers as 1st author (Yu et al., 2011; Yu and Hu, 2013), 1 paper as coauthor, and another one in preparation.
- Lian Feng (**graduated at Wuhan Univ., visiting student at USF 2010 - 2012**, co-major advisor: Xiaoling Chen of Wuhan University, China): Fall 2008 - Spring 2013, dissertation title: “Remote sensing of the Poyang Lake and its environment”. Published 7 papers as 1st author and 4 papers as coauthor. Won Top-10 Student Researcher Award (2012) and Top-5 Student Innovation Award (2012) at Wuhan University.
- Brian Barnes (**graduated at USF/CMS in Dec 2013**), Fall 2009 – Fall 2013, dissertation title: “On the combined Effects of Light and Temperature on Coral Bleaching: A case study of the Florida Reef Tract using satellite and in situ data”. USF/CMS Knight Fellowship winner (Fall 2012); published 5 papers as 1st author and 3 papers as co-author from dissertation. Won the Outstanding Thesis and Dissertation (OTD) Award from USF for the 2013-2014 academic year. Made numerous presentations in professional meetings.
- Lin Qi (**Graduated at Nanjing Institute of Geography and Limnology in Nov 2014**). Dissertation title: “Remote sensing of phytoplankton pigment concentrations in Taihu Lake: Algorithm development and applications”. Published 3 first-authored papers and 1 coauthored paper. One paper was highlighted by IOCCG in its November 2014 news bulletin.
- Mengqiu Wang (**Graduated at USF/CMS in August 2018**): Fall 2013 – Aug 2018, Dissertation topic: Remote sensing of pelagic Sargassum. Published 6 manuscripts as 1st author and 7 papers as co-author. Recipient of numerous fellowships and awards.
- Shuangling Chen (**Graduated at USF/CMS in fall 2018**): Fall 2013 – Fall 2018, Dissertation topic: Remote sensing of surface pCO₂ in the Gulf of Mexico. Published 5 manuscripts as 1st author and two as coauthor. USGS graduate assistantship recipient 2014 – 2016 and winner of several scholarships.
- Shaojie Sun (**Graduated at USF/CMS in fall 2018**): Fall 2013 – Fall 2018, Dissertation topic: oil spill remote sensing. Published 6 papers as 1st author and several others as co-author. NASA fellowship recipient since Fall 2016.
- Yingjun Zhang (**Graduated at USF/CMS in summer 2022**): Fall 2016 – summer 2022. Dissertation topic: eddies and fronts. Published 4 papers as 1st author, 3 papers as coauthor, and submitted 2 others.
- Jing Shi (**in progress at USF/CMS**): Fall 2019 – present.
- Yao Yao (**in progress at USF/CMS**): Fall 2019 – present.
- Keyu Mao (**in progress at USF/CMS**): Fall 2023 – present.

Hu as dissertation committee member

- Bisman Nababan (**graduated at USF/CMS**, major advisor: Frank Muller-Karger of USF), Fall 1998 – Spring 2005, dissertation title: “Bio-optical variability of surface waters in the Northeastern Gulf of Mexico”, 167pp. Published two papers as 1st author and two others as co-author.
- Zhiqiang Chen (**graduated at USF/CMS**, major advisor: Frank Muller-Karger of USF), Fall 2000 – Fall 2006, dissertation title: “Monitoring water quality in Tampa Bay: Coupling *in situ* and remote sensing”. Published 4 papers as 1st author, 4 papers as co-author.
- Marina Marrari (**graduated at USF/CMS**, major advisor: Kendra Daly of USF), Fall 2002 – Spring 2008, dissertation title: “Characterization of the Western Antarctic Peninsula Ecosystem: Environmental Controls on the Zooplankton Community”. 174pp. Published 3 papers as 1st author.
- Carrie Wall (**graduated at USF/CMS**, major advisor: David Mann of USF), Fall 2008 - Fall 2012, dissertation title: “Shelf-scale Mapping of Fish Distribution Using Active and Passive Acoustics”, 164 pp. Published 3 papers from dissertation as 1st author with 2 in preparation, and published 2 papers as coauthor and 2 others in preparation.
- Kara Radabaugh (**graduated at USF/CMS**, major advisor: Ernst Peebles of USF), Fall 2009 – Spring 2013, dissertation title: “Light-Environment Controls and Basal Resource Use of Planktonic and Benthic Primary Production”, 189pp. Published 1 paper as 1st author, submitted 2, and had one in preparation.
- Inia Soto (**graduated at USF/CMS**, major advisor: Frank Muller-Karger of USF), Fall 2006 – Fall 2013, dissertation title: “On the Harmful Algal Blooms of the West Florida Shelf and Campeche Bank: Visualization and Quantification using Remote Sensing Methods”. Published 3 papers as 1st author, 2 as coauthor
- Sennai Habtes (**graduated at USF/CMS**, major advisor: Frank Muller-Karger of USF), Fall 2006 – Fall 2014, dissertation title: “Variability in the Spatial and Temporal Patterns of Larval Scombrid Abundance in the Gulf of Mexico”
- Brian Zielinski (**graduated at USF/CMS**, major advisor: John Paul of USF), Fall 2008 – Fall 2014, dissertation title: “Using Gene Expression as a Tool to Understand Biogeochemical Cycling in Various Marine Communities”, Published 2 papers as co-author, and several others in preparation.
- Maria Vega-Rodriguez (**graduated in fall 2016 at USF/CMS**, major advisor: Frank Muller-Karger of USF), Fall 2010 – Fall 2016, dissertation title: “Influence of temperature and water quality variability on coral reef diversity in the Florida Keys”. Won ARCS Scholar award in 2012.
- Katie Wirt (**graduated in February 2016 at USF/CMS**, major advisor: Pam Muller of USF), Fall 2011 – spring 2016, dissertation title: “Critical Habitat of *Acropora spp.* On reefs of Florida, Puerto Rico and the U.S. Virgin Islands”. Published 1 paper as 1st author.

Ellen Hudson-Heck (**graduated in spring 2021 at USF/CMS**, major advisor: Robert Byrne of USF), Fall 2016 – Spring 2021.

Luis Lizcano Sandoval (August 2019 – present, major advisor: Frank Muller-Karger)

Catherine Dietrick (August 2019 – present, major advisor: David Naar)

Mentor of post-doctorate researcher:

Dr. Jun Zhao, USF/CMS, Fall 2010 – Fall 2012. Focused on algal blooms and light penetration on the West Florida Shelf and Florida Keys, published 3 papers as 1st author and 2 papers as coauthor.

Dr. Chengfeng Le, USF/CMS, Fall 2010 – Spring 2013. Focused on estuarine water quality and blooms to assist management decision support, published 6 papers as 1st author and 1 paper as coauthor.

Dr. Minwei Zhang, USF/CMS, Fall 2013 – Fall 2018. Focused on atmospheric correction of airborne and satellite sensors.

Dr. Brian Barnes, USF/CMS, Spring 2014 – spring 2017. Focused on ocean color algorithm and data products of coastal oceans as well as their applications in addressing Earth science questions.

Dr. Lian Feng, USF/CMS, Spring 2015 – Summer 2017. Focused on algorithm development and global ocean data quality.

Dr. Lin Qi, USF/CMS, January 2015 – July 2015. Focused on coastal algal blooms and water quality

Dr. Mengqiu Wang, USF/CMS, August 2018 – March 2021. Continued PhD work on Sargassum remote sensing and dynamics.

Dr. Shaojie Sun, USF/CMS, December 2018 – August 2019. Focused on oil spills and other pollutions.

Dr. Min Xu, USF/CMS, June 2020 – present. Algal blooms in estuaries and coastal waters

Dr. Shuai Zhang, USF/CMS, October 2020 – present. GEE applications in aquatic science.

Dr. Yuyuan Xie, USF/CMS, February 2021 – present. Phytoplankton dynamics.

Dr. Yingjun Zhang, USF/CMS, September 2022 – present, bio-physical interactions

Dr. Cheng Xue, USF/CMS, December 2022 – present, ocean color remote sensing

Dr. Madjid Hadjil, USF/CMS, December 2023 – present, ocean color remote sensing

10. Synergistic Activities

2015 – 2017, Editor-in-Chief, *Remote Sensing of Environment*

2008 – 2014, Topical Editor (ocean optics and remote sensing), *Applied Optics*

Fellow, AAAS

Elected member, ASEMFL

Visiting professorship at Wuhan University and Ocean University of China
 Reviewer of professional journals: *Remote Sensing of Environment*, *Applied Optics*, *Nature Communications*, *International Journal of Remote Sensing*, *Limnology & Oceanography*, *Marine Chemistry*, *Journal of Geophysical Research*, *Geophysical Research Letters*, *Oceanography*, *Progress in Oceanography*, *Journal of Oceanography*, *Chinese Science Bulletin*, *IEEE Geosci. & Remote Sens.*, *Journal of Applied Remote Sensing*, *Journal of Phycology*, *Continental Shelf Research*, *Nature*, *Science*, etc.
 Reviewer and panelist of NASA, NOAA, and NSF proposals
 Convener of international conference sessions
 Host of International Ocean Color Science meeting
 Host of two international workshops on HABs research
 Host of visiting scholars from India, Trinidad, China, Iraq, Mexico
 Developer of Virtual Systems for data processing and information sharing
 Service provider (satellite-based data products) to > 60 countries
 Member, NASA Science Teams of MODIS, VIIRS, PACE, GLIMR
 Member, NOAA Science Team of VIIRS
 Member, International Ocean Color Coordination Group
 Member, Products and Service Committee, GCOOS
 Member, Data Management Committee, SECOORA
 Member, NASA GEO-CAPE mission science definition team
 Member, Water Quality and Harmful Algal Blooms Teams, Gulf of Mexico Alliance, 2010 –
 Member, Program Committee, Asia-Pacific Remote Sensing Symposium, fall 2012
 Member, Program Committee, Second International Conference on Global Change and the Environment in Asia and Pacific (GCEAP, 28-29 Oct 2010)
 Member, Advisory Committee of NASA/GSFC Ocean Ecology Lab
 Member, USF Honors and Awards Committee, 2011 – 2015
 Member, USF Research Misconduct Committee, 2011 –
 Member, USF/CMS Faculty Evaluation Committee, spring 2011
 Chair, USF/CMS Curriculum Committee, 2011 –
 Member, NSF OOI Program Advisory Committee, 2012 –