**Robert A. Arnone**

*Research Professor, Department of Marine Science*

The University of Southern Mississippi

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**(a) Professional Preparation**

Kent State University Geology B.Sc., 1972

Georgia Institute of Technology Geophysical Sciences M.S., 1974

Louisiana State University Coastal Oceanography 1979-1980

**(b) Appointments**

 2012 - Research Professor, Department of Marine Science, University of Southern Mississippi

 2002 - 2012 Branch Head Ocean Science Branch.Naval Research Laboratory, Stennis Space Center

1995 - 2002 Section Head, Remote Sensing and Optics Section, NRL – SSC

1980 - 1995 Oceanographer – Remote Sensing and Modeling Division, NOARL – SSC

 1974- 1980 Marine Geologist, Naval Coastal Systems Laboratory, Panama City, Florida

**(c) Products**

**(i) Five Closely Related Products**

1. Arnone, R., Vandermuelen, R., Donaghay, P., Yang, H., 2016, “Surface biomass across the Coastal Mississippi Shelf” *Proc. SPIE* 9827, Ocean Sensing and Monitoring VIII, 98270Z (May 17, 2016); doi:10.1117/12.2240874; <http://dx.doi.org/10.1117/12.2240874>
2. Lee, Z. P., K.P. Du, R. Arnone, S.C. Liew, B. Penta,2005a “Penetration of solar radiation in the upper ocean A simple and accurate model for oceanic and coastal waters,” *J. Geophy. Res.*, 2005
3. Jolliff, J. K.. Smith, T. A Ladner, S.. Arnone, R. A 2014 Simulating surface oil transport during the Deepwater Horizon oil spill: Experiments with BioCast system. *Ocean Modelling* **75**, 84
4. Arnone,R.A., Loise,H Carder, K., Boss, E., Maritorena, S. Lee, Z.P. 2006 Examples of IOP Applications in *Remote Sensing of Inherent Optical Properties:Fundamental, Test of Algorithms and Applications* Lee, Ed. (International Ocean-Colour Coordinating Group, IOCCG), Chap. 13.
5. Arnone R. A., Parsons, A. R Real-time use of ocean color remote sensing for coastal monitoring, in Remote Sensing of the Coastal Environment, R. Miller, C. De Costello, B. McKee , Eds., (Springer Publishing, 2004), Chap. 14, pp. 317-335.

 **(ii) Other Products**

1. Arnone, R., Vandermuelen, R., Ladner, S., Ondrusek, M., Kovach, C., Hang, H., Salisbury, J., (2016) Diurnal changes in ocean color in coastal waters ", *Proc. SPIE* 9827, Ocean Sensing and Monitoring VIII, 982711 (May 17, 2016); doi:10.1117/12.2241018;
2. Arnone, R., B. Casey, S. Ladner, D. Ko 2010 Forecasting the Coastal Optical Properties using Satellite Ocean Color, Chapter 19 in “Oceanography from Space , Revisited” Edited by V. Barale, J.F.R. Gower and L. Alberotanza, Springer 2010 p335-348
3. Arnone, R.A., A.M. Wood, and R.W. Gould, Jr. 2004. Science box: (2004) The evolution of optical water mass classification. Oceanography 17(2):14–15, http://dx.doi.org/10.5670/oceanog.2004.42.
4. Arnone, R. Ladner, S.. Fargion, G Martinolich, P.. Vandermeulen, R Bowers, J. Lawson, A. 2013Monitoring bio-optical processes using NPP-VIIRS and MODIS-Aqua ocean color products. *Ocean Sensing and Monitoring V* 87240Q
5. Z. Lee, K. L. Carder., R. A. Arnone, 2002 Deriving inherent optical properties from water color: a multiband quasi-analytical algorithm for optically deep waters. *Applied Optics* **41**, 5755-5772
6. Arnone, R Casey, B. Ladner, S. Ko, D. 2010 Forecasting the coastal optical properties using satellite ocean color, in *Oceanography from Space, Revisited*, V. Barale, J.F.R. Gower, L. Alberotanza, Eds., (Springer, Chap. 19, pp. 335-348.
7. Lee, Z. C. Hu, S. Shang, K. Du, M. Lewis, R. Arnone, R. Brewin, 2013 Penetration of UV-visible solar radiation in the global oceans: Insights from ocean color remote sensing. *Journal of Geophysical Research: Oceans* **118**, 1-15 (2013). doi:10.1002/jgrc.20308,
8. Lee, Z, Shang, S Du, K, Wei, J., Arnone, R. 2014 “ Usable solar radiation and its attenuation in the upper water column” J G R: Oceans [Volume 119, Issue 2,](http://onlinelibrary.wiley.com/doi/10.1002/jgrc.v119.2/issuetoc) pages 1488–1497, February
9. Arnone, R A., Parsons, R. Ko D. S, Casey B. J., Ladner, S. Preller, R. H. Hall, C. M. (2005), Physical and Bio-Optical Processes in Gulf of Mexico -Linking Real-Time Circulation Models and Satellite Bio-Optical and SST Properties NRL/PP/7330-05-5226. STENNIS SPACE CENTER MS
10. Lee, Z. P. A. Weidemann, J. Kindle, R. Arnone, K. L. Carder, and C. Davis, 2007 "Euphotic zone depth: Its derivation and implication to ocean-color remote sensing," J. Geophys. Res. 112, C03009, doi:03010.01029/02006JC003802
11. Arnone. R., Jones, B., Soto. I., Cambazoglu, K., 2017 Ocean Weather - Identifying Events and Abnormal Bio-optical and physical properties in Gulf of Mexico Oil Spill Conference, New Orleans
12. Jolliff, J.K., J.C. Kindle, B. Penta, R. Helber, Z. Lee, I. Shulman, R. Arnone, C. Rowley.2008 On the Relationship Between Satellite-Estimated Bio-Optical and Thermal Properties in the Gulf of Mexico. *Journal of Geophysical Research*, 113, G01024,. 15 March
13. Arnone,R. Casey,B., Ko,D Ladner,S., Flynn, P. Gould,R. 2008 “ Extending the satellite surface optics to derive the 3d optical field by defining the uncertainty of  physical – optical relationships, Ocean Optics XIX Italy
14. Rochford, P., A., A. B. Kara, A.J. Walcraft and R.A. Arnone 2002 “The Importance of Solar Subsurface Heating in Ocean General Circulation Models,” Journal of Geophysical Research Vol 106, No C12. p30923- 30938 Dec
15. R.A. Arnone, S. Ladner, P.E. La Violette, J.C. Brock, P.A. Rochford Seasonal and interannual variability of surface photosynthetically available radiation in the Arabian Sea’ Journal of Geophysical Research, 103 (1998), pp. 7735–7748

**(d) Synergistic Activities**

Coordinator lead for the cal-val program with the JPSS NOAA- SNPP for SST and ocean color; SPIE- 2010-2014, Conference Chair at Security and Defense - “Ocean Sensing and Monitoring” ; Established Ocean Weather Lab USM www.usm.edu/marine/research-owx; Co-managed Naval Research Laboratory’s Hyperspectral satellite Hyperspectral Imaging of the Coastal Ocean (HICO) on the International Space Station; Member of Science team for NASA GeoCape, SWOT, MODIS, SeaWIFS, NOAA- GOES –R

Over 130 scientific publications and >250 presentations in the areas of physical and bio-optical ocean processes and development of remote sensing algorithms; Lead 15 major national and international scientific oceanographic expeditions in the world oceans; Navy Meritorious Civilian Service Award; Two US patents and NASA honors for astronaut training programs. Dept of Navy - honors, and; NASA - honors for Shuttle Astronaut Training program, Navy Royalty Transition award;NOAA Technical Committee for US Hypoxia program, US Delegation on Coastal Oceanography to Russia 1996 International Exploration of the Mediterranean, Board of Directors Member for “Alliance for Marine Remote Sensing” Joint Global Ocean Flux Experiment in the Arabian Sea. International Ocean Color Coordinating Committee, EPA-Modeling, committee

 **(e) Collaborators & Other Affiliations**

* Collaborators & Co-Editors - NOAA NESDES STAR- Wang, Ignatov, DiGiacomo, Ondrusex, Guenther; OAR- Stumpf; NASA- McClain, Franze, Turpie, DeCostello, Feldman, Wardel; NAVY- Winokur, Ladner, Hou, Jolliff, Crout, Jacobs, Preller, Kindle, Ackelson; EPA- Green; Rutgers- Schcofield, Glen; U. Miami- Voss, Minnett, Evans, Korshoov, Gordon; Maine- Boss, Perry; OSU- Davis, Spinrad, Tufillaro; Delaware- Oliver; USF- Mueller, Carder, Hue, Carder; USC- Jones; UMass- Lee; CUNY- Gilerson, Almed; URI- Wetlabs –Twardowski, Moore; NURC- Trees; UK- Cunningham; Canada- Fournier; Villifranche- Morel, Bricaud, Antoine

Thesis MS- PHD Advisor- 2 students at USM, 1 at University of Alabama, 1 and RSMAS U. of Miami