Prof Robert A. Arnone

Research Professor
Dept of Marine Science
University of Southern Mississippi
1020 Balch Blvd, Stennis Space Center, MS 39529
Email: **Robert.Arnone@usm.edu**
Phone: (228) 688-6268

PROFESSIONAL PREPARATION

2013- Present Established the "USM Ocean Weather Laboratory" www.usm.dms.usm/research/~owx
2009- 2011 Coordinator of NPP-VIIRS Ocean Cal Val Satellite program for NOAA- JPSS, Navy
2011-2016 Conference Chair for SPIE Security and Defense
2009-2011 Co-manage Hyperspectral Imager of Coastal Ocean on the International Space Station.
Published 190 scientific publications and **>260** presentations.
Launched HICO / Member NASA science teams on SeaWiFS, MODIS, GeoCape, SWOT
Lead 15 Organized international ocean expeditions
Published books on Mediterranean Sea, Satellite Optics and Global Secchi Depth Atlas.
Education: La State Univ, Georgia Institute of Tech , MS Geophysical Sciences –1974, BS Kent State Univ 1972

APPOINTMENTS

2012 – Present Research Professor University of Southern Mississippi- Dept of Marine Science
1999- 2012 Branch Head,Ocean Processes Branch, Naval Research Laboratory ,Stennis Space Center
1993 – 1999 Section Head Remote Sensing and Optics, NRL, SSC, MS
1980 – 1995 Oceanographer, Naval Ocean Research and Development Agency, SSC
1974- 1980 Marine Geologist, Naval Coastal Systems Laboratory, Panama City, Florida

PUBLICATIONS

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); http://dx.doi.org/10.1117/12.2241018
2. 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); http://dx.doi.org/10.1117/12.2240874
3. Lee, Z : Hu, C, Shang, S., Du, K,; Lewis, M ;Arnone, R ; Brewin,R : 2013 " Penetration of UV-visible solar radiation in the global oceans: Insights from ocean color remote sensing JOURNAL OF GEOPHYSICAL RESEARCH: OCEANS, VOL. 118, 1–15, doi:10.1002/jgrc.20308,
4. Arnone, R.A. A. R. Parsons; 2004 Real-time use of ocean color remote sensing for coastal monitoring. Chapter 14 in Remote Sensing of the Coastal Environment, p317-335 Springer Publishing – Editors R. Miller, C. De Costello and B. McKee,
5. Arnone, R Vandermeulen ,R Soto Ramos**, I,** Cambazoglu,, Howden, S , Weidemann A. 2016. Ocean Weather - Interaction of physical and bio-optical processes across a river plume dominated shelf in the Gulf of Mexico AGU Ocean Sciences, New Orleans
6 Arnone,R. Casey,B., Ko,D Ladner,S., Flynn, P. Rowley,C 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,
7. Arnone, R.A., A.M. Wood, R.W. Gould, Jr. 2004. The Evolution of Optical Watermass. The Oceanographic Society Fall . Vol.17;2
8. Arnone, R. A.; Vandermuellen R, and Yang, H , R.; Ladner S. and Martinolich, P.; Donaghay, P.; Fargion G. ; 2014 "Characterizing physical and Ecological Exchange Processes in Coastal and Open Water Using VIIRS" AGU- Ocean Sciences Meeting – Hawaii

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9. Lee, Z. P., K.P. Du, R. Arnone, S.C. Liew, B. Penta, 2015 "Penetration of solar radiation in the upper ocean – A simple and accurate model for oceanic and coastal waters," *J. Geophy. Res.*, 2005.
10 Lee, Z. Carder., K.L Arnone., R.A. 2002 Deriving inherent optical properties from water color: a multiband quasi-analytical algorithm for optically deep waters " Applied Optics Vol 41 No27 5755-5772
11. Lee, Z, Shang, S Du, K, Wei, J., Arnone , R. 2014 " Usable solar radiation and its attenuation in the upper water column" Journal of Geophysical Research: Oceans Volume 119, Issue 2, pages 1488–1497
12. Arnone, R. Vandermeulen, R Soto Ramos**, I,** Cambazoglu, M, Howden, et al; 2016, Defining dynamic bio-optical physical events across the Miss Shelf and the influence of fresh water plumes. Oral Oil Spill &Ecosystem Science Conference Tampa 2016 Conference Tampa
13. Arnone R., deRada, S., Ladner, S., and Trees, C. 2012 " Probing the subsurface ocean processes using ocean LIDARS" SPIE 8372, Ocean Sensing and Monitoring IV, 83720O doi: 10.1117/12.921103
14. Arnone, R.A., 1985: Coastal Secchi Depth Atlas, Naval Ocean Research and Development Activity, NSTL, Mississippi 39529, NORDA Rep. No. 83
15. Lee, Z, K. P. Du,, R. Arnone, 2005"A model for the diffuse attenuation coefficient of downwelling irradiance,"J. Geophys. Res. 110, doi:1029/2004JC002275
16. Schofield, O., R.A. Arnone, W.P Bissett, T. D. Dickey, C.O Davis, Z. Finkel, M. Oliver and M. A. Moline 2004 " Water colors in the coastal Zone: What can we see? P24 Oceanography, Vol.17;2. June
17. 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
18. Arnone, R. B. Casey, D. Ko, S. Ladner, P. Flynn, C. Rowley, G. Gould, Extending the satellite surface optics to derive the 3d optical field by defining the uncertainty of physical – optical relationships, Ocean Optics XIX Meeting, Tuscany, Italy, October 2008
19. Arnone, R., S. Ladner, G. Fargion, P. Martinolich, R. Vandermeulen, J. Bowers, and A. Lawson, 2013 "Monitoring bio-optical processes using NPP-VIIRS and MODIS-Aqua ocean color products," *Proc. SPIE* 8724, Ocean Sensing and Monitoring V, 87240Q (June 3, 2013), httpdoi.org/10.1117/12.2018180.
20. Soto, I, Arnone, R. Cambazoglu, M. , Jacobs, G., Vandermeulen, R., Howden, S. 2015 Characterization of the 3-Dimensional Mississippi River Plume using a high resolution circulation model coupled with ocean color imagery and field data AGU Ocean Sciences , New Orleans Feb 2016
21. Bissett, W. P., R. Arnone, C. O. Davis, T. Dickey, D. Dye, D. D. R. Kohler, and R. Gould, 2004: From meters to kilometers—A look at ocean color scales of variability, spatial coherence, and the need for fine scale remote sensing in coastal ocean optics. Oceanography, 17, 32–43
22. Vandermeulen, R, . Ladner, S. .Goode, W. Ondrusek, M. Goes, J, 2015 VIIRS ocean color validation in the Gulf Stream Foster Cruise: NOAA –STAR / NESDIS JPSS annual Science Meeting Sept. http://www.star.nesdis.noaa.gov/star/meeting_2015JPSSAnnual_posters.php
23. 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 ().
24. Yang. H.; Arnone, R.; Jolliff, J.; 2015 'Estimating Advective near –surface currents from ocean color satellite images. Remote Sensing of Environment Volume 158, 1 21.
25. Jolliff, J.K., S. Ladner, R. Crout, P. Lyon, K. Matulewski, R.A. Arnone, and D. Lewis. 2014. Forecasting the ocean's optical environment using the BioCast system. *Oceanography* 27(3):68–79, http://dx.doi.org/10.5670/oceanog. 2014.69
26. Vandermeulen, R.A., Arnone R. ; Ladner, S.; Martinolich, P. 2015 "Enhanced satellite remote sensing of coastal waters using spatially improved bio-optical products from SNPP-VIIRS Remote Sensing of the Environment Vol. 165, Aug 2015 p 53-64 doi.org/10.1117/12.2018180.
27. Hlaing, S., Harmel, T., Gilerson, A., Arnone, R. 2013 . Evaluation of the VIIRS ocean color monitoring performance in coastal regions. *REMOTE SENSING OF ENVIRONMENT, 139*, 398-414.