**SERGIO DERADA**

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**INTRODUCTION**

Sergio deRada is an NRL scientist with over ten years of numerical modeling experience working with biological, optical, and physical oceanographic and atmospheric models, presently including the Community Earth System Model (CESM), the Navy Coastal Ocean Model (NCOM), the Hybrid Coordinate Ocean Model (HYCOM), and the Coupled Ocean-Atmosphere Mesoscale Prediction System (COAMPS). deRada is also involved in transitioning research products to operations and developing end-user tools for decision making and analysis of scientific data. He implemented the Gulf of Mexico Modeling System (GOMMS), a data-assimilative bio-optical-physical ocean model, which currently runs in real-time and supports various projects, including GoMRI funded research.

**EDUCATION**

Univ. of Southern Mississippi, Hattiesburg, MS, BS, 1989 Mathematics (Summa Cum Laude)

Univ. of Southern Mississippi, Hattiesburg, MS, MS, 1996 Computer Science

Univ. of New Orleans, New Orleans, LA, PhDc, Eng. & Applied Science

**PROFESSIONAL EXPERIENCE**

Computer Scientist, Naval Research Laboratory, 2008- Present

Senior Programmer Analysis, Jacobs Engineering, 1996-2008

Research Scientist, Sverdrup Technology Inc., 1992-1996

Support Scientist, Naval Research Laboratory, 1990-1992

**EVIDENCE OF RELEVANT COLLABORATIONS AND SYNERGISTIC ACTIVITIES**

Collaborations with other consortia: CONCORDE, ECOGIG, CARTHE, C-IMAGE.

Ongoing collaborations with the National Center for Atmospheric Research, Florida State Univ., Univ. of Miami, Louisiana State Univ., Univ. of Southern Mississippi, Univ. of New Orleans.

Gulf of Mexico relevant grants with the NOAA-AOML, NASA, BOEM.

Multi-institutional partnership to develop an Adaptive Ecosystem Climatology for the Gulf of Mexico.
Gulf of Mexico Education and Outreach programs (funded by NASA and ONR).

Mentor –high school and college student interns.

**SELECTED PUBLICATIONS**

Gomes, H. do R., **S. deRada**, J. I. Goes, and F. Chai (2016), Examining features of enhanced phytoplankton biomass in the Bay of Bengal using a coupled physical-biological model. *J. Geophys. Res. Oceans*, 121,5112–5133, doi:10.1002/2015JC011508.

Gillies, L. E., Thrash, J. C., **deRada, S.**, Rabalais, N. N. and Mason, O. U. (2015), Archaeal enrichment in the hypoxic zone in the northern Gulf of Mexico. *Environ Microbiol*, 17: 3847–3856. doi:10.1111/1462-2920.12853

Huang, K., **S. deRada**, H. Xue, P. Xiu, F. Chai, Q. Xie, and D. Wang (2015), A 1/8° coupled biochemical-physical Indian Ocean Regional Model: Physical results and validation. *Ocean Dynamics*, doi: 1.1007/s10236-01500860-8.

Amin, R., Penta, B., **deRada, S.** (2015), Occurrence and Spatial Extent of HABs on the West Florida Shelf 2002–Present. *Geoscience and Remote Sensing Letters, IEEE*, vol.12, no.10, pp.2080-2084, Oct. 2015. doi: 10.1109/LGRS.2015.2448453.

**deRada, S.**, S. McCarthy, S. Ladner, R. Arnone, P. Hogan, E. Chassignet. Satellite-derived Ocean Color Climatology for the Gulf of Mexico: Comparative Analysis to a Bio-Optical-Physical Ocean Model. Invited Session Talk, Gulf of Mexico Oil Spill & Ecosystem Science Conference. Mobile, AL, Jan 2014

**deRada, S.,** S. Ladner, and R. Arnone (2012), Coupling ocean models and satellite derived optical fields to estimate lidar penetration and detection performance. *SPIE Remote Sensing of the Ocean, Sea Ice, Coastal Waters, and Large Water Regions,* 8532, International Society for Optics and Photonics. doi:10.1117/12.2007323

Jolliff, J. K., T. A. Smith, C. N. Barron, **S. deRada**, S. C. Anderson, R. W. Gould, and R. A. Arnone (2012), The impact of coastal phytoplankton blooms on ocean-atmosphere thermal energy exchange: Evidence from a two-way coupled numerical modeling system. *Geophys. Res. Lett.*, 39, L24607, doi:[10.1029/2012GL053634](http://dx.doi.org/10.1029/2012GL053634).

Jolliff, J. K., R. W. Gould Jr., B. Penta, W. J. Teague, **S. deRada**, F. P. Chavez, and R. A. Arnone (2012), Water mass bio-optical properties in the Monterey Bay region: Fluorescence-based inference of shifts in phytoplankton photophysiology. *J. Geophys. Res.*, 117, C07019, doi:10.1029/2011JC00756

Shulman I., J. Kindle, **S. deRada**, S. Anderson, B. Penta and P. Martin (2004), Development of hierarchy of different resolution models for study U.S. West Coast California Current Ecosystem. In Spaulding, M. L. (Ed.), *Estuarine and Coastal Modeling*, Proceedings of 8th Int. Conference on Estuarine and Coastal Modeling, 74-88

Shulman, I., S. Anderson, C. Rowley, **S. deRada**, J. Doyle, and S. Ramp (2010), Comparisons of upwelling and relaxation events in the Monterey Bay area. *J. Geophys. Res.*, 115, C06016, doi:10.1029/2009JC005483.

**deRada, S.**; Arnone, R.A.; Anderson, S. (2009), Bio-physical ocean modeling in the Gulf of Mexico. *IEEE Xplore*, MTS/IEEE - Marine Technology for Our Future: Global and Local Challenges, pp.1-7.

Shulman, I. C. Rowley, S. Anderson, **S. deRada**, J. Kindle, P. Martin, J. Doyle, J. Cummings, S. Ramp, F. Chavez, D. Fratantoni, R. Davis (2009), Impact of glider data assimilation on the Monterey Bay model. *Deep Sea Research Part II: Topical Studies in Oceanography, Volume 56, Issues 3-5, AOSN II: Pages 188-198,* ISSN 0967-0645, DOI: 10.1016/j.dsr2.2008.08.003.

**deRada, S.**, I. Shulman (2008), Evaluation of Global HYCOM Initial and Boundary Conditions. *Office of Naval Research Report.* Doc # N0001408AF00002.

Shulman, I., K. Kindle, P. Martin, **S. deRada**, J. Doyle,  B. Penta, S. Anderson, F. Chavez, J. Paduan, and S. Ramp (2007), Modeling of upwelling/relaxation events with the Navy Coastal Ocean Model. J. Geophys. Res., 112, doi: 10.1029/2006JC003946.

**deRada, S.**, Using Google Software in Oceanography: Better Science Through Visualization, Invited Tech-Talk at Google Inc. Seattle, Washington, July 2008.

Kindle, J.C., R. Hodur, **S. deRada**, J. Paduan, L.K. Rosenfeld, and F. P. Chavez (2002), A COAMPStm reanalysis for the eastern Pacific: Properties of the diurnal sea breeze along the central California coast. *Geophys. Res. Lett.,* 29(24), 2203, doi:10.1029/2002GL015566.