

CURRICULUM VITAE

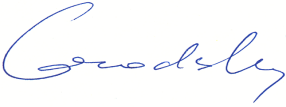
Dr. Semyon A. **Grodsky**

University of Maryland
Department of Atmospheric and Oceanic Science
Room 2409, Atlantic Building (224)
4254 Stadium Dr.
College Park, MD 20742

Phone: 301-405-5330
Fax: 301-314-9482
E-mail: senya@umd.edu

Citizenship: USA

Notarization. I have read the following and certify that this curriculum vitae is a current and accurate statement of my professional record.

Signature  Date 1/22/2022

1. Personal Information

HIGHEST DEGREE EARNED: PhD

DEPARTMENT: Atmospheric and Oceanic Science, University of Maryland

RANK: Senior Scientist

YEAR of appointment: 1999

EDUCATIONAL BACKGROUND:

1986: PhD in Oceanography (Physics and Mathematics), thesis title 'Remote Sensing of Internal Waves', Marine Hydrophysical Institute (MHI), Sevastopol, USSR.

1981: MS in Physics, Diploma title 'High power Mode-locked CW Neodymium-doped Garnet laser with intra-cavity frequency doubling', Moscow Institute of Physics and Technology, (MIPT), Moscow, USSR.

EMPLOYMENT BACKGROUND

2006- : Senior Scientist, Department of Atmospheric and Oceanic Science, University of Maryland.

2003-2006: Associate Research Scientist, Department of Meteorology/
Atmospheric and Oceanic Science, University of Maryland.

2001-2003: Assistant Research Scientist, Department of Meteorology, University of Maryland.

1999-2001: Visiting Scientist, Department of Meteorology, University of Maryland.

1988-1999: Senior Scientist, Remote sensing Department, MHI, Sevastopol, Ukraine.

1984-1988: Research Scientist, Department of Ocean Dynamics, MHI, Sevastopol, USSR.

1981-1984: Scientist, Laboratory of the Theory of Dynamical Processes, MHI, Sevastopol, USSR.

2. Research, Scholarly, and Creative Activities

b. Articles in Refereed Journals.

1. Golyaev, Yu. D., **Grodsky**, S. A., Dmitriev, V. G., Konvissar, P. A., Lantratov, S. V., Mode-locked CW Neodymium-doped Garnet laser with intra-cavity frequency doubling, *Kvantovaya Elektronika*, **9**, 2093-2095, 1982.
2. **Grodsky**, S.A., and V.N. Kudryavtsev, Estimating the upper ocean stratification based on the Internal Waves dispersion relationship, in *Remote Sensing of the Oceans*, Ukrainian Acad. Sci., Marine Hydrophysical Institute Press, Sevastopol, 1982, p. 97-107.
3. **Grodsky**, S.A., and V.N. Kudryavtsev, Retrieval of the ocean vertical density profile from the dispersion relationship of short period Internal Waves, in *Methods of the Remote Sensing data processing*, Ukrainian Acad. Sci., Marine Hydrophysical Institute Press, Sevastopol, 1983, p. 59-67.
4. Burdyugov, V. M., **Grodsky**, S. A., Kudryavtsev, V. N., Subbotin, A. M., Space-time analysis of sea-surface photo images, *Izvestia, Atmos. Oceanic Phys.*, **22**, 418-426, 1986.
5. Burdyugov, V. M., Vereshchak, A. I., Grodsky, S. A., Dulov, V. A., and Kudryavtsev, V. N., Radio Signal Estimation Of Internal Wave Parameters, *Izvestia, Atmos. Oceanic Phys.*, **23**, 877-892, 1987.
6. Burdyugov, V.M., **S.A. Grodsky**, and V.N. Kudryavtsev, Analysis of photographic images of the structure of the surface of the sea near a speck of light, *Physical Oceanography*, **1**, 55 – 62, 1987, DOI: 10.1007/BF02198288.
7. Grishin, G. A., **Grodsky**, S. A., Estimation of the Parameters of the 2-Layer Stratification of the Ocean, Using Satellite-Observations of Internal Waves, *Earth Obs. Remote Sens.*, **5**, 559-570, 1989.
8. **Grodsky, S.A.**, V.A. Dulov, V.N. Kudryavtsev, and O.V. Shul'gin, Experimental research on the evolution of wind waves in inhomogeneous currents, *Physical Oceanography*, **1**, 447 – 459, 1990, DOI: 10.1007/BF02196999.
9. Nelepo, B. A., Korotaev, G. K., Kudryavtsev, V. N., **Grodsky**, S. A., Kinematics of surface manifestations of internal waves as diagnostics of ocean vertical structure, *Earth Obs. Remote Sens.*, **7**, 404-426, 1990.
10. Bolshakov, A. N., Burdyugov V. M., **Grodsky**, S. A., Kudryavtsev, V. N., Proschenko, V. G., Spectra of energy-carrying surface-waves using solar

- highlight images - comparison with in-situ data, *Earth Obs. Remote Sens.*, **8**, 29-40, 1990.
11. Bolshakov, A N , Burdjugov, V.M., **Grodsky**, S. A., Kudryavtsev, V. N., 2-dimensional surface elevation spectra from airphoto data, *Izvestia, Atmos. Oceanic Phys.*, **26**, 652-658, 1990.
 12. Goryachkin, Y. N., **Grodsky**, S. A., Ivanov, V. A., Kudryavtsev, V. N., Several days observation of the internal wave packet evolution, *Izvestia, Atmos. Oceanic Phys.*, **27**, 326-334, 1991.
 13. **Grodsky**, S. A., Kudryavtsev, V. N., Shulgin, O. V., Determination of radar image contrasts associated with inhomogeneities of the ocean surface, *Earth Obs. Remote Sens.*, **9**, 26-37, 1991.
 14. **Grodsky**, S.A., Ocean radar cross-section relation to friction in air, *Izvestia, Atmos. Oceanic Phys.*, **27**, (5) 540-544, 1991.
 15. Burdyugov, V.M., and **S. A. Grodsky**, Parameterization of the dispersion relation of internal waves using the data of hydrological soundings in the Tropical Atlantic, *Physical Oceanography*, **3**, 239 – 242, DOI: 10.1007/BF02197213, 1991.
 16. **Grodsky**, S.A., V.N. Kudryavtsev and V.K. Makin Estimation of the contribution of wind variability to the ocean wave-radar modulation transfer function, *Physical Oceanography*, **3**, 17-226, 1992, DOI: 10.1007/BF02198489.
 17. **Grodsky**, S. A., Dulov, V. A., Kudryavtsev, V. N., Observation of surface-wave refraction on the Gulf Stream, *Doklady. Akad. Nauk USSR*, **322**, 1162-1167, 1992.
 18. **Grodsky**, **S.A.**, and V. N. Kudryavtsev, On transformation of the near-surface atmospheric boundary layer in the ocean temperature front area, *Physical Oceanography*, **4**, 263 – 273, DOI: 10.1007/BF02197625, 1993.
 19. **Grodsky**, S. A., Kudryavtsev, V. N., Observation of wind-wave refraction in Gulf-Stream frontal zone, *Izvestia, Atmos. Oceanic. Phys.*, **29**, 1, 113-122, 1993.
 20. **Grodsky**, S. A., Dulov, V. A., Kudryavtsev, V. N., Correlation between radar-signal attenuation and the convergence of surface currents, *Earth Obs. Remote Sens.*, **10**, 382-391, 1993.
 21. [Kudryavtsev, V.N., S. A. Grodsky, V. A. Dulov, and A. N. Bol'shakov, Observations of wind waves in the Gulf Stream frontal zone, J. Geophys. Res., **100**, C10, 20,715-20,728, 1995.](#)
 22. Kudryavtsev, V. N., S. A. **Grodsky**, V. A. Dulov, and V. V. Malinovsky, Observation of atmospheric boundary layer evolution above the Gulf Stream frontal zone, *Bound. Layer Meteor.*, **79**, 51-82, 1996.
 23. Grodsky, S.A., V.N. Kudryavtsev, V.V. Malinovsky, V.A. Dulov, Yu.V. Kikhai, D.M. Soloviev, Surface "roughness" of the oceanic frontal zones, with application to radar observations, In: Cho-Teng Liu, Editor(s), COSPAR Colloquia Series, Pergamon, 1997, **8**, 137-142, ISSN 0964-2749, ISBN 9780080428505, [http://dx.doi.org/10.1016/S0964-2749\(97\)80016-9](http://dx.doi.org/10.1016/S0964-2749(97)80016-9).

24. **Grodsky**, S. A., Kudryavtsev, V. N., Ivanov, A. Yu., Solov'ev, D. M.
Interaction of surface waves with the Gulf Stream according to Almaz-1 SAR data, *Earth Obs Remote Sens.*, **14**, 393-405, 1997.
25. **Grodsky**, S. A., Kudryavtsev, V. N., Ivanov, A. Yu., Study of the Gulf Stream frontal zone using the Almaz-1 SAR and ship contact measurements, *Earth Obs. Remote Sens.*, **14**, 933-947, 1997.
26. [Beal, R. C., V. N. Kudryavtsev, D. R. Thompson, S. A. Grodsky, D. G. Tilley, V.A. Dulov, and H. C. Graber, The influence of the marine atmospheric boundary layer on ERS 1 synthetic aperture radar imagery of the Gulf Stream, *J. Geophys. Res.*, **102**, 5799-5814, 1997.](#)
27. Dulov, V.A., V.N. Kudryavtsev, O.G. Sherbak, and **S.A. Grodsky**,
Observations of wind wave breaking in the Gulf Stream frontal zone, *The Global Atmos. Ocean Syst.*, **6**, 209-242, 1998.
28. [Grodsky, S. A., Kudryavtsev, V. N., Ivanov, A. Yu., Observations of the Gulf Stream frontal zone using Almaz-1 SAR and measurements taken on board the R/V Akademik Vernadsky, *Okeanologiya*, **39**, 356-369, 1999.](#)
29. Malinovsky, V. V., **Grodsky**, S. A., Kudryavtsev, V. N., Smolov, V. E.,
Statistical parameters of a laser signal reflected from the sea surface, *Morskoi Gidrofizicheskii Zhurnal (Phys. Oceanogr.)*, **10**, 3, 64-76, 2000.
30. [Grodsky, S. A., Kudryavtsev, V. N., Ivanov, A. Yu., Quasisynchronous observations of the Gulf Stream frontal zone with Almaz-1 SAR and measurements taken on board the R/V Akademik Vernadsky, *The Global Atmosph. Ocean Syst.*, **7**, 249-272, 2000.](#)
31. Grodsky, S. A., Kudryavtsev, V. N., Bol'shakov, A. N., & Smolov, V. E. (2001).
Experimental investigation of fluctuations of radar signals caused by surface waves. *Physical Oceanography*, 11(4), 333–352.
<https://doi.org/10.1007/BF02509228>
32. Grodsky, S. A., Kudryavtsev, V. N., & Makin, V. K. (2001). Evaluation of the
influence of surface films on short wind waves and the characteristics of the
boundary layer of the atmosphere. *Physical Oceanography*, 11(6), 495–508.
<https://doi.org/10.1007/BF02509843>
33. [Grodsky S. A., and J. A. Carton, Coupled land/atmosphere interactions in the West African Monsoon, *Geophys. Res. Lett.*, **28**, 8, 1503-1506, 2001.](#)
34. [Grodsky, S. A., and J. A. Carton, Intense surface currents in the Tropical Pacific during 1996-1998, *J. Geoph. Res.*, **106**, 16,673-16,684, 2001.](#)
35. [Grodsky, S.A., J.A. Carton, and R. Murtugudde, Anomalous surface currents in the tropical Indian Ocean, *Geoph. Res. Lett.*, **28**, 22, 4207-4210, 2001.](#)
36. [Grodsky, S.A. and J.A. Carton, Surface drifter pathways originating in the equatorial Atlantic cold tongue, *Geoph. Res. Lett.*, **29**\(23\), 2147, doi:10.129/2002GL015788, 2002.](#)
37. [Grodsky, S. A., and J. A. Carton, Intertropical convergence zone in the South Atlantic and the equatorial cold tongue, *J. Climate*, **16**\(4\), 723-733, 2003.](#)
38. [Foltz, G., S.A. Grodsky, J.A. Carton, and M.J. McPhaden, Seasonal mixed layer heat budget of the tropical Atlantic Ocean, *J. Geoph. Res.*, **108**\(C5\), 3146, doi:10.1029/2002JC001584, 2003.](#)

39. [Grotsky, S.A., J.A. Carton, and S. Nigam, Near surface westerly wind jet in the Atlantic ITCZ, *Geoph.Res.Lett.*, **30**\(19\), 2009, doi:10.1029/2003GL017867, 2003.](#)
40. Foltz, G., **S.A.Grotsky**, J.A.Carton, and M.J.McPhaden, Seasonal salt budget of the northwestern tropical Atlantic Ocean along 38 ^oW, *J. Geoph. Res.*, **109**, C03052, doi:10.129/2003JC0021112004, 2004, [paper 2003JC00211](#).
41. **Grotsky, S. A.**, J. A. Carton, C. Provost, J. Servain, J. A. Lorenzzetti, and M. J. McPhaden (2005), Tropical instability waves at 0°N, 23°W in the Atlantic: A case study using Pilot Research Moored Array in the Tropical Atlantic (PIRATA) mooring data, *J. Geophys. Res.*, **110**, C08010, doi:10.1029/2005JC002941. [-->](#)
42. Carton, J. A., B. S. Giese, and **S. A. Grotsky** (2005), Sea level rise and the warming of the oceans in the Simple Ocean Data Assimilation (SODA) ocean reanalysis, *J. Geophys. Res.*, **110**, C09006, doi:10.1029/2004JC002817. [-->](#)
43. Grotsky, S. A., and J. A. Carton (2006), Influence of the tropics on the climate of the South Atlantic, *Geophys. Res. Lett.*, **33**, L06719, doi:10.1029/2005GL025153. [-->](#)
44. Grotsky, S. A., J. A. Carton, and F. M. Bingham (2006), Low frequency variation of sea surface salinity in the tropical Atlantic, *Geophys. Res. Lett.*, **33**, L14604, doi:10.1029/2006GL026426. [-->](#)
45. Chang, C-Y., J.A. Carton, **S. A. Grotsky**, and S. Nigam (2007), Seasonal climate of the tropical Atlantic sector in the NCAR Community Climate System Model 3: Error structure and probable causes of errors, *J. Clim.*, **20**, n6, 1053-1070. (text) [-->](#) , (figures) [-->](#)
46. Grotsky, S. A., J. A. Carton, and C. R. McClain (2008), Variability of upwelling and chlorophyll in the equatorial Atlantic, *Geophys. Res. Lett.*, **35**, L03610, doi:10.1029/2007GL032466. [-->](#)
47. Carton, J.A., S.A. Grotsky, and H. Liu, 2008: Variability of the Oceanic Mixed Layer, 1960–2004, *J. Climate*, **21**, 1029–1047. [-->](#)
48. Grotsky, S. A., J. A. Carton, and H. Liu (2008), Comparison of bulk sea surface and mixed layer temperatures, *J. Geophys. Res.*, **113**, C10026, doi:10.1029/2008JC004871. [-->](#)
49. Pinker, R. T., H. Wang, and S. A. Grotsky (2009), How good are ocean buoy observations of radiative fluxes?, *Geophys. Res. Lett.*, **36**, L10811, doi:10.1029/2009GL037840.
50. Grotsky, S.A., A. Bentamy , J.A. Carton , and R.T. Pinker (2009) Intraseasonal latent heat flux based on satellite observations., *J. Climate*, **22**, 4539-4556, DOI: 10.1175/2009JCLI2901.1 [-->](#)
51. Liu, H., S.A. Grotsky, and J.A. Carton (2009), Observed subseasonal variability of oceanic barrier and compensated layers, *J. Climate*: **22**, 6104-6119, DOI: 10.1175/2009JCLI2974.1 [-->](#)
52. Grotsky, S. A., R. Lumpkin, and J. A. Carton (2011), Spurious trends in global surface drifter currents, *Geophys. Res. Lett.*, **38**, L10606, doi:10.1029/2011GL047393. [-->](#)

53. Bentamy, A., S. A. Grodsky, J. A. Carton, D. Croizé-Fillon, and B. Chapron (2012), Matching ASCAT and QuikSCAT winds, *J. Geophys. Res.*, **117**, C02011, doi:10.1029/2011JC007479. -->
54. Grodsky, S. A., J. A. Carton, S. Nigam, and Y. M Okumura, 2012: Tropical Atlantic Biases in CCSM4, *J. Clim.*, **25**, 3684-3701, doi: <http://dx.doi.org/10.1175/JCLI-D-11-00315.1> . -->
55. Grodsky, S. A., V. N. Kudryavtsev, A. Bentamy, J. A. Carton, and B. Chapron (2012), Does direct impact of SST on short wind waves matter for scatterometry?, *Geophys. Res. Lett.*, **39**, L12602, <http://dx.doi.org/10.1029/2012GL052091> . -->
56. Munoz, E., W. Weijer, S.A. Grodsky, S.Bates, and I. Wainer, 2012: Mean and Variability of the Tropical Atlantic Ocean in the CCSM4, *J. Clim.*, **25**, 4860–488, JCLI-D-11-00294, <http://dx.doi.org/10.1175/JCLI-D-11-00294.1>
57. Grodsky, S. A., N. Reul, G. S. E. Lagerloef, G. Reverdin, J. A. Carton, B. Chapron, Y. Quilfen, V. N. Kudryavtsev, and H.-Y. Kao (2012), Haline hurricane wake in the Amazon/Orinoco plume: AQUARIUS/SACD and SMOS observations, *Geophys. Res. Lett.*, **39**, L20603, doi:10.1029/2012GL053335. <http://dx.doi.org/10.1029/2012GL053335> . -->
58. Lumpkin, R., S. A. Grodsky, L. Centurioni, M.-H. Rio, J. A. Carton, and D. Lee, 2013: Removing spurious low-frequency variability in drifter velocities, *J. Atmos. Ocean. Tech.*, **30** (2), 353-360, <http://dx.doi.org/10.1175/JTECH-D-12-00139.1> . -->
59. Bentamy, A., S. A. Grodsky, B. Chapron, and J. A. Carton, 2013: Compatibility of C- and Ku-band scatterometer winds: ERS-2 and QuikSCAT, *J. Marine Syst.*, **117–118**, 72–80, <http://dx.doi.org/10.1016/j.jmarsys.2013.02.008> , -->
60. Bentamy, A., S. A. Grodsky, K. Katsaros, A. Mestas-Nunez, B. Blanke, and F. Desbiolles (2013), Improvement in air–sea flux estimates derived from satellite observations, *Int. J. Remote Sens.*, **34** (14), 5243–5261, <http://dx.doi.org/10.1080/01431161.2013.787502> . -->
61. Grodsky, S.A., G. Reverdin, J. A. Carton, and V.J. Coles (2014), Year-to-year salinity changes in the Amazon plume: Contrasting 2011 and 2012 Aquarius/SACD and SMOS satellite data, *Remote Sensing of Environment*, **140**, 14-22, <http://dx.doi.org/10.1016/j.rse.2013.08.033> , -->
62. Grodsky, S.A., J. A. Carton, and F.O. Bryan (2014), A curious local surface salinity maximum in the northwestern tropical Atlantic, *J. Geophys. Res.*, **119**, doi: 10.1002/2013JC009450, <http://dx.doi.org/10.1002/2013JC009450>, -->
63. Grodsky, S.A., J. A. Carton, and A. Bentamy (2014), Salty anomalies forced by Tehuantepec and Papagayo gap winds: Aquarius observations, *Rem. Sens. Lett.*, **5**(6), 568-574, doi: 10.1080/2150704X.2014.935522, -->
64. Grodsky, S. A., Johnson, B. K., Carton, J. A. and Bryan, F. O. (2015), Interannual Caribbean salinity in satellite data and model simulations. *J. Geophys. Res. Oceans*, **120**, doi:10.1002/2014JC010625. -->
65. Bentamy, A., Grodsky, S. A., Elyouncha, A., Chapron, B. and Desbiolles, F. (2017), Homogenization of scatterometer wind retrievals. *Int. J. Climatol.*, **37** (2), 870-889, doi:10.1002/joc.4746-->

66. Johnson, B. K., F. O. Bryan, S. A. Grodsky, and J. A. Carton (2016), Climatological Annual Cycle of the Salinity Budgets of the Subtropical Maxima, *J. Phys. Oceanogr.*, **46**(10), 2981-2994, <http://journals.ametsoc.org/doi/abs/10.1175/JPO-D-15-0202.1>
67. Yurovsky, Yu.Yu., V. N. Kudryavtsev, S. A. Grodsky, and B. Chapron (2017), Ka-band Dual Co-Polarized Empirical Model for the Sea Surface Radar Cross-Section, *IEEE Trans. Geosci. Remote Sens.*, **55**(3), 1629 – 1647, [doi: 10.1109/TGRS.2016.2628640](https://doi.org/10.1109/TGRS.2016.2628640).
68. Desbiolles, F., A. Bentamy, B. Blanke, A. M. Mestas-Nuñez, S. A. Grodsky, S. Herbet, C. Roy, G. Cambon, and C. Maes (2017), Two Decades [1992-2012] of Surface Wind Analyses based on Satellite Scatterometer Observations, *J. Mar. Syst.*, **168**, 38-56, <https://doi.org/10.1016/j.jmarsys.2017.01.003>
69. Grodsky, S.A., N. Reul, J. A. Carton, B. Chapron, and F.O. Bryan (2017), Interannual surface salinity in Northwest Atlantic shelf, *J. Geophys. Res. Oceans*, **122**, [doi:10.1002/2016JC012580](https://doi.org/10.1002/2016JC012580) →
70. Pinker, R. T., S. A. Grodsky, B. Zhang, A. Busalacchi, and W. Chen (2017), ENSO impact on surface radiative fluxes as observed from space, *J. Geophys. Res. Oceans*, **122**(10), 7880–7896, [doi:10.1002/2017JC012900](https://doi.org/10.1002/2017JC012900).
71. Bentamy, A., J.F. Piollé, A. Grouazel, R. Danielson, S. Gulev, F. Paul, H. Azelmat, P.P. Mathieu, K. von Schuckmann, S. Sathyendranath, H. Evers-King, I. Esau, J.A. Johannessen, C.A. Clayson, R.T. Pinker, S.A. Grodsky, M. Bourassa, S.R. Smith, K. Haines, M. Valdivieso, C.J. Merchant, B. Chapron, A. Anderson, R. Hollmann, and S.A. Josey (2017), Review and assessment of latent and sensible heat flux accuracy over the global oceans, *Remote Sensing of Environment*, **201C**, 196-218, <https://doi.org/10.1016/j.rse.2017.08.016>.
72. Y. Y. Yurovsky, V. N. Kudryavtsev, S. A. Grodsky and B. Chapron, (2017). "Normalized radar backscattering cross-section and Doppler shifts of the sea surface in Ka-band," *2017 Progress In Electromagnetics Research Symposium - Spring (PIERS)*, St. Petersburg, 2017, pp. 2779-2876. [doi: 10.1109/PIERS.2017.8262226](https://doi.org/10.1109/PIERS.2017.8262226)
73. Y. Y. Yurovsky, S. A. Grodsky, V. N. Kudryavtsev and B. Chapron, "Wave-induced Doppler shift of Ka-band radar signal backscattered from the sea surface," *2017 Progress in Electromagnetics Research Symposium - Fall (PIERS - FALL)*, Singapore, 2017, pp. 2299-2306. [doi: 10.1109/PIERS-FALL.2017.8293521](https://doi.org/10.1109/PIERS-FALL.2017.8293521)
74. Yurovsky, Yu.Yu., V. N. Kudryavtsev, B. Chapron, and S. A. Grodsky (2018), Modulation of Ka-band Doppler Radar Signals Backscattered from the Sea Surface, *IEEE Trans. Geosci. Remote Sens.*, **56** (5), 2931-2948, [doi:10.1109/TGRS.2017.2787459](https://doi.org/10.1109/TGRS.2017.2787459).
75. Carton, J. A., Chepurin, G. A., Chen, L., & Grodsky, S. A. (2018). Improved Global Net Surface Heat Flux. *Journal of Geophysical Research: Oceans*, **123**(5), 3144–3163. <https://doi.org/10.1002/2017JC013137>

76. Yurovsky, Y. Y.; Kudryavtsev, V. N.; Grodsky, S. A.; Chapron, B. (2018), Low-Frequency Sea Surface Radar Doppler Echo. *Remote Sens.*, 10, 870, [doi:10.3390/RS10060870](https://doi.org/10.3390/RS10060870)
77. Grodsky, S. A., & Carton, J. A. (2018). Delayed and quasi-synchronous response of tropical Atlantic surface salinity to rainfall. *Journal of Geophysical Research: Oceans*, 123. <https://doi.org/10.1029/2018JC013915>
78. Grodsky, S.A., Vandemark, D., & Feng, H. (2018). Assessing Coastal SMAP Surface Salinity Accuracy and Its Application to Monitoring Gulf of Maine Circulation Dynamics. *Remote Sensing*, 10(8), 1232. <https://doi.org/10.3390/rs10081232>
79. Grodsky, S. A., Vandemark, D., Feng, H., & Levin, J. (2018). Satellite detection of an unusual intrusion of salty slope water into a marginal sea: Using SMAP to monitor Gulf of Maine inflows. *Remote Sensing of Environment*, 217(November 2018), 550–561. <https://doi.org/10.1016/J.RSE.2018.09.004>
80. Yurovsky, Y.Y.; Kudryavtsev, V.N.; Grodsky, S.A., Chapron, B. (2018). Validation of Doppler Scatterometer Concepts using Measurements from the Black Sea Research Platform. In Proceedings of the “Doppler Oceanography from Space” Workshop, Brest, France, 10–12 October 2018; IEEE: Washington, DC, USA, 2018, [doi:10.1109/DOFS.2018.8587275](https://doi.org/10.1109/DOFS.2018.8587275).
81. Yurovsky, Y.Y.; Kudryavtsev, V.N.; Chapron, B.; Grodsky, S.A. (2018). How Fast are Fast Scatterers Associated with Breaking Wind Waves? In Proceedings of the International Geoscience and Remote Sensing Symposium–IGARSS, Valencia, Spain, 22–27 July 2018; pp. 142–145, [doi:10.1109/IGARSS.2018.8518754](https://doi.org/10.1109/IGARSS.2018.8518754)
82. Yurovsky, Y., Kudryavtsev, V., Grodsky, S., & Chapron, B. (2019). Sea Surface Ka-Band Doppler Measurements: Analysis and Model Development. *Remote Sensing*, 11(7), 839. <https://doi.org/10.3390/rs11070839>
83. Foltz GR, Brandt P, Richter I, Rodríguez-Fonseca B, Hernandez F, Dengler M, Rodrigues RR, Schmidt J, Yu L, Lefevre N, Da Cunha LC, McPhaden MJ, de Araujo Filho MC, Karstensen J, Hahn J, Martín-Rey M, Patricola CM, Poli P, Zuidema P, Hummels R, Perez RC, Hatje V, Lübbecke JF, Polo I, Lumpkin R, Bourlès B, Asuquo FE, Lehodey P, Conchon A, Chang P, Dandin P, Schmid C, Sutton A, Giordani H, Xue Y, Illig S, Losada T, Grodsky SA, Gasparin F, Lee T, Mohino E, Nobre P, Wanninkhof R, Keenlyside N, Garçon V, Sánchez-Gómez E, Nnamchi HC, Drévillon M, Storto A, Remy E, Lazar A, Speich S, Goes M, Dorrington T, Johns WE, Moum JN, Robinson C, Perruche C, de Souza RB, Gaye A, López-Parages J, Monerie P-A, Castellanos P, Benson NU, Hounkonnou MN, Duhá JT, Laxenaire R and Reul N (2019) The Tropical Atlantic Observing System. *Front. Mar. Sci.* 6:206. [doi: 10.3389/fmars.2019.00206](https://doi.org/10.3389/fmars.2019.00206)
84. Grodsky, S. A., Reul, N., Bentamy, A., Vandemark, D., & Guimbard, S. (2019). Eastern Mediterranean salinification observed in satellite salinity from SMAP mission. *Journal of Marine Systems*, 198, 103190. <https://doi.org/10.1016/j.jmarsys.2019.103190>

85. Grodsky, S. A., N. Reul, D. Vandemark, and A. Bentamy. (2019), Intramonth Oscillations of Atlantic ITCZ Observed in SMAP Satellite Salinity. *International Journal of Remote Sensing*, 41 (3), 839–857. [doi:10.1080/01431161.2019.1648908](https://doi.org/10.1080/01431161.2019.1648908).
86. Reul, N., Grodsky, S. A., Arias, M., Boutin, J., Catany, R., Chapron, B., ... Yueh, S. (2020). Sea surface salinity estimates from spaceborne L-band radiometers: An overview of the first decade of observation (2010–2019). *Remote Sensing of Environment*, 242, 111769. <https://doi.org/10.1016/J.RSE.2020.111769>
87. Rachel T. Pinker , Abderrahim Bentamy , Semyon A. Grodsky & Wen Chen (2020) Annual and seasonal variability of net heat flux in the Northern Indian Ocean, *International Journal of Remote Sensing*, 41:17, 6461-6483, [DOI: 10.1080/01431161.2020.1746858](https://doi.org/10.1080/01431161.2020.1746858)
88. Reul, N., Chapron, B., Grodsky, S. A., Guimbard, S., Kudryavtsev, V., Foltz, G. R., & Balaguru, K. (2021). Satellite observations of the sea surface salinity response to tropical cyclones. *Geophysical Research Letters*, 48, e2020GL091478. <https://doi.org/10.1029/2020GL091478>
89. Grodsky, S. A., Vandemark, D., Reul, N., Feng, H., & Levin, J. (2021). Winter surface salinity in the northeastern Gulf of Maine from five years of SMAP satellite data. *Journal of Marine Systems*, 216, 103508. <https://doi.org/10.1016/j.jmarsys.2021.103508>
90. Bentamy, A., Grodsky, S. A., Cambon, G., Tandeo, P., Capet, X., Roy, C., ... Grouazel, A. (2021). Twenty-Seven Years of Scatterometer Surface Wind Analysis over Eastern Boundary Upwelling Systems. *Remote Sensing*, 13(5). <https://doi.org/10.3390/rs13050940>
91. Yurovsky, Y. Y., Kudryavtsev, V. N., Grodsky, S. A., & Chapron, B. (2021). Ka-Band Radar Cross-Section of Breaking Wind Waves. *Remote Sensing*, 13(10), 1929. <https://doi.org/10.3390/rs13101929>
92. Grodsky, S. A., Reul, N., Bentamy, A., & Vandemark, D. (2022). Eastward propagating surface salinity anomalies in the tropical North Atlantic. *Remote Sensing Letters*, 13(4), 334–342. <https://doi.org/10.1080/2150704X.2022.2032452>
93. Yurovsky, Y. Y., Kudryavtsev, V. N., Grodsky, S. A., & Chapron, B. (2022). Ka-Band Doppler Scatterometry: A Strong Wind Case Study. *Remote Sensing*, 14(6), 1348. <https://doi.org/10.3390/rs14061348>
94. Levin, J. C., Grodsky, S. A., Vandemark, D., & Wilkin, J. L. (2022). Haline Control of Unusually Deep Winter Mixing in the Gulf of Maine Investigated Using a Regional Data-Assimilative Model. *Journal of Geophysical Research: Oceans*, 127(11), e2021JC018281. <https://doi.org/10.1029/2021JC018281>
95. Grodsky, S. A., Reul, N., Bentamy, A., & Vandemark, D. (2023). Anomalously fresh Chukchi Sea surface salinity in summer-autumn 2021. *Remote Sensing Letters*, 14(2), 135–147. <https://doi.org/10.1080/2150704X.2022.2164231>
96. Yurovsky, Y. Y., Kudryavtsev, V. N., Grodsky, S. A., & Chapron, B. (2023). On Doppler Shifts of Breaking Waves. *Remote Sensing*, 15(7). 1824, <https://doi.org/10.3390/rs15071824>

97. Grodsky, S. A., Reul, N., & Vandemark, D. (2023). Sea surface salinity response to variations in the Aleutian Low. *Journal of Marine Systems*, 240, 103888. <https://doi.org/10.1016/j.jmarsys.2023.103888>
98. Yurovsky, Y. Y.; Kudryavtsev, V. N.; Yurovskaya, M. V; Pivaev, P. D.; Grodsky, S. A. (2024). Tropical cyclone signatures in SAR ocean radial Doppler Velocity. *Remote Sens. Environ.*, 311, 114251, <https://doi.org/10.1016/j.rse.2024.114251>
99. Grodsky, S. A., Reul, N., & Vandemark, D. (2024). Summer Chukchi Sea Near-Surface Salinity Variability in Satellite Observations and Ocean Models. *Remote Sensing*, 16(18), 3397. <https://doi.org/10.3390/rs16183397>
100. Grodsky, S. A., Vandemark, D., & Levin, J. C. (2025). An eastern Gulf of Maine salinity index for monitoring winter Scotian Shelf inflow and its relation to coastal and interior pathways. *Journal of Geophysical Research: Oceans*, 130, e2024JC021891. <https://doi.org/10.1029/2024JC021891>

- e. Talks, Abstracts, and other Professional papers presented.
 - ii. Contributed talks, etc.

- Grodsky, S. A., Reul, N., Bentamy, A., & Vandemark, D. (2024). Anomalously fresh Chukchi Sea surface salinity in summer-autumn 2021, *7th Ocean Salinity Conference*, 13 -16 May 2024, <https://atpi.eventsair.com/ocean-salinity-conference-2024/programme>
- Grodsky, S. A., Reul, N., & Vandemark, D. Sea surface salinity response to variations in the Aleutian Low, College of Earth, Ocean and Environment (CEOE) at the University of Delaware, Special Seminar, 21 Mar 2023, Newark, DE
- Grodsky, S. A., Reul, N., Bentamy, A., & Vandemark, D. (2022). Eastward propagating surface salinity anomalies in the tropical North Atlantic, *Ocean Salinity Conference 2022*, Jun.6-9, Columbia University, NY, NY, <https://cpaess.ucar.edu/meetings/ocean-salinity-conference-2022>
- Semyon Grodsky¹, Nicolas Reul², Abderruhim Bentamy², Douglas C Vandemark³ and Sebastien Guimbard⁴, [PL24A-2639 Eastern Mediterranean salinity variation observed by SMAP](#), OS2020, San Diego, CA, 17-21 February, 2020.
- Reul Nicolas, Bertrand Chapron, Semyon Grodsky, Sebastien Guimbard, Vladimir Kudryavtsev, Gregory R Foltz, and Karthik Balaguru, [PL23A-05 Mean Structure of the Ocean surface Haline wake left by Tropical Cyclones as observed by SMOS and SMAP](#), OS2020, San Diego, CA, 17-21 February, 2020
- Grodsky, S.A., Reul, N., Vandemark, D., and Bentamy, A. (2019), [Intramonth Oscillations of Atlantic ITCZ Observed in SMAP Salinity](#), Salinity Continuity Processing Workshop, April 29-30, 2019, Santa Rosa, CA USA

- Grodsky, S. A., Vandemark, D., Feng, H., & Levin, J. (2018) SMAP/SMOS observations of unusual wintertime intrusions of salty/fresh water into the Gulf of Maine, 2018 Ocean Science Salinity Conference, Sorbonne University, Paris, France, 6-9 November 2018. ([pdf](#))
- Yurovsky, Y.Y., S.A. Grodsky, V.N. Kudryavtsev, and B. Chapron (2018), Wave-Induced Doppler Shift of Ka-band Radar Signal Backscattered from the Sea Surface, paper # ([AI24B-1606](#)), Ocean Sciences 2018, Portland, OR, Feb. 11-16, 2018
- Grodsky, S.A., D. Vandemark, N. Reul, E. Hunter, and J.A. Carton (2017), Investigating interannual freshwater variability along the NW Atlantic shelf using satellite salinity data, NASA/OSST meeting, Hilton Crystal City, VA, 18-20 September, 2017.
- Grodsky, S.A., and J.A. Carton (2017) Interannual Salinity in the Amazon Plume and Adjacent Areas, Global Ocean Salinity and the Water Cycle Workshop, WHOI, 22-26 May, 2017.
- Grodsky, S.A., Yu. Yurovsky, V. N. Kudryavtsev, S. A. Grodsky, and B. Chapron (2017), [Platform measurements of Ka-band sea surface radar Doppler characteristics](#), International Ocean Vector Winds Science Team meeting in San Diego, California, May 2-4, 2017.
- Grodsky, S.A., N. Reul, B. Chapron, F.O. Bryan and J. A. Carton (2016), Interannual salinity north of the Gulf Stream, talk PO33A-05, Ocean Sciences Meeting 2016, New Orleans, LA, 21-26 February, 2016.
- Grodsky, S.A., J. A. Carton, and A. Bentamy (2014), Salty anomalies forced by Tehuantepec and Papagayo gap winds: Aquarius observations, AGU-Fall, San Francisco, December 2014.
- Grodsky, S.A., Johnson B.K., Carton, J.A., and Bryan F.O., Interannual Caribbean salinity in satellite data and model simulations, Aquarius/SAC-D Science Team Meeting, Seattle, WA, November 11-14, 2014.
- Grodsky, S.A., J. A. Carton, and F.O. Bryan (2014), A curious local surface salinity maximum in the northwestern tropical Atlantic, Ocean Sciences Meeting, Honolulu, HI, February 2014.
- Bentamy, A., S. A. Grodsky, B. Chapron, and J. A. Carton, Intercomparison of C- and Ku-band scatterometer winds, IOVWST Meeting, Kailua-Kona, Hawaii, USA, 6 - 8 May 2013.
- Grodsky, S.A., 2012: Mesoscale Variability in the Subtropical Salinity Maxima, "20 Years of Progress in Radar, Altimetry", Symposium, Venice Lido (Italy), September 24-29, 2012
- Grodsky, S. A., J. A. Carton, S. Nigam, and Y. M. Okumura, 2011: Tropical Atlantic Biases in CCSM4, Ocean Sci. 2012, Salt Lake City, UT, Feb. 2012.
- Chepurin, G., J. Carton, S. Grodsky, SST and heat content in the Arctic Ocean and Nordic Seas, 2011 NASA SST Science Team Meeting, 2-4 November 2011, Marriott Courtyard Coconut Grove, Florida.
- Grodsky, S.A., T. M. Smith, and J. A. Carton, The Influence of Climate Modes on Changes in the Rate of Warming of Global SST, Sea surface temperature science team meeting, Seattle, USA, November 8-10, 2010

- S.A. Grodsky and J. Carton (2010), Interannual near-surface salinity variability from PIRATA and Argo observations, Tropical Atlantic and PIRATA-15 meeting, 2-5 March 2010, Miami, FL.
- S. A. Grodsky; J. Carton (2010) Westerly winds in the Atlantic ITCZ, Ocean Science Meeting, Portland, OR, 2010, **PO25G-09**.
- Grodsky, S.A., J. A. Carton, and H. Liu (2009), Observed subseasonal variability of the ocean mixed layer, LDEO Division of Ocean and Climate Physics (DOCP) Seminar, 23 October, 2009.
- Grodsky, S.A., J. A. Carton, and H. Liu (2009), Comparison of bulk sea surface and mixed layer temperatures, The 10-th meeting of GHRST Science Team, Santa Rosa, CA, 6/1-6/5, 2009.
- Grodsky, S.A., Abderrahim Bentamy, James A. Carton, and Rachel T. Pinker (2008), Intraseasonal Latent Heat Flux Based on Satellite Observations, NASA Ocean Vector Wind Science Team Meeting, Seattle, Washington, 19 - 21 November 2008.
- Grodsky, S.A., Carton, J.A., (2008), Atlantic Nino, VMP11/VAMOS Workshop, NOAA/AOML, Miami, FL, March 2008.
- Grodsky, S.A., Carton, J.A., and H. Liu (2007), Variability of the Oceanic Mixed Layer 1960-2004, Decadal Climate Variability Workshop, Waikoloa village, HI, April 30-May 3, 2007.
- Grodsky, S. A.**, J. A. Carton, and F. M. Bingham, Low frequency variation of sea surface salinity in the tropical Atlantic, US Clivar salinity workshop and Aquarius SAC/D workshop, WHOI, May 8-12, 2006.
- Grodsky, S.A.**, and J.A. Carton, Influence of the tropics on the climate of the South Atlantic, ESSIC seminar, April 17-th, 2006.
- Grodsky, S.A.**, and J.A. Carton, Interannual variation of sea level in the South Atlantic based on satellite altimetry, *15 Years Progress in Radar Altimetry, Abstract Book*, p.59, Venice, Italy, 13-18 March 2006.
- Grodsky, S.A.**, and J.A. Carton, Interannual variation of salinity in the tropical Atlantic observed by the PIRATA moorings, *EOS Trans. AGU*, 87(36), Ocean Sci. Meet., Suppl., Abstract OS45H-07, Honolulu, HI, 2006.
- Grodsky, S.A.** et al., Tropical Instability Waves at 0°N, 23°W in the Atlantic: A case study using PIRATA mooring data, *CLIVAR-ATLANTIC workshop at University of Miami*, FL, Jan. 31-Feb.3, 2004.
- Grodsky, S.A.**, and J.A. Carton, SST and atmospheric patterns affecting the West African rainfall, *AGU fall meeting*, San Francisco, CA, Dec. 2004.
- Grodsky, S.A.**, and J.A. Carton, Interannual variation of the sea level in the South tropical Atlantic based on satellite altimeter data, *CLIVAR 2004*, Abstract OC-109, p.235.
- Grodsky, S.A.**, J.A. Carton, S. Nigam, Near surface westerly wind jet in the Atlantic ITCZ, *EOS Trans. AGU*, 84(52), *Ocean.Sci.Meet. Suppl.*, Abstract OS31J-02, p.OS82, 2004.
- Grodsky, S.A.**, J.A. Carton, and S. Nigam, Near surface westerly wind jet in the Atlantic ITCZ, 2004 AGU Ocean Sciences Meeting, Portland, OR, *EOS Trans. AGU*, 84(52), Ocean Sci. Meet. Suppl., Abstract OS31J-02, 2003.
- Grodsky, S.A.** and J.A. Carton, Warm water motion in the tropical Atlantic

from analysis of surface drifter trajectories, *Lagrangian Analysis and Prediction of Coastal and Ocean Dynamics*, Key Largo, 2002.

Grodsky, S.A. and J.A. Carton, Surface drifter pathways originating in the equatorial Atlantic cold tongue, *Tropical Atlantic Meeting*, Kiel, IFM, August 2002.

Grodsky, S. A, J. A. Carton, Intertropical Convergence Zone in the South Atlantic and the equatorial cold tongue, *LDEO/Physical Oceanography seminar*, June 2002.

Grodsky, S. A, J. A. Carton, Intertropical Convergence Zone in the South Atlantic - new data from satellite scatterometry, *ESSIC seminar*, May 2002.

Grodsky, S. A, J. A. Carton, and A. Ruiz-Baradas, Relationship between the south trade winds convergence east of the North-East Brazil and equatorial upwelling in the Atlantic Ocean, AGU Fall meeting, San Francisco, CA, December 10-14, 2001.

Grodsky, S.A., and J.A. Carton, Effect of the intraseasonal wind fluctuations in the West African Monsoon on air-sea fluxes, WCRP/SCOR workshop on intercomparison and validation of ocean-atmosphere fields, Bolger Center, Potomac, MD, 21-24 May 2001. [-->](#)

Grodsky, S. A., and J. A. Carton, 10-15 day wind fluctuations over the Tropical Atlantic observed with the Sea Wind scatterometer during boreal spring-summer 2000, *AGU fall meeting*, San Francisco, 2000.

Grodsky, S. A., and J. A. Carton, Intense surface currents in the Tropical Pacific during 1996-1998, *AGU spring meeting*, Washington D.C., 2000.

Grodsky, S. A., Kudryavtsev, V. N., Ivanov, A. Yu., Quasi synchronous observations of the Gulf Stream frontal zone with ALMAZ-1 SAR and measurements taken on board the R/V AKADEMIK VERNADSKY, *Air-Sea Interface Symposium*, The University of New South Wales, Sydney, Australia, Jan.11-15, 1999, section F/5.

Dulov, V.A., S.A. **Grodsky**, and V.N. Kudryavtsev, Effect of ocean non-uniformities on wave breaking, in *Air-Sea Interface*, Donelan, M.A., W.H. Hui, and W.J. Plant (Eds.), The University of Toronto Press, Toronto, 283-287, 1996.

Grodsky, S. A, V. N. Kudryavtsev, A. Yu. Ivanov, V. V. Zaitsev, and D. M. Solov'ev, Surface Wave Observation in the Gulf Stream Area Using ALMAZ-1 SAR, *IGARSS'96*, Lincoln, NB, USA, 27-31 May 1996, v.IV, p.1971-1973, (1996)

Grodsky, S. A., V. N. Kudryavtsev, V. V. Malinovsky, V. A. Dulov, Yu. V. Kikhai, and D. M. Soloviev, Surface roughness of the oceanic frontal zones, with application to radar observations, in *COSPAR Colloquium Space Remote Sensing of Subtropical Oceans (SRSSO)*, 1995 September 12-16, Taipei, Taiwan, National Taiwan University, p.14B3-9 - 14B3-12, (1995)

Grodsky, S. A., V. N. Kudryavtsev, V. A. Dulov and R. C. Beal, Atmospheric Boundary Layer transformation at the Gulf Stream Frontal Zone, *Second International Conference on Air-Sea Interaction and on Meteorology and Oceanography of the Coastal Zone*, 22-27 Sept., Lisbon, Portugal, Preprints, p.269, (1994).

Beal, R. C., V. Kudryavtsev, D. Thompson, S. **Grodsky**, D. G. Tilley and V. Dulov, Large and small scale circulation signatures of the ERS-1 SAR over the Gulf Stream, *Proc. Second ERS-1 Symposium*, Hamburg, Germany, 11-14 Oct. 1993, ESA SP-36, January, 1994, (1994).

i. Contracts and Grants.

Current:

01/01/2020 – 12/31/2022, PI, NASA/PhO, Surface wave impact on Ka-band Doppler scatterometry, \$412,569

03/01/2020 – 2/28/2023, Co-PI, NASA/OSST, Quantifying the role of salinity in NW Atlantic shelf circulation dynamics, \$ 261,275

Previous:

04/17-03/20, PI, NASA/OSST, EXPLORING THE AMAZON PLUME AND ADJACENT REGIONS, \$488,704

04/17-03/20, Co-I, NASA/OSST, Investigating Interannual Freshwater Variability Along the NW Atlantic Shelf Using Satellite Salinity Data, 255,607

03/06/2015 - 03/05/2020, PI, NASA/PhO, EFFECT OF OCEAN WAVES ON SURFACE VELOCITY RETRIEVALS USING A KA-BAND DOPPLER SCATTEROMETER, \$405,710

02/08/2012 -02/08/2016, Co-PI, NASA/SST, Mesoscale Eddies & Their Role in Regulation of High Salinity Pools in the Subtropical Gyres, \$632,149

5/1/2010-4/30/2013, NOAA/CVP, LONG-TERM VARIABILITY OF GLOBAL OCEAN NEAR-SURFACE CURRENTS, 266,167

07/01/2010 to 06/30/2014, Co-PI, NASA/OWVST, Exploring Interannual and Longer Variability Of Observed Ocean Winds By Merging The Ers1/2 and Quikscat Data, \$543,084

03/01/2009-02/28/2013, NASA/PhO, Use of GHRST Observations to Estimate Mixed Layer Temperature and Constrain Ocean, \$429,743

10/01/05 - 09/30/09, Co-PI, NASA/OWVST, Intramonthly winds: tropical oceanic impacts and importance for coupled air-sea interaction, \$414,936.

7/01/2008-6/30/2010, Co-PI, NOAA/CVP, Seasonal Bias in The Tropical Atlantic Sector In Climate Models: Causes And Impact On Interannual Variability, \$405,000

06/01/04 - 05/31/08, Co-PI, NASA/OSTST, Assimilation analysis of seasonal to interannual variability of the tropical and southern Atlantic Ocean, \$396,365

2003-06 : Co-PI, NOAA-OGP, Observation-based analysis of the seasonal cycle of mixed layer temperature and salinity in the tropical Atlantic, \$212,000.

1998-2001: Co-PI, EU grant INTAS 97-575, Dynamics of Boundary-layer Shear Currents in the Ocean. Measurements of the drift shear currents and assessment their role in wind wave dynamics, amount awarded 16,500 ECU.

1997-1999: team leader, EU grant INTAS 96 - 1665, Organic films on the sea surface and their remote sensing. Developed a model of the slick covered sea surface drag, amount awarded 6,500 ECU.

1997-1999: team leader, EU grant INTAS 96 - 1817, A sea coastal zone: radar study of wind field, surface waves and pollutions. Analyze satellite radar data to study wind over the coastal zone.

1997-1999, team leader, NICOP Program of the Office of Naval Research, Grant number: N00014-98-1-1653, Response of wind ripples to long surface and internal waves: Application to the radar studies. Field studies of wind ripple modulation by longer wave.

1994-95: team leader, Radar observations of oceanic fronts (Project of the International Science Foundation: UD 9000). Developed new methods to monitor oceanic thermal fronts and coastal zone phenomena, amount awarded 20,000.

3. Teaching and Advising

- e. Advising: Other Than Research Direction.
- iii. Other advising activities

High school student

Co-adviser , Montgomery Blair HS student, Ben Green

- f. Advising: Research Direction.
- ii. PhD.

Co-adviser, Tim Boyer, (AOSC) (Ph.D 2022, Expected)

Co-adviser, Jim Reagan, (AOSC) (Ph.D 2022, Expected)

Co-adviser, Ben Johnson, (AOSC) (Ph.D 2021, Expected)

Co-adviser, Tony Santorelli, (AOSC) (Ph.D 2011)

Co-adviser, Hailong Liu, (MEES/AOSC) (Ph.D 2009)

Co-adviser, Greg Foltz, (Ph.D 2004).

Co-adviser, Ph.D student, Ching_Yee Chang.

Substituting lecturer METO 670 (Physical Oceanography).

- a. Professional.

Member of PHD committees (Greg Foltz, Hailong Liu).

- ii. Reviewing activities for agencies.

Review articles for AMS and AGU journals, review proposals for NOAA OGP.

4. Service

- a. Professional.
- i. Offices and committee memberships held in professional organizations.

Member of American Geophysical Union, American meteorological Society, National Geographycal Society.

- b. Campus.
- i. Departmental.

Member of the comprehensive exam and Ph.D committees for multiple AOSC/UMD stidents.