

## Résumé

### Stanford B. Hooker

#### PERSONAL INFORMATION

Birthdate: 18 September 1956  
Citizenship: United States of America  
Social Security Number: 215-72-6850  
Marital Status: Married  
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#### CURRENT EMPLOYMENT

Position: SeaWiFS Deputy Project Scientist  
Status: Full-time  
Primary Department: National Aeronautics and Space Administration  
Goddard Space Flight Center  
Oceans and Ice Branch, Code 971  
Greenbelt, Maryland 20771  
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#### APPOINTMENTS

Position: Adjunct Research Associate Professor  
Status: 1994-1996  
Primary Department: Old Dominion University  
School of Oceanography  
Norfolk, Virginia 23529

Position: Guest Researcher  
Status: 1996-1997  
Primary Department: National Institute of Standards and Technology  
Optical Technology Division  
Gaithersburg, Maryland 20899

#### HIGHER EDUCATION

- Received B.S. in Physical Oceanography from Florida Institute of Technology (FIT), Melbourne, Florida, graduating with highest honors (1976-1980).
- Received M.S. in Physical Oceanography from University of Miami, Miami, Florida (1980-1983).
- Received Ph.D. in Physical Oceanography from University of Miami, Miami, Florida (1983-1987).

#### RESEARCH PERFORMED

Gulf Stream frontal statistics using remotely sensed infrared data (1980-1981).  
Mesoscale eddy dynamics as determined by *in situ* and satellite derived data (1980-to-date).  
Synoptic sampling strategies for mesoscale eddies (1981-1983).  
Drifter derived mesoscale kinematics and dynamics (1981-1986).  
Phytoplankton distributions in the Northwestern Atlantic and warm core rings (1982-1986).  
Vorticity and parametric kinematic modeling of mesoscale eddy dynamics (1983-1988).  
Oceanic dynamics and vortical interactions using geomagnetic induction techniques (1987-1988).  
Nonacoustic (remote and *in situ*) submarine detection and surveillance (1987-1990).  
Near real-time infrared satellite data acquisition using off-the-shelf hardware and software (1988-1990).  
Integration of global databases with hydrodynamic parameterization studies (1989-1991).  
Wind and wave field remote sensing using SAR and RAR techniques (1990-1991).

**RESEARCH PERFORMED (cont.)**

Optical remote sensing of internal oceanic variability (1990–1991).  
Hydrodynamic process studies utilizing analytic feature models (1990–to-date).  
Calibration and validation of optical remote sensing satellites (1991–to-date).  
Design and implementation of on-line data storage systems (1992–1996).  
Remote sensing of chaos and stochasticity in geophysical fluid dynamics (1993–to-1998).  
Data acquisition, field calibration, and stability monitoring of optical instruments (1992–to-date).  
Intercomparison of above- and in-water optical measurements for ocean color validation (1994–to-date)  
Conception, design, and evaluation of optical calibration instrumentation (1995–to-date).  
Detection of physical and biogeochemical provinces using remote sensing and *in situ* data (1995–to-date).

**REFEREED PUBLICATIONS**

- Hooker, S.B. and D.B. Olson. 1984. Center of Mass Estimation in Closed Vortices: A Verification in Principle and Practice. *J. Atmos. Ocean. Tech.*, **1**, 247–255.
- Brown, J.W. and S.B. Hooker. 1985. FIXSRC: A FORTRAN Preprocessor. *Comp. Phys. Comm.*, **38**, 435–440.
- Hooker, S.B. and J.W. Brown. 1985. CENTER: A Software Package for Center Estimation. *Comp. Phys. Comm.*, **38**, 421–433.
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- Hooker, S.B., C.R. McClain, and A. Holmes. 1993. Ocean Color Imaging: CZCS to SeaWiFS. *Marine. Tech. Soc. J.*, **27**, 3–15.
- Hooker, S.B., and J.W. Brown. 1994. Warm Core Ring Dynamics Derived from Satellite Imagery. *J. Geophys. Res.*, **99**, 25,181–25,194.
- Holdzkom, J.J., Jr., S.B. Hooker, and A.D. Kirwan, Jr. 1995. A Comparison of a Hydrodynamic Lens Model to Observations of a Warm Core Ring. *J. Geophys. Res.*, **100**, 15,889–15,897.
- Hooker, S.B., J.W. Brown, and A.D. Kirwan, Jr. 1995. Detecting “Dipole Ring” Separatrices with Zebra Palettes. *Trans. IEEE Trans. Geosci. Remote Sensing*, **33**, 1,306–1,312.
- Hooker, S.B., J.W. Brown, A.D. Kirwan, Jr., G.J. Lindemann, and R.P. Mied. 1995. Kinematics of a Warm-Core Dipole Ring. *J. Geophys. Res.*, **100**, 24,797–24,809.
- Hooker, S.B., and J.W. Brown. 1996. Dipole Rings and Vortex Interactions of the Brazil Current. *Trans. IEEE Trans. Geosci. Remote Sensing*, **34**, 1,323–1,330.
- Hooker, S.B., R.P. Mied, J.W. Brown, and A.D. Kirwan, Jr. 1997. Remote Sensing of Dipole Rings. *Trans. IEEE Trans. Geosci. Remote Sensing*, **34**, 1,323–1,330.
- Hooker, S.B., and J. Aiken. 1998. Calibration Evaluation and Radiometric Testing of Field Radiometers with the SeaWiFS Quality Monitor (SQM). *J. Atmos. Ocean. Tech.*, **15**, 995–1,007.
- Johnson, B.C., P-S. Shaw, S.B. Hooker, and D. Lynch. 1998. Radiometric and Engineering Performance of the SeaWiFS Quality Monitor (SQM): A Portable Light Source for Field Radiometers. *J. Atmos. Ocean. Tech.*, **15**, 1,008–1,022.
- Gregg, W.W., W.E. Esaias, G.C. Feldman, R. Frouin, S.B. Hooker, C.R. McClain, and R.H. Woodward. 1998. Coverage Opportunities for Global Ocean Color in a Multi-Mission Era. *Trans. IEEE Trans. Geosci. Remote Sensing*, **36**, 1,620–1,627.
- Zibordi, G., J.P. Doyle, and S.B. Hooker. 1999. Offshore Tower Shading Effects on In-Water Optical Measurements. *J. Atmos. Ocean. Tech.*, **16**, 1,767–1,779.
- Berthon, J-F., G. Zibordi, and S.B. Hooker. 2000. Marine Optical Measurements of a “Mucilage” Event in the Northern Adriatic Sea. *Limnol. Oceanogr.*, **45**, 322–327.
- Hooker, S.B., and C.R. McClain. 2000. The Calibration and Validation of SeaWiFS Data. *Prog. Oceanogr.*, **45**, 427–465.
- Hooker, S.B., N.W. Rees, and J. Aiken. 2000. An Objective Methodology for Identifying Oceanic Provinces. *Prog. Oceanogr.*, **45**, 313–338.
- Aiken, J., N. Rees, S. Hooker, P. Holligan, A. Bale, D. Robins, G. Moore, R. Harris, and D. Pilgrim. 2000. The Atlantic Meridional Transect: Overview and Synthesis of Data. *Prog. Oceanogr.*, **45**, 257–312.
- Hooker, S.B., and S. Maritorena. 2000. An Evaluation of Oceanographic Radiometers and Deployment Methodologies. *J. Atmos. Ocean. Tech.*, **17**, 811–830.
- Aiken, J., G. Moore, N.W. Rees, S.B. Hooker, and S. Lavendar. 2000. Remote sensing of biogeochemical provinces, bio-optical properties and ocean productivity. *Proc. ICOS*, (in press).

- Hooker, S.B., G. Lazin, G. Zibordi, and S. McLean. 2001. An Evaluation of Above- and In-Water Methods for Determining Water-Leaving Radiances. *J. Atmos. Ocean. Tech.*, (accepted).
- Behrenfeld, M.J., E. Marañón, D.A. Siegel, and S.B. Hooker. 2001. Resolving the "Missing Biology" in Bio-Optical Models of Primary Production. *Limnol. Oceanogr.*, (accepted).
- Zibordi, G., S.B. Hooker, J-F. Berthon, and D. D'Alimonte. 2001. Autonomous above-water radiance measurements from an offshore platform: A field assessment experiment. *J. Atmos. Ocean. Tech.*, (accepted).
- Claustre, H., A. Morel, S.B. Hooker, M. Babin, D. Antoine, K. Oubelkheir, A. Bricaud, K. Leblanc, B. Quéganier, and S. Maritorena. 2001. Is desert dust making oligotrophic waters greener? *Geophys. Rev. Lett.*, (submitted).
- Hooker, S.B., and A. Morel. 2001. Platform and Environmental Effects on Above- and In-Water Determinations of Water-Leaving Radiances. *Appl. Opt.* (submitted).

## ABSTRACTS

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- Hooker, S.B., D.B. Olson, and J.W. Brown. 1983. The Importance of Topographic Effects in the Translation and Configuration of Warm Core Ring 82-B. Abstract. *EOS, Trans. Amer. Geophys. Union*, **64**, 1073.
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- Hooker, S.B., J. Liu, and A.D. Kirwan. 1991. The Nonlinear Dynamics of an Ocean Eddy. Abstract. *MTS '91 Proceedings*.
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- Hooker, S., J. Brown, R. Mied, A.D. Kirwan, Jr., and G. Lindemann. 1994. Warm Core Rings: Monopoles or Dipoles? Abstract. *EOS, Trans. Amer. Geophys. Union*, **75**, 133.
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- Serio, M., A.R. Osborne, L. Bergamasco, S.B. Hooker, and J.W. Brown. 1996. A Search for Chaotic and Fractal Properties of the Ocean's Surface at Large and Mesoscales from TOPEX/POSEIDON Altimeter Data. Abstract. *EGS XXI General Assembly*.
- Shaw, P-S., B.C. Johnson, and S.B. Hooker. 1996. The SeaWiFS Quality Monitor—A Portable Field Calibration Light Source. Abstract. *Ocean Optics XIII*.
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 Lazin, G., S. Hooker, G. Zibordi, and S. McLean. 2000. An Evaluation of Above- and In-Water Methods for Determining Water-Leaving Radiance: SeaBOARR-98 Experiment. *Proc. AGU 2000 Ocean Sciences Mtg.*, San Antonio, Texas, Jan. 24–28, 2000, 54.  
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 D’Alimonte, D., G. Zibordi, S. Hooker, and J-F. Berthon. 2000. SeaPRISM: A System for Autonomous Above-Water Radiance Measurements from Fixed Platforms. Abstract. *Ocean Optics XV*.  
 Brown, C.W., M. Ondrusek, S. Maritorena, and S. Hooker. 2001. Estimating Taxon-Specific Phytoplankton Biomass with SeaWiFS Surface Temperatures. *ASLO 2001 Aquatic Sciences Meeting*. Abstract.

## TECHNICAL REPORTS

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 McClain, C.R., W.E. Esaias, W. Barnes, B. Guenther, D. Endres, S. Hooker, G. Mitchell, and R. Barnes. 1992. Calibration and Validation Plan for SeaWiFS. *NASA Tech. Memo. 104566*, Vol. 3, S.B. Hooker and E.R. Firestone, Eds., 41 pp.  
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 Mueller, J.L., and R.W. Austin. 1992. Ocean Optics Protocols. *NASA Tech. Memo. 104566*, Vol. 5, S.B. Hooker and E.R. Firestone, Eds., 43 pp.  
 Firestone, E.R., and S.B. Hooker. 1992. SeaWiFS Technical Report Series Summary Index: Volumes 1–5. *NASA Tech. Memo. 104566*, Vol. 6, S.B. Hooker and E.R. Firestone, Eds., 9 pp.  
 Darzi, M. 1992. Cloud Screening for Polar Orbiting Visible and IR Satellite Sensors. *NASA Tech. Memo. 104566*, Vol. 7, S.B. Hooker and E.R. Firestone, Eds., 7 pp.  
 Hooker, S.B., W.E. Esaias, and L.A. Rexrode. 1993. Proceedings of the First SeaWiFS Science Team Meeting. *NASA Tech. Memo. 104566*, Vol. 8, S.B. Hooker and E.R. Firestone, Eds., 61 pp.  
 Gregg, W.W., F.C. Chen, A.L. Mezaache, J.D. Chen, J.A. Whiting. 1993. The Simulated SeaWiFS Data Set, Version 1. *NASA Tech. Memo. 104566*, Vol. 9, S.B. Hooker and E.R. Firestone, Eds., 17 pp.

- Woodward, R.H., R.A. Barnes, C.R. McClain, W.E. Esaias, W.L. Barnes, and A.T. Mecherikunnel. 1993. Modeling of the SeaWiFS Solar and Lunar Observations. *NASA Tech. Memo. 104566, Vol. 10*, S.B. Hooker and E.R. Firestone, Eds., 26 pp.
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- McClain, C.R., K.R. Arrigo, J. Comiso, R. Fraser, M. Darzi, J.K. Firestone, B. Schieber, E-n. Yeh, and C.W. Sullivan. 1994. Case Studies for SeaWiFS Calibration and Validation, Part 1. *NASA Tech. Memo. 104566, Vol. 13*, S.B. Hooker and E.R. Firestone, Eds., 52 pp., plus color plates.
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- Firestone, E.R., and S.B. Hooker. 1995. SeaWiFS Technical Report Series Summary Index: Volumes 1–17. *NASA Tech. Memo. 104566, Vol. 18*, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 47 pp.
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## EMPLOYMENT EXPERIENCE

The implementation and execution of scientific research and analysis with an equal emphasis on solving theoretical and practical problems.

- 7/80–12/86 Department of Meteorology and Physical Oceanography, RSMAS/U. of Miami, 4600 Rickenbacker Csway, Miami, Florida 33149. Research Assistant working for Dr. Donald Olson on oceanic mesoscale dynamics and kinematics. Experience includes teaching assistance, the solving of theoretical and practical physical problems, extensive computer programming and system maintenance, vortex and kinematic modeling of fluid flow, as well as data collection and analysis during approximately 26 weeks of cruises to the North and South Atlantic.
- 1/87– 5/88 Applied Physics Laboratory, University of Washington, 1013 NE 40th Street, Seattle, Washington 98105. Post-doctoral Oceanographer for Dr. Tom Sanford with a joint appointment in the Oceanography Department, studying oceanic dynamics and variability using expend-

able, towed and drifting geomagnetic induction techniques. Experience includes conceiving, planning and executing scientific research; engineering validation and analysis; computer system and software design; and nonacoustic submarine detection.

6/88 – 9/91 Areté Associates, Suite 707, 1725 Jefferson Davis Highway, Arlington, Virginia 22202. Physical Oceanographer working for Dr. John Dugan's Environmental Technology Group. Primary responsibilities include program management, project integration, notional concept evaluation, data analysis, and the design, production and implementation of integrated computer software. Fields of endeavor include submarine detection and surveillance, nonacoustic hydrodynamic variability, frontal characterization and regional parameterization by hydrodynamic processes, near-real time infrared satellite data collection to support project planning and field tests, global database integration with project applications, and remote sensing applications using infrared, acoustic, optical, and radar systems.

10/91 – to-date NASA/GSFC/Code 971, Greenbelt, MD 20771. Physical Oceanographer working in Dr. Chet Koblinsky's Oceans and Ice Branch and detailed to the SeaWiFS Project working for Dr. Mary Cleave. Primary responsibilities for the former include independent remote sensing research utilizing AVHRR, TOPEX, and SeaWiFS data; primary responsibilities for the latter include manager of the Calibration Element, manager of the Field Team, and editor of the *SeaWiFS Technical Report Series* (39 volumes published). Fields of endeavor include remote sensing of chaos and stochasticity in geophysical fluid dynamics; mesoscale eddy dynamics as determined by *in situ* and satellite data; hydrodynamic process studies utilizing analytic feature models; design and implementation of an optical data storage system; data acquisition from oceanographic and meteorological instruments; calibration and stability monitoring of remote and *in situ* optical instruments; conception, design, and evaluation of field calibration sources; validation of ocean color remote sensing algorithms; and determination of physical and biogeochemical provinces using remote sensing techniques.

## **PROFESSIONAL AND HONORARY ORGANIZATIONS**

American Meteorology Society

American Geophysical Union

## **AWARDS AND HONORS**

1992 NASA Special Act Award for Superior Performance  
1992 NASA Certificate of Outstanding Performance  
1993 NASA Special Act Award for Superior Performance  
1994 NASA Peer Award for Outstanding Technical Support  
1994 NASA Certificate of Outstanding Performance  
1995 NASA Performance Award for Exceptional Service  
1996 GSFC Honor Award: Group Achievement Award  
1996 NASA Special Act Award for Superior Performance  
1997 GSFC Honor Award: Group Achievement Award  
1997 GSFC Special Act Award for Superior Performance  
1999 GSFC Honor Award: Group Achievement Award  
1999 NASA Performance Award for Exceptional Service  
1999 NASA Peer Award for Outstanding Achievement  
2000 GSFC Civil Service Excellence Award  
2000 NASA Performance Award for Exceptional Service

## **SECURITY CLEARANCE**

A SECRET clearance was issued on 17 June 1987 by the Director of Industrial Security, NW Region, Defense Investigative Service, Presidio of San Francisco, California, 94129.

A TOP SECRET clearance was issued on 30 March 1989 by the Director of Industrial Security, Defense Investigative Service, Columbus, Ohio, 43216.

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Available on request.