

## Senate Commerce Committee Nominee Questionnaire, 117th Congress

Instructions for the nominees: The Senate Committee on Commerce, Science, and Transportation asks you to provide typed answers to each of the following questions. It is requested that the nominee type the question in full before each response. Do not leave any questions blank. Type “None” or “Not Applicable” if a question does not apply to the nominee. Return printed answers to Committee. Begin each section (i.e., “A”, “B”, etc.) on a new sheet of paper.

### A. BIOGRAPHICAL INFORMATION AND QUALIFICATIONS

1. Name (Include any former names or nicknames used):

**Richard William Spinrad (nickname Rick)**

2. Position to which nominated: **Under Secretary of Commerce for Oceans and Atmosphere (NOAA Administrator)**

3. Date of Nomination: **April 27, 2021**

4. Address (List current place of residence and office addresses):

[REDACTED]

5. Date and Place of Birth: **April 6, 1954, New York, NY USA**

6. Provide the name, position, and place of employment for your spouse (if married) and the names and ages of your children (including stepchildren and children by a previous marriage).

**Alanna Wynn Spinrad (spouse); retired**

**Gary Brian Spinrad (son, age 51); contract work from home (Bend, OR)**

7. List all college and graduate degrees. Provide year and school attended.

**Bachelor of Arts (B.A.); The Johns Hopkins University; 1975**

**Master of Science (M.S.); Oregon State University; 1978**

**Doctor of Philosophy (Ph.D.); Oregon State University; 1982**

8. List all post-undergraduate employment, and highlight all management-level jobs held and any non-managerial jobs that relate to the position for which you are nominated.

- **Graduate Research Assistant, Oregon State University, Corvallis, OR: 09/75-2/82; conducted and wrote up oceanographic research; graduated in 2/82.**
- **Research Assistant, Oregon State University, Corvallis, OR: 3/82 - 11/82; conducted and wrote up oceanographic research; received post-doc offer to move to Bigelow Lab**
- **Research Scientist, Bigelow Laboratory for Ocean Sciences, West Boothbay Harbor, ME :12/82-12/85; led federally sponsored research projects, including field work at sea; left to take lead role in a start-up business.**
- **President, Sea Tech Inc., Corvallis, OR: 1/86-8/87; designed and manufactured oceanographic equipment, while conducting basic research in ocean sciences; left when invited to apply for program manager job with US Navy.**
- **Program Manager, Ocean Optics Program, Office of Naval Research (ONR), GS-14/15: 9/87-9/88; managed basic research programs for US Navy, distributing funding to mostly academic contractors; was promoted to Division Director.**
- **Director, Ocean Biology/Optics/Chemistry Division (Senior Executive Service), ONR: 10/88 - 10/93; oversaw the day-to-day activities of a division of roughly 6 other program managers, developed strategic planning and budget materials for Navy's basic research programs in ocean science; was promoted to next hierarchical level during an internal reorganization.**
- **Director, Ocean, Atmosphere & Space Modeling & Prediction Division (Senior Executive Service), ONR: 11/93 - 12/94; effectively same role and responsibilities as Director of Ocean Biology/Optics/Chemistry, but with bigger budget and staff; left to take job at a 501c(3) in DC (CORE, see below).**
- **Adjunct Professor, George Mason University, Fairfax, VA.: 8/94 - 12/97 (while at ONR and CORE); taught intro course on oceanography to undergraduates; left to focus on my full-time jobs.**
- **Executive Director, Consortium for Oceanographic Research and Education (CORE), Washington, DC.: 12/94 - 2/99; advocated for ocean research to Congress, developed strategic documents arguing for increased funding for ocean research, reported to a Board of academic member partners of the consortium; left when invited to apply for Technical Director at the Oceanographer of the Navy (see below)**
- **Adjunct Associate Professor, US Naval Academy, Annapolis, MD.: 1/96 - 6/99 (while at CORE); advised midshipmen research projects on a part-time basis; left after graduation of final student, and to focus on full-time job at the Oceanographer of the Navy.**
- **Technical Director, Oceanographer of the Navy (Senior Executive Service): 3/99 - 5/03; served as senior civilian in the Command, defining strategy and policy for Navy applied research in oceanographic and meteorological applications, while overseeing a small applied research program; left when invited to apply for position at NOAA (see below).**

- **Assistant Administrator for Ocean Services and Coastal Zone Management, NOAA (Senior Executive Service): 6/03 – 9/05; oversaw all aspects of management and operations of NOAA’s Ocean Service, including annual budget of roughly \$400M and staff of ~1200 civil servants, developed materials for annual President’s Budget submission; left when asked by NOAA Administrator to take over leadership of NOAA’s Research effort.**
- **Assistant Administrator for Research, NOAA (Senior Executive Service): 9/05 – 4/10; effectively same job as AA for NOS, but leading the research efforts (grants, contracts, cooperative institutes, and internal laboratories) for all of NOAA; retired from NOAA.**
- **Vice President for Research, Oregon State University, Corvallis, OR: 7/10- 6/14; supervised and led all research activities and facilities for a tier 1 research university, developing and executing budgets and policies related to research integrity, safety, efficiency, and effectiveness; left when invited to serve as NOAA Chief Scientist by then-NOAA Administrator, Dr. Kathryn Sullivan.**
- **Chief Scientist (Presidential Appointment - PA), NOAA, Washington, DC: 7/14 – 12/16; served as senior policy advisor regarding all of NOAA research, advising and representing the Administrator; developed policies regarding scientific integrity, transition of research into operations, and development of future research cooperative institutes; resigned at end of Obama Administration.**
- **Senior Advisor to the Vice President for Research; Professor of Oceanography, Oregon State University, Corvallis, OR: 10/17- Present (0.4 FTE); advising the VP for research on spectrum of activities including strategies for federal funding, plans for research infrastructure investment, and led fundraising effort for match-funds for federally funded wave energy project; still active.**
- **Principal and Founder, High Desert Ocean Associates, LLC, Bend, OR: 11/17 – Present; conducting contracted consulting on ocean science and policy programs and issues, for a variety of corporate, government, and academic clients.**
- **Principal and Co-Founder, Oceans 360 Group, LLC, Seattle, WA: 12/17 – Present; conducting contracted consulting on ocean science and policy programs and issues, for a variety of corporate, government, and academic clients.**

9. Attach a copy of your resume.

**Attached as Appendix A.**

10. List any advisory, consultative, honorary, or other part-time service or positions with Federal, State, or local governments, other than those listed above, within the last ten years.

**Vice-Chair, U.S. National Committee for the Decade of Ocean Science Sustainable Development, 2020-present**

**Member, Ocean Studies Board of the National Academies of Sciences, Engineering and Medicine, 2019-present**

**Member, Roundtable on Science and Technology for Sustainability, National Academies of Sciences, Engineering and Medicine, 2015-2016**

**Member, Committee on Environment, Natural Resources and Sustainability, National Science and Technology Council, White House Office of Science and Technology Policy, 2014-2016**

**Member, Committee on Science, National Science and Technology Council, White House Office of Science and Technology Policy, 2014-2016**

**Council Member, Government-University-Industry Research Roundtable, National Academies of Science, Engineering and Medicine, 2014-2016**

**President, Oregon Unmanned Aerial Vehicle Business Enterprise, 2013-2014**

**Member<sup>1</sup>, Ocean Research Advisory Panel Federal Advisory Committee, 2013 – 2014**

**Chair, Federal Advisory Committee on Integrated Ocean Observing Systems, 2012 – 2014**

**Chair and Technical Advisor, Oregon Innovation Council, Commercialized Research Committee, 2012 – 2014**

**Commissioner, Corvallis Economic Development Commission, 2011 – 2014**

**Board Member, Oregon Built Environment and Sustainable Technology Signature Research Center, 2010 – 2014**

**Board Member, Oregon Translational Research and Development Institute, 2010 - 2014**

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<sup>1</sup> Nominated and approved, service pre-empted by Presidential Appointment to NOAA

**MEDEA, Advisory committee, 2010 – 2014**

11. List all positions held as an officer, director, trustee, partner, proprietor, agent, representative, or consultant of any corporation, company, firm, partnership, or other business, enterprise, educational, or other institution within the last ten years.

**Consultant, Louisiana State University, 2020**

**Consultant, Accenture, Inc., 2020**

**Member, Schmidt Ocean Institute Advisory Board, 2020-present**

**Member, Advisory Panel for Monterey Bay Aquarium Research Institute, 2019-2020**

**President, Marine Technology Society, 2019-2020**

**Chair, Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO) Oceans and Atmosphere Business Unit Review Panel, 2018**

**Member, New Zealand Government National Science Challenge Review Panelist: 1) The Deep South, and; 2) Sustainable Seas, 2018**

**Member, Scientific Advisory Board, The Ocean Cleanup, 2017-present**

**Member, Advisory Committee for the National Ocean Sciences Bowl, Consortium for Ocean Leadership, 2017-present**

**President-Elect, Marine Technology Society, 2013 – 2014; 2017-2018**

**Councilor, American Meteorological Society, 2009-2013**

**Member, Google Ocean Advisory Committee, 2007-2013**

**Member, External Advisory Board, Center for Coastal Margin Observation & Prediction, Oregon Health and Science University, 2006-2010**

12. Please list each membership you have had during the past ten years or currently hold with any civic, social, charitable, educational, political, professional, fraternal, benevolent or religiously affiliated organization, private club, or other membership organization. (For this question, you do not have to list your religious affiliation or membership in a religious house of worship or institution.). Include dates of membership and any positions you have held with any organization. Please note whether any such club or organization restricts membership on the basis of sex, race, color, religion, national origin, age, or disability.

**American Association for the Advancement of Science (1990 – Present)**

**American Meteorological Society (FELLOW) (2003 – Present); Council member, 2010-2012**

**American Geophysical Union (1980 – Present)**

**Marine Technology Society (FELLOW) (1995 – Present); President-Elect 2013-2014, and 2017-2018; President 2019-2020; Past President 2021 - Present**  
**The Oceanography Society (1987 – Present)**

**Institute of Marine Engineering, Science and Technology (FELLOW and Chartered Marine Scientist) (2003 – Present)**

**Institute of Electrical and Electronics Engineers (2019 – Present)**

13. Have you ever been a candidate for and/or held a public office (elected, non-elected, or appointed)? If so, indicate whether any campaign has any outstanding debt, the amount, and whether you are personally liable for that debt.

**Appointed by President Barack Obama as Chief Scientist of NOAA, 2014-2016**

14. List all memberships and offices held with and services rendered to, whether compensated or not, any political party or election committee within the past ten years. If you have held a paid position or served in a formal or official advisory position (whether compensated or not) in a political campaign within the past ten years, identify the particulars of the campaign, including the candidate, year of the campaign, and your title and responsibilities.

**Volunteered as scientific advisor to Presidential Campaigns for Pete Buttigieg and Joseph R. Biden in 2020**

15. Itemize all political contributions to any individual, campaign organization, political party, political action committee, or similar entity of \$200 or more for the past ten years.

**Biden for President                      May 7, 2020                      \$250.00**

16. List all scholarships, fellowships, honorary degrees, honorary society memberships, military medals, and any other special recognition for outstanding service or achievements.

**Honorable Mention, Association Trends Publications Awards for Professional Journals, 2000**

**Presidential Meritorious Rank Award, United States of America President George W. Bush, 2003**

**Distinguished Civilian Service Award (highest award given to a civilian), United States Navy, 2003**

**Fellow, Institute of Marine Engineering, Science and Technology, London, UK, 2007**

**Fellow, The American Meteorological Society, 2007**

**Fellow, Marine Technology Society, 2008**

**General Counsel Award, National Oceanic and Atmospheric Administration, 2005 and 2009**

**Presidential Distinguished Rank Award, United States of America President Barack H. Obama, 2009**

**Alumni Fellow Award, Oregon State University, 2010**

**Admiral James D. Watkins Honorary Lecture Inaugural Lecturer, Marine Technology Society, 2010**

**Lifetime Achievement Award, Oceanology International, 2014**

**Honorary Co-Chair (with Congressman Sam Farr), OCEANS '15 Conference, Washington, DC, 2015**

**Fellow, The Oceanography Society, 2019**

17. Please list each book, article, column, Internet blog posting, or other publication you have authored, individually or with others. Include a link to each publication when possible. Also list any speeches that you have given on topics relevant to the position for which you have been nominated. Do not attach copies of these publications unless otherwise instructed.

**Publications:**

**Spinrad, R.W. 1978. Experimental and theoretical measurements of the volume scattering function at near-forward angles. M.S. thesis. Oregon State University, Corvallis.**

**\*Spinrad, R.W., J.R.V. Zaneveld and H. Pak. 1978. Volume scattering function of suspended particulate matter at near-forward angles: a comparison of experimental and theoretical values. Appl. Optics 17:1125.**

**Zaneveld, J.R.V., J.C. Kitchen, R. Bartz, D. Menzies, S. Moore, R.W. Spinrad and H. Pak. 1978. Optical, hydrographic and chemical observations in the Monterey Bay area during May and September of 1977, Oregon State Univ. School of Ocean. Ref. 78-13.**

**Spinrad, R.W. 1978. Measurements of the volume scattering function at near-forward angles for suspended oceanic particles. Proc. Soc. Photo-Opt. Instr. Eng. 160:18.**

**\*Spinrad, R.W., J.R.V. Zaneveld and H. Pak. 1979. Irradiance and beam transmittance measurements off the West Coast of the Americas. J. Geophys., Res. 84\*:355.**

**Zaneveld, J.R.V., R.W. Spinrad and D.W. Menzies. 1979. Optical and hydrographic observations in the Congo River and Angola Basin in May of 1978. Oregon State Univ. School of Ocean. Ref. 79-3.**



**Zaneveld, J.R.V., R.W. Spinrad and R. Bartz, 1979. Optical properties of turbidity standards. Proc. Soc. Photo-Opt. Instr. Eng. 208:159**

**\*Zaneveld, J.R.V. and R.W. Spinrad, 1980. An arctangent model of irradiance in the sea. J. Geophys. Res. 85:4919**

**Spinrad, R.W. 1982. Optical characteristics of the suspended sediment in the high energy benthic boundary layer experiment. Ph.D. thesis. Oregon State University, Corvallis.**

**\*Zaneveld, J.R.V., R.W. Spinrad and R. Bartz. 1982. An optical settling tube for the determination of particle size distributions. Mar. Geol. 49:357.**

**\*Spinrad, R.W. and J.R.V. Zaneveld. 1982. An analysis of the optical features of the near bottom and bottom nepheloid layers in the area of the Scotian Rise. J. Geophys. Res. 87:9553.**

**\*Spinrad, R.W., J.R.V. Zaneveld and J.C. Kitchen. 1983. A study of the optical characteristics of the suspended particles in the benthic nepheloid layer of the Scotian Rise. J. Geophys. Res. 88:7641.**

**\*Yentsch, C.M., P.K. Horan, K. Muirhead, Q. Dortch, E.M. Haugen, L. Legendre, L.S. Murphy, M.J. Perry, D. Phinney, S.D. Pomponi, R.W. Spinrad, A.M. Woods, C.S. Yentsch and B.J. Zahuranec. 1983. Flow cytometry and cell sorting: a technique for analysis and sorting of aquatic particles. Limnol. Oceanogr. 28\*:1275**

**Spinrad, R.W. 1984. Flow cytometric analysis of the optical characteristics of marine particulates. Proc. Soc. Photo-Opt. Instr. Eng. 489:335.**

**\*Pak, H., J.R.V. Zaneveld and R.W. Spinrad. 1984. Vertical distribution of suspended particulate matter in the Zaire River, estuary and plume. Neth. 1. Sea Res. 17:412.**

**\*Spinrad, R.W, 1986. An optical study of the water masses of the Gulf of Maine. J. Geophys. Res. 92:1007.**

**\*Spinrad, R.W. and J.F. Brown. 1986. Relative real refractive index of marine microorganisms: A technique for flow cytometric estimation. Appl. Optics 25\*:1930**

**\*Spinrad, R.W. 1986. A calibration diagram of specific beam attenuation. J. Geophys. Res. 91:7761**

**\*Townsend, D.W. and R.W. Spinrad. 1986. Early spring phytoplankton blooms in the Gulf of Maine. Cont. Shelf Res. 6**

**\*Codispoti, L.A., G.E. Friederich, T.T. Packard, H.E. Glover, P.J. Kelley, R.W. Spinrad, R.T. Barber, J.J. Elkins, B.B. Ward, F. Lipschultz, N. Lastaunau. 1986. High nitrite levels off Northern Peru: a signal of instability in the marine denitrification rate. Science. 233:1200**

**Spinrad, R.W. 1986. Use of the specific beam attenuation coefficient for identification of suspended particulate material. Soc. Photo-Opt. Instr. Eng. Ocean Optics VIII 637: 135**

**\*Spinrad, R.W. and C.M. Yentsch. 1987. Observations on the Intra- and Inter-specific Single Cell Optical Variability of Marine Phytoplankton. Applied Optics. 26:357**

**\*Glover, H.E., M.D. Keller and R.W. Spinrad. 1987. The effects of light quality and intensity on photosynthesis and growth of marine eukaryotic and prokaryotic phytoplankton clones. J. Exp. Mar. Ecol. 105:137**

**\*Yentsch, C.M. and R.W. Spinrad. 1987. Particles in flow, Mar. Tech. Society Journal. 21:58.**

**\*Campbell, D.E. and R.W. Spinrad. 1987. The relationship between light attenuation and particle characteristics in a turbid estuary. Est. Coast and Shelf Sci. 25:53**

**Spinrad, R.W. 1987. Testing of optical properties and development of application procedures for OMP-8 antifoulant on submersible optical surfaces. Sea Tech Inc. Ref. Tech. Report 8701. 44pp.**

**\*Ackleson, S.G., R.W. Spinrad, C.M. Yentsch, J. Brown and W. Korjef-Bellows. 1988. Phytoplankton optical properties: now cytometric examinations of dilution-induced effects. Applied Optics. 27:1262**

**\*Ackleson, S.G. and R.W. Spinrad. 1988. Size and refractive index of individual marine particulates: a flow cytometric approach. Applied Optics. 27:1270.**

**Bartz, R., R.W. Spinrad and J.C. Kitchen. 1988. A low power high resolution, *in situ* fluorometer for profiling and moored applications. Proc. Soc. Photo-Opt. Instr. Eng. Ocean Optics IX. 925:157**

**Spinrad, R.W 1988. Optical oceanography: the state of the science. Oceanography, 1:22**

**Dortch, Q., D.W. Townsend, R.W. Spinrad, and L.M. Mayer. 1988. The Role of Nepheloid Layers in Benthic-Pelagic Coupling. National Undersea Res. Prog. Research Report 88-3, 1. Babb and M. De Luca, editors, pp. 181-203**

**\*Spinrad, R.W., R. Bartz and J.C. Kitchen. 1989. *In situ* measurement of marine particle settling velocity and size distributions using the remote optical settling tube. J. Geophys. Res. 94:93 1.**

**\*Spinrad, R.W., H. Glover, B.B. Ward, L. Codispoti and G. Kullenberg. 1989. Suspended Particle and Bacterial Maxima in Peruvian Coastal Waters during a Cold Water Anomaly. Deep Sea Research. 36:715**

**\*Spinrad, R.W., C.M. Yentsch, J. Brown, Q. Dortch, E. Haugen, N. Revelante, and L. Shapiro. 1989. The response of beam attenuation to heterotrophic growth in a natural population of phytoplankton. Limn. Oceanog. 34:1601**

**Spinrad, R.W. 1989. Guest Editor, Limnology and Oceanography Special Issue on Hydrologic Optics, Vol. 34 Number 8, pp. 1389-1766.**

**Spinrad, R.W. 1989. Satellite Laser Communication Evaluation Algorithm (SLCEVAL) Independent Validation and Verification: Final Report. Spacetask #147-ONR-C-9-1-020. 50 pp.**

**\*Spinrad, R.W. 1989. Optical oceanography: The role of microparticles in attenuation of marine light. Optics News. Dec. 1989:51**

**Spinrad, R.W. 1990. Editor, Ocean Optics X, SPIE v. 1302, 664 pp.,**

**Spinrad, R.W. 1991. Editor, Underwater Imaging, Photog., and Visibility, SPIE v.15:37, 222 pp.**

**\*Townsend, D.W., L.M. Mayer, Q. Dortch and R.W. Spinrad. 1992. Vertical structure and biological activity in the bottom nepheloid layer of the Gulf of Maine. Continental Shelf Research 12:363-387.**

**Spinrad, R.W. and E. Widder. 1992. Ship shadow measurements from a manned submersible, Ocean Optics XI, SPIE v. 1750:372.**

**\*Spinrad, R.W. and J. Brown. 1993. Effects of asphericity on single-particle polarized light scattering. Applied Optics. 32:6151.**

**\*Spinrad, R.W., K.L. Carder and M.J. Perry (eds.). 1994. *Ocean Optics*, 283pp., Oxford University Press, New York**

**Spinrad, R.W. 1994, Guest Editor, Oceanography Special Issue on Technology Transfer, v.6. No.3. 144pp.**

**Watkins, J.D. and R.W. Spinrad. 1996. *Oceans 2000: Bridging the Millennia - Partnerships for Stakeholders in the Oceans*. 51pp. Consortium for Oceanographic Research and Education. Washington, DC.**

**Watkins, J.D. and R.W. Spinrad. 1996. An Ocean Community. Sea Technology, March 1996, p.105**

**\*Spinrad, R.W. 1996 . *The Oceanographic Text Pattern: a review and comparison of introductory Oceanography texts*. Oceanography, 9:194.**

**Spinrad, R.W. 1996. Ocean Optics: A Perspective and a Prognosis. Ocean Optics XIII. SPIE v. 2963:**

**\*Spinrad, R.W. 1997. The National Oceanographic Partnership Program: a commentary. Marine Technology Society Journal, 31(4): 77-78.**

**\*Schoedinger, S.E., R. W. Spinrad and A.R.M. Nowell. 1998. Support for U.S. Graduate Education in the Ocean Sciences: Are Research Assistantships Over-utilized as a Source of Funding?. EOS Trans. American Geophys. Union, 79(5): 57,61,64.**

**\*Nikolaus, R.L. and R.W. Spinrad. 1998. The Impact of Major Ocean Research Programs on Ocean Science Education. Marine Technology Society Journal, 32(3):60-67**

**West, Richard D. and R.W. Spinrad. 2000. Strategy for Research and Development: Roadmap to a Vision for Operational Oceanography**

**Rogers, David P., Mary G. Altalo and Richard W. Spinrad. 2002. Marine Information for Shipping and Defense. In “Oceans 2020: Science, Trends and the Challenge of Sustainability”, Edited by J. G. Field, G. Hempel, and C.P. Summerhayes. Island Press.**

**Spinrad, R.W. 2002, An Oceanographic Commitment to Homeland Security, Sea Technology, 43:56**

**Spinrad, R.W. 2004, One System, Seven Goals and Oceans of Data, Sea Technology, 45:4**

**Moore, Berrien, R. Rosen, A. Rosenberg, R. Spinrad, W. Washington, R. West. 2004, NOAA Research Review Report, [http://www.sab.noaa.gov/Reports/RRT\\_Report-080604.pdf](http://www.sab.noaa.gov/Reports/RRT_Report-080604.pdf)**

**Spinrad, R.W. 2006, The Evolution and Revolution of Ocean Science and Technology, Marine Technology Society Journal, 40**

**Leinen, M., R.W. Spinrad, and J.D. Walker. 2007. Charting the Course for Ocean Science in the United States in the Next Decade, An Ocean Research Priorities Plan and Implementation Strategy, National Science and Technology Council, Office of Science and Technology Policy, Executive Office of the President, 84pp., <https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/nstc-orppis.pdf>**

**Spinrad, R.W., contributor. 2007. *Hidden Depths: Atlas of the Ocean*, Smithsonian:HarperCollins, ISBN 9780061345142, 256pp.**

**Spinrad, R.W., contributor. 2008. *Ocean: An Illustrated Atlas*, National Geographic, ISBN 978-1-4262-0319-0, 351pp.**

Watkins, J.D., T. Schaff and R. Spinrad. 2009. *A History of the National Oceanographic Partnership Program*, Oceanography

\* Spinrad, R. W., National Oceanic and Atmospheric Administration: A Lot More Than Your Nickel's Worth, *Marine Technology Society Journal*, V. 49, No. 2, pp 8-9, 2015

Spinrad, R. W., F. Orr, E. Stofan, L. A. Tabak, C. E. Wotecki, Chief Scientists: U.S. Can Remain Innovation Leader in Science's 'Endless Frontier', [http://www.huffingtonpost.com/dr-richard-w-spinrad/chief-scientists-us-can-r\\_b\\_7948522.html](http://www.huffingtonpost.com/dr-richard-w-spinrad/chief-scientists-us-can-r_b_7948522.html) , 2015

Spinrad, R.W. and I. Boyd, *Our Deadened, Carbon-soaked Seas*, *The New York Times*, October 15, 2015, <https://www.nytimes.com/2015/10/16/opinion/our-deadened-carbon-soaked-seas.html>

Spinrad, R.W., *The warming Arctic: Remote but not isolated*, NOAA Blog, December 29, 2015, <https://medium.com/@NOAA/the-warming-arctic-6e1045c34457>

\*Briscoe, M., D. Glickson, S. Roberts, R. Spinrad, and J. Yoder. *A moving target: Matching graduate education with available careers for ocean scientists*. *Oceanography* 29(1):22–30, <http://dx.doi.org/10.5670/oceanog.2016.05>. 2016

\* Spinrad, R. W. *The new blue economy: A vast oceanic frontier*, *Eos*, 97, doi:10.1029/2016EO053793. 08 June 2016.

Spinrad, R.W., *We can live better by learning from our oceans*, *Miami Herald*, July 6, 2016, <https://www.miamiherald.com/opinion/op-ed/article88120617.html>

Spinrad, R.W., *NOAA Chief Scientist Report*, [https://research.noaa.gov/sites/oar/Documents/ExternalAffairs/NOAA\\_CSAR\\_2016\\_28Dec2016.pdf](https://research.noaa.gov/sites/oar/Documents/ExternalAffairs/NOAA_CSAR_2016_28Dec2016.pdf), 2016.

\* Spinrad, R.W., *Ocean Economic Potential*, *Marine Technology Society Journal*, V. 52, No. 5, pp 17-18, 2018.

**Hotaling, L., and R.W. Spinrad, *The New Blue Economy: Workforce, Programs, and Policies*. Elsevier Publishers. In press, 2021.**

Blog Postings:

**Personal blog at *rickspinrad.com***

Speeches (since 2014):

**A Chief Scientist's Perspective, 7<sup>th</sup> Biennial EPP Education and Science Forum, 10/27/14**

**Blue is the New Green, 6th Annual Maritime Gala, 11/12/14**

**Tracking a Changing Climate, The Wilson Center, 11/18/14**

**NOAA and Argos Wildlife Tracking, International Argos User Conference, 11/20/14**

**The Big Challenges, National Center for Science and the Environment, 1/27/15**

**Designing a Carbon Observing System, 5<sup>th</sup> N. American Carbon Program, 1/28/15**

**NOAA as the Nation's Environmental Agency, 2015**

**How Ocean Knowledge Changes the World, National Marine Educators Association, 2015**

**NOAA's Research and Development Enterprise, Maryland Space Business Roundtable, 1/20/15**

**The Role of Long-Term Science in Building Resilience in the Gulf of Mexico Region, 2/17/15**

**Corporate View of NOAA, National Association of Marine Labs, 3/2/15**

**Ocean Exploration, Aquatic Academy, 3/3/15**

**How resilience fits in NOAA priorities, Sea Grant Week, 3/4/15**

**Oceanography Saved the World, Nifty Fifty Program, 3/12/15**

**Ocean Observations, Predictions and the New Blue Economy, 5/1/15**

**NOAA Programs, Goddard Earth Sciences Technology and Research, 5/26/15**

**Mission-optimized Research at NOAA, CYGNSS Applications Workshop, 5/28/15**

**My Career as an Oceanography. GESTAR MANIAC talk, 6/1/15**

**You Are Citizen Science, Climate Stewards Education Webinar, 6/2/15**

**Frontiers in Marine Biology, Japan Society for the Promotion of Science, 6/12/15**

**Prediction Challenges in a Dynamic Arctic, 6<sup>th</sup> Symposium on the Impacts of an Ice-Diminishing Arctic on Naval and Maritime Operations, 7/14/15**

**How Oceanography Saved the World, Hatfield Marine Science Center 50<sup>th</sup> Anniversary Celebration remarks, 8/7/15**

**Making Science Matter, FDA Science & Research Conference, 8/13/15**

**Future of Oceans, XPrize Awards program, 7/20/15**

**Power of Ocean Data, XPRIZE Workshop, 10/19/15**

**Marine Technology: A Key to Future Opportunities, OCEANS '15, 10/20/15**

**Ocean Science Visions, Consortium for Ocean Leadership, 10/28/15**

**Making Science Matter, U. Md. Earth System Science Interdisciplinary Center, 11/9/15**

**Opening Remarks, UNEP Global Program of Action for the Protection of the Marine Environment from Land-Based Activities Conference, 11/17/15**

**US Partnerships for Health Sector Resilience, US COP-21 Side Event, 12/2/15**



**NOAA's Research and Development Enterprise, American Geophysical Union, 12/14/15**

**Understanding Weather and Climate Related Risks, Pew Project on National Security, Energy, and Climate, 1/25/16**

**NOAA's Research and Development Enterprise, Ocean Sciences Meeting, 2/22/16**

**Pennsylvania Sea Grant Designation, 4/1/16**

**Making Ocean Science Matter, Rutgers University, 4/6/16**

**NOAA's Research and Development Enterprise, American Meteorological Society, 4/14/16**

**Environment and Geospatial Information, GEOBuiz, 4/26/16**

**NOAA's Research and Development Enterprise, Ocean Studies Board, 4/27/16**

**The Importance of Effective Transition and a Unified Modeling Framework, Ecological Forecasting Roadmap Annual Meeting, 4/27/16**

**Water Intelligence: what do we need and what can it tell us?, WEF Great Water Cities Summit, 5/11/16**

**How Oceanography Saved the World, Nifty Fifty, 6/1/16**

**Launching NOAA Ocean Research, National Marine Educators Association, 6/27/16**

**Weather research, Deutscher Wetterdienst, 9/4/16**

**NOAA Climate Research, GEOMAR, Leibniz Baltic Research, 9/5/16**

**NOAA Climate Research, Institute for Advanced Sustainability Studies, Potsdam, 9/6/16**

**The New Blue Economy, MTS Oceans '16, 9/25/16**

**Ocean Fun Facts, NYC Submerge Marine Festival, 9/26/16**

**The Oceans Future, PICES, 11/7/16**

**Sustaining Ocean Observations, National Academy of Sciences, 11/16/16**

**History of the National Ocean Sciences Bowl, Oregon State University, 4/21/17**

**Innovation in Coastal Science, State of the Coast Conference, 10/28/17**

**Emerging Opportunities and Challenges in Ocean Technology,  
STRONGMAR Conference, Porto, Portugal, 11/16/17**

**We Are All Scientists, PIELC Conference, Eugene, OR, 3/1/18**

**Food From the Sea: The Pull and the Push, Food From the Sea Conference,  
Newport, OR, 4/19/18**

**The Push and the Pull of Marine Technology, OCEANS '18, Kobe, Japan,  
5/29/18**

**Innovations in Marine Technology, Northwest Marine Technology Summit,  
Newport, OR, 10/11/18**

**How Oceanography Saved the World, Sisters Science Club, Sisters, OR,  
9/24/19**

**Autonomous vehicles, AUVSI Cascade Chapter, Pendleton, OR, 10/2/19**

**The Push and the Pull of Marine Technology, Singapore University, 10/21/19**

**Dangers of the Sea, Sisters Rotary, Sisters, OR, 6/18/20**

**Leadership Seminar, Northwest Fisheries Science Center (via Zoom), 7/8/20**

**Promoting a Vibrant Sustainable Blue Economy, Blue Tech Week (via Zoom),  
11/20/20**

**The New Blue Economy, U. Alaska College of Fisheries and Oceans Keynote Lecture (via Zoom), 12/3/20**

**The Push and Pull of Marine Technology, ICL Lecture (via Zoom), 3/11/21**

18. List all digital platforms (including social media and other digital content sites) on which you currently or have formerly operated an account, regardless of whether or not the account was held in your name or an alias. Include the name of an “alias” or “handle” you have used on each of the named platforms. Indicate whether the account is active, deleted, or dormant. Include a link to each account if possible.

**Facebook (Rick Spinrad)**

**Blog – rickspinrad.com**

**Twitter (@SpinradRick)**

**LinkedIn (Richard (Rick) Spinrad)**

19. Please identify each instance in which you have testified orally or in writing before Congress in a governmental or non-governmental capacity and specify the date and subject matter of each testimony.

**February 26, 2004 to House Subcommittee on Water Resources and Environment, regarding FY 2005 budget request:**

**[https://books.google.com/books?id=76QqAAAAMAAJ&pg=PA60&lpg=PA60&dq=February+26+2004+Spinrad+NOAA+testimony&source=bl&ots=OAx8\\_wfWj&sig=ACfU3U2WkRCwXJJBzNkBN8A0bXWpW0kHxw&hl=en&sa=X&ved=2ahUKEwicseCszuzvAhUKu54KHSh-BOsQ6AEwAHoECAEQAw-v=onepage&q=February 26 2004 Spinrad NOAA testimony&f=false](https://books.google.com/books?id=76QqAAAAMAAJ&pg=PA60&lpg=PA60&dq=February+26+2004+Spinrad+NOAA+testimony&source=bl&ots=OAx8_wfWj&sig=ACfU3U2WkRCwXJJBzNkBN8A0bXWpW0kHxw&hl=en&sa=X&ved=2ahUKEwicseCszuzvAhUKu54KHSh-BOsQ6AEwAHoECAEQAw-v=onepage&q=February 26 2004 Spinrad NOAA testimony&f=false)**

**July 13, 2004 to House Subcommittee on Resources, regarding ocean observing systems: <https://www.congress.gov/108/chrg/CHRG-108hrg94997/CHRG-108hrg94997.pdf>**

**February 16, 2005 to House Subcommittee on Water Resources and the Environment, regarding FY 2006 budget request:**

**<https://www.legislative.noaa.gov/Testimony/spinrad021605.pdf>**

**April 19, 2005 to House Subcommittee on Fisheries and Oceans, regarding H.R. 1489, “Coastal Ocean Observing System Integration and Implementation Act of 2005”:**

**<https://www.legislative.noaa.gov/Testimony/spinrad041905.pdf>**

**May 4, 2006 to House Subcommittee on Fisheries and Oceans, regarding H.R. 3835, “To establish a coordinated national ocean exploration program within the National Oceanic and Atmospheric Administration”:**

**<https://www.legislative.noaa.gov/Testimony/spinrad050406.pdf>**

**July 27, 2006 to House Committee on Science, regarding H.R. 3835, “To establish a coordinated national ocean exploration program within the National Oceanic and Atmospheric Administration”:**

**<https://www.legislative.noaa.gov/Testimony/spinrad072706.pdf>**

**April 3, 2008 to House Subcommittee on Fisheries, Wildlife and Oceans, NOAA’s National Sea Grant College Program:**

**<https://www.legislative.noaa.gov/Testimony/Spinrad040308.pdf>**

**July 28, 2009 to Senate Committee on Commerce, Science, and Transportation, regarding hurricane research:**

**<https://www.legislative.noaa.gov/Testimony/Spinrad072809.pdf>**

20. Given the current mission, major programs, and major operational objectives of the department/agency to which you have been nominated, what in your background or employment experience do you believe affirmatively qualifies you for appointment to the position for which you have been nominated, and why do you wish to serve in that position?

**Education – I am formally educated in earth sciences, having received my undergraduate degree, Master’s and Ph.D. in oceanography. In addition, I am certified as a Chartered Marine Scientist by the Institute of Marine Engineering, Science and Technology.**

**Experience- I have spent the last 40 years working in ocean, atmosphere, and climate science and policy. As a working scientist I have published over 70 scientific articles, papers, book chapters, and opinion pieces. I have worked in 5 offices of 3 federal agencies, managing research programs, where, in aggregate, I have had acquisition authority for approximately \$4B of federal funding. In those offices, I also have developed major policies and supervised**

**thousands of federal employees and contractors. I have served in leading roles for major interagency efforts, reporting directly to the Executive Office of the President. I have also worked in the private sector, having been President of a start-up oceanographic instrumentation firm. I have served as a research assistant, senior faculty (Professor with tenure), and senior administrator (Vice President for Research) in academia, at three different major universities.**

**Recognition – I am recognized as an expert in the technical fields directly associated with NOAA’s mission, as reflected by my having served as President of The Oceanography Society and the Marine Technology Society, as well as serving on the governing Council of the American Meteorological Society. Further reflecting my stature in the scientific community, I have been elected a Fellow of 4 professional societies.**

21. What do you believe are your responsibilities, if confirmed, to ensure that the department/agency has proper management and accounting controls, and what experience do you have in managing a large organization?

**My responsibilities will be to advance the mission of the agency, and develop the programs, budgets, and policies to accomplish the components of that mission. Further, I believe I would be authorized to do so by overseeing the efficient and effective management of the respective organizations (e.g. the National Marine Fisheries Service and National Weather Service, etc.) within NOAA, and I am compelled to do so in a just, equitable, and inclusive manner, advancing an agenda that fosters an increasingly diverse and representative workforce.**

**I have led and provided vision, leadership and management acumen in my serving as the NOAA Assistant Administrator for the National Ocean Service, with a workforce of approximately 1200 government employees, and a budget of roughly \$400M per year. I also restructured and led the growth of NOAA’s Office of Oceanic and Atmospheric Research as its Assistant Administrator, having supervisory responsibilities for more than 1000 government employees, and a budget of roughly \$400M per year.**

**I would note that for these roles I received the highest level of recognition in the Senior Executive Service (Distinguished Executive) from President Barack Obama.**

22. What do you believe to be the top three challenges facing the department/agency, and why?

**The first challenge will be developing a full portfolio of environmental products and services, especially in the context of changing climate. Every aspect of society will be impacted by the existential threat of climate change, and as such it is incumbent on the federal government to provide the highest quality, most accurate knowledge and information about the oceans, atmosphere, biosphere, and cryosphere and how they will change in the months, years, and decades to come. NOAA is the authoritative source for these products and services, and the agency's record in providing weather, ocean, climate, and fisheries information positions NOAA as the logical focal point for building the portfolio of climate products and services the nation needs. Importantly, such an effort will require an extraordinary level of coordination and cooperation, not only with NOAA's sister environmentally-oriented agencies, but also with industry, academia, NGOs, and philanthropic sponsors.**

**The second high-level challenge will be to build a balanced portfolio of programs and policies that both enhance environmental sustainability and foster economic development. The false argument that conservation threatens financial growth must be obviated by programs in renewable energy, improved infrastructure, sustainable agriculture/fisheries, and restorative aquaculture – for example – which take best advantage of “environmental intelligence” and skillful predictions of how the environment might change under different conditions. I have been a strong advocate of the New Blue Economy – an economy based on data and information, around which sustainable economic growth can be developed. NOAA is well positioned within the Department of Commerce to take a leadership role in developing this New Blue Economy.**

**The third priority is associated with the future of the United States' scientific and technical workforce. NOAA employs large numbers of scientists and technologists, and, perhaps even more impactfully, educates and trains many of our future professionals. As such, NOAA has an important responsibility to ensure that the workforce of the future is both well-trained, and appropriately representative of the American populace. Statistics show that the scientific and technical workforce in the environmental fields in the US is**

**woefully non-diverse. NOAA must embrace its leadership role in creating a more just, equitable, diverse, and inclusive workforce.**

## **B. POTENTIAL CONFLICTS OF INTEREST**

1. Describe all financial arrangements, deferred compensation agreements, and other continuing dealings with business associates, clients, or customers. Please include information related to retirement accounts.

**Professor, Oregon State University. I will retire from my faculty position upon confirmation of my appointment to the NOAA Administrator position. I am also vested in the Oregon Public Employees Retirement System.**

**I have a retirement account with TIAA-CREF from my employment with the Consortium for Oceanographic Research and Education in the 1990s.**

**I serve in a paid consulting capacity with the Schmidt Ocean Institute as a member of their Science Advisory Board.**

**I am the principal and founder of my consulting firm, High Desert Ocean Associates, LLC.**

**I am a principal and co-founder (with one other co-founder) of a consulting firm, Oceans 360 Associates, LLC.**

**I have no deferred compensation agreements.**

2. Do you have any commitments or agreements, formal or informal, to maintain employment, affiliation, or practice with any business, association or other organization during your appointment? If so, please explain.

**I have no commitments or agreements, formal or informal, to maintain employment, affiliation, or practice with any business, association or other organization during my prospective government service.**

3. Indicate any investments, obligations, liabilities, or other relationships which could involve potential conflicts of interest in the position to which you have been nominated. Explain how you will resolve each potential conflict of interest.

**In connection with the nomination process, I have consulted with the Office of Government Ethics and the Designated Agency Ethics Official at the Department of Commerce to identify any potential conflict of interest. Any**



**conflict of interest will be resolved according to the terms of an ethics agreement that I have entered into with the Commerce Department's Designated Agency Ethics Official and that will be provided to this Committee. In the event that an actual or potential conflict of interest arises during my appointment, I will consult with the Commerce Department's ethics counsel and take the measures necessary to resolve the conflict.**

4. Describe any business relationship, dealing, or financial transaction which you have had during the last ten years, whether for yourself, on behalf of a client, or acting as an agent, that could in any way constitute or result in a possible conflict of interest in the position to which you have been nominated. Explain how you will resolve each potential conflict of interest.

**In connection with the nomination process, I have consulted with the Office of Government Ethics and the Designated Agency Ethics Official at the Department of Commerce to identify any potential conflict of interest. Any conflict of interest will be resolved according to the terms of an ethics agreement that I have entered into with the Commerce Department's Designated Agency Ethics Official and that will be provided to this Committee. In the event that an actual or potential conflict of interest arises during my appointment, I will consult with the Commerce Department's ethics counsel and take the measures necessary to resolve the conflict.**

5. Identify any other potential conflicts of interest, and explain how you will resolve each potential conflict of interest.

**In connection with the nomination process, I have consulted with the Office of Government Ethics and the Designated Agency Ethics Official at the Department of Commerce to identify any potential conflict of interest. Any conflict of interest will be resolved according to the terms of an ethics agreement that I have entered into with the Commerce Department's Designated Agency Ethics Official and that will be provided to this Committee. In the event that an actual or potential conflict of interest arises during my appointment, I will consult with the Commerce Department's ethics counsel and take the measures necessary to resolve the conflict.**

6. Describe any activity during the past ten years, including the names of clients represented, in which you have been engaged for the purpose of directly or indirectly influencing the passage, defeat, or modification of any legislation or affecting the administration and execution of law or public policy.

**None.**

## C. LEGAL MATTERS

1. Have you ever been disciplined or cited for a breach of ethics, professional misconduct, or retaliation by, or been the subject of a complaint to, any court, administrative agency, the Office of Special Counsel, professional association, disciplinary committee, or other professional group?

**Yes.**

If yes:

- a. Provide the name of agency, association, committee, or group;

**I was a subject of a discrimination complaint by an employee of the NOAA Office of Oceanic and Atmospheric Research in 2009.**

- b. Provide the date the citation, disciplinary action, complaint, or personnel action was issued or initiated;

**I do not know the specific date of the complaint, but I believe it was 2009.**

- c. Describe the citation, disciplinary action, complaint, or personnel action;

**The complaint was that the employee had been detailed to another office at NOAA as a retaliatory action.**

- d. Provide the results of the citation, disciplinary action, complaint, or personnel action.

**I am not certain of the results, as the case continued after my departure from government in 2010. I heard that the case was dismissed. No disciplinary action or personnel action was directed to me.**

2. Have you ever been investigated, arrested, charged, or held by any Federal, State, or other law enforcement authority of any Federal, State, county, or municipal entity, other than for a minor traffic offense? If so, please explain.

**No.**

3. Have you or any business or nonprofit of which you are or were an officer ever been involved as a party in an administrative agency proceeding, criminal proceeding, or civil litigation? If so, please explain.

**No.**

4. Have you ever been convicted (including pleas of guilty or *nolo contendere*) of any criminal violation other than a minor traffic offense? If so, please explain.

**No.**

5. Have you ever been accused, formally or informally, of sexual harassment or discrimination on the basis of sex, race, religion, or any other basis? If so, please explain.

**Other than the case indicated in answer to Question C.1, I have never been accused of harassment or discrimination.**

6. Please advise the Committee of any additional information, favorable or unfavorable, which you feel should be disclosed in connection with your nomination.

**I believe my record as a supervisor, and the ensuing success of my direct reports reflects my fair and unbiased support for those I work with, regardless of their race, color, religion, age, gender identity, sexual orientation, national origin, disability, marital status, status as a parent, or political affiliation.**

## **D. RELATIONSHIP WITH COMMITTEE**

1. Will you ensure that your department/agency complies with deadlines for information set by congressional committees, and that your department/agency endeavors to timely comply with requests for information from individual Members of Congress, including requests from members in the minority?

**Yes.**

2. Will you ensure that your department/agency does whatever it can to protect congressional witnesses and whistle blowers from reprisal for their testimony and disclosures?

**Yes.**

3. Will you cooperate in providing the Committee with requested witnesses, including technical experts and career employees, with firsthand knowledge of matters of interest to the Committee?

**Yes.**

4. Are you willing to appear and testify before any duly constituted committee of the Congress on such occasions as you may be reasonably requested to do so?

**Yes.**

(Nominee is to include this signed affidavit along with answers to the above questions.)

**F. AFFIDAVIT**

Richard W. Spinrad being duly sworn, hereby states that he/she has read and signed the foregoing Statement on Biographical and Financial Information and that the information provided therein is, to the best of his/her knowledge, current, accurate, and complete.

  
Signature of Nominee

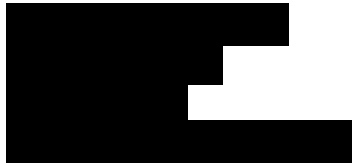
Subscribed and sworn before me this 3 day of May, 2021.

  
Notary Public



## APPENDIX A

### RICHARD W. SPINRAD, PH.D., CMARSCI



*Cleared for Top Secret information and granted access to Sensitive Compartmented Information based on Single Scope Background Investigation completed on 10/16/2015*

#### QUALIFICATIONS

**Internationally recognized executive with over 35 years of multisector experience in leading large organizations through change**

- **Technical Leadership:** Directed and coordinated scientific policy at highest levels (White House) of the Federal government; Led research growth in a very high research activity university (Carnegie classified RU/VH); Defined environmental research priorities for team including Nobel laureates in environmental science; Led the development of Nation's first ever ocean research priorities; Established US Navy environmental research strategy
  - **Program Management and Advocacy:** Directed over \$4B of Federal research programs; Co-wrote legislation for new Federal environmental programs; Testified more than a dozen times before US Congress on budgetary and environmental issues; Led development of international programs of record at the United Nations Intergovernmental Oceanographic Commission
  - **Administrative Expertise:** Supervised thousands of employees nationwide; Led the successful reorganization of 7 Federal laboratories; Established first-ever University research strategy; Recognized with highest level national awards and commendation from peers and supervisors
  - **Research Innovation:** Built highly successful programs for industry support of academic research; Successfully competed for grants from 4 Federal agencies; Published original research in preeminent peer-reviewed journals; Awarded highest honors from 3 international professional societies
  - **Teaching Experience:** Served on faculty of 3 major universities; Repeatedly evaluated as outstanding professor at George Mason University; Advisee at US Naval Academy awarded the top student researcher award; Tenured Professor at Oregon State University
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## **PROFESSIONAL EXPERIENCE (BY SECTOR)<sup>2</sup>**

### **Academia**

#### **Senior Advisor to the Vice President for Research; Professor of Oceanography, Oregon State University, Corvallis, OR: 10/17 – Present (0.4 FTE)**

Coordinate and oversee activities on major projects for the OSU Research Office. Specific focus is on development of matching funds for the \$50M wave energy project from the US Department of Energy, entitled PacWave.

*Key Accomplishments: Raised nearly \$10M of matching funds from government and private sources to facilitate construction and installation of the wave energy test site.*

#### **Vice President for Research, Oregon State University, Corvallis, OR: 7/10 – 6/14**

Oversaw \$300M sponsored research program in full spectrum of life, natural, physical, social sciences for 12 Colleges and 18 Centers/Institutes. Lead all commercialization development and management of intellectual property. Served as Institutional Official, ensuring full compliance with safety and regulatory controls on sponsored research.

*Key Accomplishments: Developed infrastructure for engaging industry with consequent 42% increase in commercially sponsored research in 2 years. Introduced first electronic research administration system for the University. Led first ever AAALAC accreditation for the University.*

#### **Adjunct Associate Professor, US Naval Academy, Annapolis, MD.: 1/96 – 6/99 (while at Consortium for Oceanographic Research and Education, CORE)**

Lead supervisor of USNA Trident Scholar in oceanography. Supervised independent research studies of Naval Academy midshipmen, primarily in the area of optical oceanography.

*Key Accomplishments: Advisee was awarded the coveted Harry E. Ward Trident Scholar prize*

#### **Adjunct Professor, George Mason University, Fairfax, VA.: 8/94 - 12/97 (while at Office of Naval Research - ONR, and CORE)**

Taught a 300-level course on Oceanography, involving development of curriculum and preparation/delivery of all lecture materials.

*Key Accomplishments: Consistently rated as a top lecturer*

#### **Research Scientist, Bigelow Laboratory for Ocean Sciences, West Boothbay Harbor, ME.: 12/82-12/85**

Wrote proposals for and performed federally funded basic research in oceanography (National Aeronautics and Space Administration, National Science Foundation, National Oceanic and Atmospheric Administration - NOAA and ONR). Published results in peer-reviewed literature. Organized and participated in extensive field research cruises.

*Key Accomplishments: Conducted leading research (published in peer-reviewed literature) on ocean processes; Recipient of research grants from 4 Federal agencies*

### **Government**

#### ***National Oceanic and Atmospheric Administration (NOAA; WASHINGTON, DC)***

##### **Chief Scientist: 7/14 – 12/16**

Appointed by President Barack Obama to serve as NOAA's first Chief Scientist in nearly 20 years.

Advise the Under Secretary of Commerce on agency research priorities and policies. Represent the

Department at highest government level interagency, national and international committees, venues and

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<sup>2</sup> Chronological listing follows



forums. Build and establish policies and practices for managing, reviewing and enhancing the agency's research portfolio.

*Key Accomplishments: Designed and promulgated the Agency's first ever Strategic Research Guidance Memorandum, the foundational document for ensuring corporate research portfolio management; built a rapid transition program and process for accelerating delivery of all research results into NOAA's operations, applications and commercialization; instituted several initiatives for recognizing the performance of agency scientists; re-engineered NOAA's \$200M per year Cooperative Institute program to improve effectiveness of academic research support; produced first Chief Scientist's Annual Report for the agency*

**Assistant Administrator for Research (Senior Executive Service): 9/05 – 4/10**

Served as the head of research for the National Oceanic and Atmospheric Administration (NOAA). Directed programmatic and budget authority over programs in oceanographic, atmospheric and climatological research. Supervision of a wide range of research sponsorship programs including ocean exploration, the National Sea Grant College Program and the Climate Program Office. Line supervisor for 7 NOAA laboratories around the United States, approximately 800 employees, and approximately \$400M in program funds.

*Key Accomplishments: Led the development of the first-ever U.S. ocean research priorities; Oversaw complete overhaul of NOAA Research; Established agency-wide policies for scientific integrity and independence; Sustained annual budget increases; recognized by Pres. Barack H. Obama with Presidential Rank Award*

**Assistant Administrator for Ocean Services and Coastal Zone Management (Senior Executive Service): 6/03 – 9/05**

Served as the head of the National Ocean Service. Provided oversight of the United States Federal domestic ocean services and coastal zone management programs. Had direct programmatic and budget authority over programs in navigation services (e.g. National Geodetic Survey), resources (e.g. National Marine Sanctuaries Program), and coastal management (e.g. Office of Coastal Resource Management). Line supervisor for approximately 1200 employees, and approximately \$700M in program funds.

*Key Accomplishments: Negotiated U.S. position in establishing global tsunami warning system; established formal peer-recognition award for employees; Wrote key components of the Administration's Ocean Action Plan*

**United States Navy (WASHINGTON, DC)**

**Technical Director, Oceanographer of the Navy (Senior Executive Service): 3/99 – 5/03**

Served as the senior civilian advisor to the US Navy on operational oceanographic research and operations. Represented the US Navy oceanographic, meteorological, and astronomical communities within the Defense Department and to interagency, and international organizations. Established the priorities for US Navy investment in application of oceanographic products to fleet operations.

*Key Accomplishments: Created program to accelerate transition of research into Naval operations; Helped lead establishment of office of the Navigator of the Navy; recognized by Pres. George W. Bush with Presidential Rank Award*

**Director, Ocean, Atmosphere & Space Modeling and Prediction Division, Office of Naval Research (ONR, (Senior Executive Service): 11/93 - 12/94**

Serve as Principal executive leading and managing all of the basic and applied research and development (R&D) in oceanographic, meteorological and space-based modeling and prediction for the US Navy. Total direct management authority was approximately \$150M and 45 personnel. Administered procurements in these R&D areas, and maintained full authority for program staffing and technical development.

*Key Accomplishments: Created investment areas for Navy in shallow water oceanography, remote sensing and the use of autonomous vehicles*

**Director, Ocean Biology/Optics/Chemistry Division, Office of Naval Research (Senior Executive Service): 10/88 – 10/93**

Responsible for providing leadership, staffing, coordination and direction for ONR's fundamental research programs in biological, optical and chemical oceanography (budget authority of approximately \$20M) and recommending changes in program objectives and policies to the Director, Ocean Sciences Directorate.

*Key Accomplishments: Initiated global leadership role for ONR in marine bioluminescence, ocean fertilization, and underwater optics*

**Program Manager, Ocean Optics Program, Office of Naval Research: 9/87-9/88**

Reviewed and managed extramural research grants, primarily supporting academic research institutions.

*Key Accomplishments: Grew a program of annual spending from \$0.5M to \$10M in three years*

### **Non-Profit**

**Executive Director for Research and Education, Consortium for Oceanographic Research and Education, Inc. (CORE), Washington, DC.: 12/94 – 2/99**

Coordinated all activities associated with research and education in marine sciences for a non-governmental organization (registered lobby), including the development (i.e. fundraising), performance and management of grant- or contract-funded efforts. Interacted on a regular basis with agency heads, institutional directors, members of Congress and their staffs. Served as first Director of National Oceanographic Partnership Program Office, overseeing the operations in support of the Interagency Working Group, and the National Ocean Research Leadership Council, chaired by the Secretary of the Navy.

*Key Accomplishments: Wrote legislation for a National Ocean Partnership Program; Created the National Ocean Sciences Bowl*

### **Industry**

**Principal and Founder, High Desert Ocean Associates, LLC, Bend, OR: 11/17 - Present**

Conduct consulting on all aspects of environmental scientific operations, policy and programmatic. Clients include public and private sector agencies and firms.

**Principal and Co-Founder, Oceans 360 Group, LLC, Seattle, WA: 12/17 – Present**

Conduct consulting on all aspects of environmental scientific operations, policy and programmatic. Clients include public and private sector agencies and firms.

**President, Sea Tech Inc., Corvallis, OR.: 1/86-8/87**

Managed and directed all aspects of a small R&D firm, including initiating successful involvement in SBIR programs with federal funding agencies. Sea Tech, Inc. was purchased in full by WetLabs, Inc. in 1999.

*Key Accomplishments: Developed commercial ocean fluorometer*

<b>PROFESSIONAL EXPERIENCE (CHRONOLOGICALLY)</b>
<ul style="list-style-type: none"><li>• Research Scientist, Bigelow Laboratory for Ocean Sciences, West Boothbay Harbor, ME.:12/82-12/85</li></ul>

- President, Sea Tech Inc., Corvallis, OR.: 1/86-8/87
- Program Manager, Ocean Optics Program, Office of Naval Research (ONR): 9/87-9/88
- Director, Ocean Biology/Optics/Chemistry Division, ONR: 10/88 – 10/93
- Director, Ocean, Atmosphere & Space Modeling & Prediction Division, ONR: 11/93 - 12/94
- Adjunct Professor, George Mason University, Fairfax, VA.: 8/94 - 12/97 (while at ONR and CORE)
- Executive Director, Consortium for Oceanographic Research and Education (CORE), Washington, DC.: 12/94 – 2/99
- Adjunct Associate Professor, US Naval Academy, Annapolis, MD.: 1/96 – 6/99 (while at CORE)
- Technical Director, Oceanographer of the Navy: 3/99 – 5/03
- Assistant Administrator for Ocean Services and Coastal Zone Management, NOAA: 6/03 – 9/05
- Assistant Administrator for Research, NOAA: 9/05 – 4/10
- Vice President for Research, Oregon State University, Corvallis, OR: 7/10- 6/14
- Chief Scientist (Presidential Appointment), NOAA, Washington, DC: 7/14 – 12/16
- Senior Advisor to the Vice President for Research; Professor of Oceanography, Oregon State University, Corvallis, OR: 10/17- Present (0. 4 FTE)
- Principal and Founder, High Desert Ocean Associates, LLC, Bend, OR: 11/17 - Present
- Principal and Co-Founder, Oceans 360 Group, LLC, Seattle, WA: 12/17 - Present

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## **TECHNICAL STRENGTHS**

Accomplished researcher in marine environmental studies; demonstrated leadership in design of sophisticated environmental instrumentation; innovator of National Ocean Sciences Bowl, a program for high school students; Successful program manager with significant annual growth in programs of responsibility at both Navy and NOAA; Globally sought public speaker with over 100 speeches and media appearances (print and broadcast including The New York Times, MSNBC, The Washington Post, Huffington Post, USA Today, Discovery Channel, The Weather Channel, BBC); prepared and delivered testimony to US Congress and state legislature to increase budgets and improve programs in research and education; established record of program and policy development in economic development (including engagement with venture capital and angel investors)

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## **EDUCATION AND CERTIFICATIONS**

**B.A.**, Earth and Planetary Sciences, 1975 – The Johns Hopkins University, Baltimore, MD

**M.S.**, Oceanography, 1978 – Oregon State University, Corvallis, OR

**Ph.D.**, Oceanography, 1982 – Oregon State University, Corvallis, OR

**Chartered Marine Scientist** (CMarSci, equivalent to professional certificate) – Institute of Marine Engineering, Science and Technology, London, UK

**Top Secret Security Clearance** – Additional information available on request

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## **HONORS AND AWARDS**

**Honorable Mention**, Association Trends Publications Awards for Professional Journals, 2000

**Presidential Meritorious Rank Award**, United States of America President George W. Bush, 2003

**Distinguished Civilian Service Award** (highest award given to a civilian), United States Navy, 2003

**Fellow**, Institute of Marine Engineering, Science and Technology, London, UK, 2007

**Fellow**, The American Meteorological Society, 2007  
**Fellow**, Marine Technology Society, 2008  
**General Counsel Award**, National Oceanic and Atmospheric Administration, 2005 and 2009  
**Presidential Distinguished Rank Award**, United States of America President Barack H. Obama, 2009  
**Alumni Fellow Award**, Oregon State University, 2010  
**Admiral James D. Watkins Honorary Lecture Inaugural Lecturer**, Marine Technology Society, 2010  
**Lifetime Achievement Award**, Oceanology International, 2014  
**Honorary Co-Chair (with Congressman Sam Farr)**, OCEANS '15 Conference, Washington, DC, 2015  
**Fellow**, The Oceanography Society, 2019

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## **AFFILIATIONS AND CRITICAL PROFESSIONAL SERVICE**

American Association for the Advancement of Science  
American Meteorological Society (**FELLOW**)  
American Geophysical Union  
Marine Technology Society (**FELLOW**)  
The Oceanography Society  
Institute of Marine Engineering, Science and Technology (**FELLOW** and Chartered Marine Scientist)  
Institute of Electrical and Electronics Engineers

- **Vice-Chair**, U.S. National Committee for the Decade of Ocean Science Sustainable Development, 2020-present
- **Member**, Schmidt Ocean Institute Advisory Board, 2020-present
- **Member**, Advisory Panel for Monterey Bay Aquarium Research Institute, 2019-2020
- **Member**, Ocean Studies Board of the National Academies of Sciences, Engineering and Medicine, 2019-present
- **President**, Marine Technology Society, 2019-2020
- **Chair**, Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO) Oceans and Atmosphere Business Unit Review Panel, 2018
- **Member**, New Zealand Government National Science Challenge Review Panelist: 1) The Deep South, and; 2) Sustainable Seas, 2018
- **Member**, Scientific Advisory Board, The Ocean Cleanup, 2017-present
- **Member**, Advisory Committee for the National Ocean Sciences Bowl, Consortium for Ocean Leadership, 2017-present
- **Member**, Roundtable on Science and Technology for Sustainability, National Academies of Sciences, Engineering and Medicine, 2015-2016
- **Member**, Committee on Environment, Natural Resources and Sustainability, National Science and Technology Council, White House Office of Science and Technology Policy, 2014-2016
- **Member**, Committee on Science, National Science and Technology Council, White House Office of Science and Technology Policy, 2014-2016
- **Council Member**, Government-University-Industry Research Roundtable, National Academies of Science, Engineering and Medicine, 2014-2016
- **President-Elect**, Marine Technology Society, 2013 – 2014; 2017-2018
- **President**, Oregon Unmanned Aerial Vehicle Business Enterprise, 2013-2014
- **Member**<sup>3</sup>, Ocean Research Advisory Panel Federal Advisory Committee, 2013 – 2014
- **Chair**, Federal Advisory Committee on Integrated Ocean Observing Systems, 2012 - 2014

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<sup>3</sup> Nominated and approved, service pre-empted by Presidential Appointment to NOAA

- **Chair and Technical Advisor**, Oregon Innovation Council, Commercialized Research Committee, 2012 – 2014
- **Commissioner**, Corvallis Economic Development Commission, 2011 - 2014
- **Board Member**, Oregon Built Environment and Sustainable Technology Signature Research Center, 2010 – 2014
- **Board Member**, Oregon Translational Research and Development Institute, 2010 - 2014
- **MEDEA**, Advisory committee, 2010 – 2014
- **Councilor**, American Meteorological Society, 2009-2013
- **President**, The Oceanography Society, 2007-2009
- **Member**, Google Ocean Advisory Committee, 2007-2013
- **Member**, External Advisory Board, Center for Coastal Margin Observation & Prediction, Oregon Health and Science University, 2006-2010
- **Chair**, NOAA Research Council, 2006-2010
- **Permanent US Representative (appointed by US Department of State)**, Intergovernmental Oceanographic Commission of the United Nations, UNESCO, 2004- 2007
- **Co-Chair**, White House Joint Subcommittee on Ocean Science and Technology, of the Committee on Environment/Natural Resources, of the National Science and Technology Council, 2003-2010
- **Chair**, NOAA Ocean Council, 2003-2005
- **Member**, Committee on NOAA/NASA Transitions of Research to Operations, Space Studies Board, National Research Council, National Academy of Sciences, 2001- 2003
- **Chair**, Oceanology International Americas 2001 Conference
- **Editor**, McGraw-Hill Science Yearbook 2000
- **Chair**, Navy Technical Evaluation Team for WINDSAT program, 1999
- **Editor-in-Chief**, Oceanography Magazine, 1997-2003
- **Member**, National Visiting Comm., NSF Marine Advanced Tech. Education Center, 1997- 2000
- **Board of Directors**, Bigelow Laboratory for Ocean Sciences 1994-2000
- **Guest Editor**, Special Focus Issue of Oceanography, 1994
- **Editor**, "Ocean Optics", Oxford University Press, 1994
- **Chair and Editor**, Ocean Optics X Symposium (SPIE), 1990
- **Symposium Chair** for Optical Society of America annual meeting, 1989
- **Member Tech. Advisory Group**, Calgary City Dept. of Water Works, 1989
- **Guest Editor**, Special Focus Issue of Limnology and Oceanography, 1989
- **Associate Editor**, Oceanography Magazine, 1988 - 1997

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### **BIOGRAPHICAL NOTE**

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Having served as a canoe-tripping guide in Northern Ontario, as a college student, I've retained a love for outdoor activities all my life, and am an avid hiker (in fact, from March 2017 to May 2017 I completed a "bucket list" walk of 800 miles from Delaware to Indiana). Other diversionary activities include banjo-playing, woodworking (especially on large projects like roll-top desks and four-poster beds), and, of late, collecting mechanical music machines. All this among a continually evolving menagerie of beagles, Labrador retrievers and cats.

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2. \*Spinrad, R.W., J.R.V. Zaneveld and H. Pak. 1978. Volume scattering function of suspended particulate matter at near-forward angles: a comparison of experimental and theoretical values. *Appl. Optics* 17:1125.
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