

CURRICULUM VITAE

Richard Louis Simon

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GENERAL

Mr. Simon is a consulting meteorologist with 45 years professional experience. He has a wide background, with emphases in wind energy, air pollution, climatology, managing field programs, basic and applied research, and expert testimony for litigation.

He has personally sited or performed formal due diligence on more than 35,000 MW of operating wind turbines around the world, and nearly 15% of the installed capacity in the United States.

EDUCATION

BA in Geography, University of California at Berkeley, 1973

MS in Meteorology, San Jose State University, 1976. Dissertation topic: the summertime stratus over the eastern Pacific Ocean. GPA: 4.0/4.0.

PROFESSIONAL EMPLOYMENT

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| 1975-1976 | Research Associate, San Jose State University. I collected and processed wind data for NASA/Ames in connection with expansion of their wind tunnel and analyzed data for several NSF grants. |
| 1976 | Meteorologist, National Environmental Satellite Service (now part of the National Weather Service), Redwood City, California. I prepared graphics from satellite imagery to support marine fishermen. |
| 1976 | Laboratory instructor in synoptic meteorology, San Jose State University. |
| 1977-1978 | Instructor, Metropolitan Adult Education Program, San Jose, California. I taught aviation weather to pilots. |
| 1977-1980 | Co-founder and co-owner, Global Weather Consultants, Inc., Palo Alto, California (president 1978-1980). The company specialized in air pollution, wind energy, and customized weather forecasting for the media |

and agriculture. We prepared several reports for the Bureau of Land Management on air pollution in the California desert.

- 1980-1982 Meteorologist, Pacific Gas and Electric Company, San Francisco, California. My areas of responsibility included wind energy (field measurements, computer programming, data analysis), geothermal (pollutant dispersion studies), and nuclear (emergency response planning for Diablo Canyon Power Plant).
- 1982-1983 Senior Meteorologist, American Energy Projects, Palo Alto, California. This was one of the original private developers of wind energy projects. I was responsible for property acquisition, siting of wind turbines, and evaluation of turbine performance.
- 1983-2002 Sole proprietor of meteorological consultancy to the public and private sector, with primary emphasis on wind energy development across the world.
- 1986 Lecturer in upper-division climatology course, Department of Meteorology, San Jose State University.
- 2003-2007 Director, Windots, LLC. This was an extension of my sole proprietorship from 1983-2002, but converted to an LLC.
- 2007-present Managing Member, Sandbar Explorations, LLC. This company provides strategic planning on renewable energy projects, and special assignments like due diligence.
- 2007-2015 Managing Director, V-Bar, LLC. This was a standard wind energy resource consultancy company.
- 2016-present President, Simon Wind, Inc. This is a company created to best serve clients with targeted wind and solar project consulting.

ORGANIZATIONS

American Meteorological Society, member since 1979. Officer of Northern California Chapter, 1981-1984.

American Wind Energy Association, member since 1988. Received special award in 1998 for “critical contributions to the development of wind energy in the United States and around the world.”

PROJECTS / ACTIVITIES

- 1977 - present Consultant to the wind energy industry. I have worked with developers, government agencies, turbine manufacturers, and members of the financial and insurance communities. I have directly participated in the siting of more than 7000 commercial-scale wind turbines across the world. I have I have helped pioneer many techniques for wind resource assessment and siting.
- 1977 – 1980 Subcontractor to Pacific Gas and Electric Company in their initial wind energy assessment programs. I was responsible for meteorological tower installations, data collection and data processing.
- 1978 – 2006 Meteorological research and expert witness for the legal community on approximately 150 cases. Cases have involved weather conditions during accidents (airplane, highway, marine, flood, wind), solar and lunar positions (ambient light levels), due diligence, misrepresentation, and climate evaluation. In 1989, I published an article for the American Jurisprudence Proof of Facts, 3rd Series, discussing meteorology and the law.
- 1979 – 2006 Consultant to Hodges & Shutt, an airport planning group. I helped them evaluate the merits of new airports or modifications to existing ones.
- 1978 Consultant to the U. S. Bureau of Reclamation wind resource study in northern and central California for potential wind farm development.
- 1981 Subcontractor to Sonoma County, investigated impact of a new waste water treatment plant on fog formation at the Santa Rosa airport.
- 1984 Gave seminar on meteorology to the East Bay Regional Park District, Berkeley, California.
- 1984, 1988 Participant in the Career Planning and Placement program, San Jose State University.
- 1985 Consultant to Pacific Gas and Electric Company. Planned and conducted the first field study of wake losses at an operating wind farm.
- 1986 Subcontractor to United Industries Corporation, Bellevue, Washington, on study funded by the Electric Power Research Institute called “Wind turbine micrositing status and requirements assessment.” I reviewed state-of-the-art techniques.
- 1986 – 1990 Subcontractor to United Industries Corporation, Bellevue, Washington, on a study funded by the U. S. Department of Energy, called “A numerical

model for predicting wind turbine array performance in complex terrain.” My responsibility was to plan and conduct various field programs, analyze historical wind farm production data, and help develop the computer model.

- 1986 – 1990 Consultant to the Delta Diablo Sanitation District, Antioch, California. I monitored background weather conditions for a proposed new landfill in eastern Contra Costa County.
- 1986 – 1989 Consultant to Systems Applications, Inc. and Sonoma Technology, Inc. in helping to plan air pollution field studies in the Sacramento and San Joaquin Valleys, sponsored by the California Air Resources Board.
- 1986 – 2001 Consultant to Waste Management, Inc. I collected and analyzed meteorological data to support air quality permits for proposed new landfills and operational planning at existing landfills.
- 1988 Consultant, Lawrence Livermore National Laboratory, on a meteorological instrument package for testing a new type of wide field-of-view camera.
- 1987 – 2000 Consultant to Florida Power and Light on various alternative energy projects. In 1992, I prepared a wind energy resource assessment for the state of Florida.
- 1989 – 1992 Collected and processed wind data for the Golden Gate Bridge District’s study of wave erosion near the Larkspur Ferry Terminal.
- 1989 – 1992 Consultant to the Contra Costa Water District, Concord, California. I developed plans for meteorological monitoring at the Los Vaqueros Reservoir site and served as an in-house technical contract monitor on three research projects.
- 1990 – 2000 Collected wind data for Fernau & Hartman, architects, to help plan homes for optimal energy efficiency.
- 1990 – 1991 Worked with Bill Graham Productions to evaluate wind conditions at proposed new outdoor ampitheatre locations in the San Francisco Bay Area.
- 1990 Assisted in the design of a meteorological monitoring program for Lawrence Berkeley Laboratory (University of California).
- 1991 Worked with Pacific Gas and Electric legal staff regarding meteorological conditions associated with the Oakland fire of October 1991, which burned several thousand homes.

- 1992 – 1994 Performed solar and wind energy feasibility studies for the Livermore family in Napa and Lake Counties, California.
- 1994 Collected weather data at two locations in San Francisco to support the planning of the Pac Bell baseball park for the San Francisco Giants.

MAJOR PUBLICATIONS

- 1977 The summertime stratus over the eastern Pacific Ocean. Monthly Weather Review, October 1977.
- 1978 (with A. Miller) Wind resource potential in California. California Energy Commission report P500-80-052.
- 1980 Location of sites in northeastern California for wind power development. Published by the California Energy Commission, April 1980.
- 1980 The air quality impact of future development at Stapleton International Airport, Denver, Colorado. Submitted to Peat, Marwick & Co.
- 1980 Wind energy resource assessment—southwest region. Battelle Pacific Northwest Laboratories report PNL-3195 WERA-9, Richland, Washington.
- 1981 Potential errors in using only one anemometer to characterize the wind power over an entire rotor disk. Proceedings of the Large Horizontal Axis Wind Turbines workshop, Cleveland, Ohio. NASA Conference publication 2230, pp. 427-445.
- 1982 Wind energy monitoring systems. Presented at the workshop “Wind as an energy alternative for the Caribbean,” sponsored by the Caribbean Association of Universities and Research Institutes, Bridgetown, Barbados.
- 1982 Wind energy site evaluations, Solano County and Altamont Pass. Pacific Gas and Electric Company.
- 1983 (with J. Eckland) Siting and wind farm development. Presented to the Wind Energy Committee of the ASME Petroleum Division at the Energy Sources Technology Conference, Houston, Texas.
- 1984 Eisenhower’s meteorological support for the D-Day invasion. Chapter 3 of the proceedings for the symposium “Some meteorological aspects of the D-Day invasion in Europe,” published by the American Meteorological Society. Paper presented at conference, Fort Ord, California.
- 1986 Wind farm array effects. Submitted to Pacific Gas and Electric

- Company, San Ramon, California. First field-based study of wake losses in energy production at an operating wind farm.
- 1987 (with P. Lester) Typical meteorological conditions between the Alton Coal Project Area and Bryce Canyon National Park, Utah. Submitted to Utah International, San Francisco, California.
- 1987 Wake effects in a Fayette 95-IIS wind turbine array. Solar Energy Research Institute report WERI/STR-217-3186, Golden, Colorado.
- 1988 Results of a detailed field program to evaluate micro-siting tools. Proceedings of the American Wind Energy Association's Windpower '88 conference, Honolulu, Hawaii, pp. 541-559.
- 1989 Twelve years of wind resource assessment in California—how can the world benefit from what has been learned? Proceedings of the European Wind Energy Conference and Exhibition, Glasgow, Scotland, pp. 858862.
- 1989 Meteorological conditions at a particular time and place. Volume 5 of Am Jur Proof of Facts 3d, pp. 191-321, published by Bancroft-Whitney. Monograph on meteorology and the law.
- 1990 (with S. Veenhuizen) A numerical model for predicting wind turbine array performance in complex terrain—Phase II. Final technical report under U. S. Department of Energy's Small Business Innovative Research program, project No. 4386-86-II.
- 1991 (with R. Gates) Long-term interannual wind resource variations in California. Proceedings of the American Wind Energy Association's Windpower '91 conference, Palm Springs, California.
- 1992 Two examples of successful wind energy resource assessment. Presented at the American Wind Energy Association's Windpower '92 conference, Seattle, Washington.
- 1994 (with J. Schroeter) The CSW system wind energy resource assessment and long-range wind farm development strategy. Proceedings of the American Wind Energy Association's Windpower '94 conference, Minneapolis, Minnesota, pp. 131-139.
- 1996 (with M. Brower and P. Hurley) A GIS-assisted approach to wide-area wind resource assessment and site selection for the state of Colorado. Presented at the American Wind Energy Association's Windpower '96 conference, Denver, Colorado.

1997 Potential wind energy monitoring sites in New Mexico: results of a field trip to inspect prospective sites. Published by the State of New Mexico Energy, Minerals and Natural Resources Division, Santa Fe, New Mexico, under contract No. 96-521.03-198.

2009 Long-term reference stations for wind energy applications. Presented at the American Wind Energy Association's Wind Resource Assessment workshop in Minneapolis, MN.

2022 Created a formal written and two-day oral seminar presentation on all aspects of wind energy meteorology, including met campaigns, data processing, turbine siting, financeable wind resource assessments, and operational analyses. This seminar has been presented to two major utility companies.

June 2023