

10/28/16EW

CV & RESUME OF JAY ROSENTHAL, CCM, President, AIR, WEATHER & SEA CONDITIONS, INC.

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TECHNICAL AREAS OF SPECIALIZATION AND INTEREST

In many areas of litigation, weather factors can be crucial, sometimes decisive factors in establishing liability and the size of a reasonable settlement. The expert witness-meteorologist can be a great ally to plaintiff and defendant alike, separating fact from fiction, and reconstructing what weather conditions existed. The following areas of specialization are provided:

- Identifying relevant weather issues (including rain, snow, hail, lightning, wind, fog, temperature, icing, sun, heat index, wind chill, visibility, blowing dust & sand, solar, etc.)
- Analysis and forecasting marine, coastal, urban, mountain, desert and local conditions
- Reconstruction of weather & sea conditions for accidents, personal injury (P.I.) investigations, and wildfires
- Determining when weather or sea conditions impact aviation, boating, auto, building construction and mold issues (including storm and wave conditions)
- Comparisons of observed to normal conditions
- Determining if observed conditions were foreseeable
- Estimating degrees of unusualness
- Selection, acquisition and evaluation of data that is representative of conditions at the time and place of interest
- Establishing/installing instrumentation/measurement sites; site evaluations
- Atmospheric effects on radars, acoustics, weapons, operations and planning
- Air pollution transport
- Alternative Energy systems
- Meteorological considerations for Homeland Security and counter-terrorism
- Experienced Trial testimony, depositions, reports and analyses
- Weather factors in marketing and industry analyzed
- Weather and climate considerations for planning travel, and TV/Film productions
- Tailored forecasting on weather and sea conditions

TECHNICAL BACKGROUND

- Over 30 years of professional experience in field of meteorology
- Federal government scientist and manager in meteorology, oceanography, weather forecasting, satellite data applications and air pollution transport (1963-2001)
- Research Leader, Battelle Memorial Institute (2001-2014) in air pollution transport, Navy meteorological support, and counter-terrorism/homeland security applications of meteorological data, including planning and supporting training exercises
- Consultant to government, industry, media and education in meteorology and effects on operations (1969 to present)
- Legal/forensic applications and effects of weather and marine science (1977 to present) and President, Air, Weather & Sea Conditions, Inc.

PROFESSIONAL EXPERIENCE

--- (2004-present) President, Air, Weather & Sea Conditions, Inc. Provide scientific, technical and measurement support to government (unclassified and classified) and private agencies; Provide consultation and expert witness services to insurance companies, law firms, the entertainment industry and government entities on storm, weather events and related atmospheric conditions. Tailored weather and ocean forecasting services to local government and industry.

--- (2005-present) Subject-Matter-Expert (SME) on weather for former Los Angeles Terrorism Early Warning Group (TEW) (now the Emergency Operations Bureau (EOB)) and TEW Exercise participant to coordinate meteorological data and knowledge for emergency response planning; Volunteer on homeland security issues (continuing).

--- (2001-2014) Research Leader, Battelle Memorial Institute, Camarillo and San Diego Offices. Provide technical support, consultation and documentation to U.S. Navy on air pollution transport mechanisms; satellite data applications; effects of meteorological conditions on systems and operations; homeland security/counter-terrorism applications of meteorological data, and Department of Defense (DoD) site selection studies.

--- (1989-2001) Geophysics Division/Branch Head, and Associate Head, Naval Air Systems Weapons Division, Point Mugu, California. Provide technical and administrative leadership of multi-disciplinary organization of approximately 40 scientists, engineers, technicians, military and contractor personnel to provide all weather and ocean support for Navy's Sea and Land Ranges, and airfields at Point Mugu, San Nicolas Island and China Lake. Responsible for observing, measuring, instrumenting, forecasting, testing and evaluating weather and air-ocean conditions; Determining impact of winds, clouds, fog, precipitation, temperature, humidity and other parameters on aviation and operations at sea; Support lead for meteorological and oceanographic (METOC) cells for Third Fleet counter-terrorism exercise and experiment including use of innovative techniques and sensor evaluation; Development and demonstration of new prediction and analysis techniques; Quality control; Technical documentation; Established Air Pollution/Contamination Transport Response Team for the Navy to provide independent METOC modeling and evaluation support to address environmental encroachment and regulatory issues (e.g. Ship Channel, East Kern County ozone bump-up, and Searles Valley PM-10 bump-up proposals).

--- (1970 to present) Expert Witness and Consultant, and President, Air, Weather & Sea Conditions. Provide analysis and reconstruction of weather, rain, wind, storm, lightning, severe weather, sea and visibility conditions, and testimony for law firms, insurance companies and engineers regarding: floods; construction damage; slope failures; wildfires; personal injury; aviation; boating; and auto/motorcycle accidents; and to local government agencies on air pollution transport. Consultant and climatic planning for international investment. Advertisements for real estate development. Consultant to television network station. Provide tailored forecasting services to industry and local government.

--- (1987) Head, Special Programs Branch, Pacific Missile Test Center (PMTC). Provide technical and administrative leadership of project managers, task managers, operation conductors and Range Operations supervisors for the planning, operational support and post-op assessments of high visibility programs on the Range, including Trident, Tomahawk, Harpoon and Japanese Defense Force. Review and approve program documentation; Provide and schedule Range Operations support personnel; Conduct operations in Tracking & Control rooms.

--- (1986) Assistant Program Manager, Systems Commands (SYSCOM) Oceanography Coordinator Office, Space and Naval Warfare Systems Command, Washington D.C. Assist the Program Manager in the identification of emerging and follow-on METOC support requirements within Naval Air Systems Command, Naval Sea Systems Command and Space and Naval Warfare Systems Command; Document environmental sensitivities associated with high visibility systems; Draft Tri-Systems Command instructions to coordinate Navy METOC support; Develop technical and programmatic documentation.

--- (1985) Instructor, University of California at Los Angeles (UCLA) Extension. Instructor for course "Meteorology for Pilots". Lecturer on "The Weather and Soaring" for program on 'Motorless Flight'.

--- (1978-1987) Head, Geophysical Sciences Branch, Geophysics Division, PMTC, Point Mugu, California. Supervisor and team leader. Principal Investigator on applied research projects. Development, test and evaluation of new techniques of analysis and prediction; Climatic planning; Post-operation evaluation; Established real-time "Project Forecasting" and briefing process for Range Operations; Alternative energy ;Technical documentation; Invited participation at 5 NATO working groups in various host countries.

--- (1963-1978) Research Meteorologist, and Section Head, Geophysics/Meteorology Division, PMTC, Point Mugu, California. Developed weather prediction and assessment techniques; Post-operation evaluation; Observation and description of California weather regimes; Research applications; Shipboard at-sea advisor/consultant to First Fleet staff; Developed Tacmemo for Commander, Third Fleet.

--- (1970) TV Weathercaster, KNBC, Channel 4, Los Angeles (Burbank), California. Preparation and live telecast describing past and present weather conditions, and forecasts of upcoming weather for Southern California from the ocean, to the mountain resorts, to inland desert regions.

--- Teaching, and Research Assistant, U.C.L.A., Los Angeles, California. Taught laboratory class on synoptic meteorology to U.C.L.A. students including U.S. Air Force personnel. Provided computations, data reduction and support on general circulation research projects.

--- Instructor/Counselor, American Meteorological Society (AMS) and National Science Foundation (NSF) Summer Science program in Atmospheric Science, at Loomis School, Windsor, Connecticut. Served as instructor, advisor and counselor to gifted high school students selected nationwide for science aptitude. Conducted lectures and demonstrations in cloud seeding and related projects.

--- Research Aide, Department of Meteorology and Oceanography, New York University (NYU), Bronx, New York. Performed data reduction on oceanic wave properties for developers of ocean wave spectral prediction and analysis model.

EDUCATION

--- Masters Degree (M.A.) in Meteorology, University of California at Los Angeles, U.C.L.A., Department of Meteorology.

--- Bachelor's degree (B.A.) in Meteorology, New York University (N.Y.U.), Department of Meteorology and Oceanography.

--- Nine credits in Broadcasting, Los Angeles City College, Los Angeles

--- Graduate with "Science Major" from Stuyvesant High School in New York City (rated in top five nationally among over 14,000 high schools in America)

--- Various training in satellite data interpretation, radio/radar meteorology, air pollution meteorology and management techniques.

--- United States Small Business Administration (SBA) Certificate of Executive Training: Track One-Management & Marketing; Awarded to Air, Weather & Sea Conditions, Inc.; Alabama A&M University Research Institute; February 2005

--- American Meteorological Society Short Course: Forensic Meteorology: Principles, Practices and Procedures – Invited Presenter, 9 January 2005

--- Various courses in Incident Management/Unified Command; Incident Command System/NIMS; Operational WMD (Weapons of Mass Destruction) Response; and Computer-Aided Management of Emergency Operations (CAMEO); ICS 300, 400 (Advanced ICS Command and General Staff-Complex Incidents); Radicalization of terrorist groups, Event Action Plan class.

TECHNICAL PUBLICATIONS

--- Over 100 technical reports and presentations at Navy and professional technical symposia on subjects of weather forecasting, satellite data techniques and interpretation, meteorological data accuracies, radio/radar propagation, air pollution transport, effects of weather on air, sea and ground operations, model comparisons and evaluations, establishing field programs, weather in litigation, etc. including:

---- Point Mugu Forecasters' Handbook, 1972 (on Southern California weather regimes)

---- Atmospheric Environment (on ozone transport across southern California) and other publications in:

---- Monthly Weather Review, American Meteorological Society

---- Naval Institute Proceedings

---- American Meteorological Society Conference proceedings

---- Naval Engineers Journal

- NATO Document “Atmospheric Ducts and Radio Wave Propagation”
- Range Commanders Council
- Journal of International Test and Evaluation Association
- Commander, Third Fleet Tacmemo
- Navy Tactical Applications Guidebook
- Navy-wide refractivity forecasting guide for Arabian Gulf
- Experts-At-Law Magazine

and

---- Invited papers and presentations at AMS, AAAS, NATO, National Weather Service, University of California, DoD air pollution conferences, and other seminar programs or workshops on weather-related topics.

PROFESSIONAL AFFILIATIONS

- Certified Consulting Meteorologist (CCM#602), American Meteorological Society (AMS)
- American Meteorological Society (AMS), full Member (#23561)
- Sigma Xi, the Honorary Research Society of America
- National Council of Industrial Meteorologists (NCIM)
- Subject Matter Expert (SME), Los Angeles Terrorism Early Warning Group (TEW) (now Emergency Operations Bureau (EOB))and volunteer on homeland security issues.
- National Weather Service official “Weather Spotter” (#LAC548)
- American Association for the Advancement of Science (AAAS#20282306)
- National Geographic Society

AWARDS AND RECOGNITION

- 2016: Invited real-time assessments and interview by Fox News on national broadcast of Hurricane Matthew’s impacts and path along the southeastern U.S. coastal region of Florida, Georgia, South and North Carolina
- 2016: Interviewed by NOAA’s Storm Prediction Center (SPC) for development of enhanced products on 1-Day storm predictions
- 2016: Certificate of appreciation for outstanding service as member of AMS Board of Certified Consulting Meteorologists (CCMB)
- 2016: Requested evaluation of NOAA’s NCEI’s new website under development
- 2014: Appearances on Weather Channel Show on survival (Aug-Sep 2014)
- 2014: Membership in National Council of Industrial Meteorologists (NCIM)
- 2012: Appointed to serve on AMS’s Board for Certified Consulting Meteorologists
- 2012: Certificate of appreciation for volunteer service on homeland security issues
- 2009: Presentation to L.A. TEW: “Weather Issues Associated with Maritime Threats”
- 2007: Invited presentation “ The Role of Atmosphere in Forensic Investigation” Workshop to the American Academy of Forensic Sciences, San Antonio, TX
- 2005: Invited talk “Critical Weather Factors for Emergency Response”, San Diego
- 2005: Invited participation as Instructor at American Meteorological Society Short Course on Forensic Meteorology at National Meeting (Jan 2005)

- 2005: Live interview by Fox Network News on Hurricane Katrina imminent landfall
- 2004: Invited presentation to Los Angeles Terrorism Early Warning Group (TEW)
- 2004: Invited presentation at Town Hall mtg of Sen. Alarcon (Community Service)
- 2001: Awarded nationally-recognized Certified Consulting Meteorologist (CCM) designation by the American Meteorological Society
- 2001: Awarded Department of the Navy Meritorious Civilian Service Award
- 2001: Letters by Oceanographer of the Navy; Commander, Naval Meteorology and Oceanography Command; and others on the occasion of my retirement after 38 years of federal service in meteorology.
- 1998-2000: Member, California Air Resources Board's Deep Sea Vessel/Shipping Channel Technical Working Group (TWG)
- 1997-1998: Represented the Navy and Department of Defense on Federal Advisory Committee Act (FACA) Committee on Ozone, Particulate Matter and Regional Haze, Science and Technical Workgroup
- 1995: Special Achievement Award presented by Commander, Naval Air Warfare Center for descriptions, analyses and documentation on air pollution transport provided to the Department of the Navy, the Office of Management and Budget, the U.S. Environmental Protection Agency, Congressional Representatives, and local governments during final negotiations of the Federal Implementation Plan (FIP)
- 1992: Recipient, Sea Range Directorate Senior Manager of Year Award
- 1990: Recipient, PMTC EEO Leadership Award
- 1990: Selected/Graduated Naval Air Systems Command, 'Senior Executive Management Development Program'
- 1988: Recipient, the Technical Director's PMTC Fellows Award for outstanding leadership and technical contributions
- 1982: Chairman, American Meteorological Society's national Board for Government Operational Meteorologists
- 1976: Invited 'Discussor', American Society of Naval Engineers (ASNE) Day Technical Program, Washington D.C. to present critical review of Navy-developed environmental prediction system
- 1976: Selected Point Mugu 'Professional Of The Year'
- 1975: Invited by NATO Scientific Affairs Division to serve on Panel for Working Group on Radio Ducting, Appleton Laboratory, England
- 1973-1974: Chairman, Santa Barbara/Ventura Chapter of American Meteorological Society
- 1972-1973: Recipient, Los Angeles Chapter of American Meteorological Society Achievement Award for authoring the 'Point Mugu Forecasters Handbook', used extensively as a principal reference on Southern California weather regimes and forecast issues
- 1971: Appointed Member by California State Parks Director on Citizens' Advisory Committee for Point Mugu State Park
- 1968-1970: Chairman, Electromagnetic Propagation Working Group, Range Commanders Council (RCC)
- 1954 (approx.): Winner in "Beat the Weather Contest", N.Y. World Telegram & Sun

PAST & PRESENT CLIENTS (partial list):

NON-FORENSIC: U.S. Navy (propagation, sonic booms, sensor & instrumentation siting and acquisition; Booz-Allen and other DoD Contractors; Industry; AeroVironment; Disney; engineering firms; shipping companies etc.

FORENSIC: (Hundreds of cases, split approximately 40% for Plaintiff and 60% for defendants). Defendants include:

Southern California Edison (SCE); U.S. Steel; Verizon; NextG; ATT; FedEx Ground; Sprint; Farmer's Insurance; Liberty Mutual Insurance; CNA Insurance; Mercury Insurance; MidCentury Insurance; Nationwide Insurance; Hartford Insurance; Chubb Insurance; Fireman's Fund; Insurance Corp of New York; Phoenix Aviation; Guardian Air; Ventura County APCD; City of San Diego; County of Los Angeles; California Department of Transportation (CALTRANS); Laguna Hills Water District; Oil refineries; Southern California Gas Co (SEMPRA); Lucky Stores; Von's Groceries; Starbucks; Viola Bus Transportation; Vale (Oregon) Water District; City of Pasadena; Sthil Inc.; Michelin North America, Inc.; U.S. Fish and Wildlife Service (USFWS); Los Angeles Department of Water and Power (DWP); City of Los Angeles; Mandalay Bay Resort, Las Vegas; McDonald's Corporation; San Diego Gas and Electric Company;

SPECIFIC EXPERIENCE IN WEATHER FORECASTING:

- (1) Authored Point Mugu Forecasters's Handbook still widely used as a reference in forecasting tools for southern California.
- (2) Currently provide daily weather and ocean forecasts for industrial client in Los Angeles area since April 2014.
- (3) Provided volunteer weekly forecasts of weather for Los Angeles County law enforcement agency from approximately 2012-2014 and served as volunteer consultant on weather and its impacts since 2007.
- (4) Collaborated with other agencies within and outside Los Angeles County to provide forecasts for air pollution monitoring programs.
- (5) Developed tailored weather & sea "Project Forecasting" process for U.S. Navy.
- (6) Briefly performed on-air weather forecasts for KNBC-TV News in 1970.
- (7) National Weather Service "Weather Spotter" (# LAC548) for observing local weather phenomena of importance; Interviewed on Weather Channel program.
- (8) Provide weather forecasts for testing and reconstructions of accidents.
- (9) Developed weather forecasting and satellite analysis techniques, procedures and briefings for the U.S. Navy over a 38-year period in southern California.
- (10) Developed satellite and synoptic-based techniques to predict radar propagation conditions (still used in curriculum for naval forecasters and fleet personnel).
- (11) Provide weather heads-up of potential wind and storm events to industrial clients in southern California; also rain start/ending times for groundbreaking ceremony.
- (12) Provided on-air weather forecasts and impact assessments for Fox News for Hurricanes Katrina and Hurricane Matthew.
- (13) Provide coastal and at-sea forecasts for sailing in Atlantic and coastal waters.



AMERICAN METEOROLOGICAL SOCIETY

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RONALD D. MCPHERSON, EXECUTIVE DIRECTOR
RICHARD E. HALLGREN, EXECUTIVE DIRECTOR EMERITUS
KENNETH C. SPENGLER, EXECUTIVE DIRECTOR EMERITUS

Founded in 1919 for the development and dissemination of knowledge of meteorology in all its phases and applications, and the advancement of its professional ideals.

Date: 13 March 2001

NEWS RELEASE

Acoura Hills, California: Jay S. Rosenthal has been awarded the nationally recognized Certified Consulting Meteorologist (CCM) designation by the AMS.

The CCM designation is awarded by the Society to highly qualified meteorologists providing research and services to a wide variety of users of weather information, including agriculture, business, industry, and various sectors of government. These services extend beyond the traditional public service functions and statutory responsibilities of the National Weather Service.

To earn the award, a meteorologist must be recommended by three associates, pass a stringent written examination, and pass an oral examination before a national board of examiners. The CCM designation is awarded only to those who demonstrate a broad background in meteorology together with detailed knowledge in a particular field of specialization. They are judged also on qualities of character and devotion to high professional ideals.

CCMs are highly regarded by their peers in meteorology. They are considered experts in the application of weather information to a host of practical challenges ranging from specialized forecasts to engineering design support and expert testimony on weather-related court cases. Certification enables users of meteorological services to select consultants or employees with greater confidence in the quality and reliability of the products or services they will receive.

The American Meteorological Society was founded in 1919 as a nonprofit scientific and professional society. It is interdisciplinary in scope and actively promotes the development and dissemination of information on the atmospheric and related oceanic and hydrologic sciences. The Society currently has over 10,000 members from the United States, Canada and over 100 countries internationally.

FEE SCHEDULE/RETAINER AGREEMENT

It is hereby agreed that expert witness and consulting services provided by Air, Weather & Sea Conditions, Inc. consisting of meteorological and oceanographic analysis, evaluation, testing, consultation, data acquisition, site visits, meetings, phone conversations, travel, report preparation, review of documents, and testimony at depositions, arbitration, hearings and trial will be paid at the rates below:

For all services other than testimony \$ 290 per hour
For testimony \$ 440 per hour

There is a 2-hour minimum for depositions

Payment for services is due within 30 days of receipt of invoice.

Unless otherwise arranged or agreed, work will commence upon receipt of a Retainer in the amount of \$850 to cover the cost of initial data acquisition and start-up.

Please make check payable to "Air, Weather & Sea Conditions, Inc."

FOR AIR, WEATHER & SEA
CONDITIONS, INC.

FOR CLIENT

JAY ROSENTHAL, President

..... CLIENT



Certified Consulting Meteorologist (CCM)# 602
EIN # 90-0153985

..... FIRM

..... DATE

..... DATE