

GREGORY JOHN STUMPF

Education:

B. S. Meteorology, May 1986, State University of New York College at Oswego, Oswego, New York. *Senior Meteorology Award. Grade Point Average: 3.91*

M. S. Atmospheric Science, December 1988, Colorado State University, Fort Collins, Colorado. *Grade Point Average: 4.0*

Professional Experience:

Meteorologist Research Associate, (3/04 to present), National Weather Service (NWS) Meteorological Development Laboratory (MDL) and Cooperative Institute for Mesoscale Meteorological Studies - University of Oklahoma, Norman, Oklahoma. Liaison between the National Severe Storms Laboratory (NSSL) and the NWS severe weather warning program, via MDL, for the science and technology infusion of multiple-radar and multiple-sensor severe weather warning -decision making applications. Developed new multiple-radar/sensor hail warning applications. Collaborated with NSSL on development of new 3D/4D radar data display application. Installed first-ever Advanced Weather Information Processing System (AWIPS) workstation at NSSL. Developed initial testbed for new warning applications for the Norman, Tulsa, and Fort Worth NWS Weather Forecast Offices (WFO). Co-facilitated 1st NWS Workshop on Severe Weather Warning Technology (July 2005).

Meteorologist Research Associate, (1/92 to 2/04; PROMOTION from previous position), National Severe Storms Laboratory (NSSL) and Cooperative Institute for Mesoscale Meteorological Studies - University of Oklahoma, Norman, Oklahoma. Led group development effort of innovative prototype multiple-radar and multiple-sensor severe weather applications for the National Weather Service (NWS) and other users using the Warning Decision Support System - Integrated Information (WDSSII). Developed enhanced Mesocyclone Detection Algorithm for the National Weather Service (NWS) WSR-88D radar to be fielded Spring 2004. Responsible for technical leadership of several project scientists and undergraduate students. Gained extensive experience in Doppler radar analysis and detection of severe convective storms of many varieties. Helped design the NSSL Warning Decision Support System (WDSS and WDSSII) for innovative severe weather application development and real-time prototyping. Helped develop NWS Tornado Warning Guidance documentation in 1997, and was Chief Editor of the 1999 guidance document. Supervised student team to develop 2002 Tornado Warning Guidance. Presented seminars at NSSL, American Meteorological Society local chapter meetings, schools, and various workshops, symposia, conferences and annual meetings in the U.S. and other countries, and am well-published (see separate listing). Participated in a variety of field projects (see separate listing) and led the NSSL effort to conduct severe storm damage surveys for the NWS. Work includes collaboration with a number of world-renowned scientists in the field of tornado and supercell research. Held group management positions for the Severe Weather Warning Applications and Technology Transfer (SWAT) team, the SWAT-Vortex Applications Focus Group (SWAT-V), and the SWAT-National Weather Service (SWAT-N) Group as well as Operations Director for several field projects (see Supervisory Position information). Held budgetary responsibilities for several WSR-88D Radar Operations Center (ROC)/NSSL Memorandum of Understanding (MOU), an MOU with the NWS Warning Decision Training Branch (WDTB), an MOU with the Australian Bureau of Meteorology, an MOU with the Federal Aviation Administration (FAA) for work supporting NSSL's Phased Array Radar (PAR) project (see Budgetary Responsibilities information), and several Cooperative Research And Development Agreements (CRADA) with private companies. Other duties are included in the "Research Associate" job description.

Computer experience:

Languages: C++, FORTRAN, BASIC, HTML, XML.

Operating Systems: Linux, UNIX, MS Windows (98, 2K, XP).

Other: Arcview GIS 3.2, Netscape Communicator, Netscape Mail, Netscape Composer, Dreamweaver, WordPerfect, MS Word, MS PowerPoint, MS Publisher, MS Excel, Adobe Photoshop, Open-look Windows, KDE Desktop Environment, WSR-88D PUP, WDSSII/WDSS/RADS/WATADS, AWIPS workstations, NetCDF, Palm, DeLorme Street Atlas, Quicken.

Areas of Specialty:

Radar Meteorology, Severe Local Storms, Warning Decision Making, Operational Meteorological Computer Applications, Mesoscale Meteorology.

Professional educational experience:

ArcGIS, (June 2003), Center for Spatial Analysis, University of Oklahoma, Norman.

Geographic Information Systems, (Spring 2001), University of Oklahoma course.

National Weather Service Warning Decision Making Workshop III (March 2001), COoperative program for Operational Meteorology, Education, and Training (COMET), University Corporation for Atmospheric Research (UCAR), Boulder, Colorado.

National Weather Service Warning Decision Making Workshop II (February 2000), COoperative program for Operational Meteorology, Education, and Training (COMET), University Corporation for Atmospheric Research (UCAR), Boulder, Colorado.

Forecast Verification and Decision Making (Fall 1998), University of Oklahoma course.

C for Programmers (Jan 1998), Deitel & Deitel and Associates, Norman, Oklahoma.

AMS Allan Murphy Short Course on Probability in Forecasting (Jan 1998), Phoenix, Arizona.

COMET Mesoscale Analysis and Prediction (COMAP) (August-September 1997), COoperative program for Operational Meteorology, Education, and Training (COMET), University Corporation for Atmospheric Research (UCAR), Boulder, Colorado. Providing an in-depth review of mesoscale meteorology, this *eight-week* instructional course was designed to increase knowledge of mesoscale meteorology and new observing systems, and to enhance capabilities in forecasting, leading training programs, and participating in research activities. Was taught at the graduate level, and included case studies to illustrate mesoscale phenomena, displaced real-time cases to simulate the forecasting environment, seminars by visiting scientists, discussions of new observing systems, and supervised interactions with local Boulder scientists on independent research projects.

National Weather Service (NWS) Warning Decision Making Workshop (March 1997), NWS Operational Support Facility, Norman, Oklahoma.

Technical Writing (Spring 1991), University of Oklahoma course.

Other relevant information:

Have traveled to the Czech Republic, Austria, Brazil, and Australia to lecture on severe weather nowcasting, Doppler radar interpretation, and severe weather warning decision making.

A complete vita is available on my Web page: <http://www.cimms.ou.edu/~stumpf>

Interest Statement:

I have devoted the last 13 years of my career toward the development of meteorological applications to support short-term decision making for the National Weather Service's (NWS) severe weather warning operations. This has included the development of multiple-sensor severe weather guidance applications, innovative data display systems, and a Warning Decision Support System (www.wdssii.org). During the latter part of that period, I was the group manager of a team of 5-10 scientists devoted to this problem at the National Severe Storms Laboratory. More recently (April 2004), I have moved into a position with the NWS Meteorological Development Laboratory's Decision Assistance Branch. This is the NWS unit that is charged with integrating decision support applications developed at the research laboratories into official NWS operational workstations. In my new position, I act as a liaison between the R&D activities at NSSL and the NWS to enhance warning decision making capabilities of the NWS.

I recently co-facilitated the [1st Workshop on Severe Weather Technology](#) in which we assembled NWS forecasters, system developers, research scientists, and key management personnel. The objective of the workshop was to review the "state of the science and technology" of NWS severe weather warning assistance tools, to identify gaps in the present methodologies and technologies, to gain expert feedback from the field (including "stories" from the front lines), to discuss the near-term and long-term future trends in R&D, and for field forecasters and R&D scientists to help pave the direction for new technological advances. A significant portion of the workshop was devoted to new operational concepts for severe weather warning information, and multi-disciplinary approaches to new ways to interact between users of the information.

Throughout most of my career, there has been little exposure to other disciplines in the development of severe weather warning assistance tools, and I would hope that this workshop will serve as a conduit for integrating sociological and human factors disciplines into my work. If chosen, I would represent the NWS branch that is directly responsible for development of decision support systems for severe weather warnings, and could impart the knowledge amongst my peers.