

Curriculum Vitae **EVE GRUNTFEST** July 2009

Social Science Woven into Meteorology (SSWIM) www.sswim.org University of Oklahoma, National Weather Center, 120 David L. Boren Blvd. Suite 2100, Norman, OK 73072 **Email:** egruntfest@ou.edu **Voice:** 405 325 5852 **Web:** www.EveGruntfest.com

ACADEMIC TRAINING

- Ph.D. Geography University of Colorado at Boulder, CO 1982
- M.A. Geography University of Colorado at Boulder, CO 1977
- B.A. Geography Clark University Worcester, MA 1973

ACADEMIC WORK EXPERIENCE

- 5/08- **Director *Social Science Woven into Meteorology (SSWIM)*** Cooperative Institute for Mesoscale Meteorological Studies & the University of Oklahoma at The National Weather Center, Norman, OK
- 12/08- **Adjunct Faculty Member** Department of Geography, University of Oklahoma, Norman, OK
- 12/07- **Professor Emeritus** Geography & Environmental Studies, University of Colorado at Colorado Springs, CO
- 6/00-12/07 **Professor** Geography & Environmental Studies, University of Colorado at Colorado Springs, CO
- 6/05-9/06 **Visiting Scientist** National Center for Atmospheric Research, Boulder, CO
- 3/03-6/03 **Fulbright Distinguished Chair of Geography** University of Trieste, Italy, Fulbright scholarship
- 8/98 - 6/99 **Department Chair** Geography & Environmental Studies, University of Colorado at Colorado Springs, CO
1/95-9/97
- 10/99-6/00 **Senior Fellow** Cooperative Institute for Research in the Atmosphere, Colorado State University
10/97-8/98 Fort Collins, CO
- 6/88-5/99 **Associate Professor** Geography & Environmental Studies, University of Colorado at Colorado Springs, CO
- 9/80-5/88 **Assistant Professor** Geography & Environmental Studies, University of Colorado at Colorado Springs, CO
- 9/79-5/80 **Visiting Instructor** Geography, University of Vermont, Burlington, VT

REFEREED PUBLICATIONS & BOOK CHAPTERS

- E. Gruntfest, I. Ruin & C. League 2009 Learning from Flash Floods: Driver Behavior in High Water Conditions **Colorado Water - Newsletter of the Colorado Water Center of Colorado State University 26 (4) 8-9**
- E. Gruntfest 2009 Editorial **Journal of Flood Risk Management 2 (2) 83-84**
- Kuhlman, K., E. Gruntfest, G. Stumpf, K. Scharfenberg 2009 Beyond Storm-based warnings: An Advanced WAS * IS Workshop to Study Communication of Probabilistic Hazardous Weather Information American Meteorological Society -ams.confex.com/ams/pdfpapers/150887.pdf
- E. Gruntfest, P. Showalter & I. Ruin 2008 Flash Flood Research—Past, Present, & Future **Natural Hazards Observer** September 11-12

- Ruin, I., J.-D. Creutin, S. Anquetin, E. Grunfest & C. Lutoff 2008 Human Vulnerability to Flash Floods: Addressing Physical Exposure & Behavioural Questions **Flood Risk Management: Research & Practice** edited by P. Samuels et al Routledge 1005-1112
- J. Demuth, E. Grunfest, S. Drobot, R. Morss & J. Lazo 2007 Weather & Society * Integrated Studies (WAS*IS): Building a Community for Integrating Meteorology & Social Science **Bulletin of the American Meteorological Society** 88(11) 1729-1737
- L. Barnes, D. Schultz, E. Grunfest, C. Benight, & M. Hayden 2007 False Alarms & Close Calls: A Conceptual Model of Warning Accuracy **Weather & Forecasting** (22) 1140-1147
- C. Benight, E. Grunfest, M. Hayden, & L. Barnes 2007 Trauma & Short Fuse Weather Perceptions **Environmental Hazards** (7) 220-226
- S. Drobot, C. Benight & E. Grunfest 2007 Risk Factors for Driving into Flooded Roads **Environmental Hazards** 7 117-134
- M. Hayden, S. Drobot, E. Grunfest, C. Benight, S. Radil, & L. Barnes 2007 Information Sources for Flash Flood Warnings in Denver, CO & Austin, TX **Environmental Hazards** 7 211-219
- M. Downton, R. Morss, E. Grunfest, O. Wilhelmi, & M. Higgins 2005 Interactions Between Scientific Uncertainty & Flood Management Decisions: Two Case Studies in Colorado **Environmental Hazards** 6 134-146
- R. Morss & O. Wilhelmi, E. Grunfest & M. Downton 2005 Flood Risk Uncertainty & Scientific Information for Decision-making: Lessons from an Interdisciplinary Project **Bulletin of the American Meteorological Society** 86 (11) 1594-1601
- B. Montz & E. Grunfest 2002 Flash Flood Mitigation: Recommendations for Research & Applications in **Global Change Environmental Hazards** 4 (1) March 15-22
- E. Grunfest & J. Handmer 2000 **Coping with Flash Floods** book & chapters Kluwer Academic Publishers, Dordrecht, 2001, edited collection based on the findings from the NATO Advanced Study Institute held in Ravello, Italy, November 8-18, 1999 (w. J. Handmer)
- E. Grunfest & S. Jennings 2003 Flooding in **Handbook of Weather, Climate & Water** edited by T. Potter & B. Colman (eds) Wiley Interscience 691-705
- J. Weaver, E. Grunfest & G. Levy 2000 Two Floods in Fort Collins, Colorado Learning from a Natural Disaster **Bulletin of the American Meteorological Society** May 2359-2366
- E. Grunfest 1999 Flash Floods in the United States in **Storms** edited by R. Pielke, Jr. & R. Pielke, Sr. Routledge 192-207
- E. Grunfest & A. Ripps 2000 Reducing Loss Susceptibility in Flash Floods in **Floods** edited by D. Parker Routledge 377-390
- E. Grunfest 2000 Nonstructural Mitigation of Flood Hazards in **Inland Flood Hazards: Human, Riparian & Aquatic Communities** edited by E. Wohl Cambridge University Press 394-410
- E. Grunfest 1999 The Social & Economic Impacts of Extreme Floods published in **Proceedings US-Italy Workshop on the Hydrometeorology Impacts & Management of Extreme Floods** edited by J. Salas
- E. Grunfest & M. Weber 1998 The Internet as a Tool: Implications for Emergency Management & Disaster Mitigation in **International Journal of Mass Emergencies & Disasters** 16(1) 55-72
- E. Grunfest 1997 **What We Have Learned Since the Big Thompson Flood: Twenty Years Later** (editor) published by Natural Hazards Research & Applications Information Center Boulder Special Publication 33

- E. Gruntfest 1994 The Technological Dilemma in Flood Loss Reduction: Lessons from the 1993 Summer Midwestern Floods in **The Image of Technology Selected Papers from the 1994 Conference Society for the Interdisciplinary Study of Social Imagery** edited by W. Wright & S. Kaplan, 295-299
- E. Gruntfest & D. Pollack 1994 Mitigation & Litigation: Lessons from the St. Louis 1993 Flood **Update Water Resources** April 1994 40-44
- E. Gruntfest 1994 Flood Disaster Relief, Rehabilitation, & Reconstruction in **Coping with Floods** edited by G. Rossi, N. Harmancioglu & V. Yevjevich NATO ASI Series Kluwer Academic Publishers 723-733
- E. Gruntfest 1993 Summary of the State of the Art in Flash Flood Warning Systems in the US **Prediction & Perception of Natural Hazards** edited by J. Nemecek et al., Kluwer Academic Publishers, Dordrecht 119-124
- E. Gruntfest & C. Huber 1991 Toward a Comprehensive National Assessment of Flash Flooding in the United States **Episodes** March 26-35
- E. Gruntfest 1990 Assessing Programme Effectiveness: A 1987 Report on Warning Systems in the USA **Hazards & the Communication of Risk** edited by J. Handmer & E. Penning-Rowsell, Gower Technical United Kingdom 195-203
- E. Gruntfest 1989 Geographic Perspectives on Women: A Status Report **Geography in America** edited by G. Gaile & C. Wilmott, Merrill Publishing Company Columbus, Ohio 673-683
- E. Gruntfest & C. Huber 1989 Status Report on Flood Warning Systems in the United States in **Environmental Management** 13(3) 279-286
- E. Gruntfest 1987 Warning Dissemination & Response with Short Lead Times **Flood Hazard Management British & International Perspectives** edited by J. Handmer, Geo Books United Kingdom 191-202
- E. Gruntfest 1986 Pre-Flood/Post-Flood Mitigation Planning: The Manitou Springs, Colorado Case **International Journal of Mass Emergencies & Disasters** November
- E. Gruntfest & L. Houser 1986 The Availability of Flood Insurance for Mobile Home Dwellers in Colorado Springs, CO **Journal of Environmental Systems** November 179-187
- B. Montz & E. Gruntfest 1986 Changes in American Urban Floodplain Occupancy since 1958: The Experience of Nine Cities **Applied Geography** October 325-338
- E. Gruntfest, T. Huber & L. Lapalme-Roy 1984 The Use of Wood as Fuel in North America: Prospects & Problems **Journal of Environmental Systems** 14(3) 321-331
- E. Gruntfest & M. Eichen 1984 Public Opposition to Large Scale Soft Technology in Vermont: Four Case Studies **Journal of Environmental Systems** 14(2) 1984 137-146
- T. Huber & E. Gruntfest 1983 Flood & Avalanche Hazard in Colorado: Political Implications of the New Federalism **Environmental Management** 7(6) November 505-510
- E. Gruntfest 1982 Assessment of Research on Individual Behavioral Response to Warnings of Extreme Events **Proceedings of the International Symposium on the Real Time Operation of Hydrosystems** Water Resources Publications 35-43
- E. Gruntfest, T. Downing & G.F. White 1978 Big Thompson Flood Exposes Need for Better Flood Reaction System to Save Lives **Civil Engineering** February 72-74

GRANTS & AWARDS

- 07/09-12/09 **Principal Investigator for social science component** Earth Systems Research Laboratory
Global Systems Division Director's Discretionary Fund Proposal Next Generation Warning

Tool Stakeholder Survey & Workshop Boulder \$50,000
 1/09 **Recipient of Kenneth E. Spengler Award** – American Meteorological Society
 5/08-5/11 **Principal Investigator** Social Science Woven into Meteorology (SSWIM) National Weather Center NOAA Cooperative Institute for Mesoscale Meteorological Studies & University of Oklahoma \$600,000
 12/08-8/09 **Principal Investigator** Support for the End User Integration Research Thrust to the Center for Collaborative Adaptive Sensing of the Atmosphere - CASA (a National Science Foundation Engineering Research Center) \$70,000 – expected continuation 3 more years
 10/06-10/09 **Co-Principal Investigator** National Center for Atmospheric Research Development of Compendium of WAS*IS course materials for use by Atmospheric Science classes (w J. Demuth & S. Drobot) \$150,000
 6/05-present **Project Director WAS*IS (Weather & Society Integrated Studies)** National Center for Atmospheric Research, six workshops in Boulder, CO, one workshop in Norman, OK, one workshop in Australia www.sip.ucar.edu/wasis
 7/04-12/04 **Co-Principal Investigator** National Center for Atmospheric Research Learning from the 1993 Superstorm \$7,000
 7/03-12/08 **Principal Investigator** National Science Foundation Toward Improved Understanding of Warning for Short-Fuse Weather Events \$422,951 (w.C.Benight)
 6/02-6/03 **Principal Investigator** National Research Council Collaboration in Basic Science & Engineering for collaborative research between Slovenia & US for flash flood & landslide research \$8,700 (w. E Montz & M. Brilly)
 3/01-12/01 **Principal Investigator** An Evaluation of the Boulder Flood Warning System, Urban Drainage & Flood Control District & Boulder County \$40,000
 8/99-6/00 **Principal Investigator** Learning From False Alarms, US Bureau of Reclamation \$15,539
 7/98 **Principal Investigator** Coping with Flash Floods proposal to hold an Advanced Study Institute at Ravello, Italy November 7-18, 1999 NATO \$65,000
 8/98-10/98 **Principal Investigator** Alternative Uses of ALERT Data, US Bureau of Reclamation \$6,000
 6/95-6/96 **Co-Principal Investigator** Course support for Humans & Environments Class Global Change Program, University of Colorado \$7,500 (w. K. Warner)
 7/93 **Principal Investigator** Learning from the 1993 Midwestern Floods Quick Response Proposal, Natural Hazards Research & Applications Information Center \$2,500
 6/92-8/92 **Selected Participant** National Endowment for the Humanities summer course Images of Amazonia University of California, Berkeley \$4,000
 6/92-1/93 **Advisor** Grant for student research project The Elevation Question in Colorado Front Range Floods: A Review of the Literature & a Synopsis of Agency Perspectives, Natural Hazards Research & Applications Information Center \$1,000
 4/92-4/93 **Principal Investigator** Weather Service Modernization: A Boulder Experiment, NOAA & Environmental Research Laboratory, Boulder, CO \$25,000
 2/88-1/92 **Principal Investigator** Flash Flood Hazard Mitigation: Comprehensive Assessment National Science Foundation \$124,896
 6/87-10/87 **Principal Investigator** Flash Flood/Dam Failure Warning System Survey, US Bureau of Reclamation, Interagency Personnel Agreement, Denver \$10,000
 5/87-8/87 **Principal Investigator** Household Leakage Survey at Fort Carson USA Construction Engineering Research Laboratory \$34,733
 1/86-12/86 **Principal Investigator** What We Have Learned Since the Big Thompson Flood, Symposium July 17-19, 1986, National Science Foundation, National Oceanic & Atmospheric Administration Environmental Research Laboratory & US Army Corps of Engineers \$45,000
 1988-1992 **Principal Investigator** Flash Flood Hazard Mitigation, Quick Response Research, Ventura California February 1992 to study warning system, Natural Hazards Research & Applications Information Center Boulder, CO \$2,300
 5/85 **Selected Participant** National Endowment for the Humanities Summer Course, Perception of Landscape in Art & Literature, City University of New York \$3,000
 1/85-7/85 **Principal Investigator** Flood Hazard Mitigation Planning for Manitou Springs, CO, Federal Emergency Management Agency, Published Report & Slide/Tape Presentation \$25,000
 11/84-6/85 **Co-Principal Investigator** Assessment of Environmental Hazards in Colorado Springs, CO

- 6/84-8/88 Department of Local Affairs, (w. T. Huber) \$1500
Recipient Travel Grants from the National Research Council to attend the International Geographical Union (IGU) meeting in Paris, 1984, \$700 & the IGU meeting in Australia \$1,000
- 7/84 **Co-Principal Investigator** Courting Disaster, the Elderly in Mobile Home Parks in Hazardous Areas (w. R. Larkin) \$750
- 1/84 **Co-Principal Investigator** Ice Jams in Vermont Quick Response Research, Natural Hazards Research & Applications Information Center & University of Colorado Institute of Behavioral Science, Boulder, CO (w. M. Ottum) \$1,300
- 6/82-12/82 **Principal Investigator** Changes in Flood Plain Land Use in American Cities Since 1958, UCCS Research & Creative Works Awards Committee \$3,180
- 5/81-12/81 **Co-Principal Investigator** Mobile Homes & Energy Conservation, Energy Research Institute, Golden, CO (w. R. Czerniak) \$3,500

SPONSORED RESEARCH PUBLICATIONS & REPORTS

Observing Weather & Climate From the Ground Up A Nationwide Network of Networks, 2008, National Research Council, Board on Atmospheric Sciences & Climate (w. others)

The Warning Project: Toward Improved Understanding of Warnings for Short-Fuse Weather Events *Weather & Society Watch Newsletter*, http://www.sip.ucar.edu/news/highlights1/jsp_Fall_2006

What We Have Learned Since the Big Thompson Flood *Fort Collins Coloradoan* newspaper editorial July 31, 2006

Flash Flood Forecasting over Complex Terrain With an Assessment of the Sulphur Mountain NEXRAD in Southern California 2005, National Research Council, Board on Atmospheric Sciences & Climate (w. others)

Evaluation of National Weather Service Flood Severity Categories & Use of Gage Station Flood History Information Report 2004, prepared for National Oceanic & Atmospheric Administration (NOAA)/ National Weather Service (NWS), Office of Hydrologic Development (w. D.Ford & K.Carsell)

[An Evaluation of the Boulder Creek Local Flood Warning System](#) Urban Drainage & Flood Control District & City & County of Boulder 2002 (w. K. Carsell & T. Plush) www.udfcd.org/FWP/LFWSresearch.htm

The Warning Process: Toward an Understanding of False Alarms 2000 US Bureau of Reclamation (w. K. Carsell)

Beyond Flood Detection Alternative Applications of Real-Time Data 1998 US Bureau of Reclamation 1998 (w. P. Waterincks)

A Review of Recent Recreation Research & Potential Application for Long Term Monitoring in the Grand Canyon, 1992 prepared for the National Research Council Water Science & Technology Board workshop on Long Term Monitoring in the Grand Canyon

Twenty Years in Quick Onset Hazard Warnings: Progress, Problems & Prospects prepared for the NSF sponsored invitational meeting on Prospects for the Next Hazards Assessment, Estes Park, CO July 1992

Options for Mitigating Ice Jam Flooding, 1995 prepared for the US Army Corps of Engineers Cold Regions Research & Environmental Laboratory, Hanover, NH 45 pp.

Proceedings of the Multi-Objective Stream Corridor Management Conference (editor & contributor) 1999 published by the Assn. of State Floodplain Managers

Flash Flood/Dam Failure Warning System Survey, 1987 prepared for the US Bureau of Reclamation, November 62 pp.

What We Have Learned Since the Big Thompson Flood, 1986 Editor & Contributor, Special Publication #16, Natural Hazards Research & Applications Information Center, University of Colorado, Boulder, CO

Manitou Springs Flood Hazard Mitigation Plan, 1985 Center for Community Development & Design, sponsored by the Federal Emergency Management Agency, the Colorado Department of Disaster Emergency Services & City of Manitou Springs

The Environmental Hazards of Colorado Springs, 1985 Boulder, Natural Hazards Research Working Paper #54 (w. T. Huber),

What People Did During the Big Thompson Flood, 1977 Working Paper #32, Institute of Behavioral Science, University of Colorado, Boulder, CO

PROFESSIONAL SERVICE

12/08-9/09 05/09	Associate editor <i>Journal of Flood Hazard Risk Mitigation</i> Invited speaker Integrating Social Science into Meteorology: Progress in Moving from WAS to IS with Evidence from Remarkable WAS * IS Voyages into a New World - NOAA ESRL-NCAR Seminar Series Webinar Boulder, CO May 4
01/09	Invited speaker & organizer Integrated Warning Team workshop National Weather Service Kansas City, MO January 21-23
01/08	Invited speaker New Initiatives that Integrate Social Science & Policy into Weather & Climate Work - International Sessions American Meteorological Society sponsored by National Weather Service, Phoenix, AZ January 9
10/25/08	Invited keynote speaker New Initiatives That Integrate Social Science into Meteorology - Southern New England Weather Conference, Dedham, MA October 25
10/08	Invited speaker National Weather Service Great Divide Workshop, Billings, MT October 9
09/15-17/2008	Organizer, speaker & convener Advanced WAS * IS workshop with Hazardous Weather Testbed Norman, OK
09/2008	Invited speaker National Weather Service High Plains Conference Hayes, KS September 4
11/07	Invited lecturer Weather & Society Integrated Studies, Geography Department, University of North Carolina Charlotte, November 16
11/07	Invited lecturer Weather & Society Integrated Studies, Geography Department, University of South Carolina, November 15
11/07	Invited lecturer Weather & Society Integrated Studies, Civil Engineering Department, University of Texas San Antonio, November 2
06/07	Invited lecturer Integrating Social Science into Meteorology, American Meteorological Society Weather, Analysis & Forecasting Conference Park City, UT, June 25
06/07	Invited presenter at the National Hydrologic Warning Council meeting, Savannah, GA June 12, 13
05/07	Invited lecturer Civil Engineering Department University of Florence, Italy
04/07	Invited lecturer Laboratoire Territoires-UMR Pacte Hydrology Grenoble, France
02/07	Invited lecturer Skywarn Training National Weather Service, San Antonio, TX, February 24
02/07	Invited lecturer Advanced Studies Program, National Center for Atmospheric Research, Boulder, CO, February 21
11/07	Invited lecturer Changing the culture of meteorology to embrace societal impacts – Moving from WAS to IS at The Weather Channel, Atlanta, GA, November 13
10/06 -10/09	University Relations Committee University Corporation for Atmospheric Research
10/06-1/10	Chair of Board on Societal Impacts American Meteorological Society
10/06- 6/08	Committee member National Research Council, Board on Atmospheric Science & Climate, Developing Multipurpose Mesoscale Meteorological Observations to Meet Multiple National Needs

12/06 **Invited lecturer** THORPEX Landshut Germany, Integrating social science to improve the effectiveness of forecasting & the benefits of research – Implementing the change in meteorology & in meteorologists, December 7

10/06 **Invited presenter** Changing the culture of meteorology to embrace societal impacts – Moving from WAS to IS, Great Divide Workshop, National Weather Service, Billings, MT

06/06 **Invited reviewer** of South Australia warning system Adelaide, Australia

05/15-20/06 **Invited lecturer** Flash Flood course in Montpezat, Provence France

01/06 **Interviewed expert** Atlas Media Weather Channel program “It Could Happen Tomorrow” flash flood episode

06/05-6/08 **Board member** Societal Impacts Program, National Center for Atmospheric Research, Boulder

7/05 **Moderator** invitational Natural Hazards meeting Boulder, CO sponsored by the Natural Hazards Research & Applications Information Center, July 11 for session on communication

07/05 **Invited participant** Citizen Information Needs in Crisis, National Academy of Sciences National Research Council, Computer Science & Technology Board Washington, DC

05/05 **Invited participant** US Weather Research Program workshop to consider International Hydrometeorological Testbed Washington, DC

4/05 **Invited presidential lecturer** Department of Geography, University of Oklahoma, a series of 3 lectures to classes & the public Risky business Innovations in natural hazards public education based on research & practice, Norman, OK

02/05 **Invited participant** Hurricane workshop Developing the Social Science Agenda Pomona CA

4/05 **Keynote speaker** Improving Short-fuse warnings for flash floods: a Denver case study Idaho Emergency Managers & National Weather Service meeting, Pocatello, ID

2/04 **Invited speaker** University of Arizona Geography Department

12/03-8/04 **Committee member** National Research Council, Board on Atmospheric Sciences & Climate NEXRAD Flash Flood Forecasting Capabilities at Sulphur Mountain, CA Washington, DC

11/03-12/04 **Consultant** with the evaluation of a flood severity scale for the National Weather Service – collaborating with David Ford Consulting Engineers, Sacramento, CA

10/04 **Invited review team member** for National Oceanic & Atmospheric Administration Science Review Board to review Cooperative Institute for Mesoscale Meteorological Studies, Norman Oklahoma

7/04 **Invited presenter** for the Advanced Warning & Operations Course, Warning Decision Training Branch, National Weather Service Norman OK, July

4/04 **Presenter** Colorado Mitigation & Wildfire Conference, Lessons from 2002 Colorado Wildfires, Colorado Springs, CO

7/03 **Moderator** at invitational Natural Hazards meeting Boulder, CO sponsored by the Natural Hazards Research & Applications Information Center, July 16 for session Leveraging new media to raise public awareness about risk

4/03 **Reviewer** for THORPEX project – for National Oceanic & Atmospheric Administration written review of multi million dollar proposed program to improve short-term weather forecasts – part of World Weather Research Program

3/03 & 9/03 **Quoted & interviewed** Floodsafety.com-on camera interview for flash flood documentary. Austin, TX February. & in the Washington Post, September 18, pp 1,7 regarding expected flooding for Washington, DC area as part of Hurricane Isabel

2/03 **Organizer & Chair** American Meteorological Society paper sessions on hydrology & meteorology for February 12 meeting in Long Beach, CA

1/03-1/08 **Member** Board on Outreach & Public Education, American Meteorological Society

6/02- 12/02 **Invited participant** in the Partnership for Public Warnings workshop, Washington, DC

2/02, 6/04 **Invited reviewer** National Science Foundation Panel Washington, DC

03/02 **Steering committee member** Quantitative Precipitation Forecasting, US Weather Research Program, National Center for Atmospheric Research October 8, Talk presented in Boulder Workshop March 4, 2002

4/02-5/02 **Invited visiting scientist** one month Environmental Societal Impacts Group National Center for Atmospheric Research, Boulder, CO

8/27/02 **Invited keynote presenter** Flash Flood Workshop, Social Science & Warnings National Weather Service, Boulder, CO August 27, 2002

08/00 Invited participant at the *Crowding the Rim* Symposium held at Stanford University, Palo Alto, CA

7/16/00-8/05/00 **Invited lecturer** at University for Foreigners, National Group for Prevention of Hydro-Geological Disasters, Water Resources Research & Documentation Centre, Perugia, Italy, keynote speaker & teacher for 3 week class on warning process & Symposium to Commemorate the Closing of the International Decade of Natural Disaster Reduction

10/98-present **Consultant** to Learning Channel, History Channel, Discovery Channel, & National Geographic Production team developing flash flood documentary films

10/98-12/00 **Board member** Assn. of State Floodplain Managers Regents for Certification of Floodplain Managers

10/98-6/2000 **Committee member** National Research Council, Computer Science & Technology Board Computing & Communications Research to Enable Better Use of Information Technology in Government, Washington, DC

6/98-10/98 **Elected member** Nominating Committee for Assn. of American Geographers officers

10/97-8/98 **Member** Post Flood Disaster Team developing warning system specifications for Fort Collins, CO

12/97-12/06 **Member** of Editorial Board: *Jewish Social Work Forum*

10/95-10/96 **Organizer** of Symposium What We Have Learned Since the Big Thompson Flood, Twenty Years Later held in Fort Collins, CO July 10-13, 1996. Sponsored by US Army Corps of Engineers, USGS & FEMA

1/93-present **Invited instructor** for updating the training for National Weather Service personnel, Boulder, speaking about warnings & lessons from social science, Operational Meteorology Education & Training, Warning Decision making workshop

5/94,96 **Invited speaker** at the California ALERT users group, Asilomar, & Ventura, CA.

3/93,3/94 Invited lecturer to Engineering class at Colorado State University Ft. Collins, Experience with Flood Detection & Response Systems

3/94 **Invited representative** the Natural Hazards Research & Applications Information Center International Decade for Natural Hazard Mitigation Conference, Cartagena, Colombia

6/93-6/94 **Consultant** City of Aurora, Colorado on public education materials for flooding

5/93 Interviewed by Weather Channel for documentary on technology & forecasting

3/93, 2/96 **Consultant** the National Weather Service Post Disaster Survey Assessment Team for flooding in Northeastern US, Harrisburg, Binghamton, Washington, DC & for March Superstorm, Philadelphia, New York, Washington & Boston

2/93 **Invited lecturer** COMET program, Boulder, part of courses retraining program National Weather Service Meteorologists & Hydrologists

1/93 **Committee member** work with state of Kentucky on flood hazard mitigation

11/1-11/15/92 **Invited participant** in the NATO Conference Coping with Floods in Erice, Italy

9/92-10/06 **Member** University of Colorado advisory committee to the Natural Hazards Research & Applications Information Center

4/92-6/94 **Chair** Commission on the Status of Women in Geography Assn. of American Geographers

2/92 **Invited participant** World Congress on Natural Hazard Mitigation, New Delhi, India

2/91 **Invited keynote speaker** Grand River Conservation Authority, Cambridge Ontario, Canada annual meeting

12/90 **Invited participant** workshop to establish a Mesoscale Initiative Societal Aspects, National Center for Atmospheric Research, Boulder

6/90-6/91 11/90	Program chair Assn. of State Floodplain Managers Annual meeting Invited participant research design team of the Local Weather Information Experiment, Environmental Research Laboratory, National Weather Service, Boulder
10/90- 6/90	Invited member Colorado Natural Hazards Mitigation Council Consultant National Oceanic & Atmospheric Administration, Flood Disaster Survey Team, Oklahoma, Arkansas, Texas & Louisiana
4/90 2/90	Invited lecturer University of Louisville, Graduate School of Urban Policy Invited speaker seminar on flood/warning/preparedness systems sponsored by the Federal Interagency Floodplain Management Task Force, Washington, DC
1/90-2/92 5/89-6/90 9/88-4/89	Consultant <i>P3 The Earth Based Magazine for Kids</i> Chair, Assn. of State Floodplain Managers Research Committee Conference coordinator Urban Stream Corridor & Stormwater Management Colorado Springs, CO, March 14-16, 1989, sponsored by Environmental Protection Agency & The Assn. of State Floodplain Managers
5/87-8/88	Project supervisor Construction, Engineering, Research Laboratory, Champaign, IL Household Leakage Survey at Fort Carson, CO
12/87	Invited lecturer hazards research at Illinois Institute of Technology, Kent College of Law, Chicago, IL
5/86-5/90	Committee member National Research Council Water Science & Technology Board, Committee on Glen Canyon Environmental Studies & preparation of Environmental Impact Statement
5/86-	Committee member Research & Arid West Subcommittee of the Assn. of State Floodplain Managers
3/86-6/89	Liaison Geographic Perspectives on Women Specialty Group to the International Geographical Union & the Institute of British Geographers.
6/85-6/87	Chair Assn. of American Geographers Specialty Group, Geographic Perspectives on Women
6/85-88	Member National Council on Geographic Education Standing Committee, Women in Geographic Education
12/83-12/94	Consulting editor <i>Journal of Environmental Education</i>

OTHER PRESENTATIONS

The Report from the Warning Project - National Hydrologic Warning Council, Savannah, GA, June 12, 2007

Weather & Society Integrated Studies: New Culture Change Initiative – Assn. of American Geographers meeting San Francisco, CA April 17, 2007

Lessons from WAS*IS Weather & Society * Integrated Studies & Other Things Curiosity Unlimited Colorado Springs, CO November 10, 2006

To be mentored by Gilbert White & Findings from the Warning Project - Southwest Assn. of American Geographers Meeting Norman, OK, October 28, 2006

Three talks: Risky Business: Lessons from Flash Flood Research in Austin Hill Country conference on Urbanization & the Flash Flood Threat San Antonio, New Braunfels & Austin, TX, April 7, 8, 2006

invited presenter Fulbright experiences in Trieste, Italy & New results of short-fuse weather warning surveys in Austin, TX & Denver, CO Session organizer & chair, Assn. of American Geographers Chicago, IL March 8, 2006

Invited banquet speaker & Invited Presenter Changing from what WAS to what IS– Big Questions for Meteorologists & Social Scientists Oklahoma Emergency Managers Assn. & the Central Oklahoma Chapter of the American Meteorological Society & National Weather Assn. & the National Severe Storms Laboratory on The Warning Project, Norman, OK March 2,3, 2006 (w D. Schultz & L. Barnes)

American Meteorological Society, Invited Panelist on Severe Convective Storms February 1, 2006

Risky Business: Some Lessons & Questions for Research & Practice, The International Symposium on Urban Disaster Risk Reduction & Regeneration Planning: Integrating Practice Policy & Theory, California Polytechnic University, San Luis Obispo, CA November 4 2005

Improving Short-fuse Warnings for Flash Floods: a Denver Case Study, Assn. of American Geographers, Denver, CO April 2005

Invited presentation at National Research Council committee meeting Uncertainty National Academy of Science Boulder November 5, 2005

Social Science Lessons: What We Have Learned from Recent Floods & Warnings - Advanced Warnings Operations Course Norman, OK August 5, 2004

Lessons Learned from Slovenia – US Collaborative study on Landslides - Applied Geography Conference Colorado Springs, CO November 4, 2003

Lessons from Social Science for Meteorologists” Fort Worth, TX National Weather Service Office October 24, 2003

Better Warnings for Short Fuse Weather Events at the National Hydrologic Warning Council Meeting, Dallas, TX October 22-24, 2003

Perspectives of a Hazards Geographer Geography Department University of Padua, Italy May 29, 2003.

Lessons for Meteorologists Istituto di Scienze dell'Atmosfera e del Clima, ISAC-CNR Bologna, Italy, March 28, 2003

Risk Perception Research for Hydrologic Risk Analysis Civil Engineering Program University of Florence, Italy April 11, 2003

Social Science & Flood Warnings Mesoscale Alpine Programme meeting Bad Tolz Germany October 24, 2002

Social Science & Flood Warnings National Weather Assn. & American Meteorological Society High Plains Conference Dodge City, KS October 11, 2002

Flash Flood Mitigation, Recommendations for Research & Applications, University of Ljubljana, Slovenia, June 2002 (w. Burrell Montz)

Social Science of Floods, presented <http://meted.ucar.edu/qpf/socperfe/index.htm> available as webcast from COMET

Getting Tenure at a Smaller University - Assn. of American Geographers meeting, New York City February 2001

Social Aspects of Flash Flood Mitigation - National Weather Service National Flash Flood Conference Atlanta May 10, 2000

Flash Flood Research Agenda- Following up on the NATO Advanced Study Institute Findings - European Geophysical Society Meeting, Nice, France, April 24-29, 2000 (w. B. Montz)

Problems & Prospects for GIS in Hazard Mitigation - Assn. of American Geographers meeting, Pittsburgh April 2000 (w. M. Laituri)

Invited keynote presentation for American Meteorological Society annual meeting, Social Science & Warning Decisionmaking, Albuquerque, NM January, 2000

Learning from Flood Detection Systems - Assn. of State Floodplain Managers meeting, Portland, OR May 26, 1999

Alternative Uses of Real time Data presented at ALERT users group meeting San Diego, CA May 12,1999

Comments on the Hazard Geography Specialty Group chapter for the 2000 Geography in America volume, - Assn. of American Geographers meeting Honolulu March 1999

Invited presentation at Bureau of Reclamation, Denver The Warning Process & Alternative Uses of Real-Time Data in Resource Management February 23 & 24,1999

Cooperative Program for Operational Meteorology, Education & Training, hydrometeorology class, Boulder, CO The Social Science of Warning Systems February 7, June 30, Oct 28, 1999

Systems for Volcano Hazard - international conference on Volcano Hazard Mitigation, University of Colima, Jalisco, Mexico, January 26-30, 1998

What We Know About Flood Warning Communication - National Hydrologic Warning Council Meeting, St. Louis, October 1997

Flood Hazard Mitigation & the Internet - Applied Geography conference, Kansas City, October 1996

What We Have Learned Since the Big Thompson Flood: Twenty Years Later - Symposium What We Have Learned Since the Big Thompson Flood, Keynote address & wrap up speaker Fort Collins, CO July 1996

Internet & Emergency Management - Assn. of American Geographers meeting, Charlotte, NC & Charleston SC April 1995

Recommendations for Exploration of the Connections Between Mitigation & Litigation - Assn. of American Geographers meeting, Chicago March 1995 (w. D. Pollack)

The Uses of Cyberspace Following the Northridge Earthquake - Assn. of American Geographers meetings Chicago March 1995

Forecasting & Foreseeability: The Intersection of Geography & Law - Assn. of American Geographers meeting San Francisco April 1994

Living with Disasters: A Cultural Context for Studying the Mitigation Efforts in the 1993 Midwestern Floods - Assn. of American Geographers meeting San Francisco April 1994

Contemporary Travel Writers Confront the Amazon: They Saw What They Came to See - Assn. of American Geographers meeting, 1993 & at Society for the Interdisciplinary Study of Social Imagery meeting Colorado Springs

Warnings & Warning Response - NATO Advanced Studies Institute Coping with Floods, Erice, Italy November 1992 (w. D. Mileti)

Alternative Paths Through the Maze-Surviving your Dignity Intact - Assn. of American Geographers meeting 1992 San Diego, CA

Invited presentation Flash Flood Hazard Mitigation in the US at World Federation of Engineers Congress on Natural Hazard Mitigation in New Delhi, India January 1992

Feminism & Flood Control - Assn. of American Geographers meeting Miami April 1991

Invited presentation What We Know about Flash Flood Warning Systems - Southwestern Assn. of ALERT Users Denver October 1990

A Summary of the State of the Art in Flash Flood Warning Systems in the United States - International Workshop on Prediction & Perception of Natural Hazards Perugia, Italy October 1990

Flash Flood Mitigation Success Stories - Assn. of State Floodplain Managers Asheville, NC June 1990

Flash Flood Mitigation: Where We Stand - Interagency Task Force on Warnings & Response in Washington, DC February 1990

Natural Hazards Education in Geography - Colorado Geographic Alliance meeting, Colorado Springs March 1990

Toward a Comprehensive Flash Flood Assessment in the United States - Southwest ALERT Users Group Meeting Tulsa, OK November 1989

The Flash Flood Project: Toward a Definition - Assn. of American Geographers meeting Baltimore, MD March 1989

Flash Flood Hazard Mitigation: Toward a Comprehensive Assessment - Environmental Perception Session of the International Geographical Union Perth, Australia August 1988

Not All Floods are Created Equal: Toward a Comprehensive Assessment of Flash Floods in the United States - Assn. of State Floodplain Managers Nashville, TN May 1988

Critiquing Glen Canyon Environmental Studies - Assn. of American Geographers meeting, Phoenix, Arizona, April 1988 & at Western Social Science Assn. meeting Denver, CO April 1988

The Terrorist Threat: Myth & Reality - Assn. of American Geographers meeting Phoenix, AZ April 1988 (w. M. Eichen)

Women's Role in Changing the Face of the Earth: A Report from the Geographic Perspectives on Women Specialty Group - Assn. of American Geographers meeting Phoenix, AZ April 1988

Recent Trends in Natural Hazards Mitigation session organized for the Western Social Science Assn. Denver, CO April 1988

Assessing Program Effectiveness: A 1987 Report on Warning Response & the Adoption of Nonstructural Flood Mitigation Measures - Risk Communication & Response Workshop, Sponsored by the Flood Hazard Research Centre London, England October 1987

Flash Flood Warning Systems as a Mixed Blessing for Mitigation - Applied Geography Conference Knoxville, TN October 1987

Changes in Land Use in Drake, CO, Ten Years after the Big Thompson Flood - Assn. of American Geographers meeting Portland, OR April 1987 (w. C. Huber)

What We Have Learned Since the Big Thompson Flood - Applied Geography Conference West Point, NY October 1986

Post Disaster Mitigation Planning: Learning From the Big Thompson Experience - Symposium Housing & Urban Development After Flood Disasters: Mitigating Future Losses, sponsored by American Bar Assn. Miami, October 1985

Manitou Springs Flood Hazard Mitigation Plan - Emergency 85 Washington, DC May 1985

Housewife as Hero, The Letters of Lila Thomas - Colorado Women's Studies Assn. Meeting Colorado Springs, CO May 1985

Urban Floodplain Occupancy Changes in the Past 26 Years, 17 Case Studies Revisited - Assn. of American Geographers meeting April 1985 (w. B. Montz)

Mobile Homes in Hazardous Areas, The Elderly in Colorado Springs - Applied Geography Conference Tallahassee, FL November 1984

Warnings for Floods with Short Lead Times - conference Lessons for the United Kingdom sponsored by the Flood Hazard Research Center, Middlesex Polytechnic Institute, London, England September 1984

Mobile Homes in Hazardous Areas: Comparing Flood Plain Occupancy in Colorado Springs & Unincorporated El Paso County CO - Assn. of American Geographers meeting, Washington, DC April 1984

Lessons from Applied Field Courses - at National Council on Geographic Education meeting Ocho Rios, Jamaica October 1983

A Comparison of Recent Ice Jams & Adjustment Strategies in Two Northern Vermont Communities - Applied Geography Conference, Toronto, Canada October 1983 (w. M.Ottum)

Ice Jams & Spring Runoff Flooding in Vermont - Assn. of American Geographers meeting, Denver, CO April 1983

Opposition to Nonconventional Energy Production - Assn. of American Geographers meeting, Denver, CO April 1983 (w. M. Eichen)

The Big Thompson Flood of 1976: How People Lived & How They Died Invited Speaker - University of Massachusetts October 1982

A Comparison of Expenditures for Structural & Nonstructural Flood Control Measures - Assn. of American Geographers meeting, San Antonio, TX April 1982

Assessment of Research on Individual Behavioral Response to Warnings of Extreme Events - International Symposium on Real-Time Operation of Hydrosystems, Waterloo, Ontario, Canada June 1981

OTHER PROFESSIONAL EXPERIENCE

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|--------------|--|
| 05/07 | Weather & Society * Integrated Studies - Culture Change for meteorologists Presentation to the Alumni Group, University of Colorado at Colorado Springs |
| 03/01 | Invited proposal reviewer for the Center for Disaster Management & Humanitarian Assistance, Tampa FL |
| 1986-present | Proposal reviewer for National Science Foundation program |
| 1984-present | Manuscript Reviewer for <i>Growth & Change</i> , <i>Environmental Management</i> , <i>Annals of the Assn. of American Geographers</i> , <i>The Professional Geographer</i> , <i>Environmental Hazards</i> , <i>Climatic Change</i> , <i>Weather & Forecasting</i> , & <i>the Bulletin of the American Meteorological Society</i> |
| 9/85-6/86 | Member, Zoning Board & Planning Commission, Bakersfield, Vermont |
| 11/80, 3/81 | Invited Participant, National Science Foundation short course at University of Utah; Risk Benefit Analysis. |
| 4/78-6/78 | Disaster Assistance Reservist. Training, April 10-13; Service, June 1-13 following Wyoming floods |

OTHER PUBLICATIONS

Innovative Options for Reducing Ice Jam Damages in *Proceedings of the Assn. of State Floodplain Managers Meeting* Special Publication Natural Hazards Research & Applications Information Center, Boulder, CO 1992

Not All Floods Are Created Equal: Toward a Comprehensive Assessment of Flash Floods in the United States *Proceedings of the Conference of the Assn. of State Floodplain Managers*, Special Publication #19, Natural Hazards Research & Applications Information Center, Boulder, CO 1988 137-143 (w. C. Huber)

Flood Hazard in the United States: Toward a Definition *Proceedings of the 1988 Conference on Arid West Issues* 1989 (w. C. Huber)

River & Dam Management: A Review of the Bureau of Reclamation's Glen Canyon Environmental Studies National Academy Press, Washington, DC 1987 (as part of National Academy of Sciences National Research Council Water Science & Technology Board Committee)

Flood Hazard Mitigation-Strides Since the 1970's & Challenges for the 1990's *The Proceedings of the Rapid City Flash Flood Mitigation Symposium 1987 173-179*

The Levee Effect & Flash Flood Warning Systems, Realistic Approaches to Better Floodplain Management, *Proceedings of the Eleventh Annual Conference of the Assn. of State Floodplain Managers*, Natural Hazards Research & Applications Information Center 1987 195-200 (w. J. Handmer & H.J. Owen)

Post Disaster Mitigation Planning: Learning From the Big Thompson Experience, *The Proceedings of the Symposium Housing & Urban Development After Flood Disasters: Mitigating Future Losses*, 1985 American Bar Assn.

Flood Hazard Mitigation for Small Western Towns Which Depend on Tourism: Answers to Frequently Raised Questions in Manitou Springs, CO, *Improving the Effectiveness of Floodplain Management in Arid & Semi-Arid Regions, Proceedings of a Western State High Risk Flood Areas Symposium*, Assn. of State Floodplain Managers April 1987

The Role of Geographic Analysis in Public Policy, *Transition* 10(1) Spring 1980 113-115

BOOK REVIEWS

of Mathur, A. & D. da Cunha *Mississippi Floods: Designing a Shifting Landscape* in *Ethics, Place & Environment* 5(3), 2002 293-294

of Drabek, T. *Disaster Evacuation Behavior Tourists & Other Transients* in *Spectra* 33(12) 133

of Bryant, E. *Natural Hazards* in *Professional Geographer* 1993

of Godschalk, D. D. Brower, & T. Beatley *Catastrophic Coastal Storms* in *Natural Hazards* 3 1990 205-206

of Smith, D. & J. Handmer, editors *Flood Warning Systems in Australia* in *Natural Hazards* 1989

of Monk, J. & V. Norwood, editors *The Desert is No Lady, Southwestern Landscapes in Women's Writing & Art* in *Professional Geographer* August 1988 361

of Raitz, K., R. Ulack, & T. Leinbach *Appalachia a Regional Geography* in *Growth & Change* April 1986 71-72

of Callies, D. *Regulating Paradise: Land Use Controls in Hawaii* in *Journal of the American Planning Assn.* Fall 1985

of Sax, J. *Mountains Without Handrails* in *Annals of Tourism Research* II 1984 529-531

of Kusler, J. *Regulation of Flood Hazard Areas to Reduce Flood Losses* in *The Environmental Professional* 5(1) 1983

of Frazier, K. *The Violent Face of Nature* in *EOS Transactions of the American Geophysical Union* December 2, 1980

TEACHING CURRICULUM (* indicates upper division/graduate course)

Analysis of Environmental Systems*

Land Use Planning

Environmental Planning*

Humans & Environments

Introduction to Human Geography

Women's Place, Women's Space: Women's Role in Changing the Face of the Earth*

Disasters & Society*

Environmental Perception

Future World Perspectives*

Images of Amazonia*;

Tourism, Recreation & the Environment*