

NOAA Earth System Research Laboratory and NCAR Societal Impacts Program *Seminar Series*

NCAR Societal Impacts Program (SIP) and Weather and Society Integrated Studies (WAS*IS)

David Skaggs Research Center (DSRC - NOAA Building)
325 Broadway
Boulder, Colorado 80305-3328
Room GC402 (Multipurpose Room)

Monday, June 16, 2008 2:00 - 3:00pm
discussion following / refreshments will be served

Motorists' Vulnerability to Flash Floods in France

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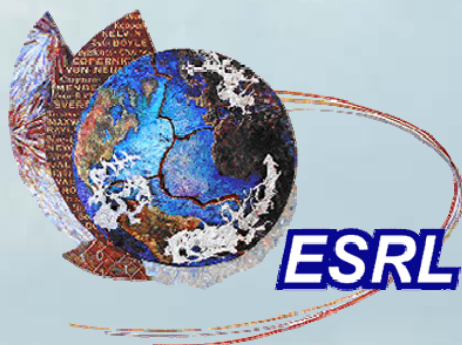
Abstract

Flash floods are characterized by their suddenness, fast and violent movement, rarity, small scale but high level of damage. They are particularly difficult to forecast accurately and leave very little lead-time for warnings. Flash floods can surprise people who are in the midst of their daily activities, with particularly serious impacts when people travel across roads vulnerable to flooding. Overall, and particularly in Texas, most of the people killed by flash floods are in cars.

What make motorists especially vulnerable? Experts call for a comprehensive integration of social and natural sciences and engineering to better understand public responses. In this context, my research specifically addresses people's travel patterns during flash floods and uses a spatio-temporal analysis to better understand the link between human behaviors and a sudden change in the environment. In that purpose I made two hypotheses to explain inappropriate behaviors:

- 1) people's unwillingness to change their daily routines; and
- 2) discrepancy between individual space-time representations and actual flash flood characteristics.

This presentation will show the main results of this interdisciplinary research using both qualitative and quantitative methods as questionnaire-surveys and cognitive mapping. In total, 1,428 residents and tourists visiting the Gard area in the South of France were interviewed to evaluate their capacity to respond to extreme precipitation and flash-flood events. Finally, this work demonstrates that at-risk travel patterns result in a mix of three factors: spatio-temporal exposure; cognitive understanding of risks on the road; but also daily family and professional constraints.



Off-Site Guests Attending
Mention the WAS*IS Seminar
when checking in through
DSRC security.

Questions/Problems
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