



NCAR News Release

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Web Site Shows Economic Losses from Major Weather Disasters, State by State

2001 edition adds lightning, storm, and hail data

BOULDER -- Florida holds on to its number one position with the highest annual average costs for total damage from hurricanes, floods, and tornadoes, according to the 2001 edition of the Extreme Weather Sourcebook. Louisiana and Texas rank second and third. Since 1999, the [Extreme Weather Sourcebook](#) has provided reporters and the public with quick access to data on the cost of damages from major weather events in the United States. The new edition was unveiled this week at the American Meteorological Society's annual meeting in Albuquerque, New Mexico.

Contact:

David Hosansky
UCAR Communications
P.O. Box 3000
Boulder, CO 80307-3000
Telephone: (303) 497-8611
Fax: (303) 497-8610
E-mail: hosansky@ucar.edu

"Florida's hurricane history puts it in the number one position," explains Roger Pielke Jr., the political scientist who leads the research team that created the site at the National Center for Atmospheric Research (NCAR). Louisiana and Texas have the unfortunate situation of being hit by all three hazards used in the composite ranking.

The Web site reports decades of information in constant 1999 dollars (updated from the previous 1997 benchmark). By taking data supplied in multiple, incompatible formats and harmonizing them to specific standards, the site allows relative comparisons among extreme-weather impacts and among states or regions. For 2001 the NCAR team has uncovered new data that adds as much as three decades of information for some hazards.

A new section on lightning was added because "lightning is one of the most significant weather-related killers in the United States," says Pielke. The lightning section is based on research published in 2000 by E. Brian Curran (National Weather Service Forecast Office, Fort Worth, Texas) and Ronald Holle and Raul Lopez (both of the National Severe Storms Laboratory, Norman, Oklahoma) in the *Journal of Climate*. Also new in the 2001 edition is information on hail, wind storms, thunderstorms, winter storms, and other phenomena, provided courtesy of Stanley Changnon, of the Illinois State Water Survey.

The NCAR team collaborated with the Office of Hydrology of the National Weather Service to comb NWS archives for data extending the flood record from the first edition's 1983-1997 to the current 1955-1999. "We think these are much more robust data," says Pielke. The composite data from which the comparative rankings are derived has been extended to the same period.

The 2001 Sourcebook pegs the U.S. average annual cost from tornadoes, hurricanes, and flood damage at over \$11.4 billion (excluding Hawaii and Puerto Rico). The composite rankings for the top ten states are as follows:

Average damage per year in millions 1999 US\$ from tornadoes, hurricanes, and

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Rank	State	floods 1955-1999
1	Florida	\$1,665
2	Louisiana	\$967
3	Texas	\$909
4	North Carolina	\$715
5	Pennsylvania	\$702
6	California	\$525
7	Mississippi	\$464
8	New York	\$426
9	Connecticut	\$368
10	Iowa	\$366

Pennsylvania might look like a surprise at number five, but that area experienced significant floods in the 1950s and 1970s, and has had tornadoes, too, Pielke says. "There's really no place that's 'safe'-- every place has some amount of damage.

"The Sourcebook is a starting point for those interested in understanding how weather affects people's lives," says Pielke. "The dollar amounts are approximate and are most useful in comparing states and regions." He hopes the Sourcebook acts as a catalyst for more attention to the societal impacts of weather. He also warns that historical costs cannot predict what future damage might be.

Sourcebook data and sponsorship

The flood and tornado data were updated to 1999 dollar values using the Gross National Product Implicit Price Deflator, which is published annually by the White House. In addition to inflation, the hurricane data were normalized to 1999 values by adjusting for growth in population and wealth, based on a 1998 paper co-authored by Pielke. A detailed report of the data sources is available [on the Web](#).

The flood data reanalysis project is supported by the National Oceanic and Atmospheric Administration's (NOAA) Office of Global Programs. The Extreme Weather Sourcebook is sponsored by NCAR, NOAA, the U.S. Weather Research Program, and the National Science Foundation, in partnership with the American Meteorological Society. The AMS is the nation's leading professional society for scientists in the atmospheric and related sciences. NCAR's primary sponsor is the National Science Foundation.

-The End-

Writer: Zhenya Gallon

Note to Editors: January 14-18 Stephanie Kenitzer can be reached in the press room at the AMS annual meeting at (505) 245-7828.

See also:
[Extreme Weather Sourcebook](#)
[Additional information on the AMS and the annual meeting](#)

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Prepared for the web by Jacquie Marshall

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