

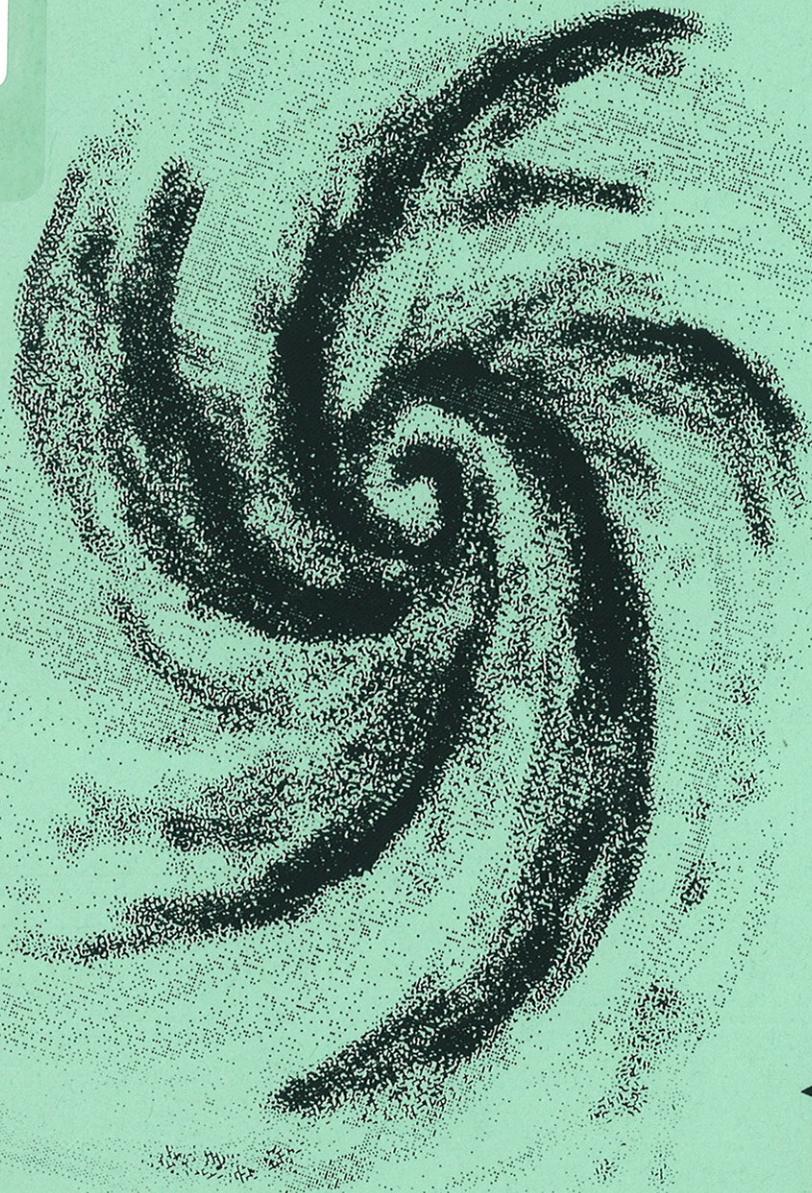
(89-6)

LIBRARY AND INFORMATION SERVICES DIVISION

Brief Bibliography

Z
6682
.B5
no.89-6

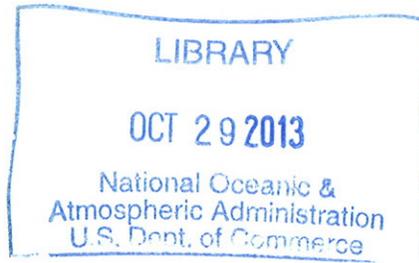
LIGHTNING



OCTOBER

1989

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Environmental, Satellite, Data, and Information Service
National Oceanographic Data Center



2
6682
.B5
no 89-6

LIGHTNING

Lightning strikes the Earth an estimated 100 times each second or more than 8.6 million times a day. Nearly 100 Americans are killed and 250 injured by lightning each year on the average while property losses due to resulting fires and other structural damage run into the millions of dollars.

Lightning is the subject of considerable scientific interest within the National Oceanic and Atmospheric Administration and is given special attention by the agency's severe storm forecasters. Eventually, continuous satellite monitoring of lightning will provide better understanding of the exact nature of lightning and improved early warning of severe lightning storms.

This brief bibliography is intended to provide a selected guide to recent literature on lightning together with a small number of older items contained in the extensive collections of the NOAA Central Library.

Current references were selected from Meteorological and Geostrophysical Abstracts, published by the American Meteorological Society, Boston, MA; the Applied Science & Technology Index by the H. W. Wilson Company; and the National Technical Information Service (NTIS) database, U.S. Dept. of Commerce, Springfield, VA. The citations are arranged in alphabetical order by author within their categories.

Questions about this material may be addressed to: Reference Desk, NOAA Central Library, 6009 Executive Blvd., Rockville, MD 20852, or call (301) 443-8330.

I. Distribution and Impact

Thunder events and cloud-to-ground lightning frequencies.

Changnon, S. A.; Changnon, D.; Pyle, Richard B.
Journal of Geophysical Research, Wash., D.C. 93(D8):9495-9502, August, 20, 1988.

Lightning: spectacular and deadly.

Clary, Mike
Weatherwise, Wash., D.C. 38(3): 128-135, June 1985.

Preliminary lightning climatology studies for Idaho.

Hill, Christopher D.; Gorski, Carl J.; Conger, Michael C.
Salt Lake City, UT: National Oceanic and Atmospheric Administration, National Weather Service, NOAA TM NWS WR-198, 37p., 1987.

Increased occurrence of lightning flashes in Sweden during 1986.

Israelsson, S.
Journal of Geophysical Research, Wash., D.C. 92(D9):10996-10998, September 20, 1987.

Distribution of summertime lightning as a function of low-level wind flow in central Florida.

Lopez, Raul E.; Holle, Ronald L.
Boulder, CO: National Oceanic and Atmospheric Administration, Environmental Research Labs, NOAA TM ERL ESG-28, 43p., July 1987.

Diurnal and spatial variability of lightning activity in northeastern Colorado and central Florida during the summer.

Lopez, Raul E.; Holle, Ronald L.
Monthly Weather Review, 114(7):1288-1312, July 1986.

Global distribution of midnight lightning: September 1977 to August 1978.

Orville, Richard E.; Henderson, Donald W.
Monthly Weather Review, 114(12):2640-2653, December, 1986.

Lighting induced failures in distribution transformers.

Puri, J. L.; Abi-Samra, N. C.; Dionise, T. J.
IEEE Transactions on Power Delivery, 3: 1784-1798, October 1988
Discussion. 3: 1798-801, October 1988.

Cloud-to-ground lightning: climatological characteristics and relationships to model fields, radar observations, and severe local storms.

Reap, Ronald M.; MacGorman, Donald R.
Monthly Weather Review, 117: 518-535, March 1989.

Evaluation of cloud-to-ground lightning data from the western United States for the 1983-1984 summer seasons.

Reap, Ronald.
Journal of Climate and Applied Meteorology, 25(6):785-799, June 1986.

Did lightning strike twice? (Sun Dome, Tampa)

ENR, 223:19-20, July 6, 1989.

II. Detection and Warning

Investigation of lightning strikes to water surfaces.

Hill, R. D.

Journal of the Acoustical Society of America, 78:2096-2099, December 1985.

Site errors and detection efficiency in a magnetic direction-finder network for locating lightning strikes to ground.

Mach, Douglas M.

Journal of Atmospheric and Oceanic Technology, 3(1):67-74, March 1986.

Lightning detection and warning on the Nevada Test Site.

Scott, C. A.

Las Vegas, NV: National Oceanic and Atmospheric Administration, National Weather Service, Nuclear Support Office; Department of Energy, Washington, D.C. ERDA/500100-; ERDA/450202-. NTIS #: DE89005593XSP, 9p., 1989.

Preliminary analysis of cloud-to-ground lightning in the vicinity of the Nevada test site.

Scott, Carven

Las Vegas, NV: National Oceanic and Atmospheric Administration, National Weather Service, Nuclear Support Office, NOAA TM NWS WR-204, 12p., November, 1988.

Acceptance of lightning detectors and localization systems under different damping conditions.

Schutte, Th.

Journal of Atmospheric and Oceanic Technology, 4(3):401-410, September, 1987.

New method for the measurement of the site errors of a lightning direction finder: description and first results.

Schutte, Th.; Pislser, E.; Israelsson, S.

Journal of Atmospheric and Oceanic Technology, 4(2):305-311, June 1987.

Lightning threat warning workshop - Proceedings. Cocoa Beach, FL, 15 Sep. 1987.

Washington, D.C.: Department of Energy; Lawrence Livermore National Lab., CA, ERDA/440300-; ERDA/500100-, NTIS #: DE88006607XSP, 114p., 1987.

Preliminary national plan for lightning detection systems.

Washington, D.C.: National Oceanic and Atmospheric Administration, Federal Coordinator for Meteorological Services and Supporting Research, FCM-P, V. 22, 45p., 1988.

Tracking lightning; is a U.S. network on the horizon?

Electrical World 201:15-18, December 1987.

III. Protection and Suppression.

Lighting protection - Seminar proceedings. London, England, Dec. 1-2, 1987.

Christie, L. F.

Leatherhead, U. K.: ERA Technology Ltd., Client and Membership Services, NTIS #: ERATL8932XSP, 272p., October 1988.

Learn to live with lightning.

Elsom, Derek

New Scientist, 122:54-58, June 24, 1989.

Limiting your exposure to lightning.

George, Fred

Business and Commercial Aviation, 63:60-63, July 1988.

IV. General and Historical Works

Ball lightning and bead lightning: extreme forms of atmospheric electricity.

Barry, James D.

New York, NY: Plenum Press, 298p., 1980.

Lightning.

Golde, R. H.

London, U.K.; New York, NY: Academic Press, 2 v., 1977.

Lightning strike density for the contiguous United States from thunderstorm duration records.

MacGorman, D. R.; Maier, M. W.; Rust, W. D.;

Washington, D. C.: U. S. Nuclear Regulatory Commission, Office of Nuclear Regulatory Research, NUREG/CR-3759, 44p., 1984.

Physics of lightning.

Malan, D. J.

London: English Universities Press, 176p., 1964, c1963.

Lightning and its spectrum: an atlas of photographs.

Salanave, Leon E.

Tucson, AZ: University of Arizona Press, 136p., 1980.

The lightning discharge.

Uman, Martin A.

Orlando, FL: Academic Press, 377p., 1987.

The lightning book.

Viemeister, Peter, E.; with diagrams by Read Viemeister.

Cambridge, MA: MIT Press, 1972, 316p., 1961.

1988 International Aerospace and Ground Conference on Lightning and Static Electricity - Proceedings and Addendum, Oklahoma City, OK; April 19-22, 1988.

Washington, D.C.: National Oceanic and Atmospheric Administration, Environmental Research Laboratories, NOAA Special Report, 2 vol., 1988.