

Climate and Weather Data

For Physicians and
Health Researchers



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric
Administration
Environmental Data Service

Shivering - perspiring - heatstroke - aching joints - asthma attacks - depression . . . these are just several of the human responses to the environment. The atmosphere in which we live fluctuates continuously. The moisture varies, temperature and pressure rise and fall, suspended particles vary in quantity.

As recognition of these relationships has increased, physicians and health workers have found a growing need for climate and weather data.

NOAA, the Department of Commerce's National Oceanic and Atmospheric Administration is in a unique position to help you.

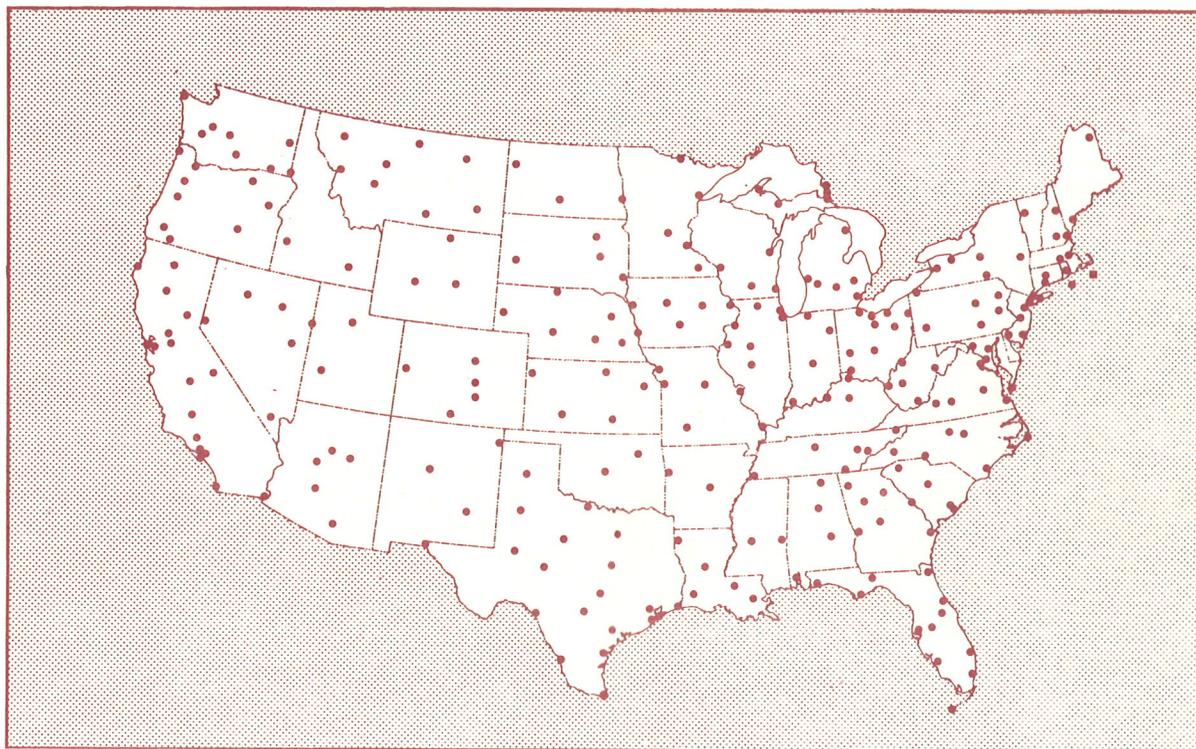
Climate and weather information needed by the physician counseling a patient or by the health research scientist studying weather-related health problems is available from the National Climatic Center (NCC) in Asheville, North Carolina.

This Center is able to supply weather data and climate statistics for all parts of the world. Data can be ordered in a variety of forms—printed publications, paper copy, microfilm, microfiche, or magnetic tape—to meet the needs of the individual physician. Unpublished data listings can be ordered for the cost of reproduction or preparation.

Meteorological data for physicians are grouped in two broad categories:

Climate statistics—Data, compiled over many years, describing the prevailing weather of a region. Climate is the summation of weather.

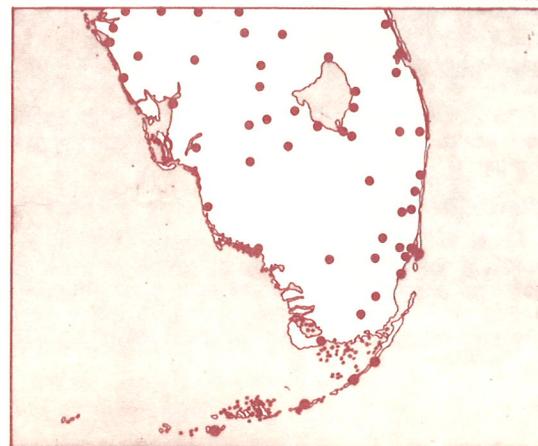
Weather data—The state of the atmosphere at a given time and place.



CLIMATE STATISTICS

Climate data are commonly used by physicians to find alternate locations for patients who find their present environment too stressful. Some physicians prefer using data for specific locations to compare the climate of the current location with that of the proposed location. Others prefer to work from maps showing data for the entire country. Publications and maps available from NCC are listed on the back of this leaflet.

Normals, 30-year averages, are useful for making rough comparisons between different locations. Averages alone are sometimes mis-



leading, however. Two areas can have the same average temperature, but the effects will be quite different if the daily extremes of temperature vary greatly at one place and change little at the other.

The extremes, frequency, and probability of occurrence of certain conditions have been calculated for many locations.

NCC can provide climate information, but not advice on which location to select to ease certain health problems.

The most extensive and detailed statistics published come from data gathered by National Weather Service field offices. The upper map shows the stations in the Principal Climatological Station network. Such a network is selected to provide stable, long-term coverage of satisfactory geographical extent, conforming to international agreements. These stations usually report hourly winds, clouds, pressure, humidity, and sunshine in addition to the customary temperature and precipitation. An Ordinary Climatological Station network provides much denser coverage of temperature and precipitation and occasionally other elements, measured at least once daily.

The lower map shows a portion of the dense network of nearly 5,000 stations manned by volunteers who record daily the highest and lowest temperatures and the amounts of rain and snow.

While NCC publishes on a regular basis only limited statistics for foreign countries, needed data often can be supplied in foreign publications or computer printouts.

WEATHER DATA

Physicians, epidemiologists, and other health workers correlating case histories or medical statistics with environmental conditions usually want weather observations taken at frequent intervals. Hourly observations are routinely recorded by the National Weather Service's main stations. Eight of these observations, corresponding to the hours 00, 03, 06, 09, 12, 15, 18, and 21 Greenwich Mean Time, are recorded on magnetic tape. More frequent observations are recorded during rapidly changing weather situations. The recorded data include:

- Cloud amounts, types, and heights;
- Temperature and dew point;
- Wind direction and speed;
- Station and sea-level pressure; and
- Current "weather" (rain, snow, fog, etc.).

Similar data are available on paper or microfiche for Federal Aviation Administration weather stations in cities where the National Weather Service does not maintain offices.

Additional data are available from satellites, ships, buoys, automatic observing stations on land and at sea, and from balloon-borne instruments. It is estimated that more than 40 million weather observations are made throughout the world every year.

Solar radiation, ultraviolet intensity, inversion frequency, and ozone level data are available in limited quantities. NCC does not archive air pollution or pollen count data, but assists investigators in finding sources for these measurements.

PUBLICATIONS

Listed below are several publications that are applicable to climate-related health problems. They may be ordered from the National Climatic Center, Federal Building, Asheville, North Carolina, 28801. Checks should be payable to the Department of Commerce, NOAA.

Long Term Data

Local Climatological Data, Annual Summary. Separate issues for each of 290 stations; specify which one. Includes summaries of all available weather observations including wind, pressure, humidity, and sunshine. 20¢ each station.

Climates of the States. Order by State. Contains monthly normals, narrative description, and general climate data. Price varies with size. 10¢ to 60¢ each State.

Climatology of the United States, Series 20. A four-page leaflet of temperature, precipitation, and snowfall data for many smaller cities and communities. 15¢ each station.

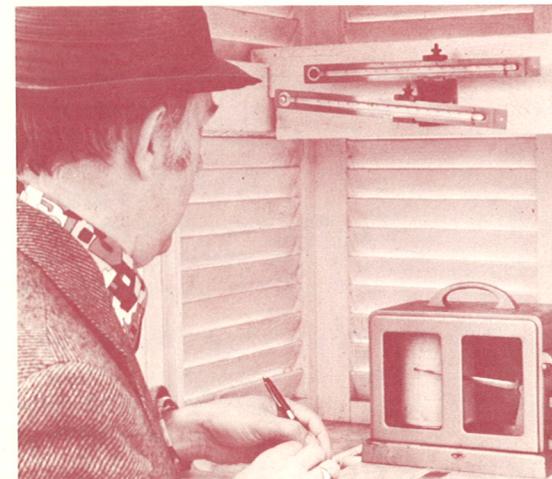
Selected Climatic Maps of the U.S. A 32-page booklet containing maps for the most commonly requested data. 70¢.

Climates of the World. A 28 page brochure of temperature and precipitation data for about 800 locations around the world. Brief descriptions of climates of each continent. Useful only as a broad guide. 80¢.

Comparative Climatic Data. Lists data for about 300 stations in an arrangement that simplifies comparison between stations. \$1.50.

Short Term Data

Local Climatological Data, Monthly. Separate issues for each of 290 stations; specify which one. Lists daily and 3-hourly weather observations per station with means for the month. \$2.55 a year (includes annual summary, if published) or 20¢ a month for each station.



FOR ASSISTANCE

The staff at the National Climatic Center is ready to answer questions about the data you need. Write to the address below, or call one of the following telephone numbers.

For general climatic information, or to order paper or film copies of records, or to obtain climatic publications call:

(704) 258-2850, Ext. 683.

To order data on magnetic tapes, or to obtain cost estimates for computer analyses, call:

(704) 258-2850, Ext. 203.

For data assistance in planning research on climate and health relationships, call:

(704) 258-2850, Ext. 754.

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Federal Building
Asheville, NC 28801

