

# Rain Eases Drought in Delaware Basin

Drought conditions in the Delaware River basin have been greatly alleviated by rainfall during October and the early part of November, the U. S. Geological Survey reported Saturday.

The Survey's Water Resources Division said both streamflow in the river and ground-water reserves had increased in recent weeks. The quality of the water in the Delaware improved, too.

## 80 PCT. OF NORMAL

The average rainfall for October in the basin was 3.17 inches, or 80 percent of normal, the report said. But the fall ranged from 2.8 inches in the headwaters to 3 inches in the lower part of the basin.

During the first half of November, an additional inch to an inch and a half of rain fell

in most areas and brought sur-recede 10 miles downstream in the upper reaches of the river during the report period. The division said. Pennsylvania-Delaware state but it had not changed significantly. The increased flow in the Delaware basin was caused by the rain. The dissolved-oxygen content of the water at which the tidal water of the river water—a pollution Nov. 14, the Water Resources is too salty for drinking—to-gauge—improved significantly office said.

## Wet September 'Dented' Penna. Drought Pattern

Bulletin Washington Bureau Washington, Oct. 11—Heavy rain during September have "severely dented" the water supply problem in Pennsylvania and the Northeastern United States, a government official reported today.

The official, Henry Barksdale, a staff hydrologist for the U. S. Geological Survey, said the rain last month "provided a refreshing respite to more than five years of lowering streamflows and ground water supplies."

"If not broken," he explained, "the water supply problem has at least been severely dented."

While warning that it is "too early to tell what the final outcome might be," Barksdale said that with the approaching end of the growing season, the water supply problem has "decreased substantially."

"Even moderate precipitation would probably enable most threatened public water supplies to weather the remaining growing season, and probably the coming winter without serious problems," he added.

In Pennsylvania, Barksdale said, "water supply conditions improved considerably, even though streamflows were still well below normal for the month of September."

Most of the rain that fell in the state, he said, "was used in

satisfying soil moisture deficiencies, and there was relatively little direct runoff into streams or recharge to ground water."

"However, the seasonal decline of ground-water levels was reversed in several wells in the southeastern part of the state."

Barksdale said water levels in most observation wells in the southeastern part of Pennsylvania "were still below average, and levels in two of these wells were at record low levels."

He did not say where the two wells are located.

He said that "the relatively minor recovery of the water table" indicates that an above-average rainfall is needed during the next several months "if we are to enter the next growing season with substantial reserves in storage beneath the water table."

## '66 PRECIPITATION UP IN NORTHEAST

But a 37-inch Average Was Still 18% Below Normal

WASHINGTON, Jan. 22 (AP)—More rain and snow fell in the Northeast last year than in any of the three preceding years, but the 1966 sum was 18 percent below normal, the Weather Bureau reported tonight.

There is sufficient water to carry the area at least through this spring, but it is too early to tell whether the drought in the Northeast for more than five years will recur this summer, the bureau said.

The bureau said the Northeast had 37 inches of precipitation during 1966, compared with its 44-inch norm. During 1965, rain and the water equivalent of snow totaled only 21 inches.

Precipitation was near normal last year until mid-June, when there was a recurrence of the scant summer rainfall that has parched cropland.

The dry spell was broken last year by heavy rains in September, the bureau said, but it observed that heavy rain in previous years offered short respite from the prolonged drought.

"Thus, any conclusions on the termination of the drought must be made with caution," the bureau said.

## New England Hit By Snow, Gales

BOSTON, May 25 (AP)—A late season gale with northeast winds gusting to 75 miles an hour buffeted the New England coast Thursday, bringing record cold temperatures, snow and a threat to property on Cape Cod and other coastal areas.

Rangers at the Cape Cod National Seashore said winds of 75 miles an hour were clocked at Provincetown and 20-foot seas posed a threat to 30 miles of beaches and bluffs from Provincetown to Chatham.

Police reported only minor flooding. Some roads were underwater in low sections.

The Coast Guard said one boat anchored in Chatham harbor had broken loose and run aground. Part of the town pier in North Dennis was washed away.

Provincetown reported more than two inches of rain in 24 hours. Nantucket Island, south of the Cape, reported 2½ inches in 18 hours.

Cape Cod was faced with the threat of flooding and erosion when early morning high tides rolled in Friday with the thrust of the full moon. Ranger William C. Brown said the full moon would bring tides of about 2 to 3 feet above normal.

## RECORD LOW

A temperature of 40, record low for the date, was noted in Boston at 7 P. M. The previous low was 41 in 1958.

Montpelier, Vt., reported six inches of new snow on the ground at 8 P. M. Thursday.

Record low temperatures were recorded as far south as Miami Beach, Fla. Siret and hail were reported in the Boston area and a college baseball game in New Hampshire was snowed out.

Snow plows plied the Mohawk Trail in the Massachusetts Berkshire Mountains on a section of scenic Route 2 between Greenfield and North Adams.

Prof. Richard Southwick, a tobacco expert at the University of Massachusetts at Amherst, said snow broke poles and nets used to protect the tobacco from the sun.

The damage to the poles and nets, the costs of replacements and labor will run to \$1 million, Southwick said.

## Wind and Rain Push Mercury Down to 29°

Summer-type thunderstorms coming in the midst of balmy spring weather, brought a touch of winter back to Greater Philadelphia today.

The Weather Bureau's thermometer at International Airport registered a subfreezing low of 29 degrees at 4.40 this morning.

This represented a 41-degree drop from a high of 70 at 1:15 P. M. yesterday.

Light rain began falling here at 1:14 P. M. yesterday. The rain became heavier between 3:12 and 3:20 P. M. Another heavy shower between 4:18 and 4:23.

## Gusts Up to 33 MPH

The rain was accompanied by thunder and lightning, and by winds gusting at 33 miles an hour. The rain ended at 7:05 P. M. The Weather Bureau measured the total precipitation at .51 of an inch.

The rainstorm preceded a cold front which went through at 4:30 P. M., triggering the rapid drop in temperatures.

At 3 P. M. the mercury was down to 64; at 4 to 58 and at 5 to 45. The drop to the low of 29 took place in a little more than 15 hours.

## Power Failure

The storm was blamed for a short circuit which darkened more than 900 homes and business establishments in Pilgrim Gardens, Delaware County, for a half-hour beginning at 4:23 P. M.

A signal on the Pennsylvania-Reading Seashore Lines at Verpon Tower at Ashland, south of Haddonfield, was knocked out.

A child's kite fell across some power lines in Cherry Hill. Power was cut off until workmen removed the kite. This caused a blackout at Kingston Estates for about half an hour, starting at 4:30 P. M.

A snowstorm in Western Pennsylvania dumped nine inches in some areas yesterday. Pittsburgh measured a four-inch fall.

## Water Reserves Boosted by Storm

WASHINGTON, Feb. 7 (AP).

—Tuesday's snowstorm deposited an equivalent of about 250 billion gallons of water on the Potomac River Basin above Washington, according to hydrologists of the U. S. Geological Survey.

This is equal to about 10 percent of the Potomac's flow past Washington during all of 1956.

Ewell Mohler, agency hydrologist said that "a great benefit will result if more as an orderly and gradual melting of the snow" and that "if much of this precipitation percolates into the ground, a significant improvement will be made to the Potomac Basin's ground water reserves."

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## Forecaster Sees End Of Drought

By WILLIAM A. GARRETT  
Courier-Post Bureau

WASHINGTON — A break in the weather cycle that for four years has had the Northeast in the grip of a drought is regarded as "likely" by one of the nation's top forecasters.

But Dr. Jerome Namias of the extended forecast division at the U. S. Weather Bureau says that meteorologists "do not understand sufficiently the complex phenomena" responsible for the drought to foretell just when it will pass into history.

The bureau observed recently, after rains had drenched the Northeast several times, that the drought was at least bent, if not broken.

Namias reports, in a bureau publication, that much more work will be necessary to verify scientific findings as to the drought's cause and thus now is being helped by high-speed electronic computers.

Vast upper-air currents, Namias theorizes, influenced the drying up of the Northeast in 1958-65, largely in spring and summer, and the wetting down of other regions. Most persistent feature of these winds was a southward dip in the so-called westerlies.

Over the four-year period, Namias says, there was a deep-tropospheric trough off the Atlantic Coast. Below this, along the continental shelf, water was colder than normal. This, Namias ventures, may have resulted from a strengthened flow from Labrador.

Air masses which draw heat

## 2d Blizzard Strikes Through Plains States

Chicago, March 23 (UPI)—The second blizzard to sweep the plains in three weeks paralyzed cities, closed schools and industries, and stranded hundreds of travelers today.

At least seven deaths were blamed on the full-blown storm which swept out of the Rockies and spread across Kansas, Iowa, Nebraska and Minnesota.

Blizzards warning were up for most of Iowa, Minnesota and western Wisconsin. A blustery cold wave was moving into Missouri and east Kansas.

## Storm Lashes New England; Damage Heavy

Boston, May 26 — Hundreds of persons were evacuated from homes today when 14-foot tide flooded the New England coast as winds up to 75 miles an hour and rain lashed the region. Up to nine inches of snow fell in land.

The sixth highest recorded tide since 1722 hit Massachusetts Bay, forcing hundreds of people to evacuate shore-front homes. Some roads, under two-feet of water, were closed to traffic. Nantucket received 7.97 inches of rain.

About 100 expensive pleasure boats were wrecked in the Marblehead, Mass., harbor.

Harbor-master Philip Clark described the storm "as bad as we've ever had and worse than the 1938 hurricane," which caused widespread destruction along the New England coast.

On one large stone jetty, the storm left a pile of debris 50 feet across, pieces of wood no larger than a desk top, of what were once 20- to 30-foot boats.

The Connecticut valley's lucrative tobacco crop was dealt a multi-million-dollar blow as the fast-moving storm swept through the fields for a storm. Protective cncasection netting collapsed beneath the weight of snow, crushing the tender to