

The lowest temperature at the Richmond International Airport was

-1°F on January the 17<sup>th</sup>.

## January 1977 TEMPERATURE - EXTREMELY COLD

This was the fifth coldest January of all time, and the coldest of record since the official Washington observing site was moved to National Airport (DCA), near the center of the city's heat island. On but one day (the 25th) was the mean temperature above the monthly average, and that by only 1°, while Dulles Airport (IAD) had no above normal days. Minima were below freezing every day of the month throughout the area, with IAD's highest minimum only 24. IAD reported only 10 days that the maximum exceeded 32°. On average, DCA has 9 days per year in which the maxima are below freezing. January alone brought 12.

Not since 1881 had the January temperature failed to reach 50 - the 1977 DCA high was 49. Monthly average temperatures were -10.2, -11.2 and -10.5° at DCA, IAD and BAL, respectively, the seventh consecutive month with below normal readings. See the article containing newspaper headlines for the impact of the cold on the East.

### PRECIPITATION - FROZEN ONLY

Not once did precipitation fall as rain - only as ice pellets (sleet), snow and freezing rain (glaze). The latter accounted for two ice storms in the same week - on the 9th, 10th, and 14th. Frozen precipitation occurred on 12 days, mostly in small amounts. However, since all precipitation was frozen, DCA's total depth of 9.7" was double the 4.7" January normal, and the greatest January depth since 1966, when 21.3" fell. A few northern suburb stations recorded over 13" of snow.

Monthly totals of the water equivalent of melted precipitation were 1.50", 1.10" and 1.36" at DCA, IAD and BAL, respectively, with these amounts being 1.12", 1.74" and 1.55" below normal - the third consecutive dry month. Despite the dryness, however, snow covered the ground from the 5th till the 10th, when it was covered with a layer of ice which remained through the end of the month.

**U.S. DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
National Weather Service  
Spring, M1

SOME WEATHER-RELATED NEWSPAPER HEADLINES

The following are some of the weather headlines (in capitals) and related highlights printed in the Washington Post and Star.

- Jan. 2 Happy N-n-new Year. The year was only 3 hours and 40 minutes old when the temperature hit the day's low of 15.
- Jan. 6 MAJOR SNOWSTORM CATCHES AREA UNAWARE WITH 4-INCH FALL.  
SNOW'S EARLY ARRIVAL HAMPERS CITY SALTING EFFORTS. Only the subway unaffected.
- Jan. 10 MORE SNOW HITS AREA; CREWS BUSY.  
CREWS BATTLE AREA'S THIRD SNOW IN WEEK.
- Jan. 11 WINTER STORM CAUSING CITY'S COLDEST JANUARY IN DECADE.
- Jan. 12 4 DIE, HUNDREDS HURT IN WEATHER ACCIDENTS. MERCURY DROPS TO -4°F AT DULLES - for the chilliest reading since the airport opened in 1962.
- Jvn. 16 IN GARRET (County): 90 INCHES OF SNOW SO FAR. IN THE BAY: THAW ONLY MAKES IT WORSE.  
Since January 1, two Coast Guard cutters have run shipping convoys from Baltimore down the Bay once per day. Ice sheets in the northern Bay are more than a foot thick in some places.  
AREA'S ICE-COATED STREETS CAUSE TWO DEATHS, MANY INJURIES. Temperatures, above freezing for the first time in days, melted little of the ice.
- Jan. 17 AREA GETS NO RESPITE, BITTER COLD LINGERS. Back into the deepfreeze. (A wind chill table was published. Most areas had actual temperatures below zero with wind chill values down to -40°).  
Impending disasters in other parts of the country began creeping into the news, beginning with the following headline:
- Jan. 17 DROUGHT AND COLD THREATEN WESTERN CROPS, WATER, LAND (Colorado westward)  
CALIFORNIA FARMERS BRACING FOR RECORD DROUGHT.
- Jan. 18 RECORD COLD CRIPPLES AREA; POWER CUT IN VIRGINIA. SCHOOLS SHUT.  
"Never has there been recorded such a cold January 17 in metropolitan Washington. It was so cold there was not only a record low temperature - +2° at DCA, but a record low maximum - +18°."
- 18 A COLD DAY TO REMEMBER. (The Post printed an eight-inch long list of cities in which new record low temperatures were set on the 17th. Evansville, Indiana's and Dayton, Ohio's -21 broke the old record of -7. On the Gulf Coast, Mobile, Alabama, had a record +15°, and Pensacola, Florida, +17. Waterloo, Iowa, recorded -28.)
- Jan. 19 BONE-CHILLING COLD PLAGUES AREA. FIRES ADD TO MISERIES OF AREA'S NUMBING COLD WAVE. "Coast Guard vessel leads ships freed from ice yesterday into Baltimore Harbor." 2,570 motorists reported to AAA their cars wouldn't start. 201 of the 1,743 Metrobuses failed. Water pipes burst. (Governor Godwin asked President Ford to declare the Chesapeake Bay area a disaster area.)
- 20 SNOW, 31° IN MIAMI. Freeze hits Florida citrus crops.
- 26, ICE CRIPPLES BAY FISHING INDUSTRY. TANGIER, SMITH RESIDENTS IMPERILED. First Bay freezover since 1936.
- Jan. 28 BLIZZARD BLANKETS FUEL-SHORT MIDWEST. ILLINOIS WIND CHILL -80°.  
VIRGINIA ORDERS GAS CUTOFFS TO FIRMS, SCHOOLS IN EAST AREA. LIGHTS AT THE WHITE HOUSE WILL GO OUT TWO HOURS EARLY. OHIO HARDEST-HIT BY WINTER RAMPAGE. SWIFT ACTION PROMISED ON GAS CRISIS BILL. An end to price controls is seen as a possibility.
- Ian. 29 (Sec separate article on January 28-29 weather)  
50 MPH WINDS PLUNGE WASHINGTON INTO NEW DEEP FREEZE. NUMEROUS ACCIDENTS, BLACK-OUTS. PARALYZING STORM HITS MIDWEST AND EAST. SOME HOMES FACING NATURAL GAS CUTOFFS. WEATHER CRISIS SNOWS GOVERNMENT. GAS HEATING CUTBACK ORDERED IN AREA.

- COMMERCIAL, INDUSTRIAL USE AFFECTED. (Two-thirds of the front page and two entire inside pages of the Post were devoted to the weather).
- Jan. 30 COLD WEATHER CRISIS. CARTER SEES 4-DAY WEEK AS POSSIBILITY. 500,000 ALREADY IDLED. CARTER, CABINET MAP RELIEF MEASURES. MAYOR WASHINGTON ORDERS 8-HOUR DAY, 65° TEMPS IN ALL DC GOV'T. BUILDINGS. VIRGINIA GOVERNOR DECREES 40-HOUR WEEK FOR ALL RETAIL ESTABLISHMENTS. MOST BALTIMORE RESTAURANTS CLOSE AS GAS SUPPLY IS CUT OFF. ALL INDUSTRIAL GAS USE IN MD. REDUCED TO BARE MINIMUM. TOTAL CUTOFF MAY COME NEXT. (The Star published a chart showing daily January temperatures. Only twice did the maximum exceed the normal daily high of 43.5).
- Jan. 31 SCHOOL, FACTORY SHUTDOWNS EASE GAS CRISIS SLIGHTLY. LAYOFFS PREDICTED. SUPPLIES STILL SHORT. COLD CRIPPLES EASTERN SHORE ECONOMY. Oystering, key to area industry, brought to standstill. CARTER INSPECTS INDUSTRIAL AREA HIT HARD BY COLD. (This was mainly Ohio, Indiana, New York, and Pennsylvania). ICEBERG, 100 feet long, 40 feet wide, and 20 feet high, appears in the Chesapeake Bay.
- Headlines continued for a while into February.
- Feb. 1 SENATE APPROVES CARTER'S NATURAL GAS BILL. INCREASED COST FOR HEATING PUT AT \$2-5 BILLION. ICE, SNOW, STILL PLAGUE EAST, MIDWEST. DEATHS, UNEMPLOYMENT RISE. (Meanwhile, a most interesting headline, also on the front page, stated), STUDIES FIND NO SHORTAGE OF NATURAL GAS. (Once price controls were partially lifted on interstate gas, the flow across state lines from the warmer western US helped to alleviate the shortage in the east)
- Feb. 1 continued. IT WAS OUR COLDEST JANUARY IN 37 YEARS, LITTLE WARMTH IN SIGHT. NATURAL GAS CUT BACK, BUT COLD, SNOW EASE IN MOST OF EAST, SOUTH. (Up to 1.5 million were out of work because of closings due to the gas shortage, with 2/3 of these being in Ohio). \$30 MILLION TO GO TO FLORIDA for growers and displaced workers in 35 counties. MORE snow in Gulf states.
- Feb. 2 GAS CRISIS MAY CLOSE FACTORIES UNTIL APRIL. VIRGINIA FUEL CUTS CAUSE 5,000 JOB LAYOFFS. SEARCHING FOR THE DEAD IN BUFFALO. TRANS-CANADA PIPELINE RECOMMENDED. Feb. 10 HOUSE PASSES EMERGENCY GAS BILL, 367-52.
- FLORIDA ORANGE HARVEST ESTIMATE REDUCED BY 14%.
- Additional articles dealt with the severe California drought and lack of snow in all of the Rockies. A 9" X 12" front page photograph in the Post showed the ice-covered Niagara Falls. Other photographs frequently showed skaters and even ice sail boats gliding over the frozen Potomac River.

#### JANUARY 16-17 - EXCRUCIATING COLD

A mid-morning cold frontal passage Sunday, January 16th, brought a few snow flurries and howling, bitterly cold northwest winds. Temperatures, near freezing Sunday morning, plunged to below zero in all but the center of Washington's "heat" island by Monday morning. DCA's low was +2° and IAD -2°. While the sustained high winds kept temperature variations small Monday morning, wind chill factors were the lowest in years, with Foster (257) reporting a -55°.

Plumbers were swamped with calls to repair frozen and burst water pipes. Furnaces in apartment complexes failed. Trucks delivering heating oil were unable to keep up with demand. Within a few days, Chesapeake Bay barge traffic was stopped by ice, and natural gas supplies became critically low, leading to business and school closures. See January 28 article.

Fu- IAD, this was the third of four days in which minimum temperatures dropped to zero or lower, and with one exception, the 2° minimum at DCA was the coldest since January 1940.

Blackburn/Fleischman

## THE TERRIBLE TWENTY-EIGHTH

The most intense cold front of the season swept across the Ohio Valley and Great Lakes this Friday, accompanied by a blinding blizzard, gales, and an instant return to the deep freeze. Cincinnati, Ohio's balmy 31° temp at 7 a.m. plummeted to 3 below by 10 o'clock. Many Pennsylvania and western New York businesses dismissed their employees early, but not early enough, only to see several deaths and multitudes of frost-bite cases due to the traffic-strangling blizzard that hit before they reached home. Buffalo's wind chill factor plunged to 67 below zero at the height of the storm. Heavy snows and towering drifts closed downtown Buffalo to traffic for four days, stranding many people in offices and stores. Buffalo was later declared a disaster area.

The weather system which accompanied this cold front brought about a remarkable series of events to the Washington area, as described below.

- (1) Extraordinarily large temperature variation on preceding night. Skies cleared on the night of the 27-28th as a high pressure area associated with bitterly cold Great Lakes air just managed to edge as far south as Washington. Just before dawn, minimum temperatures for the night ranged from 6° at stations 28, 871, and 400, to 28° at station 656 in downtown Washington. DCA's overnight low was 23.
- (2) Highest temperatures of the month. During the next few hours, temperatures climbed steeply, reaching the mid and upper 40's by afternoon, as the high pressure area exited rapidly to the east, giving way to strong southerly winds in advance of the cold front. As Washington's temperatures reached their highest values for the month, western Maryland's state police were closing Interstate 70 and multitudes of other roads, in the face of a severe blizzard.
- (3) Rare January roll cloud heralds front's arrival. Roll clouds are normally long, narrow lines of turbulent low clouds formed by the intersection of the cold downdraft air from a thunderstorm with the warm air in advance. In this case, the air behind the cold front was so intensely cold, enough to create the same type of cloud.
- (4) Highest winds of the month. Winds shifted abruptly from the south to northwest with the front's passage. DCA clocked sustained winds of 45 mph with a peak gust of 56 mph. Claggett (959) reported winds wrecking a lamp post and ripping off a shed door. Many small limbs were felled, but thanks to the deeply frozen earth, few trees were uprooted. Buck (200) noted 45-50 mph winds, Hale (540) 38 mph, Zeavin (639) 58 mph, and IAD 46 mph. Police closed much of Interstate 270 and urged motorists to keep off the highways due both to the wind, blowing snow, and the refreezing of previously melted snow and ice.
- (5) Precipitous temperature drop. Temperatures plunged even more steeply than their morning rise. Ballard (38) noted a drop from 44 to 20 from 5-6:30 pm; hale, 47 to 8 in 4 hours; Boucher (871) from 45 at 5:50 pm to 26 at 6:20 pm; Kniskern (582) 41 to 23 between 5:45 and 6:45 pm; Goldstein (129) 20° in 25 minutes; Zeavin (639) 15° in 20 minutes; McGinnis (447A) 45 to 25 in 40 minutes; McGinnis (390) 42 to 30 in 13 minutes, and 42 to 23 in 1 hour; Buck (200) 49 to 22 in a half hour, etc. Linger (834) noted, "cold front crashed thru at 5:30 pm. Temp dropped 11° in 2-3 minutes." Foster (257) computed a wind chill of 45 below zero at midnight, when his temp hit 3°.

- (6) Snow, sleet, snow grains, and possibly lightning. Many observers, mostly in the NWrn suburbs, reported snow and blowing snow, and several noted sleet. A couple reported snow grains, and there were three reports of lightning about an hour after the front passed, and one of possible thunder. Nobody reported more than .02" melted precipitation. Two observers in the Bowie area reported sprinkles of rain as the front first passed. If so, this was the only instance in the whole month in which unfrozen precipitation fell.
- (7) Large instantaneous temperature variation (second occurrence of day). Advancing at a swift 45 mph, the cold front swept over the NCA in slightly more than an hour. Temperatures ahead of the cold front at the time it moved out of the NCA were about 45°, with Boucher (871) recording 45° at 5:50 p.m. simultaneously, readings in the northwestern NCA had plunged to about 21°, resulting in a 24° instantaneous temperature range. However, weather conditions were almost the opposite from those that accompanied the morning's 22° variation. Clear skies and calm winds portrayed the first event, while cloudy skies, snow, gales, and an intense cold front caused the latter.
- (8) Yo yo temperature changes. Twenty-four hour temperature variations in the valleys of the outer western suburbs seem to have been unprecedented. For example, the NOAA Sterling Research and Development station (400) recorded a Friday morning minimum of 6°, a maximum of 47° by afternoon, and a -2° minimum by Saturday morning - that is, a rise of 41° followed by a fall of 49°, both occurring within a 24 hour period.
- (9) Effects on Maryland and Virginia. Already experiencing a critical natural gas shortage from previous cold weather, the new cold wave shut down Virginia and Maryland schools heated by gas. Governor Godwin of Virginia ordered thermostats lowered to 65° by day and 55° by night, with working hours limited to 40 per week for gas heated commercial establishments. Chesapeake Bay counties were declared a natural disaster area due to the frozen bay halting fishing activities and trapping barges carrying heating oil, food, etc. The temporary warmth of the 29th, however, allowed Coast Guard cutters to break up the ice enough for barges to move again, however briefly. This was the first time since 1930 that the bay had been completely frozen over. In the intervening years, dependency on the bay had increased tremendously. Cold temperatures the morning of the 29th froze many pipes for the second time in two weeks.

**Key:**

Blackburn

The following abbreviations are used below:

TWA-Washington National Airport (station 752)-rAL-  
 Lantimote-Washington Int'l. Airport (station 99)  
 IAD-Dulles Int'l. Airport (station 403)

(:A-National Capitol Area

Directions are abbreviated, i.e., SW-Southwest, ERN-Eastern

The table below compares weather at DCA, BAL, and TAD.

| EVENT   | Normal |      | DCA   | BAL   | TAD   | NCA |
|---|--------|------|-------|-------|-------|-----|
|   | DCA    | IAD  |       |       |       |     |
| 1. Highest temperature 1/                         |        |      | 49    | 48    | 48    | 50  |
| Dales   |        |      | 28    | 28    | 28    | 28  |
| 2. Lowest temperature                             |        |      | 2     | -2    | -4    | -7  |
| Date:   |        |      | 17    | 17    | 12    | 17  |
| 3) Days with temperature 32 or below 3/           | 21     | 75   | 31    | 31    | 31    | 31  |
| 4. Days with temperature 50 or above              |        |      | 0     | 0     | 0     | 0   |
| 5. Heating Degree Days (base 65) 5/               | 911    | 1020 | 1221  | 1297  | 1361  |     |
| 6. Days with measurable precipitation .           | 11     | 10   | 9     | 8     | 9     | 9   |
| Number of rains 1" or more                        | 2      | 2    | 0     | 0     | 0     | 0   |
| 8. Days with thunder 8/                           |        |      | 0     | 0     | 0     | 0   |
| 9. Days with hail                                 |        |      | 0     | 0     | 0     | 0   |
| 10. Days with snow                                |        |      | 11    | 12    | 12    | 12  |
| 11. Days with sleet 11/                           |        |      | 1     | 1     | 1     | 2   |
| 12. Days with freezing; rain (9, 10, 14th)        |        |      | 3     | 3     | 3     | 3   |
| 13. Days with dense fog (10th and 15th)           | 2      | 4    | 1     | 1     | 2     | 2   |
| 14. Clear days                                    | 8      | 8    | 13    | 13    | 12    |     |
| 15. Cloudy days                                   | 16     | 16   | 10    | 10    | 11    |     |
| 16. Highest wind gusts (28th)                     |        |      | 56    | 51    | 46    |     |
| 17. Highest barometer (13th)                      |        |      | 30.62 | 30.60 | 30.61 |     |
| 18. Lowest barometer (10th)                       |        |      | 29.26 | 29.23 | 29.25 |     |
| 19. Greatest 24-hour temperature change (28-29)   |        |      | 41    | 41    | 48    |     |
| 20. Least diurnal temperature range (5th or 14th) |        |      | 8     | 8     | 8     |     |

1/ The 28th was also the day with the greatest instantaneous temperature variations and greatest daily range. For a further discussion of the day's weather, see the separate article.

3/ This month continued the winter's cold trend, with only the 25th being reported as warmer than normal, and that by 1°, and only at DCA and BAL, not IAD.

5/ The higher-than-normal value of Heating Degree Days this month shows well why fuel is being consumed at such a rate this winter.

6/ Measurable precipitation fell in the DCA on the 5th, 6th, 7th, 9th, 10th, 14th, 24th, 25th, and 28th.

7/ Although a number of snowfalls reached depths of over 1" (4.6 on the 7th at DCA was the greatest), the water equivalent was never over an inch.

8/ There was one thunder and a few lightning reports on the evening of the 28th.

11/ Sleet was widespread on the 14th. Several stations noted it briefly on on the 28th.

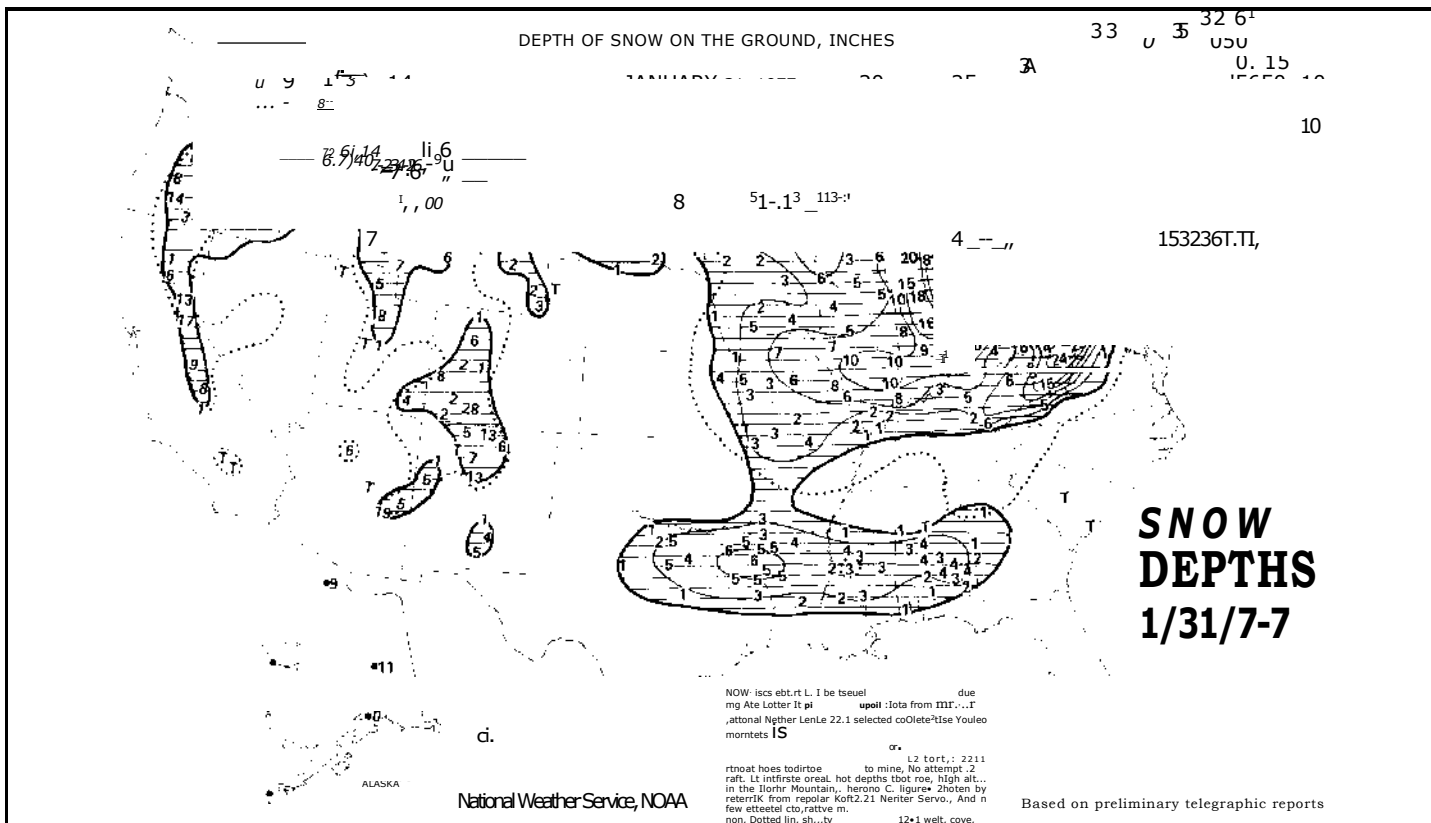
Greatest instantaneous temperature variation - 24° on the 28th. This happened twice, actually, once in the morning, which was clear and calm, when the range was from 6° to 28°, and once about 5 p.m., when the cold front sent temperatures in the northwestern suburbs down to 26°, while the southeastern DCA had readings around 50°.

Optical phenomena - Bolstor (843) reported sundays on the 14th, and Pearl (485) reported a sunday on the 23rd.

The following map is reprinted from the -

Feb. 1, 1977

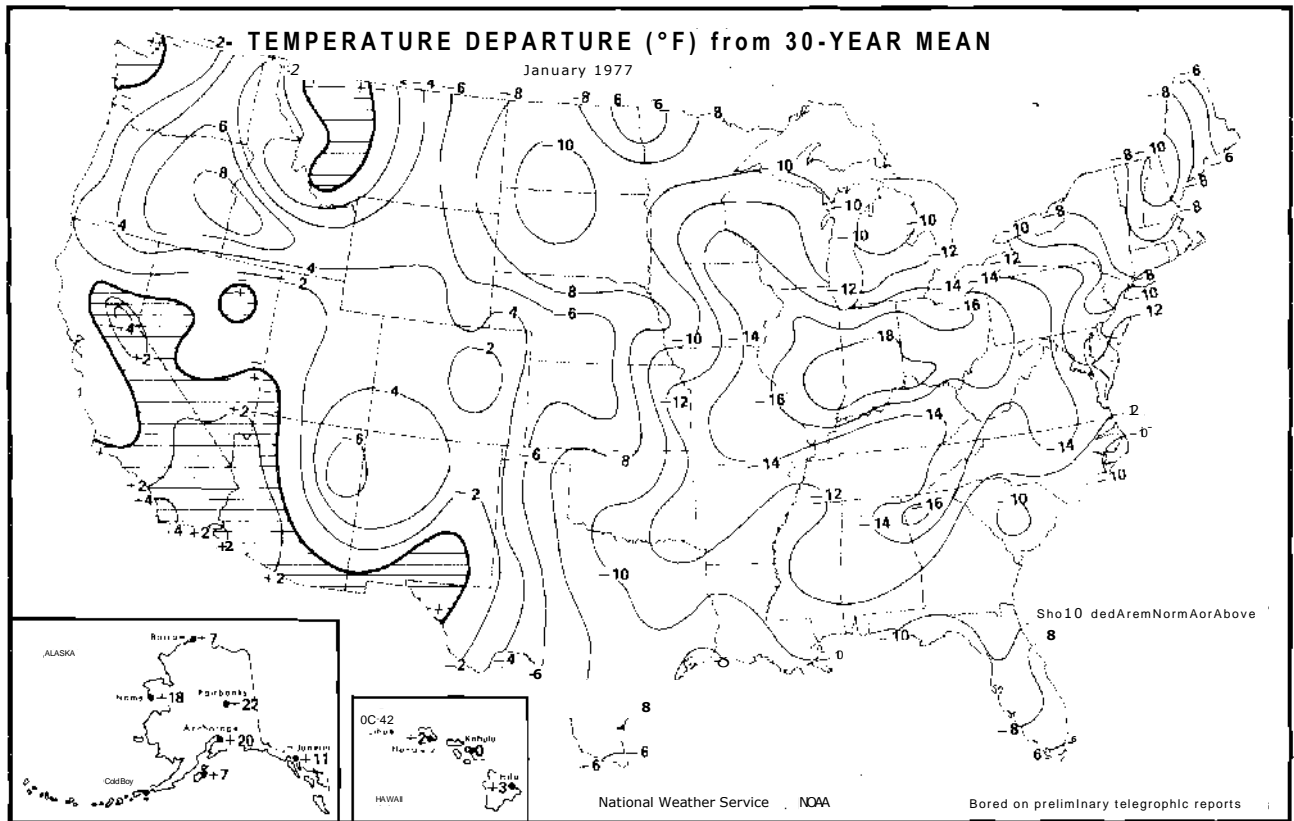
Weekly Weather and Crop Bulletin



The following adjustments were made to average monthly maximum and minimum temperatures reported by our observers, to make readings equivalent to observations taken at mid-night. Adjustments apply to monthly averages, not daily readings.

| Time    | 6am  | 7am  | 8am  | 9am  | 10am | 4pm  | 5pm  | bpm  | 7pm  | 8pm  | 9pm  | 10pm | 11pm |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Maximum | +0.1 | +0.1 | +0.2 | +0.2 | 0    | -1.7 | -1.0 | -0.4 | -0.2 | -0.1 | 0    | 0    | 0    |
| Minimum | +0.5 | +0.4 | +0.1 | -0.4 | -1.5 | -1.8 | -1.6 | -1.5 | -1.2 | -0.9 | -0.6 | -0.2 | -0.1 |

Mark Boddy



### January Weather Summary

**HIGHLIGHTS:** January was a month for setting records. Record low temperatures were reported all during the month in nearly all areas east of the Rockies. For the month as a whole the largest negative departures from normal encompassed the States of Illinois, Indiana, Ohio, northern Kentucky and western Pennsylvania where average temperatures for the month were 16 to 19° below normal. Many cities in this area and in the South reported average January temperatures to be the coldest of record. Shortly after midmonth the cold air swept over Florida; meanwhile Alaska experienced unusually balmy weather. Snow fell as far south as Miami Beach. Precipitation was below normal in a large portion of the U.S. The central Rockies and areas west of the Plateau had much less than normal precipitation. The Pacific Northwest, northern California and Nevada had one third or less of their normal precipitation, further intensifying extremely dry conditions.

January began with a storm in the Southwest moving eastward into a very cold air mass. Snow fell on the Plateau, the southern Rockies and from the central Plains southward to northern Texas. The storm continued eastward and a variety of precipitation fell along the Gulf Coast from Texas to northern Florida. Rain along the Coast, freezing rain from northeast Texas through northern Alabama, and snow north of this area resulted from the storm.

A series of cold outbreaks continued to pour cold air into the U.S. east of the Rockies and on January 8th the cold air swept westward from the Plains and enveloped most of western U.S. in colder than normal temperatures.

At midmonth the cold air still enveloped most of the nation although the area west of the Rockies was not as cold as the previous week. East of the

Rockies it was 20 to 24° colder than normal from North Dakota to Illinois. Precipitation excluded the Southwest and was very light in the Plains. The South, the lower Mississippi Valley and New England reported significant amounts of snow or rain.

In the week following midmonth the cold air was pooled in the Cain 3/ally where temperatures were 22 to 26° below normal. Average temperatures ranged from 5 to 10° in this area. A lull in the input of cold air into the northern Plains allowed some warming in the Plains. However the Southeast was not so fortunate. Temperatures in Florida were as much as 18 to 20° below normal and freezing temperatures occurred for five successive nights. Severe damage to fruit and vegetable crops resulted. Snow fell as far south as the Everglades. Snow also covered areas in Alabama and Georgia. During the latter part of the week rain with snow at higher elevations fell from the California Sierras into Arizona and the central Rockies.

The short lull in the flow of cold air from central Canada came to an abrupt halt during the last week of the month when an extremely cold arctic air mass plunged southward and eastward. High wind, snow, blowing snow and bitter cold temperatures combined to create severe blizzard conditions along and behind the advancing cold air as it moved through the northern Plains, the Lakes area, the north central States and the Northeast. The extreme cold and penetrating winds caused most activities to come to a halt and a number of storm related deaths were reported. Elsewhere, as the cold air penetrated the deep South snow, sleet and freezing rain fell from north central Texas to Georgia and northern Florida. Light rain or drizzle was reported along the north Pacific Coast but otherwise dry weather persisted in the West.



| NO.  | NAME          | PCPN  | SNOW  | NO.  | NAME          | PCPN | SNOW  | 1    | NO.           | PCPN | SNOW | NO.           | NAME         | PCPN     | SNOW     | NO.         | NAME           | PCPN  | SNOW  |      |
|------|---------------|-------|-------|------|---------------|------|-------|------|---------------|------|------|---------------|--------------|----------|----------|-------------|----------------|-------|-------|------|
|      | SCACE         | 1.24  | 15.0  | 243  | SADOWSKI      | 1.43 | 9.2   | 1382 | TRAMMEL       | 01.1 | 576  | LANDOVER MALL | 1763         | BONNETTE | 1.90     | 10.5        |                |       |       |      |
|      | WELLER        | 1. ?0 |       | 244  | HILLHOUSE     | 1.44 | 10.0  | 1388 | HORSEFEN      |      | 592  | KNISKERN      | 1.19+09.3    | 764      | PAROCZAY | 1.72        | 10.3           |       |       |      |
|      | WIN :TON      | 1.52  | 17.9  | 245  | SCHRRCK       | 1.50 | 7.60  | 1290 | POUCH         | 1.90 | 582  | AFISHER       | 1.19         | 08.6     | 765      | MOYER       | 1.62           | 10.7  |       |      |
|      | MCGOVERN      | 1.51  | 12.1  | 245A | APRPRIENTOS   |      | 12.0  | 391  | MOGIL         | 1.88 | 09.7 | 534           | CAMPOS       |          | 770      | GERVASE     | 1.59           | 07.8  |       |      |
| 34   | SHAW          | 1.45  | 11.7  | 246  | MCCOMB        | 1.26 | 08.0  | 400  | STERLING R&D  | 1.12 | 591  | WINKLER       | 1.96         | 06.7     | 771      | CALLICOTT   | 1.63           | 10.3  |       |      |
| 35   | PEARSE        | 1.27  |       | 247  | JORDAN        | 1.46 |       | 402  | DULLES ARPT   | 1.10 | 09.2 | 611           | 3 FLATLICK   | 1.13     | 774      | ANDREWS APB | 1.78           | 09.8  |       |      |
| 38   | BALLARD       | 1.50  |       | 247A | DAVIDSON      |      | 10.8  | 406  | ROCK HILL     | 1.75 | 606  | GREENBRIAR    | 1.77         |          | 781      | OPRENDEK    |                |       |       |      |
| 29   | KELLY         | 1.53  | S.2   | 248  | FORT          | 1.54 | 09.4  | 409  | BERLL         | 1.27 | 618  | WEBER         | 1.41         | 09.4     | 833A     | HOUSTON     | 1.72           |       |       |      |
| 42   | EARLY         | 1.47  |       | 250  | HEIDEL        | 1.52 |       | 414A | HOFMRNN       | 1.40 | 618A | ADAMS         | 1.46         | 09.0     | 8:34     | LINGER      | 1.88           | 09.7  |       |      |
| 43   | FLRHERTY      | 0.40  | 11.0  | 251  | JORGENSEN     | 1.65 | 09.5  | 417  | ORLINS        | 10.4 | 619  | MERSEREAU     | 1.59         | 09.5     | 835      | WAGNER      | 1.62           | 11.1  |       |      |
| 45   | DAVIS         | 1.56  | 11.3  | 252  | BERNDWITZ     | 1.29 | 10.3  | 420  | COLVIN RUN    | 1.65 | 625  | VIENNA WOODS  | 1.20         |          | 837      | PARK        | 1.59           |       |       |      |
| 49   | WINSTON       | 1.28  | 13.6  | 255  | WHEATON PARK  | 1.45 |       | 427  | DENIS         | 1.38 | 10.5 | 529           | ANDERSON     | 1.39     | 837A     | AZOMBEK     | 0.80           | 12.9  |       |      |
| 50   | FETT          |       |       | 256  | GAJARY        | 1.67 | 09.3  | 435  | DEAD RUN PS   | 1.75 | 630  | MATHERS       | 1.25         | 0:3.9    | 338      | BEST        | 1.73           |       |       |      |
| 52   | GREENSTONE    | 1.29  |       | 257  | FOSTER        | 1.45 | 12.1  | 438  | MITCHELL      | 1.49 | 10.0 | 623           | AGRIMES      | 0.64     | :9.2     | 843         | BOLSTER        | 1.64  | 10.0  |      |
| 54   | FAROLIHAR     |       | 12.0  | 259  | PRUGH         | 1.37 | 07.3  | 441  | HASS          | 1.60 | 10.5 | 634           | SIK.         | 1.61     | 10.1     | 344         | BURINGTON      | 2.00  | 10.8  |      |
| 55   | FRIENDS SHOO  | 1.59  | 17.0  | 260  | JUNGHRNS      | 1.48 | 09.4  | 442  | REEVES        | 1.35 | 09.2 | 639           | ERVIN        | 1.4:3    | 08.8     | 851         | WESTGATE TP    | .40   |       |      |
| 56   | FARQUHAR      | 1.35  |       | 261  | BLASIC.       |      | 08.8  | 444  | DALECARLIA    | 1.38 |      | 641           | ANDERSON     | 1.55     | 10.8     | 356         | FREDERICK:     | .66   |       |      |
| 57   | WSSC BRIGHTON | 1.29  |       | 262  | RICHTER       | 1.59 |       | 445  | BAKER         | 1.37 | 06.4 | 648           | PALS         | 1.57     | 09.2     | 857         | SMITH          | .60   | 11.1  |      |
| 59   | SHENK         | 1.45  | 9.9   | 264  | RCKERSON      |      | 04.5  | 447A | MCGINNIS      | 1.53 | 10.1 | 656           | WISE         | 1.50     | 08.5     | 858         | ALEXANDER      | .64   | 09.8  |      |
| 161  | BADER         |       | 10.5  | 265  | KREMNITZER    | 1.36 | 09.0  | 448  | HAVEMAN       | 2.23 | 10.7 | 665           | HELISING     | 1.56     | 09.8     | 359         | HARPLE         | .69   | 09.8  |      |
| 61A  | KNEALE        | 1.20  |       | 266  | GERSON        | 1.56 | 05.13 | 449  | SCHREINER     | 1.27 |      | 666           | BEATY        | 1.65     |          | 863         | BARTMPN        | .85   | 09.8  |      |
| 61B  | BROWN         | 1.32  |       | 267  | NEALIS        | 0.44 | 08.2  | 459  | WEIGLE        | 1.54 | 08.9 | 668           | BORNEMANN    | 1.73     | 10.0     | 867         | GRAY           | .88   | 09.7  |      |
|      | BRANSON       | 1.50  | 07.3  | 268  | OLIVER        | 1.44 |       | 460  | SINGER        | 1.52 |      | 670           | FLOOD        | 1.79     | 09.6     | 870         | POLITANO       | 1.36  | 10.4  |      |
| 162  | KNORR         | 1.62  |       | 280  | PARKWAY       |      |       | 461  | THOMPSON      | 1.54 | 07.8 | 671A          | HODGES       | 1.90     |          | 871         | BOUCHER        | I     | 06.2  |      |
| 71   | DOWNEN        | 1.51  | 9.3   | 333  | DALECARLIA    | 1.37 |       | 462  | KUNDT         | 1.50 | 06.4 | 673           | CEFARRTTI    | 1.76     |          | 876         | GILCREST       | 1.90  |       |      |
| 33   | WATERLOO      | 1.28  |       | 313  | SUGARLRND RUN | 1.60 |       | 466  | MITCHELL      | 1.60 | 08.4 | 674           | SHAVER       | 1.8.3    |          | 873         | DEY            | 2.01  | 10.2  |      |
|      | B.W. AIRPORT  | 1.36  |       | 218  | SEEBODE       | 1.29 | 10.5  | 466A | FALLER        | 1.72 | 06.2 | 675           | MUNRO        | 1.71     | 09.5     | 330         | GAMBLE         | 1.89  |       |      |
| 107  | HOFFACKER     | 1.35  |       | 220  | ROY           |      | 08.1  | 467  | COLLEGE PARK  | 1.53 | 08.6 | 681           | BOHL         | 1.89     |          | 881         | HENRICKSON     | 1.92  | 11.5  |      |
| 121  | GOLDSTEIN     | 1.36  | 12.0  | 222  | SLAUGHTER     |      | 10.4  | 467A | WENZEL        | 1.69 |      | 686           | UPR MARLBORO | 1.78     |          | 893         | MELOY          | 2.20  | 10.7  |      |
| 12-  | TAYLOR        | 1.32  |       | 328  | NAPS          | 1.35 |       | 468  | FELDBERG      | 1.47 | 01.6 | 700           | CUB RUN      | 1.70     |          | 900         | STRUNTON       | 1.21  | 08.5  |      |
| 128  | ETCHISON      |       |       | 329  | ROCIVILLE TP  | 1.54 |       | 471  | BETTENDORF    | 1.35 |      | 702           | BIG ROCKY    | 1.74     |          | 901         | MILLER         | 1.30  | 10.0  |      |
| 129  | MITCHELL      | 1.39  | 09.8  | 235  | VAN NIEL      | 1.55 |       | 473  | WHITNEY       | 1.73 |      | 719-          | MASSEY BLDG  | 1.63     |          | 910         | BULL RUN       | I     | 09.5  |      |
| 132  | SLERTER       | 1.20  |       | 3.37 | BAGG          | 1.61 |       | 476  | PEARL         | 1.83 | 08.5 | 719A          | MURPHY       | 1.62     |          | 930         | LWR POTOMAC    | 0.96  |       |      |
| 133  | CHRISTOPHER   | 1.29  | 10.0  | 338  | GUNTHER       | 1.60 | 12.0  | 477  | BENEDICT      | 1.73 | 12.5 | 720           | EWING        | 1.67     | 09.0     | 935         | FT BELYOIR     | 1.72  | 10.9  |      |
| 133A | RAUCIELLO     | 1.45  | 11.4  | 238A | FULLER        | 1.48 |       | 482  | GLENDRLE      | 1.55 | 11.5 | 721           | MYERS        | 1.50     |          | 939         | HAYFIELD MET   | 1.55  | 09.5  |      |
| 134  | SIECK         | 1.29  | 11.3  | 341  | KELLY         | 0.95 |       | 485  | PEARL         | 1.91 | 09.3 | 721A          | RAPP         | 1.47     |          | 941         | ROGUE CRK TP   | 1.45  |       |      |
| 137  | MAIER         | 1.52  | 13.8  | 241A | AFERRIS       | 1.47 | 10.2  | 489  | PINES         | 1.91 | 10.0 | 722           | COOLEY       | 1.46     |          | 943         | STREY          | 1.04  | 08.5  |      |
| 142  | NOPPER        | 0.82  | 03.6  | 342  | HAM           | 1.76 |       | 501  | UPPER CUB     | 1.23 |      | 727A          | WOOD         | 1.44     |          | 946         | ROSSHEIN       | 1.60  | 05.:3 |      |
| 148  | HUGHES        | 1.49  | 11.0  | 346  | BEAVEN        | 1.79 | 08.4  | 521  | LAKEVALE      | 1.60 |      | 731           | RIGGS        | 1.48     |          | 948         | LTL HUNTG CRK. | 0.94  |       |      |
| 152  | ROOT          |       | 09.5  | 350  | HANSEN        | 1.50 |       | 527  | PARKIN        | 1.38 | 09.9 | 731A          | KAPINOS      | 1.45     |          | t           | 951            | HANDY | 1.40  | 10.7 |
| 157  | WRIGHT        | 1.45  |       | 351  | FLYNN         | 1.58 |       | 528  | LEE           | 1.53 | 08.0 | 7:32          | HUNTER       | 1.76     | 09.4     | 952         | BENINGTON      | 1.50  | 09.8  |      |
| 161  | GERWIN        | 1.35  |       | 351R | WINSTON       | 1.52 |       | 535  | JAMES         | 1.47 |      | 734           | HOECKER      | 1.51     |          | 955         | CARPENTER      | 1.57  | 10.8  |      |
| 164  | SWANSON       | 1.34  | 05.0  | 355  | SANFORD       | 1.38 | 08.1  | 536  | ALLEN         | 09.4 |      | 736           | HOLMES RUN   | 1.75     |          | 958         | PISCATAWRY     |       |       |      |
| 165  | LEHNERT       | I     | 11.0  | 356  | BURNETT       | 1.68 | 08.5  | 539  | JORDAN        | 0.78 | 09.4 | 738           | WINNER       | 1.58     | 10.5     | 959         | CLAGGETT       | 1.52  | 119.7 |      |
| 166  | FRIEDMAN      | I     | 08.8  | 358  | BARWICK       | 1.53 | 13.0  | 540  | HALE          | 1.46 | 09.7 | 741           | NEELY        | 1.37     | 10.0     | 964         | PERLROTH       | 2.07  |       |      |
| 170  | WSSC PHTUX    | 1.40  |       | 358A | PINKRRD       |      | 07.7  | 541  | HUNTER        |      |      | 742           | MYERS        | 1.62     | 111.5    | 966         | DARBY          |       | 10.5  |      |
| 177  | HOF           | 1.25  | 10.6  | 359R | BRILL         | 1.50 | 06.1  | 545  | CROOKSTON     |      | 08.3 | 744           | SKYLINE      | 1.12     |          | 971         | BUBB           | 1.65  | 09.5  |      |
| 207  | HOPKINS       | 1.30  | 10.2  | 360  | ARKIN         | 1.60 | 09.5  | 546  | PETTEE        | 1.62 | 10.2 | 745           | COOKE        | 1.63     | 08.5     | 972         | POWELL         | I     | 09.2  |      |
| 218  | SPALDING      | 1.60  |       | 362  | NORLAND       | 1.52 | 09.2  | 548  | WINKLER       | 1.63 | 05.9 | 749           | WOOLLUM      | 1.51     | 10.0     |             | SHIRRS         | 2.41  | ('8.1 |      |
| 225  | MARVIN        | 1.48  |       | 363  | GIBSON        | 1.50 | 08.2  | 549  | EDELEN        | 1.23 |      | 751           | LUCAS        | 1.42     | 08.3     |             |                |       |       |      |
| 226  | 14717 POTOMAC | 1.45  |       | 364  | BELTSVL       | 0.85 |       | 558  | SOLDIERS HOME | 1.44 |      | 751A          | JEFFRIES     | 11.0     |          |             |                |       |       |      |
| 232  | MARSDEN       | 1.42  |       | 366  | BELTSVL       | 0.87 |       | 561  | NAT ARBORTM   | 1.45 |      | 752           | W N ARPT     | 1.50     | 09.7     |             |                |       |       |      |
| 232A | LRNDIS        | 1.54  | 12.:3 | 367  | BELTSVL       | 0.91 |       | 567  | ESKELINEN     | 1.63 | 08.5 | 759           | LAMBERT      | 1.64     | 11.1     |             |                |       |       |      |
| 235  | PUSEY         | I     | 09.9  | 372  | RICHWEIN      | 1.69 | 08.6  | 570  | DALLAVALLE    | 1.79 | 08.3 | 760           | LACNY        | 1.63     | 09.0     |             |                |       |       |      |
| 237  | SNIDER        | 1.25  |       | 373  | WENZEL        | 1.66 | 08.2  | 573  | HALL          |      |      |               |              |          |          |             |                |       |       |      |

• 268 REPORTS RECEIVED.  
KEY: I = INCOMPLETE.  
DODDY/BLACKBURN

