Director
Bureau of Alcohol, Tobacco and Firearms
Department of the Treasury

In accordance with Part 9, 27 C.F.R. A.T.F. 60, we petition the director to establish an area within the State of Maryland and the county of Washington to be called, The Maryland Cumberland Valley Viticultural Area.

1. The proposed viticultural area is part of the great limestone valley of the eastern states. In Maryland, the name Cumberland precedes even major settlements.

2. Fruit other than grapes have been a major agricultural product in this area for many years. Grape growing is now becoming more important. There is no historical major past use of the appelation on wines produced here.

3. Soil: The boundaries of the viticultural area have been drawn to encompass mainly soils derived from or heavily influenced by limestone. These are soils of the Hagerstown Series, the Murril Series and of the Calvin, Berks, Litz, Montevallo Association. That part of Washington County known as Pleasant Valley south of Rohersville is not included because this area has soils derived from Greenstone and is better combined with the proposed Catoctin Viticultural Area. The eastern boundary has been drawn at high elevation to avoid cutting through existing major fruit growing land.

4. Elevation: The floor of the Maryland Cumberland Valley has an elevation ranging from 300 feet at the Potomac River to 600 feet at the Pennsylvania State line. Commercial orchards extend to 1200 feet to take advantage of superior air drainage.

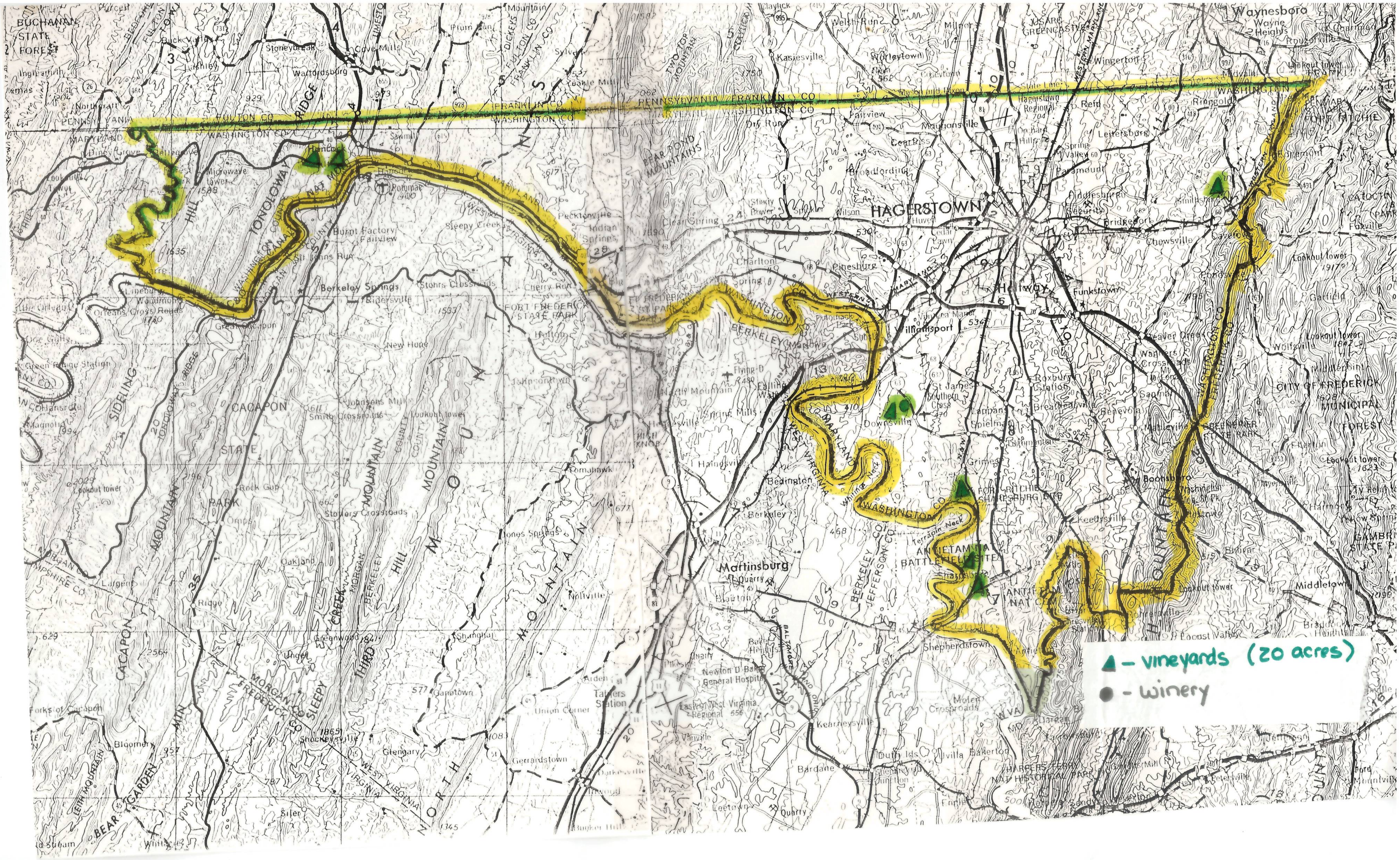
5. Boundaries of the proposed Maryland Cumberland Valley Viticultural Area are as follows:

- On the south by the boundary line of the Chesapeake and Ohio National Historical Park.

- On the west by Sidling Hill Creek which is also the western line of Washington County.

- On the north by the Pennsylvania State line.
- On the east; beginning at Penn Mar Park following the line of the Appalachian Trail to a point where it coincides with the Washington and Frederick County line near the intersection of Black Rock Road and Smithburg Road. Continuing south along the county line to a point due east of the intersection of Millbrook Road and Maryland Route 67. Thence westerly to that intersection. Thence along Millbrook Road to Mount Briar Road. Thence north on Mount Briar Road to the first 500-foot contour line. Thence along the 500-foot contour line to Red Hill Road. Thence southerly along Red Hill Road to its terminus at Porterstown Road. Thence south 24° west to join Harpers Ferry Road and following Harpers Ferry Road to Canal Road. Thence along Canal Road to its terminus at the Chesapeake and Ohio National Park which forms the southern boundary.

Robert W Zinn - Owner Zinn Vineyards
Charles M. Webster, Sharpsburg.


▲ - vineyards (20 acres)
● - winery
HAGERSTOWN
Martinsburg
Waynesboro
Shepherdstown
Williamsport
Berkeley Springs
Hancock
Boonsboro
Funkstown
Smithsburg
Kearneysville
HARPERS FERRY NAT HISTORICAL PARK
ANTIETAM BATTLEFIELD SITE
FORT FREDERICK STATE PARK
CACAPON STATE PARK
BUCHANAN STATE FOREST
CITY OF FREDERICK MUNICIPAL FOREST
PENNSYLVANIA
MARYLAND
WEST VIRGINIA
WASHINGTON CO
FRANKLIN CO
FULTON CO
BERKELEY CO
JEFFERSON CO
MORGAN CO
FREDERICK CO
TONOLOWAY RIDGE
SIDELING HILL
SLEEPY CREEK MOUNTAIN
THIRD HILL MOUNTAIN
NORTH MOUNTAIN
SOUTH MOUNTAIN
CACAPON MOUNTAIN

Charles M. Webster
[redacted]
Sharpsburg, Md. 21782

January 6, 1983

Mr. Richard A. Mescolo, Chief
Research and Regulation Branch
Bureau of Alcohol, Tobacco and Firearms
Department of the Treasury
Washington, D.C. 20226

Dear Mr. Mescolo:

Thank you for confirming our petition to name an American Vitacultural area the "Maryland Cumberland Valley". I enclose the additional material and information you have requested to continue your study.

1. The Funkstown, Maryland Quadrangle Map, 1943-53 ('71 photo revised).

2. The general soil map of Washington County.

3. There is much evidence to support the name "Cumberland Valley". Sources may differ slightly only as to the extent of it. Publications such as the "Cumberland Valley Review" would have it cover everything between the Shenandoah and Susquehanna Valleys.

   Hagerstown, county seat of Washington County would be a valley center. Several companies use the name in their title.

   I have enclosed a telephone book page.

   The National Oceanic and Atmospheric Administration's weather station at Hagerstown broadcasts local weather as "Cumberland Valley and vicinity".

   The fruit growing soil and climate extend into Pennsylvania. That is the reason for including "Maryland" in the title.

4. Grape growing is only now becoming significant, although commercial growing of other fruit has been a major industry for several generations.

   In the proposed area, there is only one bonded winery to my knowledge; that owned by Robert and Ruth Ziem at Downsville.

   There is no census available to me on locations of vinyards. The ones listed here are either known to me or described by telephone calls.

4. Continued:

-The Ziem vinyard has five acres.
-Webster has two acres south of Sharpsburg.
-Atherton has two acres north of Sharpsburg.
-Stine has one acre at Taylor's Landing.
-Hedges has four acres near Hancock.
-Marvania Co. has four acres near Hancock.
-Palmer has two acres near Smithburg.

There is much evidence that grape growing will increase. The increased interest comes from successful production of high quality wines.

The boundaries of the proposed area are deliniated by soil and elevation on the East and West and by political lines on the North and South.

Your continued interest and study of this petition is appreciated.

Yours very truly,

Charles M. Webster

CMW:amb
Enc.

rouse Lelia Mrs
318 McDowell Av Hagerstown 733-0190
rouse Leonard Needmore Pa 573-4149
rouse Myron Needmore Pa 294-3169
rouse Norman L Jr
4317 Middlepoint Rd Myersville 293-1436
rouse Preston 2 Fulton St Hancock .. 678-6660
rouse Richard & Joyce
111 Trotter Dr Hagerstown 824-7136
rouse Robt Hancock 678-6207
rouse S W 4707 Foxville Rd Lantz 824-7123
rouse V Jay III
1035 Hamilton Blvd Hagerstown 797-7523
rouse Vernon J Jr
1022 Brinker Dr Hagerstown 797-5456
routch Thomas H Jr
Nr Huyetts Crossroads 790-1096
row Albert R 13023 Loy Wolfe Rd ... 293-2124
row Clarence H
RD 1 Blue Ridge Summit Pa 794-2369
row Irene K 13556 Maryland Ave
Blue Ridge Summit Pa 794-2369
row Samuel R
13009 Loy Wolfe Rd Smithsburg 293-1178
rowder James P & Bonnie M
26 Bittersweet Dr Hagerstown 797-8302
rowe John R
1849 Stoney Ln Hagerstown 790-1422
rowe Sharpless W 3rd
8904 Old Hagerstown Rd Myersville 293-2891
rowell J 801 Maryland Av 739-5291
rowell M N
1615 The Terrace Hagerstown 790-2870
rowhurst Alan
209 Heth Rd Williamsport 223-6216
rowl Albert L 417 N Main Boonsboro .. 432-8556
rowl John L 62 E Irvin Av Hagerstown . 790-3312
rowl John L Jr
1742 Edgewood Hill Cir Hagerstown ... 791-1054
rowl Ralph H Brownsville 432-6044
rowl Vaughn D Boonsboro 432-2493
rowl William L
Conococheague Rd Hagerstown 582-4083
rowley Michael & Jo Ann
Herman Myers Rd Hagerstown 791-0267
rowley Patrick J Sr
Carroll Rd Smithsburg 824-5114
rown Hill Stone Co Of Md Inc
1050 Kuhn Av Hagerstown 739-2660
rown Inc Of Hagerstown
42 Nottingham Rd Hagerstown 797-4419
rowner Neil W
799 Hamilton Blvd Hagerstown 797-1540
rowther F Richard II
817 Dewey Av Hagerstown 790-2745
rowther Harold E Brown Rd Foxville . 824-7448
rowther Richard
Beaver Creek Church Rd 733-1229
ruger William H
Mt Lena Rd Boonsboro 791-1896
ruickshanks E A 207 Phylane Dr 797-0481
rum Evelyn G Mrs RN 119 Marbern Rd 582-2390
rum H L Jr Hagerstown 791-0855
rum Harry J Netz Rd Boonsboro 432-8176
rum Raymond 1735 Broadfrdng Rd .. 739-3184
rum Richard C
11 S Walnut St Hagerstown 739-8407
rum W A Kieffer Funk Rd Smithsburg .. 797-6882
rum Wm L Nr Smithsburg 824-5174
rum William L Jr
118 N North St Maugansville 797-6672
rum William L III
426 Jefferson St Hagerstown 797-8831
rumbacker Arthur R cert pub acct
33 W Franklin St Hagerstown 739-5300
Res Neck Rd Williamsport 223-9467
rumbacker Charles E
409 Mitchell Av Hagerstown 790-2785
rumbacker Guy L
804 W Washington St Hagerstown 797-6139
rumbacker James W
1012 Brinker Dr Hagerstown 797-1538
rumbacker Wm 1038 Spruce 733-0973
rumling Michael E
Milestone Garden Apts Williamsport ... 223-7258
rummitt Franklin D
11122 Church Hill Rd Myersville 293-2170
rumrine Gilbert J
130 Pangborn Blvd Hagerstown 791-0242
runkleton A G Electric Co Inc
825 W Washington St Hagerstown 739-3814
runkleton Donald L 1502 Howell Rd . 790-2028
runkleton Floyd R 17 N Main 824-2513
runkleton James E
Pennsylvania Av Smithsburg 824-2151
runkleton Jno C
1310 Potomac Av Hagerstown 739-0225
runkleton M E
7 E Washington St Hagerstown 739-6510
runkleton Paul E 2619 Virginia Av ... 223-9623
runkleton Virginia Mrs
29 S Locust Hagerstown 739-0219
runkleton Wayne R & Betty J
157 Manse Rd 739-5107
rusade For Christ With Bill Glass
10 Public Sq Hagerstown 733-1166

Cruttenden Craig A
104 Paramount Ter Hagerstown 739-8475
Cruze S H Wolfsville Rd Smithsburg ... 824-7246
Crystal Clean Janitorial Service
Rt 1 Box 63a-5a
Middletown ... Myersville Tel No .. 293-4244
Crystal Grottoes Boonsboro 432-6336
Cubbage A M
331 Summit Av Hagerstown 790-3153
Cubbage Audry Clubhouse Hill Hancock 678-6063
Cubbage John W
124 Fulton St Hancock 678-5310
Cubbage Samuel J Nr Clear Spring ... 842-3753
Cubbage Wason W 22 Taliferro 678-5138
Cucina Howard R
Quaker Creek Apts Hancock 678-5020
Cuddy J R Jr 28 Glenside Av 733-1122
Cuddy James R Sr Mrs
104 Reynolds Rd 223-8365
Cuddy John A SportsmansParadise ... 625-1405
Cuddy John A Jr
880 Northern Av Hagerstown 797-4151
Cue & Cushion Billiards
24 E Franklin St 739-9527
Cueto & Cueto Inc
474 N Potomac St Hagerstown 733-4886
Cueto John A & Lynne K
468 N Potomac St Hagerstown 797-3964
Cueto Jos A 123 N Colonial Dr 739-0705
Cuffle Steven Fort
465 West A Av Fort Ritchie 241-4607
Culbertson Norman C
2354 Appletree Dr Hagerstown 797-9014
Culbertson Wm S Mrs Charmian Pa .. 794-2235
Culler A A
Milestone Garden Apts Williamsport ... 223-6457
Culler David E
Manor Church Rd Boonsboro 582-0548
Culler Gregory E
Chestnut Grove Rd Keedysville 432-8652
Culler J Arlie
1000 Brinker Dr Hagerstown 790-0295
Culler Lola B
11 W Baltimore St Hagerstown 733-8380
Culler Lynn B Sharpsburg 432-6821
Culler Paul M Sharpsbrg 432-6821
CULLIGAN WATER CONDITIONING
501 Maryland Av Hagerstown 797-0311
Cullinane Daniel F
4219 Fishers Hollow Rd Myersville 293-2596
Cullison Albert N 524 Virginia Av 739-4143
Cullison Russell E 680 Marion 739-9498
Cullison Sharon Mrs
1621 Virginia Av Hagerstown 739-2060
Cullum S 224 Summit Av Hagerstown .. 733-6342
Culmer L C 35 Manor Dr Hagerstown .. 739-3588
Culp Clora P Sidling Hill Hancock 678-5467
Culp LeRoy D Weller Rd Hancock 678-5364
Culp Naomi 146 W High 678-6498
Culp Ronald P
2320 Cloverleaf Rd Hagerstown 582-2084
Cumberland Airlines
reservations & information
Toll Free-Dial "1" & Then 800 624-0070
CUMBERLAND VALLEY FABRICATORS INC
Earley Industrial Park Hagerstown 791-4524
CUMBERLAND VALLEY INSURANCE INC
28 N Main St Maugansville 797-6480
Cumberland Valley Services
82 W Washington St Hagerstown 791-5332
Cumberland Valley Veterinary Clinic large animals 1706 Virginia Av .. 739-3121
Small Animals 1706 Virginia Av 739-6515
Cumiskey C Joseph Mrs
Hunter Hill Apts Hagerstown 739-0547
Cummings M
Fernwood Ln StJamesVillage 797-5561
Cummings William J
2021 Downsville Pke Hagerstown 797-9181
Cummins M Max 317 Brookline Av ... 739-3203
Cummins Max J
563 Jefferson St Hagerstown 791-2982
Cump Gerald A 259 Pheasnt Trail 790-2291
CUMP GERALD A ASSOCIATES
121 E Baltimore St Hagerstown 733-2211
Cump Paul A ins 112 Clearview Rd 733-7328
Cunetta Steven A
2021 Downsville Pke Hagerstown 791-2067
Cunningham A J
1002 Brinker Dr Hagerstown 797-8537
Cunningham A V
38 N Conococheague St Williamsport ... 223-7240
Cunningham Arthur S III
Falling Waters Rd Williamsport 223-6095
Cunningham B J Lanes Run Rd Big Pool 842-3765
Cunningham B K
409 N Main St Boonsboro 432-5228
Cunningham Barry M
1 Commerce St Williamsport 582-1374
Cunningham Bertha O Mrs Appletown 432-8182
Cunningham Bonnie
1 Commerce St Williamsport 223-8626

Cunningham Carrie A Mrs
628 Adams Av Hagerstown 797-1991
Cunningham Charles E Plumbing & Heating 333 Sunrise Dr 733-5854
Cunningham Charles Edward
1110 Virginia Av Hagerstown 733-9026
CUNNINGHAM CHAS L plmbr
Maugansville 733-5708
Cunningham Chas W Boonsboro 432-5175
Cunningham Chester 921 Frederick .. 733-6246
Cunningham Daniel C Jr
Leonard Rd Hagerstown 791-2866
Cunningham Douglas D Kemps Mill Rd 223-9752
Cunningham E A 35 Coffman Av 582-0698
Cunningham Eddie L
1045 Bramley Dr Hagerstown 797-7914
Cunningham Edward L Pondsville ... 824-5334
Cunningham Elsie
Potomac Towers Hagerstown 739-8712
Cunningham Flavia A Mrs
nr Smithsbrg 824-2552
Cunningham George W Sr
nr Fairview Mt ClearSpring 842-2359
Cunningham H Lloyd Sr
1110 Virginia Av Hagerstown 733-9026
Cunningham Harry F 33 Main Keedysvl 432-6433
Cunningham Harry F Jr
768 Spruce St Hagerstown 797-8160
Cunningham Harry L Jr
1923 Dual Hwy Hagerstown 733-4882
Cunningham Howard M Cearfoss 733-5692
Cunningham J Clyde Cearfoss 733-7346
Cunningham J Irene 18 S Locust 739-5546
Cunningham Jane
1155 Corbett St Hagerstown 797-5323
Cunningham Jerry & Kathy
604 Highland Way Hagerstown 791-5693
Cunningham John L Col
Rowland Hill Rd Highfield 241-3896
Cunningham Lillian Emmert Rd 733-4263
Cunningham Luther I
320 Nottnghm Rd 739-6137
Cunningham Marion C
24 Potomac St Boonsboro 432-8374
Cunningham Michael
111 Randolph Av Hagerstown 797-6156
Cunningham Michael K refrig serv
Wye Oak Dr Funkstown 790-2464
Cunningham Myra Mrs
Chewsville Leitersburg Rd 797-9563
Cunningham Myrtle
801 Hamilton Blvd Hagerstown 733-1344
Cunningham R A Miner Av Williamsport 582-0853
Cunningham Ralph L
308 Pheasant Trail Hagerstown 739-0685
CUNNINGHAM REFRIGERATION
Wye Oak Dr Funkstown 790-2464
Cunningham Robert D
230 N Potomac St Hagerstown 739-0132
Cunningham Robert F
Falling Waters Rd Williamsport 223-7665
Cunningham Roger L
10 Spring Creek Rd Hagerstown 791-2618
Cunningham Ronald W
4 N Main St Keedysville 432-2944
Cunningham V A Huyetts Cross Rds .. 733-3052
Cunningham W D
42 East Av Hagerstown 739-2412
Cunningham Walter G
39 Woodcrest Av Hagerstown 790-2625
Cunningham William H Williamsport . 223-8173
Cunningham William R
908 Hamilton Blvd Hagerstown 797-8274
Cupernall Christopher P
26 Laurel St Hagerstown 739-1369
Cupernall LeRoy
1031 St Clair St Hagerstown 797-7825
Cupino James F Jr 2209 Linden Dr
Hagerstown ... Myersville Tel No .. 293-1077
Cupp Earl H
206 E Potomac St Williamsport 223-7326
Cupp Lori Rockdale Rd Clear Spring ... 582-3034
Curfman David W
Smithsburg Cavetown Rd Smithsburg ... 824-7841
Curfman H L
1021 Potomac Av Hagerstown 733-1906
Curfman Kathy
454 Clarendon Av Hagerstown 797-3860
Curlee Elizabeth M
119 Oak Tree Ln Williamsport 223-8016
Curley Robert & Betty
223 W Antietam St Hagerstown 432-8897
Curley Thomas Emmitsburg 241-3240
Curlin Leonard W 47 W Bethel 739-6006
Curran Neil W & Anne
Cohill Rd Clear Spring 842-2603
Curran R D
1140 Woodland Way Hagerstown 739-0415
Currence M E
26 Randolph Av Hagerstown 739-1296
Currie Wm L
908 Hamilton Blvd Hagerstown 797-8143

Currier Donald R
Raven Rock Rd Smithsburg 824-5374
Curry Chester W E
951 Noland Dr Hagerstown 733-2018
Curry D L 718 Salem Av Hagerstown ... 791-0466
Curry Dave W
212 S Mont Valla Av Hagerstown 797-3780
Curry James W & H E
138 S Prospect St 739-8886
Curry Otis H Cascade 241-3832
Curry Paul G Sr
1505 Fountainhead Rd Hagerstown 739-6680
Curtis E F 1607 The Terrace 739-8961
Curtis Harold B
Reeders Manor Boonsboro 432-2410
Curtis J B Sabillasville Rd Sabillasville .. 241-3303
Curtis J M 932 Club Rd Hagerstown ... 797-2133
CURTIS 1000 INC envlps
25 E Antietam 790-1200
Curtis R C Cascd 241-3344
Curtiss Breeding Service Inc
cattle breeding
25 E Antietam Hagerstown 739-4328
Cushen Cinda L
10 Park Lane Hagerstown 791-0362
Cushen Edward R & F Waneta
40 Roessner Av 582-0437
Cushen Ralph F
Milestone Garden Apts Williamsport ... 223-6282
Cushen Robt F Eckstine La 582-0113
Cushen Robert T 126 S Mulberry 733-6436
Cushen W F Mrs
1519 Virginia Av Hagerstown 739-3284
Cushwa Barbara L 310 E Franklin 790-2181
Cushwa David K 3rd
110 Cherry Tree Ln Williamsport 223-9061
Cushwa David K IV
401 Spring Creek Rd Hagerstown 790-1233
Cushwa F Sydney
112 S Prospect St Hagerstown 739-3358
Cushwa G Victor Cloverton Williamsport 223-7466
Cushwa I R
Milestone Garden Apts Williamsport ... 223-7766
Cushwa Jack D
533 Ridge Av Hagerstown 790-1152
Cushwa Kurt H
1118 Hamilton Blvd Hagerstown 739-7995
Cushwa Kurt H
1118 Hamilton Blvd Hagerstown 791-7844
Cushwa L S Clear Spring 842-2204
Cushwa Leon Spickler & Mercbg Rd ... 842-2558
Cushwa Richard A nr ClearSpring ... 842-3221
Cushwa Vic Senator Hagerstown ... 791-2900
Cushwa Victor & Patricia
Cloverton Williamsport 223-7436
CUSHWA VICTOR & SONS
Williamsport 223-7700
Custer Channel Wing Corp
1905 W Washington 733-5500
Custer Donald E & Josephine
112 Devonshire Rd Hagerstown 733-0640
Custer Glenn M
715 Virginia Av Hagerstown 797-0626
Custer Harold R (Curley)
37 Redwood Dr 739-6536
Custer Janet S
421 Guilford Av Hagerstown 790-2129
Custer Jodi D
112 Devonshire Rd Hagerstown 733-0640
Custer N 109 Manor Drive Hagerstown .. 797-4613
Custer Sara C Mrs Cavetown 824-2986
Custer Steven W
112 Devonshire Rd Hagerstown 733-0640
Custer Willard R CedarLawn 733-5500
Custer William A
15 Manor Dr Hagerstown 739-5150
Custer Winnifred 905 Marion St 733-2043
Custom Computing Inc
806 Frederick St Hagerstown 739-6500
CUSTOM SECURITY SERVICES INC Downsville Pke & Halfway Blvd
Hagerstown 733-4422
Custom Siding Of Frederick
Smithsburg ... Myersville Tel No .. 293-1662
Custom Signs Boonsboro 432-5792
Custom TV Entertainment Systems Inc Burnside Bridge Rd Sharpsburg ... 432-5674
CUSTOMIZERS INC
2754 Pennsylvania Av Hagerstown ... 797-7727
Cut & Dry Hair Design
29 E Washington St Hagerstown 739-8141
Cutchall W Donald 1847 Virginia Av .. 733-5204
Cutchin A B
322 Mountain View Av Maugansville ... 733-2459
Cutrell John & Brenda
Trego Rd Keedysville 432-6056
Cutsail Laurens M Main St Chewsville . 733-3256
Cutter A V 1721 Woodlawn Dr 790-1519
Cutter Marvin G
Victor Cullen School Highfield 241-3877
Cutting Charles Blue Ridge Summit Pa . 794-2406
Cuzick Wm BlueRidgeSummit Pa 794-2381

CHARLES M. WEBSTER
[redacted]
SHARPSBURG, MD 21782

Mr. Richard A Marcolo, Chief
Research and regulations branch
Bureau of Alcohol, Tobacco, + Firearms
Dept of Treasury Washington D.C. 20226

Attn Mrs Lori Weiss.

Thank you for your letter of March 14 in which you indicate that our petition to designate a large part of Washington County "Maryland Cumberland Valley" is under continuing study.

I may have a problem answering all your new questions because I have no staff to gather statistical information, but there are plenty of convincing facts.

Please refer to your letter and I will answer your questions in like order.

1) Grapes will never be grown in Maryland as they are in California because Maryland does not have a frost free climate. Growers will never fill a valley floor with any kind of fruit but will restrict their plantings to areas near bodies of water (eg Potomac River) and to the slopes surrounding the valley where air drainage gives protection.

2 The fruit growing industry in this area is broadly represented by the Cumberland - Shenandoah fruit Growers Conference. In this conference all growers

in the area of Hancock are considered as part of the Cumberland area.

3. The "low Appalachian ridges" within western Washington County are, as the name implies, not very high. Bear pond Mt. is 2000 feet Fairview Mountain 1700' And Sidling hill only 1600 Feet. The Blue Ridge which forms part of the eastern boundary of the county is actually higher reaching 2145 feet at Quirauk Mt.

Please refer to the enclosed copy of Climatological data 1946 - 1971 at the Hancock (U of Maryland) fruit laboratory. The conditions for agriculture are quite uniform from Sidling Hill to South Mountain. For example:

Weather Station	Elevation	Avg Rainfall	Days with Temperature below 32°F
Hancock	428'	51.9"	149
Hagerstown	660'	53.2"	176

4) I have no further information on proposed plantings. Anything else would be conjecture on the size of the industry. Here, I am having a problem identifying the purpose of the regulation. It is my understanding that no product can be labeled with an area designation unless registered. I believe we should be able to do this even if the industry is small.

For an expert opinion on this petition you may want to contact Dr. E.R. Kretensen at the University of Maryland Agricultural Research Center. Dr Krestensen has been connected professionally with both the Hancock and Sharpsburg fruit laboratories for a number of years. His office is now at the Sharpsburg Research Center, RT 1 Box 49B Keedysville Md 21756. Tel (301) 791 2298

As to keeping "Maryland" in the area designation, Certainly the cumberland valley extends into Pennsylvania, perhaps as far as Gettysburg. But is it wise to have a viticultural area cross such a political boundary.

We have read in the news that the "Shenandoah" appellation contested between California and Virginia was settled by adding the State to the name.

The name cumberland is applied to a county in England, a county in Pennsylvania a small city in far western Maryland, a gap through the mountains in Kentucky etc. Having the state tied to the name would seem to be helpful to the buying public.

Your continued study and approval of this petition is appreciated.

Sincerely

Charles M. Webster

Copies: E.R Kretensen Ph.D
Robt + Lucia Ziem

6-29-84

CHARLES M. WEBSTER
[redacted]
SHARPSBURG, MD 21782

Mr. Michael J. Breen
F.A.A. Wine & Beer Branch
B. A. T. F. Dept of Treasury

Dear Mr Breen:

Enclosed is the general soil map for Franklin county and a preliminary soil map for Cumberland county. The soil data strongly supports carrying the Cumberland Valley designation all the way to the Susquehanna river.

The general soil map for Franklin County shows a continuation of the Murrill soils on the slopes both east and west. The valley floor differs in having about half Berks type soils and half Hagerstown (limestone) type.

The soil survey for cumberland county is not yet completed and it may be a year or more befor it is published. However, Mr Charles Pannebaker of the soil conservation service at Carlisle Pa sent me field data and a preliminary map. These confirm continuation of the major soil types into that county.

I have shaded the preliminary map to show how the Hagerstown type soil continues all the way to the floodplain of the Susquehanna and the Murrill colluvial fans continuing along the slopes of South Mountain.

Also attached is a tabulation showing the extent of those three soil associations which form bands through the three counties - the three that seem to have the most effect on agriculture.

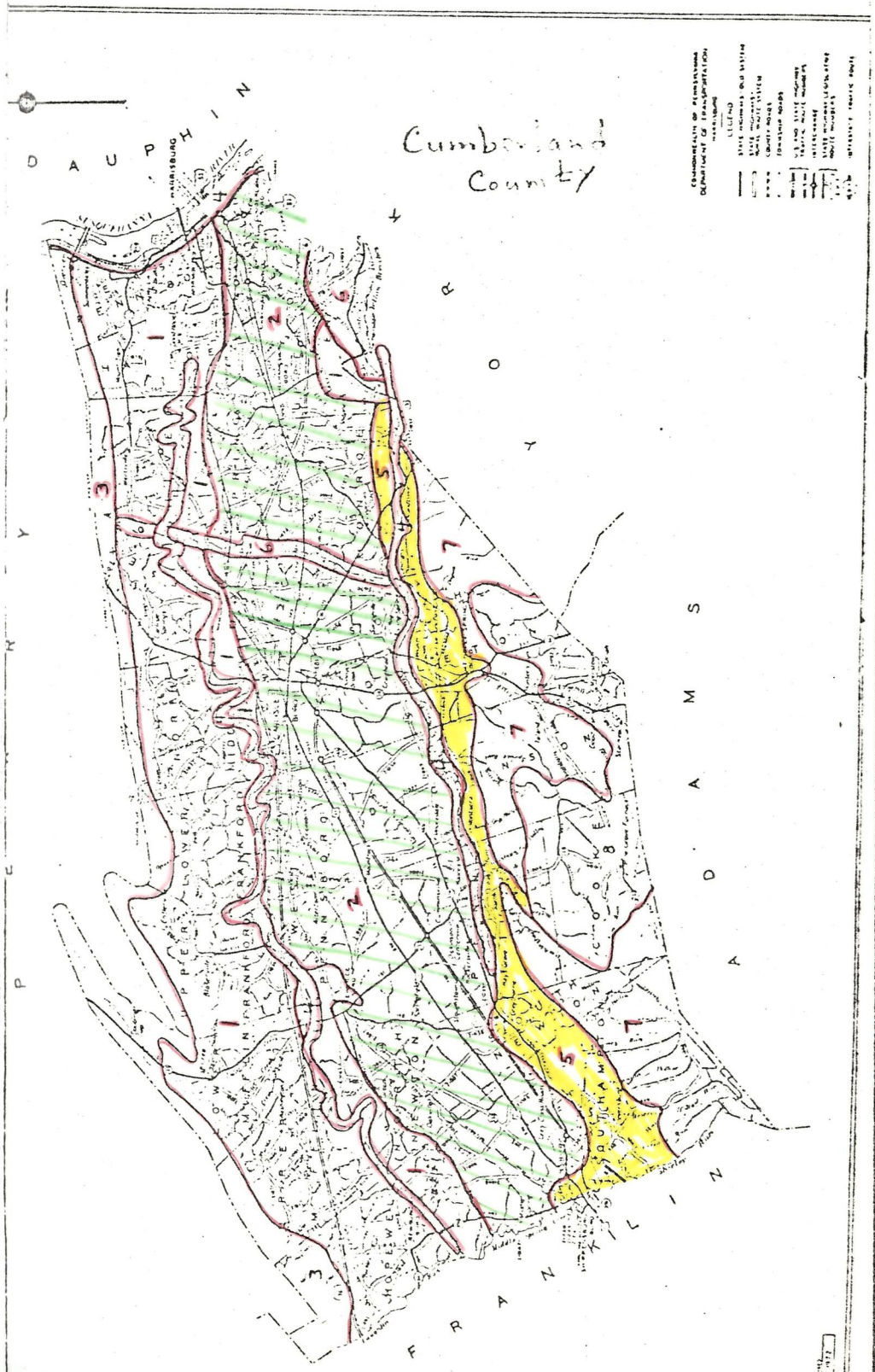
I have requested climatological data from N.O.A.A. Environmental data service, and will write again as soon as I have gathered meaningfully comparative weather data.

Sincerely,

Charles M. Webster

CHARLES M. WEBSTER
[redacted]
SHARPSBURG, MD 21782

1. DERRY TYPE FROM SHALE + SANDSTONE
2 HAGERSTOWN " LIMESTONE
3 HAZELTON " QUARTZITE + SHALE
4 MONONGAHELA FLOODPLAINS
5 MURRILL COLLUVIUM SANDSTONE OVER LIMESTONE
6, 7, 8 ATHOL ETAC ACID SOILS, UPLANDS



6-28-84

Listed below are the three major soil associations in the three counties. The areas are approximate and do not include areas with negligible slope or with slope exceeding a 15% grade.

	COUNTY		
SOIL ASSN.	WASHINGTON	FRANKLIN	CUMBERLAND
BERKS	15,000	150,000	61,000
HAGERSTOWN	136,000	154,000	58,000
MURRILL	19,000	43,500	12,700
APPROX TOTAL AREA OF COUNTY	295,680	482,560	355,000

ALL QUANTITIES ACRES

- Antietam

(PARTIAL)

Washington County Maryland

Ahalt	½
Allerton	2
Browning	1
Campbell	½
Blanker	1
Stein	2
Webster	2
Zion	6
	15 ACRES

Includes Hancock area + Catoctin area (½ ½ 30 acres)

Cumberland County Penn.

Bartoli	7
Casper	5
Cofozzi	5
Cromer	5
Roth	3
Vertigo	7
	32 ACRES

THERE ARE NO COMMERCIAL WINERIES IN FRANKLIN County Penn. IF THERE ARE GROWERS. DO NOT KNOW.

Rec'd 6/25/84 DP

Dept of Treasury. Bureau of A.T.F.
Attn Mr Michael J. Breen
FAA. Wine and Beer Branch.

301-452-8681
CHARLES M. WEBSTER
[redacted]
SHARPSBURG, MD 21782

7/17/84

Dear Mr Breen: - Enclosed with this letter is long range climatological data for those location that best describe the agricultural climate of the proposed "Cumberland Valley" Viticultural area. - The twenty year tables show a high degree of uniformity. There seems to be more difference due to the elevation of the reporting station than due to its latitude. - For examples:

1.) The lowest winter temperature is a major factor in determining what cultivars will be winter hardy. The 20 year record low temperatures (all below zero Fahrenheit) are as follows:

	December	January	February
Chewsville Md	-11°	-15°	-10°
Chambersburg Pa.	-13°	-11°	-16°
Carlisle Pa	-15°	-13°	-5°

2.) The length of the growing (frost free days) season, 16 out of 20 years

Chewsville Md	151 days	(elevation 570')
Chambersburg Pa.	153 days	(" 640')
Carlisle Pa.	164 days	(" 465')

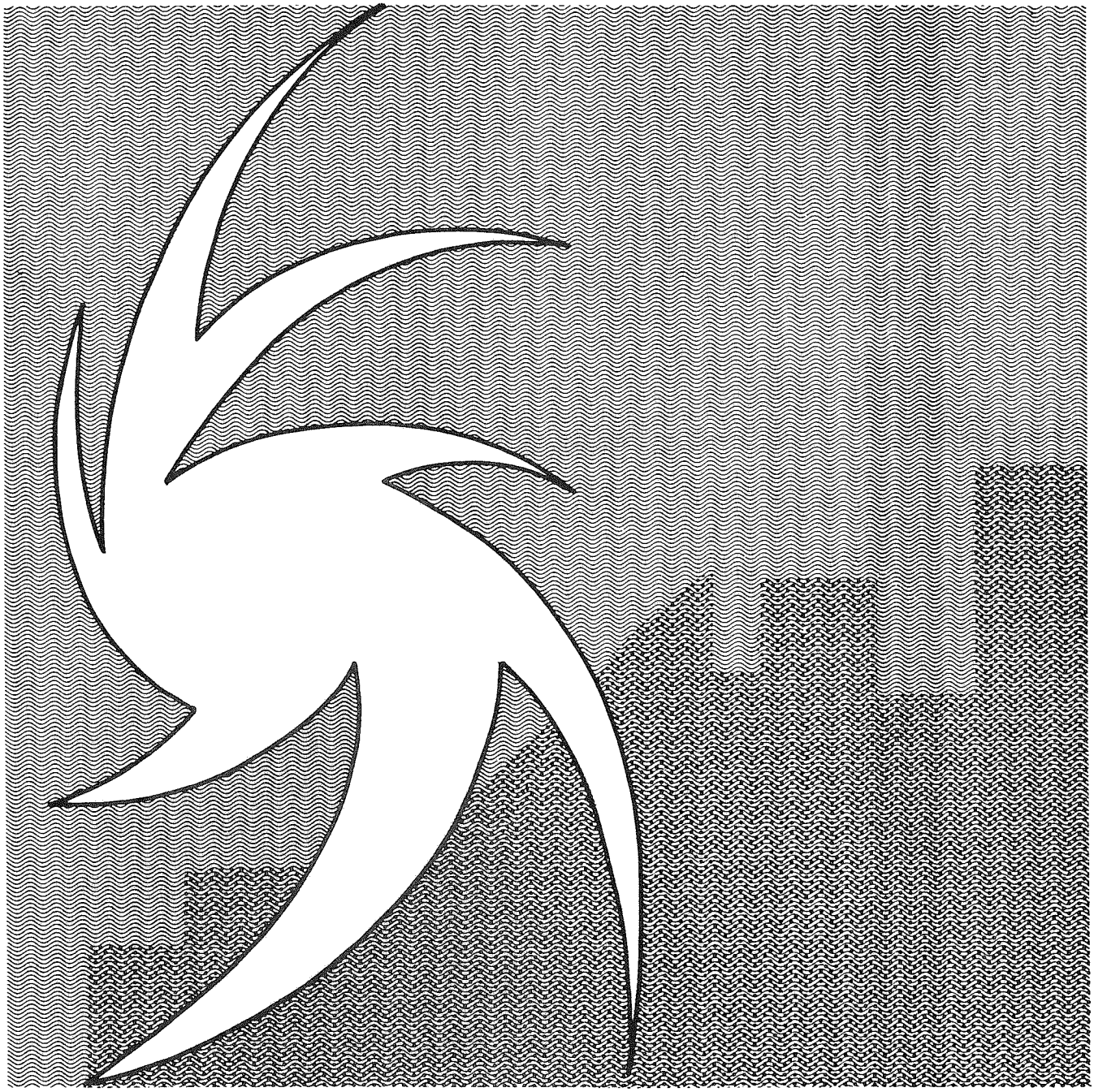
3) Precipitation is not usually critical for grapes as long as winter weather has established a good ground supply. It is interesting to note that snowfall is almost uniform

(20 year averages)	Annual Snowfall	Total Precipitation
Chewsville, Md	33.8"	34.88"
Chambersburg Pa	33.6"	40.16"
Carlisle, Pa.	33.3"	39.78"

Sincerely: Charles M. Webster

CLIMATOGRAPHY OF THE UNITED STATES NO. 20

Climate of Carlisle, Pennsylvania



noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA SERVICE / NATIONAL CLIMATIC CENTER ASHEVILLE, N.C. JUNE 1977

CLIMATOLOGICAL SUMMARY

LATITUDE N40 13
LONGITUDE W77 12

MEANS AND EXTREMES FOR PERIOD 1951-1974

CARLISLE, PA
ELEVATION 465

MONTH	TEMPERATURE (°F) MEANS: DAILY MAXIMUM	DAILY MINIMUM	MONTHLY	EXTREMES: RECORD HIGHEST	YEAR	DAY	RECORD LOWEST	YEAR	DAY	MEAN NUMBER OF DAYS: MAX. 90° AND ABOVE	MAX. 32° AND BELOW	MIN. 32° AND BELOW	MIN. 0° AND BELOW	PRECIPITATION TOTALS (INCHES): MEAN	GREATEST MONTHLY	YEAR	GREATEST DAILY	YEAR	DAY	SNOW, SLEET: MEAN	MAXIMUM MONTHLY	YEAR	GREATEST DEPTH	YEAR	DAY	MEAN NUMBER OF DAYS: .10 or MORE	.50 or MORE	1.00 or MORE
JAN	37.7	22.2	30.0	71	67	25	-13	68	2	0	8	27	1	2.62	5.18	58	1.68	58	25	7.6	25.0	61	18.0	66	30	6	2	0
FEB	40.6	23.6	32.2	76	54	16	-5	61	2	0	5	24	0	2.83	5.65	72	2.20	72	19	8.8	32.5	64	18.0	66	2	6	2	1
MAR	50.6	31.0	40.8	80+	63	25	7	60	7	0	1	19	0	3.56	6.07	52	2.78	52	11	6.9	36.0	58	10.0	62	6	7	2	1
APR	64.2	41.4	52.8	94	60	23	19+	65	4	0	0	5	0	3.67	6.73	73	1.75	61	10	.5	5.5	61	3.0	59	12	8	3	1
MAY	74.2	50.1	62.2	95+	69	29	30+	74	8	1	0	0	0	3.71	8.56	53	2.60	53	26	.0						7	3	1
JUN	83.2	59.7	71.4	103	52	26	39	72	11	7	0	0	0	3.98	18.51	72	5.40	72	22	.0						7	2	1
JULY	87.5	64.1	75.9	106	66	3	42	60	15	12	0	0	0	3.35	8.58	69	3.75	70	9	.0						7	2	1
AUG	85.5	62.6	74.1	104	62	20	43	63	25	8	0	0	0	3.41	12.77	55	4.30	55	13	.0						6	2	1
SEPT	78.9	55.9	67.4	103+	53	2	30+	63	25	3	0	0	0	3.38	7.00	73	4.23	73	14	.0						5	2	1
OCT	67.2	44.3	55.8	92	51	5	24+	69	30	0	0	3	0	2.63	5.26	62	3.22	62	4	.0	1.0	72				4	2	1
NOV	52.6	35.1	43.9	80+	74	1	12	64	23	0	0	13	0	3.41	6.65	52	2.27	63	7	2.3	14.0	53	9.0	71	25	6	2	1
DEC	40.7	26.1	33.4	69	66	10	-15	60	23	0	5	24	0	3.23	6.25	57	1.92	57	26	7.2	26.0	69	15.0	51	18	6	3	1
YEAR	63.6	43.0	53.3	106	66 JUL	3	-15	60 DEC	23	31	19	115	1	39.78	18.51 JUN	72	5.40 JUN	72	22	33.3	36.0 MAR	58	18.0 FEB	66	2	75	27	11

+ ALSO ON EARLIER DATES

FREEZE PROBABILITIES

PROBABILITY OF LATER DATE IN SPRING (MO/DA) THAN INDICATED

TEMP	.10	.20	.30	.40	.50	.60	.70	.80	.90
32	5/ 6	4/30	4/26	4/22	4/18	4/15	4/11	4/ 7	4/ 1
28	4/19	4/14	4/10	4/ 7	4/ 4	4/ 2	3/30	3/26	3/21
24	4/ 7	4/ 2	3/30	3/27	3/25	3/22	3/19	3/16	3/11
20	4/ 1	3/25	3/21	3/17	3/13	3/ 9	3/ 5	2/28	2/22
16	3/14	3/ 8	3/ 3	2/28	2/24	2/21	2/17	2/13	2/ 7

0/ 0 PROBABILITY OF OCCURRENCE OF THRESHOLD TEMP IS LESS THAN INDICATED PROBABILITY

PROBABILITY OF EARLIER DATE IN FALL (MO/DA) THAN INDICATED

TEMP	.10	.20	.30	.40	.50	.60	.70	.80	.90
32	10/ 3	10/ 8	10/13	10/16	10/19	10/23	10/26	10/30	11/ 5
28	10/16	10/22	10/25	10/29	11/ 2	11/ 5	11/ 8	11/12	11/18
24	10/30	11/ 5	11/ 9	11/12	11/16	11/19	11/22	11/26	12/ 2
20	11/12	11/17	11/21	11/25	11/28	12/ 1	12/ 5	12/ 9	12/14
16	11/25	12/ 2	12/ 6	12/11	12/14	12/18	12/23	12/27	1/ 3

0/ 0 PROBABILITY OF OCCURRENCE OF THRESHOLD TEMP IS LESS THAN INDICATED PROBABILITY

PROBABILITY OF LONGER THAN INDICATED FREEZE FREE PERIOD (DAYS)

TEMP	.10	.20	.30	.40	.50	.60	.70	.80	.90
32	213	203	195	189	183	177	171	164	154
28	232	224	219	215	210	206	202	197	189
24	258	250	244	240	235	231	226	221	213
20	286	277	270	265	259	254	249	242	233
16	320	310	304	298	293	287	281	275	265

PRECIPITATION WITH PROBABILITY EQUAL OR LESS THAN

LVL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0.05	0.97	0.99	1.72	1.29	1.07	0.91	0.65	1.00	1.35	0.51	1.37	0.84
0.10	1.22	1.24	2.03	1.62	1.41	1.28	0.95	1.31	1.67	0.74	1.69	1.14
0.20	1.57	1.63	2.44	2.12	1.94	1.86	1.44	1.80	2.11	1.12	2.13	1.60
0.30	1.87	1.95	2.78	2.54	2.40	2.38	1.89	2.22	2.47	1.48	2.49	2.01
0.40	2.15	2.26	3.09	2.94	2.84	2.90	2.34	2.62	2.81	1.84	2.84	2.42
0.50	2.43	2.58	3.40	3.35	3.30	3.44	2.83	3.05	3.16	2.22	3.19	2.84
0.60	2.74	2.93	3.73	3.81	3.83	4.07	3.39	3.52	3.54	2.66	3.57	3.32
0.70	3.10	3.32	4.11	4.30	4.41	4.78	4.04	4.05	3.97	3.18	4.01	3.86
0.80	3.56	3.81	4.58	4.94	5.16	5.72	4.90	4.73	4.52	3.86	4.56	4.56
0.90	4.27	4.66	5.29	6.04	6.46	7.32	6.37	5.90	5.37	5.02	5.41	5.76
0.95	4.92	5.29	5.92	6.85	7.47	8.63	7.61	6.82	6.13	6.00	6.18	6.73

MEDIAN PRECIPITATION AMOUNTS (0.50 PROBABILITY LEVEL) IN THIS TABLE DIFFER FROM THE MEANS SHOWN IN THE ABOVE TABLE BECAUSE OF THE METHOD USED IN MAKING THE COMPUTATIONS. THESE VALUES WERE DETERMINED FROM THE INCOMPLETE GAMMA DISTRIBUTION WHOSE CURVE HAS BEEN FOUND TO GIVE BEST FITS TO PRECIPITATION CLIMATOLOGICAL SERIES.

STATION: 36 1234 — MAX TEMP — CARLISLE, PA

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
51	39.9	42.5	52.9	65.2	76.9	83.7	88.5	86.2	80.3	68.5	47.7	41.8	64.5
52	41.5	44.5	50.0	65.4	73.5	88.0	91.2	84.9	80.2	65.0	53.7	42.6	65.0
53	43.7	48.0	54.6	62.9	78.1	86.5	89.8	86.6	80.8	72.3	55.6	45.4	67.0
54	38.1	50.4	52.8	70.0	73.3	86.8	90.7	84.8	80.2	69.6	50.8	40.3	65.7
55	38.5	41.5	54.5	70.0	80.8	81.1	94.2	88.8	76.9	68.2	49.9	36.7	65.1
56	38.7	44.1	50.5	62.4	75.4	85.0	83.5	84.1	74.6	66.3	53.8	48.0	63.9
57	36.5	44.4	52.5	66.9	79.6	86.8	89.0	87.7	81.1	65.4	54.0	45.0	65.7
58	37.1	34.9	46.9	66.9	74.7	80.8	87.6	85.5	80.0	66.6	55.6	35.4	62.7
59	37.9	43.3	51.6	67.9	78.1	84.4	87.5	87.1	81.9	68.6	51.2	42.6	65.2
60	39.9	41.9	41.8	70.4	71.2	82.1	84.8	86.2	77.4	65.8	55.4	36.0	62.7
61	33.6	42.3	52.1	58.2	70.1	83.3	86.8	84.7	83.4	70.7	53.6	39.2	63.2
62	37.1	37.4	50.5	64.7	78.5	83.4	86.0	86.6	73.7	66.8	50.2	36.7	62.6
63	35.3	34.1	53.1	67.6	75.3	84.2	88.2	84.0	77.4	75.2	56.6	34.5	63.8
64	39.5	39.5	52.7	60.9	78.1	84.1	87.4	83.4	80.3	65.1	58.5	42.0	64.3
65	36.5	42.6	46.5	61.2	79.6	83.6	88.4	85.7	81.5	65.5	53.5	44.3	64.1
66	35.3	40.3	56.0	57.9	73.7	88.0	94.7	90.4	76.4	65.2	54.5	40.4	64.4
67	43.1	35.5	48.3	64.1	64.7	85.5	83.6	80.7	76.0	63.6	47.5	41.6	61.2
68	32.5	38.5	54.2	67.6	69.0	84.6	90.0	90.9	82.8	68.8	52.9	37.0	64.1
69	35.0	38.6	48.2	65.3	75.8M	82.5	84.6	84.9	78.5	67.1	50.0	35.8	62.2M
70	29.8	38.2	44.2	61.9	77.2	80.4	84.7	83.5	81.8	66.4	50.2	39.3	61.5
71	32.8	38.0	45.7	61.0	69.7	80.1	86.5	83.0	79.5	70.2	52.9	46.8	62.2
72	40.6	35.4	47.4	57.5	70.8	71.7	82.8	83.1	78.7	62.6	48.8	42.0	60.1
73	42.3	40.4	56.2	59.4	66.1	81.8	84.8	84.7	77.3	66.0	54.2	40.8	62.8
74	40.2	39.0	50.8M	65.6	71.5	77.7	85.7	84.1	74.0	63.0	52.1	41.8	62.1M
SUM	905.4	975.3	1214.0	1540.9	1781.7	1996.1	2101.0	2051.6	1894.7	1612.5	1263.2	976.0	1526.1

STATION: 36 1234 — MIN TEMP — CARLISLE, PA

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
51	23.3	22.8	30.6	40.8	50.3	59.5	63.0	60.5	54.5	46.3	29.9	24.9	42.2
52	27.4	28.4	31.7	44.5	50.0	61.2	66.3	63.8	54.3	38.6	35.6	29.5	44.3
53	29.2	29.8	35.8	43.0	55.6	60.6	63.2	60.7	54.3	43.3	32.5	28.4	44.7
54	21.6	28.9	31.1	43.3	48.4	59.4	62.8	62.0	56.6	48.4	33.6	27.5	43.6
55	23.1	22.6	32.9	45.7	53.4	58.0	68.0	66.9	56.2	45.6	31.5	21.3	43.8
56	25.5	28.3	30.1	39.3	48.5	61.1	63.5	61.8	53.0	44.5	34.4	32.3	43.5
57	20.5	29.6	32.3	44.9	52.4	64.1	63.6	59.5	56.9	41.8	35.7	29.1	44.2
58	24.1	20.5	31.5	42.4	49.6	57.0	66.1	61.0	54.0	42.6	35.6	18.0	41.9
59	20.7	23.2	28.3	42.5	53.2	59.3	63.6	63.1	54.9	45.3	32.5	29.2	43.0
60	27.8	27.3	23.3	44.6	49.2	58.1	59.1	62.5	56.0	41.1	32.5	13.4	41.2
61	13.8	23.7	30.1	36.2	48.4	58.9	63.9	63.8	60.9	45.0	39.2	25.1	42.4
62	20.8	22.5	29.3	41.9	53.7	60.0	60.7	59.4	50.1	43.3	31.3	17.8	40.9
63	16.9	13.0	31.2	38.9	45.9	57.3	59.8	56.2	48.9	43.6	38.8	20.0	39.2
64	21.5	21.4	31.3	39.7	50.1	58.6	63.3	56.9	50.4	38.0	33.6	26.4	40.9
65	17.1	20.3	26.6	37.0	53.8	59.2	63.3	64.4	60.4	43.9	35.5	29.8	42.6
66	21.4	24.4	33.5	38.7	48.6	60.4	67.2	65.4	56.5	42.3	36.8	25.5	43.4
67	26.3	18.5	29.0	40.6	42.3	59.0	63.3	62.1	51.8	44.0	32.3	27.9	41.4
68	16.8	21.5	35.1	42.2	47.2	60.3	67.6	67.9	59.2	51.2	39.5	23.8	44.4
69	21.4	25.0	29.1	42.1	50.4M	61.7	65.9	62.4	55.9	42.2	33.7	24.3	42.8M
70	15.0	20.8	29.5	40.8	53.5	59.6	64.1	62.6	59.2	48.5	38.1	26.9	43.2
71	18.8	25.0	29.0	37.1	46.4	60.2	65.4	64.2	64.5	53.8	38.2	33.5	44.7
72	26.1	22.3	30.2	37.5	49.8	55.4	65.1	63.4	59.4	43.5	36.9	32.6	43.5
73	26.1	23.5	37.3	44.2	49.6	64.0	66.2	66.3	58.0	46.5	38.8	29.6	45.8
74	28.4	23.6	34.9M	44.9	51.4	59.0	63.3	65.5	55.7	40.8	36.7	29.7	44.5M
SUM	533.6	566.9	743.7	992.8	1201.7	1431.9	1538.3	1502.3	1341.6	1064.1	843.2	626.5	1032.1

STATION: 36 1234 — AVERAGE TEMPERATURE — CARLISLE, PA

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
51	31.6	32.7	41.8	53.0	63.6	71.6	75.8	73.4	67.4	57.4	38.8	33.4	53.4
52	34.5	36.5	40.9	55.0	61.8	74.6	78.8	74.4	67.3	51.8	44.7	36.1	54.7
53	36.5	38.9	45.2	53.0	66.9	73.6	76.5	73.7	67.6	57.8	44.1	36.9	55.9
54	29.9	39.7	42.0	56.7	60.9	73.1	76.8	73.4	68.4	59.0	42.2	33.9	54.7
55	30.8	32.1	43.7	57.9	67.1	69.6	81.1	77.9	66.6	56.9	40.7	29.0	54.5
56	32.1	36.2	40.3	50.9	62.0	73.1	73.5	73.0	63.8	55.4	44.1	40.2	53.7
57	28.5	37.0	42.4	55.9	66.0	75.5	76.3	73.6	69.0	53.6	44.9	37.1	55.0
58	30.6	27.7	39.2	54.7	62.2	68.9	76.9	73.3	67.0	54.6	45.6	26.7	52.3
59	29.3	33.3	40.0	55.2	65.7	71.9	75.6	75.1	68.4	57.0	41.9	35.9	54.1
60	33.9	34.6	32.6	57.5	60.2	70.1	72.0	74.4	66.7	53.5	44.0	24.7	52.0
61	23.7	33.0	41.1	47.2	59.3	71.1	75.4	74.3	72.2	57.9	46.4	32.2	52.8
62	29.0	30.0	39.9	53.3	66.1	71.7	73.4	73.0	61.9	55.1	40.8	27.3	51.8
63	26.1	23.6	42.2	53.3	60.6	70.8	74.0	70.1	63.2	59.4	47.7	27.3	51.5
64	30.5	30.5	42.0	50.3	64.1	71.4	75.4	70.2	65.4	51.6	46.1	34.2	52.6
65	26.8	31.5	36.6	49.1	66.7	71.4	75.9	75.1	71.0	54.7	44.5	37.1	53.4
66	28.4	32.4	44.8	48.3	61.2	74.2	81.0	77.9	66.5	53.8	45.7	33.0	53.9
67	34.7	27.0	38.7	52.4	53.5	72.3	73.5	71.4	63.9	53.8	39.9	34.8	51.3
68	24.7	30.0	44.7	54.9	58.1	72.5	78.8	79.4	71.0	60.0	46.2	30.4	54.2
69	28.2	31.8	38.7	53.7	63.1M	72.1	75.3	73.7	67.2	54.7	41.9	30.1	52.5M
70	22.4	29.5	36.9	51.4	65.4	70.0	74.4	73.1	70.5	57.5	44.2	33.1	52.4
71	25.8	31.5	37.4	49.1	59.1	70.2	76.0	73.6	72.0	62.0	45.6	40.2	53.5
72	33.4	28.9	38.8	47.5	60.3	63.6	74.0	73.3	69.1	53.1	42.9	37.3	51.9
73	34.2	32.0	46.8	51.8	57.9	72.9	75.5	75.5	67.7	56.3	46.5	35.2	54.4
74	34.3	31.3	42.9M	55.3	61.5	68.4	74.5	74.8	64.9	51.9	44.4	35.8	53.3M
SUM	719.9	771.7	979.6	1267.4	1492.3	1714.6	1820.4	1777.6	1618.7	1338.8	1053.8	801.9	1279.8

MONTHLY NORMALS OF TEMPERATURE, PRECIPITATION AND HEATING AND COOLING DEGREE DAYS (1941-70)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
TEMPERATURE	30.1	32.1	41.0	52.8	62.8	71.5	75.5	73.4	66.7	55.9	43.8	32.5	53.2
PRECIPITATION	2.79	2.45	3.54	3.58	3.95	3.76	3.96	3.47	3.04	2.95	3.54	3.10	40.13
HEATING DEGREE DAY	1082	921	744	373	141	7	0	7	59	291	636	1008	5269
COOLING DEGREE DAY	0	0	0	7	73	202	326	268	110	9	0	0	995

STATION: 36 1234 — TOTAL PRECIPITATION — CARLISLE, PA

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
51	3.70	3.73	3.44	2.54	1.20	7.28	3.35	1.35	3.46	1.99	5.78	5.07	42.89
52	3.46	2.41	6.07	6.42	5.11	1.76	5.33	4.25	5.06	1.12	6.65	2.70	50.34
53	4.71	2.04	4.34	3.55	8.56	3.41	4.52	2.22	1.42	1.85	3.07	3.11	42.80
54	1.50	2.11	4.27	3.56	4.31	1.13	2.36	3.94	2.72	3.90	2.40	3.65	35.85
55	.93	2.53	5.27	2.86	.97	4.33	.26	12.77	2.47	4.95	1.84	.27	39.45
56	1.72	4.01	4.29	2.85	3.70	3.74	5.00	4.35	3.58	4.99	2.54	5.47	46.24
57	2.01	2.46	2.40	4.62	1.67	4.39	2.05	1.86	2.12	3.05	3.17	6.25	36.05
58	5.18	3.09	5.04	4.18	3.20	4.30	1.78	3.94	2.77	1.77D	3.33	.79	39.37D
59	2.96	2.02	3.17	3.65	2.55	3.06	3.34	4.49	2.27	2.92	2.41	2.42	35.26
60	1.98	4.07	2.39	3.23	7.27	2.96	4.36	3.80	4.56	.85	1.84	1.91	39.22
61	3.42	2.77	4.50	6.07	2.20	3.59	5.78	3.57	2.88	1.18	3.15	3.25	42.36
62	2.20D	4.09	3.29	4.05	2.22	2.63	1.04	2.32	4.47	5.26	3.84	2.84	38.25D
63	1.55	1.81	4.07	1.67	2.47	4.01	2.09	1.90	1.95	.04	5.54	1.80	28.90
64	4.44	3.73	2.00	6.57	1.53	3.94	1.47	1.82	2.56	2.41	2.57	3.17	36.21
65	2.84	2.95	5.02	1.03	1.46	.92	1.68	3.79	2.66	4.07	1.38	1.09	28.89
66	3.88	4.00	1.21	2.93	2.19	1.01	.60	2.44	6.27	2.23	3.38	2.19	32.33
67	1.74	1.35	5.32	2.68	4.73	1.92	5.89	2.71	1.30	4.19	3.27	4.27	39.37
68	1.51	.43	3.03	1.93	6.91	2.65	4.54	1.22	6.36	1.91	4.35	1.71	36.55
69	.99	1.00	2.50	1.94	2.65	4.31	8.58	1.94	2.56	1.42	3.60	5.27	36.76
70	.94	2.68	3.23	5.76	4.46	5.24	7.12	4.25	2.54	3.58	5.24	3.32	48.36
71	3.23	5.12	2.63	.86	5.21	2.31	3.02	5.27	3.78	3.52	4.34	1.88	41.17
72	2.12	5.65	1.99	4.83	5.26	18.51	1.79	1.26	1.73	1.98	5.08	5.66	55.86
73	2.48	2.48	2.26	6.73	6.45	3.70	1.71	4.76	7.00	2.68	.89	5.39	46.53
74	3.44	1.37	3.61	3.64	2.79	4.49	2.70	1.67	4.54	1.31	2.09	4.06	35.71
SUM	62.93	67.90	85.34	88.15	89.07	95.59	80.36	81.89	81.03	63.17	81.75	77.54	954.72

STATION: 36 1234 — TOTAL SNOWFALL — CARLISLE, PA

SEASON	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	SEASON
50-51							9.0	T	1.0	T	.0	.0	
51-52	.0	.0	.0	T	T	22.0	5.0	2.0	9.5	T	.0	.0	38.5
52-53	.0	.0	.0	T	3.0	7.5	9.0	3.0	4.0	T	.0	.0	26.5
53-54	.0	.0	.0	.0	14.0	T	10.0	1.5	T	T	.0	.0	25.5
54-55	.0	.0	.0	.0	T	T	7.0	11.0	3.0	.0	.0	.0	21.0
55-56	.0	.0	.0	.0	5.0	4.0	4.0	7.0	17.5	T	.0	.0	37.5
56-57	.0	.0	.0	.0	2.0	1.0	7.5	10.5	3.0	.7E	.0	.0	24.7E
57-58	.0	.0	.0	.0	T	4.5	5.0	14.0	36.0	.0	.0	.0	59.5
58-59	.0	.0	.0	.0	1.0	2.5	6.0	3.5	3.5	3.0	.0	.0	19.5
59-60	.0	.0	.0	.0	T	3.0	.5	8.0	20.0	T	.0	.0	31.5
60-61	.0	.0	.0	.0	.0	16.5	25.0	15.5	2.5	5.5	.0	.0	65.0
61-62	.0	.0	.0	.0	2.5	11.0	2.5	14.0	10.0	T	.0	.0	40.0
62-63	.0	.0	.0	T	1.0	13.5	6.5	14.0	6.5	.0	.0	.0	41.5
63-64	.0	.0	.0	.0	.0	13.0	20.0	32.5	2.0	2.0	.0	.0	69.5
64-65	.0	.0	.0	.0	T	.5	13.0	.8	15.5	T	.0	.0	29.8
65-66	.0	.0	.0	.0	.0	.0	25.0	15.5	.0	.0	.0	.0	40.5
66-67	.0	.0	.0	.0	T	14.0	T	12.0	8.4	.0	.0	.0	34.4
67-68	.0	.0	.0	.0	9.0	13.0	1.0	1.0	3.5	.0	.0	.0	27.5
68-69	.0	.0	.0	.0	5.5	T E	1.0	7.5	2.0	.0	.0	.0	16.0
69-70	.0	.0	.0	.0	T	26.0	9.0	5.0	10.0	.0	.0	.0	50.0
70-71	.0	.0	.0	.0	.0	7.0	14.5	6.5	7.0	.0	.0	.0	35.0
71-72	.0	.0	.0	.0	9.0	T	2.0	22.0	.5	T	.0	.0	33.5
72-73	.0	.0	.0	1.0	3.0	T	.0	1.0	.0	.0	.0	.0	5.0
73-74	.0	.0	.0	.0	.0	13.0	T	3.5	.0	.0	.0	.0	16.5
74-75	.0	.0	.0	.0	.0	T							
SUM	.0	.0	.0	1.0	55.0	172.0	182.5	211.3	165.4	11.2	.0	.0	788.4

E AMOUNT IS WHOLLY OR PARTLY ESTIMATED.

T TRACE, AN AMOUNT TOO SMALL TO MEASURE.

M ONE OR MORE DAYS OF RECORD MISSING, IF AVERAGE VALUE IS ENTERED, LESS THAN 10 DAYS RECORD IS MISSING.

D WATER EQUIVALENT OF SNOWFALL WHOLLY OR PARTLY ESTIMATED.

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USCOMM–NOAA–ASHEVILLE 400

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
IN COOPERATION WITH UNIVERSITY OF MARYLAND, DEPT. OF HORTICULTURE
CLIMATOGRAPHY OF THE UNITED STATES NO. 20—18

LATITUDE 39° 42'N.
LONGITUDE 78° 11'W.
ELEV. (GROUND) 428 feet

CLIMATOLOGICAL SUMMARY

STATION HANCOCK (FRUIT LAB), MARYLAND

Means: Jun 1946--May 1971
MEANS AND EXTREMES FOR PERIOD Extremes: Jun 1946--Oct 1972

Month	Temperature (°F)							**	Precipitation Totals (Inches)								Mean number of days					Month
	Means			Extremes								Snow, Ice Pellets						Temperatures				
																		Max.		Min.		
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year	Mean heating degree days	Mean	Greatest daily	Year	Mean	Maximum monthly	Year	Greatest daily	Year	Precip. .10 inch or more	90° and above	32° and below	32° and below	0° and below	
(a)	25	25	25	26		26		17	25	26		26	26		26		25	25	25	25	25	
Jan	39.5	20.2	29.9	76	1950	-17	1968	1124	2.55	2.21	1948	7.5	23.3	1966	18.0	1971	6		8	27	1	Jan
Feb	41.6	21.9	31.8	80	1954	-14	1961	958	2.46	1.47	1951	8.1	27.4	1964	17.0	1964	6		5	24	1	Feb
Mar	50.2	28.2	39.2	88	1948	-4	1960	791	3.50	2.22	1951	7.0	20.5	1958	12.5	1958	7		1	21	*	Mar
Apr	63.9	38.2	51.1	94	1960	15	1969	423	3.00	1.52	1961	0.6	4.0	1959	4.0	1959	7	*	0	9		Apr
May	73.7	46.8	60.3	95	1969	21	1947	192	3.35	2.62	1953	T	T	1951	T	1951	7	1		2		May
Jun	82.2	55.5	68.9	98	1966+	34	1966+	40	3.56	3.86	1972						7	6				Jun
Jul	86.3	60.1	73.2	105	1954	42	1946	4	3.38	3.25	1970						7	10				Jul
Aug	84.6	58.8	71.7	102	1962+	39	1963+	10	3.17	2.88	1955						6	7				Aug
Sep	77.8	50.8	64.3	103	1953	24	1947	100	3.07	4.30	1952						5	3		1		Sep
Oct	67.3	40.0	53.7	98	1953	16	1969	359	2.49	4.70	1954	T	0.3	1972	0.3	1972	4	*	0	8		Oct
Nov	53.7	31.7	42.7	86	1950	8	1950	649	2.79	2.46	1963	1.7	12.3	1971	12.0	1971	5		*	17		Nov
Dec	41.8	22.7	32.3	74	1956	-19	1960	999	2.47	1.59	1957	6.2	25.0	1951	12.5	1967	5		5	26	1	Dec
Year	63.6	39.6	51.6	105	1954	-19	1960	5649	35.79	4.70	Oct 1954	31.1	27.4	Feb 1964	18.0	Jan 1971	72	28	19	135	3	Year

(a) Average length of record, years.

T Trace, an amount too small to measure.

** Base 65°F

+ Also on earlier dates, months, or years.

* Less than one half.

CLIMATE OF HANCOCK, MARYLAND
UNIVERSITY OF MARYLAND FRUIT LABORATORY

The Hancock weather station is located at the University of Maryland Fruit Laboratory which is operated jointly by the Departments of Horticulture and Entomology. Since its creation in 1945, the Laboratory has conducted research and provided extension services to the fruit growers in the Appalachian area on problems of cutlure and insect control. No property was purchased here by the University; all work is performed in cooperation with commercial orchardists. Located in western Washington County, it is in the heart of Maryland's Ridge and Valley physiographic region. The Laboratory with its weather station is located on a valley floor with a NNE-SSW orientation. Elevations of the nearby ridges are between 600 and 640 feet above sea level. Considerable variation, especially in temperatures, can occur over short distances from valley floor to ridge summit.

Hancock's location in the middle latitudes of eastern North America, where the general flow of the atmosphere is from west to east, favors a continental type of climate with its marked temperature contrasts. The much higher Allegheny Plateau, less than 50 miles to the west, moderates outbreaks of cold air that move into the area on fresh west-to-northwest winds; it also creates a "rain shadow" in Allegany and Washington Counties where the average annual precipitation is generally lower than that for other sections of Maryland.

The warmest part of the year is the last half of July when the maximum afternoon temperature averages about 89°F. Extremes, 100°F. and higher, have been recorded 12 times in 25 years; in 1953 there were 5 consecutive days with 100°F. temperatures from August 30th through September 3rd. Temperatures of 90°F. and higher occur on an average of 28 days per year and have ranged from 44 days in 1966 to 4 days in 1971. In July 1955, there were 21 days with 90°F. temperatures. The coldest period, on the other hand, is the last of January and the beginning of February when the early morning minimum temperature averages about 26°F. The average number of days when the daily minimum temperature is 32°F. or lower is 135 and has ranged from 152 days in 1962 to 112 days in 1971. Temperatures 0°F. or lower have occurred 78 times during this 25-year period. The most that occurred in any one month is nine in January 1948.

Precipitation is rather evenly distributed through the year. Long-term averages indicate June the wettest month and February the driest. During this 25-year period, the wettest month was June 1972 with 10.57 inches; wettest year, 1970 with 46.51 inches; the driest month, February 1968 with 0.06 inch; and the driest year 1969 with 28.09 inches. At another official Hancock station in 1930, only 21.93 inches was recorded for the year. The greatest one-day precipitation of 4.70 inches occurred during Hurricane Hazel in October 15, 1954.

The average seasonal snowfall is 31 inches but has ranged from seven inches in the 1954-1955 winter season to 69 inches in the 1960-1961 season. The greatest depth on the ground at any one time is 26 inches, recorded on February 9, 1961.

Prevailing surface winds in the area are from the west to northwest except during the warm half of the year when they become more southerly. The average annual wind speed is about nine miles per hour but winds may reach 50 to 60 m.p.h. and even higher during severe thunderstorms, hurricanes or intense winter storms. Tropical storms or hurricanes affect the area about once a year, usually in the period August through October. Most of these have caused minor damage through heavy rainfall and flooding. The most memorable of the last 25 years is Hurricane Hazel. Tornadoes are rare; in the State of Maryland the annual average is two.

The average date of the last 32-degree freeze in the spring is May 8 and the first in the fall is October 2. The growing season, defined as the number of days between the last 32-degree freeze in the spring and the first in the fall, averages 147 days. The following table gives the probability (in percent) of the last spring and first fall occurrences of temperatures 32°, 24° and 16°F.

Temperatures	10%	33%	50%	67%	90%
	ON OR AFTER DATE IN SPRING				
32° or below	May 20	May 12	May 8	May 4	Apr 26
24° or below	Apr 21	Apr 12	Apr 8	Apr 4	Mar 26
16° or below	Mar 30	Mar 20	Mar 15	Mar 10	Feb 28
	ON OR BEFORE DATE IN FALL				
32° or below	Sep 16	Sep 27	Oct 2	Oct 7	Oct 18
24° or below	Oct 17	Oct 26	Oct 30	Nov 3	Nov 12
16° or below	Nov 8	Nov 20	Nov 26	Dec 2	Dec 14

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Room 1123A, Jull Hall
College Park, Maryland 20742
University of Maryland
November 1972

IN APPRECIATION TO DR. BENJAMIN L. ROGERS
FOR 18 YEARS OF EXCELLENT WEATHER RECORDS

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1946						67.0	72.2	67.2	64.2	56.0	44.8	35.5	--
1947	35.4	27.4	34.6	52.8	60.4	67.3	70.6	75.3	65.4	58.6	40.5	31.2	51.6
1948	22.2	30.4	43.4	52.7	60.1	69.8	73.7	71.0	64.0	50.8	47.1	34.5	51.6
1949	37.8	37.4	41.0	49.0	60.7	70.7	75.6	72.6	60.2	57.3	42.1	33.7	53.2
1950	38.6	32.8	35.3	45.3	60.9	67.8	70.4	70.8	61.4	54.1	40.9	27.5	50.5
1951	30.8	32.5	39.5	49.3	60.6	69.3	73.9	70.6	64.4	55.5	37.2	31.1	51.2
1952	34.4	35.8	38.7	52.0	58.9	71.7	75.2	71.3	63.9	49.5	43.0	33.7	52.3
1953	34.8	37.0	41.8	50.4	65.0	69.8	73.6	70.9	63.3	54.2	41.9	35.0	53.1
1954	28.8	36.4	39.2	55.1	56.8	69.5	72.1	70.1	65.9	56.5	39.9	31.5	51.8
1955	30.1	31.6	43.1	54.5	63.0	64.4	77.1	74.5	64.5	54.7	39.4	29.0	52.2
1956	29.9	34.9	38.5	48.8	58.1	69.3	71.3	70.5	61.3	54.3	42.8	39.9	51.6
1957	28.5	36.4	40.4	53.3	61.0	71.0	76.6	69.8	66.1	50.1	43.7	35.9	52.3
1958	29.1	26.8	37.2	51.8	58.9	65.1	74.6	71.0	64.0	51.9	45.3	25.8	50.1
1959	27.7	32.0	39.3	52.6	64.0	69.7	74.4	75.3	67.6	56.7	41.2	36.3	53.1
1960	33.3	32.7	29.6	55.1	58.9	68.1	71.2	73.7	66.0	53.1	44.0	24.3	50.8
1961	25.5	32.5	42.5	46.5	56.3	68.0	73.0	72.6	69.5	54.4	45.5	32.4	51.6
1962	29.8	29.9	38.0	50.5	64.3	69.1	71.0	71.0	60.7	53.9	39.1	28.4	50.5
1963	26.7	24.3	41.7	52.2	58.7	68.3	72.0	69.4	61.5	56.2	46.0	27.2	50.4
1964	31.4	28.9	41.8	49.3	62.1	69.9	74.2	70.2	64.8	49.9	46.2	34.5	51.9
1965	29.0	31.4	38.2	49.3	65.3	68.2	73.3	72.5	68.2	51.2	44.6	37.9	52.4
1966	27.5	29.9	41.9	46.6	59.7	69.2	76.1	72.9	62.2	50.3	42.6	32.7	51.0
1967	35.0	28.2	39.6	53.2	54.5	70.3	72.4	70.6	61.8	51.4	39.4	34.0	50.9
1968	24.3	29.3	43.4	53.2	56.4	68.7	74.5	74.9	64.7	54.3	44.9	30.3	51.6
1969	27.7	31.8	38.1	53.8	61.9	71.2	74.2	71.4	64.9	51.7	41.4	30.9	51.6
1970	23.5	31.5	35.9	50.4	63.5	68.8	72.8	73.0	68.5	55.8	44.1	34.1	51.8
1971	25.8	32.2	38.0	48.7	57.2	70.2	71.2	69.6	67.9	58.4	42.9	39.5	51.8
1972	33.7	28.9	39.9	49.2	60.3	65.1	73.2	69.9	66.2	49.5	39.6	--	--

FREEZE DATA (month-day)

	Last Spring Minimum of					First Fall Minimum of				
Year	16° or below	20° or below	24° or below	28° or below	32° or below	32° or below	28° or below	24° or below	20° or below	16° or below
1958	2-21	3-24	4-4	4-9	4-26	10-2	10-6	11-8	11-23	11-30
1959	3-29	3-29	3-29	4-7	5-9	9-18	10-19	11-3	11-8	11-18
1960	3-16	4-11	4-11	4-29	5-4	10-21	10-22	10-26	11-8	11-8
1961	3-18	3-18	3-18	4-30	5-28	10-5	10-28	10-28	11-11	12-9
1962	3-8	4-4	4-17	4-21	5-10	9-21	10-25	10-25	11-7	11-27
1963	2-28	3-3	4-8	4-26	5-24	9-23	9-24	11-4	12-7	12-15
1964	3-1	4-5	4-5	4-16	5-3	9-14	10-7	10-12	11-22	11-23
1965	3-21	4-5	4-5	4-5	4-17	10-6	10-6	10-29	10-29	12-20
1966	3-28	3-29	3-29	5-11	5-11	10-2	10-21	10-31	11-7	11-20
1967	3-19	3-20	4-12	4-29	5-25	10-20	10-20	10-29	11-6	11-16
1968	3-14	3-14	4-7	5-7	5-8	10-5	10-6	10-31	12-1	12-10
1969	4-1	4-1	4-1	4-21	5-1	10-15	10-18	10-24	10-24	10-24
1970	3-30	3-30	4-8	5-7	5-7	10-5	11-17	11-18	11-24	11-24
1971	3-27	4-3	4-9	5-1	5-1	11-5	11-5	11-5	11-9	12-2
1972	3-11	4-5	4-9	4-28	5-11	10-10	10-10	10-20	10-20	11-25

STATION HISTORY

The University of Maryland Fruit Laboratory is located in a narrow valley 0.4 mile northwest of the Hancock post office. The immediate area is relatively flat and grassy. Weather observations have been taken at the same site since the station was established on June 1, 1946. The following individuals have been responsible for an excellent set of weather observations.

OBSERVER	PERIOD OF RECORD
Charles O. Dunbar	Jun 1, 1946--Apr 30, 1954
Boyd Cochran and Castillo Graham	May 1--Nov 30, 1954
Benjamin L. Rogers	Dec 1, 1954--Present

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1946						4.18	2.69	5.29	2.86	4.30	0.69	2.29	--
1947	3.37	1.21	1.49	1.69	4.05	3.53	5.12	2.83	1.82	1.08	3.37	0.47	30.03
1948	3.23	1.43	3.21	4.10	4.26	2.95	1.07	3.88	3.20	4.28	3.92	4.69	40.22
1949	5.05	2.01	0.69	2.17	3.15	2.68	6.82	5.29	2.15	3.13	1.50	2.21	36.85
1950	1.79	3.40	3.32	1.90	5.19	2.10	3.39	1.76	6.41	3.25	5.75	3.01	41.27
1951	2.87	3.82	5.74	3.72	2.10	6.83	2.63	1.72	1.28	0.78	3.92	4.01	39.42
1952	4.27	1.63	4.71	4.92	3.65	4.97	3.30	2.87	7.36	2.26	5.88	1.96	47.78
1953	4.62	2.37	5.01	3.27	7.85	1.72	3.79	0.76	1.68	1.44	2.31	2.68	37.50
1954	1.30	1.34	4.85	1.68	2.40	3.37	2.67	5.62E	1.79	6.77	2.47	3.44	37.70E
1955	0.20	2.12	6.10	3.00	2.25	3.92	2.51	6.04	2.15	2.27	1.36	0.17	32.09
1956	2.34	4.02	3.79	2.54	2.52	5.33	5.77	5.44	2.97	3.15	0.82	3.31	42.00
1957	2.37	2.68	1.54	3.93	1.74	4.80	1.20	1.06	2.64	3.54	2.20	3.18	30.88
1958	3.32	2.20	3.77	3.85	4.08	5.26	3.80	3.16	2.25	1.38	1.82	0.55	35.44
1959	2.41	1.54	2.47	3.20	3.22	2.44	4.54	3.77	1.12	4.47	2.08	2.15	33.41
1960	2.10	3.77	2.30	2.35	7.75	3.83	3.26	4.08	3.58	0.50	1.53	1.51	36.56
1961	2.74	4.03	4.65	5.57	1.80	3.87	3.61	1.87	3.51	0.90	2.29	2.50	37.34
1962	1.56	4.09	4.10	3.36	3.01	1.49	2.06	1.20	3.25	2.24	3.86	2.43	32.65
1963	1.46	1.47	4.96	1.72	1.62	3.92	2.44	1.83	2.23	0.10	5.32	1.79	28.86
1964	3.57	3.32	2.32	5.86	1.39	3.29	3.24	1.14	3.48	1.31	2.38	2.07	33.37
1965	2.64	3.24	4.58	2.11	1.39	1.55	2.07	3.90	2.42	2.69	0.75	0.56	27.90
1966	3.27	3.25	1.22	3.73	0.99	0.58	1.71	2.20	5.48	2.07	2.26	1.71	28.47
1967	1.07	1.43	4.97	2.96	5.17	2.31	5.54	4.42	3.70	3.09	1.34	4.38	40.38
1968	2.57	0.06	4.30	0.64	5.08	3.98	0.48	2.00	4.28	2.63	3.10	1.78	30.90
1969	1.04	0.84	1.98	1.10	1.46	2.01	4.96	3.95	1.11	1.51	2.98	5.15	28.09
1970	0.71	2.22	3.87	5.03	1.74	7.17	5.87	3.23	3.96	3.21	5.76	3.74	46.51
1971	3.98	4.13	1.47	0.68	5.96	2.53	4.37	3.30	4.84	3.24	2.79	1.10	38.39
1972	2.38	4.68	1.88	4.42	6.20	10.57	1.67	2.83	1.77	1.90	5.36	--	

RAINFALL FREQUENCY FOR DURATIONS FROM 5 MINUTES TO 24 HOURS AND RETURN PERIODS FROM 2 TO 100 YEARS FOR HANCOCK AREA (VALUES GIVEN IN INCHES)

Return Period	5-Min	30-Min	1-Hour	2-Hour	3-Hour	6-Hour	12-Hour	24-Hour
2-year	0.4	1.1	1.3	1.6	1.8	2.1	2.4	2.7
5-year	0.5	1.3	1.7	2.1	2.3	2.7	3.2	3.6
10-year	0.6	1.6	2.0	2.4	2.7	3.2	3.7	4.5
25-year	0.7	1.8	2.3	2.7	3.1	3.7	4.4	4.9
50-year	0.8	2.0	2.6	3.1	3.5	4.1	4.7	5.6
100-year	0.9	2.3	2.8	3.5	3.8	4.6	5.4	6.0

For Example: The two-year, one-hour rainfall given in the table as 1.6 inches means that this value will be equalled or exceeded, on an average, once every two years.

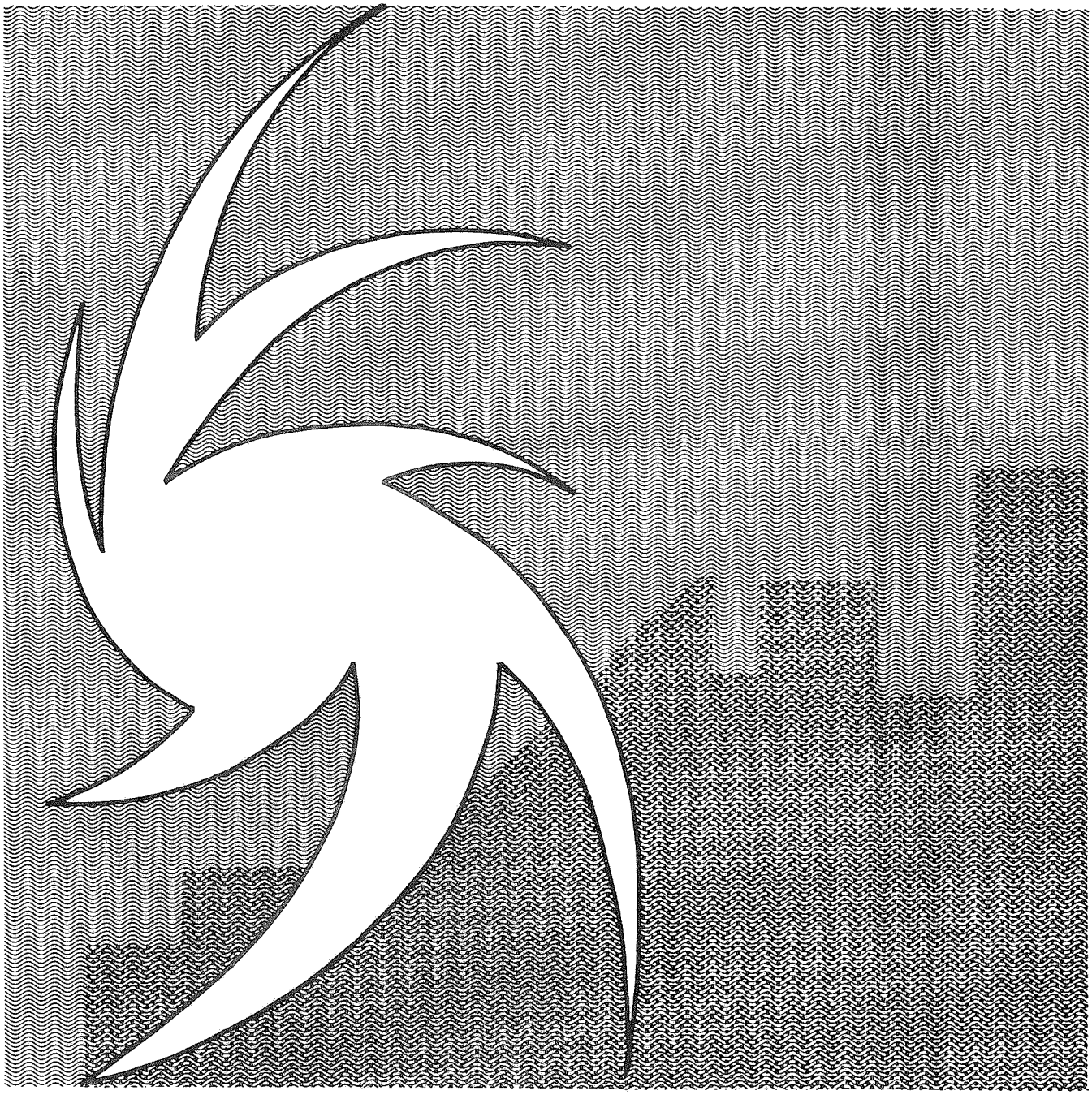
From: U.S. Weather Bureau, Technical Paper No. 40. Rainfall Frequency Atlas of the United States, 1961.

MONTHLY AND SEASONAL SNOWFALL (INCHES)

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Total (or Seasonal)
1955-1956	0	4.5	1.0	6.3	3.5	12.5	1.0	0	28.8
1956-1957	0	T	0.5	7.5	5.0	2.7	T	0	15.7
1957-1958	0	0.3	4.5	3.6	9.7	20.5	0	0	38.6
1958-1959	0	T	0.2	4.9	0.4	6.5	4.0	0	16.0
1959-1960	0	0	0.3	T	9.0	21.4	0	0	30.7
1960-1961	T	T	16.5	20.0	25.6	4.5	2.5	0	69.1
1961-1962	0	2.6	6.5	1.5	9.3	13.1	T	0	33.0
1962-1963	0	T	12.1	4.5	10.0	5.0	0	0	31.6
1963-1964	0	0	12.7	17.5	27.4	10.5	0.8	0	68.9
1964-1965	0	T	T	13.5	1.1	13.0	0	0	27.6
1965-1966	0	0	0.3	23.3	15.6	T	3.0	0	42.2
1966-1967	0	1.5	9.3	0.3	11.9	4.2	0	0	27.2
1967-1968	0	3.1	19.0	7.3	T	15.5	0	0	44.9
1968-1969	0	6.3	0.9	2.2	4.9	2.6	0	0	16.9
1969-1970	0	T	19.5	7.6	7.1	10.3	1.0	0	45.5
1970-1971	0	0	4.5	21.8	5.1	6.9	1.5	0	39.8
1971-1972	0	12.3	0	3.1	20.1	0.3	0.5	0	36.3

CLIMATOGRAPHY OF THE UNITED STATES NO. 20

Climate of Chambersburg, Pennsylvania



noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA SERVICE / NATIONAL CLIMATIC CENTER ASHEVILLE, N.C. JUNE 1977

LATITUDE N39 56

LONGITUDE W77 38

CLIMATOLOGICAL SUMMARY

MEANS AND EXTREMES FOR PERIOD 1951-1974

CHAMBERSBURG 1 ESE, PA

ELEVATION 640

MONTH	TEMPERATURE (°F)													PRECIPITATION TOTALS (INCHES)														
	MEANS			EXTREMES						MEAN NUMBER OF DAYS										SNOW, SLEET						MEAN NUMBER OF DAYS		
										MAX.		MIN.																
	DAILY MAXIMUM	DAILY MINIMUM	MONTHLY	RECORD HIGHEST	YEAR	DAY	RECORD LOWEST	YEAR	DAY	90° AND ABOVE	32° AND BELOW	32° AND BELOW	0° AND BELOW	MEAN	GREATEST MONTHLY	YEAR	GREATEST DAILY	YEAR	DAY	MEAN	MAXIMUM MONTHLY	YEAR	GREATEST DEPTH	YEAR	DAY	.10 or MORE	.50 or MORE	1.00 or MORE
JAN	37.5	20.8	29.2	71	67	25	-11	68	12	0	9	28	1	2.70	5.44	53	1.99	67	27	7.0	23.3	66	18.0	66	30	6	2	1
FEB	39.9	22.2	31.1	73	54	17	-16	61	2	0	6	25	1	2.78	4.81	66	2.08	66	13	8.5	27.3	64	26.0	61	8	6	2	1
MAR	49.3	29.3	39.4	79	68	29	-2	60	11	0	1	21	0	3.82	6.34	55	2.23	65	5	7.5	22.8	62	20.0	62	6	8	3	1
APR	62.8	39.3	51.1	91+	60	25	18	65	4	0	0	7	0	3.72	7.00	73	2.04	70	14	.4	3.3	61	4.0	66	12	8	3	1
MAY	72.6	48.2	60.4	94	69	29	27+	66	11	0	0	1	0	3.43	7.45	53	1.98	68	29	.0						7	2	1
JUN	81.5	57.3	69.4	98	59	30	36	66	1	5	0	0	0	4.44	11.34	72	4.65	72	22	.0						7	3	1
JULY	85.4	61.4	73.4	102+	66	3	45	66	21	8	0	0	0	3.44	8.96	70	4.35	70	9	.0						6	2	1
AUG	83.8	59.8	71.8	101	62	20	40	52	24	5	0	0	0	3.78	8.45	55	2.44	55	13	.0						7	3	1
SEPT	77.2	52.9	65.1	100+	53	2	28	63	24	3	0	0	0	3.13	7.23	52	4.85	66	15	.0						5	2	1
OCT	65.9	41.5	53.7	93	51	5	19+	72	20	0	0	5	0	2.40	5.31	54	3.20	54	15	.0	.9	72				4	2	1
NOV	51.8	32.5	42.2	81	71	2	13+	70	25	0	0	16	0	3.22	7.02	52	2.73	56	1	2.7	14.5	53	10.0	71	25	6	2	1
DEC	40.7	24.4	32.5	70	66	9	-13	60	23	0	6	25	0	3.30	5.94	72	1.57	57	26	7.5	26.8	69	15.0	69	26	7	3	1
YEAR	62.4	40.8	51.6	102+	JUL 66	3	-16	FEB 61	2	21	22	128	2	40.16	11.34	JUN 72	4.85	SEP 66	15	33.6	27.3	FEB 64	26.0	FEB 61	8	77	29	12

+ ALSO ON EARLIER DATES

FREEZE PROBABILITIES

PROBABILITY OF LATER DATE IN SPRING (MO/DA) THAN INDICATED

TEMP	.10	.20	.30	.40	.50	.60	.70	.80	.90
32	5/13	5/ 6	5/ 2	4/28	4/24	4/21	4/17	4/12	4/ 6
28	5/ 1	4/25	4/21	4/18	4/15	4/12	4/ 8	4/ 4	3/30
24	4/16	4/ 6	4/ 3	4/ 1	3/30	3/27	3/25	3/22	3/18
20	4/ 3	3/29	3/25	3/22	3/19	3/16	3/13	3/ 9	3/ 4
16	3/24	3/17	3/12	3/ 8	3/ 4	2/28	2/24	2/19	2/12

0/ 0 PROBABILITY OF OCCURRENCE OF THRESHOLD TEMP IS LESS THAN INDICATED PROBABILITY

PROBABILITY OF EARLIER DATE IN FALL (MO/DA) THAN INDICATED

TEMP	.10	.20	.30	.40	.50	.60	.70	.80	.90
32	9/25	10/ 1	10/ 5	10/ 9	10/13	10/16	10/20	10/24	10/30
28	10/ 6	10/12	10/16	10/19	10/23	10/26	10/30	11/ 3	11/ 9
24	10/20	10/25	10/29	11/ 1	11/ 5	11/ 8	11/11	11/15	11/21
20	11/ 1	11/ 6	11/10	11/17	11/21	11/26	11/30	12/ 5	12/12
16	11/21	11/26	11/29	12/ 2	12/ 6	12/ 7	12/10	12/14	12/18

0/ 0 PROBABILITY OF OCCURRENCE OF THRESHOLD TEMP IS LESS THAN INDICATED PROBABILITY

PROBABILITY OF LONGER THAN INDICATED FREEZE FREE PERIOD (DAYS)

TEMP	.10	.20	.30	.40	.50	.60	.70	.80	.90
32	198	188	182	176	171	165	159	153	143
28	212	204	198	194	190	186	181	176	168
24	240	233	228	223	219	215	211	206	199
20	274	265	258	252	247	241	236	229	219
16	299	291	285	280	275	270	265	259	250

PRECIPITATION WITH PROBABILITY EQUAL OR LESS THAN

LVL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0.05	0.97	1.06	1.56	1.54	0.94	1.25	1.09	1.15	1.28	0.54	1.21	0.81
0.10	1.21	1.32	1.91	1.88	1.25	1.66	1.41	1.50	1.56	0.75	1.51	1.11
0.20	1.57	1.69	2.40	2.36	1.75	2.29	1.89	2.03	1.97	1.10	1.94	1.59
0.30	1.88	2.00	2.81	2.75	2.17	2.84	2.30	2.49	2.30	1.42	2.30	2.01
0.40	2.17	2.29	3.19	3.12	2.59	3.38	2.69	2.93	2.62	1.73	2.64	2.43
0.50	2.47	2.59	3.58	3.50	3.03	3.94	3.10	3.39	2.94	2.07	2.99	2.87
0.60	2.81	2.91	4.00	3.90	3.53	4.57	3.55	3.91	3.28	2.45	3.37	3.38
0.70	3.16	3.29	4.49	4.37	4.08	5.27	4.05	4.48	3.68	2.88	3.81	3.95
0.80	3.62	3.76	5.10	4.96	4.81	6.19	4.70	5.22	4.18	3.46	4.37	4.69
0.90	4.42	4.50	6.03	5.86	6.04	7.76	5.81	6.49	4.95	4.44	5.23	5.97
0.95	5.00	5.16	6.89	6.68	7.02	8.99	6.66	7.47	5.65	5.25	6.02	7.00

MEDIAN PRECIPITATION AMOUNTS (0.50 PROBABILITY LEVEL) IN THIS TABLE DIFFER FROM THE MEANS SHOWN IN THE ABOVE TABLE BECAUSE OF THE METHOD USED IN MAKING THE COMPUTATIONS. THESE VALUES WERE DETERMINED FROM THE INCOMPLETE GAMMA DISTRIBUTION WHOSE CURVE HAS BEEN FOUND TO GIVE BEST FITS TO PRECIPITATION CLIMATOLOGICAL SERIES.

STATION: 36 1354 MAX TEMP CHAMBERSBURG 1 ESE, PA

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
51	40.0	41.3	50.3	61.8	73.6	81.3	86.3	85.4	80.0	68.6	47.0	41.8	63.1
52	41.5	44.1	47.7	63.0	69.8	85.6	88.0	83.8	78.0	63.4	52.4	41.2	63.2
53	43.2	45.6	50.3	59.7	75.6	83.2	87.7	85.3	78.6	70.8	53.6	45.7	64.9
54	36.8	47.4	49.5	66.7	70.3	83.2	87.7	80.9	78.9	67.7	49.6	39.7	63.2
55	38.2	40.4	53.0	65.4	76.2	78.0	90.2	86.8	75.6	67.4	49.5	36.6	63.1
56	37.7	42.4	47.5	59.9	72.3	81.9	81.9	82.4	73.1	65.1	52.9	48.1	62.1
57	35.6	44.2	48.9	64.0	74.8	83.7	86.5	84.6	78.7	62.8	52.9	44.8	63.5
58	36.2	33.0	44.1	63.1	71.5	77.3	85.1	82.5	76.0	64.1	53.7	35.2	60.2
59	37.1	43.2	49.4	65.7	76.7	83.2	85.5	85.9	81.0	67.0	49.7	42.9	63.9
60	39.3	39.8	39.7	68.2	69.7	80.3	82.6	84.5	76.3	65.2	54.9	35.2	61.3
61	32.9	41.4	50.8	56.5	68.1	80.7	85.1	84.3	82.6	70.4	53.0	38.8	62.1
62	36.9	36.5	48.8	63.3	76.7	81.9	82.7	85.1	71.5	66.3	48.9	36.3	61.2
63	35.0	33.8	51.7	64.8	72.6	81.4	84.7	81.7	76.4	73.1	54.9	33.2	61.9
64	39.5	37.3	50.8	59.1	76.6	82.4	86.1	83.3	78.2	63.4	57.9	40.9	63.0
65	35.6	42.1	45.7	59.3	77.5	80.7	85.6	83.0	78.5	62.7	52.3	45.9	62.4
66	33.6	38.1	53.0	55.9	71.6	85.5	90.3	86.8	73.4E	63.4	53.7	39.7	62.1E
67	43.2	36.7	49.4	64.3	65.9	84.6	82.5	79.8	75.7	63.0	47.3	42.2	61.2
68	32.5	37.2	54.5	65.2	68.0E	81.3	86.2	86.7	78.6	64.5	50.7	36.7	61.8E
69	35.5	38.2	47.7	65.8	75.9	83.2	83.5	83.7	76.4	65.3	49.5	35.9	61.7
70	30.9	38.2	45.0	62.5	76.9	80.2	84.4	84.5	80.8	66.5	51.7	41.2	61.9
71	33.2	39.4	46.9	63.6	70.3	81.6	84.3	81.5	77.1	67.8	50.5	47.0	61.9
72	40.6	37.3	49.9	62.1	72.7	75.5	83.2	82.0	76.7	59.5	47.4	43.1	60.8
73	42.0E	39.3	55.5	59.9	67.4	82.4	84.4	84.3	77.5	68.7E	55.1	40.6	63.1E
74	42.3	40.4	52.5	66.2	71.0	77.1	85.1	82.6	73.9	63.9	53.4	43.1	62.6
SUM	899.3	957.3	1183.6	1506.0	1741.7	1956.2	2049.6	2011.4	1853.5	1580.6	1242.5	975.8	1496.2

STATION: 36 1354 MIN TEMP CHAMBERSBURG 1 ESE, PA

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
51	23.1	23.2	30.1	38.6	47.8	57.9	61.7	59.1	52.5	44.1	28.1	23.1	40.8
52	25.8	26.7	29.0	40.8	46.8	60.0	63.5	60.2	50.9	35.9	33.8	27.4	41.7
53	27.2	27.5	33.2	40.6	54.1	58.3	61.0	58.9	51.1	40.5	31.6	27.9	42.7
54	20.8	27.9	29.7	42.9	46.4	57.8	59.0	59.9	54.0	44.6	32.2	25.6	41.7
55	22.3	21.7	31.3	42.6	50.2	54.1	65.8	65.2	53.4	42.5	30.1	20.2	41.6
56	22.5	27.2	28.1	36.9	45.2	57.8	61.2	59.5	50.4	43.5	31.9	31.5	41.3
57	19.5	27.6	30.5	43.1	48.4	60.9	59.4	56.6	54.8	39.9	34.4	27.2	41.9
58	22.7	19.1	29.7	40.1	47.1	53.8	64.8	59.1	52.3	41.6	34.5	18.2	40.3
59	19.2	23.0	27.2	40.3	51.4	58.2	63.4	63.8	54.3	46.4	30.1	27.2	42.0
60	26.0	25.0	20.4	42.3	48.0	56.4	58.8	62.8	55.8	40.3	31.7	13.1	40.1
61	14.4	21.9	31.6	37.0	46.0	56.3	61.3	60.7	57.0	41.1	35.9	22.1	40.4
62	19.3	20.1	26.9	38.7	51.2	57.2	58.0	56.8	49.8	41.9	30.2	17.4	39.0
63	16.5	12.9	31.3	37.6	45.4	56.0	59.5	56.4	47.6	40.6	35.8	18.8	38.2
64	20.1	19.6	29.8	38.1	49.5	58.1	62.6	57.2	50.8	37.0	33.2	26.5	40.2
65	17.7	21.4	28.1	38.0	51.8	55.1	59.2	59.7	55.2	40.1	33.0	28.4	40.6
66	19.2	22.1	30.5	36.3	46.8	55.7	62.2	61.2	55.1E	39.6	31.7	24.0	40.4E
67	25.5	18.0	29.5	40.1	43.0	57.4	61.6	58.9	48.1	39.9	29.5	24.5	39.7
68	14.1	19.0	31.6	39.2	47.5E	56.9	61.5	62.0	52.7	44.3	35.6	22.2	40.6E
69	20.9	23.3	27.3	41.1	49.4	60.4	63.7	59.7	53.4	38.9	32.0	23.3	41.1
70	14.3	21.5	27.2	39.9	51.7	56.9	61.7	60.3	55.4	45.3	34.4	24.5	41.1
71	15.5	23.5	27.4	33.9	45.5	58.8	58.5	57.1	56.7	47.4	31.3	28.5	40.3
72	22.0	17.9	27.7	35.0	47.7	54.3	62.3	57.7	52.6	36.5	30.0	29.2	39.4
73	24.1E	20.5	34.4	39.8	46.4	59.9	61.2	61.6	53.9	46.1E	34.9	25.9	42.4E
74	26.9	22.0	31.8	41.4	48.9	56.4	61.2	61.5	52.7	38.1	34.2	27.8	41.9
SUM	499.6	532.6	704.3	944.3	1156.2	1374.6	1473.1	1435.9	1270.5	996.1	780.1	584.5	979.4

STATION: 36 1354 AVERAGE TEMPERATURE CHAMBERSBURG 1 ESE, PA

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
51	31.6	32.3	40.2	50.2	60.7	69.6	74.0	72.3	66.3	56.4	37.6	32.5	52.0
52	33.7	35.4	38.4	51.9	58.3	72.8	75.8	72.0	64.5	49.7	43.1	34.3	52.5
53	35.2	36.6	41.8	50.2	64.9	70.8	74.4	72.1	64.9	55.7	42.6	36.8	53.8
54	28.8	37.7	39.6	54.8	58.4	70.5	73.4	70.4	66.5	56.2	40.9	32.7	52.5
55	30.3	31.1	42.2	54.0	63.2	66.1	78.0	76.0	64.5	55.0	39.8	28.4	52.4
56	30.1	34.8	37.8	48.4	58.8	69.9	71.6	71.0	61.8	54.3	42.4	39.8	51.7
57	27.6	35.9	40.2	53.6	61.6	72.3	73.0	70.6	66.8	51.4	43.7	36.0	52.7
58	29.5	26.1	36.9	51.6	59.3	65.6	75.0	70.8	64.2	52.9	44.1	26.7	50.2
59	28.2	33.1	38.3	53.0	64.1	70.7	74.5	74.9	67.7	56.7	39.9	35.1	53.0
60	32.7	32.4	30.1	55.3	58.9	68.4	70.7	73.7	66.1	52.8	43.3	24.2	50.7
61	23.7	31.7	41.2	46.8	57.1	68.5	73.2	72.5	69.8	55.8	44.5	30.5	51.3
62	28.1	28.3	37.9	51.0	64.0	69.6	70.4	71.0	60.7	54.1	39.6	26.9	50.1
63	25.8	23.4	41.3	51.2	59.0	68.7	72.1	69.1	62.0	56.9	45.4	26.0	50.1
64	29.8	28.5	40.3	48.6	63.1	70.3	74.4	70.3	64.5	50.2	45.6	33.7	51.6
65	26.7	31.8	36.9	48.7	64.7	67.9	72.4	71.4	66.9	51.4	42.7	37.2	51.6
66	26.4	30.1	41.8	46.1	59.2	70.6	76.3	74.0	64.3E	51.5	42.7	31.9	51.2E
67	34.4	27.4	39.5	52.2	54.5	71.0	72.1	69.4	61.9	51.5	38.4	33.4	50.5
68	23.3	28.1	43.1	52.2	57.8E	69.1	73.9	74.4	65.7	54.4	43.2	29.5	51.2E
69	28.2	30.8	37.5	53.5	62.7	71.8	73.6	71.7	64.9	52.1	40.8	29.6	51.4
70	22.6	29.9	36.1	51.2	64.3	68.6	73.1	72.4	68.1	55.9	43.1	32.9	51.5
71	24.4	31.5	37.2	48.8	57.9	70.2	71.4	69.3	66.9	57.6	40.9	37.8	51.2
72	31.3	27.6	38.8	48.6	60.2	64.9	72.8	69.9	64.7	48.0	38.7	36.2	50.1
73	33.1E	29.9	45.0	49.9	56.9	71.2	72.8	73.0	65.7	57.4E	45.0	33.3	52.8E
74	34.6	31.2	42.2	53.8	60.0	66.8	73.2	72.1	63.3	51.0	43.8	35.5	52.3
SUM	700.1	745.6	944.5	1225.6	1449.6	1665.9	1762.1	1724.3	1562.7	1288.9	1011.8	780.9	1238.4

MONTHLY NORMALS OF TEMPERATURE, PRECIPITATION AND HEATING AND COOLING DEGREE DAYS (1941-70)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
TEMPERATURE	29.7	31.4	39.8	51.3	61.3	70.0	73.9	72.1	65.1	54.3	42.5	31.9	51.9
PRECIPITATION	2.74	2.44	3.77	3.41	3.75	4.01	3.67	3.85	2.96	2.71	3.26	3.09	39.66
HEATING DEGREE DAY	1094	941	781	411	169	16	0	0	70	336	675	1026	5519
COOLING DEGREE DAY	0	0	0	0	54	166	276	224	73	0	0	0	793

STATION: 36 1354 — TOTAL PRECIPITATION — CHAMBERSBURG 1 ESE, PA

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
51	4.16	3.36	3.95	4.00	1.50	6.61	4.38	1.25	1.41	1.10	4.63	5.50	41.85
52	4.10	1.75	5.48	6.26	4.31	3.41	5.08	2.37	7.23	.80	7.02	2.84	50.65
53	5.44	2.36	5.38	4.33	7.45	3.19	2.86	3.85	1.74	1.71	3.56	3.28	45.15
54	1.55	2.61	3.62	2.59	3.19	2.07	2.41	8.13	2.80	5.31	2.77	3.27	40.32
55	.52	2.95	6.34	3.20	2.43	4.21	.84	8.45	2.17	4.20	1.95	.25	37.51
56	1.75	4.18	4.46	2.67	3.04	4.39	5.94	3.95	3.06	3.88	3.54	5.05	45.91
57	2.64	2.79	1.70	4.08	1.34	7.03	2.24	1.33	3.77	2.72	1.95	4.87	36.46
58	3.79	2.61	4.47	4.10	5.91	6.43	4.61	5.21	2.83	1.34	3.07	.59	44.96
59	2.90	1.91	2.79	3.73	2.64	6.54	3.97	4.88	1.78	3.28	1.95	2.66	39.03
60	2.22	3.27	2.71	2.91	6.34	4.38	4.07	5.40	3.54	1.76	1.55	1.85	40.00
61	2.69	3.62	5.14	4.44	2.79	4.38	3.35	1.69	2.11	1.00	2.83	3.06	37.10
62	2.00	4.47	4.37	3.38	2.47	3.64	2.53	1.28	3.89	3.11	3.53	2.61	37.28
63	1.97	2.03	5.06	1.71	1.64	5.73	2.62	2.76	1.89	.11	4.79	1.97	32.28
64	4.19	2.73	3.07	6.87	.68	2.90	2.37	2.24	2.54	.80	1.79	3.27	33.45
65	2.95	3.13	4.38	1.59	2.01	.76	1.89	6.04	2.84	3.83	1.00	1.00	31.42
66	3.41	4.81	.65	4.05	.85	.58	1.91	1.25	5.36E	1.88	2.83	2.77	30.35E
67	2.46	1.40	6.10	3.17	4.59	2.37	5.68	3.63	1.88	3.28	2.57	4.73	41.86
68	1.40	.45	4.06	1.63	5.62E	3.23	1.06	3.57	3.73	2.32	4.22	1.88	33.17E
69	1.23	1.06	2.63	2.23	2.14	2.78	6.35	3.96	1.96	1.98	2.91	5.45	34.68
70	.79	2.35	4.11	5.15	1.69	5.11	8.96	5.11	2.61	3.03	4.88	3.98	47.77
71	3.56	4.17	2.07	1.23	4.93	3.79	2.34	3.45	3.53	3.59	3.75	1.68	38.09
72	2.87	4.20	2.08	4.83	5.88	11.34	2.54	4.87	1.64	1.81	6.83	5.94	54.83
73	3.00E	3.17	2.62	7.00	4.43	7.63	1.73	4.47	6.67	3.55E	1.31	5.55	51.13E
74	3.28	1.44	4.43	4.19	4.41	3.96	2.71	1.67	4.18	1.23	2.13	5.06	38.69
SUM	64.87	66.82	91.67	89.34	82.28	106.46	82.44	90.81	75.16	57.62	77.36	79.11	963.94

STATION: 36 1354 — TOTAL SNOWFALL — CHAMBERSBURG 1 ESE, PA

SEASON	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	SEASON
50-51							8.2	.5	.0	.0	.0	.0	
51-52	.0	.0	.0	.0	T	20.9	3.5	.6	7.8	.0	.0	.0	32.8
52-53	.0	.0	.0	T	2.6	7.1	5.5	4.0	8.9	.5	.0	.0	28.6
53-54	.0	.0	.0	.0	14.5	T	9.6	3.4	1.4	T	.0	.0	28.9
54-55	.0	.0	.0	.0	.5	1.1	2.8	4.3	3.8	.0	.0	.0	12.5
55-56	.0	.0	.0	.0	7.0	2.0	6.1	5.1	12.0	.2	.0	.0	32.4
56-57	.0	.0	.0	.0	T	1.5	8.0	7.7	4.2	T	.0	.0	21.4
57-58	.0	.0	.0	.0	.2	5.0	2.7	8.8	21.9	.0	.0	.0	38.6
58-59	.0	.0	.0	.0	.4	2.2	4.3	2.2	5.7	3.0	.0	.0	17.8
59-60	.0	.0	.0	.0	.0	1.4	.5	10.7	15.5	T	.0	.0	28.1
60-61	.0	.0	.0	T	.0	17.4	22.1	24.7	5.0	3.3	.0	.0	72.5
61-62	.0	.0	.0	.0	4.0	11.6	1.3	13.4	22.8	T	.0	.0	53.1
62-63	.0	.0	.0	T	1.6	14.5	6.5	15.9	6.0	.0	T	.0	44.5
63-64	.0	.0	.0	.0	T	12.3	18.7	27.3	6.0	T	.0	.0	64.3
64-65	.0	.0	.0	.0	T	.9	10.8	.4	19.0	T	.0	.0	31.1
65-66	.0	.0	.0	T	T	T	23.3	14.0	T	.8	.0	.0	38.1
66-67	.0	.0	.0	.0	1.0	13.1	.6	12.7	6.0	.0	.0	.0	33.4
67-68	.0	.0	.0	.0	8.5	16.6	2.6	5.0	7.5	.0	.0	.0	40.2
68-69	.0	.0	.0	.0	8.0	.7	.3	7.2	5.0	.0	.0	.0	21.2
69-70	.0	.0	.0	.0	T	26.8	8.2	5.5	14.3	.0	.0	.0	54.8
70-71	.0	.0	.0	.0	.0	9.3	14.8	4.2	7.5	1.5	.0	.0	37.3
71-72	.0	.0	.0	.0	12.2	.4	3.2	17.8	.4	T	.0	.0	34.0
72-73	.0	.0	.0	.9	3.4	1.5E	T E	4.0	T	T	.0	.0	9.8E
73-74	.0	.0	.0	.0E	T	14.0	5.1	4.4	T	T	.0	.0	23.5E
74-75	.0	.0	.0	.0	T	.6							
SUM	.0	.0	.0	.9	63.9	180.9	168.7	203.8	180.7	9.3	.0	.0	798.9

E AMOUNT IS WHOLLY OR PARTLY ESTIMATED.

T TRACE, AN AMOUNT TOO SMALL TO MEASURE.

M ONE OR MORE DAYS OF RECORD MISSING; IF AVERAGE VALUE IS ENTERED, LESS THAN 10 DAYS RECORD IS MISSING.

D WATER EQUIVALENT OF SNOWFALL WHOLLY OR PARTLY ESTIMATED.

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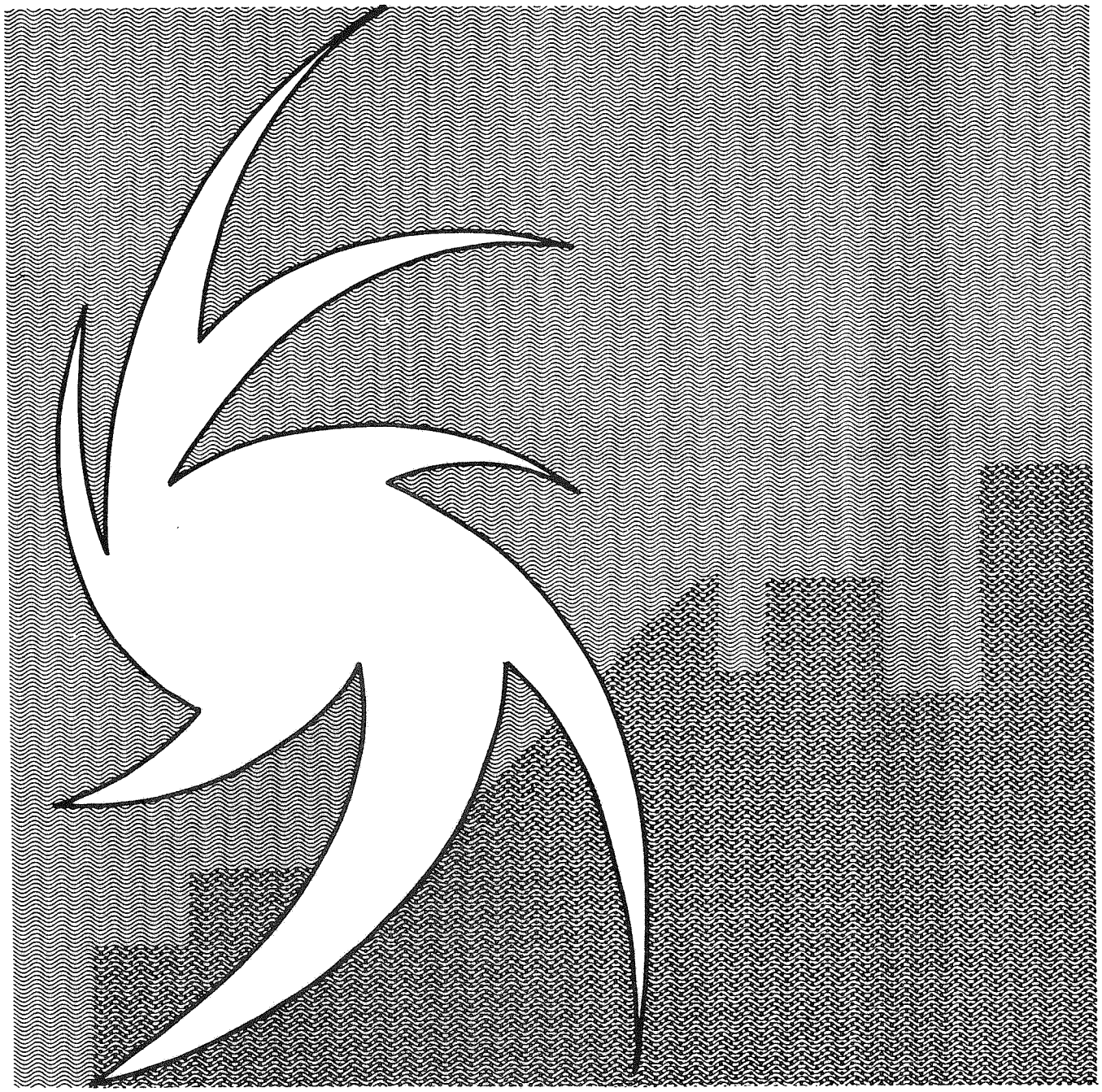
CLIMATOGRAPHY OF THE UNITED STATES NO. 20

Climate of Chewsville Bridgeport, Maryland



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LATITUDE N39 39

LONGITUDE W77 40

CLIMATOLOGICAL SUMMARY

MEANS AND EXTREMES FOR PERIOD 1951-1971

CHEWSVILLE BRIDGEPORT, MD

ELEVATION 570

MONTH	TEMPERATURE (°F)													PRECIPITATION TOTALS (INCHES)													
	MEANS			EXTREMES						MEAN NUMBER OF DAYS									SNOW, SLEET						MEAN NUMBER OF DAYS		
										MAX.		MIN.															
	DAILY MAXIMUM	DAILY MINIMUM	MONTHLY	RECORD HIGHEST	YEAR	DAY	RECORD LOWEST	YEAR	DAY	90° AND ABOVE	32° AND BELOW	32° AND BELOW	0° AND BELOW	MEAN	GREATEST MONTHLY	YEAR	GREATEST DAILY	YEAR	DAY	MEAN	MAXIMUM MONTHLY	YEAR	GREATEST DEPTH	YEAR	DAY	.10 or MORE	.50 or MORE	1.00 or MORE
JAN	39.2	21.9	30.6	72	67	25	-15	68	12	0	7	26	1	2.30	4.06	53	1.31	71	1	8.8	29.3	66	27.0	66	30	5	1	0
FEB	42.6	24.3	33.4	76	54	15	-10+	67	8	0	4	23	0	2.35	3.92	71	1.76	65	7	7.8	29.5	61	31.0	61	8	5	1	0
MAR	51.4	30.7	41.1	81	68	29	2+	60	11	0	1	18	0	3.08	5.39	55	2.68	65	5	6.9	21.6	60	9.0	62	7	7	2	0
APR	64.9	41.0	53.0	92	60	23	20	69	1	0	0	6	0	3.08	7.80	52	1.72	70	14	.6	4.0	59	4.0	59	12	7	2	0
MAY	75.0	49.8	62.4	95	69	29	28	66	11	1	0	1	0	3.37	7.15	53	2.39	52	25	.0						7	2	1
JUN	83.5	58.6	71.1	99+	69	28	37	66	1	6	0	0	0	3.29	8.79	51	2.40	51	3	.0						6	2	1
JULY	87.5	62.7	75.1	105	54	14	48+	71	21	11	0	0	0	3.36	10.01	56	6.69	56	20	.0						5	2	1
AUG	85.4	61.2	73.4	101+	55	2	42	64	15	7	0	0	0	3.39	8.85	55	2.70	55	13	.0						6	3	1
SEPT	79.1	54.4	66.8	100+	53	2	30	56	21	3	0	0	0	2.88	7.69	66	4.32	66	14	.0						5	2	1
OCT	67.8	43.5	55.7	93	51	5	18	69	24	0	0	4	0	2.46	5.22	71	2.77	71	25	.0						4	2	1
NOV	53.6	34.4	44.0	83	71	2	11	70	25	0	0	14	0	2.73	6.07	52	2.70	52	21	2.4	8.5	71	9.0	71	25	6	2	1
DEC	42.4	25.4	33.9	73	56	7	-11	60	23	0	5	24	0	2.59	5.02	51	1.77	57	26	7.3	23.1	51	16.0	51	20	6	2	0
YEAR	64.4	42.3	53.4	105	54	JUL 14	-15	68	JAN 12	28	17	116	1	34.88	10.01	JUL 56	6.69	JUL 56	20	33.8	29.5	FEB 61	31.0	FEB 61	8	69	23	7

+ ALSO ON EARLIER DATES

FREEZE PROBABILITIES

PROBABILITY OF LATER DATE IN SPRING (MO/DA) THAN INDICATED

TEMP	.10	.20	.30	.40	.50	.60	.70	.80	.90
32	5/11	5/ 5	5/ 1	4/28	4/24	4/21	4/18	4/14	4/ 8
28	4/26	4/21	4/18	4/15	4/12	4/ 9	4/ 6	4/ 3	3/29
24	4/11	4/ 6	4/ 3	3/31	3/28	3/25	3/22	3/18	3/13
20	4/ 2	3/27	3/23	3/19	3/16	3/12	3/ 9	3/ 5	2/27
16	3/23	3/16	3/11	3/ 7	3/ 3	2/27	2/23	2/18	2/11

0/ 0 PROBABILITY OF OCCURRENCE OF THRESHOLD TEMP IS LESS THAN INDICATED PROBABILITY

PROBABILITY OF EARLIER DATE IN FALL (MO/DA) THAN INDICATED

TEMP	.10	.20	.30	.40	.50	.60	.70	.80	.90
32	9/22	9/28	10/ 2	10/ 6	10/ 9	10/13	10/16	10/21	10/26
28	10/13	10/18	10/22	10/25	10/28	10/31	11/ 3	11/ 7	11/12
24	10/27	10/30	11/ 2	11/ 4	11/ 6	11/ 8	11/10	11/13	11/16
20	11/ 6	11/12	11/16	11/19	11/22	11/25	11/29	12/ 3	12/ 8
16	11/17	11/22	11/25	11/28	12/ 1	12/ 4	12/ 7	12/10	12/15

0/ 0 PROBABILITY OF OCCURRENCE OF THRESHOLD TEMP IS LESS THAN INDICATED PROBABILITY

PROBABILITY OF LONGER THAN INDICATED FREEZE FREE PERIOD (DAYS)

TEMP	.10	.20	.30	.40	.50	.60	.70	.80	.90
32	192	183	177	172	167	162	157	151	142
28	217	210	206	202	198	195	191	186	180
24	244	236	231	227	223	218	214	209	201
20	278	269	262	256	251	245	240	233	223
16	295	287	282	277	272	268	263	257	249

PRECIPITATION WITH PROBABILITY EQUAL OR LESS THAN

LVL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0.05	0.81	0.73	1.20	1.17	0.98	0.89	0.65	1.48	0.79	0.59	1.01	0.51
0.10	1.02	0.94	1.48	1.46	1.29	1.20	0.95	1.78	1.06	0.81	1.27	0.73
0.20	1.33	1.27	1.89	1.87	1.77	1.67	1.44	2.21	1.47	1.17	1.63	1.11
0.30	1.59	1.55	2.23	2.21	2.19	2.08	1.89	2.55	1.83	1.49	1.94	1.46
0.40	1.84	1.83	2.55	2.53	2.59	2.49	2.35	2.87	2.18	1.81	2.23	1.81
0.50	2.10	2.11	2.88	2.86	3.01	2.91	2.84	3.20	2.55	2.14	2.53	2.19
0.60	2.38	2.43	3.23	3.22	3.48	3.39	3.40	3.55	2.97	2.52	2.86	2.62
0.70	2.69	2.78	3.64	3.63	4.00	3.93	4.06	3.95	3.43	2.95	3.23	3.12
0.80	3.09	3.23	4.16	4.16	4.68	4.62	4.92	4.46	4.04	3.51	3.71	3.79
0.90	3.77	4.01	4.95	4.97	5.85	5.82	6.40	5.23	5.07	4.47	4.45	4.92
0.95	4.27	4.61	5.68	5.71	6.76	6.77	7.65	5.93	5.89	5.26	5.13	5.88

MEDIAN PRECIPITATION AMOUNTS (0.50 PROBABILITY LEVEL) IN THIS TABLE DIFFER FROM THE MEANS SHOWN IN THE ABOVE TABLE BECAUSE OF THE METHOD USED IN MAKING THE COMPUTATIONS. THESE VALUES WERE DETERMINED FROM THE INCOMPLETE GAMMA DISTRIBUTION WHOSE CURVE HAS BEEN FOUND TO GIVE BEST FITS TO PRECIPITATION CLIMATOLOGICAL SERIES.

STATION: 18 1790 — MAX TEMP — CHEWSVILLE BRIDGEPORT, MD

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
51	43.0	44.7	52.1	62.9	73.3	80.9	86.0	84.8	79.3	69.8	48.3	43.5	64.1
52	45.8	45.6	49.8	63.9	71.9	85.7	89.0	84.0	78.0	64.7	54.1	42.3	64.6
53	45.9	48.4	53.5	62.1	77.8	84.8	90.5	86.5	80.0	71.7	55.7	46.9	67.0
54	40.3	50.1	51.6	69.4	71.4	84.4	90.2	84.0	81.2	68.7	51.3	40.7	65.3
55	39.0	43.1	54.9	67.8	77.8	79.9	91.6	87.7	76.7	68.3	50.9	38.2	64.7
56	38.4	44.4	51.4	61.5	75.4	83.8	84.3	83.1	74.8	66.2	54.3	51.1	64.1
57	37.9	46.4	51.8	66.6	77.5	85.8	88.7	87.1	80.1	63.2	54.0	46.3	65.5
58	37.3	34.9	45.3	64.7	73.6	78.7	86.3	83.4	78.5	66.3	56.0	37.0	61.9
59	39.1	45.8	53.0	68.0	78.6	84.2	86.8	87.5	82.8	69.0	52.5	45.5	66.1
60	41.3	41.6	40.5	70.2	71.2	81.5	85.0	86.2	78.2	66.9	57.0	36.6	63.0
61	34.5	44.4	54.3	57.9	70.2	82.6	86.8	85.9	84.9	71.6	54.7	39.9	64.0
62	39.6	39.5	50.2	65.0	78.5	84.2	85.4	86.0	74.7	69.0	49.9	37.3	63.3
63	37.1	36.0	55.0	66.8	75.9	83.2	88.0	84.9	78.9	74.6	57.1	35.1	64.4
64	41.6	39.3	54.3	61.5	78.9	86.1	89.4	85.5	81.4	65.3	59.1	44.6	65.6
65	38.0	44.8	48.3	62.3	80.5	82.5	88.9	86.1	81.4	65.4	54.7	48.4	65.1
66	35.7	40.6	56.5	58.9	74.0	86.5	91.8	89.2	74.7	64.5	55.6	41.5	64.1
67	46.5	39.5	52.1	66.6	68.4	84.5	83.5	81.5	75.6	64.9	49.1	43.8	63.0
68	35.6	39.9	58.4	67.4	71.2	83.7	89.2	88.6	80.4	66.8	53.2	40.0	64.5
69	38.1	40.1	49.5	68.0	78.2	85.7	86.6	84.7	78.3	67.6	51.5	38.3	63.9
70	33.4	41.8	47.4	65.2	78.5	81.8	84.8	85.0	83.0	68.5	53.2	43.5	63.8
71	34.8	42.8	50.1	66.2	72.4	83.4	85.5	82.6	78.4	69.9	53.2	49.5E	64.1E
SUM	822.9	893.7	1080.2	1362.9	1575.2	1753.9	1838.3	1794.3	1661.3	1422.9	1125.4	890.0	1352.1

STATION: 18 1790 — MIN TEMP — CHEWSVILLE BRIDGEPORT, MD

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
51	25.6	24.6	32.1	40.6	48.9	59.8	62.8	59.1	52.8	44.9	30.3	25.7	42.3
52	28.6	29.0	30.8	43.4	49.9	62.6	66.2	62.5	52.5	39.0	36.7	28.1	44.1
53	29.4	29.5	34.3	41.9	55.4	59.9	62.6	59.7	53.0	42.1	31.8	29.1	44.1
54	22.7	28.9	30.8	45.1	47.7	58.2	60.5	62.3	55.9	46.5	32.8	27.0	43.2
55	23.1	24.3	33.5	44.1	52.3	55.0	66.8	66.0	56.0	43.9	31.0	21.8	43.2
56	23.3	28.5	29.3	38.4	48.1	58.3	62.3	60.7	51.9	45.5	34.4	33.2	42.8
57	21.1	29.7	32.0	43.7	50.3	62.2	60.7	57.9	57.0	40.4	36.6	29.0	43.4
58	23.5	20.2	30.6	41.3	49.5	56.1	65.9	60.8	54.0	43.0	37.0	18.6	41.7
59	20.2	24.1	28.4	42.0	53.7	58.7	64.7	65.0	56.4	48.0	32.6	29.1	43.6
60	27.0	26.2	21.8	43.9	49.6	58.3	60.2	64.0	56.7	42.7	34.8	15.5	41.7
61	16.6	25.6	33.0	38.5	47.0	57.9	63.2	62.7	58.7	43.2	38.8	24.3	42.5
62	21.9	22.9	29.5	41.6	53.5	59.1	60.2	59.8	51.2	44.6	32.2	18.8	41.3
63	18.3	15.9	34.0	39.8	47.2	57.5	60.1	58.6	49.7	42.3	38.8	19.6	40.2
64	22.0	21.8	32.2	40.3	50.6	59.0	64.0	58.8	52.3	38.8	35.1	28.2	41.9
65	19.4	23.4	29.2	39.6	53.2	57.1	61.4	61.2	56.9	41.2	35.9	30.6	42.4
66	20.6	23.6	31.6	38.4	48.8	56.5	63.5	61.6	52.3	41.1	34.3	26.1	41.5
67	27.9	19.7	31.3	42.0	44.6	58.5	62.9	60.5	50.0	42.5	31.6	25.9	41.5
68	16.4	19.9	33.5	40.8	46.4	58.0	63.2	63.5	53.3	46.7	37.8	23.8	41.9
69	21.1	24.5	28.7	42.7	51.2	60.7	64.1	61.1	54.3	40.3	31.5	21.3M	41.8M
70	15.7	22.4	30.1	41.3	51.9	57.8	61.5	61.1	57.2	47.5	36.2	25.4	42.3
71	15.3	24.8	27.4	32.5	45.6	59.8	59.9	58.6	59.4	49.5	32.9	33.3E	41.6E
SUM	459.7	509.5	644.1	861.9	1045.4	1231.0	1316.7	1285.5	1141.5	913.7	723.1	534.4	889.0

STATION: 18 1790 — AVERAGE TEMPERATURE — CHEWSVILLE BRIDGEPORT, MD

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
51	34.3	34.7	42.1	51.8	61.1	70.4	74.4	72.0	66.1	57.4	39.3	34.6	53.2
52	37.2	37.3	40.3	53.7	60.9	74.2	77.6	73.3	65.3	51.9	45.4	35.2	54.4
53	37.7	39.0	43.9	52.0	66.6	72.4	76.6	73.1	66.5	56.9	43.8	38.0	55.5
54	31.5	39.5	41.2	57.3	59.6	71.3	75.4	73.2	68.6	57.6	42.1	33.9	54.3
55	31.1	33.7	44.2	56.0	65.1	67.5	79.2	76.9	66.4	56.1	41.0	30.0	53.9
56	30.9	36.5	40.4	50.0	61.8	71.1	73.3	71.9	63.4	55.9	44.4	42.2	53.5
57	29.5	38.1	41.9	55.2	63.9	74.0	74.7	72.5	68.6	51.8	45.3	37.7	54.4
58	30.4	27.6	38.1	53.0	61.6	67.4	76.1	72.1	66.3	54.7	46.5	27.8	51.8
59	29.7	35.0	40.7	55.0	66.2	71.5	75.8	76.3	69.6	58.5	42.6	37.3	54.9
60	34.2	33.9	31.2	57.1	60.4	69.9	72.6	75.1	67.5	54.8	45.9	26.1	52.4
61	25.6	35.0	43.7	48.2	58.6	70.3	75.0	74.3	71.8	57.4	46.8	32.1	53.2
62	30.8	31.2	39.9	53.3	66.0	71.7	72.8	72.9	63.0	56.8	41.1	28.1	52.3
63	27.7	26.0	44.5	53.3	61.6	70.4	74.1	71.8	64.3	58.5	48.0	27.4	52.3
64	31.8	30.6	43.3	50.9	64.8	72.6	76.7	72.2	66.9	52.1	47.1	36.4	53.8
65	28.7	34.1	38.8	51.0	66.9	69.8	75.2	73.7	69.2	53.3	45.3	39.5	53.8
66	28.2	32.1	44.1	48.7	61.4	71.5	77.7	75.4	63.5	52.8	45.0	33.8	52.9
67	37.2	29.6	41.7	54.3	56.5	71.5	73.2	71.0	62.8	53.7	40.4	34.9	52.2
68	26.0	29.9	46.0	54.1	58.8	70.9	76.2	76.1	66.9	56.8	45.5	31.9	53.3
69	29.6	32.3	39.1	55.4	64.7	73.2	75.4	72.9	66.3	54.0	41.5	29.8M	52.9M
70	24.6	32.1	38.8	53.3	65.2	69.8	73.2	73.1	70.1	58.0	44.7	34.5	53.1
71	25.1	33.8	38.8	49.4	59.0	71.6	72.7	70.6	68.9	59.7	43.1	41.4E	52.8E
SUM	641.8	702.0	862.7	1113.0	1310.7	1493.0	1577.9	1540.4	1402.0	1168.7	924.8	712.6	1120.9

MONTHLY NORMALS OF TEMPERATURE, PRECIPITATION AND HEATING AND COOLING DEGREE DAYS (1941-70)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
TEMPERATURE	31.3	33.2	41.4	52.7	62.4	70.8	74.8	72.9	66.1	55.5	44.1	33.3	53.2
PRECIPITATION	2.30	2.04	3.02	2.99	3.62	3.43	3.51	3.57	2.87	2.49	2.76	2.68	35.28
HEATING DEGREE DAY	1045	890	732	369	137	7	0	0	62	300	627	983	5152
COOLING DEGREE DAY	0	0	0	0	56	181	304	249	95	6	0	0	891

STATION: 18 1790 — TOTAL PRECIPITATION — CHEWSVILLE BRIDGEPORT, MD

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
51	2.95	3.25	3.89	2.99	1.96	8.79	2.81	3.07	2.12	1.25	4.18	5.02	42.28
52	3.69	1.31	3.29	7.80	5.53	3.88	2.80	2.94	5.58	1.27	6.07	2.76	46.92
53	4.06	1.90	3.97	3.19D	7.15	1.02	3.90	3.10	1.94	1.22	1.38	3.84	36.67D
54	1.05	1.49	3.36	2.04	4.52	1.56	1.77	5.57	1.42	4.56	1.80	3.05	32.19
55	.36	2.33	5.39	2.38	1.74	3.64	1.94	8.85	1.81	3.68	1.40	.13	33.65
56	2.26	3.88	3.19	2.78	3.21	1.67	10.01	2.84	4.93	4.95	1.91	2.86	44.49
57	2.48	2.63	1.45	3.34	1.44	4.07	1.41	1.30	2.62	2.37	2.62	3.74	29.47
58	3.56	2.27	3.18	3.73	5.03	3.56	4.70	3.24	3.96	1.62	2.22	.61	37.68
59	2.62	1.62	1.94	3.40	2.80	2.53	4.70	3.76	.60	3.74	1.90	2.31	31.92
60	2.38	2.52	1.55	2.06	6.53	4.43	1.54	3.51	2.55	1.27	1.63	1.50	31.47
61	2.15D	2.96	3.79	3.84	2.07	3.36	3.04	2.26	.72	1.53	3.61	2.83	32.16D
62	2.09	3.53	2.50	3.09	2.55	1.89	3.64	2.75	2.17	2.07	3.65	2.69	32.62
63	1.76	1.31	4.27	1.64	1.36	5.42	2.13	2.88	1.62	.24	4.44	1.55	28.62
64	3.03	2.39	2.69	5.81	.66	1.63	2.30	1.73	2.67	.80	1.32	2.65	27.68
65	2.29	3.35	4.42	1.88	1.84	2.62	1.30	3.63	1.57	3.03	.72	.44	27.09
66	2.35	3.92	.73	4.01	2.28	.89	1.96	1.63	7.69	1.91	2.55	2.46	32.38
67	1.88	1.09	4.31	1.92	4.30	4.09	6.28	4.23	2.72	3.54	2.60	4.26	41.22
68	1.86	.21	3.96	1.39	4.83	2.02	.20	3.57	3.62	2.24	3.39	1.64	28.93
69	1.35	1.10	1.22	1.68	2.53	2.58	5.84	3.22	3.31	1.44	2.42	4.90	31.59
70	.67	2.35	3.94	4.44	2.54	8.02	6.55	2.55	1.90	3.71	4.04	3.99	44.70
71	3.39	3.92	1.71	1.19	5.97	1.52	1.77	4.50	5.00	5.22	3.49	1.16E	38.84E
SUM	48.23	49.33	64.75	64.60	70.84	69.19	70.59	71.13	60.52	51.66	57.34	54.39	732.57

STATION: 18 1790 — TOTAL SNOWFALL — CHEWSVILLE BRIDGEPORT, MD

SEASON	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	SEASON
50-51							5.0	3.0	T	T	.0	.0	
51-52	.0	.0	.0	.0	1.5	23.1	5.0	T	5.0	T	.0	.0	34.6
52-53	.0	.0	.0	T	3.0	4.5	4.5	.5	5.5	.8	.0	.0	18.8
53-54	.0	.0	.0	.0	8.0	.8	11.5	2.0	2.0	.5	T	.0	24.8
54-55	.0	.0	.0	T	.5	.8	5.6	5.5	2.8	T	.0	.0	15.2
55-56	.0	.0	.0	.0	2.8	.8	8.0	4.8	10.5	.8	.0	.0	27.7
56-57	.0	.0	.0	.0	.3	.3	10.0	3.6	3.3	T	.0	.0	17.5
57-58	.0	.0	.0	T	1.8	6.5	2.1	8.5	14.6	T	.0	.0	33.5
58-59	.0	.0	.0	.0	.5	.8	9.8	1.8	4.5	4.0	.0	.0	21.4
59-60	.0	.0	.0	.0	T	1.0	.3	10.5	21.6	T	.0	.0	33.4
60-61	.0	.0	.0	T	T	17.5	21.5	29.5	3.0	2.5	.0	.0	74.0
61-62	.0	.0	.0	.0	3.0	12.8	2.5	11.0	11.5	T	.0	.0	40.8
62-63	.0	.0	.0	T	2.0	19.0	7.1	11.5	4.5	T	T	.0	44.1
63-64	.0	.0	.0	T	T	14.6	16.5	26.6	11.0	T	.0	.0	68.7
64-65	.0	.0	.0	.0	1.0	.5	13.5	.8	15.5	T	.0	.0	31.3
65-66	.0	.0	.0	T	T	.3	29.3	13.1E	T	T	T	.0	42.7E
66-67	.0	.0	.0	.0	2.0	16.5	1.5	15.0	4.5	T	.0	.0	39.5
67-68	.0	.0	.0	.0	6.5	10.0	9.5	1.5	11.0	.0	.0	.0	38.5
68-69	.0	.0	.0	.0	8.0	.5	.5	7.8	5.0	.0	.0	.0	21.8
69-70	.0	.0	.0	.0	T	19.0	6.0	3.0	4.5	.0	.0	.0	32.5
70-71	.0	.0	.0	.0	.0	4.0	15.5	4.0	5.0	3.0	.0	.0	31.5
71-72	.0	.0	.0	.0	8.5	T E							
SUM	.0	.0	.0	.0	49.4	153.3	185.2	164.0	145.3	11.6	.0	.0	692.3

E AMOUNT IS WHOLLY OR PARTLY ESTIMATED.

T TRACE, AN AMOUNT TOO SMALL TO MEASURE.

M ONE OR MORE DAYS OF RECORD MISSING; IF AVERAGE VALUE IS ENTERED, LESS THAN 10 DAYS RECORD IS MISSING.

D WATER EQUIVALENT OF SNOWFALL WHOLLY OR PARTLY ESTIMATED.

Sale Price: 15 cents per copy. Checks and money orders should be made payable to Department of Commerce, NOAA. Remittances and correspondence regarding this publication should be sent to: National Climatic Center, Federal Building, Asheville, N. C. 28801.

USCOMM–NOAA–ASHEVILLE 400

CHARLES M. WEBSTER
[redacted]
SHARPSBURG, MD 21782

Mon 19 Nov 1984

Department of Treasury
B.A.T.F.
ATTN M. J. Breen
FAA, Wine & Beer Branch.

Dear Mr. Breen :- During our review of the Cumberland Valley Viticultural area petition at Zieni's Vineyards it was noted that we had used degree-day data based on a datum of 65°.

Using the climatological data sheets I have calculated the growing degree days (Fahrenheit degree days above 50° for the frost free days) as follows:

Chewsville (Nr. Hagerstown)	MD	3050 degree days
Chambersburg	P.A.	2890 " "
Carlisle	PA.	3150 " "

As would be expected these values correlate with the altitude of the station.

at 640'	elevation	2890
at 570	"	3050
at 465	"	3150

In addition, Carlisle probably sees some urban effects from the city of Harrisburg, but the whole valley appears to lie in one air mass.

Yours truly
Charles M Webster

11-28-84

CHARLES M. WEBSTER
[redacted]
SHARPSBURG, MD 21782

Mr. Michael J. Breen, Coordinator
FAA Wine and Beer Branch
Dept of Treasury, Bureau of A.T.F.
Washington D.C. 20226

Subj: Cumberland Valley Viticultural Area

Dear Mr Breen: Below are listed six name/organizational addresses which should cover the (1) growers (2) Winery owners and (3) Agricultural College organizations in Maryland and Pennsylvania.

Maryland Grape Growers Association
PO Box 4 H Burkettsville Md 21718
Pres. Mr. Lee Vinn Leak

Maryland Wineries Association
Mr Robert DuFok (DUFOK), Pres.
Boordy Winery 12820 Long Green Pike
Baltimore Md 21092

Mr. Gerald Jubb, Manager
Western Maryland Research and Education Center
RT 1 Box 49 B Keedysville Md 21756

Southeastern Pennsylvania Grape Association
Pres. Mrs. Lynn Hunter
434 Owen Road,
Wynnewood Pa. 19096

Pennsylvania Wine Association
Pres. Mr. Richard Naylor
Naylor Wine Cellar,
RD 2 Box 85 York Pennsylvania
17405

Carl Haeseler, Professor of Pomology
Erie County Field Research Laboratory
Penn State University
662 N. Cemetary Road
North East, Pennsylvania 16428

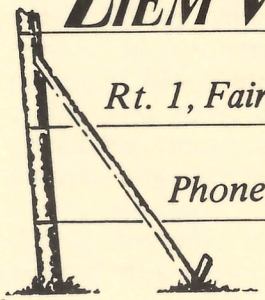
Sincerely Yours
Charles M. Webster

CHARLES M. WEBSTER
[redacted]
SHARPSBURG, MD 21782

ZIEM VINEYARDS

Rt. 1, Fairplay, MD. 21733

Phone (301) 223- 8352



Vintners of
Premium Table Wines

One of the most picturesque
wineries in the East.

Located at Downsville
in beautiful
Washington County, Maryland

11/16/84

MR. WEBSTER'S AMEN B

Beginning in south central Washington County near Lock #2 on the Chesapeake and Ohio canal where canal road terminates at the Potomac River, the boundaries of the proposed area are as follows:

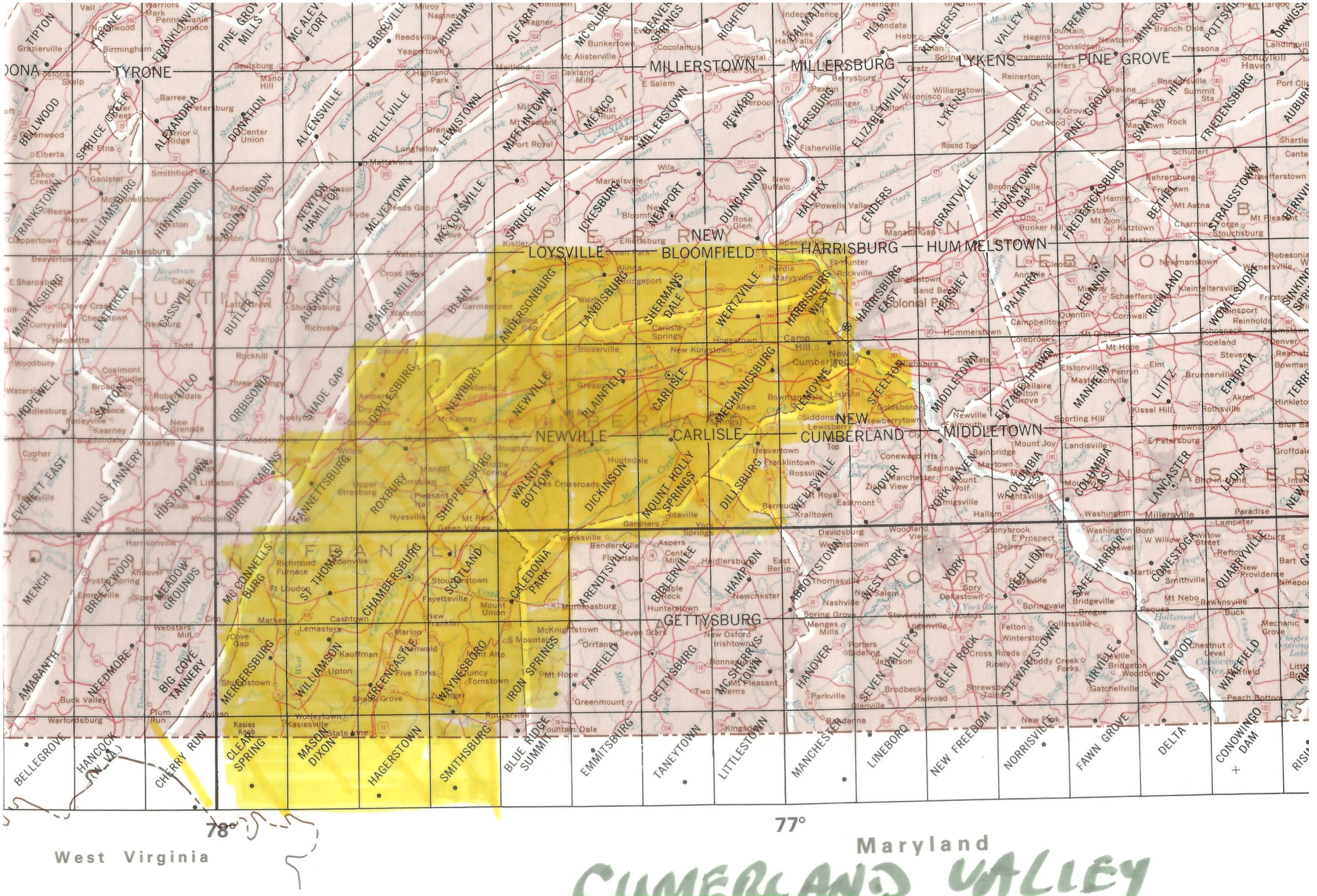
First easterly along canal road to Harpers ferry road Thence northerly along Harpers ferry rd to its intersect with Nick Rood. Thence northerly on a straight line to the intersection of Red Hill Road and Porterstown road Thence in the nwrtly easterly direction along Porterstown Road, Trego Road, and Millbrook Rodd which terminates at Pleasant Valley Rd. Thence east in a straight line to the first 1000' contour line on South Mountain

Thence in a generally northeasterly direction following the 1000' contour line of south mountain, crossing US Highway 30 at Mt Union and continuing on the 1000' contour line to the intersection of the Cumberland/York county line. Thence north approximately one mile along the county boundary to Yellow Breeches Creek and following Yellow Breeches Creek to its confluence with the Susquehanna River

Thence upstream along the west bank of the Susquehanna River to the west end of the ~~Rodney Railroad Bridge~~ 309: DAM. which crosses the Susquehanna River north of the city of Harrisburg. Thence on a straight line to the 1000' contour line of Blue mountain which is cut through by the river.

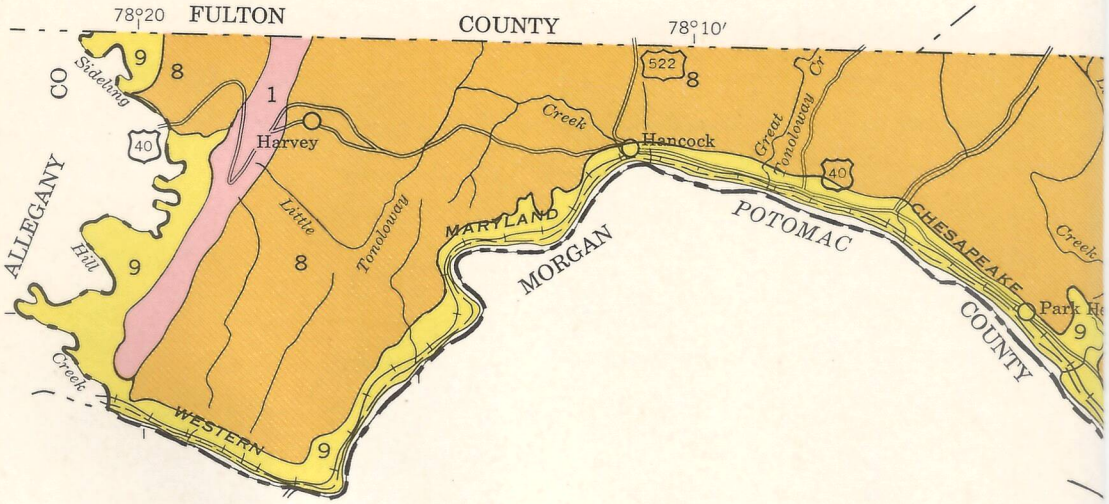
Thence in a generally southwesterly direction following the 1000 foot contour line along the sides of Blue mountain, Broad mountain, Kittatinni Mountain, cross at Richmond Furnace to continue along the 1000' contour line of Cove Mountain, Two top Mountain, Sword mountain and Fairview Mountain.

Thence south along Cove Road and MC Coy's ferry rd to the Potomac River. Thence downstream along the northeast bank of the Potomac River to the point of Beginning.



CUMBERLAND VALLEY

(MD-PA)



GENERAL SOIL MAP
WASHINGTON COUNTY, MARYLAND

SOIL ASSOCIATIONS

WELL DRAINED, STONY AND VERY STONY SOILS

1 — Dekalb-Leetonia-Edgemont-Laidig association: Very stony, mountainous soils

2 — Dekalb-Highfield association: Very steep, stony soils

3 — Highfield-Fauquier association: Deep, stony soils

WELL TO EXCESSIVELY DRAINED, SHALLOW, MEDIUM TEXTURED SOILS

4 — Berks-Montevallo association: Soils on shale

5 — Hazel-Chandler association: Shallow soils on schist

6 — Talladega association: Moderately deep soils on schist

7 — Litz-Teas association: Shallow, steep soils on shale

8 — Calvin-Berks-Litz-Montevallo association: Shallow soils on shale, limestone, or sandstone

MODERATELY WEL
DEEP, MEDIUM

9 — Holston-Monongahel
Soils on broad floo

WELL DRAINED, DEEP

10 — Braddock-Thurmont-
Gravelly soils

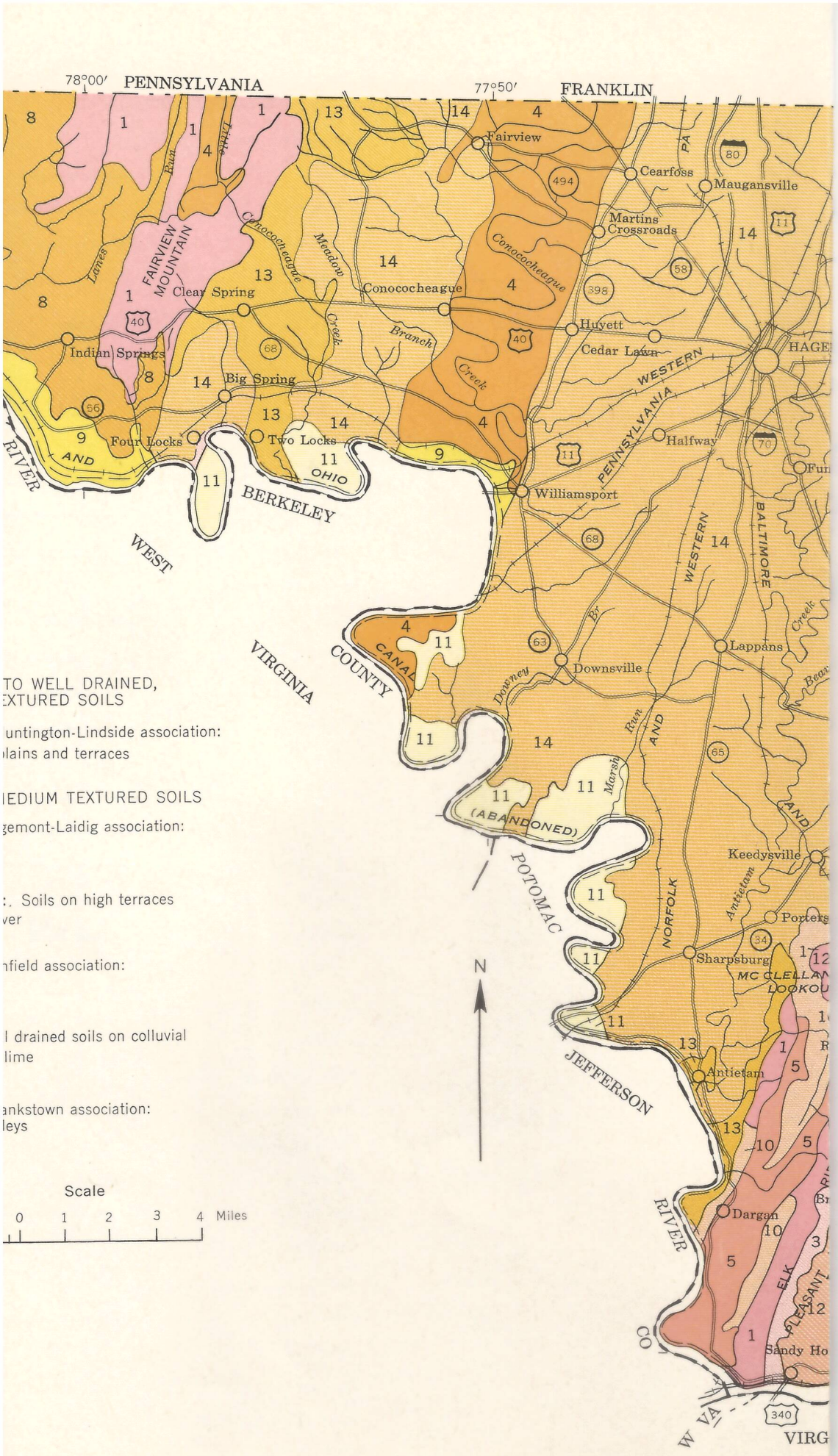
11 — Waynesboro associat
along the Potomac

12 — Fauquier-Myersville-H
Soils on greenstone

13 — Murrill association: V
deposits that conta

14 — Hagerstown-Duffield-
Soils of limestone

1
L



TO WELL DRAINED, EXTURED SOILS

untington-Lindside association:
lains and terraces

IEDIUM TEXTURED SOILS

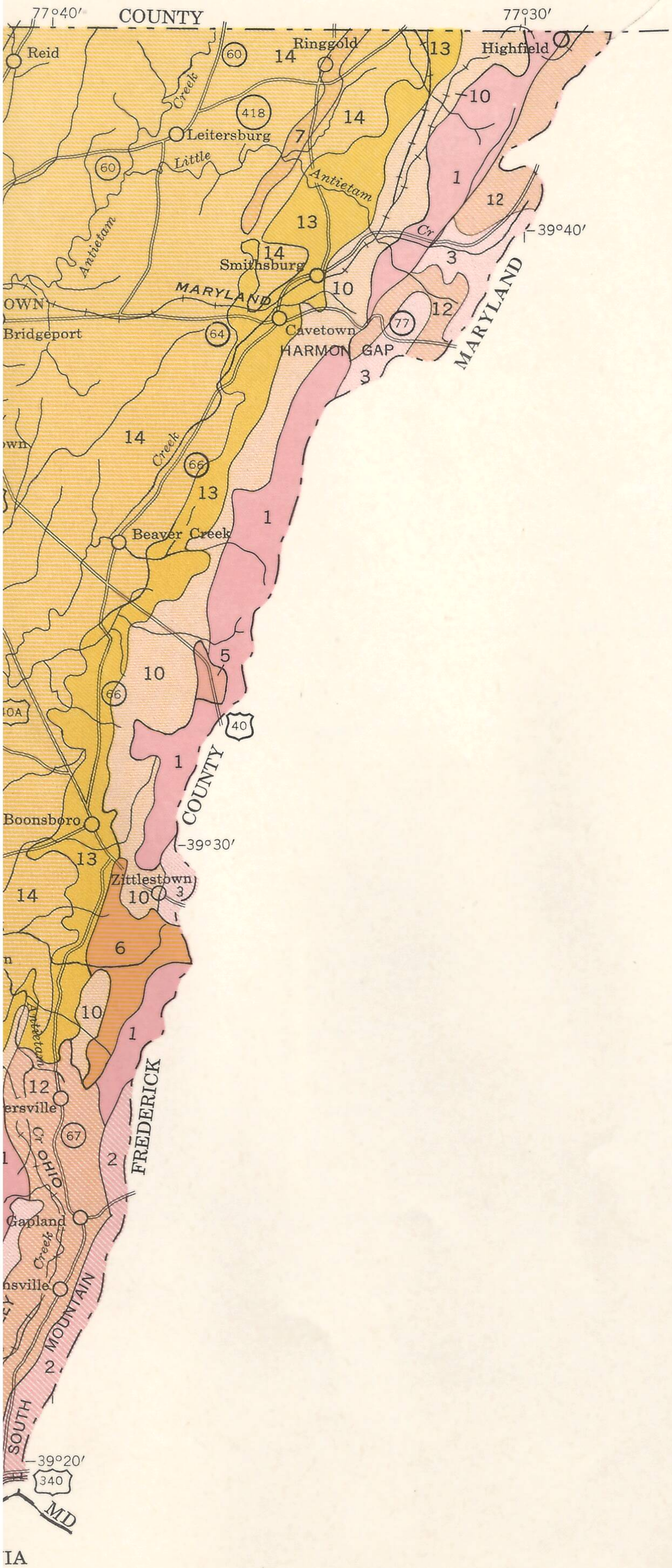
gemont-Laidig association:

:. Soils on high terraces
ver

nfield association:

l drained soils on colluvial
lime

ankstown association:
leys


77°40′
COUNTY
77°30′
Reid
Ringgold
Highfield
Leitersburg
Little
Antietam
Creek
Smithsburg
MARYLAND
Cavetown
Bridgeport
HARMON GAP
MARYLAND
39°40′
Beaver Creek
Boonsboro
Zittlestown
39°30′
COUNTY
FREDERICK
Gapland
SOUTH
MOUNTAIN
39°20′
340
MD
IA
1
2
3
5
6
7
10
12
13
14
60
418
64
66
77
40
67

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

PENNSYLVANIA STATE UNIVERSITY, COLLEGE OF AGRICULTURE
PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES
STATE CONSERVATION COMMISSION

GENERAL SOIL MAP

FRANKLIN COUNTY, PENNSYLVANIA

Scale 1:253,440

1 0 1 2 3 4 Miles

N

SOIL ASSOCIATIONS

1 — Laidig-Very stony land-Buchanan association: Deep, well drained to somewhat poorly drained, nearly level to very steep soils formed in colluvium from sandstone, and Very stony land; on tops and sides of mountains

2 — Hagerstown-Duffield association: Deep, well-drained, nearly level to steep soils formed in materials weathered from limestone; in valleys

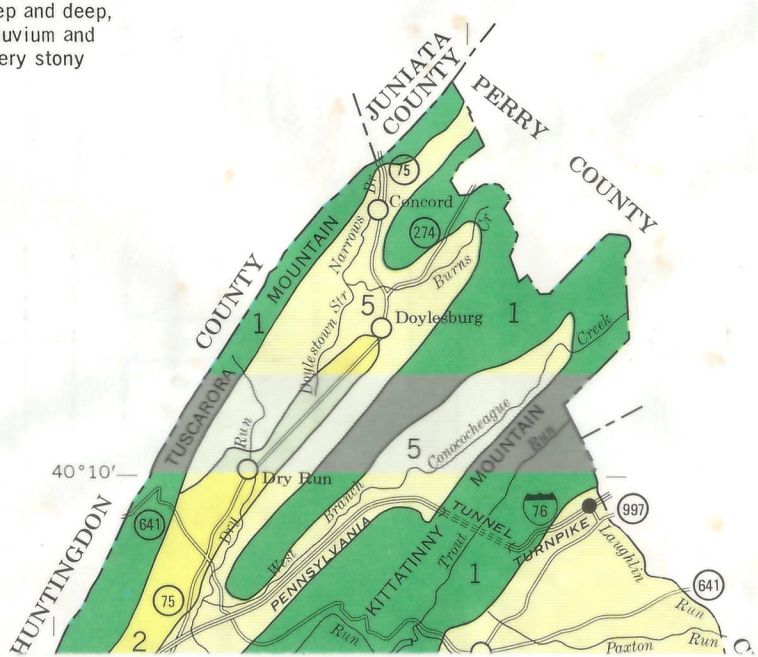
3 — Murrill-Laidig association: Deep, well-drained, gently sloping to moderately steep soils formed in colluvium; on mountain foot slopes

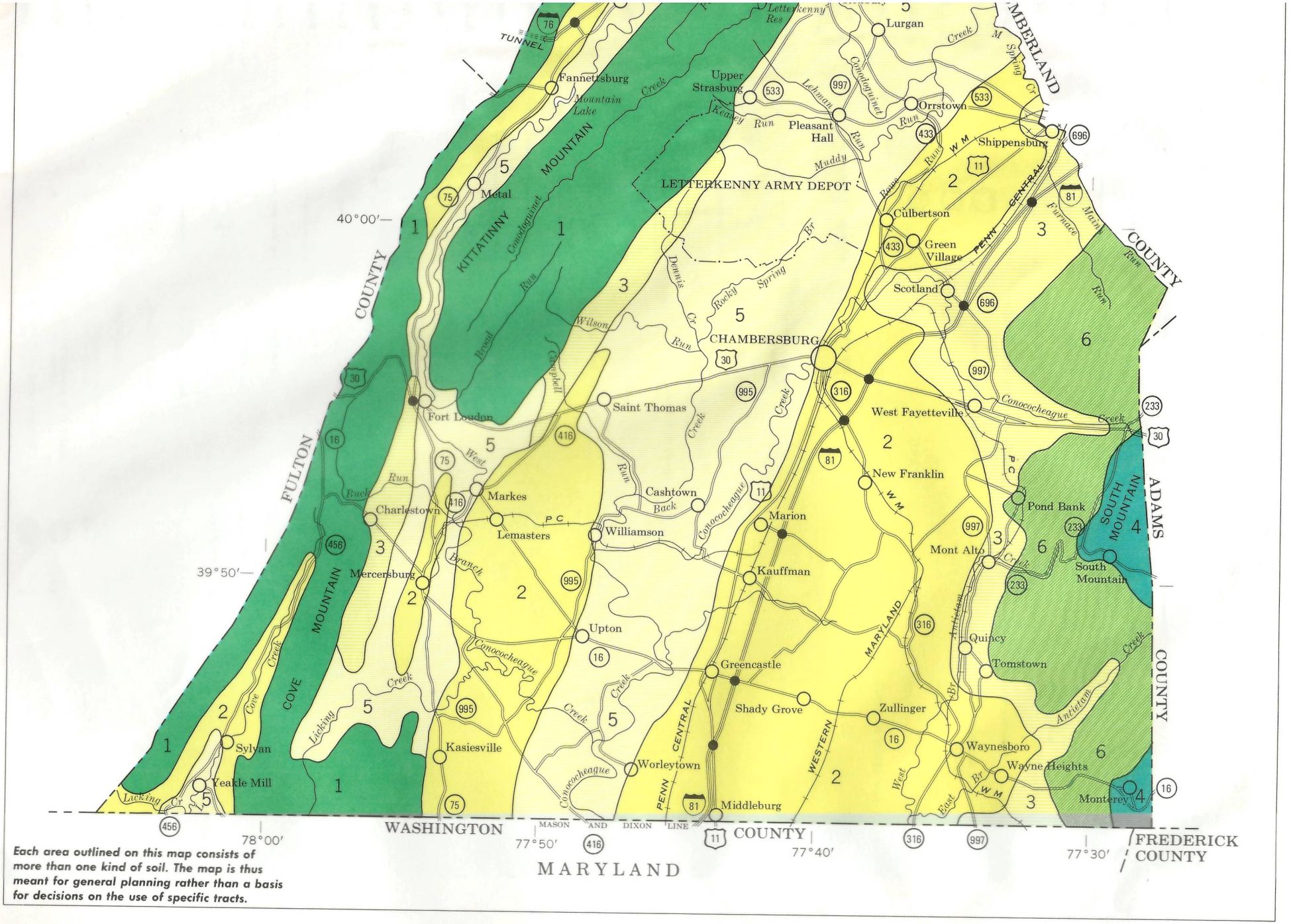
4 — Highfield-Glenville association: Deep, well-drained to somewhat poorly drained, gently sloping to very steep soils formed in materials weathered from metabasalt, rocks containing mica, and metarhyolite; on tops and sides of mountains

5 — Weikert-Berks-Bedington association: Shallow to deep, well-drained, nearly level to very steep soils formed in materials weathered from shale and interbedded shale, siltstone, and sandstone; in valleys

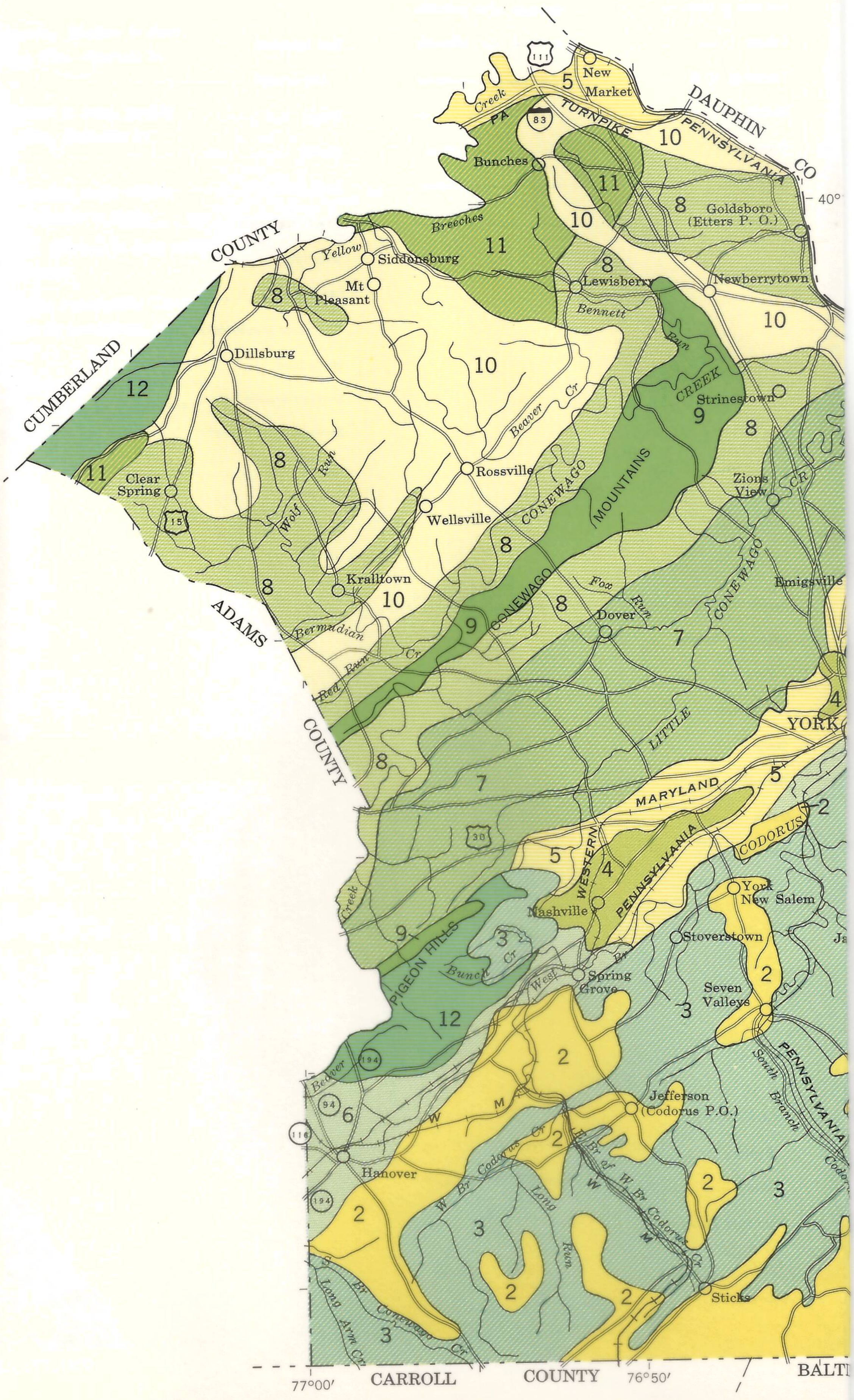
6 — Dekalb-Laidig-Very stony land association: Moderately deep and deep, well-drained, nearly level to very steep soils formed in colluvium and in materials weathered from sandstone and quartzite, and Very stony land; on tops and sides of mountains

Compiled 1974





Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.



New Market
DAUPHIN
CO
PA TURNPIKE
PENNSYLVANIA
Creek
Bunches
Goldsboro
(Etters P. O.)
40°
COUNTY
Yellow
Siddonsburg
Mt Pleasant
Breeches
Lewisberry
Newberrytown
Bennett
Run
CUMBERLAND
Dillsburg
Beaver Cr
CREEK
Strinestown
Clear Spring
Wolf Run
Rossville
CONEWAGO
MOUNTAINS
Zions View
Cr
Wellsville
Kralltown
Emigsville
ADAMS
Fox Run
Dover
CONEWAGO
Bermudian
Red Run Cr
LITTLE
YORK
COUNTY
MARYLAND
WESTERN
PENNSYLVANIA
CODORUS
York New Salem
Nashville
Creek
Stoverstown
PIGEON HILLS
Bunch Cr
West Br
Spring Grove
Seven Valleys
Beaver
PENNSYLVANIA
South Branch
Jefferson
(Codorus P.O.)
W M
Hanover
W Br Codorus Cr
Long Run
W Br of W Br Codorus Cr
S Br Long Arm Cr
Codorus Cr
Sticks
77°00′
CARROLL
COUNTY
76°50′
BALT
1
2
3
4
5
6
7
8
9
10
11
12

GENERAL SOIL MAP
YORK COUNTY, PENNSYLVANIA

SOIL ASSOCIATIONS

1 — Manor-Glenelg association: Shallow and moderately deep, mostly moderately steep to very steep soils underlain by schist or phyllite.

2 — Chester-Elioak-Glenelg association: Deep and moderately deep soils underlain by schist or phyllite.

3 — Glenelg-Manor association: Shallow and moderately deep, mostly moderately sloping to moderately steep soils underlain by schist or phyllite.

4 — Cardiff-Whiteford association: Shallow and moderately deep soils underlain by slate, hard shale, or hard phyllite.

5 — Hagerstown-Duffield association: Deep, nearly level to moderately steep soils underlain by limestone.

6 — Conestoga-Duffield-Bedford-Lawrence association: Deep and moderately deep soils underlain by impure limestone or calcareous schist.

7 — Penn-Lansdale-Readingto mostly nearly level or gen Triassic sandstone or sha

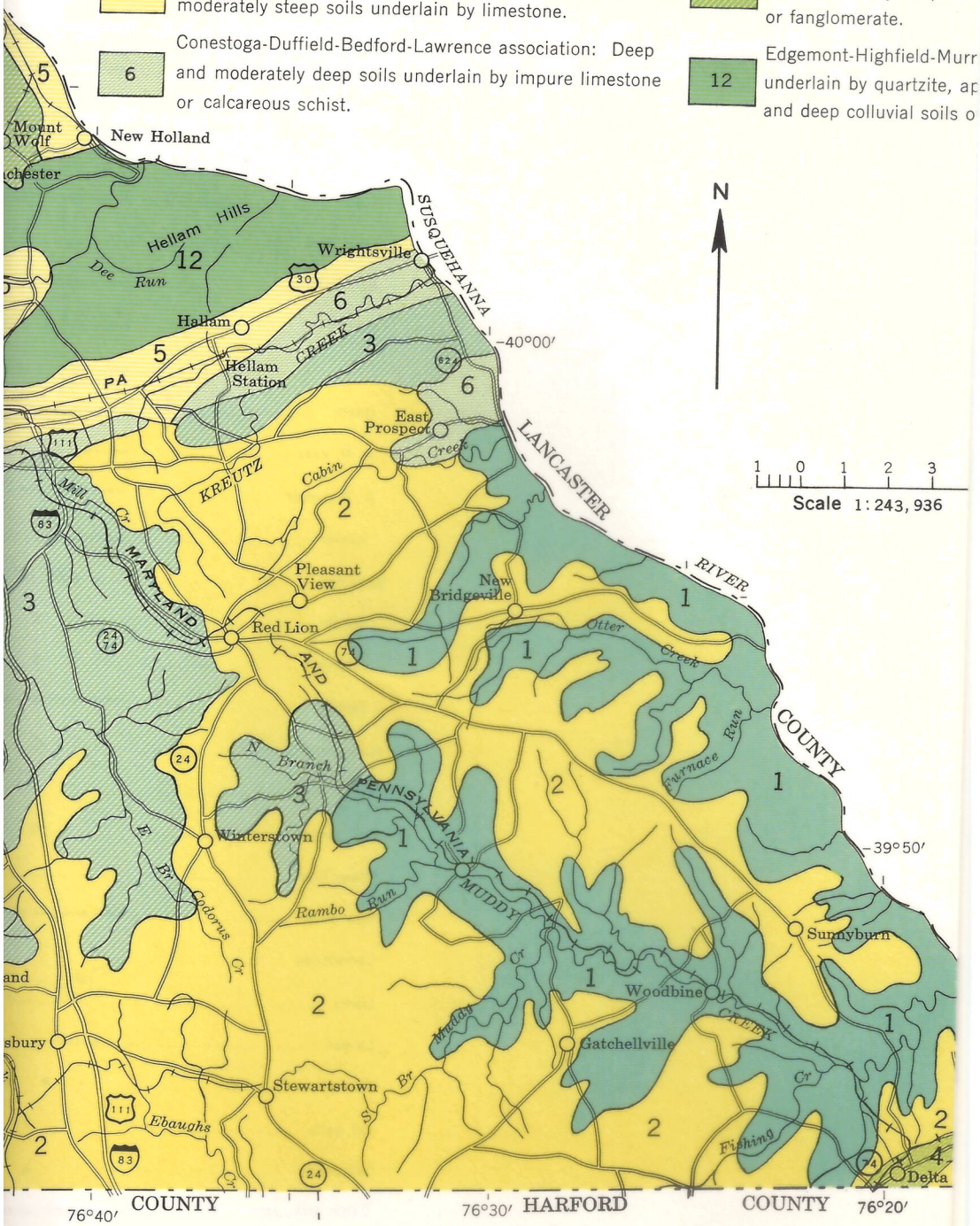
8 — Penn-Readington associat gently sloping to strongly Triassic sandstone or sha

9 — Penn association: Shallo stony soils underlain by T

10 — Montalto-Legore-Lehigh a soils underlain by diabase

11 — Lewisberry-Athol-Lansdale and moderately deep soil or fanglomerate.

12 — Edgemont-Highfield-Murr underlain by quartzite, ap and deep colluvial soils o



ssociation: Shallow to deep,
sloping soils underlain by

: Shallow to deep, mostly
ping soils, underlain by

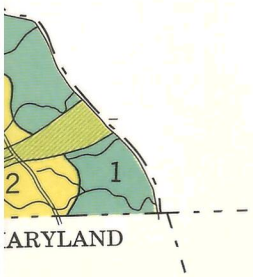
o moderately deep, mostly
ssic sandstone or shale.

ciation: Shallow to deep upland
porcelanite.

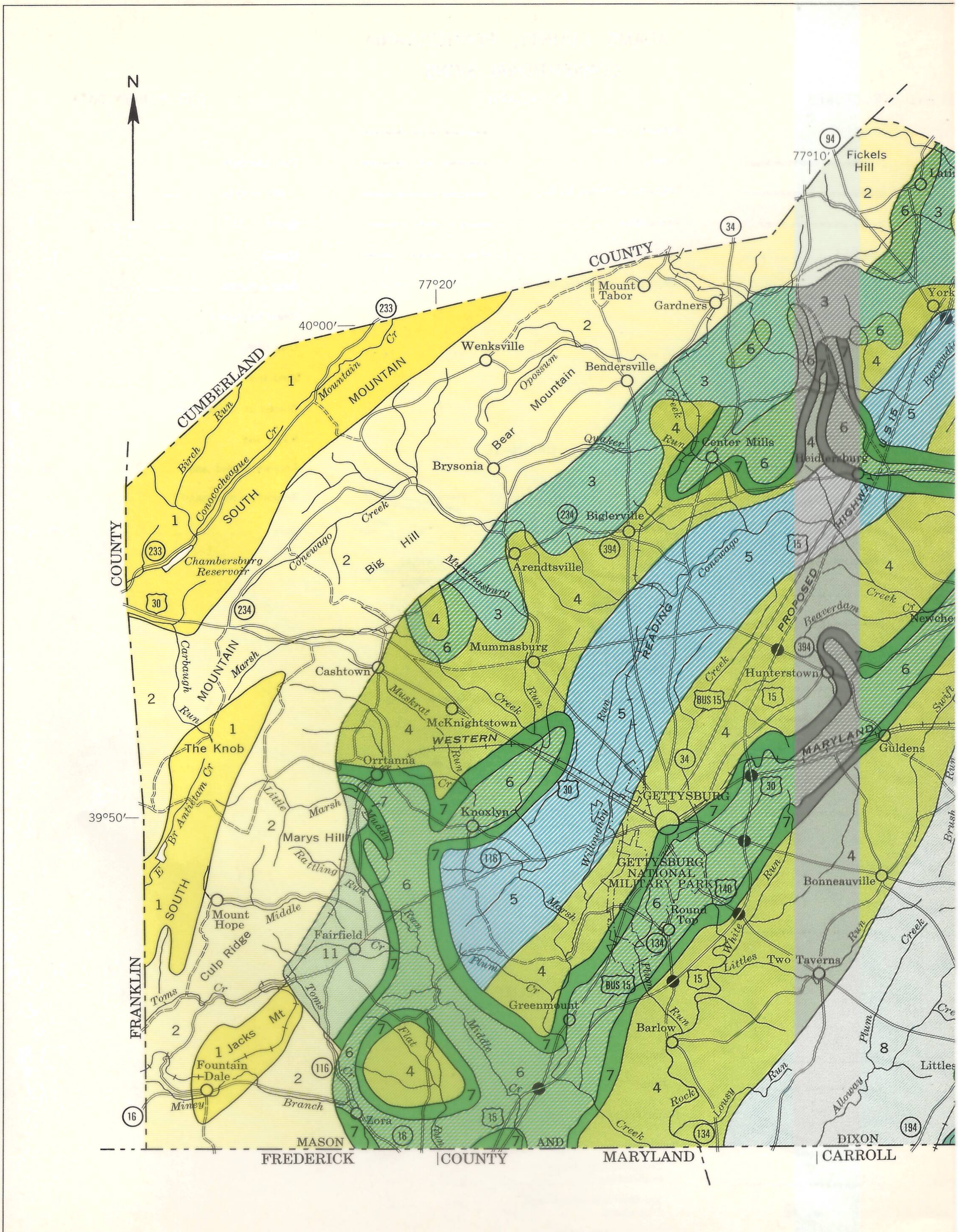
endtsville association: Deep
nderlain by sandstone, conglomerate,

association: Deep upland soils
yolite, quartz, or metabasalt;
limestone.

Miles



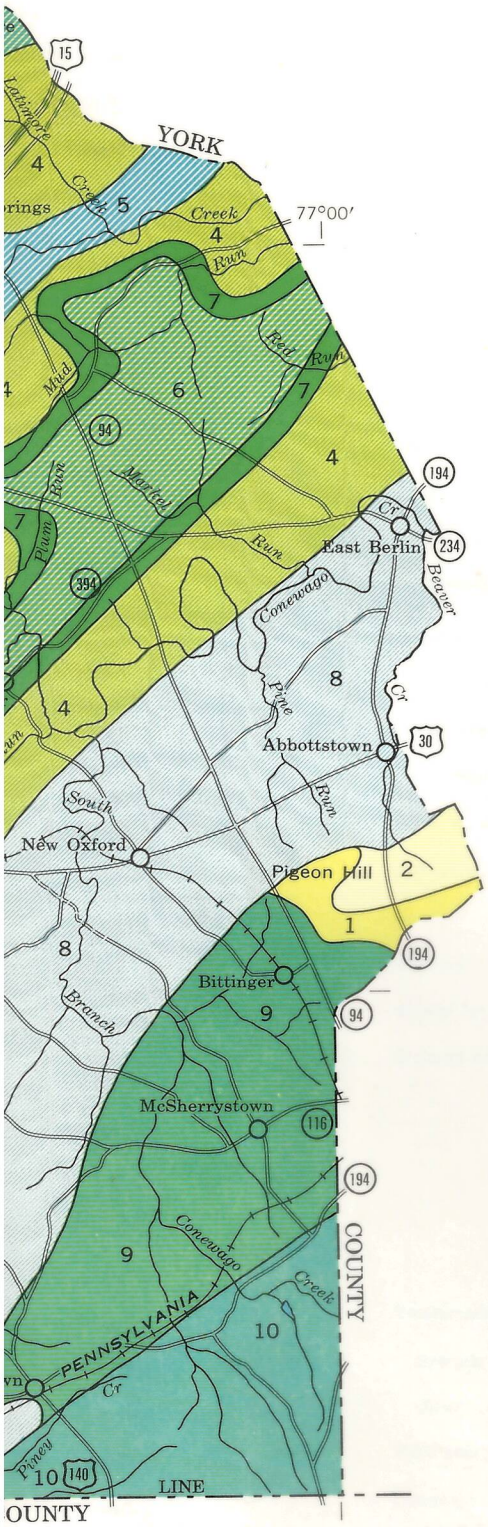
ARYLAND


N
77°10′
Fickels Hill
77°20′
40°00′
39°50′
CUMBERLAND COUNTY
FRANKLIN COUNTY
SOUTH MOUNTAIN
Birch Run
Conococheague Cr
Mountain Cr
Chambersburg Reservoir
Conewago Creek
Big Hill
Wenksville
Opossum
Bear Mountain
Bendersville
Mount Tabor
Gardners
Brysonia
Quaker Run
Center Mills
Heidlersburg
Biglerville
Arendtsville
Mummasburg
Cashtown
Carbaugh Run
Marsh
The Knob
E Br Antietam Cr
Little Marsh
Marys Hill
Rattling Run
Mount Hope
Middle
Culp Ridge
Fairfield
Toms Cr
Jacks Mt
Fountain Dale
Miney
Branch
Zora
Muskrat
McKnightstown
WESTERN
MARYLAND
Orrtanna
Muddy
Knoxlyn
GETTYSBURG
GETTYSBURG NATIONAL MILITARY PARK
Round Top
Willoughby Run
READING
Conewago
PROPOSED HIGHWAY
Beaverdam Cr
Hunterstown
Guldens
Bonneauville
White Run
Littles
Two Taverns
Plum
Greenmount
Barlow
Rock Creek
Lousy
Alloway
Flat
Middle
Newchester
Swift
Brush
MASON AND DIXON
FREDERICK COUNTY MARYLAND
CARROLL
York
Latimore
US 15
BUS 15
234
233
30
16
116
34
94
394
134
140
194
1 2 3 4 5 6 7 8 11

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

PENNSYLVANIA STATE UNIVERSITY,
COLLEGE OF AGRICULTURE AND AGRICULTURAL EXPERIMENT STATION,
AND THE PENNSYLVANIA DEPARTMENT OF AGRICULTURE
STATE SOIL AND WATER CONSERVATION COMMISSION

GENERAL SOIL MAP
ADAMS COUNTY, PENNSYLVANIA



Scale 1:190,080

1 0 1 2 3 4 Miles

SOIL ASSOCIATIONS

1. Edgemont-Highfield association: Steep, well-drained stony soils on ridges
2. Highfield-Myersville-Catoctin association: Hilly, well-drained, channery and stony soils on ridges
3. Arendtsville-Highfield association: Dominantly rolling, well-drained gravelly soils that have slopes ranging from gentle to steep
4. Penn-Readington-Croton association: Gently sloping to moderately sloping, shallow to moderately deep shaly soils
5. Klinesville-Penn-Abbottstown-Croton association: Gently sloping to moderately sloping, mostly shallow shaly soils that are well drained to poorly drained
6. Montalto-Mount Lucas-Watchung association: Rolling to gently sloping, medium acid soils
7. Lehigh-Brecknock association: Gently sloping to moderately steep, moderately deep soils
8. Penn-Lansdale-Abbottstown association: Gently sloping to moderately sloping, strongly acid soils that are mostly well drained or somewhat droughty
9. Conestoga-Wiltshire-Lawrence association: Mostly deep, gently sloping, medium acid and slightly acid soils
10. Glenelg-Manor-Glenville association: Shallow to moderately deep, mostly well-drained soils on gently sloping to moderately steep slopes
11. Athol-Wiltshire-Readington association: Deep, gently sloping, medium acid and slightly acid soils that are intensively farmed

September 1966