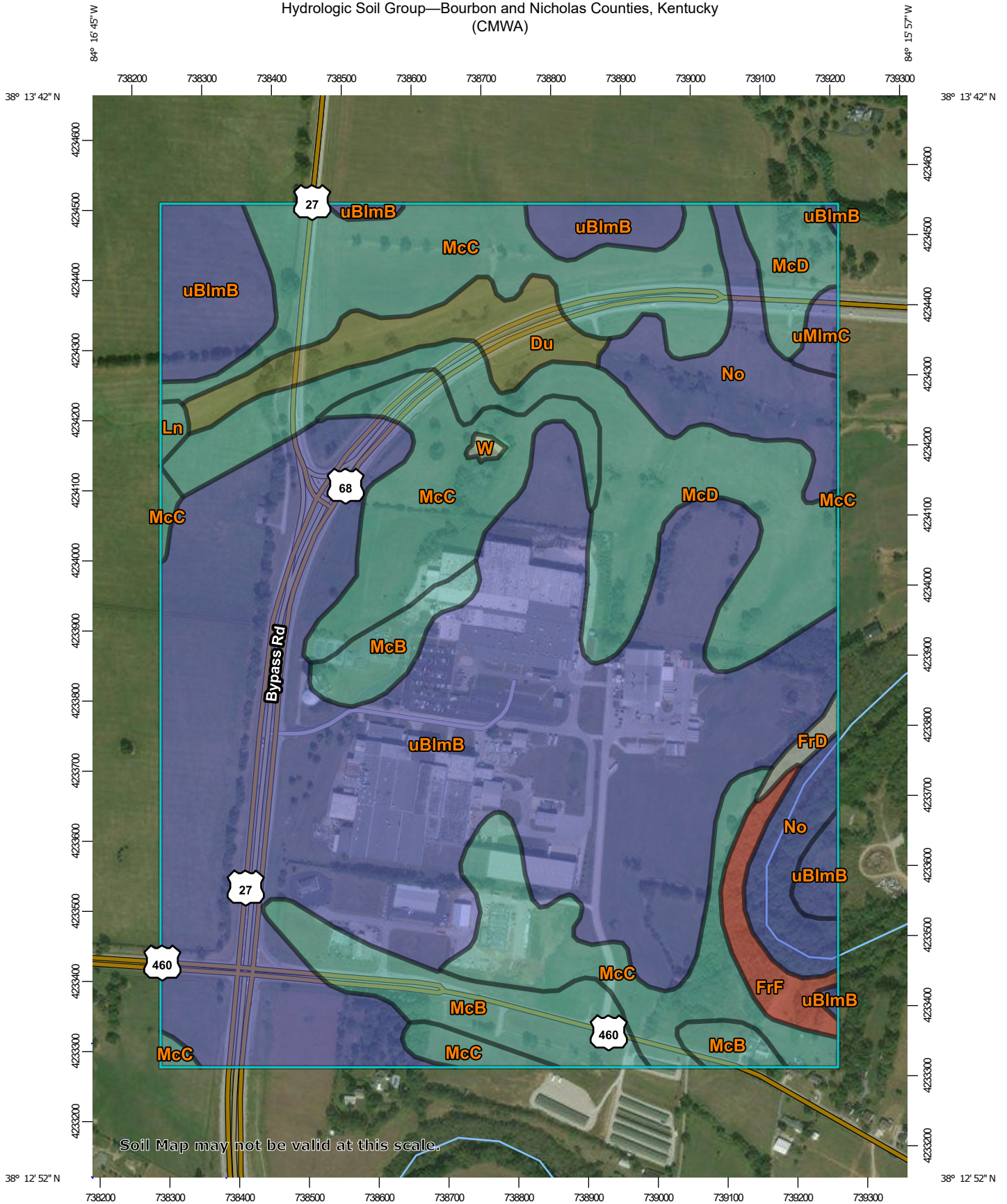
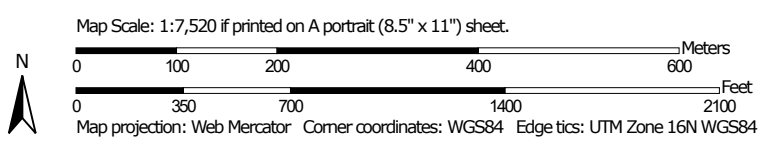


ATTACHMENT B
WEB SOIL SURVEY AND
PRECIPITATION DATA

Hydrologic Soil Group—Bourbon and Nicholas Counties, Kentucky
(CMWA)




Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines


 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points






 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available


Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Bourbon and Nicholas Counties, Kentucky
 Survey Area Data: Version 15, Sep 11, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 25, 2014—Feb 16, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Du	Dunning silty clay loam, 0 to 2 percent slopes, frequently flooded	C/D	10.2	3.5%
FrD	Fairmount-Rock outcrop complex, 12 to 30 percent slopes		1.0	0.4%
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	D	4.6	1.5%
Ln	Lindside silt loam, 0 to 2 percent slopes, occasionally flooded	C	0.7	0.2%
McB	McAfee silt loam, 2 to 6 percent slopes	C	17.5	5.9%
McC	McAfee silt loam, 6 to 12 percent slopes	C	59.7	20.1%
McD	McAfee silt loam, 12 to 20 percent slopes	C	35.1	11.8%
No	Nolin silt loam, 0 to 2 percent slopes, frequently flooded	B	19.1	6.4%
uBlmB	Bluegrass-Maury silt loams, 2 to 6 percent slopes	B	147.1	49.6%
uMlmC	Maury-Bluegrass silt loams, 6 to 12 percent slopes	B	1.4	0.5%
W	Water		0.4	0.1%
Totals for Area of Interest			296.7	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



NOAA's National Weather Service
Hydrometeorological Design Studies Center
Precipitation Frequency Data Server (PFDS)

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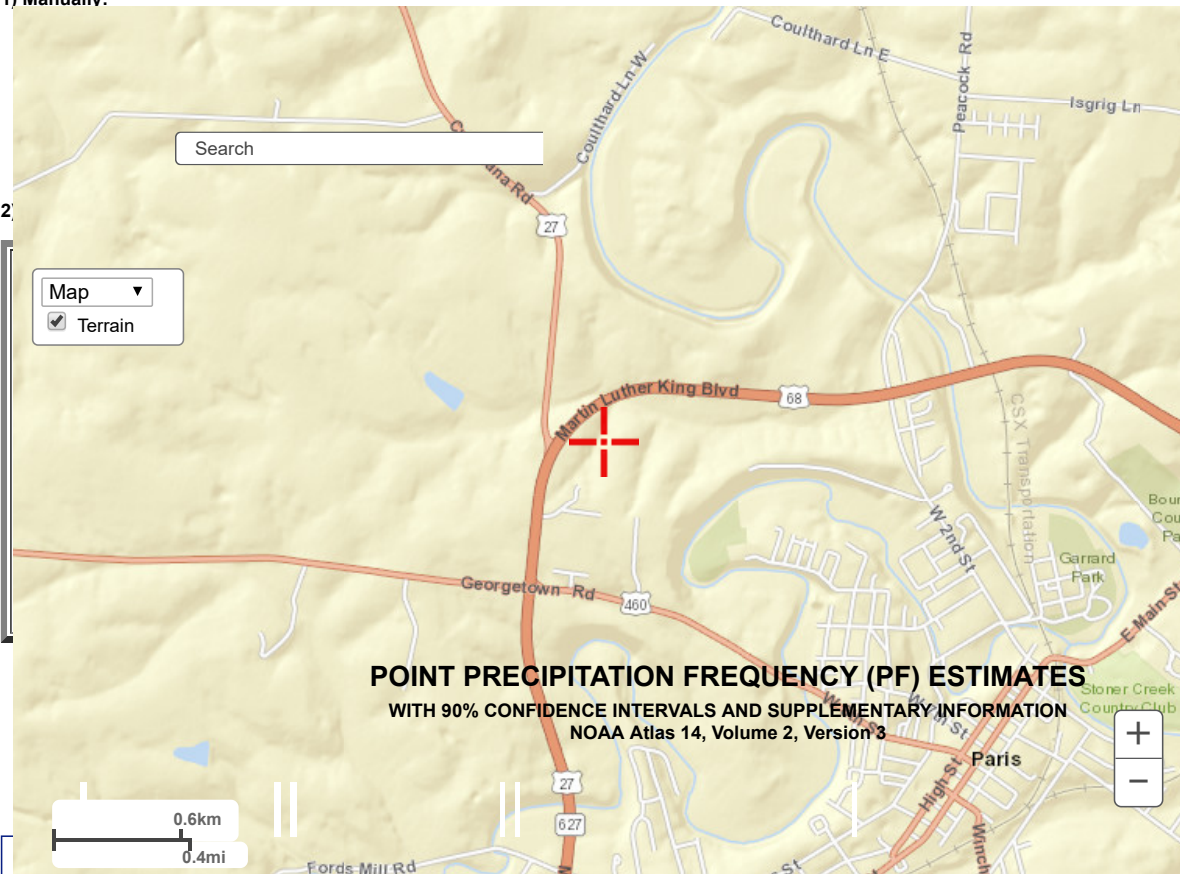
NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: KY

Data description

Data type: Units: Time series type:

Select location

1) Manually:



...aa.gov):

- a) Select location**
 Move crosshair or double click
- b) Click on station icon**
 Show stations on map

Location information:
Name: Paris, Kentucky, USA*
Latitude: 38.2234°
Longitude: -84.2727°
Elevation: 850.44 ft **
 * Source: ESRI Maps
 ** Source: USGS

POINT PRECIPITATION FREQUENCY (PF) ESTIMATES
 WITH 90% CONFIDENCE INTERVALS AND SUPPLEMENTARY INFORMATION
 NOAA Atlas 14, Volume 2, Version 3

Print page

PDS-based precipitation frequency estimates with 90% confidence intervals (in inches)¹

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.372 (0.337-0.410)	0.441 (0.400-0.486)	0.523 (0.474-0.575)	0.588 (0.532-0.647)	0.669 (0.604-0.734)	0.733 (0.659-0.803)	0.796 (0.712-0.871)	0.862 (0.767-0.944)	0.945 (0.835-1.03)	1.01 (0.887-1.11)

10-min	0.580 (0.526-0.639)	0.690 (0.626-0.760)	0.815 (0.738-0.896)	0.910 (0.824-1.00)	1.03 (0.929-1.13)	1.12 (1.01-1.23)	1.21 (1.08-1.32)	1.29 (1.15-1.42)	1.40 (1.24-1.53)	1.49 (1.31-1.63)
15-min	0.713 (0.646-0.786)	0.846 (0.768-0.933)	1.00 (0.910-1.11)	1.13 (1.02-1.24)	1.27 (1.15-1.40)	1.39 (1.25-1.52)	1.50 (1.34-1.64)	1.61 (1.43-1.76)	1.75 (1.55-1.92)	1.86 (1.63-2.03)
30-min	0.947 (0.859-1.04)	1.14 (1.03-1.25)	1.38 (1.25-1.52)	1.57 (1.42-1.73)	1.81 (1.63-1.99)	1.99 (1.79-2.19)	2.18 (1.95-2.39)	2.37 (2.11-2.59)	2.62 (2.31-2.86)	2.81 (2.47-3.07)
60-min	1.16 (1.05-1.28)	1.40 (1.27-1.54)	1.74 (1.57-1.91)	2.00 (1.81-2.20)	2.36 (2.13-2.59)	2.64 (2.37-2.89)	2.93 (2.62-3.20)	3.23 (2.87-3.53)	3.64 (3.21-3.98)	3.96 (3.48-4.34)
2-hr	1.35 (1.22-1.51)	1.63 (1.48-1.81)	2.03 (1.83-2.25)	2.34 (2.11-2.60)	2.78 (2.49-3.08)	3.14 (2.80-3.46)	3.51 (3.12-3.87)	3.89 (3.45-4.29)	4.43 (3.89-4.88)	4.87 (4.25-5.37)
3-hr	1.45 (1.31-1.62)	1.74 (1.57-1.94)	2.17 (1.96-2.42)	2.51 (2.26-2.80)	3.00 (2.69-3.33)	3.40 (3.03-3.76)	3.82 (3.39-4.22)	4.26 (3.76-4.72)	4.90 (4.28-5.41)	5.42 (4.70-5.98)
6-hr	1.76 (1.58-1.96)	2.11 (1.90-2.36)	2.62 (2.36-2.92)	3.03 (2.72-3.38)	3.62 (3.24-4.02)	4.11 (3.66-4.55)	4.63 (4.09-5.12)	5.18 (4.56-5.73)	5.96 (5.20-6.59)	6.61 (5.71-7.31)
12-hr	2.08 (1.89-2.30)	2.50 (2.27-2.77)	3.08 (2.79-3.41)	3.56 (3.22-3.93)	4.23 (3.81-4.66)	4.78 (4.29-5.26)	5.37 (4.79-5.89)	5.99 (5.32-6.57)	6.87 (6.03-7.54)	7.59 (6.61-8.32)
24-hr	2.47 (2.28-2.71)	2.97 (2.74-3.25)	3.68 (3.39-4.03)	4.27 (3.92-4.66)	5.11 (4.67-5.58)	5.81 (5.29-6.33)	6.56 (5.93-7.14)	7.36 (6.61-8.02)	8.52 (7.56-9.27)	9.47 (8.32-10.3)
2-day	2.93 (2.68-3.21)	3.51 (3.22-3.86)	4.34 (3.97-4.77)	5.01 (4.57-5.50)	5.97 (5.42-6.54)	6.77 (6.12-7.41)	7.61 (6.84-8.33)	8.51 (7.59-9.32)	9.78 (8.63-10.7)	10.8 (9.45-11.9)
3-day	3.13 (2.91-3.38)	3.74 (3.49-4.05)	4.60 (4.28-4.97)	5.29 (4.91-5.71)	6.27 (5.79-6.76)	7.06 (6.50-7.61)	7.89 (7.22-8.52)	8.77 (7.97-9.47)	10.00 (9.00-10.8)	11.0 (9.80-11.9)
4-day	3.33 (3.14-3.54)	3.98 (3.76-4.24)	4.86 (4.59-5.17)	5.57 (5.25-5.92)	6.56 (6.15-6.97)	7.36 (6.88-7.82)	8.18 (7.61-8.70)	9.04 (8.36-9.63)	10.2 (9.37-10.9)	11.2 (10.2-12.0)
7-day	3.96 (3.73-4.21)	4.72 (4.44-5.01)	5.73 (5.39-6.08)	6.57 (6.17-6.96)	7.76 (7.25-8.22)	8.74 (8.14-9.27)	9.77 (9.05-10.4)	10.9 (9.99-11.6)	12.4 (11.3-13.2)	13.7 (12.3-14.7)
10-day	4.48 (4.22-4.77)	5.33 (5.02-5.67)	6.46 (6.08-6.86)	7.38 (6.94-7.85)	8.69 (8.13-9.22)	9.75 (9.09-10.4)	10.9 (10.1-11.6)	12.0 (11.1-12.8)	13.7 (12.5-14.6)	15.0 (13.5-16.1)
20-day	6.14 (5.81-6.49)	7.27 (6.88-7.70)	8.65 (8.18-9.15)	9.73 (9.20-10.3)	11.2 (10.6-11.9)	12.4 (11.6-13.1)	13.5 (12.6-14.3)	14.7 (13.7-15.6)	16.3 (15.0-17.3)	17.5 (16.0-18.6)
30-day	7.69 (7.29-8.12)	9.07 (8.60-9.58)	10.6 (10.1-11.2)	11.8 (11.2-12.5)	13.4 (12.7-14.2)	14.6 (13.8-15.4)	15.8 (14.8-16.7)	17.0 (15.9-17.9)	18.5 (17.2-19.6)	19.6 (18.2-20.9)
45-day	9.75 (9.28-10.3)	11.5 (10.9-12.1)	13.2 (12.5-13.9)	14.5 (13.8-15.2)	16.1 (15.3-16.9)	17.2 (16.3-18.1)	18.3 (17.4-19.3)	19.3 (18.3-20.4)	20.6 (19.4-21.7)	21.5 (20.2-22.7)
60-day	11.7 (11.1-12.2)	13.7 (13.0-14.3)	15.6 (14.9-16.4)	17.0 (16.2-17.9)	18.8 (17.9-19.7)	20.1 (19.1-21.1)	21.3 (20.2-22.4)	22.4 (21.2-23.5)	23.7 (22.4-25.0)	24.6 (23.2-26.0)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
 Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
 Please refer to NOAA Atlas 14 document for more information.

Estimates from the table in CSV format:

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