U. S. DEPARTMENT OF COMMERCE, ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
IN COOPERATION WITH THE OHIO AGRICULTURAL RESEARCH AND DEVELOPMENT CENTER
AND THE OHIO DEPARTMENT OF NATURAL RESOURCES - DIVISION OF WATER
CLIMATOGRAPHY OF THE UNITED STATES NO. 20-33-14

LATITUDE 38°32' N
LONGITUDE 82°40' W
ELEV. (GROUND) 555 FT.

CLIMATOLOGICAL SUMMARY

STATION: Ironton, Ohio

MEANS AND EXTREMES FOR PERIOD 1894-1965

MONTH	TEMPERATURE (°F) MEANS: DAILY MAXIMUM	DAILY MINIMUM	MONTHLY	EXTREMES: RECORD HIGHEST	YEAR	DAY	RECORD LOWEST	YEAR	DAY	MEAN DEGREE DAYS**	MEAN NUMBER OF DAYS: MAX. 90° AND ABOVE	MAX. 32° AND BELOW	MIN. 32° AND BELOW	MIN. 0° AND BELOW
JAN	44.8	25.6	35.2	81	50	25	-15	63	24	921.	0	4	22	0
FEB	46.8	26.0	36.4	78*	44	26	-27	99	10	803.	0	3	20	0
MAR	57.4	33.6	45.5	92	29	25	1	43	4	603.	0	0	15	0
APR	68.8	42.1	55.4	96*	42	30	12	23	1	305.	0	0	5	0
MAY	78.7	51.5	65.1	98	14	29	28	47	10	95.	3	0	0	0
JUNE	85.6	60.2	72.9	102*	36	17	37	30	1	9.	9	0	0	0
JULY	88.7	64.0	76.3	109	94	23	40	3	18	.	14	0	0	0
AUG	87.3	62.9	75.1	106	30	4	41*	30	12	1.	11	0	0	0
SEPT	82.1	56.1	69.1	103*	53	1	28	42	29	43.	6	0	0	0
OCT	70.8	43.8	57.3	94	51	4	17*	52	21	259.	0	0	3	0
NOV	56.9	34.1	45.5	86	38	7	1	29	30	583.	0	0	14	0
DEC	45.9	27.2	36.5	79	11	9	-24	17	30	878.	0	3	21	0
YEAR	67.8	43.9	55.8	109	94	JULY 23	-27	99	FEB 10	4500.	43	10	190	0

MONTH	PRECIPITATION TOTALS (INCHES): MEAN	GREATEST MONTHLY	YEAR	GREATEST DAILY	YEAR	DAY	SNOW, SLEET: MEAN	MAXIMUM MONTHLY	YEAR	GREATEST DAILY	YEAR	DAY	MEAN NUMBER OF DAYS: .01 or MORE	.10 or MORE	.50 or MORE	1.00 or MORE	MONTH
JAN	3.82	12.24	37	2.33	19	1	4.2	21.3	48	8.5	36	19	11	7	2.7	.8	JAN
FEB	3.07	8.17	97	2.20	97	22	4.3	19.5	29	16.0	6	27	10	6	2.0	.5	FEB
MAR	4.28	7.78	63	3.00	43	19	2.4	15.1	60	9.5	2	5	12	8	3.0	.7	MAR
APR	3.52	7.97	39	2.92	48	12	.1	4.0	18	4.0	18	10	10	7	2.3	.6	APR
MAY	3.76	8.91	5	2.83	17	27							11	7	2.3	.8	MAY
JUNE	4.25	9.08	35	3.67	51	4							10	7	3.0	1.1	JUNE
JULY	4.45	9.12	35	4.28	38	2							10	7	3.1	1.1	JULY
AUG	3.70	9.38	33	3.92	33	4							9	6	2.6	.8	AUG
SEPT	2.79	7.91	50	2.81	47	5							6	5	1.9	.7	SEPT
OCT	2.33	6.35	25	2.82	15	1	.0	.3	25	.3	25	30	7	4	1.6	.4	OCT
NOV	2.80	7.25	0	2.47	19	26	1.0	15.3	50	8.0	38	24	9	5	1.9	.5	NOV
DEC	3.12	7.88	23	2.28	48	15	2.7	15.9	10	11.5	10	6	10	6	2.2	.5	DEC
YEAR	41.89	12.24	JAN 37	4.28	JULY 38	2	14.7	21.3	JAN 48	16.0	FEB 6	27	115	75	29.	9.	YEAR

** BASE 65° F *Also on earlier dates, months, or years

NARRATIVE CLIMATOLOGICAL SUMMARY

Ironton is located along the Ohio River in the southwest quadrant of Lawrence County in south central Ohio. The river flows from southeast to northwest through this area. The City of Ironton is situated on a level stretch of land about 1,000 yards in width that lies between the hills and the river. Within a distance of less than 1 mile some hills rise nearly 350 feet above the elevation of the city. Terrain in much of Lawrence County is rugged and hilly. A map of the Physiographic Regions of Ohio shows Lawrence County to be a part of Ohio's Nonglaciated Plateau. Soils within this area are generally thin except in the valleys where most of the agriculture and manufacturing activities are located.

The climate of Ironton is classified as continental. Such a climate is marked by large annual, daily, and day to day variation in temperature. Summers are moderately warm and humid with occasional days when temperatures exceed 100°; winters are reasonably cold and cloudy but sub-zero temperatures rarely occur. Weather changes occur every few days from the passing of cold or warm fronts and their associated centers of high and low pressure.

Mean temperature for the year is near the mean for south central Ohio. The extreme temperature range (record high minus record low) during the period 1894-1965 is 136 degrees. On nights with clear skies and calm winds, the air near the top of hills just outside Ironton becomes cooler and denser than the air at the same height over the city. These air temperature and density differences cause the cool air to drain down the hills into the city. This drainage often results in large differences in surface temperature between the city and the tops of the hills. The normal daily range in temperature is greatest in late summer and least in early winter. Coldest month of record is January 1918. In that month, temperature was above freezing on only 12 days while sub-zero temperatures were reported on 10 days. Warmest month of record is July 1934. In that month, daily high temperatures exceeded 89°F on 24 days. Temperature in excess of 90°F has occurred as early as late March; however, such days are more common in the period June through August.

Taking the number of days between the last killing frost (32°F) of spring and the first killing frost in fall as the crop-growing season, this season averages 177 days in length. The growing season is 198 days or more in 10% of the years, 185 days or more in 30% of the years, less than 168 days in 30% of the years and less than 156 days in 10% of the years. Freezing temperatures have been recorded as late as May 22 in Spring and as early as September 24 in Fall.

Heating degree days as shown in the above table are a measure of the departure of the mean daily temperature from 65°F. The daily totals are accumulated from July 1 through June 30. At any point during the year, the accumulated degree days can be used as an index of past temperature effect upon power consumption and fuel consumption for heating of homes and businesses.

Precipitation is normally abundant and well distributed throughout the year with fall being the driest season. The mean annual precipitation of 41.89 inches is near the mean for south central Ohio. Showers and thundershowers account for most of the rainfall during the growing season. Thunderstorms occur on about 42 days each year. Most of these occur May through August. As is typical of much of Ohio, most precipitation during the winter months comes in the form of rain. Snowfall averages about 15 inches a year although as little as 1 inch fell during the winter of 1907-08 and as much as 43 inches fell during the winter of 1935-36. Only about 1 of 20 winters will have at least 30 inches of snow. The good distribution of precipitation throughout the year lessens the need for irrigation to maintain healthy vegetation.

Evaporation is greatest during the warm months and is then most critical for agriculture. During the period May through September, potential evaporation normally exceeds rainfall by nearly 10 inches. Driest growing season (May-September) of record is 1903. In that season, the potential evaporation exceeded the rainfall by more than 18 inches. When evaporation exceeds rainfall for prolonged periods, a drought may occur; however, severe droughts seldom occur in Lawrence County.

Humidity, cloudiness, sunshine, and wind observations are not recorded in Ironton; however, estimates of these variables can be made from observations taken at other locations. Relative humidity, the ratio between the amount of moisture in the air and the amount which could be present, without condensation, at the same temperature and pressure, is an important factor in human and animal comfort and in the growth and development of vegetation. Generally, humidity rises and falls inversely with the daily temperature and is lowest in summer and highest in winter. For the year, relative humidity averages 80% at 1 AM, 82% at 7 AM, 55% at 1 PM, and 68% at 1 PM. Cloudiness is greatest in winter and least in summer. This seasonal variation is most clearly illustrated by the percentage of possible sunshine which is about 65% in July and 30% in December. For the year, the wind speed averages about 5 mph during summer and 7 mph in winter. Damaging winds occur most often during spring and summer. Such storms are usually associated with migrating thunderstorms. Due to the terrain of Lawrence County, the occurrence of heavy fog is quite variable but most frequent during summer and fall. Many valley areas average at least 50 days of heavy fog each year. Such areas are especially susceptible to atmospheric stagnation; however, death from smog is as yet unknown.

Local flooding of lands along the Ohio River occurs practically every year but general floods of a serious character are less frequent. Flood stage in this area is 52 feet. Major floods occur when the depth of the river reaches 59 feet. Since 1917, major floods have occurred in 1933, 1936, 1937, 1939, 1940, 1943, 1945, 1948, 1950, 1955, 1958, 1962, 1963, and 1964. In the flood of January 1937, the river depth reached 73.6 feet and inundated much of Ironton to an average depth of 17 feet.

March 1967

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PROBABILITY OF FREEZES OCCURRING AS LATE IN THE SPRING OR AS EARLY IN THE FALL AS DATES SHOWN IN THE FOLLOWING TABLE

PERCENT CHANCE OF LATER DATE IN SPRING	TEMPERATURE LEVELS 16°	20°	24°	28°	32°	36°
90	FEB 7	FEB 21	MAR 4	MAR 24	APR 8	APR 17
70	FEB 20	MAR 4	MAR 15	APR 2	APR 16	APR 26
50	FEB 28	MAR 11	MAR 23	APR 8	APR 22	MAY 3
30	MAR 9	MAR 18	MAR 30	APR 14	APR 28	MAY 10
10	MAR 21	MAR 28	APR 10	APR 23	MAY 6	MAY 20
PERCENT CHANCE OF EARLIER DATE IN FALL						
10		NOV 2	OCT 26	OCT 12	OCT 2	SEPT 24
30		NOV 13	NOV 3	OCT 22	OCT 10	OCT 2
50		NOV 21	NOV 9	OCT 29	OCT 16	OCT 8
70		NOV 28	NOV 15	NOV 4	OCT 22	OCT 14
90		DEC 9	NOV 23	NOV 14	OCT 31	OCT 22

STATION HISTORY

DATE	LOCATION (From Post Office)	ELEVATION (Ft. MSL)	OBSERVER
10/1882 - 6/1883	Unknown		W. C. Fagley
7/1883 - 5/1885	Unknown		J. M. Gray
6/1885 - 11/1904	2.6 miles NW	575	James Bull
11/1904 - 9/1917	0.3 miles E	555	James Bull
10/1917 - 12/1933	0.2 miles NE	555	Joseph H. Raine
1/1934 - Present	1.2 miles SE	555	Frank Mascari

AVERAGE TEMPERATURE (°F)

YR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNL
94	37.2	36.2	48.5	53.1	63.7	72.6	75.1	73.8	69.9	55.0	41.6	36.7	55.3
95	30.0	22.5	40.9	53.7	61.3	73.3	72.5	74.3	71.2	48.1	44.3	36.9	52.4
96	33.4	34.3	36.1	60.0	69.1	70.9	75.2	75.0	66.4	51.3	49.1	36.5	54.8
97	29.6	38.1	47.3	52.2	60.6	71.9	76.9	73.0	69.5	60.4	46.9	38.8	55.4
98	38.3	34.5	48.9	47.2	63.9	73.3	77.9	77.3	71.8	58.3	41.7	35.0	55.7
99	32.3	25.7	42.4	53.9	65.8	74.1	76.1	76.4	68.4	59.0	46.2	32.4	54.4
0	35.5	32.2	41.1	52.3	63.6	73.8	76.8	78.7	72.9	64.2	45.5	35.7	56.0
1	35.0	28.9	45.2	48.6	63.4	72.8	79.4	74.7	66.8	56.6	39.5	32.8	53.7
2	31.1	27.6	44.8	51.2	67.3	70.2	76.0	72.5	67.4	59.1	52.0	37.0	54.7
3	33.9	36.6	52.6	54.9	67.5	68.0	75.0	75.4	68.2	56.5	39.8	28.4	54.8
4	29.3	32.0	47.0	50.6	63.7	71.6	73.5	73.7	70.0	56.3	43.1	34.5	53.8
5	27.6	28.0	50.4	55.6	67.5	73.5	76.5	75.3	69.9	56.7	45.1	37.2	55.3
6	40.7	34.1	39.5	58.7	66.0	74.4	75.6	79.0	73.5	57.9	45.3	38.4	56.9
7	41.3	33.8	54.0	48.2	61.7	69.4	76.2	73.4	69.7	53.7	44.0	37.3	55.2
8	34.2	34.8	51.1	57.4	66.7	72.3	77.1	75.4	69.6	57.1	46.4	38.4	56.7
9	38.6	43.2	43.6	55.4	63.7	73.9	74.0	75.4	66.9	52.1	53.0	30.8	55.9
10	33.6	34.0	52.7	56.0	60.2	69.4	77.1	73.5	71.4	60.7	41.0	30.6	55.0
11	40.4	42.5	44.8	53.4	68.3	73.7	76.1	76.9	72.7	58.2	42.4	41.9	57.6
12	26.0	30.0	41.6	58.7	65.8	70.0	76.9	73.7	70.7	58.7	44.8	37.5	54.6
13	43.1	34.9	47.6	55.0	64.9	73.5	79.2	76.6	67.5	57.0	47.3	37.7	57.0
14	38.6	30.7	40.3	56.0	65.4	76.7	77.5	79.8	68.9	58.9	44.8	32.2	55.8
15	33.1	40.5	37.1	59.0	65.2	72.6	75.6	72.6	70.6	58.9	48.8	35.4	55.8
16	40.6	34.3	43.1	54.6	67.9	69.9	79.3	77.0	66.3	56.3	46.3	35.1	55.9
17	35.6	34.2	45.4	55.5	59.3	72.4	81.2	74.9	66.9	51.1	41.6	25.6	53.6
18	21.4	39.1	49.7	54.3	69.5	71.6	72.6	78.2	61.6	59.3	44.2	43.3	55.4
19	36.1	37.1	46.6	55.3	64.2	76.0	76.9	72.4	67.8	63.1	45.8	32.0	56.1
20	30.8	33.7	45.5	52.6	62.0	70.0	72.5	72.9	69.9	56.5	42.3	37.8	53.9
21	38.0	39.3	54.7	58.0	64.9	76.0	77.8	72.4	71.6	53.8	47.2	38.8	57.7
22	32.9	40.6	48.2	58.5	66.8	73.7	74.8	71.2	67.5	56.2	45.7	38.6	56.2
23	39.3	34.2	45.1	53.3	63.0	73.7	75.6	73.4	67.8	52.9	44.4	45.5	55.7
24	31.1	34.7	41.6	55.6	58.4	72.6	72.3	73.7	62.1	56.0	45.1	35.0	53.2
25	33.7	41.3	46.7	59.0	59.3	75.7	74.0	73.4	72.5	51.9	42.6	34.2	55.4
26	31.4	39.4	38.8	49.8	63.8	68.8	75.5	76.0	70.2	56.8	42.8	36.8	54.1
27	35.0	42.9	47.5	55.7	66.4	69.1	74.7	69.0	68.4	57.3	51.0	36.5	56.1
28	34.0	37.4	43.7	51.6	61.9	69.7	75.8	75.8	62.1	58.1	46.0	36.7	54.4
29	32.7	30.7	49.4	59.2	63.7	70.5	74.5	70.1	68.6	54.1	43.6	38.3	54.6
30	34.9	43.7	44.2	57.4	66.1	72.2	78.1	73.3	69.9	52.6	44.6	34.3	55.9
31	36.9	39.5	41.3	54.2	63.4	73.5	79.4	74.5	73.4	59.0	53.4	44.8	57.8
32	45.5	44.9	39.9	55.1	65.5	74.1	76.9	74.9	68.9	57.2	43.6	37.0	57.0
33	42.8	36.9	45.5	56.0	69.3	75.6	76.2	74.5	72.6	55.3	44.8	41.4	57.6
34	40.8	28.5	42.2	56.9	67.8	78.2	81.3	75.8	71.4	56.9	48.7	36.4	57.1
35	36.1	39.6	53.1	54.0	62.3	71.5	78.5	75.9	67.4	57.4	47.8	30.3	56.1
36	28.2	31.5	48.8	51.9	67.8	74.8	79.2	78.7	71.8	57.6	42.4	39.0	56.0
37	44.4	36.1	41.2	54.8	63.4	73.3	75.5	77.8	66.2	54.8	42.4	34.0	55.3
38	35.8	44.0	51.6	58.3	65.1	71.4	75.8	76.9	68.8	57.2	47.1	36.7	57.4
39	39.2	40.6	47.4	53.5	67.0	75.4	74.9	75.3	72.7	58.9	43.1	38.9	57.2
40	22.9	35.5	42.6	52.8	62.7	73.7	76.4	76.4	65.6	57.4	46.3	43.3	54.6
41	35.4	33.0	38.5	59.7	66.9	74.1	77.8	75.2	71.4	62.2	46.0	42.6	56.9
42	33.6	32.6	48.0	58.3	66.0	74.9	77.2	74.1	67.9	58.2	47.8	34.9	56.1
43	38.2	39.3	43.7	52.8	67.3	78.6	77.9	77.5	67.4	56.4	43.8	34.5	56.5
44	36.1	41.7	44.2	55.4	71.3	76.1	76.7	76.4	68.7	57.0	44.9	32.4	56.7
45	30.2	38.2	55.5	58.7	62.0	71.6	75.2	78.1	71.8	56.6	47.6	31.6	56.2
46	37.4	39.7	54.5	57.9	64.4	72.6	75.8	70.6	68.8	60.4	51.3	41.8	57.9
47	41.2	28.5	38.2	58.6	62.9	71.9	72.0	79.1	69.4	63.8	43.8	36.0	55.5
48	26.3	38.5	50.6	60.4	63.3	73.8	77.8	75.4	70.1	53.9	50.1	40.0	56.7
49	42.9	43.6	46.6	53.8	67.3	76.2	80.9	75.9	64.9	63.0	45.8	40.4	58.5
50	46.6	39.9	43.1	52.9	66.7	72.0	74.1	73.2	67.5	62.1	41.4	32.2	56.0
51	38.3	38.1	45.9	55.3	65.7	74.2	76.9	75.4	68.3	60.3	41.1	38.7	56.5
52	42.0	41.0	45.3	56.7	65.1	76.9	78.3	75.0	67.2	51.2	45.8	39.1	57.0
53	39.8	41.2	47.9	53.1	69.1	74.5	76.5	75.4	69.1	60.0	45.6	37.7	57.5
54	37.9	44.8	44.1	62.9	61.1	74.3	77.6	74.8	72.2	59.6	44.1	36.1	57.5
55	33.8	38.5	48.4	61.1	67.6	69.0	79.4	78.5	73.1	58.2	44.0	34.3	57.1
56	31.7	41.8	45.1	52.8	65.5	72.2	74.8	74.9	66.8	61.0	46.1	46.5	56.6
57	32.4	43.2	45.3	59.8	67.3	75.4	77.7	75.5	70.8	54.0	46.5	41.0	57.4
58	32.5	29.1	41.3	56.9	64.9	70.5	77.5	74.5	68.6	56.5	48.2	30.9	54.3
59	33.5	40.2	44.4	57.3	70.1	72.5	76.9	78.7	71.4	59.4	43.9	40.8	57.4
60	38.3	34.2	33.9	60.5	62.3	72.2	74.7	76.9	70.1	58.8	46.6	30.3	54.9
61	29.7	41.4	50.1	51.1	60.7	69.8	76.0	75.2	72.9	59.2	47.4	37.7	55.9
62	33.1	40.2	45.0	54.5	71.6	73.4	74.9	75.7	66.3	60.9	44.6	31.3	56.0
63	28.7	31.0	51.2	58.1	64.1	72.8	74.8	73.3	67.5	61.8	48.2	28.2	54.9
64	35.7	33.5	46.6	59.3	68.3	75.0	77.4	75.6	68.5	55.1	49.6	40.8	57.1
65	35.5	36.8	41.6	58.0	71.4	73.3	75.2	74.4	71.3	56.3	48.6	41.3	57.0
66	29.5	35.7	48.8	54.3	63.9	72.7	78.6	74.6	66.2	55.2	47.1	36.8	55.3

TOTAL PRECIPITATION (INCHES)

YR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNL
94	2.87	4.20	1.42	2.29	3.51	1.58	.79	7.25	3.41	1.73	1.62	3.59	34.26
95	4.54	.80	3.65	2.24	1.58	2.86	3.86	4.36	1.85	1.79	2.55	2.43	32.51
96	1.35	3.29	5.36	.81	7.51	4.76	7.20	3.87	4.12	2.29	2.98	1.00	39.54
97	2.55	8.17	4.12	4.60	4.58	5.37	5.73	3.42	.62	.34	5.51	3.42	48.43
98	8.32	1.75	5.00	1.97	3.32	4.61	3.46	6.48	2.29	3.94	2.79	2.07	46.00
99	6.53	2.97	7.70	2.22	5.15	1.56	2.87	2.66	3.61	1.24	1.36	3.21	41.08
0	3.20	3.90	2.70	.32	4.14	2.85	6.26	3.49	1.28	1.25	7.25	.82	37.46
1	1.40	.80	2.15	6.90	2.85	2.84	2.88	3.02	5.30	.28	2.25	4.17	34.84
2	4.75	1.95	3.72	3.29	3.42	7.25	2.74	1.61	4.99	1.62	2.79	6.38	44.51
3	2.71	6.45	4.14	4.83	1.94	4.58	3.00	.60	.43	3.12	2.43	1.54	35.77
4	1.90	2.22	5.97	2.59	2.47	2.97	1.89	2.95	.76	.49	.21	2.99	27.41
5	2.89	2.16	5.14	2.03	8.91	6.79	6.66	5.75	.63	4.72	3.64	4.08	53.40
6	3.34	2.76	6.21	1.00	2.03	7.74	5.32	4.78	4.59	1.89	2.04	4.20	45.90
7	7.16	2.09	4.65	2.03	5.58	5.74	8.33	7.10	3.47	1.76	2.58	2.46	52.95
8	1.81	4.04	6.27	6.56	3.68	3.01	5.57	1.43	.44	1.33	1.27	2.32	37.73
9	3.45	6.08	3.03	4.79	3.58	8.00	3.27	3.45	1.58	2.10	1.64	1.49	42.46
10	5.06	3.69	.46	4.46	5.13	6.43	6.88	1.39	2.90	1.67	1.74	3.21	43.02
11	4.80	3.65	2.87	4.90	.87	3.37	3.70	3.84	3.63	3.76	3.49	5.34	44.22
12	3.14	2.89	6.09	5.84	3.43	2.94	6.90	5.33	1.30	.99	1.08	2.96	42.89
13	7.04	2.24	5.75	3.54	5.26	1.50	4.22	1.25	3.19	2.94	3.52	3.42	43.87
14	1.77	4.34	2.41	3.66	2.59	2.87	5.26	5.87	1.58	5.20	.80	4.46	40.81
15	4.41	1.43	2.59	1.58	3.75	4.23	6.28	4.09	3.66	4.36	4.10	5.18	45.66
16	5.33	3.72	4.89	2.37	3.05	4.82	3.24	5.64	2.80	2.81	1.32	2.97	42.96
17	5.19	3.81	6.62	2.47	5.68	4.41	4.58	1.01	2.50	3.64	.85	1.62	42.38
18	3.85	2.26	5.24	3.61	2.80	4.12	2.74	2.49	1.95	3.64	1.63	4.57	38.90
19	3.68	1.16	2.92	3.17	4.81	2.69	3.95	3.69	2.60	6.13	6.64	4.90	46.34
20	4.98	1.86	3.41	5.02	1.71	3.37	6.39	3.49	1.44	.90	2.60	1.74	36.91
21	2.79	3.04	4.53	2.82	3.56	4.84	1.51	6.21	5.62	2.10	6.49	5.94	49.45
22	1.98	2.23	7.44	2.53	3.69	2.07	2.48	2.02	2.88	2.08	1.19	5.75	36.34
23	5.25	4.60	4.60	3.85	2.52	2.99	3.40	3.48	1.62	1.96	3.35	7.88	45.50
24	4.88	2.69	2.55	2.64	4.02	3.90	3.44	4.92	5.29	.18	1.48	3.58	39.57
25	3.93	2.32	3.39	2.80	4.63	2.61	5.09	1.30	1.73	6.35	4.26	.83	39.24
26	3.96	3.15	2.54	2.50	2.27	2.66	4.15	3.72	3.65	5.24	2.29	4.89	41.02
27	5.81	3.41	3.81	5.92	3.72	4.68	5.16	4.61	.78	1.64	4.35	2.94	46.83
28	2.14	2.61	3.85	3.52	1.76	7.14	4.96	6.62	1.40	2.05	4.22	1.19	41.46
29	3.58	3.39	4.17	2.16	6.98	3.58	4.31	2.50	1.48	5.97	4.49	2.58	45.19
30	2.19	3.20	3.06	1.58	2.02	2.39	2.20	3.01	2.13	1.15	1.34	2.06	26.33
31	.82	3.08	3.34	6.64	4.19	4.09	5.97	3.50	2.38	2.20	2.19	3.94	42.34
32	5.81	2.69	6.08	2.47	.74	3.33	7.39	1.17	2.28	2.88	2.41	2.63	39.88
33	4.81	2.81	4.41	3.28	6.33	3.15	4.01	9.38	4.62	1.04	1.12	5.16	50.12
34	2.04	1.61	4.56	2.07	1.39	3.47	3.41	5.29	2.43	.40	2.51	1.62	30.80
35	5.27	2.08	6.78	4.06	8.37	9.08	9.12	4.93	2.82	3.68	2.99	3.13	62.31
36	3.10	1.29	4.46	5.89	1.42	1.29	4.54	5.84	1.90	4.57	3.61	3.29	41.20
37	12.24	3.27	1.85	3.41	3.16	4.66	4.25	2.81	.90	3.69	.82	2.83	43.89
38	2.20	2.39	4.23	4.18	4.00	5.68	8.48	2.64	7.03	.38	3.93	1.32	46.46
39	3.68	7.68	5.03	7.97	1.75	4.09	5.66	2.53	2.25	2.36	1.05	1.57	45.62
40	1.17	4.13	4.91	3.58	4.28	5.61	3.17	3.73	2.20	.80	3.50	2.88	39.96
41	2.84	.36	1.66	2.38	1.17	3.69	6.55	2.86	.96	3.60	1.90	2.00	29.97
42	1.83	2.20	3.62	2.65	4.43	4.81	3.50	4.23	3.15	2.60	4.74	5.67	43.43
43	2.48	1.54	7.08	3.97	5.41	4.78	3.25	1.92	1.11	1.03	1.66	1.93	36.16
44	1.75	3.95	7.13	4.42	6.09	3.65	1.07	3.75	2.59	2.52	2.08	3.84	42.84
45	3.98	5.48	5.61	4.58	6.73	4.32	5.95	2.59	2.71	1.67	5.17	1.93	50.72
46	2.36	4.05	4.45	1.80	4.52	6.17	1.61	2.79	2.28	2.50	1.53	2.60	36.66
47	4.48	.70	2.06	3.45	3.81	5.78	2.08	6.58	3.80	.57	2.27	1.43	37.01
48	3.73	3.33	4.19	7.13	2.39	3.46	3.38	1.96	2.18	2.41	4.66	4.03	42.85
49	5.76	3.20	3.09	3.35	2.60	2.96	5.97	4.35	2.27	3.17	3.26	4.67	44.65
50	9.46	3.50	2.50	1.49	5.56	5.09	3.85	3.57	7.91	2.99	5.57	2.56	54.05
51	7.84	3.47	5.94	4.14	5.09	6.74	1.79	5.01	2.17	1.67	5.08	5.28	54.22
52	5.52	1.25	6.15	2.47	6.10	3.99	2.59	3.01	1.80	.84	2.78	2.80	39.30
53	3.36	1.31	4.69	3.85	3.40	5.78	4.08	2.32	1.54	.51	1.32	1.86	34.02
54	2.17	.61	3.57	1.80	3.21	4.69	5.36	4.27	4.61	2.05	1.20	3.30	36.84
55	2.44	4.87	6.20	2.98	4.28	3.81	5.67	2.50	3.49	2.54	1.56	.80	41.14
56	3.11	7.10	5.64	3.83	3.13	7.15	5.06	4.26	4.77	1.85	.98	4.83	51.71
57	4.10	3.14	1.87	3.35	4.36	3.38	1.74	.68	5.39	2.34	5.76	4.56	40.67
58	2.09	2.31	2.91	6.68	8.06	4.92	4.52	3.96	3.81	1.85	2.72	1.03	44.86
59	4.18	2.41	1.96	4.05	2.57	2.60	4.17	3.28	4.12	2.55	3.49	2.15	37.53
60	2.65	4.04	1.54	.80	4.39	5.94	3.92	3.17	2.97	2.61	1.63	1.57	35.23
61	3.36	2.81	4.00	5.07	4.97	7.20	6.51	4.18	1.24	3.50	2.47	3.99	49.30
62	3.15	6.73	4.29	4.12	3.15	5.09	6.16	.86	3.01	2.85	4.13	3.24	46.78
63	1.50	1.24	7.78	1.25	4.78	1.79	4.76	3.71	2.51	.05	2.59	1.29	33.25
64	2.13	2.83	5.32	3.41	1.45	2.00	3.81	7.51	3.57	.21	3.94	4.22	40.40
65	3.19	2.50	5.13	7.57	.55	2.19	6.60	3.25	5.13	3.25	1.18	.52	41.06
66	3.51	3.85	.85	6.71	2.62	.83	4.55	5.15	4.72	1.93	2.89	2.85	40.46