

Appendix E: Major chemical components of PM2.5 derived from CSN data, 2005-2007

Table Explanation

The data table shows the annual and high day averages for the major PM2.5 species for areas violating the 24-hour PM2.5 NAAQS for 2005 through 2007. For each area, the average concentrations and fractions of the total PM for individual species are provided. The seasonal data are divided into two seasons: warm and cold. The derivation of PM2.5 chemical components follows the procedures used for the Contributing Emissions Score (CES). Each component represents its PM2.5 mass concentration (e.g. sulfate includes associated ammonium and estimated particle bound water). The two seasons also correspond to the two seasonal categories used for the Contributing Emissions Score. The warm season includes data from the months of May through September, while the cold season includes all other months. Seasonal high day averages represent the average of the top 5% of days from each season and year. In some cases, the closest Chemical Speciation Network (CSN) site to the violating Federal Reference Method (FRM) site did not monitor for the entire 2005-2007 time period in which case only the amount of data available during that three year period was used. Therefore, the number of years between 2005 and 2007 used for the speciation averages is also given.

For each area, the violating Federal Reference Method (FRM) monitor is given along with the closest the Chemical Speciation Network (CSN) site which was used to characterize the individual species concentrations for the violating site. In many cases, the nearest CSN site either collocated with the FRM site or is located within the same CBSA or CSA as the violating FRM site. Speciation monitors that are not collocated with FRM sites are not as representative as those that are. The magnitude of a speciation site's representativeness is indirectly related to the distance so that sites that are further away are less representative than closer sites. The blue shaded rows indicate speciation data within the same CBSA/CSA.

In addition to the speciated average concentrations and fractions, the number of high days per season is also given and reflects the number days greater than the 98th percentile for the entire three year period at the violating FRM site.

Speciation Summary Data

Area	Violating Site	Violating County	Season	Nearest 2005-7 CSN Site to Violating Site	CSN County	Distance from Violating Site to Nearest CSN Site (miles)	Violating and CSN Site within same CA?/CBS A?	Number of Years Used for Speciation Averages	2005-7 Annual PM2.5 Days >= Annual 98th Percentiles	2005-7 Annual Nitrate (ug/m3)	2005-7 Annual Sulfate (ug/m3)	2005-7 Annual Total Carbon (ug/m3)	2005-7 Annual Total Crustal (ug/m3)	2005-7 Annual Total PM10 (ug/m3)	2005-7 Annual Nitrate Fraction	2005-7 Annual Sulfate Fraction	2005-7 Annual Total Carbon Fraction	2005-7 Annual High Day Nitrate (ug/m3)	2005-7 Annual High Day Sulfate (ug/m3)	2005-7 Annual High Day Total PM (ug/m3)	2005-7 Annual High Day Nitrate Fraction	2005-7 Annual High Day Sulfate Fraction	2005-7 Annual High Day Total Carbon Fraction	2005-7 Annual High Day Nitrate Fraction	2005-7 Annual High Day Sulfate Fraction	2005-7 Annual High Day Total Carbon Fraction		
Allentown-Berthlem-Easton, PA-NJ	420950025	Northampton, PA	cold	420950025	Northampton, PA	0	yes	3	5	1.306228	6.884187	5.326481	0.771155	13.98845	0.076228	0.504852	0.390260	0.039893	5.907778	7.679889	15.55222	0.8223	29.9889	0.192038	0.261694	0.518493	0.227778	
Allentown-Berthlem-Easton, PA-NJ	550090005	Northampton, PA	warm	550090005	Northampton, PA	0	yes	3	6	1.026202	7.827123	5.937376	0.502998	14.7537	0.051283	0.53607	0.359681	0.039066	28.73333	9.327222	16.5139	0.8222	29.58417	0.106183	0.163745	0.52964	0.272431	
Baltimore, MD	245100040	Baltimore (City), MD	cold	240053001	Baltimore, MD	7.025391	yes	3	6	1.026202	7.827123	5.937376	0.502998	14.7537	0.051283	0.53607	0.359681	0.039066	26.31222	9.096667	16.06667	0.8222	36.30556	0.0	0.719025	0.255757	0.026218	
Baltimore, MD	245100040	Baltimore (City), MD	warm	240053001	Baltimore, MD	7.025391	yes	3	15	1.026202	7.827123	5.937376	0.502998	14.7537	0.051283	0.53607	0.359681	0.039066	26.31222	9.096667	16.06667	0.8222	36.30556	0.0	0.719025	0.255757	0.026218	
Birmingham, AL	010730023	Jefferson, AL	warm	010730023	Jefferson, AL	0	yes	3	2	0.197475	8.024591	5.151685	1.512319	18.86607	0.0147	0.424372	0.479553	0.081375	0.227333	11.68733	18.2165	30.34167	0.334203	0.00809	0.349723	0.543519	0.095688	
Birmingham, AL	010730023	Jefferson, AL	warm	010730023	Jefferson, AL	0	yes	3	22	0.197475	8.024591	5.151685	1.512319	18.86607	0.0147	0.424372	0.479553	0.081375	0.227333	11.68733	18.2165	30.34167	0.334203	0.00809	0.349723	0.543519	0.095688	
Canton-Massillon, OH	391510017	Stark, OH	cold	391510017	Stark, OH	0	yes	3	2	1.458925	0.055922	1.650008	1.006541	15.0894	0.0963	0.480335	0.325022	0.070533	0	27.78933	1.53	1.62	37.91833	0	0.72307	0.232397	0.047933	
Canton-Massillon, OH	391510017	Stark, OH	warm	391510017	Stark, OH	0	yes	3	6	1.458925	0.055922	1.650008	1.006541	15.0894	0.0963	0.480335	0.325022	0.070533	0	27.78933	1.53	1.62	37.91833	0	0.72307	0.232397	0.047933	
Charleston, WV	540391005	Kanawha, WV	cold	540391005	Kanawha, WV	0	yes	3	0	0.405983	8.554776	6.044152	0.861259	15.86277	0.03254	0.524734	0.385962	0.05726	0.053333	12.225	9.49444	17.21111	0.239889	0.002455	0.532101	0.408397	0.059047	
Charleston, WV	540391005	Kanawha, WV	warm	540391005	Kanawha, WV	0	yes	3	14	0.405983	8.554776	6.044152	0.861259	15.86277	0.03254	0.524734	0.385962	0.05726	0.053333	12.225	9.49444	17.21111	0.239889	0.002455	0.532101	0.408397	0.059047	
Chicago-Gary-Lake County, IL-IN	170311016	Cook, IL	warm	170310076	Cook, IL	7.01009	yes	3	4	1.838981	5.811989	6.293655	0.584424	14.52905	0.112215	0.378325	0.481816	0.047644	11.63556	9.507778	11.23778	0.617778	32.99889	0.33875	0.307496	0.334669	0.19085	
Chicago-Gary-Lake County, IL-IN	170311016	Cook, IL	warm	170310076	Cook, IL	7.01009	yes	3	5	1.838981	5.811989	6.293655	0.584424	14.52905	0.112215	0.378325	0.481816	0.047644	11.63556	9.507778	11.23778	0.617778	32.99889	0.33875	0.307496	0.334669	0.19085	
Chico, CA	060700002	Butte, CA	cold	060700002	Butte, CA	0	yes	2	6	0.813424	1.592314	9.523881	0.729176	12.6588	0.02323	0.206206	0.676615	0.093946	7.8525	1.6375	51.225	0.54	61.255	0.143232	0.02802	0.819122	0.008836	
Chico, CA	060700002	Butte, CA	warm	060700002	Butte, CA	0	yes	2	0	0.813424	1.592314	9.523881	0.729176	12.6588	0.02323	0.206206	0.676615	0.093946	7.8525	1.6375	51.225	0.54	61.255	0.143232	0.02802	0.819122	0.008836	
Cincinnati-Hamilton, OH-KY-IN	390490025	Franklin, OH	cold	390490081	Franklin, OH	11.10075	yes	3	2	1.706582	8.3797	7.702631	0.377405	12.66632	0.120662	0.53086	0.314607	0.033881	9.453889	9.016111	5.286111	0.502778	24.26889	0.379103	0.369487	0.228011	0.0234	
Cincinnati-Hamilton, OH-KY-IN	390618001	Hamilton, OH	warm	390618001	Hamilton, OH	0	yes	1	8	1.561304	8.117828	6.281304	0.85913	16.9197	0.06456	0.486301	0.395155	0.053889	0	15.34	9.02	1.64	26	0	0.59	0.346923	0.063707	
Clarksville, TN-KY	471251009	Montgomery, TN	cold	471251009	Montgomery, TN	0	yes	1	2	0.387381	8.576429	4.352619	0.703333	14.0196	0.049385	0.574122	0.319658	0.056885	0.545	7.84	9.435	28	18.1	0.28385	0.446112	0.509841	0.025685	
Clarksville, TN-KY	471251009	Montgomery, TN	warm	471251009	Montgomery, TN	0	yes	1	11	0.387381	8.576429	4.352619	0.703333	14.0196	0.049385	0.574122	0.319658	0.056885	0.545	7.84	9.435	28	18.1	0.28385	0.446112	0.509841	0.025685	
Cleveland-Akron-Lorain, OH	390350038	Cuyahoga, OH	cold	390350038	Cuyahoga, OH	0	yes	3	3	2.095812	7.329175	5.316789	1.536626	16.2784	0.115169	0.450229	0.337927	0.096675	9.51	9.405	13.07444	2.241667	34.3815	0.277592	0.277275	0.375657	0.069026	
Cleveland-Akron-Lorain, OH	390350038	Cuyahoga, OH	warm	390350038	Cuyahoga, OH	0	yes	3	5	2.095812	7.329175	5.316789	1.536626	16.2784	0.115169	0.450229	0.337927	0.096675	9.51	9.405	13.07444	2.241667	34.3815	0.277592	0.277275	0.375657	0.069026	
Columbus, OH	390490025	Franklin, OH	cold	390490081	Franklin, OH	11.10075	yes	3	2	1.706582	8.3797	7.702631	0.377405	12.66632	0.120662	0.53086	0.314607	0.033881	9.453889	9.016111	5.286111	0.502778	24.26889	0.379103	0.369487	0.228011	0.0234	
Columbus, OH	390490025	Franklin, OH	warm	390490081	Franklin, OH	11.10075	yes	3	7	1.706582	8.3797	7.702631	0.377405	12.66632	0.120662	0.53086	0.314607	0.033881	9.453889	9.016111	5.286111	0.502778	24.26889	0.379103	0.369487	0.228011	0.0234	
Davenport-Moline-Rock Island, IA-IL	191630019	Scott, IA	cold	191630015	Scott, IA	1.820663	yes	3	7	2.401155	4.998748	4.046104	0.539205	11.98521	0.169437	0.414281	0.379228	0.058354	14.33	7.527222	7.278611	0.592222	29.72806	0.470051	0.265454	0.245639	0.191746	
Davenport-Moline-Rock Island, IA-IL	191630019	Scott, IA	warm	191630015	Scott, IA	1.820663	yes	3	6	2.401155	4.998748	4.046104	0.539205	11.98521	0.169437	0.414281	0.379228	0.058354	14.33	7.527222	7.278611	0.592222	29.72806	0.470051	0.265454	0.245639	0.191746	
Dayton-Springfield, OH	391130032	Montgomery, OH	cold	391130032	Montgomery, OH	0	yes	1	3	1.943509	0.077544	5.241228	0.563333	16.82561	0.106843	0.500897	0.363696	0.038474	16.15333	7.553333	6.4	4.233333	30.53	5.025252	0.240436	0.224663	0.014649	
Dayton-Springfield, OH	391130032	Montgomery, OH	warm	391130032	Montgomery, OH	0	yes	1	6	1.943509	0.077544	5.241228	0.563333	16.82561	0.106843	0.500897	0.363696	0.038474	16.15333	7.553333	6.4	4.233333	30.53	5.025252	0.240436	0.224663	0.014649	
Detroit-Ann Arbor, MI	261830033	Wayne, MI	cold	261830033	Wayne, MI	0	yes	3	6	2.38533	7.493744	5.879472	1.952661	17.71121	0.110489	0.402689	0.386167	0.120655	12.14333	4.405556	36.60444	0.346842	0.228032	0.305472	0.119853	0.684391	0.216292	0.099318
Detroit-Ann Arbor, MI	261830033	Wayne, MI	warm	261830033	Wayne, MI	0	yes	3	2	2.38533	7.493744	5.879472	1.952661	17.71121	0.110489	0.402689	0.386167	0.120655	12.14333	4.405556	36.60444	0.346842	0.228032	0.305472	0.119853	0.684391	0.216292	0.099318
El Centro, CA	060250005	Imperial, CA	warm	060250005	Imperial, CA	0	yes	2	0	0.67714	2.642921	7.285594	2.666612	13.27222	0.020654	0.259983	0.469142	0.250221	0	4.5275	19.80833	4.435	14.91333	0	0.295276	0.407674	0.298959	
El Centro, CA	060250005	Imperial, CA	warm	060250005	Imperial, CA	0	yes	2	0	0.67714	2.642921	7.285594	2.666612	13.27222	0.020654	0.259983	0.469142	0.250221	0	4.5275	19.80833	4.435	14.91333	0	0.295276	0.407674	0.298959	
Eugene-Springfield, OR	410392013	Lane, OR	cold	410510080	Multnomah, OR	121.299	yes	1	11	0.198037	1.610561	5.074393	0.273832	17.56822	0.011441	0.280722	0.662726	0.045111	2.7875	2.455	19.575	24.55	25.2725	0.110358	0.09619	0.774711	0.018711	
Eugene-Springfield, OR	410392013	Lane, OR	warm	410510080	Multnomah, OR	121.299	yes	1	0	0.198037	1.610561	5.074393	0.273832	17.56822	0.011441	0.280722	0.662726	0.045111	2.7875	2.455	19.575	24.55	25.2725	0.110358	0.09619	0.774711	0.018711	
Evansville, IN	180372001	Dubois, IN	cold	180372001	Dubois, IN	0	yes	3	1	1.493366	8.488278	4.032049	0.44437	14.45906	0.097588	0.566276	0.2999	0.042114	8.51444	10.26667	4.44	0.353333	23.57444	0.395647	0.433492	0.142428	0.15532	
Evansville, IN	180372001	Dubois, IN	warm	180372001	Dubois, IN	0	yes	3	12	1.493366	8.488278	4.032049	0.44437	14.45906	0.097588	0.566276	0.2999	0.042114	8.51444	10.26667	4.44	0.353333	23.57444	0.395647</				

Speciation Summary Data

Area	Violating Site	Violating County	Season	Nearest 2005-7 CSN Site to Violating Site	CSN County	Distance from Violating Site to Nearest CSN Site (miles)	Violating and CSN Site within same CSA/CBS A?	Number of Years Used for Speciation Averages	2005-7 Number of PM2.5 Days >= Annual 98th Percentil es	2005-7 Annual Nitrate (ug/m3)	2005-7 Annual Sulfate (ug/m3)	2005-7 Annual Total Carbon (ug/m3)	2005-7 Annual Crustal (ug/m3)	2005-7 Annual Total PM (ug/m3)	2005-7 Annual Nitrate Fraction	2005-7 Annual Sulfate Fraction	2005-7 Annual Total Carbon Fraction	2005-7 Annual Crustal Fraction	2005-7 Seasonal High Day Nitrate (ug/m3)	2005-7 Seasonal High Day Sulfate (ug/m3)	2005-7 Seasonal High Day Total Carbon (ug/m3)	2005-7 Seasonal High Day Crustal (ug/m3)	2005-7 Seasonal High Day Total PM (ug/m3)	2005-7 Seasonal High Day Nitrate Fraction	2005-7 Seasonal High Day Sulfate Fraction	2005-7 Seasonal High Day Total Carbon Fraction	2005-7 Seasonal High Day Crustal Fraction
Parkersburg-Marietta, WV-OH	541071002	Wood, WV	warm	540511002	Marshall, WV	59.81423	yes	3	9	0.572355	8.511502	4.92294	0.466061	14.47286	0.044893	0.568896	0.350507	0.035744	0	25.92833	7.437222	0.710556	34.07611	0	0.758244	0.22121	0.020545
Philadelphia-Wilmington, PA-NJ-DE	340071007	Camden, NJ	cold	421010004	Philadelphia, PA	2.923772	yes	3	1	1.255419	7.03104	4.707031	0.46671	13.4602	0.080877	0.507781	0.369995	0.041346	5.935833	10.67444	10.39444	0.79	27.79472	0.216696	0.38993	0.365087	0.028287
Philadelphia-Wilmington, PA-NJ-DE	340071007	Camden, NJ	warm	421010004	Philadelphia, PA	2.923772	yes	3	7	1.255419	7.03104	4.707031	0.46671	13.4602	0.080877	0.507781	0.369995	0.041346	0	27.37556	8.942222	0.8	37.11778	0	0.741759	0.236374	0.021867
Pittsburgh-Beaver Valley, PA	420070014	Beaver, PA	cold	421255001	Washington, PA	21.62144	yes	3	4	0.495256	7.381042	4.191832	0.410649	12.47878	0.042605	0.568226	0.350901	0.038269	2.413889	9.498333	5.818333	0.459444	18.19	0.133403	0.529247	0.312153	0.025196
Pittsburgh-Beaver Valley, PA	420070014	Beaver, PA	warm	421255001	Washington, PA	21.62144	yes	3	5	0.495256	7.381042	4.191832	0.410649	12.47878	0.042605	0.568226	0.350901	0.038269	0	26.61	8.188333	0.79	35.58833	0	0.74305	0.234732	0.022218
Provo-Orem, UT	490494001	Utah, UT	cold	490494001	Utah, UT	0	yes	3	21	2.616237	1.521722	4.925609	1.146443	10.21001	0.127086	0.204416	0.526516	0.141982	25.52889	2.761111	10.88	2.311111	41.48111	0.594374	0.069164	0.262919	0.053543
Provo-Orem, UT	490494001	Utah, UT	warm	490494001	Utah, UT	0	yes	3	1	2.616237	1.521722	4.925609	1.146443	10.21001	0.127086	0.204416	0.526516	0.141982	0	3.821111	15.01944	2.742222	21.58278	0	0.195809	0.696504	0.107687
Reading, PA	420110010	Berks, PA	cold	420110009	Berks, PA	5.007256	yes	1	5	3.644	6.440667	4.310667	0.592	14.98733	0.181446	0.462383	0.302209	0.053962	11.865	13.805	7.365	0.825	33.66	0.354266	0.400246	0.221118	0.024389
Reading, PA	420110010	Berks, PA	warm	420110009	Berks, PA	5.007256	yes	1	2	3.644	6.440667	4.310667	0.592	14.98733	0.181446	0.462383	0.302209	0.053962	0	10.92	4.77	1.21	16.9	0	0.646154	0.292349	0.071598
Sacramento-Arden-Arcade-Yuba City, CA-NV	060670006	Sacramento, CA	cold	060670006	Sacramento, CA	0	yes	3	21	1.337036	1.833618	8.029224	0.527205	11.72708	0.04408	0.239822	0.65061	0.065488	11.7225	1.710167	36.64683	0.722333	50.80183	0.229249	0.034152	0.721902	0.014698
Sacramento-Arden-Arcade-Yuba City, CA-NV	060670006	Sacramento, CA	warm	060670006	Sacramento, CA	0	yes	3	0	1.337036	1.833618	8.029224	0.527205	11.72708	0.04408	0.239822	0.65061	0.065488	0	4.426389	10.70472	0.757778	15.88889	0	0.2896	0.659088	0.051312
Salt Lake City-Ogden-Clearfield, UT	490350012	Salt Lake, UT	cold	490350006	Salt Lake, UT	5.542922	yes	3	18	2.209799	1.607344	5.121713	0.890454	9.829311	0.098391	0.209394	0.573975	0.118241	24.96694	4.141111	13.31111	1.043056	43.48222	0.551401	0.094861	0.326645	0.027094
Salt Lake City-Ogden-Clearfield, UT	490350012	Salt Lake, UT	warm	490350006	Salt Lake, UT	5.542922	yes	3	0	2.209799	1.607344	5.121713	0.890454	9.829311	0.098391	0.209394	0.573975	0.118241	0	2.102222	11.25556	2.454444	15.81222	0	0.134856	0.712855	0.152289
San Joaquin Valley, CA	060290010	Kern, CA	cold	060290014	Kern, CA	2.494013	yes	3	9	6.020962	2.867674	9.758721	1.339867	19.98722	0.149166	0.189707	0.564637	0.096489	43.55488	5.4425	21.41833	1.731944	72.14764	0.597615	0.076393	0.302174	0.023818
San Joaquin Valley, CA	060290010	Kern, CA	warm	060290014	Kern, CA	2.494013	yes	3	0	6.020962	2.867674	9.758721	1.339867	19.98722	0.149166	0.189707	0.564637	0.096489	0	5.837778	13.78667	2.905556	22.195	0	0.288804	0.617456	0.113741
San Jose-San Francisco-Oakland, CA	060850005	Santa Clara, CA	cold	060850005	Santa Clara, CA	0	yes	3	23	1.184233	2.046709	7.29486	0.461113	10.98692	0.039382	0.233453	0.678382	0.048783	13.10833	2.7275	24.89	1.215833	41.94167	0.308262	0.065996	0.595582	0.03016
San Jose-San Francisco-Oakland, CA	060850005	Santa Clara, CA	warm	060850005	Santa Clara, CA	0	yes	3	0	1.184233	2.046709	7.29486	0.461113	10.98692	0.039382	0.233453	0.678382	0.048783	0	3.987778	10.45111	0.691667	15.10356	0	0.261432	0.622252	0.046315
Seattle-Tacoma-Olympia, WA	530530029	Pierce, WA	cold	530530029	Pierce, WA	0	yes	2	9	0.157014	1.672786	6.81117	0.374563	9.015533	0.006492	0.25394	0.686768	0.0528	1.693333	2.3	33.06667	0.725	37.785	0.043178	0.061276	0.875115	0.02043
Seattle-Tacoma-Olympia, WA	530530029	Pierce, WA	warm	530530029	Pierce, WA	0	yes	2	0	0.157014	1.672786	6.81117	0.374563	9.015533	0.006492	0.25394	0.686768	0.0528	0	3.605	10.58	0.715	14.9	0	0.244957	0.709017	0.046026
St. Louis, MO-IL	171191007	Madison, IL	cold	295100085	St. Louis City, MO	4.590781	yes	3	2	1.665563	6.597494	4.837138	0.825066	13.92526	0.108049	0.456259	0.366122	0.06957	11.25417	7.970556	8.371667	1.379722	26.97611	0.389498	0.262626	0.301318	0.046558
St. Louis, MO-IL	171191007	Madison, IL	warm	295100085	St. Louis City, MO	4.590781	yes	3	7	1.665563	6.597494	4.837138	0.825066	13.92526	0.108049	0.456259	0.366122	0.06957	0	23.85	8.29	0.984444	32.92444	0	0.712705	0.257765	0.02353
Steubenville-Weirton, OH-WV	540090011	Brooke, WV	cold	390810017	Jefferson, OH	1.975239	yes	2	4	1.187	7.457182	4.628955	1.022091	14.29323	0.085356	0.519888	0.322097	0.069858	2.699167	12.66	8.32	1.9375	25.61667	0.124187	0.474596	0.327341	0.073876
Steubenville-Weirton, OH-WV	540090011	Brooke, WV	warm	390810017	Jefferson, OH	1.975239	yes	2	5	1.187	7.457182	4.628955	1.022091	14.29323	0.085356	0.519888	0.322097	0.069858	0	18.8	8.2125	0.915	27.9275	0	0.657954	0.304339	0.037707
Vincennes, IN	180830004	Knox, IN	cold	180372001	Dubois, IN	38.54423	yes	3	0	1.493366	8.488276	0.032049	0.44437	14.45806	0.097586	0.566276	0.2999	0.036238	8.514444	10.26667	4.44	0.353333	23.57444	0.356547	0.433492	0.194428	0.015532
Vincennes, IN	180830004	Knox, IN	warm	180372001	Dubois, IN	38.54423	yes	3	9	1.493366	8.488276	0.032049	0.44437	14.45806	0.097586	0.566276	0.2999	0.036238	0	25.03	9.046667	0.591667	34.66833	0	0.70326	0.277286	0.019454
York, PA	421330008	York, PA	cold	421330008	York, PA	0	yes	3	4	1.957208	7.952674	5.344085	0.673016	15.92898	0.096796	0.504826	0.349375	0.049004	9.862222	12.35278	10.56	1.04	33.815	0.273246	0.387297	0.30773	0.031727
York, PA	421330008	York, PA	warm	421330008	York, PA	0	yes	3	5	1.957208	7.952674	5.344085	0.673016	15.92898	0.096796	0.504826	0.349375	0.049004	0	22.94167	8.953333	1.053333	32.94833	0	0.696038	0.272991	0.030971
Youngstown-Warren-East Liverpool, OH-PA	390990014	Mahoning, OH	cold	390990014	Mahoning, OH	0	yes	3	2	1.189322	7.143931	4.657142	1.226367	14.21676	0.0815	0.487636	0.343514	0.08735	6.207778	7.614444	9.43	2.037778	25.29	0.242776	0.307197	0.370602	0.079426
Youngstown-Warren-East Liverpool, OH-PA	390990014	Mahoning, OH	warm	390990014	Mahoning, OH	0	yes	3	7	1.189322	7.143931	4.657142	1.226367	14.21676	0.0815	0.487636	0.343514	0.08735	0	26.80667	8.395	2.043333	37.245	0	0.721433	0.222772	0.055796