

Supplemental Table A: The Spread of Air Conditioning

	Percent of Households with Any Air Conditioning			Percent of Households with Central Air Conditioning			Percent of New Housing Units with Central Air Conditioning		
	1960	1970	1980	1960	1970	1980	1960	1970	1980
UNITED STATES	12.5	37.1	56.2	1.9	11.0	27.8	4.7	27.7	52.7
Alabama	17.0	50.2	72.4	2.7	15.6	38.0	7.2	35.2	62.9
Alaska	0.8	1.1	0.9	0.0	0.6	0.6	0.0	0.7	0.6
Arizona	27.3	54.8	72.0	15.6	42.2	64.0	25.0	58.1	74.7
Arkansas	17.1	49.9	73.2	2.6	15.9	40.0	7.7	35.5	65.0
California	10.0	25.4	40.1	2.5	8.8	22.4	4.6	17.4	44.4
Colorado	6.3	17.5	31.6	1.9	6.0	15.6	3.0	13.1	24.7
Connecticut	6.6	26.7	47.6	0.7	2.4	7.5	1.8	6.3	19.7
Delaware	16.3	49.1	66.1	1.1	13.5	30.9	2.1	29.6	55.8
Dist. of Columbia	19.8	50.8	68.6	5.6	19.6	33.6	29.0	60.9	79.6
Florida	17.5	61.6	84.4	2.5	23.1	55.7	4.3	43.1	81.9
Georgia	14.3	45.2	67.2	1.6	16.4	40.8	3.8	34.5	66.5
Hawaii	2.3	11.8	16.7	0.0	0.5	4.3	0.0	1.2	9.9
Idaho	7.6	18.2	33.4	2.0	6.8	17.4	2.9	13.5	27.8
Illinois	13.6	45.7	67.8	1.7	11.4	32.2	4.4	26.4	60.8
Indiana	9.8	33.6	60.2	1.5	10.5	31.0	2.5	25.8	56.6
Iowa	12.3	38.1	67.6	1.2	11.2	33.5	3.7	32.2	61.5
Kansas	29.9	61.5	80.8	4.9	18.7	46.9	13.8	48.8	81.2
Kentucky	8.5	32.8	63.3	0.8	8.3	29.7	1.9	21.1	50.1
Louisiana	24.0	61.7	83.7	3.7	21.2	47.0	9.3	49.8	78.1
Maine	2.8	2.6	11.6	0.7	0.4	0.9	2.4	0.4	1.8
Maryland	15.7	54.1	71.4	2.1	25.5	43.5	4.9	63.4	76.4
Massachusetts	5.3	19.7	37.9	0.5	1.6	5.1	1.8	6.1	15.4
Michigan	4.9	20.4	35.6	0.8	4.6	14.4	1.5	11.7	29.1
Minnesota	6.6	31.1	50.2	0.9	5.5	19.4	2.7	11.4	31.6
Mississippi	14.6	50.6	71.7	1.5	14.9	34.8	3.7	35.7	56.8
Missouri	17.6	50.2	72.5	2.7	19.4	42.9	7.7	45.2	69.2
Montana	4.2	10.3	20.8	2.0	3.3	8.6	4.0	7.9	15.6
Nebraska	22.8	56.4	79.2	3.7	21.7	48.9	11.7	55.1	81.1
Nevada	15.3	59.1	70.6	10.8	45.6	56.2	17.6	59.5	64.6
New Hampshire	3.0	10.8	24.7	0.5	1.3	2.4	0.0	2.9	5.0
New Jersey	17.1	48.5	66.2	0.8	7.5	19.5	2.0	21.3	48.0
New Mexico	7.9	35.3	61.9	3.2	20.0	44.0	4.8	31.1	58.4
New York	10.8	32.0	42.5	0.5	3.3	7.3	1.6	12.3	19.2
North Carolina	8.8	34.9	61.6	1.2	9.5	31.6	3.2	19.7	52.9
North Dakota	2.3	12.2	41.3	0.6	2.6	13.7	1.6	4.8	23.3
Ohio	7.1	25.5	48.2	1.0	6.9	22.2	2.2	18.5	46.8
Oklahoma	29.7	63.2	83.5	3.8	20.7	46.5	10.5	53.4	77.5
Oregon	6.0	10.2	19.7	2.1	2.9	8.4	2.6	5.6	14.3
Pennsylvania	10.0	29.7	42.7	0.9	4.5	12.2	2.8	16.7	31.2
Rhode Island	4.0	15.2	33.0	0.0	1.0	3.5	0.0	2.9	9.7
South Carolina	10.8	43.5	69.5	1.5	12.7	36.6	4.6	26.0	58.1
South Dakota	5.6	29.3	61.1	1.5	7.7	25.9	4.2	18.4	40.3
Tennessee	19.8	54.1	75.5	2.1	11.9	33.6	5.0	28.1	58.9
Texas	30.6	66.9	84.7	5.4	29.0	55.9	11.6	63.5	85.0
Utah	8.0	26.9	50.3	1.9	11.4	31.5	2.6	22.4	45.2
Vermont	1.9	4.9	9.9	0.0	0.8	0.7	0.0	1.1	1.1
Virginia	12.3	48.5	66.4	1.4	19.3	39.1	3.1	44.0	64.3
Washington	4.2	7.2	15.1	2.2	2.9	7.0	4.3	4.1	11.9
West Virginia	5.7	19.1	40.0	0.9	4.1	14.5	2.9	12.7	24.9
Wisconsin	6.0	22.0	38.7	1.0	3.9	12.5	1.6	8.6	20.7
Wyoming	5.3	11.2	20.5	0.9	3.4	7.3	2.8	8.5	11.3

"Any Air Conditioning" includes both window units and central. "New Housing Units" are housing units constructed in previous 10 years. Data derived from Ruggles, Steven and Matthew Sobek et al. (1997). *Integrated Public Use Microdata Series: Version 2.0*. Minneapolis: Historical Census Projects, University of Minnesota. www.ipums.org.

Supplemental Table B: The Spread of Modern Heating

	Percent of Households Heated by Utility-Supplied Natural Gas or Electricity						
	1940	1950	1960	1970	1980	1990	2000
UNITED STATES	11.3	27.3	44.9	62.9	71.5	76.8	81.6
Alabama	3.2	21.5	53.7	68.7	73.6	77.4	84.0
Alaska	NA	NA	0.3	30.8	50.1	54.6	56.1
Arizona	20.7	58.7	82.0	91.0	91.0	90.9	91.8
Arkansas	14.7	33.6	55.4	69.4	73.5	75.5	81.2
California	67.1	82.9	90.2	94.6	94.0	92.4	92.3
Colorado	7.5	47.6	76.2	88.3	91.2	89.9	91.0
Connecticut	1.1	6.6	13.0	25.8	32.3	41.4	43.6
Delaware	0.8	6.0	14.1	34.5	39.4	52.3	62.4
Dist. of Columbia	10.8	27.9	36.3	58.1	67.6	84.0	89.6
Florida	3.1	11.9	20.3	47.7	71.8	86.3	93.2
Georgia	4.2	21.7	51.5	69.8	75.6	80.5	87.2
Hawaii	NA	NA	1.3	3.4	8.6	41.2	51.0
Idaho	0.1	1.9	13.8	42.0	65.8	68.0	79.9
Illinois	2.2	12.5	36.2	73.5	89.1	91.5	93.0
Indiana	0.9	7.6	27.0	62.9	77.3	82.4	86.3
Iowa	2.5	12.8	41.9	64.7	73.1	76.1	80.1
Kansas	27.6	60.8	77.1	85.3	87.7	87.7	88.7
Kentucky	5.9	22.4	47.2	66.3	73.9	75.6	83.2
Louisiana	29.2	57.8	79.8	87.8	91.2	91.3	93.7
Maine	0.2	1.7	2.2	3.7	12.1	13.5	7.9
Maryland	2.5	12.3	31.9	51.7	59.8	72.8	79.1
Massachusetts	1.2	7.7	15.7	32.1	42.4	51.5	56.3
Michigan	3.8	19.1	46.2	72.6	80.8	82.3	84.9
Minnesota	3.1	15.6	39.4	56.5	66.3	73.4	79.7
Mississippi	9.4	28.0	50.6	63.4	69.0	71.4	77.0
Missouri	4.7	24.7	51.7	70.7	76.7	78.5	82.0
Montana	25.6	43.8	62.3	73.4	75.5	72.1	75.1
Nebraska	7.0	29.8	60.3	75.1	81.5	83.8	86.6
Nevada	0.7	19.7	48.0	73.6	84.1	87.0	92.1
New Hampshire	0.4	1.9	6.4	15.3	25.2	27.6	26.0
New Jersey	1.4	9.5	24.9	44.5	52.1	67.5	77.2
New Mexico	20.9	51.8	70.1	80.6	82.5	79.2	79.3
New York	3.0	19.4	23.0	39.6	44.4	54.2	60.5
North Carolina	0.1	1.6	5.8	25.7	45.3	60.6	73.0
North Dakota	2.7	7.6	17.6	35.1	57.8	65.9	71.9
Ohio	7.4	34.4	67.7	79.9	84.0	85.0	87.1
Oklahoma	45.1	68.6	77.6	84.0	85.8	84.9	86.6
Oregon	2.4	9.2	24.6	53.4	66.3	69.3	83.1
Pennsylvania	4.4	20.4	37.2	52.2	59.2	64.3	67.8
Rhode Island	1.2	6.9	16.4	30.1	39.2	48.6	53.9
South Carolina	0.2	3.0	10.4	36.0	56.9	71.5	84.6
South Dakota	5.3	12.5	28.7	43.4	56.4	60.8	68.1
Tennessee	3.3	17.5	47.8	73.0	77.6	80.5	88.2
Texas	43.1	65.6	79.4	87.0	89.3	90.6	92.6
Utah	9.4	35.0	69.8	84.6	91.1	91.4	94.6
Vermont	0.1	0.6	0.7	10.9	16.1	17.1	16.9
Virginia	0.4	5.1	18.7	39.3	55.3	69.0	77.7
Washington	0.8	4.9	19.4	53.8	74.6	77.5	85.8
West Virginia	29.9	48.4	62.4	73.4	77.7	76.0	79.9
Wisconsin	0.5	4.5	22.5	51.2	63.3	70.3	77.8
Wyoming	26.0	52.2	69.0	79.5	84.7	79.4	82.1

1940 to 1990 data based on U.S. Census Bureau, "Housing: Then and Now; 50 Years of Decennial Censuses," www.census.gov/hhes/www/housing/census/histcensushsg.html. 2000 data based on 2000 Decennial Census, Summary File 3.

Sup. Table 4.1: Population Subgroup Differential Growth and Weather

Dependent Variable → Independent Variables ↓	(1) Population minus Employment Growth	(2) Eldrly minus Working Age Growth	(3) Immigrant minus Native Growth	(4) College Graduate minus Non- Graduate Growth
Precipitation (4)	yes	yes	yes	yes
Coast/River/Topography (7)	yes	yes	yes	yes
Initial Density Spline (7)	yes	yes	yes	yes
Concentric Total Pop (7)	yes	yes	yes	yes
Ag/Mnrl/Mnft (17)	yes	yes	yes	yes
January linear	<i>0.0150</i>	0.0078	<i>0.1571</i>	<i>-0.0152</i>
Daily Max	<i>(0.0030)</i>	(0.0069)	<i>(0.0193)</i>	<i>(0.0059)</i>
Temp quadratic	0.0001 (0.0001)	0.0004 (0.0003)	-0.0013 (0.0008)	0.0001 (0.0002)
July linear	0.0054	-0.0124	-0.0123	-0.0087
Daily Heat	(0.0039)	(0.0091)	(0.0234)	(0.0078)
Index quadratic	0.0000 (0.0002)	-0.0011 <i>(0.0003)</i>	-0.0016 (0.0011)	-0.0001 (0.0003)
July linear	-0.0115	0.0076	-0.0128	0.0121
Daily Rel	<i>(0.0049)</i>	(0.0100)	(0.0322)	(0.0084)
Humidity quadratic	0.0007 <i>(0.0002)</i>	0.0000 (0.0003)	0.0001 (0.0009)	-0.0013 <i>(0.0003)</i>
Annual linear	-0.0047	<i>-0.0165</i>	-0.0031	0.0203
Precipitation	(0.0033)	<i>(0.0088)</i>	(0.0261)	<i>(0.0057)</i>
quadratic	0.0000 (0.0001)	0.0005 <i>(0.0002)</i>	0.0002 (0.0004)	-0.0002 (0.0001)
Annual linear	0.0047	0.0013	-0.0010	-0.0094
Precipitation	<i>(0.0018)</i>	(0.0049)	(0.0122)	<i>(0.0027)</i>
Days quadratic	0.0000 (0.0000)	0.0000 (0.0000)	-0.0003 <i>(0.0001)</i>	-0.0001 (0.0000)
Observations	3,065	3,066	3,067	3,066
Number of Indep. Variables	48	48	48	48
Sum of Squared Residuals	1054.1	2,171.0	27,916.8	2,767.2
R-squared	0.258	0.294	0.383	0.219
Adjusted R-squared	0.247	0.282	0.373	0.206
Non-Weather Control				
Variables R-squared	0.178	0.249	0.252	0.145
Marginal R-squared	0.081	0.045	0.130	0.073

Table shows results from regressing annual percentage growth rate differences between the listed population subgroups using the same specification as in Table 4. Quadratic weather variables have had their respective sample mean subtracted. Standard errors in parentheses are robust to a spatial correlation using the procedure discussed in the main text. Bold type signifies coefficients that statistically differ from zero at the 0.05 level. Italic type signifies coefficients that statistically different from zero at the 0.10 level. For the regression in column 2, working age is defined to be from 25 to 54; elderly, 65 and above.

Sup. Table 6.1: Population Growth and Weather by Decade
(With Census Division Dummies Included)

$\Delta \log(\text{PopDensity}) \rightarrow$	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990
Indpndnt Variables ↓	-1890	-1900	-1910	-1920	-1930	-1940	-1950	-1960	-1970	-1980	-1990	-2000
Precipitation	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Coast/River/Topograph	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Initial Density Spline	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Concentric Total Pop	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Census Divisions	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
January linear	<i>-0.1776</i>	<i>-0.1386</i>	<i>-0.1033</i>	-0.0434	0.0895	0.0496	0.0803	0.1006	0.0453	0.0719	0.0586	0.0451
Daily Max Temp quadratic	<i>(0.0648)</i>	<i>(0.0299)</i>	<i>(0.0327)</i>	<i>(0.0228)</i>	<i>(0.0255)</i>	<i>(0.0147)</i>	<i>(0.0154)</i>	<i>(0.0176)</i>	<i>(0.0139)</i>	<i>(0.0148)</i>	<i>(0.0118)</i>	<i>(0.0105)</i>
	-0.0026	0.0046	<i>-0.0021</i>	0.0007	0.0009	0.0021	0.0018	0.0039	0.0024	0.0021	0.0022	0.0009
	<i>(0.0020)</i>	<i>(0.0012)</i>	<i>(0.0010)</i>	<i>(0.0009)</i>	<i>(0.0009)</i>	<i>(0.0004)</i>	<i>(0.0004)</i>	<i>(0.0006)</i>	<i>(0.0005)</i>	<i>(0.0005)</i>	<i>(0.0004)</i>	<i>(0.0003)</i>
July linear	0.2672	0.0620	0.1427	0.0699	<i>-0.0628</i>	<i>-0.0638</i>	<i>-0.0403</i>	<i>-0.0580</i>	<i>-0.0394</i>	<i>-0.0532</i>	<i>-0.0472</i>	<i>-0.0417</i>
Daily Max Heat Index quadratic	<i>(0.0785)</i>	<i>(0.0287)</i>	<i>(0.0401)</i>	<i>(0.0252)</i>	<i>(0.0302)</i>	<i>(0.0182)</i>	<i>(0.0172)</i>	<i>(0.0198)</i>	<i>(0.0133)</i>	<i>(0.0165)</i>	<i>(0.0142)</i>	<i>(0.0136)</i>
	-0.0044	<i>-0.0031</i>	<i>-0.0042</i>	<i>-0.0032</i>	<i>-0.0029</i>	-0.0009	<i>-0.0027</i>	<i>-0.0024</i>	-0.0008	0.0000	0.0007	0.0016
	<i>(0.0029)</i>	<i>(0.0012)</i>	<i>(0.0017)</i>	<i>(0.0010)</i>	<i>(0.0011)</i>	<i>(0.0008)</i>	<i>(0.0007)</i>	<i>(0.0007)</i>	<i>(0.0007)</i>	<i>(0.0007)</i>	<i>(0.0005)</i>	<i>(0.0005)</i>
July Daily Rel Humidity linear	0.0826	0.0857	0.0986	0.0700	0.0350	0.0413	-0.0191	<i>-0.0894</i>	<i>-0.0703</i>	<i>-0.0755</i>	<i>-0.0925</i>	<i>-0.0656</i>
	<i>(0.0617)</i>	<i>(0.0331)</i>	<i>(0.0383)</i>	<i>(0.0289)</i>	<i>(0.0333)</i>	<i>(0.0171)</i>	<i>(0.0189)</i>	<i>(0.0215)</i>	<i>(0.0193)</i>	<i>(0.0209)</i>	<i>(0.0178)</i>	<i>(0.0167)</i>
	<i>-0.0063</i>	0.0006	-0.0009	-0.0001	-0.0008	0.0011	0.0003	<i>-0.0014</i>	-0.0009	-0.0007	<i>-0.0010</i>	<i>-0.0008</i>
	<i>(0.0016)</i>	<i>(0.0010)</i>	<i>(0.0011)</i>	<i>(0.0008)</i>	<i>(0.0010)</i>	<i>(0.0005)</i>	<i>(0.0006)</i>	<i>(0.0007)</i>	<i>(0.0006)</i>	<i>(0.0006)</i>	<i>(0.0005)</i>	<i>(0.0005)</i>
Observations	2,395	2,604	2,696	2,844	3,014	3,060	3,062	3,064	3,063	3,067	3,067	3,069
Indpndnt Variables	39	39	39	39	39	39	39	39	39	39	39	39
R-squared	0.739	0.438	0.612	0.139	0.374	0.224	0.392	0.427	0.329	0.329	0.419	0.360
Non-Weather Control Variables R-squared	0.710	0.320	0.583	0.112	0.328	0.148	0.328	0.355	0.281	0.269	0.315	0.305
Marginal R-squared	0.029	0.118	0.030	0.027	0.045	0.076	0.064	0.071	0.048	0.060	0.104	0.055

Table shows results analogous to those of Table 6. Population growth for the listed decade is regressed on the enumerated weather variables using the Table 6 specification along with the additional inclusion of dummies for 8 of the 9 Census geographic divisions. Quadratic weather variables have had their respective sample mean subtracted. Standard errors in parentheses are robust to a spatial correlation using the procedure discussed in the main text. Bold type signifies coefficients that statistically differ from zero at the 0.05 level. Italic type signifies coefficients that statistically different from zero at the 0.10 level.