

Article title: County-level climate change information to support decision-making on working lands within USDA Climate Hub regions

Journal: Climatic Change

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Electronic Supplemental Material

I. Regional changes in Tmax, Tmin, ppt and SD

Table 1. Median Precipitation (mm) for counties of the contiguous United States by USDA Climate Hub region

	Spring		Summer		Fall		Winter		Annual	
	Historic	Future	Historic	Future	Historic	Future	Historic	Future	Historic	Future
Midwest	259	301	307	293	230	247	144	168	938	1,002
Northeast	296	327	314	328	286	303	252	288	1,145	1,240
Northwest	177	197	93	84	146	153	222	240	638	673
Northern Plains	156	180	192	181	104	113	40	48	503	533
Southeast	352	372	327	334	294	313	328	349	1,306	1,354
Southern Plains	244	245	226	210	213	214	103	105	804	798
Southwest	104	103	59	67	103	103	106	109	422	429
National	279	307	298	291	251	265	206	230	1,045	1,103

Table 2. Median maximum temperature (°C) increase for counties of the contiguous United States by USDA Climate Hub region

	Spring		Summer		Fall		Winter		Annual	
	Historic	Future	Historic	Future	Historic	Future	Historic	Future	Historic	Future
Midwest	15.5	18.5	28.0	31.9	17.0	20.7	1.3	4.6	15.5	18.9
Northeast	14.6	17.6	26.6	30.0	16.7	20.0	3.2	6.1	15.4	18.5
Northwest	13.5	16.3	24.8	28.6	15.0	18.1	3.7	6.5	14.5	17.4
Northern Plains	14.0	17.0	28.2	32.2	15.1	18.7	0.9	4.0	14.4	17.8
Southeast	22.4	25.0	31.5	34.9	23.0	26.1	11.8	14.2	22.2	25.0
Southern Plains	23.8	26.8	33.5	36.8	24.4	27.6	13.0	15.9	23.8	26.9
Southwest	18.4	21.4	29.8	33.4	20.2	23.6	9.9	12.6	19.5	22.6
National	18.7	21.5	29.8	33.5	19.8	23.3	6.8	9.6	18.7	21.9

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Table 3. Median minimum temperature (°C) increase for counties of the contiguous United States by USDA Climate Hub region.

	Spring		Summer		Fall		Winter		Annual	
	Historic	Future	Historic	Future	Historic	Future	Historic	Future	Historic	Future
Midwest	3.51	6.35	15.68	19.05	5.35	8.53	-7.91	-4.19	4.23	7.49
Northeast	2.51	5.33	14.34	17.61	4.90	8.06	-6.81	-3.28	3.76	6.94
Northwest	1.17	3.87	9.37	12.44	2.18	5.19	-5.25	-1.75	2.03	5.16
Northern Plains	-0.16	2.74	12.52	15.93	0.37	3.63	-11.26	-7.64	0.05	3.45
Southeast	8.81	11.30	19.26	22.32	9.93	12.92	-0.07	2.15	9.48	12.21
Southern Plains	9.33	12.06	20.13	23.31	10.15	13.23	-1.07	1.46	9.58	12.49
Southwest	2.86	5.46	12.61	15.74	4.84	7.93	-4.21	-1.64	4.15	7.19
National	5.30	7.96	16.92	20.23	6.71	9.85	-4.57	-1.70	6.00	9.01

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Table 4. Standard deviation of precipitation (mm) for counties of the contiguous United States by USDA Climate Hub region.

	Spring			Summer			Fall			Winter			Annual		
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Midwest	0.95	0.21	4.12	0.77	0.23	2.77	0.63	0.18	2.34	0.74	0.12	11.08	1.85	0.36	15.20
Northeast	1.69	0.17	6.79	1.16	0.21	4.40	1.06	0.21	3.74	2.22	0.18	9.76	5.01	0.34	21.40
Northwest	5.17	0.32	16.23	3.17	0.18	15.32	3.94	0.22	28.66	10.54	0.39	43.38	16.08	0.92	73.73
Northern Plains	3.23	0.35	27.33	1.09	0.29	4.02	1.04	0.19	10.57	2.52	0.13	20.38	6.31	0.49	53.09
Southeast	0.97	-	5.41	1.33	-	9.12	1.14	-	9.65	0.89	-	7.06	2.92	-	30.88
Southern Plains	0.92	0.10	3.65	1.16	0.24	4.42	0.82	0.21	3.17	0.66	0.17	2.32	2.12	0.58	7.79
Southwest	2.31	0.11	8.59	2.25	0.08	7.49	1.90	0.14	9.39	5.33	0.31	23.30	6.97	0.55	24.16

Table 5. Standard deviation of maximum temperature (°C) increase for counties of the contiguous United States by USDA Climate Hub region.

	Spring			Summer			Fall			Winter			Annual		
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Midwest	0.0076	0.0010	0.0219	0.0095	0.0006	0.0405	0.0064	0.0005	0.0298	0.0141	0.0020	0.0610	0.0059	0.0005	0.0192
Northeast	0.0144	0.0012	0.0471	0.0156	0.0014	0.0778	0.0158	0.0013	0.0596	0.0199	0.0030	0.0777	0.0154	0.0021	0.0595
Northwest	0.0381	0.0034	0.1095	0.0434	0.0021	0.2650	0.0277	0.0034	0.1415	0.0321	0.0045	0.0914	0.0304	0.0022	0.1515
Northern Plains	0.0173	0.0019	0.1151	0.0111	0.0011	0.0653	0.0073	0.0006	0.0383	0.0262	0.0034	0.0995	0.0105	0.0008	0.0770
Southeast	0.0010	-	0.0692	0.0204	-	0.1231	0.0151	-	0.0764	0.0122	-	0.0483	0.0139	-	0.0693
Southern Plains	0.0123	0.0016	0.0692	0.0165	0.0009	0.0932	0.0127	0.0014	0.0649	0.0122	0.0015	0.0503	0.0107	0.0014	0.0632
Southwest	0.0512	0.0018	0.2035	0.0552	0.0032	0.2514	0.0366	0.0011	0.1771	0.048	0.0072	0.1629	0.0420	0.0025	0.1980

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Table 6. Standard deviation of minimum temperature (°C) increase for counties of the contiguous United States by USDA Climate Hub region.

	Spring			Summer			Fall			Winter			Annual		
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Midwest	0.0086	0.0008	0.0255	0.0054	0.0007	0.0284	0.0051	0.0005	0.0235	0.0262	0.0042	0.0728	0.0097	0.0021	0.0228
Northeast	0.0150	0.0032	0.0703	0.0102	0.0011	0.0532	0.0078	0.0008	0.0372	0.0416	0.0072	0.1953	0.0179	0.0046	0.0749
Northwest	0.0375	0.0064	0.1037	0.0314	0.0044	0.1556	0.0194	0.0026	0.0774	0.0467	0.0101	0.1202	0.0315	0.0042	0.0929
Northern Plains	0.0191	0.0007	0.1077	0.0102	0.0012	0.0522	0.0094	0.0015	0.0341	0.0397	0.0042	0.1241	0.0167	0.0031	0.0633
Southeast	0.0078	-	0.0363	0.0142	-	0.0988	0.0100	-	0.0630	0.0133	-	0.0425	0.0107	-	0.0479
Southern Plains	0.0079	0.0011	0.0411	0.0136	0.0011	0.0980	0.0102	0.0011	0.0713	0.0120	0.0017	0.0368	0.0092	0.0009	0.0607
Southwest	0.0362	0.0020	0.1230	0.0462	0.0050	0.2345	0.0277	0.0020	0.1130	0.0583	0.0063	0.3326	0.0358	0.0027	0.1465